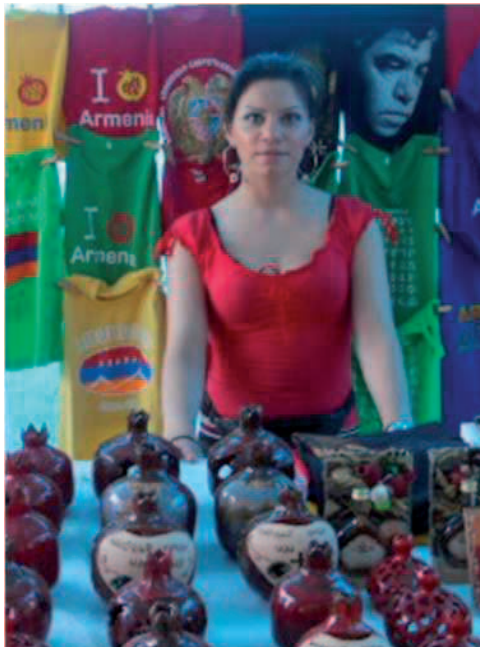




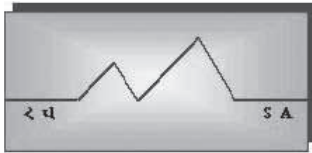
National Statistical Service
of the Republic of Armenia



THE INFORMAL SECTOR AND INFORMAL EMPLOYMENT IN ARMENIA



COUNTRY REPORT 2010



National Statistical Service
of the Republic of Armenia



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COUNTRY REPORT 2010

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Foreword

This report presents the findings of the Informal Sector Survey (ISS) that the National Statistical Service of the Republic of Armenia (NSSRA) conducted with financial and technical assistance from the Asian Development Bank (ADB). ADB funds were provided by Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector.

This is a unique study in the last decade for Armenia, which focused on both informal employment, as well as informal sector contribution to gross domestic product. A previous study on informal employment in Armenia conducted in 2008 and co-funded by the European Union, indicated that informal employment in Armenia is substantial and comprises 51.8% with 35.3% of those employed working in the informal sector and, therefore, are mostly under informal employment arrangement (Report on Labor Force and Informal Employment in Armenia [on results of one-off survey], NSSRA 2009). There are also indications from current research and from sparse survey results across the world that most of the working poor are engaged in informal employment. While the informal sector may offer an alternative source of employment to displaced workers during economic crisis, informal employment rarely comes with social protection, good working conditions, and adequate wages and, thus, its benefits may not be sufficient for workers to achieve an acceptable standard of living. In general, only the employers in the informal sector can rise above the poverty threshold. It is, therefore, necessary that efforts to alleviate poverty must be focused on the needs and constraints faced by the working poor in the informal economy. NSSRA and ADB support this common objective and, through close collaboration under RETA 6430, explored cost-effective ways for measuring and analyzing the informal sector and hence, informal employment. It is the hope of NSSRA that statistics on the informal sector and informal employment be readily available for evidence-based policy making and monitoring.

This is not an easy task. Households or production units that are engaged in the informal sector have low levels of organization and technology, and with unclear distinction between labor and capital or between household and production operations. These informal enterprises are highly mobile, seasonal, lacking of recognizable features for identification, and are usually reluctant to share information. The turnover of these production units is quite fast, making it highly unlikely for them to be included in the list of establishments/enterprises that is usually used as sampling frames for business surveys. Moreover, the numbers of employees of these production units are usually lower than the threshold number for inclusion in the list of establishments. Thus, it is quite likely that these units are not covered by the regular establishment or enterprise surveys. And while these production units might be covered by household surveys, the standard questionnaires for these surveys do not usually include questions pertaining to production. Because of these issues, informal sector statistics are not usually collected through the regular survey system of national statistics offices.

RETA 6430 aims to contribute to the increase in evidence-based policy making for poverty reduction by (i) providing national statistics offices, such as NSSRA, with a good strategy for collecting data from the informal sector; (ii) supporting the integration of informal sector survey results into the compilation of national accounts statistics; and (iii) enabling agencies involved in planning, monitoring, and evaluation of poverty-related policies to have a better understanding of the relationships between poverty and the informal sector.

This report summarizes the key results of the ISS that was conducted by NSSRA in 2009, using the mixed survey approach in which questions that could (i) distinguish informal employment from formal, (ii) determine the extent of social protection, and (iii) identify household unincorporated enterprises with at least some market production (HUEMs) were included in the Integrated Living Conditions Survey (ILCS) that NSSRA conducts annually. A probability sample survey of the HUEMs that were identified in the ILCS was conducted to determine

the contribution of the informal sector to the gross domestic product and to analyze issues pertaining to the informal sector.

The preparation for the ISS, the analysis of the survey results, and this report were done by the following NSSRA staff:

Mr. Gagik Gevorgyan, Member, State Council on Statistics;
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Ms. Diana Martirosova, Head, Households Surveys Division;
Ms. Anahit Safyan, Head, International Statistical Co-operation Division; and
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Information Resources Management Department

NSSRA staff received technical support from the RETA 6430 team composed of Dalisay S. Maligalig, Sining Cuevas, Arturo Martinez, Jr., and Estrella V. Domingo. The RETA 6430 team assisted NSSRA in the preparation of all survey instruments, including questionnaires, manuals, and training materials; in the data processing and analysis of the survey results; and in the writing of this country report. ADB's Armenia Resident Mission staff Areg Barseghyan, Gohar Mousaelyan, Kristine Martirosyan, and Nina Avetisyan provided administrative support to this project. This report also benefited from the valuable inputs of Joann Vanek of the Women in Informal Economy: Globalizing and Organizing (WIEGO).

NSSRA also appreciates the support of its field operations staff and the cooperation of all the respondents of the ILCS and the ISS. The results of these two surveys are very important in providing a clear picture of the social and economic development in Armenia and in effective planning of Armenia's development.



Stepan Mnatsakanyan
President
NSSRA
Yerevan

Abbreviations

ADB	–	Asian Development Bank
GDP	–	Gross Domestic Product
GVA	–	Gross Value Added
HUEM	–	Household unincorporated enterprises with at least some market production
ICLS	–	International Conference of Labour Statisticians
ILCS	–	Integrated Living Conditions Survey
ILO	–	International Labour Organization
ISS	–	Informal Sector Survey
LFS	–	Labor Force Survey
NOE	–	Non-observed economy
NSSRA	–	National Statistical Service of the Republic of Armenia
WIEGO	–	Women in Informal Economy: Globalizing and Organizing

Executive Summary

Mixed Survey Approach

The National Statistical Service of the Republic of Armenia (NSSRA) applied the mixed survey through the Asian Development Bank's (ADB) Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector. The cost-effective and workable data collection strategy presented a workable solution for generating informal employment and informal sector statistics in Armenia.

The mixed survey approach that was implemented in 2009 has two phases: the first phase is the expanded Section D or the Labor and Employment module of the Integrated Living Conditions Survey (ILCS), while the second phase is the Informal Sector Survey (ISS).

The ILCS covers the 10 *marzes* (provinces) and Yerevan, the capital and largest city of Armenia. It has a two-stage sampling design with the primary sampling units (PSUs) as villages or urban blocks and the ultimate sampling units as households. In addition to the *marzes*, all the PSUs are stratified according to either urban, other urban areas, and rural. For 2009, 984 PSUs were sampled, and eight households from each of the sampled PSUs were interviewed.

Section D was expanded with additional questions on (i) identifying household unincorporated enterprises with at least some market production (HUEMs), (ii) distinguishing informal employment from formal employment, and (iii) the extent of social protection mechanisms.

The second phase covered 624 PSUs. The sampling frame constituted the list of HUEMs identified in phase 1. A total of 548 HUEMs were included in the ISS.

The enumeration period was spread into the 12 months of 2009, such that for each month, 82 sampled PSUs were covered and 656 households were interviewed. Data processing, validation, and analyses were carried out from January 2010 to August 2010.

Informal Employment¹

In 2009, it was estimated that a total of 1.2 million persons are employed in the country. This is equivalent to 81.3% employment rate among the economically active population.

Of the employed, 96.6% have one job while the remaining 3.4% have multiple jobs. As in other countries, an employed person in Armenia may have multiple jobs to augment household income especially when the primary job could not provide enough resources to meet one's daily needs.

Privately owned enterprises generated 70.7% of the total employment in 2009, followed by state-owned enterprises, at 25.7%. The rest is spread over municipals, nongovernment organizations, and private employer.

The number of jobs generated by microenterprises accounts for 72.0% of total employment.

Jobs² of employees comprise more than half (55.0%) of the total employment, while the own-account workers (26.3%), contributing (unpaid) family workers (17.8%), and employers (0.5%) composed the remaining half.

¹ Throughout the document, the term total employment is expressed as the total number of jobs, unless stated otherwise. This is to facilitate straightforward classification between formal and informal employment since an employed person may have multiple jobs. For instance, a person with two jobs may have both formal and informal jobs. In turn, this person will be counted both under total formal employment and total informal employment. A job is conveniently defined as any productive activity carried out by an employed person, following the official definition of employment adopted in Armenia.

² A job of an employed person may be classified under one of the four categories of employment status: employee, own-account workers, employers, and contributing family members. Further, the sources of jobs are categorized into three types of establishments: formal enterprises, informal enterprises, and subsistence household production. The term enterprise, for the first two categories, is not limited to production units that employ hired labor. Instead, an enterprise refers to any unit engaged in the market production of goods and services.

Formal production units supplied majority of the jobs (52.4%), followed by informal enterprises (37.9%) and subsistence household production (9.8%).

Of the total employment, about 52.1% can be considered informal. This is equivalent to 621,700 jobs with informal arrangements. The incidence of informal employment is a little higher among women at 53.4%, than among men at 51.0%.

Informal employment is widely prevalent in the rural areas, at 82.1%. In urban areas, only a quarter (24.5%) of the jobs are informal.

The agriculture sector has the highest incidence (about 98.6%) of informal employment. This may be attributed to the general absence of the formal institutional arrangements in agricultural activities.

Informal employment was estimated at 20.0% of the total non-agricultural employment, which is equivalent to 704,400 jobs. The sectors with high incidence of informal employment are construction (34.2%); wholesale and retail trade, repairs (26.9%); and manufacturing (11.8%).

Employment in the following sectors is mostly³ associated under formal arrangements: financial intermediation (100.0%), government services, (i.e., public administration and defense and social security), and extraterritorial organizations.

Informal employment is primarily linked to informal enterprises; about 72.6% of the total informal jobs are carried out in informal production units. Still, informal arrangements can exist in either the formal enterprises or households. Of the total jobs in formal enterprises, 8.6% are carried out with informal arrangements.

Of the total jobs in informal enterprises, 50.2% are performed by own-account workers while 40.3% can be attributed to unpaid family work.⁴

In 2009, the average monthly earnings in Armenia is estimated at AMD66,511. Men generally receive higher compensation than women. For instance, male employees receive AMD86,450 per month, 52.8% more than women's average monthly earnings of AMD56,572. Male employers earn 22.9% more than

female employers, while male own-account workers earn twice the average earnings of their female counterparts.

Workers with formal arrangements generally earn better than those who depend on informal employment. A formal own-account worker earns roughly 2.6 times more than an informal own-account worker. In the agriculture sector, the average wage of formal employees is 30.0% higher than what informal employees receive. In the non-agriculture sectors, formal employees earn 20.0% more than their informal counterparts.

Formal employment is more associated with better educated workers; 41.0% of total formal employment constitutes workers with college education. In comparison, only 6.5% of informal jobs are carried out by college graduates.

Social protection in Armenia is only likely if a wage worker is engaged under formal arrangements; the benefit received by informal wage workers is nil. About eight in 10 formal wage workers have pension funds paid by their employers. Three in five formal wage workers receive sick leave, paid leave, and maternity/paternity leave.

Contribution of Informal Sector to Total Economy

Until 2008, the construction sector was the main driver of Armenia's economy over the recent years, contributing 25.3% of the total gross domestic product. This was followed by agriculture (16.3%), wholesale and retail trade (11.6%), and manufacturing (8.8%). With the financial and economic crisis in 2009, Armenia's economy contracted by 14.2%.

During the economic crisis in 2009, the share of the informal sector to total gross value added (GVA) reached 11.2%. By industry, contribution of the informal sector to total GVA was highest in the following: agriculture (22.4%), other services (16.6%), construction (15.4%), and wholesale and retail trade (14.8%).

The informal economy was dominated by agriculture (36.2%), construction (26.6%), and trade (18.6%). Meanwhile, by administrative unit, Yerevan has the largest share (38.8%) in the informal sector, followed by Ararat (12.1%), Shirak (9.1%), Armavir (9.1%), Syunik (8.8%), and Kotayk (4.9%).

³ All sampled observations fall under formal employment.

⁴ This is consistent with one of the known characteristics of informal enterprises, that is, "labor relations—where they exist—are based mostly on casual employment, kinship or personal, and social relations rather than contractual arrangements with formal guarantees." (ILO 1993)

The informal sector's total GVA is concentrated more in urban areas (60.1%). In the rural areas, high contributions of the informal sector were noted from Armavir (20.4%) (in proportion to total informal sector's GVA in rural areas), Ararat (19.0%), and Syunik (16.5%). The fact that subsistence agriculture is prevalent in Armenia may have influenced the lower informal production in the rural areas.

In agriculture, 22.4% of production can be accounted to the informal sector and the remaining 77.6% to the formal⁵ sector.

Total labor productivity, measured as the ratio of gross domestic product to total employment, is AMD2,376,000 per worker. Labor productivity in the formal^{**} sector exceeds that of the informal sector by 4.8 times.

Characteristics of HUEMs

One in two informal enterprises is motivated by either family tradition or their knowledge of the profession in choosing their respective business activities.

From all the sampled enterprises, 21.3% reported that to be able to manage their business activities, they take loans. Four in five informal enterprises, which availed themselves of credit to finance their business activities, tap private money institutions, such as banks, pawnshops, cooperatives, or private moneylenders, to finance their business activities.

Among those who did not apply for loans to finance their business, 52.1% identified high interest rate as a primary reason for their decision.

Future Directions

After outlining the strategies to address areas of improvement, NSSRA intends to permanently include the additional questions introduced in 2009 ILCS Section D for estimation of informal employment into the ILCS questionnaire. Similarly, NSSRA also plans to regularly conduct the HUEM survey, which is the data collection tool used for estimating the size, structure, and value added of different types of economic activity in the informal sector.

⁵ The gross value added (GVA) of formal^{**} sector does not represent the GVA of the formal sector alone, as it is computed as the residual of the total GVA less informal sector's GVA. Hence, the term formal^{**} may span both the formal and household (whose production is only for own final consumption) sectors.

