Managing risks: what Russian households do to smooth consumption?

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Abstract

The increasing availability of rich (panel) data provides many opportunities to test theories on consumption smoothing behaviour. At the same time, the informational requirements in terms of data and modelling are high and very context specific, thus requiring a filtering of essential explanatory ingredients. In this paper we show how conceptual and exploratory empirical analysis can contribute to this filtering process. We develop a conceptual framework to analyze possible smoothing arrangements of households distinguishing between various smoothing mechanisms, institutional smoothing partners and required assets. Subsequently, we apply this framework to Russian survey data to explore how Russian households may smooth consumption. We select and analyze a broad set of indicators from household survey data to study what actions Russian households take and how these actions reflect the existence and prevalence of particular smoothing channels. The results can be used to formulate hypotheses on household smoothing behaviour and to delineate the features of a more rigorous analysis. The picture that emerges is one in which financial markets play a limited role as a smoothing channel in Russia, regardless of the smoothing mechanism used (saving, lending, insurance). Instead, households seem to use internal strategies, their family, social networks and the state to smooth consumption through capital accumulation, gift giving, the provision of loans and (pension) benefits. Furthermore, we find some evidence that old age pensions may be used for intergenerational risk-sharing within families while other findings point towards the use of household food production as an income smoothing strategy as opposed to a shock-response strategy.

1.   Introduction

Households face the risk that they are not able to fulfil the (basic) needs of their members, today as well as tomorrow. To prevent this risk from materializing, households set aside part of their current resources to finance future consumption in the form of savings or insurance. Additionally, when it becomes clear that income will not suffice, households can seek alternative funding. When these measures are effective, households are able to maintain a particular welfare level, even when (expected) income falls short. The ability of households to smooth consumption over time thus reflects a key dimension of well being. Although the underlying smoothing mechanisms are similar, the ways in which households smooth consumption are highly context dependent, i.e. on the particular institutional, social and economic context they live in.

Households in transition economies face a wide range of risks and shocks similar to those experienced by households all over the world.[1] At the same time, the drastic structural changes taking place in transition economies form an additional source of risk; the transition from a centrally planned to a market economy has been accompanied by macro-economic instability such as high inflation, real wage declines, unemployment, financial and economic crises thereby shaping a highly uncertain environment for households in transition economies. In spite of this, Russian households are able to partially smooth consumption when they are hit by such shocks (Notten & Crombrugghe de, 2006; Skoufias, 2003). But how do these households smooth consumption? Strategies that worked during Soviet times may or may not work anymore while the changing structures in the economy may provide new, perhaps market-based, smoothing opportunities. In this paper, we want to explore how Russian households smooth consumption.

To guide our analysis we propose a conceptual framework to analyze households' consumption smoothing strategies. Central in this framework is a typology of consumption smoothing strategies which is based on what actions households may take to

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[1] These are for instance shocks such as natural disasters, crime, illness, disability or death of a household member and job loss.

smooth consumption. Then, we relate these smoothing strategies to possible institutional smoothing partners and the assets that may be required to follow a particular smoothing strategy. We apply this framework to Russia and empirically explore rich survey data to find out what Russian household do *at a given point in time* and how these actions may contribute to consumption smoothing. We focus on the 2003 survey to analyze a broad range of indicators on smoothing actions. We also investigate whether the observed patterns differ by levels of wealth and rural or urban areas.

By focusing on the household as the central institution to manage risks, the conceptual framework offers an alternative way to analyze and interpret existing survey data without *a priori* restricting the scope of the analysis to a particular smoothing mechanism or smoothing channel. The results can be used to formulate hypotheses on household smoothing behaviour and to delineate the features of an analysis beyond the exploration offered in this paper; it provides information about which smoothing channels are worth further investigating and which linkages have to be taken into account in a country/community (or not). Moreover, the conceptual framework guides thinking about the role, scope and type of government interventions and possible feedback effects to other smoothing channels.

This paper is structured as follows; in section 0 we set out our conceptual framework and in section 0 we explain the selection and characteristics of the household sample from the Russia Longitudinal Monitoring Survey (RLMS) and point out in what way the range of selected smoothing indicators are linked to the conceptual framework. Section 0 analyses the smoothing indicators; it sketches a picture of how Russian households smooth consumption, using which smoothing channels. Section 0 concludes with a summary of the main findings and hypotheses and discusses the relevance of followed research approach.

2. Conceptual framework

Being able to smooth consumption reflects an important dimension of well-being as it reflects people's capacity to satisfy their (basic) needs today as well as tomorrow, despite the existence of risks and the occurrence of shocks. Studies analyzing the relation between income and consumption show that, over time, household consumption is considerably smoother than income; a reduction (increase) in household income is not accompanied by a similarly large decline (increase) in consumption. Although there is considerable evidence that consumption smoothing takes place in both developed and developing countries, the economic literature also shows that the actual smoothing mechanisms employed can be very context specific, especially in developing economies.[2] Mechanisms that work for one group, country or region do not work for others or are not accessible. Moreover, households may use various smoothing mechanisms that complement each other. It is important to better understand how households smooth consumption, not only for academic purposes but also for governments that wish to improve the capacities of their citizens to manage risks.

In this section we develop a conceptual framework which guides the exploration of potential smoothing mechanisms but that does not restrict the particular forms they may take in various environments. Central in the framework is a typology of consumption smoothing strategies, with each strategy depicting a different smoothing mechanism. Subsequently, we define a range of institutional counterparts and assets that can be used to follow a particular smoothing strategy. The combination of a smoothing strategy, institutional counterpart and required assets reflects a specific smoothing channel. We take the perspective of the household as point of departure as the household reflects the first risk sharing level for individuals in many societies, including our case-study Russia.

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[2] The economic literature typically analyzes consumption smoothing behaviour following two approaches; the first approach models household behaviour using a permanent income model or risk-sharing model and focuses on the overall smoothness of consumption vis-à-vis income flows (see (Deaton, 1992) for an overview). The second approach models and tests particular consumption smoothing mechanisms for specific groups of households or regions (Alessi & Lusardi, 1997; Dercon, 1998; Dubois, Jullien, & Magnac, December 2006; Hoogeveen, 2001; Kochar, 2004; Ligon, 1998; Rosenzweig, 1988; Rosenzweig & Wolpin, 1993; Udry, 1994, 1995).

Table 1: Typology of consumption smoothing strategies

Strategies	Consumption smoothing mechanism
Ex ante – create alternative funding sources in case future income falls short (mitigating strategies)	
Accumulation of financial capital	Financial savings finance future consumption.
Accumulation of physical capital	Physical assets can be sold to finance consumption but they also contribute current consumption and/or can be used as physical collateral for a loan or credit.
Seek insurance	Insurance mitigates the impact of shocks by providing resources to finance consumption when a particular contingency occurs.
Ex post – create alternative funding sources when current income is insufficient (coping strategies)	
Adjust income generating activities	Generate additional income to finance consumption
Seek loans or credit	Loans or credits finance consumption.
Seek transfers	Transfers finance consumption.

The analysis assumes a one generation – one period world. In this world, wealth is not accumulated across generations; any existing wealth has been accumulated by the household itself. Each household has to produce for itself, exchange its home production for goods (or money) or sell its labour on a labour market (or a combination of all of this). In this world, households face the risk of not being able to cover their basic needs. In order to reduce the impact of this risk, households may follow a combination of different consumption smoothing strategies (Table 1). We distinguish six strategies or actions that can be grouped under two broader categories; *ex ante* strategies and *ex post* strategies. Each strategy reflects a distinct smoothing mechanism. The *ex ante* or mitigating strategies create alternative funding sources in case future income falls short of what is expected. These strategies imply that part of current income is reserved for future contingencies. We distinguish between financial and physical capital accumulation because physical capital may additionally contribute to current consumption (if durable) and can also function as collateral for using other smoothing mechanisms (i.e. getting a loan). Insurance, on the other hand, only provides funding when a particular contingency materializes. The *ex post* or coping strategies are employed to create alternative funding sources after it becomes clear that current income is not sufficient to satisfy basic needs.

We distinguish three different mechanisms; additional income generating activities (i.e. increase labour supply, home production or the selling of home produced goods), seeking credit/loans or seeking transfers.

To follow a particular consumption smoothing strategy, households may use different institutions. Take for instance the borrowing strategy; households can borrow funds from financials institutions, informal money lenders, family and friends or by buying products on credit. A particularly useful concept for thinking about consumption smoothing strategies and the possible smoothing partners of households is the Welfare Pentagon (C. Neubourg de, 2002). The Welfare Pentagon represents the five core institutions that households may use to satisfy current and future needs in a given society: family, markets, social networks, membership institutions and public authorities (Figure 1).[3] Even though historical and geographical appearances differ, these institutions are found in all societies across time and locations. The relevance of each institution and the exchange relations between households and these institutions may differ by society.

Households use these institutions to generate income but also to smooth consumption; labour markets, product markets and capital markets allow households to trade and exchange in order to secure resources to satisfy the main needs at a certain moment. On the labour market households exchange effort against a (future) wage; on product markets households trade effort against a (future) profit; on the capital market households trade income against future income by investments, savings, insurances, borrowings and the like. Families, social networks and membership institutions address the risk of not being able to satisfy basic needs by means of various (and different) mechanisms of solidarity. Membership institutions are institutions of which individuals can become a member and from which they can resign. Examples of such institutions are unions, mutual insurance companies, co-operatives, neighbourhood associations or saving and credit societies.

