The rural non-agricultural economy in transition countries: findings from Armenia (NRI report no. 2678)

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The Rural Non-Agricultural Economy in Transition Countries: Findings from Armenia[♣]

Dirk J. Bezemer and Junior R. Davis

1. Introduction

There has been an increasing recognition recently that the rural economy is not confined to the agricultural sector, but embraces all the people, economic activities, infrastructure and natural resources in rural areas (Barrett *et al*, 2001; World Bank, 2000; Reardon, 1999, Reindert, 1998). Since the 1970s, a large number of studies have investigated the role of non-agricultural economic activities for rural development. There is evidence that economic diversity in the countryside has the potential to foster local economic growth and alleviate the rural-urban income gap and rural poverty.

These findings are relevant to the post-socialist transition countries, where typically a large part of the population lives in rural areas, and economic growth and the reduction of poverty are significant challenges. This is particularly true for those transition countries that are outside Central Europe. Analysis of the transition process in general and of transition in the agricultural sector has generated a large literature, but less has been specifically devoted to the wider non-farm rural economy. However, studies in this field are now being undertaken, since it is recognised that in the longer term the development of the rural non-farm sector is a critical factor in providing rural employment and income (Bleahu and Janowski, 2001; Breischopf and Schreider, 1999; Deichmann and Henderson (2000); Chaplin, 2000; Sarris et al, 1999).

The OECD (1996) classifies predominantly rural areas as those where more than 50 per cent of the population live in rural communities, and significantly rural areas as those

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where between 15 and 50 per cent live in rural communities. There are two dimensions on which to define the rural non-agricultural economy (RNAE): activities and incomes. The RNAE is often defined as including all economic activities in rural areas except agriculture, livestock, hunting and fishing (Lanjouw and Lanjouw, 1997). That is, all earnings and economic activities, either waged or self-employed, that are located in rural areas but are not in agriculture[1]. These might include agro-processing, the setting up of a small business, or the receipt of transfer payments such as pensions, interest, dividends or remittances from temporary, seasonal, or permanent migration.

A key term in the RNAE literature related to 'income' is that of *livelihood*. The concept of livelihood used in this paper is that given by Ellis (1998, p. 6):

> *'A livelihood comprises incomes in cash and in kind; the social relations and institutions that facilitate or constrain individual or family standards of living; and access to social and public services that contribute to the well-being of the individual or family.'*

Rural livelihoods thus include income from both farm and non-farm sources. The rural non-farm economy (RNAE) may be defined as being all those activities associated with waged work or self-employment in income generating activities (including income in-kind) that are not agricultural but located in rural areas. This definition is not solely activity based (waged work or self-employment), as it also includes non-earned income as well as the rural institutional framework (roads, schools, hospitals etc.), which are an integral part of the rural economy.

2. Lessons from Developing and Developed Countries

Experience in both developing and developed countries can help inform policy for the RNAE in transition economies.

[1] The abbreviation 'RNAE' is here used instead of the more conventional 'RNFE', for rural non-farm economy. Although in common usage, this term is factually incorrect and confusing. The purpose of the term is to indicate non-agricultural activities in rural areas. However, these may (and often do) actually take place in farms. Non-farm activities exclude a large part of the rural on-agricultural economy.

Rural households in developing countries typically obtain 30-45 per cent of their total rural income from non-agricultural sources. The average figures differ by region and range from 29 per cent in south Asia to 45 per cent in Eastern and Southern Africa (Reardon *et al.*, 1998). The nature of the links between the farm and non-farm sectors and the performance of agriculture influence the growth of the RNAE. With increasing diversification, the links to agriculture tend to decrease. In many developing countries, the seasonal character of the RNAE is inclined to decrease with increased diversification and to show a trend towards more stability.

Recent research (e.g. Barrett and Reardon, 2000, Breitschopf and Schreider, 1999; Davis and Pearce, 2000 Deiniger and Olinte, 2001; Piesse and Thirtle, 2001) has shown a positive correlation between a higher diversification of non-farm activities and incomes and:

- Higher productivity in agricultural activities;
- A higher income level of rural families;
- Income equality
- The level of education;
- Quality of and access to infrastructure;
- Quality, objectives and organisation of services;
- Opportunities created through local, regional and national government policies; and
- Access to credit and financial services.

These benefits are not always fully captured by the rural population. Direct entry barriers to activities with high returns to labour in developing countries are licence fees, the purchase or rental of equipment, and skill acquisition. As a result, although low-asset households may spend much time in off-farm activities, these will only be low wage. In contrast, high-asset households may be able to earn higher returns (Reardon *et al.*, 1998). Thus, growth of the RNAE does not always decrease income inequality and help alleviate poverty. Hazell (1998) states that one reason why the RNAE should be actively encouraged is because, when agriculture grows, the RNAE benefits from powerful income and employment multipliers. In many developing countries, discrimination against small rural non-farm firms constrains the effects of these multipliers.

Studies on the RNAE in developing countries suggest that this can be promoted through: increasing the asset holdings of the poor in the rural community, both in terms of education and infrastructure; removing land market constraints; improving access to credit for non-farm activities; and disassociating the inequality problems of the farm and non-farm sectors (Reardon *et al*., 2000). Many of these policies are also applicable to development of the rural non-farm economy in transition economies. Bleahu and Janowski (2001) point to the effect of religion and a variety of cultural factors on involvement in the Romanian RNAE. For example, there may be activities which are seen as desirable for certain ethnic groups or classes and, in many developing economies, gender influences the roles taken in the community.

Also analysis of the rural regions of the EU can point to issues of importance for the transition economies. There is a great diversity among rural regions in the EU and both endogenous and exogenous factors affect rural employment growth. Endogenous factors are local impulses and local resources; exogenous factors are those which externally determine the transplantation of employment into the region (Von Meyer *et al*., 1999). As agriculture contracts, the tendency in the regional economy is for specialisation to decrease and diversification to increase, but some EU regions were able to increase specialisation – for example, by focusing on tourism or on speciality agricultural products. Therefore, policies need to be in line with the individual strengths and weaknesses of a region, and research is essential to reveal these (Von Meyer *et al*., 1999). A multi-sectoral approach must be taken to rural employment creation, rather than one just including agriculture, agro-food and tourism, and local and regional actors and agencies should be involved (Christensen and Lacroix, 1997; Von Meyer *et al*., 1999).

Other policy lessons from the EU for improving rural employment opportunities are that infrastructure should be improved to make rural areas attractive to business and for living; governments should try to improve the general conditions in rural areas and not target particular enterprises; and resources should be directed to regions with potential for growth due to their location, comparative advantage, or other reason, but which suffer from poor physical infrastructure, a poorly trained labour force or lack of processing and marketing facilities (Christensen and Lacroix, 1997).