Chapter 1

Introduction

1.1. Background

Measuring the contribution of the informal sector to the total economy is fast gaining interest as a statistical concern. Many countries have attempted to estimate the non-observed economy (NOE) to which the informal sector belongs. The revised *2008 System of National Accounts* (SNA) has also included a chapter on the informal sector (Chapter 25: Informal Aspects of the Economy). The Organisation for Economic Co-operation and Development (OECD) published the handbook, *Measuring the Non-Observed Economy*, while the International Labour Organization (ILO), through the 15th International Conference of Labour Statisticians (ICLS), came out with a resolution defining the informal sector, which is harmonized with the SNA concept of informal sector. Relevant concepts and definitions of the informal sector and informal employment are discussed in Appendix 1.

The estimation of the NOE in Armenia started in 1994. The definition of the NOE is consistent with the OECD handbook definition, but illegal production is not estimated. The most recent estimate of the NOE in Armenia is 25.0% of gross domestic product (GDP) in 2008. Also, it was estimated that 51.8% (or 29.1% in non-agriculture sectors) of the employed are under informal arrangement in 2008 (Report on Labor Force and Informal Employment in Armenia [on results of one-off survey], NSSRA 2009) while indirect estimates of the NOE show that the informal sector contributes about 11.0% to GDP.

These estimates were derived on the basis of different data sources: from sample surveys, such as the sample survey of 2,500 small enterprises with up to 10 employees that was carried out in November–December 2007; the Labor Force Survey of 5,000 urban households in December 2007; the sample survey of employers and self-employed in December 1998–January 1999, which covered 2,046 registered entrepreneurs and 1,800 employers and self-employed; and the annual Armenian Integrated Living Conditions

Survey (ILCS). Although these household surveys were not really designed for collecting data on the NOE, they, nevertheless, are the only available data sources for measuring its size. Observing the hidden economy is complicated because production units in the NOE are difficult to identify, and those that are identified do not fully cooperate in surveys.

Notwithstanding incomplete coverage and possible misreporting, estimates are derived based on data on output and the number of persons employed in the economy. Indirect macroeconomic methods are also employed, using all possible sources of information mentioned earlier. The method used by Armenia is based on the analyses of the supply and demand for labor. The results serve to determine the number of persons engaged in legal productive activities that have not been recorded.

In recent years, however, several other focus surveys were also used to estimate the NOE. For example, a survey of health care institutions was conducted together with a survey of households expenditures in the sphere of health care and medicine. The comparison of these two surveys showed about six fold difference between the figures of production of health care institutions and the expenditures of households on the services provided by these institutions. Several other surveys were conducted and used to estimate the NOE.

Collecting data on the informal sector can be challenging because of the inherent characteristics of the informal sector production units (i.e., high mobility and turnover, small employment size, and lack of distinction between enterprise and accounts of household that own the enterprise). Hence, they are unlikely to be covered by the regular establishment or enterprise surveys. Efforts to collect data from informal sector production units or enterprises, using household surveys, are also difficult. The government cannot afford a special regular survey on the informal sector production units because of the tremendous resource requirements of special listing operations

needed to construct the sampling frame of informal sector production units and also the subsequent field operations.

This is rather unfortunate because research in other countries show that workers under informal employment rarely receive social protection benefits and adequate pay and are, therefore, in vulnerable situation compared to their counterparts under formal employment. Informal production units, which are mostly the employers of the informal workers, usually could not offer good and healthy working environment and job security. It is therefore important that the informal sector, as well as informal employment, be measured directly and analyzed to help policy makers better understand these emerging areas of concern.

The Asian Development Bank's (ADB) regional technical assistance (RETA) 6430: Measuring the Informal Sector presented a solution to measuring informal employment and the informal sector by providing a cost-effective and workable data collection strategy using the mixed survey approach. This approach is discussed in detail in Appendix 2. Armenia was one of the three countries in which this approach was tested. A Memorandum of Understanding was drawn and signed between the National Statistical Service of the Republic of Armenia (NSSRA) and ADB in November 2008. The mixed survey approach was implemented in 2009. Data processing, validation, and analysis were performed in January–August 2010. This report is the culmination of the activities listed in the Memorandum of Understanding.

1.2. Objectives of the Report

The general approach and objective of the survey was to improve informal sector statistics by developing and implementing a cost-effective data collection strategy for compiling and analyzing of informal sector statistics. Its main objectives include increasing the availability of data on the informal sector and informal employment and to improve the calculation of the contribution of informal sector to employment and to GDP.

The objective of this report is to present key findings of the expanded labor and employment module of the ILCS and the Informal Sector Survey

(ISS) and to recommend practical steps in improving the data collection and analysis approach methodology in the hope that the generation of statistics on the informal sector and informal employment can be institutionalized with full government support.

1.3. Importance of Informal Sector Indicators in Policy Making and Monitoring

The statistics and analysis on informal employment and on the informal sector, which are presented in this report, are important support for evidence-based policy making that can improve the economic and social development of Armenia. Workers under informal employment are more vulnerable and need more assistance from the government and policy makers so that they would be able to fully support their families as well as get protection against unforeseen circumstances. Policy makers need to fully understand the plight of the informal workers so that they could enact or revise laws or review regulations, as needed, to promote worker-centered economic policies.

Data-intensive analysis is also needed in developing viable approaches that could help mainstream informal sector production units into the formal sector. Without full understanding of the situation of the informal sector production units, policy makers and relevant government agencies may not be able to help and convince them to become formal enterprises. There may also be cases when the informal sector need not be mainstreamed; but reliable data are needed to help improve the productivity of informal sector production units.

1.4. Informal Sector Statistics in the Realm of Official Statistics

Although the importance of informal sector and informal employment statistics cannot be denied, collecting official statistics on these areas, due to practical issues, remains a challenge. Informal sector and informal employment are unlikely to be covered by regular establishment or enterprise surveys. Special sample surveys remain as the only source that could be

used to estimate informal employment and informal economy. These special sample surveys, however, were rarely conducted in recent years in Armenia, due to resource and financing limitations. (The most recent survey focused on informal employment was conducted, in November 2008, by a project funded by the European Union.) Armenia's official statistics—those that are updated regularly—do not include relevant regular statistics on the contribution of the informal sector to GDP and also on informal employment; thus, mostly coefficients and estimates from rarely conducted surveys are used.

It is our hope that this report would be the initial step toward the inclusion of regularly collected statistics on informal sector and informal employment in Armenia's official statistics.

1.5. Main Data Sources Used in the Report

The mixed survey approach that was implemented in 2009 comprised two phases, with the first phase being a component of the Integrated Living Conditions Survey (ILCS) – Section D (the Labor and Employment module) and the second phase being the Informal Sector Survey (ISS). Section D was expanded with additional questions on identifying household unincorporated enterprise with at least some market production (HUEMs)—or what we have referred to as informal sector production units in the preceding paragraphs—on distinguishing informal employment from formal employment and on the extent of social protection mechanisms. The expanded Section D is the major source of statistics on informal employment and social protection. Also, the sampling frame of HUEMs was constructed from Section D, which became the basis for the ISS (in which 548 HUEMs were included in the sample). The survey was conducted from 1 January to 31 December 2009 in Yerevan and in all *marzes* (provinces). The results of the ISS are mostly discussed in Chapters 3 and 4.

The contribution of the informal sector to GDP is discussed comprehensively in Chapter 3. Other data

sources, such as data from regular statistical surveys, as well as estimates from some one-off sample surveys held in recent years in Armenia, were also used in this chapter, in addition to the ISS. On the other hand, the characteristics of informal sector enterprises that were mostly derived from the ISS are discussed in Chapter 4.

1.6. Layout of the Report and Technical Details of the Surveys

The full report has seven chapters, which discuss the main results of the surveys, as well as summary and recommendations, and appendixes, which contain technical details, including survey estimates.

Chapter 1 introduces the background, objectives, and importance of measuring the informal sector and informal employment, while Chapter 2 presents the analysis of employment in the informal economy. Chapter 3 presents the estimation of gross value added of the informal sector. Chapter 4 discusses the characteristics of informal sector enterprises. Chapter 5 presents the recommendations on how the statistics on informal employment and the informal sector can be institutionalized. Chapter 6 summarizes the findings of the report and also presents the conclusions. Chapter 7 contains a list of recommendations for future actions that can help improve the data collection and estimation methods that were implemented.

The following appendixes are also included in the report.

- Appendix 1: Concepts and Definitions (Glossary of Concepts and Definitions that Were Used in the Report)
- Appendix 2: Cost-Effective Sampling Design for the Informal Sector
- Appendix 3: Sampling Errors
- Appendix 4: Measuring Informal Employment and Informal Enterprises
- Appendix 5: Estimating the Contribution of Informal Employment to GDP
- Appendix 6: List of Tables
- Appendix 7: HUEM Survey Questionnaire

Chapter 2

Employment in the Informal Economy

This Chapter describes the profile of the informal economy, using the results of the 2009 Integrated Living Conditions Survey (ILCS) in which questions to identify formal and informal employment were included.

The concepts and definitions of terms used to operationalize such classification and the detailed estimation methodology, that is, the decision matrices in classifying formal and informal employment, are discussed in Appendix 1. The sampling design of the ILCS is described briefly in Appendix 2, while the list of additional statistical tables is available in Appendix 6. The relevant portion of the ILCS questionnaire for phase 1 is in Appendix 7.

Based on the respondent's answers, every 15–75 year old person (surveyed focus group) was classified by economic activity status to the following mutually exclusive groups: employed, unemployed, and economically inactive.

The survey provided an opportunity to analyze the current patterns in employment and acquire a clearer description of the labor market by distinguishing informal from formal employment. This is a significant feat especially since those engaged in informal employment are considered to be vulnerable in the Armenian labor market. Particularly, most of the workers under informal employment do not enjoy the same benefits as those received by the formally employed.

The analysis of formal and informal employment is mainly based on the number of jobs and not the number of persons. This is an important detail given that a person could have more than one job, which is a typical situation in Armenia as in other countries. For example, a person could be a formal employee in an educational institution, working as a teacher in his or her primary job. At the same time, he or she may also be a self-employed worker in his or her own farm for the second job. Therefore, the total employment

by job nature will be larger than the total number of workers.⁶

2.1 Labor Force Characteristics

The profile of the labor resources or the 15–75 year old de facto population that comprised 76.9% (2.4 million) of the total population in Armenia is shown in Table 2.1.1. Of this number, men comprised 45.4%, and women, 54.6%, while the proportions in urban and rural settlements were 65.9% and 34.1%, respectively.

Economic activity rate (or labor force participation rate) was recorded at 59.2% (of the total labor resources), a 2.8 percentage points decline compared to the 2008 figure. There are significant differences between economic activity rates of men (69.0%) and women (51.0%), as well as between urban and rural areas, at 70.8% and 53.2%, respectively.

The economic activity rate among young people (15–24 years old) reached 33.4%, which is 25.8 percentage points less than the national average. The highest youth economic activity rate was recorded among men at 36.6%, much greater than the rate among women at 9.4%. Youth economic activity rates were almost the same in urban (31.8%) and rural (30.8%) areas. The low participation rate of the youth in the labor market is mainly due to their attendance in educational institutions, as well as their lack of work experience and, consequently, their low professional skills level.

Meanwhile, the proportions of employed and unemployed persons in the economically active population were 81.3% and 18.7%, respectively.

⁶ Hereafter, total jobs or total employment refers to the sum of primary and second jobs, unless specified that analysis is on a per person basis.

Table 2.1.1 Population and Labor Force Characteristics by Sex and Urban/Rural

Population	Total (1,000 persons)					% to Total			
	Men	Women	Urban	Rural	Total	Men	Women	Urban	Rural
Total population (de facto)	1,448.3	1,668.6	2,034.1	1,082.9	3,116.9	46.5	53.5	65.3	34.7
Labor resources/working age population	1,088.1	1,309.6	1,579.1	818.5	2,397.6	45.4	54.6	65.9	34.1
Economically active	750.6	668.1	839.6	579.2	1,418.8	52.9	47.1	59.2	40.8
15–24 years	104.3	80.4	113.8	70.8	184.6	56.5	43.5	61.7	38.3
25–29	100.3	64.4	107.9	56.8	164.7	60.9	39.1	65.5	34.5
30–62	492.3	472.7	577.0	387.9	965.0	51.0	49.0	59.8	40.2
63–75	53.8	50.7	40.8	63.7	104.5	51.5	48.5	39.1	60.9
Unemployed	133.3	132.6	229.3	36.6	265.9	50.1	49.9	86.2	13.8
Employed	617.3	535.5	610.3	542.6	1,152.8	53.5	46.5	52.9	47.1
Employed in agriculture	209.9	244.9	47.0	407.9	454.8	46.2	53.8	10.3	89.7
Formal employment	4.3	2.7	3.5	3.5	7.1	61.4	38.6	49.9	50.1
Informal employment	205.6	242.2	43.4	404.3	447.8	45.9	54.1	9.7	90.3
Formal enterprise	0.2	0.2	0.3	0.1	0.4	53.7	46.3	73.5	26.5
Informal enterprise	169.0	184.4	13.6	339.7	353.3	47.8	52.2	3.9	96.1
Household	36.4	57.6	29.4	64.6	94.0	38.8	61.2	31.4	68.6
Employed in non-agriculture	407.4	290.6	563.3	134.7	698.0	58.4	41.6	80.7	19.3
Formal employment	306.2	253.8	462.0	98.0	560.0	54.7	45.3	82.5	17.5
Informal employment	101.2	36.8	101.3	36.7	138.0	73.3	26.7	73.4	26.6
Formal enterprise	34.8	18.1	47.7	5.1	52.8	65.8	34.2	90.3	9.7
Informal enterprise	56.0	15.1	44.1	26.9	71.0	78.8	21.2	62.1	37.9
Household	10.5	3.7	9.5	4.6	14.2	73.9	26.1	67.4	32.6
Economically inactive*	337.4	641.5	739.5	239.3	978.9	34.5	65.5	75.6	24.4
15–24 years	181.0	215.3	255.4	140.9	396.3	45.7	54.3	64.4	35.6
25–29	16.6	63.5	60.6	19.5	80.0	20.7	79.3	75.7	24.3
30–62	78.6	255.8	287.5	46.9	334.4	23.5	76.5	86.0	14.0
63–75	61.3	106.9	136.1	32.1	168.1	36.4	63.6	80.9	19.1
Pupil, student (stationary)	91.8	123.4	151.8	63.5	215.3	42.7	57.3	70.5	29.5
Housekeeper*	3.5	213.3	173.4	43.4	216.8	1.6	98.4	80.0	20.0
Pensioner (by age, health, privileged conditions)	95.3	140.7	192.2	43.8	236.0	40.4	59.6	81.5	18.5
Other jobless people**	146.9	164.0	222.2	88.7	310.9	47.2	52.8	71.5	28.5

* Person does not belong to the labor force during the reference period and hence, is not active because of engagement in family duties within household.

** Person does not belong to the labor force during the reference period and hence, is not active because he or she is supported by other people, or receives other incomes, such as rents, interest payments, etc.

Notes: Numbers may not sum precisely because of rounding.

Data shown pertain to the primary job only (by person analysis).