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[3] The Welfare Pentagon is a central and distinctive element in the 'Social Risk Management' approach as developed by Chris de Neubourg (C. Neubourg de, 2002; C. Neubourg de & Weigand, 2000). The Social Risk Management framework is formulated to analyze the role and scope of public interventions and foremost, but not exclusively, that of public social protection policies. Although there are some differences, the Social Protection Unit of the World Bank uses a similar framework (Holzman & Jorgensen, February 2000). The innovative aspect of both approaches is that it provides both a rationale for, as well as a tool to think about ex post and ex ante public measures to deal with risks in society.

Public authorities can assist households directly by means of public social protection (pension schemes, child benefits, unemployment insurance) but also indirectly by enforcing contracts through a judicial system, introducing legislation aimed at correcting market failures (such as minimum reserve requirements for banks). However, the household can also internalize income generating activities and consumption smoothing by self-sufficient home production, accumulating physical assets or holding cash savings.

Figure 1: Welfare Pentagon

markets

family

household

social
networks

membership
institutions

public
authorities
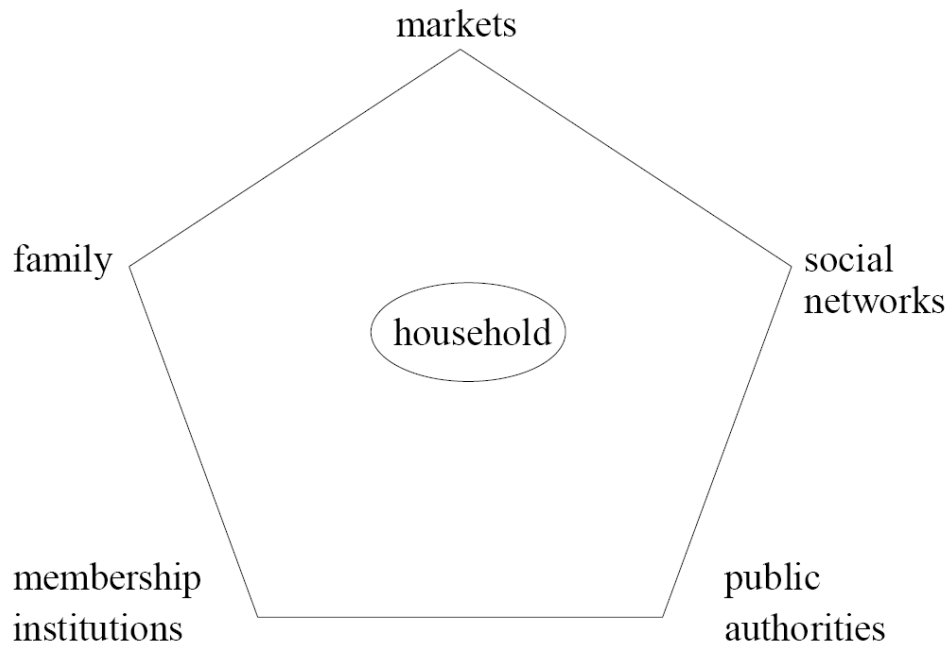
Source: (C. Neubourg de, 2002)

In addition to time or effort, following a specific consumption smoothing strategy typically also requires some kind of asset. Assets can be financial (cash, money on a bank account, stocks), physical (land, house, machines, jewellery), human (education, skills), social (family ties, acquaintances) or collective (citizenship, contribution record). Combining the typology of consumption smoothing strategies in Table 1 with the institutions in the Welfare pentagon and the notion that each consumption-smoothing channel requires some kind of input or investment, we obtain the possible consumption smoothing channels as sketched in

Table 2. For instance, households can buy an insurance against certain risks on financial markets using part of their financial assets to pay the insurance premium. Alternatively, households can be insured for certain risks by public authorities through paying taxes or social insurance contributions or simply because they are a citizen. On the other hand, they can rely on social networks or family to compensate them after a shock occurs. Depending on the characteristics of these arrangements a social input is required (promise of reciprocity, 'good' reputation or family relation). Alternatively, households can also adjust their income generating activities i.e. supply more labour, sell more home produced goods and increase home production.

We further assume that households differ in their capacities to produce wealth, in their exposure to risks which endanger the production of wealth and in their degree of risk aversion. Together with the initial wealth distribution, these factors result in households adopting different income generating and consumption smoothing strategies. The differences in the economic activities of households lead to an income distribution and a corresponding consumption distribution. In that distribution, some households are poor in the sense that they have not enough wealth to satisfy their basic needs (according to a pre-set poverty definition). More importantly, differences in the place households take in the income distribution will lead to behavioural differences in terms of consumption smoothing strategies. This will change their place in the income distribution, or alternatively, reinforce it.

Depending on the community or country, some smoothing channels may be more prevalent than others. It is also possible that several institutions are active in providing assistance with the same type of consumption smoothing. This may be because a part of the population does not have access to a particular consumption smoothing channel because it lacks the required assets to establish an exchange relationship with an institutional counterpart. For instance, in the microfinance literature the inability of low

Table 2: Consumption smoothing channels

Strategies/Actions	Institutional counterpart	Assets needed by household
Ex ante – create alternative source of funding in case future income falls short (mitigating strategies)		
Accumulation of financial capital	Market (financial)	Financial assets (liquid assets)
	Household	
	Membership institution	
Accumulation of physical capital	Market (financial)	Financial assets (liquid assets)
	Household	
Seek insurance	Market (financial)	Financial assets (insurance policy), social assets (reputation, relations), collective assets (citizenship, contribution history / rights) or membership (i.e. trade union)
	Social networks / Family	
	Public authorities (social protection policies)	
	Membership institution	
Ex post – create alternative funding sources when current income is insufficient (coping strategies)		
Adjust income generating activities	Market (goods – labour)	Labour, productive assets, financial assets (working capital)
	Household	
Seek loans or credit	Market (financial)	Physical assets (collateral), social assets (reputation, relations)
	Social networks / Family	
	Market (goods)	
	Membership institution	
Seek transfers	Social networks / Family	Social assets (reputation, relations), collective assets (citizenship, rights)
	Public authorities (social protection policies)	

wealth entrepreneurs to obtain credits from formal financial markets is partly explained

by the lack of ownership of a physical asset that can serve as collateral for the credit.

Instead, this person may obtain a loan through his social network where reputation, kinship or social pressure may function as some kind of 'social' collateral.

The above framework helps to analyze consumption smoothing behaviour because it provides a general framework of thought which encompasses most, if not all, potential consumption smoothing strategies of households in a society. In the next part, we use this framework to formulate and classify a wide range of indicators of consumption smoothing channels in Russia. There are, however, a number of aspects that the conceptual framework does not directly address. Firstly, by taking the household level as the unit of analysis and a one period analysis, we abstract from household formation as the ultimate consumption smoothing strategy of individuals but it also implies that we do not analyze the role of human capital investment.[4]

Secondly, the framework categorizes a range of actions as potential consumption smoothing strategies but it does not indicate which strategy would be preferable on what grounds. One concern in the development literature is that some households smooth consumption using less efficient and effective channels and are thereby unable to improve their lives (Dercon, 1998; Eswaran & Kotwal, 1989; Rosenzweig, 1988; Rosenzweig & Wolpin, 1993; Zimmerman & Carter, 2003). Due to a combination of risk aversion and low wealth, households are not willing to take actions which increase the probability that their consumption will ever fall below a certain minimum level. This 'disaster management' leads to different asset accumulation strategies for low and high wealth households, where the latter group is more successful in improving their welfare in the long term. Lack of access or failure of certain consumption smoothing channels, are additional reasons for the existence of a poverty trap. Whether a particular smoothing channel is welfare improving or not, is highly context dependent. In Western Tanzania high wealth farmers accumulate cattle while low wealth farmers engage in low risk-return off farm activities (Dercon, 1998) while in Georgia non-farm activities are seen as a way out of poverty (Kobaladze, November 2002). Alternatively, in Burkina Faso low wealth

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[4] The occurrence of shocks, a rise in uncertainty or the availability of consumption smoothing channels may affect households' living arrangements or fertility decisions.

individuals invest relative more in buffer assets (grain) than in productive assets (land)(Zimmerman & Carter, 2003). While the farmers in Tanzania and Burkina Faso can choose to follow either strategy, the rural inhabitants of Georgia indicate that there is no opportunity to engage in non-farm activities. Given this context specificity, we do not attempt to specify *a priori* a preference ranking of smoothing strategies or channels.[5]

Finally, certain smoothing channels may be more suited to help manage particular types of shocks or risks than other channels. Some consumption smoothing channels are relatively successful to deal with shocks arising from idiosyncratic risks, but fail when there is an aggregate or covariant shock such as an economic crisis or a natural disaster (Hoogeveen, 2001; McKenzie, 2003; Skoufias, 2003; Udry, 1994). Moreover, if a household perceives that it is vulnerable to a particular kind of risk, it will adjust its consumption smoothing strategies accordingly. For instance, Indian households with a higher risk of illness or bad health choose to accumulate more liquid and fewer productive assets (Kochar, 2004) and wage arrears induce Russian households who are more vulnerable to that risk to save more (Guariglia & Kim, 2003). A possible extension of the framework could encompass the inclusion of various types of risks.

3.   Data and methodology

Previous research has shown that Russian households have been capable of partially smoothing their consumption despite suffering from many income shocks during the transition period (Notten & Crombrugghe de, 2006; Skoufias, 2003). The objective of our empirical analysis is to get an impression of how Russian households currently smooth consumption after more than a decade of structural change. We use the conceptual framework developed in the previous section to select indicators of possible smoothing channels from rich survey data. Subsequently, we explore the prevalence and differential use of consumption smoothing channels by Russian households at *a given point in time*

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[5] In the empirical analysis we also decompose the indicators according to permanent consumption quintiles and test whether there are significant differences in the use of particular channels between these quintiles.