Brydon and Bollman (2000) found that in many OECD countries the fall in agricultural labour has been compensated for by increased employment in services –

particularly in tourism and recreation and, in some cases, manufacturing. There is also an increase in opportunities due to digital communications, but little evidence to date on the uptake of these new technologies by rural actors in production. Changes in the rural labour market are related to changes in the urban labour market, such as the shift to part-time and casual work, and feminisation. However, there can be a large variation in economic performance among rural areas and the authors recommend a cross-disciplinary approach to further research.

3. Rural Poverty and the RNAE in Post-socialist Countries

A large share of the Balkans and CIS populations live in persistent poverty (the share depending on varying definitions of poverty). Using an expenditure measure, 10 per cent of the population were persistently in extreme poverty in 1998, implying malnutrition. These poverty problems have started to be addressed (with varying degrees of success) in some economically advanced CEECs such as the Czech and Slovak Republics, Poland, Hungary, and Slovenia, but hardly in the Balkans and CIS (Milanovic, 1998).

The RNAE has a role to play in poverty reduction during two stages of the transition process. In the first stage of impoverishment and economic decline, it acts as a "defensive" survival strategy for the rural poor. Most Balkan and CIS nations are still in this stage. For instance, limited off-farm earning opportunities are given as one of the main reasons for stagnant rural incomes in Georgia (FAO, 2000b), together with the scarcity of rural credit, poor market access for domestic products, unequal access to inputs complementary to labour, and barriers to land consolidation. In countries such as Romania, where agriculture is acting as a buffer against unemployment and hidden unemployment is widespread and increasing (Davis and Pearce, 2000), development of the RNAE is vital, and the Romanian government is aware that in order to improve the motivation of people to seek rural non-farm employment, the quality of life in rural communities needs to be improved with better education and infrastructure (Turnock, 1998c).

In the Central European countries, the second stage of economic growth and development has started. Many well-educated people are moving out of agriculture to seek

higher incomes elsewhere. Rural areas are left with proportionally more elderly people. Gradually there is consolidation of farms. Large farms contract, and fragmented small farms are being amalgamated into larger, more viable units, with more mechanisation. Both these developments are expected to result in the shedding of excess agricultural labour (FAO, 1999; Csaki and Lerman, 2000).

The promotion of rural non-farm enterprises is seen as having the potential to absorb this excess farm labour, stimulate rural development and overcome rural poverty (Christensen and Lacroix, 1997). One could envisage jobs supporting this process – repairing machines, developing and maintaining rural roads and other infrastructure, local food processing (e.g., cheese-making, wine production and the like), providing rural services (accounting, banking, distribution, teaching, etc.). Due to a lack of data it is difficult to measure the rate of growth of these activities (Davis and Pearce, 2000). Remittances form part of rural income and are of importance in some of the transition economies, such as (Pearce and Davis, 2000). By contrast, in a Ukrainian survey (Lerman and Csaki, 2000), remittances from abroad were found to be negligible. Clearly, during the early post-socialist recession period, most of the non-farm activities were lowly paid, labour intensive and or/ basically survival strategies. This remains the case for many CIS and Balkan states.

4. The Size and Growth of the RNAE in Post-Socialist Countries

It is difficult to obtain evidence on income shares from non-farm sources, firstly because non-farm income is not recorded in the statistics of most countries in the region, and secondly due to the unwillingness of survey respondents to provide information on their incomes. However, there is growing evidence that rural households in the CEECs may obtain 30 to 50 per cent of their income from non-farm sources (Davis and Gaburici, 1999; Greif, 1997). For example, in Poland, agriculture is the main source of income for only 29 per cent of village households, whereas non-agricultural income is the main source for 30 per cent of village households (Christensen and Lacroix, 1997). In Ukraine, 76 per cent of the income of private farmers' families is from agriculture, while 16 per cent is from off-farm sources and 8 per cent from business (Lerman and Csaki, 2000). Thus it is likely that

the non-farm sector is generally significant in the CEECs than CIS, and also possible that income from the non-farm sector is underestimated. Some observations may place these figures in perspective.

First, these percentages, though larger than many would expect, are in fact not high compared to the Western world. In the USA for instance, about 75 per cent of farms are small (annual gross sales less than $50,000). In these businesses farming is a loss making activity, and the main source of income is non-agricultural. For medium (annual gross sales between $50,000 and $250,000), large ($250,000 to $500,000) and very large (over $500,000) farms, non-agricultural income is still close to 70 per cent, 40 per cent and 20 per cent, respectively (Edelman, 1997). In the European Union, farmers derive typically only between one half and two-thirds from agricultural production (Eurostat 2000, 63). These figure are substantial and do not yet take into account non-farm enterprises.

Second, although there are reasons to expect the share of the NFRE to rise further, it is not a foregone conclusion that this convergence to Western figures signifies progress towards the Western economic model. The underlying forces differ dramatically. In Western countries the rise of the RNAE occurred during a period of increasing affluence and presently seems sustained by the declining importance of agriculture, in combination with rural (as well as originally urban) people's wish to live in the countryside. In transition countries the RNAE has grown during the post-socialist transformational recession and seems stimulated by a combination of the decline of agriculture and lower income levels.

Third, and related, although the RNAE may offer a wider range of livelihood options to the rural populations in transition countries, it does not thereby signify healthy economic development. Economic development has traditionally been associated with specialisation of labour and increases in labour productivity. In the transition countries, especially in the Balkan and CIS, there has generally been a de-specialisation of labour. The farming population is (or may be) diversifying from food production into non-food production, which boosts the RNAE. At the same time, urban household diversify from non-food production (e.g. Bezemer, forthcoming; Caskie, 2000; To Seeth et al, 1998). These joint developments could also be interpreted as a general trend amongst the poorest transition countries, where the specialisation of labour in the socialist system, under the pressure of increasing poverty, is being replaced by diversification as a subsistence

(survival) strategy. This is primitivization, not development of the economic system. Although this interpretation is open to question, the opposite view, where the RNAE is seen as part of a growth resumption after the transitional recession, is likewise questionable.

Fourth, even if the size or importance of the RNAE increased recently, this does not imply that there is now more, or more diverse, economic activity in post-socialist rural areas than prior to the reforms. One social objective of socialism was to transcend differences between towns and the countryside. In this policy framework, industrial employment in rural areas was created, either by locating industrial concerns in rural areas (e.g. agro-industrial complexes in Bulgaria) or by encouraging agricultural co-operatives to diversify into non-agricultural activities (e.g. computer hardware manufacturing co-operative "firms" in the Czech Republic). The former strategy was most common in Central European and Balkan countries that were pre-industrial before the central planning era, e.g. Albania, Slovakia, Bulgaria, Romania and most of the CIS. However, the development of non-agricultural businesses with agricultural co-operatives was also practised there - around 88 per cent of Slovak agricultural co-operatives were engaged in non-agricultural activities as compared to 78 per cent in the Czech Republic, and 58 per cent in Poland by the 1980s (Swain, 1999). Rural non-farm employment existed during socialism on a larger scale than in Western Europe. Much of that activity was reduced or disappeared during the transformational recession. What RNAE is now observed may well comprise people, assets, and activities that were traditionally owned or managed by socialist farms and other rural firms. To the extent that this mechanism is at work, the emergence of the RNAE in post-socialist countries is in fact a re-emergence.