Employment rate is computed as employed population over the total labor resources.

The unemployment rate, at 18.7%, is a 2.3 percentage point rise from the 2008 unemployment figure. Among the economically active men, 17.8% were unemployed, and among women, 19.9%. While the distribution, by sex, is almost equal, urban–rural unemployment strongly varies with unemployment rate in urban areas (27.3%), which is more than four times the rate in rural areas (6.3%). This condition is

mostly related to the overall involvement of country people to low-productive agricultural activities.

The number of economically inactive population increased by 1.7 percentage points compared with the 2008 figure. The number of economically inactive women was almost twice that of men, that is, of the 978,900 inactive population, 66.0% are women and 34.0% are men. A third of the economically

inactive women are identified to be housekeepers (Figure 2.1.1).

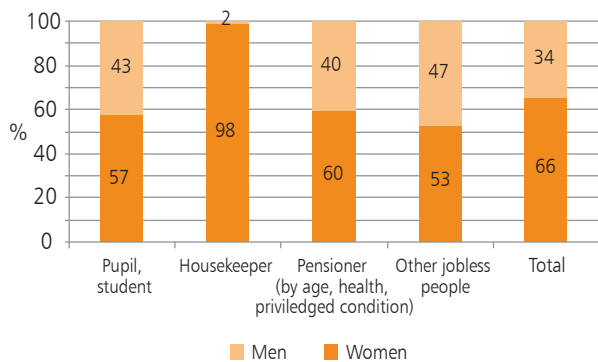
Meanwhile, the economically inactive population in urban areas (76.0%) was three times more than that in the rural areas (24.0%).

Employment rate was recorded at 48.1%, a 3.8 percentage point drop from the rate in 2008. This decline may have been the effect of the global financial-economic crisis in 2007, in which 31.9% of employed people lost their jobs due to dismissals, shortage in job vacancies, and shutting down of the enterprises that provide employment. Moreover, about 51.6% of the employed lost their temporary jobs.

Employment rate by sex was registered at 56.7% among men, and 40.9% among women. Comparing these with the previous year's data showed that employment rate among men decreased by 5.3 percentage points, while it slightly increased by 0.9 percentage points among women. On the other hand, the large difference in employment rates between those living in urban (38.6%) and rural (66.3%) areas is generally related to the high rate of employment in the agriculture sector.

Among the 1.2 million employed persons, the shares of men (617,400 persons or 53.5%) and townspeople⁷ (610,300 persons or 52.9%) were significantly larger compared with those of women (535,500 persons or 46.5%) and country people⁸ (542,600 persons or 47.1%). The percentage of those

Figure 2.1.1 Economically Inactive Population by Category of Inactivity and Sex



⁷ People who live in urban areas.

⁸ People who live in rural areas.

employed in the agriculture sector (includes fishing and fish breeding) was 39.5% (454,800 persons), of which 89.7% are in the rural areas. On the other hand, women accounted for more than half (53.8%) of the employed in the rural areas.

Figure 2.1.2 Economically Inactive Population by Category of Inactivity and Urban/Rural

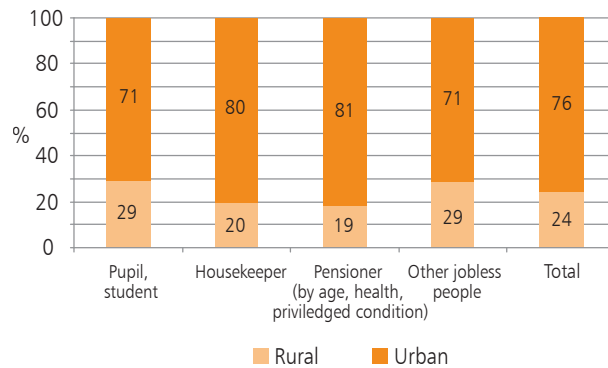
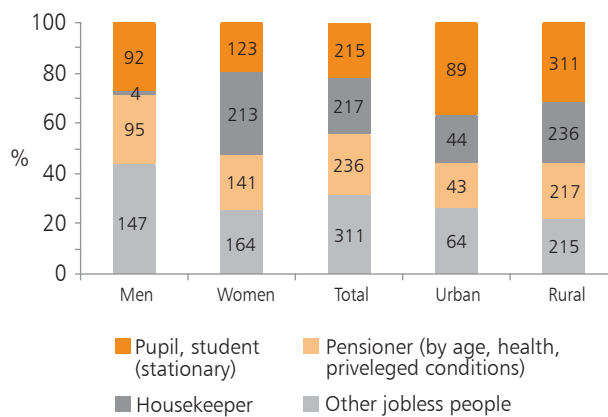


Figure 2.1.3 Economically Inactive Population by Category of Inactivity, Sex, and Urban/Rural



Note: Values inside the bars represent the number of persons, in thousands.

While having only one job is the popular case in Armenia (96.6% of total employed persons), there were still some workers (about 39,500 or 3.4% of total employed persons) with two jobs. Of these, 74.7% were engaged formally in their first jobs and informally employed in their second jobs. Only a minimal number

Table 2.1.2 Number of Employed Persons by Nature of Employment and Sex

Nature of Employment	Total Number of Employed (1,000 persons)			% to Total Number of Employed		% to Total Number of Employed of the Corresponding Group	
	Men	Women	Total	Men	Women	Men	Women
Formally employed in one job only	293.6	240.9	534.5	54.9	45.1	47.6	45.0
Informally employed in one job only	301.6	277.3	578.9	52.1	47.9	48.9	51.8
Formally employed in both primary and second jobs	2.3	0.8	3.1	75.1	24.9	0.4	0.1
Formally employed in primary job and informally employed in second job	14.6	14.9	29.5	49.6	50.4	2.4	2.8
Informally employed in primary job and formally employed in second job	0.3	0.3	0.5	52.9	47.1	0.0	0.1
Informally employed in primary job and informally employed in second job	4.9	1.4	6.4	77.7	22.3	0.8	0.3
Total employed	617.3	535.5	1,152.8	53.5	46.5	100.0	100.0

Note: Numbers may not sum precisely because of rounding.

Table 2.1.3 Number of Employed Persons by Nature of Employment and Urban/Rural

Nature of Employment	Total Number of Employed (1,000 persons)			% to Total Number of Employed		% to Total Number of Employed by Urbanity/Area	
	Urban	Rural	Total	Urban	Rural	Urban	Rural
Formally employed in one job only	456.4	78.0	534.4	85.4	14.6	74.8	14.4
Informally employed in one job only	143.9	435.0	578.9	24.9	75.1	23.6	80.2
Formally employed in both primary and second jobs	2.9	0.2	3.1	95.0	5.0	0.5	0.0
Formally employed in primary job and informally employed in second job	6.2	23.3	29.5	20.9	79.1	1.0	4.3
Informally employed in primary job and formally employed in second job	...	0.5	0.5	...	100.0	...	0.1
Informally employed in primary job and informally employed in second job	0.8	5.5	6.4	13.3	86.7	0.1	1.0
Total employed	610.3	542.5	1,152.8	52.9	47.1	100.0	100.0

... = no observation/no data available.

Note: Numbers may not sum precisely because of rounding.

of employed persons (1.3%) were informally employed in their primary jobs and formally employed in their second jobs. Meanwhile, 7.8% were employed formally and 16.2%, informally, in both jobs. This shows that the additional jobs that workers engage in are generally under informal arrangements.

The number of workers who are informally employed in their only job reached 578,900 persons or 93.1% of total informally employed, while those who were informally employed in both primary and secondary jobs reached 6,400 persons or 1.0% of total informally employed.

2.2 Jobs in the Informal Sector

Informal employment (in primary and/or in secondary job) was estimated at 52.1% of the total employment and comprised 621,700 of the total jobs⁹ (including the agriculture sector). Of the total number of jobs engaged in by women, 53.4% are informal, higher than the percentage of informal employment among men, at 51.0%. While analysis of the nature of employment, by sex, does not show wide discrepancies in numbers, investigation by type of settlements presents a notable difference. Informal employment was prevalent in the rural areas, with 82.1% of the 572,100 jobs in the rural areas, mainly due to the agriculture sector's employment.¹⁰ Informal employment in urban areas was posted at 24.5% of the total employment in the area (620,200 jobs).

Consequently, formal employment (in primary and/or in secondary job) comprised 47.9.0% of the total employment (570,700 of the total jobs) (Figure 2.2.1). Of the total formal jobs, 93.7% were formal employment by a person with one job only; the rest are recorded from people with second jobs.

Of the total jobs engaged in by women, 46.6% are formal, slightly less than the percentage of formal employment among jobs assumed by men, at 49.0%. Meanwhile, formal employment in urban areas was estimated at 75.5%, four times more than the 17.9% registered in rural areas.

Different informal employment patterns were observed when analyzed by sex and urbanity (Figure 2.2.2). Of the total informal jobs, 621,700 (or 52.5%) were assumed by men, higher than the percentage of jobs engaged in by women (47.5%). Still, this difference is minimal compared to the wide discrepancy in numbers with respect to settlements. Informal employment is largely more common in rural areas (75.6%) than in urban areas (24.5%).

Figure 2.2.1 Employment by Nature of Employment, Sex, and Urban/Rural

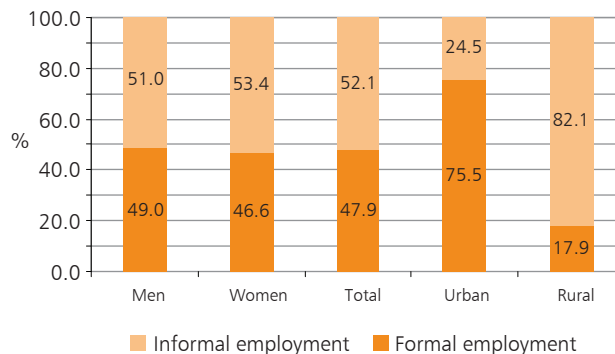
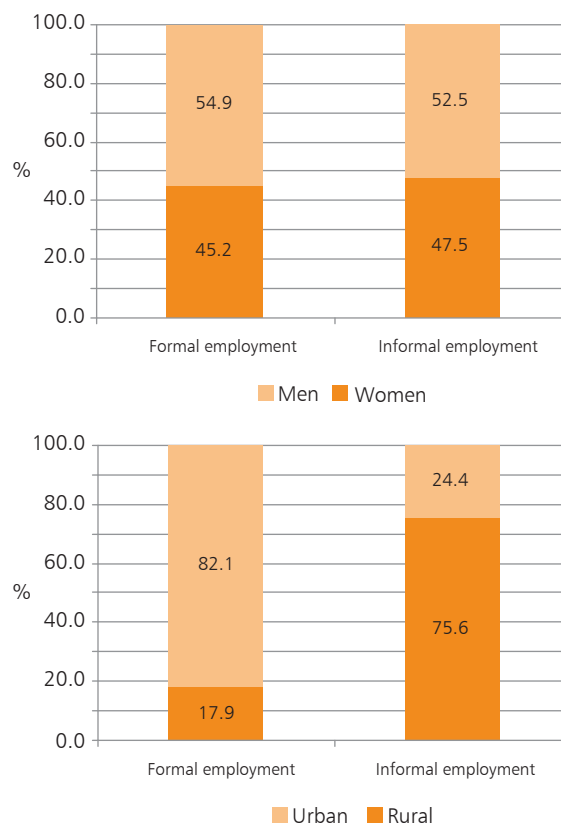


Figure 2.2.2 Nature of Employment by Sex and Urban/Rural



Note: Urban area includes Yerevan.

⁹ People classified by nature of employment (formal and informal) through their jobs. Thus, a person with two jobs can be categorized as both formally and informally employed.

¹⁰ The majority of these employed in agriculture in Armenia have no organizational and legal status and are therefore considered to be informally employed by the International Labour Organization methodology. From the institutional point of view, these employed are classified to the informal sector of economy stipulated by the absence of the institutional-organizational and legal status.

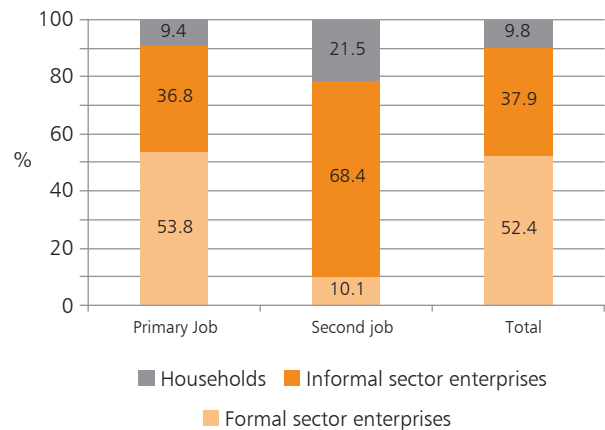
In Armenia, formal enterprises or production units provide the greatest employment based on the number of jobs (52.4%), followed by informal

enterprises (37.9%) and households (9.8%). This follows the pattern of the primary job grouping, that is, 53.8% of primary jobs are engaged in formal enterprises, 36.8% in informal enterprises, and 9.4% in households. However, the picture is quite different with respect to second jobs: 68.4% of second jobs are in informal enterprises, 21.5% in households, and only 10.1% in formal enterprises. The percentage of second jobs in informal enterprises is almost twice (68.4%) that of primary jobs (36.8%) in these production units. This is consistent with the earlier observation that most second jobs are informal in nature; second jobs are also more common in informal enterprises.

There is also a noteworthy difference in the number of jobs in the households, by type of job. That is, while only 9.4% of primary jobs are engaged in households as production units, twice this number (21.5%) is recorded in the second jobs (Figure 2.2.3). In both cases, the activities associated with the households are agricultural ones, at 86.9% in primary job and 96.0% in second job. Households, as type of production unit, were also more typical in the rural areas (62.6% on average).

As mentioned in the previous section, employment in secondary jobs in Armenia totaled 39,500 jobs, of which 90.9% are under informal arrangement. Only 50.8% of the primary jobs were estimated to be informal. It should be noted that the second activity of an employed person is mainly to augment the income received, since the primary work does not provide enough to meet daily needs. This reason was cited by 65.8% of those with additional jobs. Hence, given

Figure 2.2.3 Nature of Jobs by Type of Production Unit



that second jobs are chiefly informal in nature and/or take place in informal enterprises, it can be surmised that informality in labor arrangements and production units play significant roles in households that need additional sources of income.

Table 2.2.1 shows that the number of formal jobs in formal enterprises (570,700 jobs) is actually greater than the number of informal jobs in informal enterprises (451,300 jobs). However, due to the informal employment present in formal enterprises (53,600 jobs or 8.6% of informal employment) and in households (116,700 jobs or 9.8% of informal employment), the total number of informal jobs becomes greater than the total number of formal jobs. Thus, while formal employment in Armenia only exists in formal enterprises, informal employment cuts across the different types of production units.