(2003).[6] We restrict our focus to a single year because we want to study indicators for a wide range of smoothing channels. The resulting analysis is interesting because the conceptual framework guides the use of typical household survey data to create a broad and novel household perspective on the use of consumption smoothing channels. This broad perspective is important because a household most likely uses a range of smoothing channels at the same time and the use of smoothing channels can differ with household characteristics. The results can be used to formulate hypotheses about consumption smoothing behaviour and to indicate areas (or institutions) in which government intervention is needed to enhance households' risk management. However, more rigorous analysis is needed to prove whether the identified channels indeed have a smoothing function, to what extent and how they help households to smooth consumption, and how government intervention can enhance the functioning of a given channel.[7]

We use the Russian Longitudinal Monitoring Survey (RLMS) to analyze the prevalence of consumption smoothing channels used by Russian households.[8] The sample includes all households that have been observed annually in the RLMS from 2000 to 2003; this balanced panel consists of about 2,700 households. We selected a panel, because we also want to study differences in the use of smoothing channels for different levels of wealth.[9] [10] As explained before, depending on the level of wealth, households may follow different smoothing strategies using different channels. To approximate the wealth of a

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[6] After the 1998 financial and economic crisis Russia experienced a period of sustained economic recovery combined with ongoing structural reforms. Smoothing behaviour of households in times of large aggregate shocks (and the outcome in terms of consumption smoothness) can be very different from behaviour in more stable periods (Hoogeveen, 2001; McKenzie, 2003; Skoufias, 2003; Udry, 1994).

[7] Such analysis is beyond the scope of this paper.

[8] Detailed information on the RLMS project is provided on the following website: http://www.cpc.unc.edu/projects/rlms/home.html.

[9] The RLMS does not have post-stratification weights for its panel dimension. In Gassmann and Notten (2006) we compare the characteristics of the cross-sections with the five year balanced panel (2000-2004) and find a number of differences. Urban households (especially from Moscow and St Petersburg), are underrepresented in the panel. Households with children are somewhat overrepresented while there are fewer single person households in the panel sample. Average income and expenditures are somewhat lower in the panel. Despite the level effects (i.e. poverty rates are somewhat higher in the panel) we find that both samples reflect the same trends (time) and similar differences between subgroups of the population (rural-urban and by expenditures). This is in line with the findings of an earlier attrition study of the RLMS by Heeringa (1997).

[10] Differences in means between urban-rural and average expenditure quintiles are statistically tested using a Wald test in which we control for clusters in the sampling design of the RLMS.

household we average annual equivalent household expenditures over the period 2000 to 2003 and divide the resulting distribution in quintiles. Equivalent expenditures are obtained by dividing household's expenditures by its household specific poverty line.[11] The resulting values thus reflect the average distance of a household's living standard relative to its absolute poverty line; a value below 1 indicates that a household, *on average*, lived in poverty during the period 2000-2003 and vice versa for an average above 1.

Table 3: Average equivalent expenditure distribution (2000-2003)[1]

Characteristics	Equivalent expenditures (relative to poverty line)
Average	2.93
Median	2.35
Ratio at 5% of distribution	0.83
Ratio at 95% of distribution	6.80
Standard deviation	2.44
Average by quintile	
1	1.01
2	1.71
3	2.37
4	3.25
5	6.32

Note: [1] We obtained the distribution as follows. First, we divided households' annual expenditures by its household specific poverty line to adjust for demographic differences between households and differences between regional price levels. Subsequently, we averaged households' equivalent annual expenditures over the period 2000-2003. Finally, we divided the resulting household distribution in 5 equally sized quantiles. Source: Own calculations RLMS

Table 3 lists some characteristics of this distribution. Clearly, the distribution is very dense at low expenditure levels; only the fifth quintile has considerably higher expenditures (on average more than six times the value of the poverty line). Quite a number of households were living in the vicinity of the absolute poverty line from 2000-2003; average expenditures in the lowest quintile are about 1 and that of the second quintile is 1.7.[12] The group of households in the lowest quintile can be considered as chronically poor according to a common definition of chronic poverty (having average

[11] We use the absolute poverty lines provided in the RLMS data. These household specific poverty lines are adjusted for the size and composition of the household and valued at regional price levels. We further use the expenditure and income variables as constructed by the RLMS which include the value of home produced (and consumed) goods (http://www.cpc.unc.edu/projects/rlms/home.html).

[12] Especially in countries with high (expenditure) inequality such as Russia, poverty statistics are very sensitive to the level of the poverty line. The RLMS poverty line is on average about 2/3 of the value of the (official) Minimum Subsistence Level of the Russian Federation (Notten & Gassmann, 2006).

expenditures below the poverty line over a given period). But with a somewhat higher subsistence level, that label could even be applied to many households in the second quintile. Table 4 further summarizes characteristics of the households for the whole sample, by rural[13] and urban settlement area and by average expenditure quintiles. A large part of Russian households live in urban areas (62%) and those households are more likely to be found in the higher regions of the average expenditure distribution.

Table 4: Characteristics of household panel (2000-2003) in 2003

	Total	Urban	Rural	Average expenditure quintiles				
				1	2	3	4	5
# of observations	2,718	1,690	1,028	544	544	543	544	544
Share population (%)	100	62.3	37.8	20.0	20.0	20.0	20.0	20.0
Urban area (%)	62.3	100	0	51.1	57.4	64.8	69.7	67.8
Household size (%)								
1	19.9	21.3	17.5	15.6	18.0	16.9	23.4	25.4
2	28.7	30.2	26.2	24.8	22.1	30.9	32.0	33.7
3	24.3	26.0	21.5	26.8	26.1	24.5	21.7	22.5
4	16.7	15.8	18.2	16.5	22.1	17.3	14.9	12.7
>4	10.4	6.4	16.6	16.2	11.7	10.3	8.1	5.7
Household types (%)								
Single adult	3.6	4.1	2.8	5.0	2.9	2.0	3.5	4.8
Single elderly	16.2	17.1	14.7	10.7	14.9	14.9	19.9	20.6
Adult couple	7.8	8.2	7.0	8.5	5.0	9.6	6.4	9.4
Elderly couple	9.9	10.0	9.8	4.4	7.2	9.0	14.2	14.9
Single caretaker with children	4.6	5.4	3.4	6.6	4.0	5.3	3.5	3.7
Adults with children	21.1	22.0	19.7	20.8	24.1	19.7	20.0	20.8
Extended family	9.0	7.3	11.9	10.7	12.1	9.0	7.2	6.1
Elderly and adults, no children	11.7	10.9	13.0	12.9	12.0	12.9	12.5	8.3
Other households	16.0	15.0	17.7	20.6	17.8	17.5	12.9	11.4
Average income[1]	7,465	7,868	6,801	4,406	5,920	7,425	7,900	11,682
Average expenditures[1]	8,711	9,098	8,074	3,390	5,383	7,188	8,981	18,626

Note: [1] Expressed in June 1992 ruble and household averages
Source: Own calculations RLMS

Even though the multi-purpose RLMS survey contains a wealth of information, it is not designed or structured specifically to analyze consumption smoothing behaviour and thus only allows us to analyze a limited part of the puzzle. On the other hand, it also allows us to identify which pieces of the puzzle are missing. Using the conceptual framework as a guide, we selected a range of smoothing indicators from the 2003 RLMS questionnaires (Table 5). Some of the selected variables function as indicators for a particular

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[13] We included households living in semi-urban settlement areas in the rural group because this group is too small too analyze separately and appears to be more similar to rural households.

consumption smoothing strategy that is followed, but do not provide sufficient information about the institutional counterpart or the required assets. For instance, as indicators for the 'seek loans or credit' strategy we use a set of variables indicating whether a household has debt and whether it made loan repayments but we do not know which institution provided the loan. Similarly, we know about a range of physical assets owned by a household but we do not know whether any of these were used as collateral for obtaining the loan. However, for many indicators we can identify the institutional counterpart or at least argue which institution is the most likely the counterpart. When a household mentions it provided a loan or reported having received repayments from loans, we know that this household is involved in the provision of loans, most likely to other households. Or alternatively, if a household reported having saved money for interest it is likely to have saved using a financial market institution. Finally, the RLMS contains quite a lot of information on the giving and receipt of gifts but the information is insufficient to classify particular gifts either as insurance or transfer seeking strategies. As can be seen in Table 5, there are indicators for every smoothing strategy and in many cases part of the consumption smoothing channel can also be identified. We also included an indicator for the consumption smoothing ability of households indicating the self-estimated survival period of the household in case it would lose all sources of income.