5. The RNAE in Armenia: Background Information

Armenia is the smallest former Soviet Republics outside the Baltics. It is a mountainous country located in the Trans-Caucasus, bordering on Turkey, Georgia, Azerbaijan, and Iran. Its population is 3.7 million, with another 5 million Armenians living outside the state territory.

In the Soviet era, Armenia was an industrialised country with a large rural population, a combination it had in common with many socialised countries. In 1990, the last year before its independence and reforms, industry employed 20 % of the labour force, contributed 33 % to value added, and 45 % to gross output. Agriculture employed 13 % of the labour force, contributed 17% to value added, and 13 % to gross output. About 20 % of the population was counted as rural.

Followings its independence, the reforms in 1991-1992 comprised privatisation of many productive resources and organisations, a large degree of liberalisation of trade and prices, and decentralisation of economic decision-making. Importantly for the rural economy, Armenia was one of the very few among the former Soviet Republics to privatise agriculture effectively and swiftly during 1991-1992: the overwhelming majority of agricultural land and output is now in small family or peasant farms (Lerman and Mirzakhanian, 2001).

The reforms caused a severe economic contraction, followed by a resumption of growth. In 1993, GDP had declined to 43 % of its 1990 level, and subsequently climbed to 62 % in 1998. In addition to the shock of system change, violence and natural disaster contributed to a sharp decrease in welfare. In 1990-1994, Armenia was involved in a territorial war, absorbed a large inflow of refugees, and experienced an earthquake affecting 40 % of its territory and a third of its population. In 1997 a severe drought followed. *Per capita* levels of income sank during the initial economic decline from USD 1,590 in 1990 to USD 169 in 1994. Also the composition of income changed. In 1991, salaries made up for 55 % of incomes. This decreased to 25 % in 1994. Salaries were replaced by income sources such as humanitarian aid, remittances, and in-kind income. The dietary quality deteriorated: food consumption declined from 2,181 kcalories in 19921 to 1,599 calories on average in 1994, and 97 % of the population was in so-called 'absolute poverty' in 1994, with a daily *per capita* income of less than 1 USD. In 1999, the situation had slightly improved again, with the poor accounting for 55 % of the population, the 'very poor' for 28 %, and the 'extremely poor' for 10 %. Poverty is concentrated in the cities and among landless rural residents (Ministry, 2000). Since 1993, 500,000 Armenians have emigrated.

Contemporary data on the Armenian rural economy as a whole were, to the best of the author's knowledge, not available at the time of writing. However, in 1998 a large survey of farm households was implemented, sponsored by the World Bank. The survey

covered 75 villages and 7,000 people in 1,500 households, which is .5 % of all Armenian farm households. The following information is based on these survey findings, summarised in Lerman and Mirzakhian (2001).

The demographic profile of rural Armenia is 35 % children and youth below 18 years of age, 50 % of adults between 18 and 59 years of age, and 15 % of people older than 60. Education levels, inherited from the Soviet system, are high, with 75 % of men and 45 % of women having secondary of higher education.

Agricultural underemployment is widespread, but this does not imply a vibrant non-farm economy: 50 % of adults do not work full-time on the farm, but only 20 % have off-farm incomes, either as salaries or in self-employment. Non-farm income accounts for 72 % of cash income and half of total income. The main sources are salaries (40 %) and pensions (23 %). Remittances from abroad are also quite important (18 %). Cash savings are held by only 10 % of respondents, but never in a bank. Only a tenth of respondents saved money in the month prior to the survey.

Rural market development appears very limited, if information provided by farm families is taken as indicative. Land holdings are small, and trade in land is absent. Most (56 %) of farm output is consumed by the farm household, or bartered (5 %). Produce that is traded (25%) is usually sold to individuals rather than to enterprises. Also inputs are almost always bought from private individuals. Food processing occurs on 60 % of farms, rather than in separate, commercial enterprises. Credit from banks or credit associations is virtually unheard of, although two-thirds of respondents had outstanding, usually small, amounts of debt. The source of this borrowing is most often family and friends, who lend against zero or low interest rates and small, usually liquid collateral if at all.

Unsurprising in view of Armenia's recent history, about 45 % of respondents report they have experienced a serious economic crisis that has endangered the well-being of their family. Rural poverty, even among food producing households, is apparent in the survey. Nearly 40 % of respondents report that their family's diet is poor. Nearly two-thirds eat no meat at all, nearly half have two meals a day, and 28 % skipped meals weekly or daily during the four months preceding the survey. The pattern of these responses is replicated in reported incomes, with an average *per capita* income of USD 1,200 for those reporting a good diet and USD 600 for those reporting poor diet. In these data there is a

sharp dichotomy between a small group of better-off respondents and the poorer majority; and the same is true for reported housing quality, especially in the former earthquake zone.

In consequence, 65 % of respondents complain that they have not enough money for food and basic necessities, and 25 % have just enough. In comparison, over half considered themselves comfortably off in 1990 and another 30 % think they had then enough money for food and basic necessities. A widespread coping strategy is mutual assistance. About a fifth of respondents had recently received and extended material or practical help to friends or family.

6. Data collection

In the remainder of this paper the findings from a survey conducted in June 2001 in Armenia will be presented, followed by some analyses and implications. The survey research was by initiated by the National Resources Institute of the University of Greenwich, and implemented in co-operation with a local survey team. The aim was to gain insight into the nature of the non-agricultural rural economy (RNAE) in the country. The focus in this research is no non-farm rural enterprises. For that purpose, 21 rural communities in 3 regions (called *marzes* in Armenian) were non-randomly selected. These *marzes* were Ararat, Gegharkunik and Syunik. Since a prime motivation of the research is to study the potential of the RNAE to alleviate rural poverty, selection criteria included poverty levels and the level of development of the RNAE. In the three *marzes*, 45 entrepreneurs active in the RNAE were surveyed, 15 from each region[2]. It is hoped that the data will provide a basis for a larger survey of the RNAE in the near future.

[2] The communities surveyed were, in Marz Ararat: Hovtashen, Kaghtsrashen, Ajgepar, Mkhchyan, Dzorak, Dashtavan, Ararat. In Marz Siunik: Tolors, Uts, Akhlatyan, Shake, Ishkhanasar, Akner, Verishen. In Marz Gegharkunik: Ljashen, Tsovazard, Gandzak, Karmir Gyugh, Noraduz, Chkalovka, Sarukhan.