Table 2.2.1 Total Number of Jobs by Type of Production Unit and Nature of Employment

Type of Production Unit	Nature of Employment (thousand)								
	Primary Job			Second Job			Total		
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Formal sector enterprises	567.0	53.3	620.3	3.6	0.4	4.0	570.7	53.6	624.3
Informal sector enterprises	–	424.4	424.4	–	27.0	27.0	–	451.3	451.3
Households	–	108.2	108.2	–	8.5	8.5	–	116.7	116.7
Total	567.0	585.8	1,152.8	3.6	35.9	39.5	570.7	621.7	1,192.3

– = not applicable.

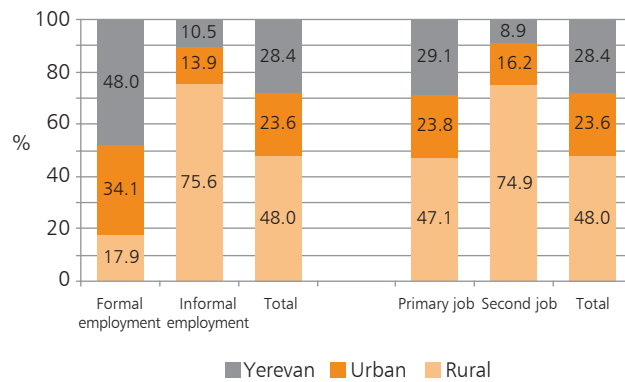
Meanwhile, of the 451,300 jobs in the informal sector, 189,600 jobs (42.0%) were identified with own-account workers in farms. In Armenia, enterprises of own-account workers in farms are classified under the informal sector due to the characteristics of the production units, specifically the absence of the institutional–organizational and legal status.

Although informal employment was prevalent in both the primary (50.8%) and secondary jobs (90.9%), more jobs in Armenia are still created by the formal enterprises (at 52.0% of total jobs) than by the informal sector enterprises (38.0%) or households (10.0%).

About 3.4% of employed persons in Armenia had a second job and most of them (83.9%) were employed in agriculture. Because most of the second jobs are associated with agriculture, as in other countries such as the Philippines and Indonesia, the additional jobs are typically employed by informal sector enterprises/productions units or engaged in informal employment.

Significant differences are observed in terms of formal and informal employment by urbanity. Informal work is more common in rural than in urban areas¹¹ as evidenced by the prevalence of informal employment, at 82.1% and 24.5%, respectively (Table 2.2.2 and Figure 2.2.4). This is mainly due to the widespread unorganized farm activities and the prevalence of informal enterprises in rural areas. Analysis by type of jobs showed further interesting contradictions. While a greater number of primary jobs is in the urban areas (52.9%, or 610,200 jobs where the share of Yerevan was 55.0%), three of four second jobs (74.9%, or 29,600 jobs) were in rural settlements (Figure 2.2.4). Meanwhile, formal arrangements were much more

Figure 2.2.4 Type and Nature of Jobs by Urban/Rural



common in urban (76.3%) than in rural areas (18.7%) among the primary jobs. On the other hand, informal employment is typical among the second jobs, whether the workers are in urban (70.7%) or rural (97.6%) areas.

In general, while informal employment reached 50.8% among the primary jobs, this is small compared to the percentage of informality in the second jobs, at 90.9%. Furthermore, analysis in this section supports the earlier statement that workers, through their second jobs, want to earn more by engaging in informal activities. This is true whether one is located in the urban areas and is engaged in non-agriculture jobs, or is in the rural agriculture activities. These results further suggest that the agriculture sector, specifically the farming activities, has a significant association with respect to jobs in the informal sector and informal employment.

Table 2.2.2 Total Number of Jobs by Urban/Rural and Nature of Employment

Area	Nature of Employment (thousand)								
	Primary Job			Second Job			Total		
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Yerevan	271.5	64.3	335.8	2.3	1.2	3.5	273.8	65.5	339.2
Urban	194.0	80.4	274.4	0.6	5.8	6.4	194.7	86.3	281.0
Rural	101.5	441.1	542.6	0.7	28.9	29.6	102.2	469.9	572.1
Total	567.0	585.8	1152.8	3.6	35.9	39.5	570.7	621.7	1,192.3

¹¹ Includes Yerevan.

2.3 Persons Employed in the Informal Sector

Table 2.3.1 Employment by Employment Status and Type of Production Unit

Employment Status	Type of Production Unit						
	Number (thousand)				% to Total of Each Group		
	Formal	Informal	Household	Total	Formal	Informal	Household
Employee	600.8	42.5	16.4	659.7	91.1	6.4	2.5
Employer	6.3	...	–	6.3	100.0	...	–
Own-account worker	15.2	226.7	72.0	313.9	4.8	72.2	22.9
Unpaid family worker	2.0	181.7	28.3	212.0	0.9	85.7	13.4
Member of cooperative	0.0	...	–	0.0	100.0	...	–
Others	0.3	...	...	0.3	100.0	...	...
Total	624.3	451.3	116.7	1,192.3	52.4	37.9	9.8

... = no observation/no data available, – = not applicable.

Table 2.3.2 Employment by Employment Status, Job Holding, and Type of Production Unit

Employment Status	Type of Production Units (thousand)								
	Primary Job			Second Job			Total		
	Formal	Informal	Household	Formal	Informal	Household	Formal	Informal	Household
Employee	597.1	42.4	15.8	3.8	0.1	0.6	600.8	42.5	16.4
Employer	5.9	0.4	–	0.1	...	–	5.9	0.4	–
Own-account worker	15.1	209.4	65.8	0.2	17.3	6.1	15.2	226.7	72.0
Unpaid family worker	2.0	172.1	26.5	0.0	9.6	1.8	2.0	181.7	28.3
Member of cooperative	0.0	...	–	...	...	–	0.0	...	–
Others	0.3	...	...	...	...	...	0.3	...	...
Total	620.3	424.4	108.2	4.0	27.0	8.5	624.3	451.4	116.7

... = no observation/no data available, – = not applicable.

Among all the types of employment status, employees registered the highest prevalence, at 55.3% of total employment (Tables 2.3.1 and 2.3.2). This is also true in the case of primary jobs, where employees are 56.8% of the total, but not in the secondary jobs in which employees only accounted for 11.2% of the total. The likely reason for such difference between types of job is the large share of farming in the second job, an activity more common among own-account and unpaid family workers. Employees also comprised majority of the jobs in formal sector enterprises. More than half of the formal sector's employees worked in state-owned enterprises, at 50.9%; 43.6% in private enterprises; 3.6% in municipals; and 1.9% in nongovernment organizations.

Less than half, about 44.6% of total employment, is classified as self-employed¹² workers, including own-account workers (26.3%), employers (0.5%), and contributing (unpaid) family workers (17.8%). The share of unpaid family workers is significant in the economy because of the lack of appropriate jobs. At the same time, informal enterprises or production units mainly provide jobs to the self-employed workers (90.6%). Of these, the own-account workers had the greatest share (50.2%), followed by the unpaid family workers (40.3%). This confirms one of the known characteristics of informal enterprises, that is, "*labor relations—where they*

¹² Self-employment refers to own-account workers, employers, and unpaid family workers.

Table 2.3.3 Employment by Employment Status and Urban/Rural

Employment Status	Urban/Rural						
	Number (thousand)				% to Total of Each Group		
	Yerevan	Urban	Rural	Total	Yerevan	Urban	Rural
Employee	307.4	222.6	129.7	659.7	46.6	33.7	19.7
Employer	4.4	1.2	0.7	6.4	68.8	18.8	10.9
Own-account worker	25.3	44.0	244.7	313.9	8.0	14.0	78.0
Unpaid family worker	2.1	13.2	196.7	212.0	1.0	6.2	92.8
Member of cooperative	...	...	0.0	0.0	...	...	100.0
Others	0.0	...	0.3	0.3	9.2	...	90.8
Total	339.2	281.0	572.1	1,192.3	28.5	23.6	48.0

... = no observation/no data available.

Figure 2.3.1 Employment by Type of Production Unit and Employment Status

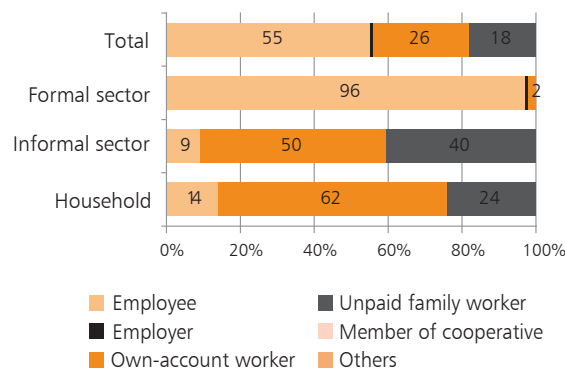
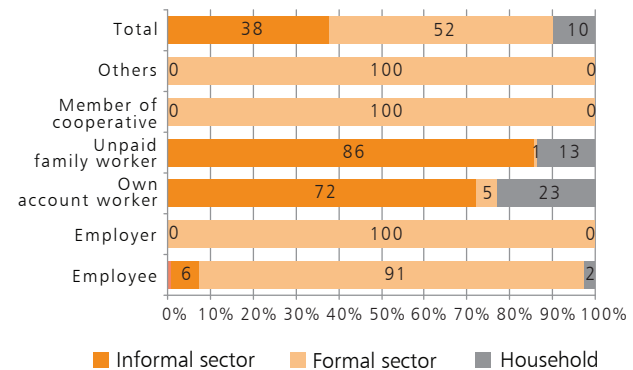


Figure 2.3.2 Employment Status by Production Unit



exist—are based mostly on casual employment, kinship or personal, and social relations rather than contractual arrangements with formal guarantees (ILO 1993)".

The share of members of cooperatives in the economy of Armenia was very low (less than 0.1%) and tends to decrease from year to year. Households provide jobs to own-account workers (61.7%), unpaid family workers (24.3%), and employees (14.1%). A substantial amount of own-account workers in households, i.e., those who produce for their own final consumption, is caused by the lack of job vacancies in the labor market of Armenia. These activities provide additional sources of food (or nonfood) household expenditures. Moreover, activities in household production units are more often performed as a second job (21.4%) rather than as main job (9.4%). It can, therefore, be assumed that households produce for own consumption to avoid poverty.

Total employment mainly comprises employees who are distributed between the urban and rural settlements at 80.3% and 19.7%, respectively (Table 2.3.3). A large percentage of employees was in the country’s capital (46.6% of the total number of employees), where majority of the formal jobs are available. In fact, 90.6% of total jobs in Yerevan are assumed by employees. Meanwhile, about 87.6% of all employers are in the urban areas. Employers tend to concentrate in Yerevan (68.8% of total number of employers) perhaps because of relevant business structures in the city, such as greater accessibility to financial institutions, means of production, and raw materials; availability of specialists; and well-established communication facilities and arrangements with other countries.

In the rural areas, own-account worker jobs (42.8%) and unpaid family jobs (34.4%) comprised most of the employment, due to agricultural activities.

2.4 Informal Employment

In accordance with legislation¹³ of the Republic of Armenia (RA), formal employment is only provided by legally registered organizations. Given that registration is one of the factors that determine formality of enterprises, it follows that in the country, formal employment exists only in formal enterprises. Cases of formal employment in informal enterprises or households, i.e., employees with contracts in unregistered enterprises or private households hiring domestic help with contracts, are not likely.

To reduce informal employment, the Government of Armenia made additional administrative arrangements in recent years, such as the amendments to the Labor Law of RA, and the Law of RA on Administrative Infringement, etc. However, as mentioned earlier, survey results show that, unlike formal employment, informal employment exists in all three types of production units. The number of informal employment in the formal enterprises accounted for 4.5% of the total employment and 8.6% of the informal employment. Meanwhile, the informal enterprises are the main provider of informal employment, and the

number of jobs it supplied reached 37.8% of the total employment or 72.6% of the informal employment. The households, on the other hand, provided 9.8% of the total employment or 18.8% of the informal work (Figure 2.4.1).

Recall that informal employment (in primary and/or in secondary job) was estimated at 52.1% of total employment. Distribution of informal employment by type of production unit (Figure 2.4.2) shows prevalence of employment in the informal enterprises. Two in every three informal jobs were in informal enterprises.

There are observed patterns between the different socioeconomic characteristics and nature of employment, which enabled deeper understanding of employment and related issues. Specifically, analysis of the nature of employment and types of production units shows different patterns of employment between sexes (Figure 2.4.3).

Figure 2.4.1 Employment by Type of Production Unit and Nature of Employment

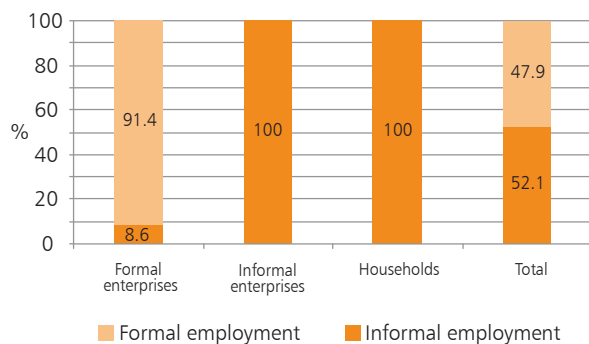


Figure 2.4.2 Informal Employment by Type of Production Unit

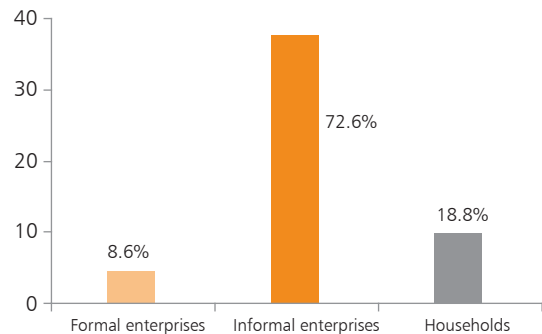
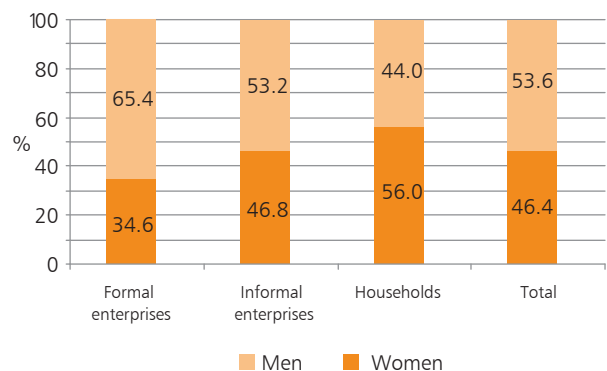


Figure 2.4.3 Informal Employment by Type of Production Unit and Sex



¹³ Entrepreneurial activity without state registration is prohibited by law (RA Law "On State Registration of Juridical Person"). At the same time, holding an employee without a labor contract is prohibited by law (RA Law "On Administrative Infringement of the Law").