In our conceptual framework we distinguish between income generating activities and consumption smoothing activities but we also include the adjustment of income generating activities as one of the *ex post* coping strategies. The 2003 RLMS questionnaires did not include any specific shock response questions, which makes it difficult to distinguish between normal income generating activities and post shock adjustments in those activities. Given this difficulty, we also included a range of indicators on income generating activities (Table **6**) in addition to the shock adjustment indicators (Table 5). As indicators for post-shock adjustments we constructed a variable

Table 5: Indicators of consumption smoothing channels in the RLMS

Institution	Indicator
Accumulation of financial capital	
	- Having saved (last month)
Financial market	- Has saving on interest bearing account
	- Has bought (or derived income from) stocks and/or bonds (last month)
Accumulation of physical capital	
Household	- Asset ownership: owns house, land, durables
	- Income from (sale of) assets: rents property, sold property, sold jewellery, currency or depleting savings (last month)
Seek insurance	
Financial market	- Income from insurance payments (last month)
	- Expenditures on premiums (last month)
Public authorities (social security)	- Incidence of social security type and income share of benefits such as pensions and unemployment benefits
	- Pension rights (private and/or federal fund)
Social networks / family	- Gift giving/receiving (yes/no, amounts, income share and to/from who(m)) (last month)
Adjust income generating activities	
Labour market / goods market	- Having a 2nd or 3rd job
	- Having an informal job
Seek loans or credit	
	- Has debt (yes/no, expenditure share)
	- Made loan repayments (last month)
Social networks / family	- Loans provided by households (last month)
	- Net lending (last month)
Labour market	- Access to loans from employer (yes/no)
Goods market	- Has unpaid utility bills (yes/no, real value)
Seek transfers	
Public authorities (social assistance)	- Incidence of social assistance type and income share of benefits such as child benefits and housing benefits
Social networks / family	- Gift giving/receiving (yes/no, amounts, income share and to/from who(m)) (last month)
Overall ability of consumption smoothing	
Household	- self-reported survival time in case a household looses all income sources

Note: All indicators are analyzed at a household level. Those indicators originating from individual questionnaires have been summarized at the household level. For instance, if an adult mentioned he/she had a second job, a household level variable was created indicating that at least one household member had a second job.

indicating whether at least one household member had a second or third job and similarly for having an informal job. These variables can be interpreted as second-best responses to unemployment, underemployment and other problems with income generating activities (wage arrears, forced leave, non-cash wage payments, unsuccessful home production etc.). As these activities also include informal entrepreneurial activities (providing

services, selling home produced foodstuffs) the institutional counterparts can be labour and goods markets. Table **6** displays a range of income generating activities distinguishing between home production, labour supply and entrepreneurial activities. We further discuss the interpretation and limitations of the indicators in the next section.

Table 6: Indicators of income generating activities in the RLMS

Institution	Indicator
Household production	- Required asset: ownership land / other land use arrangements
	- Land use / growing crops / having livestock / gathered nut/mushrooms, fished etc (last year)
	- Monetary value of home production (total, by activity, amount consumed) (monthly value)
Labour market	- Employment (last month), having wage income and share of wage income (last month)
	- Having wage earnings (yes/no, share of total income)
	- Problems: unemployment, payment arrears, non-cash wage, concern for loss of job and certainty of finding a new one
Goods market	- Having an 'entrepreneurial job'
	- Ever started a business (yes/no, success/failure)
	- Monetary value of home production sold (total, by activity, (monthly value)

Note: All indicators are analyzed at a household level. Those indicators originating from individual questionnaires have been summarized at the household level. For instance, if an adult mentioned he/she had a second job, a household level variable was created indicating that at least one household member had a second job.

4.   Consumption smoothing in Russia: what do Russian households do?

What do households in Russia do to ensure that they have sufficient resources to finance their (basic) needs today as well as tomorrow? The conceptual framework developed in this paper identifies a wide range of possible strategies, institutional counterparts and required assets and we have selected a considerable group of indicators for some of these possibilities. We now analyze and interpret the descriptive results and simple significance tests with the aim to sketch a picture of which consumption smoothing channels Russian households may use or not. We also briefly analyze indicators of household's income smoothing activities because we the *adjustment* of income generating activities is also included as a consumption smoothing strategy. This resulting picture is not complete (by far) and alternative interpretations that are also consistent with the observed results can certainly be formulated. Despite these limitations, this exercise is valuable because it

gives an indication of the prevalence of certain consumption smoothing channels as well as the differential use of these channels by various groups of households (we distinguish between wealth quintiles and rural/urban settlement area). A particular interest for the context of Russia is to explore the extent to which households use markets to smooth consumption. Thus, the output of this paper does not consist of proving the existence, functioning and motivations for these consumption smoothing channels but it yields interesting and relevant hypotheses on how households smooth consumption in Russia. Testing these hypotheses requires more theoretical and empirical work and we discuss some of these options for further research.

This section first discusses households' perceptions on their smoothing abilities, followed by the analysis of the indicators for ex ante and ex post consumption smoothing strategies, and is concluded by viewing some indicators on income generating activities.

4.1 Perceived ability of consumption smoothing

We start with an impression of households' self-estimated consumption smoothing abilities (Table 7). The respondent of the household questionnaire was asked to estimate the period that the household could survive without income; 83% of the Russian households expect they could only survive less than a month if they would lose all income sources. The results of the Wald test suggest that households in rural areas and households in higher average expenditure quintiles estimate having longer periods of survival without income. We will discuss below that these two groups of households are likely to use different smoothing mechanisms and channels. The case that was sketched to the respondents is extreme but it nevertheless shows that, unless alternative income sources are found, the time horizon of consumption smoothing opportunities for Russian households is limited to months rather than years.[14]

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[14] In Notten and de Combrugghe (2006) we incorporate this temporary ability of consumption smoothing into a model of consumption smoothing by distinguishing between short and long term relationships; while allowing for short term deviations between income and consumption, the model stipulated a balanced long term relation between those variables.

4.2   Ex ante consumption smoothing strategies: asset accumulation and insurance

After a decade of severe macro-economic instability, the new millennium brought Russia a period of stable growth which was also transmitted into sustained improvements in living standards. The poverty rate, peaking at 34% in 1998, declined strongly to 12% in 2003 (Notten & Crombrugghe de, 2006). As noted in Table 4, household income and consumption increased considerably during this period. In such good times, it makes sense to use part of this extra income to re-build capital stocks or to arrange insurance. We look for evidence of these strategies and their corresponding channels using a snapshot of this period (4th quarter 2003). Table 8 to Table 12 display the results for the indicators of *ex ante* smoothing channels.

Surprisingly however, only 13% of Russian households reported to have saved any money in the month prior to the survey (Table 8). There is virtually no investment in more sophisticated financial products such as stocks and shares; few households report buying such products or receive income from them. The percentage of saving households is higher in urban areas and increases as average expenditures increase; 4% of the households in the lowest quintile save as compared to 18% in the 4th and 5th quintiles. Unfortunately, the information on savings does not unambiguously reveal whether households save using financial markets or store cash in their homes. However, few households get interest payments for their savings (less than 3%) which suggests that still a large part of household savings are in cash and may be deposited under the mattress instead of on a bank account. Buying an insurance product from a financial market institute is also not very popular; less than 5% of the households report to have spent

Table 7: Self-perceived ability of consumption smoothing

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
How long can the household survive if all income is lost?											
More than 6 months		4.2	2.6	6.9		2.0	2.7	2.5	4.4	9.4	
A few months		13.2	11.7	15.7		8.5	10.4	14.9	15.3	16.9	
Less than a month	2,581	27.2	25.6	29.9	.05	21.3	30.5	28.4	27.1	28.4	.01
Less than 2 weeks		12.8	13.7	11.3		11.9	11.3	15.4	13.0	12.5	
Less than 1 week		26.5	28.8	22.5		31.4	29.9	24.9	24.4	21.9	
Not even 1 day		16.1	17.6	13.6		24.9	15.2	13.9	15.8	10.9	

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

Table 8: Accumulation of financial capital – Financial market / Household

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
Has savings	2,718	12.6	14.1[.1]	10.1	.1	4.2[.01]	9.6	12.9	18.2	18.2	.01
- with interest payments	1,914	2.8	3.5	1.9	ns	0.7	3.1	3.0	2.3	3.3	ns
Bought bonds/shares	2,718	0.1	0.2	0	ns	0	0	0	0.6	0	ns
Received payments from bonds/shares	2,718	1.1	1.4	0.6	ns	0.6[.1]	0.7	0.4	1.5	2.2	.1

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

Table 9: Accumulation of physical capital - Household

| % of households | Obs.[2] | All | Urban | Rural | Test[1] | Average expenditure quintiles | | | | | Test |
						1	2	3	4	5	
Household derives income from physical assets											
Property sales	2,713	1.8	1.0	3.1	ns	2.2	1.5	2.0	1.1	2.0	ns
Renting property	2,713	1.1	1.5	0.5	.05	0.6	0.9	1.5	1.7	0.9	ns
Sold jewellery or currency or depleted savings	2,708	5.4	5.8	4.7	ns	1.3	3.0	5.0	5.7	12.0	.01
Housing	2,710										
Own residence	2,533	93.5	94.1	92.5		89.3	91.3	94.5	94.3	98.0	
Rented residence	94	3.5	1.6	6.5	ns	6.5	4.8	2.0	2.8	1.3	.01
Dormitory	83	3.1	4.3	1.0		4.2	3.9	3.5	3.0	0.7	
Owns land[3]	1,687	74.5	77.5	71.8		70.5	71.1	76.5	76.8	77.7	
Owns durables											
Black & white TV	2,718	18.2	15.6	22.4	.05	23.7	18.9	17.3	17.7	13.3	.01
Colour TV	2,718	85.0	90.4	76.1	.01	70.6	83.5	90.1	88.8	91.9	.01
VCR	2,718	41.1	45.5	33.9	.01	25.4	38.1	44.2	45.4	52.5	.01
Computer	2,718	9.5	13.4	3.0	.01	3.3	6.3	8.5	12.5	16.8	.01
Car	2,718	29.2	28.9	29.6	ns	12.3	25.7	29.8	34.6	43.5	.01
Fridge	2,718	94.4	97.6	89.2	.01	84.6	93.8	97.6	97.6	98.7	.01
Washing machine	2,718	81.8	83.7	78.6	ns	71.7	82.4	86.9	84.6	83.4	.01
Dacha[4]	1,880	28.6	30.2	14.2	.01	15.5	21.2	31.8	33.2	37.0	.01

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households. [3] Land owned by family. [4] Only urban and semi-urban settlement areas (semi-urban is categorized under rural).
Source: Own calculations RLMS

money on insurance premiums (Table 10).[15] These explorations suggest that financial markets play only a very limited role in households' smoothing strategies. One explanatory factor for this finding may be that households' confidence in Russia's financial institutions has not yet been restored, despite the reforms in this sector after the 1998 banking crisis.[16] During this crisis, many households lost their savings as a result of the bankruptcies.[17]

If this explanation holds true than it would make sense that households prefer to accumulate physical assets by, for instance, buying durables.[18] In 2003, expenditures on durables were restored to their mid-ninety levels but Mroz *et* al (April 2004) report that such expenditures are mainly made by higher income groups. Table 9 shows that many households own durable goods such as a TV, fridge and washing machine but that lower wealth households and rural households own fewer durables.[19] We have little information on whether these assets are sold when other income sources fall short. Using a set of questions only asked in the 1998 RLMS survey, Lokshin and Yemtsov (February 2001) report that only 4% of Russian households reported to have sold belongings in order to cope with the impact of the 1998 crisis. The only indicator available is a grouping of strategies including that of selling jewellery; about 5% of the household reports to have sold jewellery, currency or depleted savings in 2003.[20] Especially the wealthiest households sold such assets or depleted savings (12%).