7 Overview of findings

Personal Data

The average entrepreneur in the sample is a middle-aged, long-time local male of Armenian ethnic background with a high level of education. Over half (24) the respondents have completed higher education, and of the rest most (19) have completed secondary education (mostly general, in 4 cases professional). The age of respondents was varied. Of all 45 respondents, 14 are in the 24-35 age group, 14 in the 36-45 group, 15 in the 46-55 group, and 2 are over 55 (65 and 77). They were most frequently (39 cases) male and Armenian (44 cases), and mostly have lived in the local area all their life (41 cases). Half (22) the entrepreneurs have dependent children. Most (35) describe their business location as 'very' (23) or 'moderately' (12) rural; only one reports to live in an urban area.

Unsurprisingly, by far the most important reason for having the business is to provide a main source of income (rank 8 of 10). Also important are the ability to do this work and live rurally, to develop a personal interest, and to create jobs (ranks 6, 5 and 5 respectively). The reported present aims of the entrepreneur do, on average, hardly differ from those reported as motivations for starting up the business. Table 1 summarises respondents' motivations.

Table 1: For a minority of respondents, motivations changed since the start of their business

Motivation	**Ranking** , *score* of importance, Scale 1-10 (n = 43)				# respondents who changed ranking	Average change
	.....for starting the business		... for having the business now			
To provide the main source of income.	**1**	*8,5*	**1**	*8,3*	8	-1,8
To provide additional source of income.	**5**	*4,6*	**3**	*5,7*	19	2,0
To avoid or prevent unemployment.	**8**	*4,3*	**6**	*4,6*	20	0,4
To carry on the family business.	**9**	*4,1*	**9**	*4,4*	19	0,2
To capitalize on my skills/training.	**7**	*4,3*	**7**	*4,6*	17	0,3
I had a personal interest that I wanted to develop.	**3**	*5,3*	**5**	*5,0*	18	-1,3
Freedom to use traditional methods.	**11**	*3,5*	**11**	*3,5*	16	-0,3
Only way to do this work and live rurally.	**2**	*5,7*	**2**	*6,0*	17	0,2
To find more preferable business.	**6**	*4,4*	**8**	*4,6*	19	-0,2
To provide employment for the family members.	**10**	*3,6*	**12**	*3,1*	15	-1,9
Create jobs	**4**	*4,9*	**4**	*5,2*	16	0,3
To be able to spend the time the way I like.	**12**	*3,4*	**10**	*4,3*	25	1,4
Other	**13**	*1,6*	**13**	*1,5*	1	3,0

There are some motivations that are likely to be satisfied once a business is started, which will then become less important. This is true for provision of additional income, developing a personal interest, providing employment to family members, and finding a more suitable business. In line with conventional notions of entrepreneurship, obtaining a main source of income remains of paramount importance. Preventing unemployment appears to have become more important, although the importance attached to this change is limited by the small change in score levels that underlies it.

The small average changes in scores and ranking reflect the fact that many respondents do not report changes at all (see the sixth column). Studying the subset of respondents who did change their ranking of aims between starting the business and the

moment of surveying shows that there are a few significant shifts (scores changing more than 1 point). The importance of providing an additional source of income rose most dramatically in this group, while that of providing a main source of income fell correspondingly. Providing employment to family members became less important, and being able to spend time in the preferred way became more important.

The picture that emerges is that a significant minority of entrepreneurs after the start-up phase shift their business priorities away from income and economic security, and towards lifestyle preferences; although this does not affect the primacy of the business as a main income source, even within this group.

Enterprise Characteristics

The enterprises in the sample are specialised. Asked to rank 13 activities in order of importance, only a few respondents use rank 2, and ranks 3-13 are absent. They are all fully involved in non-agricultural activities, but for one respondent who spends a fifth of his time in agricultural production. Most frequently, main activities as reported by the respondents are trade (19 cases) and agricultural processing (10). When classified by product, over half (26) the respondents are linked to the agricultural sector, in almost all cases through food processing or trade in food products.

Most (34) enterprises were established in 1997-2000, and none before 1989. Most (42) were also started by a single person rather than taken over from a family member (1, in 1997) or bought (2, in 1997 and 1999). Most (39) business facilities are owned, the rest are leased. Only 9 respondents reported on their firm's legal status, all of whom were classed as self-employed. Sales are most often to individual customers and households (39 cases) and to shops (17 cases). Sales to enterprises and the public sector are more rare (16 cases between them). The *share* of sales is also largest for those to individual customers and households (72 and 66 %, respectively). Of the other options only sales to a wholesaler, reported by 5 respondents, is of similar importance (67 %). Almost all (40) respondents report a large share (77% on average) of customers within a distance of 25 km, and a fifth (9) report that half their sales go to customers more than 150 km away. No export sales are reported.

Suppliers are also mostly located in the local area: 30 respondents report an average 86 % of inputs suppliers located less than 25 km way, while 21 report large input shares (about two thirds on average) coming from between 25 and 100 km. Two respondents have

their inputs supplied from abroad: one from the CIS, the other from EU and other countries (for 85 % of total inputs).

Labour and Capital

Most (28) businesses have other workers besides the entrepreneur. In only 5 cases this is the spouse, in 24 cases there are non-family members in full-time employment. In these 24 enterprises, there are most often (14 cases) up to 3 employees, with an average of 6. Only two respondents are also shareholders in another business, two others have been business owners in the past, and two are employed by someone else.

About half (21) the respondents report that their workload is roughly the same each week, and nearly a third (13) has seasonal variation. Just over half (24) the respondents work between 41 and 45 hours weekly in their enterprise, with the rest evenly distributed over longer and shorter work hours.

About two thirds of the enterprises reported on their registered capital in 2000 and their turnover in 1999. These were AMDs 4.3 million (n = 29) and 3.7 million on average, but with a large spread (S.D. of AMDs 9.2 and 8.4 respectively)[3].

Finances

Average salary expenditures, total expenditures and income during the year 2000 were reported by most respondents. Variations over respondents as well as over regions in these variables were large, as is clear from table 2.

Table 2: Expenditures and Income in 2000

Expenditure category	Region averages (1,000 AMDs)			Whole sample(n = 45)
	Syunik	Gegharkunik	Ararat	Mean (S.D.)
	(n = 15)	(n = 15)	(n = 15)	
salary expenditures	568	1,726	416	944 (3,108)
total expenditures	3,832	3,993	2,450	3,392 (4,984)
Income	1,088	4,706	1,111	2,302 (5,054)
Charges	334	941	331	545 (1,376)
Taxes	2,498	1,111	290	1,299 (4,384)
Interest (n = 3)	9,022	360	-	3,247 (5,007)

[3] AMD denotes the Armenian currency, the Dram, which was introduced in 1993. After initial hyperinflation, the Dram value had been quite stable since 1995. Its value is about 500 dram to the US dollar (in 1998).