Table 2.4.1 Employment by Type of Production Unit, Nature of Employment, and Sex

Type of Production Unit	Nature of Employment (1,000 jobs)						Total		
	Formal			Informal					
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Formal enterprises	313.1	257.6	570.7	35.1	18.6	53.6	348.2	276.1	624.3
Informal enterprises	–	–	–	240.0	211.3	451.3	240.0	211.3	451.3
Households	–	–	–	51.3	65.4	116.7	51.3	65.4	116.7
Total	313.1	257.6	570.7	326.4	295.3	621.7	639.5	552.8	1,192.3

– = not applicable.

The data suggest that in relative terms, the number of jobs assumed by men is more than that assumed by women (Table 2.4.1 and Figure 2.4.3) except in terms of employment in households. As presented in Appendix 1, Figure A1.1, activities in households are composed of production for own-consumption and/or households employing paid domestic workers. In addition, in Armenia, aside from own-account workers and employees, unpaid family workers are also classified in households.¹⁴ These characteristics of employment in households allow women the opportunity to combine home care with other productive activities.

2.5 Industry of Economic Activity

In Armenia, the highest share of employment was recorded in the agriculture sector (40.9%). During the whole period of transition and after the collapse of the Union of Soviet Socialist Republics, privatization of public lands and overall liquidation of industrial enterprises became widespread, which caused activities in agriculture, though small scale, to flourish. The next sectors with the highest employments are industry¹⁵ (9.6%), education (9.1%), and wholesale and retail trade (8.2%).

¹⁴ Following the Informal Employment Framework, unpaid family workers are included in the group of own-account workers producing goods for own consumption. These unpaid family workers assume the characteristics of the own-account household member, such as the industry of the work, the type of enterprise, etc.

¹⁵ Includes mining and quarrying; manufacturing; and electricity, gas, and water supply.

Based on estimates on the total number of employed persons in 2009, it is noteworthy that from 2008 figures, a 1.1 percentage point growth in agriculture employment was recorded while a 12.0 percentage point drop in industry employment was observed. The most likely causes of such (slight) redistribution in workforce are the high occurrence of dismissals, shortage of available work, liquidation of enterprises, and the forced administrative vacations of workers due to the global financial and economic crisis. In Armenia, industry is one of the sectors most vulnerable to the economic crisis.

Of the total jobs assumed by men, employment in agriculture ranked the highest (35.6%), followed by industry (13.7%) and construction (12.7%). Almost half of the jobs engaged in by women were in agriculture (47.0%), followed by education (15.8%), health (9.3%), and wholesale and retail trade (7.8%); such activities are traditionally considered to be feminine.

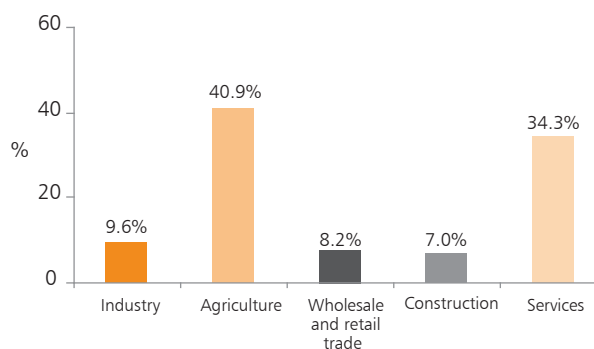
Figure 2.5.1 Employment by Industry

Table 2.5.1 Employment by Industry, Nature of Employment, and Sex

Sector	Industry	Nature of Employment						Total Employment (1,000 jobs)		
		Formal			Informal			Men	Women	Total
		Men	Women	Total	Men	Women	Total			
A	Agriculture, hunting, and forestry	4.2	2.7	6.9	223.7	257.2	480.8	227.8	259.9	487.7
B	Fishing	0.1	0.0	0.2	0.1	0.0	0.1	0.2	0.0	0.2
C	Mining and quarrying	7.4	2.1	9.5	0.1	0.0	0.1	7.5	2.1	9.7
D	Manufacturing	41.5	13.2	54.6	8.5	7.3	15.8	50.0	20.4	70.4
E	Electricity, gas, and water supply	29.5	4.7	34.2	0.4	0.3	0.7	29.8	5.0	34.9
F	Construction	33.6	1.2	34.8	47.6	0.5	48.1	81.2	1.7	82.9
G	Wholesale and retail trade, repairs, etc.	33.3	26.7	60.0	21.4	16.5	37.9	54.7	43.1	97.8
H	Hotels and restaurants	3.3	4.7	8.0	1.5	3.6	5.0	4.8	8.2	13.1
I	Transport, storage, and communications	41.5	9.8	51.3	13.5	0.6	14.1	55.0	10.5	65.4
J	Financial intermediation	6.2	6.9	13.1	...	...	...	6.2	6.9	13.1
K	Real estate, renting, and business activities	4.4	3.7	8.1	0.6	0.2	0.8	5.0	3.9	8.9
L	Public administration and defense, social security	52.5	25.0	77.5	...	...	...	52.5	25.0	77.5
M	Education	20.7	86.5	107.2	0.2	1.1	1.3	20.9	87.6	108.5
N	Health and social work	10.4	51.2	61.6	0.1	0.2	0.3	10.5	51.4	61.8
O	Other community, social, and personal services	23.0	17.8	40.8	7.8	5.0	12.9	30.8	22.9	53.7
P	Private households with employed persons	0.3	0.4	0.6	1.0	2.8	3.8	1.3	3.2	4.4
Q	Extraterritorial organizations	1.3	1.0	2.3	–	–	–	1.3	1.0	2.3
	Total	313.1	257.5	570.7	326.4	295.3	621.7	639.5	552.8	1,192.3

... = no observation/no data available, – = not applicable.

The patterns and relationships of the variables, such as nature of jobs, economic industry, and distribution of employment by sex show wide discrepancies. Survey results show that some industries exclusively provided formal employment, such as the financial intermediation (sector J); public administration, defense, and social security (sector L); and extraterritorial organizations (sector Q) (Table 2.5.2). The lowest percentage of formality was estimated in agriculture (sector A), private households with employed persons (sector P), and in construction (sector F), at 1.4%, 14.4%, and 42.0%, respectively, of the total employment (Table 2.5.2).

Although the mining industry (sector C) in many Asian countries is generally composed of informal employment, the situation in Armenia is the opposite. As a priority sector of the economy, this type of activity is specifically monitored by the state. As such, mining enterprises are generally formal and provide formal labor arrangements. Formal employment in mining and quarrying (sector C) was estimated at 98.5% (Figure 2.5.2, Table 2.5.2). Similarly, the fishing and fish-breeding industry (sector B) is mainly characterized by formal employment (71.4%). However, production in the industry is small-scale as Armenia is not a nation with sufficient water resources.

Table 2.5.2 Employment by Industry, Nature of Employment, Sex, and Urban/Rural (%)

Sector	Industry	Nature of Employment		Sex		Area	
		Formal	Informal	Men	Women	Urban	Rural
A	Agriculture, hunting, and forestry	1.4	98.6	46.7	53.3	10.7	89.3
B	Fishing	71.4	28.6	73.2	5.4	83.5	16.5
C	Mining and quarrying	98.5	1.5	78.2	22.0	80.2	19.8
D	Manufacturing	77.6	22.4	71.0	29.0	83.9	16.1
E	Electricity, gas, and water supply	98.0	2.0	85.7	14.4	76.6	23.4
F	Construction	42.0	58.0	97.9	2.0	70.9	29.1
G	Wholesale and retail trade, repairs, etc.	61.3	38.7	55.9	44.1	89.5	10.5
H	Hotels and restaurants	61.5	38.5	36.6	63.1	93.2	6.8
I	Transport, storage, and communications	78.5	21.5	84.0	16.0	88.1	11.9
J	Financial intermediation	100.0	0.0	47.5	52.8	92.9	7.1
K	Real estate, renting, and business activities	90.9	9.1	56.5	43.7	95.1	4.9
L	Public administration and defense, social security	100.0	...	67.7	32.3	72.6	27.4
M	Education	98.8	1.2	19.3	80.7	70.3	29.7
N	Health and social work	99.5	0.5	16.9	83.1	87.6	12.4
O	Other community, social, and personal services	76.0	24.0	57.5	42.6	83.0	17.0
P	Private households with employed persons	14.4	85.6	29.4	71.0	84.4	15.6
Q	Extraterritorial organizations	100.0	–	56.7	44.3	99.5	0.5
	Total	47.9	52.1	53.6	46.4	52.0	48.0

... = no observation/no data available, – = not applicable.

Note: Urban area includes Yerevan.

Figure 2.5.2 Employment by Nature of Employment and Industry

Note: Refer to Tables 2.5.1 and 2.5.2 for the industry classifications.

Meanwhile, the highest incidence of informal employment was recorded in agriculture (98.6%), primarily due to the absence of the institutional-organizational and legal status of such activities. This was followed by private households with employed persons (85.6%) and construction (34.2%).

Furthermore, of the total informal jobs, highest rates were estimated in agriculture (77.3%), construction (7.7%), and wholesale and retail trade (6.1%).

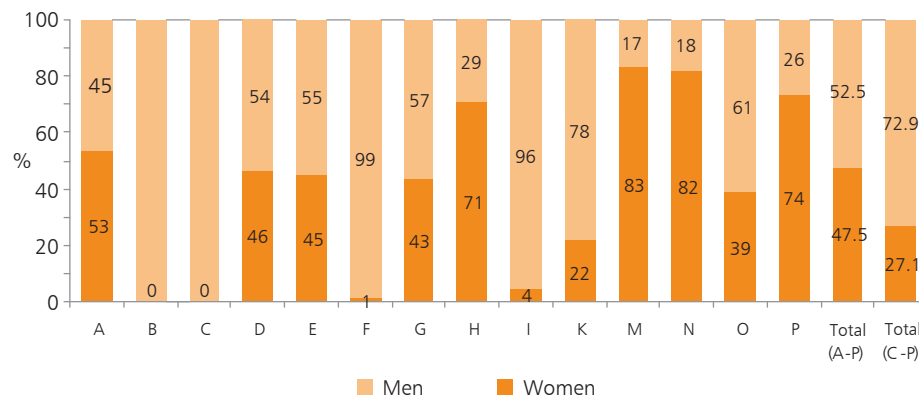
Informal employment was estimated at 20.0% of the total non-agriculture employment, which is equivalent to 704,400 jobs. The greatest prevalence of

informal employment in the non-agriculture subsectors is in construction (34.2%), followed by wholesale and retail trade, and repairs (26.9%), and manufacturing (11.8%).

Of the total informal employment, the percentage of jobs engaged in by men is estimated at 52.5%, higher than the percentage recorded by women (47.5%).

Since education and health are traditionally considered as spheres for women, the incidence of informal employment among jobs assumed by women in these industries is high at 83.0% and 82.0%, respectively. These were followed by private households, at 74.0%, and hotels and restaurants, in which the jobs engaged in by women reached 71.0% (Figure 2.5.3).

Figure 2.5.3 Informal Employment by Industry and Sex



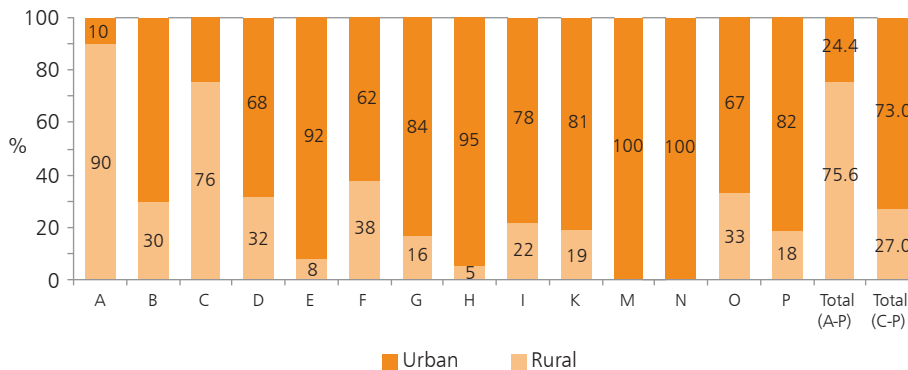
Note: Refer to Tables 2.5.1 and 2.5.2 for the industry classifications.

Table 2.5.3 Employment by Industry, Nature of Employment, and Urban/Rural

Sector	Industry	Nature of Employment (1,000 jobs)						Total Employment		
		Formal			Informal			Total		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
A	Agriculture, hunting, and forestry	3.4	3.5	6.9	49.0	431.9	480.8	52.4	435.4	487.7
B	Fishing	0.1	0.0	0.2	0.0	0.0	0.1	0.2	0.0	0.2
C	Mining and quarrying	7.7	1.8	9.5	0.0	0.1	0.1	7.7	1.9	9.7
D	Manufacturing	48.4	6.3	54.6	10.7	5.1	15.8	59.1	11.3	70.4
E	Electricity, gas, and water supply	26.1	8.1	34.2	0.6	0.1	0.7	26.7	8.2	34.9
F	Construction	28.9	5.9	34.8	29.9	18.2	48.1	58.8	24.1	82.9
G	Wholesale and retail trade, repairs, etc.	55.9	4.1	60.0	31.7	6.2	37.9	87.6	10.3	97.8
H	Hotels and restaurants	7.4	0.6	8.0	4.8	0.3	5.0	12.2	0.9	13.1
I	Transport, storage, and communications	46.6	4.7	51.3	11.0	3.1	14.1	57.6	7.8	65.4
J	Financial intermediation	12.1	0.9	13.1	...	...	...	12.1	0.9	13.1
K	Real estate, renting, and business activities	7.8	0.3	8.1	0.7	0.2	0.8	8.5	0.4	8.9
L	Public administration and defense, social security	56.3	21.3	77.5	...	...	...	56.3	21.3	77.5
M	Education	75.0	32.2	107.2	1.3	0.0	1.3	76.3	32.2	108.5
N	Health and social work	53.9	7.7	61.6	0.3	0.0	0.3	54.2	7.7	61.9
O	Other community, social, and personal services	35.9	4.8	40.8	8.6	4.3	12.9	44.6	9.1	53.7
P	Private households with employed persons	0.6	0.0	0.6	3.1	0.7	3.8	3.7	0.7	4.4
Q	Extraterritorial organizations	2.3	0.0	2.3	-	-	-	2.3	...	2.3
	Total	468.5	102.2	570.7	151.7	469.9	621.7	620.2	572.1	1,192.3

... = no observation/no data available, - = not applicable.

Note: Urban area includes Yerevan.

Figure 2.5.4 Informal Employment by Industry and Urban/Rural

Note: Refer to Table 2.5.3 for the industry classification.

Meanwhile, the prevalence of informal employment in jobs taken on by men is high in the sectors of fishing; mining industries; transport, storage, and communications; and construction, as well as in real estate, renting, and business activities, due to the physical requirements of activities in the said industries.

Different patterns were also noticed in the analysis of informal employment by urbanity (Figure 2.5.4 and Table 2.5.3).

Of the total number of jobs in urban areas, industry recorded the highest level of employment at 15.1%, followed by wholesale and retail trade (14.1%) and education (12.3%) (Table 2.5.3).