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[15] There is no information available on the type of insurance products bought.

[16] Although reforms have been taking place since 1998, a series of World Bank and OECD reports from 2001 and 2002 opines that reforms have been very slow and insufficient (Fuchs, 2002; OECD, 2001a, 2001b, 2002; World Bank, 2003). Comparison with other countries shows that the Russian banking system is small by regional standards and underdeveloped compared to countries with similar per capita income. The lack of credit and deposit insurance has the consequence that banks are hesitant to provide credits to a wide variety of enterprises while households do not trust banks to manage their savings appropriately.

[17] Using the cross-section of round 8 (1998) of RLMS we find that about 10% of the household reported to have lost a large part (on average 82%) of their savings.

[18] Guariglia and Kim (2003) and Foley and Pyle (September 2005) analyze household savings in Russia incorporating expenditures on durable goods as savings.

[19] These durable goods are typically rather old; the average age of a car, fridge, freezer, washing machine is above 10 years old.

[20] Unfortunately this question includes both physical (jewellery) and financial assets (currency and savings).

Physical assets such as a house or land may be used as physical collateral or as a source of income (rent). The majority of households own their residence but low wealth households are somewhat more likely to rent a residence as opposed to owning it (Table 9). However, even when real estate is privately owned it may be difficult to use a house or apartment as financial collateral for a loan; a World Bank study (October 2003) on the mortgage and the housing market in Russia reports that there are information problems regarding the assessment of the market value of housing and that it is extremely difficult to expropriate a house from its defaulting owner. Land ownership, on the other hand, is high; three quarters of the households own a piece of land. As we will see below, most households use land to produce foodstuffs (including those living in urban areas).

To sum up, most households own a stock of physical assets and expenditures on durable goods have picked up again signalling increased accumulation. However, few households report income from the sale or renting of assets and information problems severely restrict the selling property or the use of it as physical collateral. The information discussed above suggests that there is little evidence that these assets are used as buffer-stock strategy or as a means to generate (cash) income. It seems that Russian households use their stock of assets mainly for consumptive and (home) productive purposes.

Table 10: Seek insurance – Financial market

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
Insurance payout	2,718	0.2	$0.2^{.05}$	0	.05	0	0.2	0.2	0.2	0.2	ns
Premium paid	2,718	4.6	4.3	5.3	ns	$2.0^{.01}$	3.1	3.3	5.2	9.6	.01

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

Table 11: Seek insurance – Public authorities (social security)

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
Pensions											
Receipt pension, of which	2,718	58.5	57.3	60.5	ns	52.0	55.3	59.5	63.6	62.1	.1
- Old age	1,590	81.7	82.0	81.2	ns	74.9	81.7	80.8	85.3	84.6	.01
- Disability	1,590	17.3	16.4	18.7	ns	24.0	19.3	18.3	13.3	13.1	.01
- Survivor	1,590	5.0	$3.9^{.1}$	6.8	ns	8.5	3.7	4.3	5.5	3.6	ns
- Military	1,590	4.8	$5.7^{.1}$	3.4	ns	2.1	3.0	4.6	8.1	5.3	.05
- Social security	1,590	1.1	0.5	2.1	.05	0.4	2.0	1.9	0.6	0.9	ns
- Other	1,590	5.1	5.0	5.3	ns	6.7	3.7	4.4	3.8	7.1	ns
Income share of pensions	1,588	0.5	0.5	0.5	ns	0.6	0.6	0.5	0.6	0.5	.05
Building up pension rights											
Private fund	1,782	16.5	21.4	9.1	.01	12.1	15.6	18.2	19.4	18.5	ns
Federal fund	1,855	97.8	97.7	97.9	ns	98.1	98.8	98.4	99.1	94.1	.05
Unemployment benefits											
Receipt benefit	2,718	1.4	1.4	1.5	ns	1.7	1.7	0.9	2.0	0.7	.1
Income share of benefit	38	0.1	0.2	0.1	ns	0.1	0.1	0.1	0.2	0.0	.05

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

Table 12: Seek insurance / Seek transfers – Family / Social network

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
Gives and/or receives gifts	2,717	47.1	50.2	41.9	.05	36.6	39.9	47.3	54.2	57.3	
Net giving:											
Giver only	535	41.8	40.2	45.0		23.6	35.9	44.0	47.5	50.5	
Net gift giver	95	7.4	7.3	7.7	ns	5.5	6.5	9.3	7.5	7.7	ns
Net gift receiver	123	9.6	10.0	8.8		9.1	9.2	9.3	10.9	9.3	
Receiver only	526	41.1	42.5	38.5		61.8	48.4	37.4	34.2	32.5	
Given gifts	2,717	28.3	29.5	26.4	ns	14.3	21.0	30.3	36.4	39.8	.01
Income share of gifts given	769	0.24	0.19	0.35	.05	0.23	0.21	0.14	0.31	0.29	.01
Given to:											
Parents	768	15.8	16.5	14.4	ns	7.8	11.4	19.5	14.1	19.5	.01
Children	769	49.9	45.4	58.3	.05	57.7	50.9	50.6	50.5	45.6	ns
Grandparents	767	1.3	1.8	0.4	.1	1.3	0.9	1.2	1.0	1.9	ns
Grandchildren	768	31.1	29.4	34.3	ns	28.2	30.7	32.3	36.9	26.2	ns
Other people	768	31.0	35.	23.3	.05	24.4	28.1	30.1	28.3	38.1	.1
Gifts received	2,714	28.0	30.7	23.7	.05	28.3	26.0	27.1	29.2	29.5	ns
Income share of gifts received	761	0.22	0.22	0.22	ns	0.23	0.21	0.19	0.20	0.25	ns
Received from:											
Parents	756	47.4	46.0	50.2	ns	49.7	55.0	46.3	46.2	40.5	ns
Children	759	27.3	25.0	32.1	ns	23.4	22.1	26.5	29.8	33.8	ns
Grandparents	757	5.0	5.1	4.9	ns	7.8	3.6	4.1	5.7	3.8	ns
Grandchildren	756	1.7	2.0	1.2	ns	1.3	2.9	2.1	1.3	1.3	ns
Other relatives	758	19.3	20.4	16.9	ns	18.8	22.1	22.5	14.6	18.9	ns
Friends	759	12.5	13.2	11.1	ns	13.0	10.6	12.2	8.2	18.2	.1
Former employer	759	6.9	8.3[.1]	3.7	.1	5.2	7.8	7.5	6.3	7.6	ns
Social state organs	759	4.6	4.8	4.1	ns	5.8	3.6	3.4	5.1	5.0	ns
Other	759	3.3	4.3	1.2	.05	4.6	2.1	2.0	4.4	3.1	ns

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

In their role as a provider (or legislator) of social security programmes, public authorities provide insurance against the impact of risks such as (insufficient income at) old age, unemployment or disability. The eligibility and benefit levels of such programmes are contingent on citizenship and/or contributions history. Social security in Russia means first and foremost pensions; 59% of the households receive some kind of pension and, in recipient households, pensions make up on average half of total household income (Table 11).[21] Receipt of an old age pension[22] is most prevalent, followed by a disability pension. Interestingly, the incidence of pensions does not differ much across the population, except for the lowest wealth quintile; this group of households is less likely to receive an old age pension but considerably more likely to receive a disability pension (24% as compared to a population average of 17%). The receipt of unemployment benefits and its contribution to total income is very low.

Coverage of the (old age) pension system is very high; nearly every household has adults reporting that they are building up (or built up) pension rights at the Federal fund. About 17% of the households have adult members that are also contributing to a private pension fund[23]. However, these percentages a much lower for households in rural areas and in lower wealth quintiles. Thus, the old age pension system in Russia plays an important role in terms of benefit incidence (many households benefit), size of benefit (benefit is high share of income) and coverage (virtually all citizens are insured). As for the adequacy of pensions, the benefit does not guarantee a living standard above the poverty line[24] but pensioners and households with pensioners are considerably less likely to be poor as compared to the rest of the population (MGSoG, 2006). Together, with the results discussed in Table 12 and Table 13, we hypothesize that these relatively generous old age

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[21] The share of pension income may be overestimated because other income sources are more likely to be underreported (MGSoG, 2006).

[22] In Russia, men above the age of 60 are entitled to an old age pension (for women above age 55). In addition in certain professions (military, mining) workers can retire at the age of 45 or after had a particular length of service (IAAC, October 2006; MGSoG, 2006).