Note: For the first three columns, one outlier value in Gegharkunik was removed, with expenditures and income around AMDs 100 million.

Respondents also reported on their purchases in the year 2000. The items they mentioned were categorised as food (including health) expenditures[4], energy expenditures (electricity, petrol, wood) non-food purchases (stones, 'phography materials'), and other expenditures (e.g. 'goods'). Most frequently mentioned are food expenditures (63 times). Productive goods and energy were reported equally frequently (16 times), and other goods slightly less often (12 times). Expenditure levels follow a similar ranking.

Expenditure patterns varied widely over respondents, with standard deviations between 3 and 7 times average values. Also regional variations were observable. Enterprises in Ararat appear more often engaged in food processing, and to have larger input expenditure levels overall (table 3).

Table 3: expenditures on inputsin the year 2000

Input categories	Region averages (1,000 AMDs)			Whole sample(n=45)
	Syunik	Gegharkunik	Ararat	Mean (S.D.)
	(n=15)	(n=15)	(n=15)	
Food product	478	496	1,279	776 (1,396)
Energy	0	260	213	156 (551)
Non-food inputs	48	124	468	225 (638)
'other' inputs	195	62	133	129 (434)

Note: Outlier values (expenditures over AMDs 10 million) were removed.

Sales reports over the year 2000 confirm that most enterprises are specialised: 36 of 43 respondents reported the sale of one product, four reported two products, and another four reported selling three or more products. Sales are categorised as food products (in all cases processed, e.g. bread, flour, cheese, sausages and vodka), and non-food products. Nonfood products include agricultural inputs such as seed and pesticides, industrial products such as stones (bricks?) and petrol, and craft products such as carpets. Some products are obviously traded rather than produced, such as in the case of petrol, or of the one respondent who buys and sells 'potography materials'. Over half (27) of the

[4] Food items mentioned include agricultural products, bakery products, medicines, black oil, fish, bread, flour, cigarettes, food products, fat, meat, milk, syrup, bread, salt, wheat, vodka, cigarettes, spices, water, salt, yeast, sugar, garlic, and vegetables.

respondents sell food products, in three cases in combination with non-food products, which are sold by 23 respondents. Food sales, if calculated on the basis of sales volume and unit prices, average AMDs 188 million, non-food sales are AMDs 166 million on average per respondents, both with standard deviations of about 4 times the average. Fourteen respondents report that they consume some of the produce themselves, the shares varying between 1 and 50 %, with an average of 11 %.

If these sales findings were representative for the Armenian rural economy in general, two things seem most worth noting. The non-farm rural economy is strongly agriculture-related, mainly through processing but also by providing inputs. The policy question is not how the trade-off between agricultural and non-agricultural employment and incomes are, but rather how enterprises in the non-agricultural part of agri-food sector can be supported. Second, rural non-farm enterprises vary greatly in size as measured in revenue levels. Polices designed to support them should be accordingly flexible.

Institutional Environment

The distance to various institutions is summarised in table 4 below. It appears that those institutions most frequently used (suppliers, bank and post office) are in the local economy. Institutions supplying additional services are generally more remote. The considerable standard deviations imply large differences in these factors over respondents. It should be noted that, given the lack of data on transportation infrastructure and relative distance, it is hard to assess to what extent these findings indicate that the factor distance to institutions is a barrier for business operations.

Table 4. Approximate distance to various institutions

Approximate distance to...		
	Mean	SD
Main suppliers*	28	37
Bank	7	5
Post-Office	3	3
Training for employees	42	81
Business training courses	64	100
Business club/association	33	27
Chamber of Commerce	89	49
Marazpetaran/district council/	46	46
Consulting services	13	17

Insurance company	23	53

* One case with a supplier 2,000 km away was excluded

Business support, to the extent that it was sought, is mostly found in the private sector. Over the last ten years (which really means over the last few years), of the 45 respondents to this question, many had approached a consultant or accountant (reported in 20 cases), a bank manager (17), family and friends (15), trade and professional organisations (14), and contacts in industry (12). Among the public institutions, the local council (13) and Marz council (12) are most often mentioned, other bodies much less frequently. The type of assistance sought was most often (21 of 30 responses) financial. Only one respondent had access to the Internet.

Given the plausibly considerable need for advice and information and, apparently, still limited role of the public sector in providing this, these figures may be interpreted to suggest that there is scope for expansion. The desirability and effect of this would depend on the extent to which rural entrepreneurs are presently excluded from such support because they cannot afford private sector assistance. This is something that the present data provide no information about.

The reported usefulness of different types of business support appeared much larger in two *marzes* (Gegharkunik and Syunik) than in the third (Ararat).[5] Background data on these regions could provide an interpretation to this finding, and a more detailed regional analysis of this topic, not pursued here, appears promising. Table 5 presents an overview of findings. First considering the usefulness in the past, present, future, or in general taken together (right-hand column) , support in the area of 'new technology' is found to be most often mentioned overall. Least frequently mentioned are 'employing staff', 'management organisation' and 'computing'. These are understandable findings in a sample from micro-businesses with low technological requirements and virtually no access to information technology. The other 10 business support options are mentioned with very similar total frequencies.

Table 5: Required areas of support, past, present, future, and general

Business support area	Which of these would have been useful to you?

[5]The 30 respondents from Gegharkunik and Syunik all provide an answer to each of the 14 sub questions. The 15 respondents from Ararat have many missing values.

	In the past	In the present	In the future	In general	Total count
Business strategy	10	8	11	7	36
Negotiation skills	4	14	7	11	36
Employing staff	8	3	8	13	32
Staff training/development	9	6	15	5	35
Management organisation	1	5	9	18	33
Advertising	2	9	10	16	37
Marketing		6	9	19	34
Market research	1	8	2	26	37
Identifying new market opportunities		5	16	16	37
Public relations	8	5	15	7	35
Financial management/taxation		8	3	24	35
Developing new products, services		4	18	13	35
Computing	2	8	4	19	33
New technology		6	22	12	40

The incidence of non-response in the second column suggests that respondents seem to have been less aware of past needs, than of present and, particularly, future requirements. With regard to the past, business strategies and staff training and development are, understandably for (then) starting businesses, ranked highest. The main present need is reportedly negotiating skills, while support in obtaining technology and developing new products and services are seen as the most important future requirements. In general, market research and support in financial topics is deemed most helpful. These findings appear to fit well in a sample of relatively young businesses just out of the starting phase, and could be used to guide the development of policies in support of the Armenian non-farm rural economy.

Of the 45 entrepreneurs, 40 responded to a question about the importance of various local factors for their business. The results are summarised in table 6; factors are ranked in order of descending importance on average (column 5).