In the rural areas, three in every four jobs were in agriculture, making it the primary provider of employment. Meanwhile, employment in the non-agriculture sector, totaling 136,700 jobs, is highest in education (23.5%), followed by construction (17.6%; usually implemented out of the village where workers live) and in public administration and defense, social security (15.5%) (Table 2.5.3). Noteworthy is the labor migration that is generally widespread in the rural areas; this is perhaps due to the low profitability in agricultural activities and the limitation in opportunities from non-agricultural jobs.

Informal employment was three times higher in rural areas (75.6%) than in urban areas (24.4%). Interestingly, the figures were reversed in the case of nonagricultural activities only, where informal employment reached 27.0% in the rural areas and 73.0% in the urban areas (Figure 2.5.4).

Almost a third of the informal nonagricultural jobs in urban areas were in wholesale and retail trade

(30.9%), followed by construction (29.1%); industry (11.1%); and transport, storage, and communications (10.7%). In the rural areas, the percentage of informal non-agricultural jobs was high in construction (47.8%), wholesale and retail trade (16.2%), and industry (13.7%).

2.6. Hours of Work¹⁶

The average duration of hours worked per week was recorded at 35 hours in the primary job, twice as much as that registered in the second job (at 15 hours). The average number of hours worked by the formally employed was higher than the average hours worked by informally employed in both the primary and second jobs. The number of hours worked by the formal workers is nearly double the number of hours registered by the informal workers.

Meanwhile, the figures strongly varied by status of employment. Among the primary jobs, the average number of hours worked by the informal employers (68 per week) is much higher than that of their formal counterparts (48 per week). The same is observed among the employees, though at a lesser degree of discrepancy. Conversely, the average working period of the formal own-account workers (53 per week) is more than twice that of their informal counterparts (23 per week). These observations seem to suggest that with respect to the number of hours worked,

¹⁶ Analysis of this section was based on the number of persons.

Table 2.6.1 Average Number of Hours Worked by Employment Status, Nature of Employment, and Activity

Production Units by Type	Nature of Employment, Hours					
	Primary Job			Second Job		
	Formal	Informal	Total	Formal	Informal	Total
Employees	44	46	44	31	15	27
Employer	48	68	49	*		
Own-account worker	53	23	25	15	13	13
Unpaid family worker	–	20	20	–	13	13
Average	44	26	35	29	13	15

– = not applicable.

* Only one observation classified as employer in the second job category.

Note: Number of hours worked during the survey week.

Table 2.6.3 Average Number of Hours Worked by Employment Status and Urbanity/Area

Production Units by Type	Hours					
	Primary Job			Second Job		
	Urban	Rural	Total	Urban	Rural	Total
Employees	45	40	44	29	22	27
Employer	51	37	49	*		
Own-account worker	31	23	25	10	14	13
Unpaid family worker	18	20	20	11	13	13
Average	43	26	35	16	14	15

* Only one observation classified as employer in the second job category.

Notes: Number of hours worked during the survey week; urban area includes Yerevan.

underemployment is characteristic of informal employment.

The number of hours worked by women is slightly less than the number of hours worked by men whether in the primary or second job. The highest average rates of working hours among the primary jobs were recorded among employers and employees who worked more than a full working week, at 49 hours and 44 hours, respectively.¹⁷

Table 2.6.2 Average Number of Hours Worked by Employment Status and Sex

Production Units by Type	Hours					
	Primary Job			Second Job		
	Men	Women	Total	Men	Women	Total
Employees	48	40	44	29	23	27
Employer	49	52	49	*		
Own-account worker	28	19	25	14	12	13
Unpaid family worker	20	20	20	12	14	13
Average	39	30	35	15	14	15

* Only one observation classified as employer in the second job category.

Note: Number of hours worked during the survey week.

Townsppeople worked almost two times longer than country people regardless of employment status (except unpaid family workers). This situation is mostly due to the high rate of involvement in irregular agricultural activities of country people. This can be the reason why informal employment, which is high in the rural areas, registered a lower number of working hours than formal employment. And since agriculture is the main source of employment in the rural areas, results seem to suggest that the average number of hours worked in agriculture is shorter than the normal 40 hours a week work period, and that this translates to a shorter average time worked by those engaged in informal employment. This assumption is validated by Table 2.6.4.

Meanwhile, the average number of hours worked per week in transport, storage, and communications sector is high at 53 hours; in wholesale and retail trade, repairs, and hotels and restaurants, the number of hours worked per week averaged 52 hours. The least number of hours worked (per week), at 21 hours, was recorded in the agriculture sector, due to the high seasonality of activities. Among the different industries, differences between the number of hours worked by formal and informal workers (in their primary jobs) are higher in agriculture and financial intermediation, real estate, renting, and business activities. Meanwhile, the smallest difference is registered in transport, storage, and communications and in other services (Table 2.6.4).

¹⁷ More than 40 hours per week.

Table 2.6.4 Average Number of Hours Worked by Nature of Employment and Industry

Sector	Industry	Nature of Employment, Hours					
		Primary Job			Second Job		
		Formal	Informal	Total	Formal	Informal	Total
A-B	Agriculture, hunting, and forestry; fishing	47	21	21	...	13	13
C-E	Industry	45	40	44	38	16	24
F	Construction	47	41	44	50	10	11
G-H	Wholesale and retail trade, repairs; Hotels and restaurants	53	50	52	30	28	11
I	Transport, storage, and communications	52	53	53	56	11	22
J-K	Financial intermediation; real estate, renting, and business activities	46	24	45	30	...	30
L-Q	Other services	38	37	38	26	15	23
A-Q	Average	44	26	35	29	13	15
C-Q	Average	44	44	44	29	15	23

... = no observation/no data available.

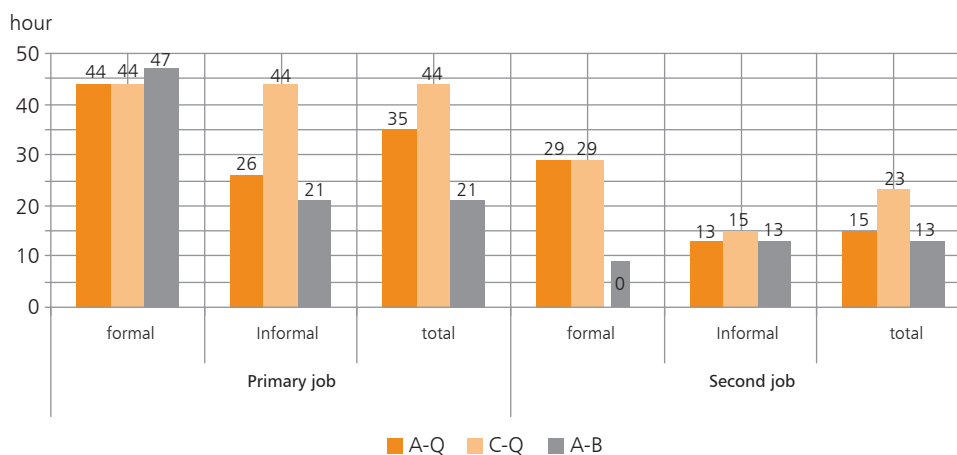
Note: Number of hours worked during the survey week.

Compared to the primary jobs, differences in the average number of hours worked between formal and informal employment are larger in the second jobs. This may be because second jobs are typically a combination of full-time and part-time jobs, thus, the irregular working hours reported by the respondents.

Different patterns were observed during analysis of the average number of hours by agriculture and nonagriculture activities (Figure 2.6.1). Concentrating on the primary job, the data showed that working hours among the formally employed are relatively similar for

workers in the agriculture and non-agriculture sectors. As mentioned earlier, those engaged in agricultural activities worked shorter hours; however, this seems to be true only for those who are informally employed. Moreover, the informally employed nonagriculture workers labored as long as their formally employed counterparts. This resulted in a wide gap in the average number of hours worked among the informally employed. It seems like the variation in average working hours is influenced by both the nature of employment and the economic sector to which the workers belong.

Figure 2.6.1 Average Number of Hours Worked by Nature of Employment and Industry



Note: Refer to Table 2.5.3 for the industry classification.

2.7 Employment Status

Table 2.7.1 Employment by Employment Status, Nature of Employment, and Sex

Employment Status	Nature of Employment (1,000 jobs)						Total		
	Formal Employment			Informal Employment			Men	Women	Total
	Men	Women	Total	Men	Women	Total			
Employee	297.3	251.9	549.2	78.8	31.8	110.6	376.1	283.6	659.7
Employer	5.4	0.5	6.0	0.4	0.0	0.4	5.9	0.5	6.4
Own-account worker	10.1	5.1	15.2	173.5	125.2	298.6	183.5	130.3	313.9
Unpaid family worker	–	–	–	73.7	138.3	212.0	73.7	138.3	212.0
Others	0.3	0.0	0.3	...	...	...	0.3	0.0	0.3
Total	313.1	257.6	570.7	326.4	295.3	621.7	639.5	552.8	1,192.3

... = no observation/no data available, – = not applicable.

Different patterns are generally observed in the analysis of employment and labor market, by sex, and the incorporation of informal employment concepts is no exception.

According to the survey results presented in Table 2.7.1, more than half of total employment is composed of employees. There are more men who assume jobs as employees than women do, at 57.0% and 43.0%, respectively.

Interestingly, this pattern is the same as that observed in formal employment, that is, employees accounting for most of the formal jobs (at 96.2%). On the other hand, the pattern is different with respect to informal employment, where majority of jobs are assumed by own-account worker workers (48.0%) followed by unpaid family workers (34.1%).

By employment status—formal or informal—the number of men is more than that of women (Figure 2.7.1). This is true except in the unpaid family worker status in which 65.2% of the jobs were assumed by women. This implies that helping in the household economic activities is generally carried out by the female family members. Consequently, they more often combine economic activities with the daily household activities.¹⁸

Meanwhile, the highest sex ratio was recorded among the employers where only one in every 12 employer jobs was carried out by a woman. These results seem to suggest that, in addition to traditional family duties and the unpaid economic work they normally assume, women also experience difficulty in breaking through the “glass ceiling” and are unable to engage in their own businesses.

For each category of employment status, the distribution of nature of employment (whether formal or informal) is similar between men and women (Figure 2.7.2).

Survey results recorded significant discrepancies with respect to the patterns and relationships of the following variables: employment by type of production unit, by employment status, and by sex. These are presented in Tables 2.7.2.1 and 2.7.2.2.

Jobs engaged in by men were prevalent in both formal and informal enterprises and comprised 55.8% and 53.2% of the total, respectively (Table 2.7.2.2). On the other hand, majority of the jobs in households were carried out by women (56.0%).

While employee jobs undertaken in formal enterprises are almost equally performed by men and women, majority of the same jobs in informal enterprises and households were assumed by men, at 77.7% and 72.2%, respectively.

Meanwhile, the data presented in the tables clearly show the advantage in the number of men over that of women with regard to jobs as employers. Regardless of the production unit, the number of employer jobs

¹⁸ Noteworthy also, because of their traditional role as dependent members of the household, women tend to become unpaid family workers even if they have equal responsibilities as the men in a family enterprise.

Figure 2.7.1 Employment by Employment Status, Nature of Employment, and Sex

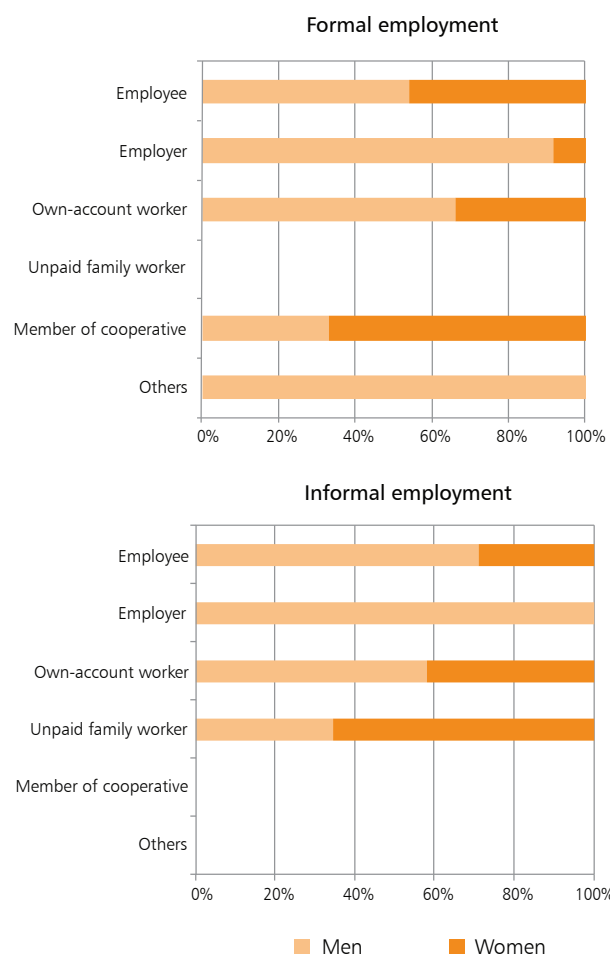


Figure 2.7.2 Employment by Employment Status, Sex, and Nature of Employment

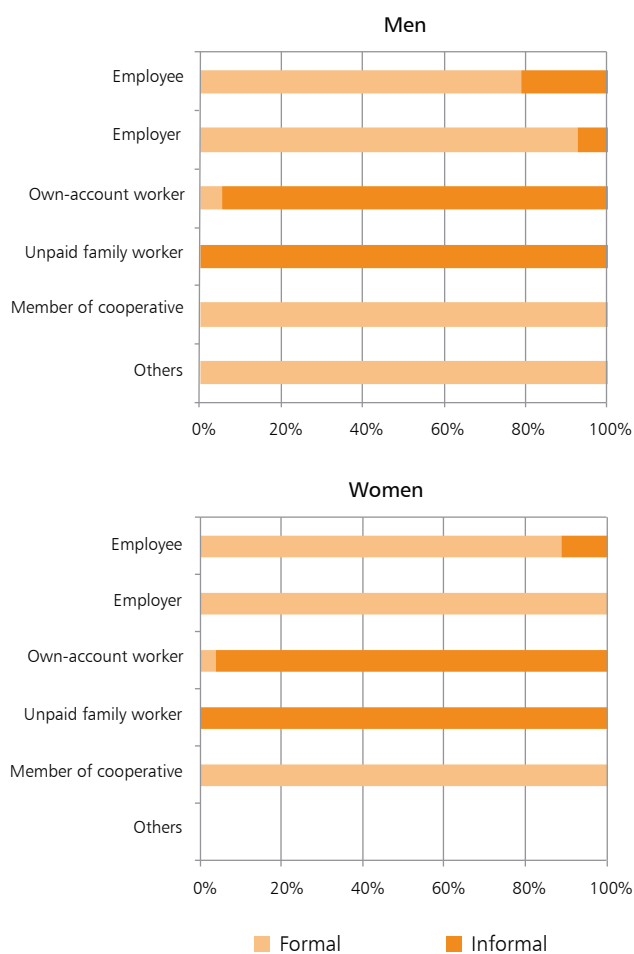


Table 2.7.2.1 Employment by Employment Status, Type of Production Unit, and Sex

Employment Status	Type of Production Unit, 1,000 Jobs								
	Formal Enterprises			Informal Enterprises			Households		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Employee	331.2	269.6	600.8	33.1	9.5	42.5	11.9	4.6	16.4
Employer	5.4	0.5	6.0	0.4	...	0.4	-	-	-
Own-account worker	10.1	5.1	15.2	144.2	82.5	226.7	29.3	42.7	72.0
Unpaid family worker	1.2	0.8	2.0	62.3	119.4	181.7	10.2	18.2	28.3
Others	0.3	0.0	0.3	...	...	...	...	...	...
Total	348.2	276.1	624.3	240.0	211.3	451.3	51.3	65.4	116.7

... = no observation/no data, - = not applicable.