[23] Since 1998, workers can also contribute to a Private Fund by means of a notional individual account system (Kazianga, 2006).

[24] High risk (old age) pension beneficiaries are single pensioners and pensioners living in large (extended) families.

pensions induce a specific inter-generational consumption smoothing channel whereby elderly family members assist their offspring.

4.3 Ex post consumption smoothing strategies: transfers, credit and adjustment in income generating activities

In times of trouble, households can also rely on their family and (broader) social networks such as relatives, friends or others. Depending on the motives and nature of such exchanges, they could be labelled as insurance or transfer smoothing mechanisms. When arrangements are reciprocal or involve risk-sharing they can be classified as insurance. Arrangements based on altruistic motives may be characterized as transfers. The RLMS does not provide much insight into the nature of such arrangements but it includes a range of variables on gifts received and given by households. We use these indicators to explore the existence of such solidarity based networks, including indicators for the direction of gift giving/receiving and its relative importance (Table 12).[25]

A first observation is that the exchange of gifts is rather popular in Russia; 47% of the households give gifts or receive them. What is very interesting is that households are generally either receiving gifts or giving them to others. This observation supports the interpretation of gifts as a consumption smoothing mechanism between households.[26] Also in favour of this hypothesis is the proportionality in incidence rates of giving / receiving as well as in the relative magnitude of the gifts; 28% of the households reported giving gifts while 28% reported receiving them. The average value of the given gifts is 24% of total household income while the income share of a received gift represents on average 22%. Thus, at a given point in time, Russian households are either giving or receiving considerable gifts on a regular basis. Furthermore, most gifts occur within family relations and the direction of flows goes from older generations to younger ones.

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[25] Households were asked to indicate if they have gratuitous received and given money / goods in the past month (to / from others that are not part of their household). If yes, the respondent estimated the monetary value of the gift. It is not clear what share has been given / received in cash and what in kind. Only for home produced food it would be possible to construct an estimate for the value of goods given to others.

[26] Alternatively, a high reciprocity of gifts within the cross-section dimension would have pointed at another explanation in which gift exchange functions a means build up, maintain or strengthen of family relations or social networks.

Additionally, 31% of the gifts are given to other people while 13% of the received gifts come from friends and 7% from former employers. The exchange of gifts seems to be a relevant and popular smoothing strategy in Russia, especially within families.

There are however some differences between population groups suggesting that not everyone is equally likely to make use of this smoothing mechanism. Urban households are more likely to be involved in exchanging gifts (both giving and receiving), suggesting that this smoothing channel is more important for urban areas. Nevertheless, when rural households give, the value of this gift constitutes a higher share of income. Higher wealth households give more often gifts but they are equally likely to receive them. But, even though lower wealth households give less often gifts, those in the lowest wealth quintile are not more likely to receive gifts. Moreover, the income shares of received gifts are similar for all subgroups implying that the absolute value of the gift increases with wealth. Gifts do not go more often towards those who are (supposedly) more in need. [27] Explanations could be that lower wealth households have fewer social assets which prevent them to use family and social networks to smooth consumption, or alternatively, the smoothing counterparts of such households themselves have fewer means to assist those households (or a combination thereof).

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[27] As discussed in section 0, households in the lowest quintile had average equivalent expenditures around the absolute poverty line (average of 2000 - 2003).

Table 13: Households with old-age pensioners

% of households	Obs.[1]	Non-elderly households[2]	Single elderly	Elderly couple	Other elderly household	Test[3]
Number of observations	2,718	1,399	440	270	609	
Income						
- Receive pension	2,718	20.7	100	100	97.2	.01
- Mean pension share of income	1,588	0.26	0.75	0.75	0.41	.01
- Has wage income	2,713	87.0	12.1	24.8	68.0	.01
- Income share of wage earnings	1,768	0.72	0.49	0.38	0.52	.01
Poor (expenditures)	2,718	12.0	8.2	5.6	14.6	.01
Involved in borrowing or lending	2,708	37.5	13.4	20.4	24.5	.01
Net lender	284	30.3	67.9	67.9	37.1	.01
Net borrower	485	69.4	32.1	32.1	62.9	
Has debt	2,712	28.6	5.2	6.3	16.6	.01
Unpaid utility bills	2,707	29.5	7.5	6.7	14.6	.01
Given gifts	2,717	24.2	28.9	48.5	28.6	.01
Given to: Parents	768	31.4	0	2.3	6.9	.01
Children	769	41.7	52.4	61.8	55.2	.01
Grandparents	767	2.4	0.8	0	0.6	ns
Grandchildren	768	13.7	46.8	57.3	33.9	.01
Gifts received	2,714	32.5	30.2	24.5	17.8	.01
Received from: Parents	756	73.8	0	1.5	21.0	.01
Children	759	6.0	68.9	74.2	37.4	.01
Grandparents	757	6.8	0	0	6.5	.01
Grandchildren	756	0	8.4	3.1	0	.05
Net giving: Gift giver only	535	32.5	41.7	60.8	55.5	
Net gift giver	95	6.3	7.3	11.4	8.0	.01
Net gift receiver	123	11.3	6.4	8.2	8.8	
Gift receiving only	526	49.9	44.5	19.6	27.7	

Note: [1] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households. [2] An elderly household member is a person whose age is above the official retirement age (55 for women and 60 for men). [3] Wald test on difference means household types (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01).

Source: Own calculations RLMS

The discussed results suggest that gift exchange as a means to smooth consumption is a promising area for further research. Moreover, the prevalence and direction of inter-generational gifts combined with the importance of (old age) pensions, yields another interesting hypothesis: the relatively generous old age pensions give rise to an inter-generational risk-sharing in which elderly assist their children and grand children. In other words, there a re-redistribution taking place from public authorities via elderly citizens to their younger family members.

We explore the potential relevance of this hypothesis by decomposing the panel in four (mutually exclusive) household types; single elderly households (16%), elderly couples (10%), other households with elderly members (22.4%) and households with no elderly members (51.5%).[28] In the first part of Table 13 we can see that pension income forms the most important source of income for single pensioners and pensioner couples. These groups are also considerably less likely to be poor.[29] Other households with elderly members form an 'in between case' where both pensions as well as wage income form important shares of total income. Such households have an above average poverty risk. We expect that intergenerational redistribution may occur either by lending and borrowing or through gifts. However, the incidence of borrowing/lending activities for elderly households is significantly lower than that of non-elderly households. But once elderly households are involved, single elderly and elderly couple households are more likely to be net lenders.[30] Further, elderly households give more often gifts but there are large differences between elderly households. Only elderly couples give more often gifts than the average population. In terms of receiving gifts, especially elderly couples and other elderly households are less likely to get gifts. The results in Table 13 are

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[28] A household member is considered to be elderly once it has reached the legal retirement age; 55 for women and 60 for men.
[29] We also calculated household poverty rates using household expenditures as a welfare indicator and the RLMS household specific poverty lines (2003) as thresholds.
[30] In studying household budget data from Latvia, Gassmann (2000) also finds that elderly individuals are less likely to borrow or have debt.

Table 14: Seek transfers – Public authorities (social assistance or other benefits)

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
Child benefits											
Receipt child benefit	2.718	23.2	18.6	30.7	.01	34.7	31.1	21.0	17.8	11.4	.01
Income share of child benefits	631	0.04	0.03	0.04	ns	0.06	0.03	0.03	0.02	0.03	.01
Housing benefits											
Receipt subsidies	2,718	12.2	15.2	7.4	.01	16.0	14.9	11.4	10.3	8.5	.1
Income share of housing benefits	332	0.1	0.1	0.1	ns	0.2	0.1	0.1	0.1	0.1	.05
Fuel subsidies											
Receipt fuel subsidies	2,716	3.2	2.1	5.2	.05	2.6	3.9	4.2	2.4	3.1	ns
Income share of fuel subsidies	88	0.06	0.05	0.06	0	0.06	0.05	0.06	0.08	0.05	ns
Stipend											
Receipt stipend	2,715	5.4	6.2	4.2	.1	6.3	6.6	7.6	3.5	3.1	.05
Income share of stipend	145	0.06	0.06	0.05	ns	0.08	0.05	0.04	0.05	0.07	ns

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

Table 15: Adjustment of income generating activities – labour and goods market

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
At least 1 member reports to have 2nd and/or 3rd job	1,955	26.2	23.9	30.2	ns	29.9	25.1	24.3	27.1	24.4	ns
At least 1 member has informal job	1,955	24.3	22.4	27.7	ns	30.7	24.6	24.1	24.0	17.8	.01

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

Table 16: Seek loans or credit – Household / Financial – Goods – Labour market

| % of households | Obs.[2] | All | Urban | Rural | Test[1] | Average expenditure quintiles | | | | | Test |
						1	2	3	4	5	
Involved											
Borrowing and lending	100	3.7	4.3	2.6		1.9	2.4	2.0	4.8	7.4	
Only lending	256	9.5	9.8	8.8	ns	4.3	9.1	9.2	9.9	14.8	.01
Only borrowing	429	15.8	15.9	15.8		15.9	16.3	17.0	15.3	14.8	
No borrowing nor lending	1,923	71.0	70.0	72.8		78.0	72.2	71.8	70.0	63.1	
Net											
Net lender	284	36.8	37.4	35.8	ns	22.6	35.1	33.3	37.5	48.5	.01
Net borrower	485	62.9	62.2	64.2		77.4	64.2	66.7	62.5	51.0	
Debt											
Has debt	2,712	19.9	19.9	19.8	ns	20.5	20.4	18.6	19.0	20.8	ns
Debt as share of monthly expenditures	526	1.0	1.0	1.0	ns	0.8	0.9	1.1	0.9	1.4	ns
Unpaid utility bills											
Unpaid bills	2,707	20.4	21.2	19.0	ns	29.9	18.9	17.9	18.8	16.3	.01
Mean real value (in 1992 rubles)	504	1,889	1,929	1,804	ns	2,817	2,083	1,556	1,131	1,394	.01
Access to loans											
Access to loans from employer	1,621	20.9	24.1[.05]	15.0	.05	13.7	18.1	20.4	21.9	30.3	.01

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households.
Source: Own calculations RLMS

consistent with the hypothesis that some kind of intergenerational risk sharing or income pooling takes place, particularly through gift giving. Possibly, such risk-sharing occurs either *between* related households (from elderly single / elderly couple to other non-elderly households) or *within* the household (other elderly households). In more profound research such hypotheses on the de direction of intergenerational gifts could be tested using inter and intra-household decision models.