Table 6: Importance of Local Factors for Rural Businesses

Local factors	Reported importance for business			
	Frequencies			Mean value (1 = high, 2 = medium, 3 = low)
	High	medium	Low	
Electricity costs	27	13	1	1.4
Charges for communal services	22	15	4	1.6
Energy supply	21	18	2	1.6
Roads network	21	14	6	1.7
State financial protection	22	10	8	1.7
Salary rate	19	13	8	1.7
Access to water	20	15	6	1.7
Availability of dwellings	11	28	1	1.8
Availability of qualified labour	12	26	3	1.8
Labour motivation	13	22	6	1.9
Telecommunications	16	14	10	1.9
Connection to the railway	6	13	22	2.4
Availability of unqualified labour	1	25	15	2.4

The three frequencies columns show that most factors are much more often deemed of high than of medium importance. This is true for the top 7 factors ('electricity costs' down to 'access to water'). Most factors are considered of medium importance, only one is deemed highly important, and no factor is considered of low importance on average (i.e. has a mean higher than 2.5). Many factors are considered about equally important (mean 1.7-1.9). The high importance of electricity costs suggests that many businesses are energy-intensive. This is probably not true for the 19 trade businesses in the sample, but would fit better with the 10 processing enterprises.

Legal safety in Armenia is assessed as low by most (28 of 42) respondents, and of medium quality by the rest. Almost all (43) respondents rank the importance of various local development factors. The results are presented in table 7.

Table 7: Ranking of importance of local development factors

Locality development factors	Average Importance score, scale 1-10 (1 = unmiportant, 10 = important)
Non-agricultural fields development	7,5
Intensive development of the agriculture	7,4
Central, local budget support	6,7
Infrastructure development (electricity, phone, gases, roads, etc.)	6,7

Improvement of the medical assistance, health protection	6,7
Cultural institutions development (school, library, etc.)	6,3
Elaboration of projects suitable to the locality development	6,2
Own effort of the local community	5,4
Local autonomy achievement	4,9
Reforms, privatization speeding-up	4,8
Cooperation with foreign countries, adhesion to E.U., etc.	4,8
Tourism promotion	4,2

The two most general options elicited the most positive response on average, and were nearly equal in average score: non-agricultural development was most uniformly supported as most important, while agricultural development was more often assigned slightly less importance. The more abstract rural development goals (locally suitable projects; community effort; local autonomy) were seen as less important, the more concrete projects generally as more important (but for tourism). Development goals not directly related to the local community (reform progress and foreign co-operation) ranked, understandably, low.

Credit

Capital shortage reportedly inhibits business growth in 20 cases, of whom 13 also plan to expand their business. For 12 respondents capital shortage is no constraint, of whom only 5 do also plan to expand. Most of those who are capital-constrained feel this hinders an increase in turnover (14) and in acquiring fixed assets (12). One respondent would expand business staff if there were better access to capital. The most frequently mentioned reason for capital shortage is a lack of own capital or of collateral to attract it (17 cases) ('lack of funds', which appears to refer to the same, is also mentioned twice). Also attitudes to debt appear to be important: over half (11) of capital-constrained respondents report they 'do not like borrowing'. Five give as the constraining reasons that they already have debt, 13 mention high interest rates, 3 think the bank assessed the risk attached to their business as too high, and 8 have problems obtaining a grant.

In sum, limitations in access to credit or other funds are quite general, and derive from a number of factors. On the demand side there is a limited debt-carrying capacity (in turn caused by lack of collateral and by debt-averse attitudes). On the supply side, possibly insufficient risk assessment skills in banks, and high interest rates appear to play a role. The

findings suggest that relaxation of the capital constraint would probably result in output expansion, but not clearly in more rural employment.

Indeed, the only constraint on production reported is capital, not labour, land, buildings or other factors offered as answer options. Of those indicating a capital constraint, over two-thirds (33) specify that working capital is the bottleneck. The amount needed to solve the problem is reported as AMDs 11.2 million on average. The other respondents say capital for investment is needed (AMDs 4.9 million on average)

Many respondents are also liquidity-constrained: most (34 of 45) respondents think profit is insufficient to cover costs for equipment replacement, premises refurbishment and such; another 10 feel they can cover those costs by profits, but with difficulty. Still, the majority (30) have not applied for a loan in the past five years. Those who did apply were evenly distributed over successful loan applications (7) and loan refusals (8). The average loan sum obtained was AMDs 7.5 million (with observations varying between AMDs .5 and 2.7), most often (in 5 cases) from a bank. Only 3 out of 45 respondents had applied for a grant in the last five years, and unsuccessfully so far: one as refused, two had not received a reply yet.

Only 6 of 45 respondents applied for a loan in the year 2000. Half of them did not receive credit; in two cases because of a lack of collateral, and once because nobody would guarantee the loan. Table 6 presents an overview of the experiences of the successful loan applicants.

Table 8: Experiences of three successful loan applicants

Applicant	1	2	3
Amount applied for (1,000 AMDs)	500	3,000	26,150
Amount received (1,000 AMDs)	500	3,000	26,150
From institution	Oxfam	bank	bank
Date received	1 March	1 September	1 September
Use of loan	business expansion	Capital investment	Buying materials
# instalments	1	1	3
Time between credit approval and first instalment (months)	0,5	2	1
Guarantee used	house	Equipment	equipment
Annual interest rate (%)	24	20	18
Required total repayment	600	3,600	3,0857

(1,000 AMDs)			
Amount already repaid (1,000 AMDs)	200	3,600	9,022
Still to repay	400	0	21835
#repayment installments	20	,	3
Final instalment date	1 September 2001	1 December 2001	1 October 2001
Was repayment schedule adhered to?	yes	yes	Yes
# interviews with credit allocator	5	5	3
Duration of meeting (hours)	0,5	5	5
Was a bribe paid?	no	no	No

The most frequent (26 of 39) reason for not applying for credit at all is that assessment criteria are deemed too severe. The severity of credit allocation criteria is most often (15) specified as overly high interest rates, and half as often (8) as lack of collateral. Six respondents indicated their income to be too low to meet repayment demands. The only other reason for not applying that is mentioned with some frequency (5) was good access to funds via friends and family. The rest of the answer options are never used more than twice in the sample.

Five respondents who did not obtain a loan from an institution, borrowed from friends or family in 2000. The amounts borrowed (in 1,000 AMDs) were 6,871, 100, 165, 500, and 130. The first two of these were obtained at zero interest rates; the last three at 5 %. No bribes or gifts were given in exchange for obtaining the loan.

A fifth (9) of the respondents had saved from their enterprise profits in 2000. The levels varied widely, both between respondents and over time. This is depicted in table 7. Only one of the respondents (no. 3 in the table) held these savings in a bank, at an annual interest rate of 26 %.