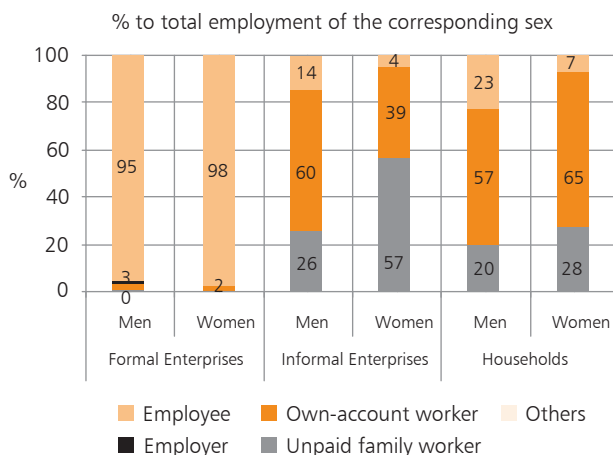
Table 2.7.2.2 Employment by Employment Status, Type of Production Unit, and Sex (%)

Employment Status	Type of Production Unit					
	Formal Enterprises		Informal Enterprises		Households	
	Men	Women	Men	Women	Men	Women
Employee	55.1	44.9	77.7	22.3	72.2	27.8
Employer	91.2	8.8	100.0	...	–	–
Own-account worker	66.3	33.7	63.6	36.4	40.7	59.3
Unpaid family worker	58.5	41.5	34.3	65.7	35.9	64.1
Others	90.9	9.1	...	...	...	...
Total	55.8	44.2	53.2	46.8	44.0	56.0

... = no observation/no data available.

carried out by men was 10 times higher (91.2%) than those carried out by women (8.8%) in formal enterprises. On the other hand, all the employers in informal enterprises are men (Table 2.7.2.2).

Sex ratio in jobs held by own-account workers exhibited similar patterns in formal and informal enterprises. In both cases, jobs assumed by men were twice than those performed by women (Figure 2.7.3). Specifically, the share of men reached 66.3% to the 33.7% of women in formal enterprises, while the figures recorded in informal enterprises were 63.6% for men and 36.4% for women.

Figure 2.7.3 Employment by Type of Production Unit, Sex, and Employment Status


A different pattern was observed with respect to contributing (unpaid) family workers. More women hold unpaid family jobs than men in either informal enterprises or household production units. However, 58.5% of the unpaid jobs in formal enterprises were assumed by men, greater than the 41.5% figure registered by women.

2.8 Wages and Earnings/Incomes

The average monthly earnings in Armenia were estimated at AMD66,511. Workers with formal employment arrangements generally earn more than those who depend on informal employment. A formal own-account worker earns roughly 2.6 times what an average informal own-account worker earns. And while the gap in earnings between formal and informal employees is not as wide, the average wages of formal employees are more by 30.0% and 20.0% than the salaries received by informal employees in the agriculture and non-agriculture sectors, respectively.

Comparative analysis suggests sex-related income disparities. The average salaries of male employees (at AMD86,450) was 52.8% more than those received by female employees (at AMD56,572). The same pattern is observed in the other employment statuses; the incomes received by male employers were higher by 22.9%, while the earnings of male own-account workers were

Table 2.8.1 Average Wage and Earnings by Employment Status, Sector, and Nature of Employment

Employment Status	Average Earnings, AMD			
	Agriculture		Non-Agriculture	
	Formal Employment	Informal Employment	Formal Employment	Informal Employment
Employees	70,996	54,183	75,342	64,647
Own-account worker	*	36,870	109,195	42,182
Employer	194,406	*	223,431	165,055
Average earnings	73,236	37,625	77,665	48,919

* Formal own-account and informal employer in agriculture classifications only have a few observations and may not provide adequate representation of their average incomes.

Table 2.8.2 Average Wage and Earnings by Employment Status, Nature of Employment, and Sex

Employment Status	Average Earnings, AMD						Average Earnings		
	Formal Employment			Informal Employment					
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Employee	89,614	58,327	75,342	73,849	42,390	64,647	86,450	56,572	73,612
Employer	227,697	181,327	223,431	165,055	...	165,055	222,765	181,327	219,227
Own-account worker	116,132	95,066	109,195	55,046	24,719	42,182	58,966	27,793	45,908
Average earnings	92,665	59,279	77,665	61,605	28,658	48,919	79,790	48,499	66,511

... = no observation/no data available.

Figure 2.8.1 Average Wage and Earnings by Employment Status, Nature of Employment, and Sex

more than double the earnings received by their women counterparts. Similar patterns emerge whether we look at formal or informal employment (Table 2.8.2).

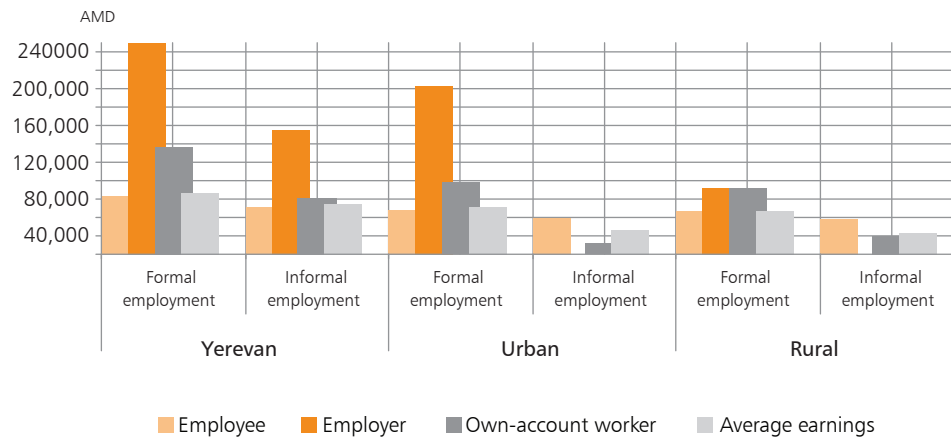
Figure 2.8.1 illustrates wide gaps in the incomes received by men and women in all angles of analysis—whether comparison is by employment status, nature of employment, or both. In all cases, men received higher incomes than women.¹⁹

The data shows that earnings were definitely higher among those engaged in formal employment than among those employed informally, regardless of the employment status, sex, and urbanity of the worker (Tables 2.8.2 and 2.8.3). Specifically, the formal self-employed workers earned almost thrice as much as their informal counterparts (2.6 times). Meanwhile, the gap in earnings between the formal

and informal employees was not as wide. The pattern is the same for the formally and informally employed men and women, that is, the incomes received by male formal workers are higher than those received by male informal workers, as is the case among the formal and informally employed women. Moreover, disparities in incomes are also widest among the self-employed and narrowest among the employees. Employers recorded the highest average income of AMD219,227, which is 3.3 times higher than total average. However, their levels do not have a notable impact on average earnings due to the small number of employers.

Average earnings were higher among formally than informally employed workers in all areas. The incomes of formal workers in Yerevan exceeded those received by their informal counterparts by 14.6%; 50.6% in other urban areas; and 58.0% in the rural areas (Table 2.8.2). These results suggest that the gaps in

¹⁹ Men traditionally tend to be the primary earners of the households.

Figure 2.8.2 Average Wage and Earnings by Urban/Rural, Nature of Employment, and Employment Status


incomes of formal and informal employment get wider as the area becomes more rural and less developed.

By urbanity, the highest amount was estimated in Yerevan. In fact, the AMD84,434 recorded in the capital exceeded the national average (AMD66,511) by 26.9% (Table 2.8.3). This confirms the higher income opportunities available in more economically developed locations. Meanwhile, Figure 2.8.2 illustrates the extensive discrepancy in average monthly earnings across settlements. Overall, workers in urban areas generally get paid better than those in the rural areas. Furthermore, those working in Yerevan relatively received the highest incomes compared to those employed in other urban areas and rural areas. Average earnings in Yerevan were 1.3 times higher than

the income figures in other urban areas, and 1.7 times more than earnings in the rural areas. Meanwhile, workers in other urban areas get 1.3 times higher pays than workers in the rural areas.

As in the previous cases, the ratio of average earnings between workers in the urban and rural areas was lowest among the employees (1.1) and highest among the own-account workers (3.2).

As reflected in Table 2.8.4, jobs in extraterritorial organizations posted the highest average income for both men and women. This is typical in many economies. This industry normally provides higher paying jobs. Thus, a more revealing examination of the patterns in wages and earnings could be facilitated if this industry is excluded.

Table 2.8.3 Average Wage and Earnings by Employment Status, Nature of Employment, and Urban/Rural

Employment Status	Average Earnings, AMD						Average Earnings		
	Formal Employment			Informal Employment			Yerevan	Urban	Rural
	Yerevan	Urban	Rural	Yerevan	Urban	Rural			
Employee	83,154	69,075	66,457	72,377	60,048	58,741	81,653	67,653	64,736
Employer	249,310	203,205	91,909	154,735	*	...	240,661	205,011	91,909
Own-account worker	136,946	97,982	92,317	81,270	30,859	40,514	93,421	43,681	41,345
Average earnings	86,426	70,868	67,456	75,447	47,062	42,690	84,434	65,007	50,167

... = no observation/no data available.

* Only one observation classified as employer engaged in informal employment working in the urban area answered the income query. It was assessed to be insufficient for comparison with other average incomes.

Table 2.8.4 Average Wage and Earnings by Industry, Nature of Employment, and Sex

Sector	Industry	Formal		Informal		Total Income	Average Income By Sex		
		Men	Women	Men	Women		Men	Women	Ratio
A	Agriculture, hunting, and forestry	79,155	65,744	494,22	22,986	38,623	50,323	24,054	2.1
B	Fishing	*	*	*	*	*	*	*	*
C	Mining and quarrying	105,391	61,105	83,858	...	94,907	104,943	61,105	1.7
D	Manufacturing	80,020	59,129	63,015	40,322	70,000	77,375	52,245	1.5
E	Electricity, gas, and water supply	84,205	74,786	57,178	...	82,226	83,865	70,922	1.2
F	Construction	105,195	81,041	83,660	41,906	92,937	93,258	71,883	1.3
G	Wholesale and retail trade, repairs, etc.	98,750	63,732	83,659	54,793	78,948	93,000	60,609	1.5
H	Hotels and restaurants	97,759	57,271	61,146	35,443	62,314	86,658	47,991	1.8
I	Transport, storage, and communications	83,918	72,509	78,510	30,344	80,801	82,612	71,053	1.2
J	Financial intermediation	118,558	84,764	...	...	100,925	118,558	84,764	1.4
K	Real estate, renting, and business activities	137,436	86,038	73,789	58,795	109,792	129,764	84,920	1.5
L	Public administration and defense, social security	103,026	69,362	...	...	92,051	103,026	69,362	1.5
M	Education	76,357	56,875	**	72,667	60,778	75,776	57,065	1.3
N	Health and social work	80,817	49,911	40,000	22,876	55,132	80,620	49,784	1.6
O	Other community, social, and personal services	90,641	44,558	61,676	31,745	65,724	83,405	41,688	2.0
P	Private households with employed persons	...	...	44,094	42,896	43,224	44,094	42,896	1.0
Q	Extraterritorial organizations	147,231	116,548	–	–	133,630	147,231	116,548	1.3
	Total	92,665	59,279	61,605	28,658	66,511	79,790	48,499	1.6

... = no observation/no data available, – = not applicable.

* The fishing industry only has six observations, which may not provide adequate representation of the average income of the employed population. Consequently, analysis by sex and nature of employment may not be reliable.

** The electricity, gas, and water industry has only two observations for women under informal employment. Similarly, the education industry has only two observations for men engaged in informal employment. Income analysis using these observations may lead to incorrect generalizations.

The real estate, renting, and business activities and the financial intermediation industries registered the highest average monthly incomes among men, which reached AMD129,764 and AMD118,558, respectively. The lowest average income, on the other hand, was reflected in the private households with employed persons (AMD44,094) followed by average income in agriculture, hunting, and forestry (AMD50,323).

The same pattern is observed among the jobs performed by women. Highest average incomes were received from the same two industries: AMD84,920 from real estate, renting, and business activities and AMD84,764 from financial intermediation. Similarly, the lowest rate (AMD24,054) was reflected in agriculture, hunting, and forestry, which is assumed to be due to the widespread underpaid agricultural informal activity.

Analysis by sex showed that overall average incomes received by men were higher than those

received by women in all types of activity, and regardless of the nature of their jobs. Discrepancy in the sex income ratio was most significant in the agriculture and other community, social, and personal services industries, where the payments received by men were double those received by women. Conversely, the gap was narrowest among the jobs in private households.

Table 2.8.4 further shows a significant difference between the average wages and earnings by nature of employment. As mentioned, earnings were definitely higher among those engaged in formal employment than among those informally employed, regardless of the sex and types of activities. This is true, except in the education industry in which the average income of women holding informal jobs was 1.3 times higher compared to the rate received by those who hold formal jobs. This is likely due to the widespread well-paid private lessons carried out mostly by women.

Figure 2.8.3 Ratio of Average Wage and Earnings of Men and Women by Industry



Note: Refer to Table 2.8.4 for the industry classification.

This case, however, may be considered unique. The qualifications of those engaged in formal and informal arrangements in this industry do not differ much. In fact, the minimum educational backgrounds and the skills for the types of jobs in this industry are assumed to be the same in both types of employment. Thus, a more extensive analysis can be performed to further explain the seemingly more profitable informal work in this industry.

Among formally and informally employed men, the highest discrepancies in the average monthly income were reflected in health and social work (2.0 times) and real estate, renting, and business activities (1.9 times). Higher formal–informal income gaps among women were observed in agriculture, hunting, and forestry, and in transport, storage, and communications, which posted ratios of 2.9 and 2.4, respectively.

In general, the average income among formally employed men was 1.6 times higher than that of their women counterparts. The pattern was similar in the case of informal employment, in which the men–women income ratio reached 2.1.