When income is low, or falls short of what is expected, households can also seek transfers from the government. Many countries have a range of benefits that are targeted at low income groups (social assistance). Households are eligible for such benefits if they can prove their income falls below a certain threshold and / or if their characteristics fall within a pre-defined category of eligibility criteria. Alternatively, households may seek other benefits that are not specifically targeted at low income households as income shocks change the opportunity costs of seeking transfers; when income is suddenly reduced, the expected benefit (receiving a transfer) may now outweigh the costs of applying for a benefit (time, travel, costs of obtaining required documents) while this was not the case before. Table 14 summarizes the incidence rates and income shares of a range of benefits; the child and housing benefits are income-tested. The incidence of these benefits is considerable and progressive. Child benefits supplement on average 6% of the income in the lowest wealth quintile and housing benefits 20%. While urban households are more likely to receive housing benefits, rural households receive more often child benefits. While these benefits provide an additional source of income, Notten and Gassmann (2006) show that the poverty reduction effect of child benefits in terms of poverty and chronic poverty is rather low indicating that benefit levels are not adequate in this respect. The incidence rates and income shares of fuel subsidies and stipends are low. Stipends are somewhat progressive and contribute 8% of household income in the lowest wealth quintile. So, even though these benefits may help households to smooth consumption, they are typically not sufficient to cover basic needs.

Instead of, or in addition to, relying on transfers, households can also take up a loan or use credit. Table 16 shows that about 20% of the households have been borrowing funds

and a similar share of the households report to have debt. Even though we do not know if funds are borrowed from a financial market or from other institutions, it can also be seen that households themselves are active providers of loans; 13% of Russian households lend money to others. Thus, even though financial markets may play a role, other smoothing channels for credits and loans co-exist in Russia. Household lending activities may be one channel but Table 16 identifies two other channels; the goods market and the labour market. Not paying bills can be considered as an alternative consumption smoothing strategy closely related to (consumer) credit. If late payments on purchased goods and services do not automatically lead to a discontinuation of the service provided, not paying bills is one strategy that households in need can follow; 20% of the households reports to have unpaid utility bills. Moreover, it seems that employers are also willing to provide loans to their employees; working household members were asked whether they could obtain a loan or credit from their employer. One fifth of Russian households have access to such loans.

Taking up credit or a loan seems to be a popular smoothing strategy in Russia. As with gift exchange, low wealth households are less likely to provide loans but equally likely to receive them. The percentage of low wealth households reporting to have debt and the mean share of debt in monthly expenditures does not differ significantly across our sample of the Russian population. The information also suggests that, depending on their characteristics, households use other smoothing channels. Urban and high wealth households are more likely to have access to loans from employers while especially one third of the households in the lowest wealth quintile have unpaid utility bills.

Finally, when it becomes clear that current income generating activities will yield insufficient income, adjustments in such activities can be made. We have only two indicators for such adjustments; the percentage of households in which at least one household member reports to have an informal job and similarly for household members having a second or third job. We selected these indicators because we expect them to be

related to situations of unemployment and under-employment.[31] A quarter of the households reports having household members with an informal job or second/third job.[32] While the incidence of informal jobs is significantly higher for low wealth and rural households, this appears not to be the case for second/third jobs. Given the prevalence of informal and additional jobs, it may be an interesting ally for further research but from these results it is not clear to what extent these indicators indeed represent post shock smoothing strategies.

4.4   Income generating activities

Because it is difficult to distinguish between normal income generating activities and post shock adjustments in those activities in the RLMS, we finally discuss a number of indicators for the type of income generating activities of Russian households. Additionally, we are further interested in differences in income generating activities between groups of households because such differences may also influence the choice, availability and success of particular smoothing strategies. For instance, not having a job also implies that one cannot get a loan through your employer but it also restricts the possibilities to pursue *ex ante* smoothing strategies. We selected indicators on wage generation, entrepreneurial activities, home production but also indicators for problems in the processes of income generation. The latter group is interesting because such problems provide insights into (some) sources of income risk and which groups of households are more likely to be confronted with such risks. A higher exposure to shocks is likely to be associated with a higher incidence of *ex post* smoothing strategies. Taking a long-term

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[31] Thus, using these variables as indicators for smoothing mechanisms assumes that these income generating activities are second best options. Having an informal job implies that such workers are less likely to be protected by labour legislation and are also less likely to build up a contributions history in public social security programs. This on the one hand, increases the risk of income shocks and at the same time also affects the use of alternative consumption smoothing channels (such as a public social security). Furthermore, having an extra job reflects a situation where a person would want to work more in his/her first job but is not able to, or, the first job pays an inadequate salary. Of course, it is also possible that a person has more than one job because he/she prefers to have one.

[32] This percentage is based on a question in the individual questionnaire in the work section in which the respondent was asked whether his job was (partly) formal. Given the fact that respondents have a tendency not to answer such questions or to report that their job is formal even when it is not, the 24% should be interpreted as a lower bound.

perspective, an elevated exposure to shocks may also affect consumption smoothing abilities in general.

Table 17 shows that households in the lowest wealth quintile are more likely to have job. At the same time, low wealth and rural households clearly experience more problems with wage generating activities. Unemployment rates are higher, irrespective of the definition used.[33] The incidence of irregular wage payments, wage arrears and non-cash wages (mainly rural areas) is significantly higher for these households. Working members in such households are less concerned about loosing their job but are, at the same time, more pessimistic about finding another job when the current job is lost. Starting up a business does not seem to be a realistic alternative; and even if it is tried, the likelihood that the start up of a business fails is much higher in rural areas and among low wealth households. The higher vulnerability of low wealth households to wage shocks may be consistent with post shock adjustments in income generating activities such as taking additional and informal jobs. However, the reverse may also be the case; wage arrears, non-cash and irregular payments are characteristics of informal and additional jobs.

In any case, if wage generating activities are difficult to obtain or if the income from such activities is perceived as risky, households could decide to produce (part of their) needs themselves or, alternatively, sell those goods in return for cash or other goods. In Russia, home production is very popular; 64% of the households that used land to grow their own crops, 26% held livestock and 34% fished or gathered foodstuffs such as mushrooms, nuts and berries (Table 18). Although rural households are more often engaged in such activities, home food production is certainly not limited to households living in rural settlement areas; about half of urban households used land to grow their own crops and 33% of the households reported gathering/fishing activities. The value of home produced foods is rather high for rural households (28% of income) but still considerable for urban

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[33] We use two definitions of unemployment; firstly a 'standard' definition according to which a person is unemployed if he/she wants to find a job and applied for a job in the last month and secondly a 'self-defined' unemployed if the respondent indicates that he/she is unemployed. The latter definition is more likely to include discouraged jobseekers or underemployed persons and may thus better reflect structural problems in the employability these persons or of (local) labour markets

Table 17: Income generating activities – Wage labour / Entrepreneurial activities

% of households	Obs.[2]	All	Urban	Rural	Test[1]	Average expenditure quintiles					Test
						1	2	3	4	5	
Relevance of wage / earnings											
At least 1 member has a job	2,718	71.9	73.3	69.7	ns	75.6	73.2	72.7	65.8	72.4	.1
Receipt of wage/earnings[3]	2,713	65.2	70.8	56.0	.01	62.4	65.0	68.4	61.4	68.6	.1
Income share of wage earnings	1,768	66.0	72.2	53.4	.01	62.1	64.5	66.0	68.2	69.1	ns
Having job but received no wage last month	1,955	8.4	5.8	12.9	.05	11.7	8.5	4.6	7.3	9.7	.01
Entrepreneurial activities											
At least 1 entrepreneurial job	1,955	10.2	9.7	11.2	ns	6.8	9.3	9.4	11.5	14.5	.1
Ever tried to start up business?	2,707	17.8	17.6	18.2	ns	13.1	14.2	18.5	19.1	24.2	.01
Start up successful	2,707	40.9	41.6	39.8	ns	18.3	28.6	38.0	49.5	55.7	.01
Start up failure	2,707	67.2	65.5	69.9	ns	84.5	83.1	70.0	58.3	53.4	.01
Problems											
At least 1 unemployed member (standard definition)	2,718	7.5	7.3	7.9	ns	12.0	6.4	5.9	7.4	5.9	.05
At least 1 unemployed member (self-defined)	2,718	15.3	10.2	23.6	.01	27.6	16.2	11.8	12.3	8.5	.01
At least 1 member was not paid	1,955	14.3	11.1	19.8	.05	20.7	15.8	13.2	10.1	10.9	.01
At least 1 member received non-cash wage	1,707	6.9	3.3	14.3	.01	7.7	8.9	7.8	5.6	4.6	ns
Perspectives of working household members											
Concerned about losing job	1,955	63.0	63.0	63.0	ns	61.1	70.4	67.3	58.9	56.8	.01
Certain about finding job when current job is lost	1,955	37.4	45.4	24.5	.01	25.8	34.7	42.3	42.5	42.5	.01