Table 9: Savings from enterprise profit in 2000

Respondent	Savings from enterprise profit (in 1,000 AMDs)	
	In January 2000	In December 2000
1	31	1,000
2	-	1,251
3	200	300
4	1,000	1,500
5	24,2	-
6	-	40
7	155	905
8	1,388	4,080
9	200	500

Plans

Most respondents are optimistic but cautious with regard to the near future: 19 planned a slight business expansion over the next two years, 13 aimed at stability in that period. Of the other thirteen, six did not know about their plans. Over the longer term, respondents in large majority (39 of 44) aim at stability, while 5 plan slight expansion.

Nearly a third (13) of respondents think there is demand for increased production, but more respondents (19) deem demand to be a constraint on business expansion. The large number of respondents (13) who do not know the answer may signify considerable uncertainty about market conditions. Most (32) enterprises work below production capacity, and also a large minority (18) plan to expand the business. The numbers of respondents who are not planning to expand, or in doubt about this, are about similar (13 and 14). The main determinant of this attitude may be demand: most (11) of those who hesitate about expansion also report to be uncertain about market demand for increased production. Problems with finding space is an expansion constraint for 9 respondents, most (6) of whom are actually planning to expand. In 5 of these 9 cases, refused permission to expand is the reason of the constraint, in the other cases space on the business premises is too limited. No-one reports staffing problems as a constraint.

8 Analysis: Profit, Employment, and Income

In addition to this overview of the characteristics of rural enterprises and the experiences of rural entrepreneurs, it would be useful to explore the determinant of enterprise performance in the setting of Armenian rural economy. The modest size of the data set obviously limits the scope for statistically valid inferences. Still, it is possible to go a bit beyond mere description and explore the links between performance, factor endowments, and economic environment. We will here investigate possible determinant of profit and employment. Profit is a traditional enterprise performance indicator, while the capacity of rural enterprises to generate employment is an important factor in the development of the rural economy and the income level of the rural population.

Profit

A prime enterprise performance measure is profit. What determines firm profit in our sample? A simple profit model based on a Cobb-Douglass production function is specified. Independent variables include EMPLOY (total employment)[6], EXPEND (reported expenditures other than salaries), and CAPITAL (the reported value of the capital stock), as independent variables. The dependent varible is PROFIT, the reported level of profit[7]. All variables relate to the year 2000. The specification is double log, so that the

[6] The entrepreneur's labour input in hours per week was divided by 50 in order to get full-time units. Spouse, family and non-family were recorded as one full-time unit (full-time employee and active partner), 0.5 (part-time or frequently helping out) or 0.25 (occasionally helping out) per person. Then all was added to get total labour input in full-time equivalents. Because many enterprises have less than one full-time equivalent of labour (resulting in negative log-values), EMPLOY was measures in tenths of full-time labour equivalents. Replacing employment by salaries as independent variable increasing the adjusted R^2 to .78, and gives a large (.403) and very significant (.001) coefficient estimate for ln(SALARIES). However, since SALARIES does not account for non-paid labour, EMPLOY is a better measure for labour input.

[7] The validity of this variable was checked by calculating gross margins on the basis of reported sales and revenues. Reported profit was always smaller than gross margins, and in the same order of magnitude. This supported the validity of reported profit. The distribution of ln(PROFIT) is skewed. Therefore 0.2 is raised to the power of ln(PROFIT). The resulting variable is approximately normally distributed and used in the linear regression estimation. This implies that the values of coefficient need to be transformed on order to show their impact on profit. Since we are interested only in the values of coefficients relative to each other, these results are not discussed.

(exponential) profit function is transformed into a linear regression equation[8]. The estimation results are presented in table 10.

Table 10: An Estimated Profit Function

Dependent variable: ln(PROFIT)	Standardised coefficient values	t-values	Significance	Adjusted R^2
Independent variables (C = -3.401)				.81
Ln(EMPLOY)	0.298	3.201	0.003	
Ln(NONSALEX)	0.424	4.037	0.000	
Ln(CAPITAL)	0.360	3.666	0.001	

In this specification, coefficient values can be interpreted as measures for return to factor inputs[9]. It is interesting to note that capital expenditures generate the highest return, followed by capital stock and labour. This conforms to the general notion that capital is more productive than labour.

It was also earlier noted that most respondents are capital but not labour constrained. By implication, this constraint significantly hinders the generation of profit increases, which would derive more from investment than from labour additions. However, the credit constraint is likely to constrain employment indirectly, since capital investments may be accompanied by an increase in the labour force. This will be explored below.

Is amount of input the only determinant of output? Many theories on firm production suggest the role of human capital, institutional and regional variables. On the basis of this production-model approach, a series of specifications introducing these factors was explored. However, none of these variables had coefficient estimates that had values comparable to the above; and none of the coefficient estimates was statistically significant

[8] A drawback of taking logarithms is that negative and zero observations cannot be used, reducing the total number of observations in this estimation to 38. Excluding zero's also introduces an overestimation of the slope. The number of exclusions is however small, and so are these disadvantages. Also, the model fit is much better than simple linear specifications.

[9] Because the coefficients are standardized and differences in value between them are significant, their values can be meaningfully compared.

(p < .10). It appears that the profit function of enterprises in the sample mainly contains the conventional factors of production (although this still leaves a fifth of profit variations unaccounted for). In exploring the impact of institutional and regional factors, one would therefore more usefully investigate their relation to the level and efficiency of factors of production, rather than their impact on profit levels directly. This is left for future work.

Employment

Employment is not traditionally seen as an enterprise performance indicator. However, in the context of enterprises as potential motors of rural development, the idea is relevant. Enterprises that are able to generate more employment are more useful in combating unemployment and generating rural incomes. Here we explore the determinants of employment in our sample. Table 11 presents four relevant variables that appeared to explain most of the variation in employment levels in an OLS regression estimation. These are RETAIL (the share of enterpise output sold in to households and individuals, rather than to enterprises), BANKLOAN (a binary variable indicting whether the enterprise has obtained a loan in the last 5 years), CAPITAL, and EXPEND.

Table 11: Factors controlling employment level

Dependent variable: EMPLOY	Standardised coefficient values	t-values	Significance	Adjusted R^2
Independent variables (C = 4.314)				.86
RETAIL	-0.137	-2.192	0.036	
BANKLOAN	0.133	2.107	0.043	
EXPEND	-0.123	-4.104	0.000	
CAPITAL	2.092	6.992	0.000	

The largest coefficient estimate is associated with the amount of capital goods. Thus, it turns out that the constraint on finances to invest in capital may also be a major barrier to employment expansion, as was suggested above. It may be noted that this is in line with respondents' own replies, although in an indirect manner. Most of them reported that they would use extra funds for investment rather than employment. The estimation results suggest that via investment extra employment would be generated.

Respondents' access to credit over the last five years is also associated with higher employment, although less clearly than in the case of capital stock. This appears to lend some support to the prominence of credit allocation in thinking and research on rural development (see e.g. Heidhues *et al*, 1999 for an application to transition economies). It should however be noted that the causality here can also run the other way, since larger enterprises with more employment often have better access to credit for reasons of political economy.

Other, but clearly less important determinants are negative. They include the level of expenditure on flexible inputs (which are apparently substitutes for labour), and the sector: retail enterprises employ fewer people than other enterprises. We have observed that most enterprises sell to individuals and customers. This is in line with the general prevalence of small retail and services businesses in the private sector in transition ecnomoies in general. Obviously this feature of the non-agricultural private economy in Armenia, and plausibly elsewhere, limits the scope for employment creation.

Employment, Income and Enterprise Size: A Regional Expolration

It is useful to note that some variables in the sample did not appear to influence employment levels, although they might be expected to. This includes the size of the enterprises in terms of revenues or profit level. This finding is in line with the large variation in capital intensity and associated labour intensity over firms in the sample. While the above results show the link between, particularly, capital investments and employment, earlier findings suggest there are large differences in the strength of this link over regions and sectors in the rural economy.

It was not possible to explore this using regression analysis because of the small size of the sample. As an alternative method of exploration, the average of the ratio of employment over capital stock, non-salary expenditures, revenue level, and profit was computed for each region. Apart from employment, the same was done with the variables 'income' and 'total salaries' in the nominator of the ratio. All in all, for each region 12 ratio's were calculated, i.e. all combinations of employment, income, and salaries in the nominator and capital stock, non-salary expenditures, profit, and sales in the denominator.

The limited size of the sample did not allow significant differences between most ratio's in comparisons over the regions. The only significant differences were in three

ratio's: of employment over revenues, of entrepreneurial income over capital stock, and of income over non-salary expenditures. Differences between these ratio's in comparisons of the regions Gegharkunik and Ararat were not significant. In comparisons of the regions Syunik and Ararat, as well as Syunik and Gegharkunik, there were significant differences. These findings are presented in tables 12a and 12b.

Table 12a: Regional differences in employment and income relative to capital and revenue level.

Regions				
	Syunik	Gegharkunik	Ararat	Whole sample
Employment divided by sales	0.39	0.90	0.51	0.61
Income divided by Capital stock	0.61	1.76	1.62	1.32
Income divided by Non-salary expenditures	2.81	9.14	2.60	4.90

Table 12b: Significance of differences in Table 12a (only reported if smaller than 0.05)

Comparisons / Ratios	Syunik And Gegharkunik	Gegharkunik And Ararat	Syunik And Ararat
Employment divided by sales	0.0002	-	0.0328
Income divided by Capital stock	0.0007	-	-
Income divided by Non-salary expenditures	0.0045	-	0.0035

These findings must be seen as tentative given the nature of the data, and can be summarised as follows. First, enterprises in Syunik are less labour-intensive and generate less income per unit of capital goods than in the other two regions. Second, enterprises in Gegharnukik generate much more income relative to expenditures than enterprises in Syunik and Ararat (although thisl ast observation is not supported by statistical significance).

One implication appears to be that growth of the rural non-farm economy in Gegharkunik in terms of revenue, in terms of capital stock, or in terms of capital expenditures, would result in a clearly larger increase in income and employment than is the case in Syunik (and probably also Ararat). Although the small sample size makes this sort of inferences difficult, the results are indicative for the relevance of enterprise structures for the income and employment effects of rural economic development.

9. Conclusions

In this paper a general overview of issues and findings on the rural non-agricultural economy in the transition countries was combined with a study based on primary data from Armenia. Countries in the post-socialist transition have suffered from initial contraction and often insufficient growth subsequently. In addition, inequality in incomes and other welfare components has generally increased substantially. A general results, particularly in the Balkan and FSU states, is a significant increase in poverty. In rural areas, these trends were in many instances (though not always and everywhere) exacerbated by the rural-urban income gap and by the collapse of socialist-era rural industries. The agricultural sector, most often the largest in the rural economy, is not likely to become a motor of rural economic growth in view of longer-term trends in developing and developed countries, and also because of its continuing post-socialist restructuring challenge. These observations suggest that the role of non-agricultural rural economy in rural development, and more specifically poverty alleviation and regionally balanced economic development, is a useful research topic.

The substantial literature on rural non-farm development lends some support to this expectation, although findings are clearly country and situation-specific. A generalisable finding appear to be that public investment (in education, in the quality of infrastructure, and in market structures) is an important determinant of the capacity for rural growth, and for its effect on income inequality.

Two stages in rural economic growth are discerned. In one, rural non-agricultural incomes are a refuge from poverty, and rural diversification a defensive strategy that implies a shift to low-return activities in order to preserve household income, generally

without achieving local economic growth. This description applies generally to the CIS and Balkan countries. The other, and subsequent, stage has been entered by most Central European countries. Here rural manufacturing, trade, and services are a response to new market opportunities, bring higher returns than agricultural production, and signify genuine rural economic growth.

Although the rural non-agricultural sector in transition countries has been found to be substantial, the above observations indicate that the significance, in economic terms, of the sector is not unambiguous. These ambiguities, combined with the plausibly large size and potential of the rural on-agricultural sector, warrants more research into this issue.

This is taken up in the second part of the paper, where survey data on non-farm enterprises in rural Armenia are studied. A sample of 45 businesses in three regions was surveyed in the summer of 2001. The findings can be summarised as follows:

- Nearly all enterprises are specialised, profit-oriented businesses providing a full income to the entrepreneur and employees.
- The capacity for salaried employment is limited per enterprise to a few employees; but in many cases entrepreneurial income sustains people in and beyond the entrepreneur's household though unpaid labour
- There are very large variations in he financial features of enterprises, including cost, revenue, and profit levels
- There are strong links with the agricultural sector through food processing or trade in food products.
- Marketing channels are generally in the local economy and small-scale, with most firm in retail.
- Liquidity and capital constraints are general, and the most important constraint to expansion, or indeed operation, is access to credit.
- The role of public institutions in business support appears very limited, although there is much to be improved in factors that are usually in the domain of public action, such as legal safety and infrastructure quality.

The data are also used to undertake some basic explorations of the determinants of profit, employment, and incomes generated in the enterprises. Profit levels are satisfactory

explained by conventional inputs: labour, fixed capital, and inputs. Of these, employment is of special interest from a rural development point of view. It appears that the size of the labour force, tough modest in all cases, is linked to the level of fixed capital, and to access to credit. It is also negatively associated with the share of retail sales, and with capital input expenditures.

There appear to be important regional differences in the relation between employment and income on the one hand, and businesses' capital stock and levels of revenues and expenditure on the other. This confirms the idea that expansion of the rural non-farm sector is likely to have very different implications for rural employment and rural incomes in different regions.

The findings show both how this type of research can be relevant for directing policy on rural development, and the limitations imposed by the small size of the sample. There is a clear case for larger scale research. In addition, the role of institutions in rural development has remained largely unexplored in this paper. Also this topic is a potentially fruitful topic for future work.

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