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households. [3] Reference period is a month which can explain why this percentage differs from that of the employment rates.
Source: Own calculations RLMS

Table 18: Income generating activities – Home production

% of households	Obs.[2]	All	Urban	Rural	Test[1]	1	2	3	4	5	Test
						Average expenditure quintiles					
Used land past year	2,731	63.7	49.3	87.5	.01	63.9	62.6	68.5	62.0	61.7	ns
Average size of land in Sotkas[3]	1,673	41	11	67	.1	13	15	20	13	144	ns
Ownership land	1,687										
Owned by family	1,257	74.5	77.5	71.8	.01	70.5	71.1	76.5	76.8	77.7	ns
Rented by family	238	14.1	11.3	16.6	.1	18.3	14.5	13.0	12.8	11.9	ns
Part owned, part rented	87	5.2	2.4	7.7	.01	5.3	6.3	5.0	4.9	4.3	ns
Other arrangement	105	6.2	8.8	3.9	ns	5.9	8.1	5.5	5.5	6.1	ns
Home production											
Grew crops last year?	1,731	95.7	94.0	97.2	.1	95.7	95.9	97.3	95.3	94.0	ns
Sold crops past year?	1,656	17.5	13.6	20.9	.05	13.0	21.2	16.9	19.6	16.8	.05
Had livestock last year?	2,715	25.6	5.4	58.9	.01	27.0	31.2	29.3	20.6	20.1	.05
Sold livestock past month?	694	8.9	2.2	9.9	.05	6.9	5.9	12.7	8.0	11.9	ns
Sold products from livestock past year?	696	43.0	27.5	45.3	ns	38.1	42.6	45.3	46.4	43.1	ns
Gathered mushrooms, nuts, fished last year?	2,716	34.3	33.3	35.8	ns	33.0	32.2	34.8	33.5	38.0	ns
Sold gathered mushrooms, nuts, fished last month?	929	3.0	2.1	4.4	ns	5.0	3.5	1.6	2.2	2.9	ns
Total value of home production											
Total value of gross home production (in 1992 rubles)	1,661	1,309	466	2,064	.01	767	1,451	1,460	1,120	1,754	.01
Total value of gross home production as share of income	1,661	0.19	0.08	0.28	.01	0.17	0.24	0.18	0.15	0.18	.05
Of which: sold (in 1992 rubles)	492	1,588	418	1,974	.01	930	1,580	2,010	1,021	2,377	.01
Of which: consumed or given away (in 1992 rubles)	1,661	839	401	1,231	.01	532	897	871	801	1,105	.01

Note: [1] Wald test on difference means urban-rural and average expenditure quintiles (controlling for clustering effects): not significant (ns), significant at 10% (.1), significant at 5% (.05) and significant at 1% (.01). [2] The full sample consists of 2,718 households. The number of observations in this column can be different due to missing information in the questionnaire and / or because the information is only applicable to a sub-sample of the households. [3] 1 Sotka is 100 squared meters.
Source: Own calculations RLMS

households (8% of income).[34] Table 18 also shows that most of the proceeds from home production are destined to home consumption.

Interestingly, there are no differences in household food production across wealth quintiles; low wealth households do not use this income generating activity more frequently than other households, even though they appear to have more problems with wage-generating activities. If any, low wealth households are more likely to consume the food as opposed to selling it. What explains this popularity of home food production in Russia and why do low wealth households not produce more others? A first reason may simply be that many households have access to land, either in the place they live or by owning a dacha with some land in the rural areas (Table 9). Cultural aspects such as preferences on leisure activities may also contribute to explaining the popularity of gardening, gathering and fishing activities.[35] However, another (perhaps complementary) explanation can be that, by producing (part of) their own food, households ensure they have some of their basic needs covered even if when their other income generating activities fail. Morduch (1995) argues that households can also smooth consumption by choosing low risk –low return income activities or by holding a portfolio of income generating activities. He calls such activities 'income smoothing' behaviour. The experience of a multitude of shocks (both covariant and idiosyncratic) that has so far characterized the transition process in Russia can be hypothesized as a strong rationale for home food production by Russian households.[36] Whereas in communist times producing your own food provided an insurance against food supply problems it may now function as an insurance against (wage) income risk.

So far, few studies have analyzed the role of household food production in Russia and the evidence from those existing studies is ambiguous. Skoufias (2003) finds little evidence that home food production is used as a response to wage arrears and unemployment while

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[34] The value of home produced food is also included in the estimate of total household income.
[35] Unfortunately not much can be learnt from the RLMS data in this respect. Gassmann (2000) discusses how such activities also form an important component of leisure.
[36] During the nineties, the Russian population experienced a range of large aggregate shocks that influenced their level of well-being but also their perception of risk/uncertainty (Michael Lokshin & Ravallion, 2000; World Bank, May 1999).

Gronau (June 2006) reports a (significant) negative relation between change in labour status and the hours spent on gardening. Notten and de Crombrugghe (2006) on the other hand find that rural households have higher food consumption smoothing abilities; their food expenditures are less responsive to income shocks than those of urban households. One way of reconciling these findings would be that food production in Russia is used as an *income smoothing* strategy as opposed to a specific *risk/shock response* strategy.

This hypothesis can be tested in a number of ways. Firstly, the RLMS data can be used to empirically analyze dynamics between other income sources and 'income' from food production.[37] Secondly, as home food production may be a typical smoothing strategy in transition economies it would be very interesting to study the main conditions under which such a smoothing strategy is preferred by economic agents and whether this could explain such a high prevalence of this strategy in Russia. For instance, one could think of a basic model in which a household has to decide how much time to invest home food production versus another (wage) income generating activity. The decision could be modelled using a production model or a portfolio investment model. Everything else equal, a household will spend more time on home food production in case a) it is more risk averse b) the higher the variance of the wage income generating activity and c) the lower the (expected) return of the wage income generating activity. Moreover, one could introduce an aggregate source of risk that influences the variability of wage earnings but not that of home food production. If the aggregate risk is high, it can be predicted that a large share of households invest more time in food production. From a dynamic perspective, one would expect to see this share decline as the (perceived) aggregate source of risk would decline. The RLMS provides a lot of information to empirically test the predictions of such models but it would also be interesting to apply those models to other (transition) economies. As such this is an area that certainly merits more research.

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[37] Information on quantities and the monetary value (valued at local market prices) of home production, proceeds from sales are collected in a consistent way during the second wave (1994-currently). For the years 1994-1996 even (noisy) information on the hours spent on work/gardening is available.

5. Further research and concluding remarks

In this paper we developed a conceptual framework representing a portfolio of potential consumption smoothing channels and explored empiric evidence of typical smoothing channels used by Russian households in 2003. The picture that emerged is one in which financial markets play a limited role as a smoothing channel, regardless of the smoothing mechanism used (saving, lending, insurance). Instead, households seem to use internal strategies, their family, social networks and the state to smooth consumption through capital accumulation, gift giving, the provision of loans and (pension) benefits. We also find evidence for differential use of smoothing channels of low wealth and rural households and other households. Compared to other groups, low wealth and rural households are less likely to use financial markets as counterpart for their smoothing strategies. Moreover, irrespective of the institutional counterpart, these households are less likely to be involved in borrowing and/or lending activities, save money, accumulate assets and they also have less often access to loans through employers. 'Consumer credit' through not paying utility bills seems to be an important credit smoothing channel for low wealth households.

The broad scope of the analysis also enabled the formulation of hypotheses on two a-typical smoothing channels. Firstly, the relatively generous old age pensions give rise to an inter-generational risk-sharing in which elderly assist their children and grand children. Important channels for the re-redistribution of old age are the contribution of pensions to the income of extended/multiple generation households or the provision of gifts to younger family members in other households. Secondly, Russian households in rural and urban areas *en masse* produce themselves part of the food they consume and we find no differences in the prevalence of this activity across wealth quintiles. We hypothesize that, as opposed to a specific risk/shock response strategy, home food production in Russia may be used as an (in kind) income smoothing strategy; it represents a strategy that safeguards food consumption in a region where households have experienced a high degree of (aggregate) shocks in the recent past. Further investigations

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into the role of pensions and home food production therefore represent particularly interesting alleys of further research.

Albeit exploratory, this type of research is relevant for academic and policy purposes. The way households in transition economies smooth consumption may be different from that of households in developed and developing countries. In the economic literature, the village economy model is often used to analyze household and individual risk sharing activities in rural developing communities but its applicability to a transition economy has not been tested. On the other hand, the ongoing structural development of market institutions in transition economies may warrant the use of permanent income or life cycle type models that are often used to study smoothing behaviour in developed economies. These models may not be appropriate or may have to be adjusted so they can be used for studying consumption smoothing behaviour in transition economies. The conceptual framework and empirical exploratory strategy can be used as tools to obtain an inventory of consumption smoothing channels in a given country or community. The analysis does not prove the existence of smoothing relationships/channels or whether certain actions are 'smoothing motivated'. Nevertheless, the information it provides, indicates which channels are worth further investigating and which linkages have to be taken into account (or not).

In terms of policy relevance, our research offers an alternative way to use existing survey data to obtain a household perspective on consumption smoothing, with the household being the basic institution within which risk and resources are shared. The environment of households simultaneously is a cause of uncertainty as well as a counterpart in dealing with it. Households use multiple strategies/channels which may or may not be country/community specific. The conceptual framework guides thinking about the role, scope and type of government interventions and possible feedback effects to other smoothing channels. Public authorities can improve or disturb the functioning of particular smoothing channels or directly assist households in managing (specific) risks by social protection programmes.

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