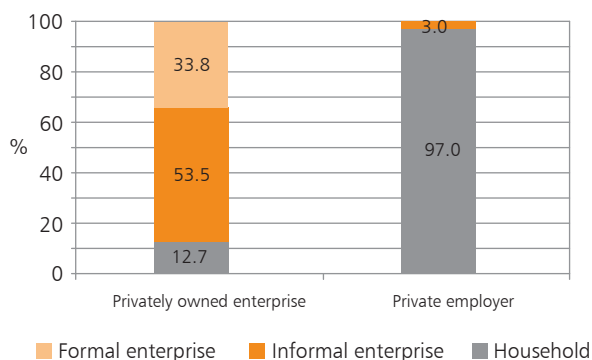
2.9 Type of Enterprise

Employment was mainly concentrated in privately owned enterprises, which comprised 70.7% of the total. State-owned enterprises also provided most of the jobs, at 25.7%, while the rest of the employment was spread over municipals, nongovernment organizations, and private employers.

Table 2.9 Employment by Type of Enterprise, Type of Production Unit, and Nature of Employment

Type of Enterprise	Type of Production Unit (1,000 jobs)					Total
	Formal Enterprises			Informal Enterprises	Households	
	Formal Employment	Informal Employment	Total			
State-owned	305.9	–	305.9	–	–	305.9
Municipals	22.0	–	22.0	–	–	22.0
NGOs	11.3	–	11.3	–	–	11.3
Privately owned enterprise	231.5	53.6	285.2	451.1	106.9	843.1
Private employer	–	–	–	0.3	9.8	10.1
Total	570.7	53.6	624.3	451.4	116.7	1,192.4

– = not applicable, NGOs = nongovernment organizations.

Figure 2.9 Employment by Type of Enterprise and Type of Production Unit

State-owned enterprises were the main provider of formal employment (53.6%), followed by private enterprises (40.6%) and municipals (3.9%). In Armenia, formal jobs are available only in formal enterprises. Thus it is not normal practice for informal enterprises or households to offer employment with written contracts.

However, it is possible for formal enterprises to supply informal employment, though only at a minimal level of 8.6% of the total jobs in this type of production unit. Informal workers mainly got employment from informal enterprises (72.6%); nevertheless, households also provided informal jobs at a notable rate (18.8%). Employment here was chiefly composed of own-account workers producing for own consumption and were helped by the unpaid family workers in their households.

Enterprises belonging to the state, municipality, and nongovernment organizations, by definition, are all considered to be formal production units. Thus, informal enterprises will be present only among the private enterprise and private employer's classifications. In fact, of the total jobs supplied by privately owned establishments and by private employer, 53.5% and 97.0%, respectively, were engaged in informal production units (Figure 2.9).

2.10 Size of Establishment

In the economy of Armenia, the size of establishment is not considered among the criteria for defining informal

employment²⁰ and informal enterprises since there is no strong relationship seen among the variables, that is, strong enough to say that one determines the other. However, patterns between the size and the type of production unit and nature of employment are observed, which are shown in the succeeding figures and tables.

The skipping pattern was applied to the query on employment size; only those working in privately owned and private employer enterprises provided answers to the item. Therefore, total estimates discussed will not be equivalent to those presented in other sections.

Overall, employment was concentrated (at 72.0%) in micro-sized (less than five workers) establishments, implying that enterprises that provided most of the private sector's jobs in Armenia are actually small-scale. Jobs in the microenterprises were also widespread in both informal enterprises (96.7%) and in households (96.4%). Employment in formal enterprises, on the other hand, showed a lower percentage (23.0%) in these microenterprises (Table 2.10.1).

In most countries, microenterprises are associated with informal production units. In Armenia, as shown in Figure 2.10.1, the relationship between informality and employment size is still evident but not sufficient to make it a defining factor. Among the total jobs in micro-sized establishments, the percentage of those employed in informal enterprises was high at 71.0%. While this was 4 and 7 times higher than the percentage of those engaged in households (18.3%) and formal enterprises (10.7%), respectively, the combined proportions of jobs in these two types of establishments is still substantial. The higher likelihood that a microenterprise is an informal enterprise is the generalization that can be derived from these observations.

²⁰ According to RA Law "On Supporting of Small and Medium Enterprises", industries are defined as large, medium, small, and micro enterprises. For example, in agriculture and in manufacturing, enterprises are considered as large (if the number of employees is more than 100), medium (if the number of employees is 51–100), small (if the number of employees is 6–50), and micro (if the number of employees is less than five).

Table 2.10.1 Employment by Employment Size* of Establishment, Type of Production Unit, and Nature of Employment (%)

Employment Size	Type of Production Unit								
	% to Total Employment					% to Total of Each Group			
	Formal Enterprises			Informal Enterprises	Households	Formal Enterprises	Informal Enterprises	Households	Total
	Formal	Informal	Total						
Less than 5 workers	7.9	2.8	10.7	71.0	18.3	23.0	96.7	96.4	72.0
6–15	57.8	17.6	75.4	22.8	1.8	14.0	2.7	0.8	6.2
16–30	78.9	21.1	100.0	...	...	26.0	...	...	8.7
31–49	80.1	19.9	100.0	...	...	8.4	...	...	2.8
50–99	87.0	13.0	100.0	–	–	7.2	–	–	2.4
100 and more	90.6	9.4	100.0	–	–	8.8	–	–	2.9
Don't know	82.1	3.4	85.5	6.6	7.9	12.5	0.6	2.8	4.9
Total	27.1	6.3	33.4	52.9	13.7	100.0	100.0	100.0	100.0

... = no observation/no data available, – = not applicable.

* Figures do not match the other estimates due to the skipping pattern applied in the legal organization query. Only those who worked under privately owned or private employer types of enterprises provided answers to this item.

In formal microenterprises, almost all jobs carried out are informal (92.1%), but though minimal, 7.9% of the jobs were recorded as formal. This shows the existence of micro-sized formal enterprises with formal employment (Figure 2.10.1 and Table 2.10.2).

Results also show that establishments with employment size of more than 15 workers are probably formal; all of the jobs in these large-scale productions were registered to formal enterprises.

Figure 2.10.2 illustrates interesting patterns. Expectedly, informal employment will be most prevalent in microenterprises. Thus, 91.1% of informal jobs were carried out in establishments with less than

five workers. What is not expected is the important role these small-scale production units have in providing formal employment. Of the total formal jobs, 20.9% are engaged in microenterprises; this translates to one in every five formal jobs. This is most likely due to the earlier observation that microenterprises supply more than two-thirds of the total employment in Armenia. This also strengthens the notion that employment

Figure 2.10.1 Employment by Employment Size of Establishment and Type of Production Unit

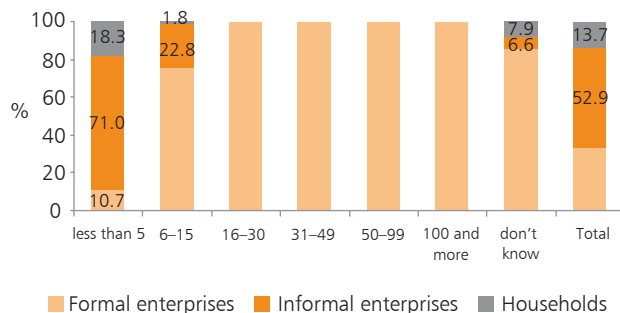


Figure 2.10.2 Employment by Nature of Employment and Employment Size of Establishment

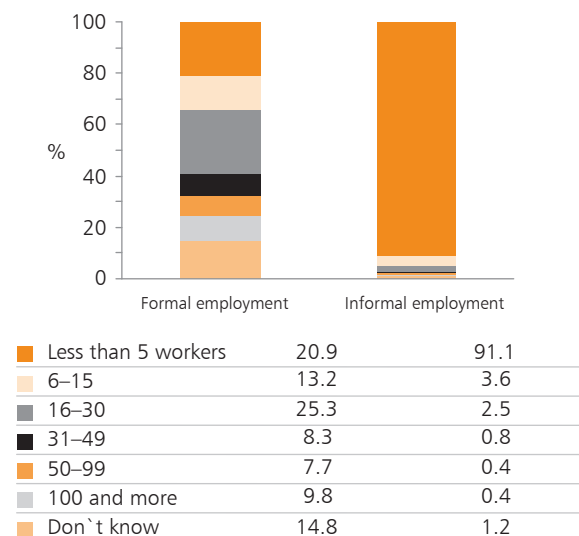


Table 2.10.2 Employment by Employment Size of Establishment, Type of Production Unit, Nature of Employment, and Urban/Rural* (%)

Employment Size	Production Units by Type							
	Formal Employment				Informal Employment			
	Yerevan	Urban	Rural	Total	Yerevan	Urban	Rural	Total
Less than 5 workers	45.9	38.6	15.5	7.9	6.7	12.8	80.5	92.1
6–15	63.2	25.6	11.2	57.8	20.5	28.8	50.7	42.2
16–30	62.7	30.5	6.9	78.9	61.7	30.5	7.8	21.1
31–49	74.3	18.3	7.4	80.1	93.9	5.8	0.3	19.9
50–99	67.1	22.9	10.0	87.0	80.3	10.9	8.8	13.0
100 and more	62.1	32.1	5.8	90.6	94.2	5.8	...	9.4
Don't know	32.7	42.8	24.5	82.1	59.1	24.1	16.8	17.9
Total	56.1	31.9	12.0	27.1	10.5	13.9	75.6	72.9

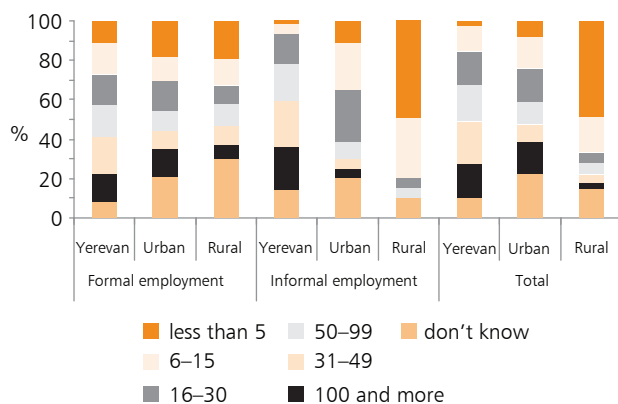
... = no observation.

* Figures do not match the other estimates due to the skipping pattern applied in the legal organization query. Only those who worked under privately owned or private employer types of enterprises provided answers to this item.

size cannot be effectively used as a criterion for determining either the informal employment or informal enterprises.

Meanwhile, different patterns were observed among establishments with respect to employment size, analyzed by urbanity. Overall, Yerevan was the basic area where formal employment exists (at 56.1%), as rural areas are to informal employment (at 75.6%). In every type of establishment, regardless of employment size, formal jobs are most prevalent in establishments located in Yerevan. On the other hand,

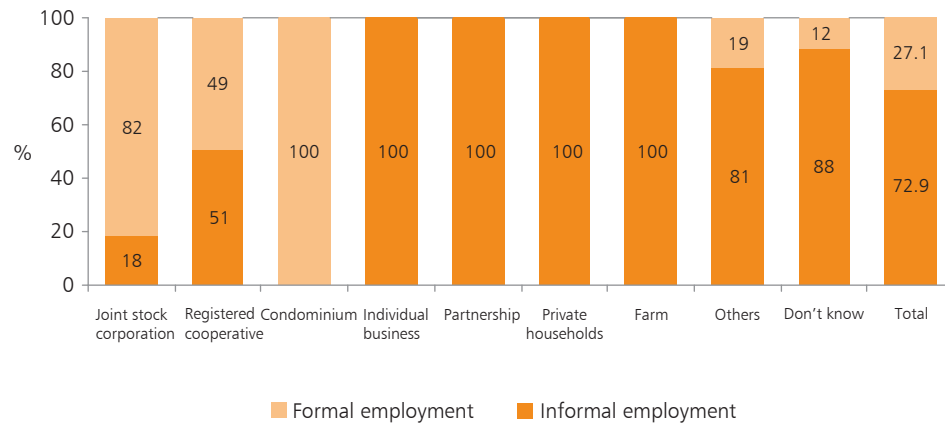
in terms of informal employment, the situation was quite different. In rural areas, most of the informal jobs can be found in microenterprises (80.5%) and in establishments with 6–15 workers (50.7%). As the employment size of the unit becomes bigger, those establishments located in Yerevan gained significance in supplying informal employment (Table 2.10.2 and Figure 2.10.3). This can be linked with small-scale agricultural production consisting mostly of family enterprises in farms that generally exist in rural areas and are the chief source of informal jobs. Large-scale production, on the other hand, is typically present only in urban areas, most especially in Yerevan.

Figure 2.10.3 Employment by Nature of Employment, Urban/Rural, and Employment Size of Establishment

2.11 Legal Organization of the Enterprise

The skipping pattern was applied to the item on legal organization; however, only those working in privately owned and private employer enterprises answered the query. Thus, the total estimates will not match the figures in the other sections. More importantly, formal employment in state-owned enterprises, municipals, and nongovernment organizations are not incorporated into the analysis. Hence, we could also refer to this as investigation of employment in the private sector.

Figure 2.11.1 Employment by Legal Organization and Nature of Employment



In the private sector, informal employment is more common (at 72.9%) than formal employment (at 27.1%) (Figure 2.11.1). This is not surprising since, as shown by Table 2.9 (in Section 2.9), 66.6% of all the jobs in the private sector are provided by either the informal enterprises or the households, both of which only supply informal employment. Meanwhile, formal enterprises engaged 6.3% of the total informal jobs.

Formal employment in the private sector is essentially provided by joint-stock corporations (at 98.5%); informal employment is essentially provided by farms (at 76.5%) (Figure 2.11.2). The

disaggregation of jobs, by sex and legal organization, shows similar patterns between formal and informal employment. Overall, jobs performed by men are more than those assumed by women (70.9%) in formal employment and, to a lower extent, 52.5% in informal employment. On the other hand, while jobs carried out by women were mostly in farms (70.4%), jobs assumed by men were distributed, almost equally, among farms (45.0%) and joint-stock corporations (39.8%). It should be noted, though, that one in four jobs performed by women was in joint-stock corporations (Table 2.11).

Figure 2.11.2 Private Sector Employment by Nature of Employment and Legal Organization

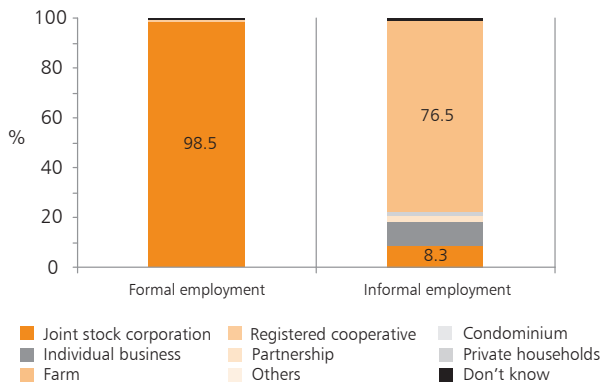
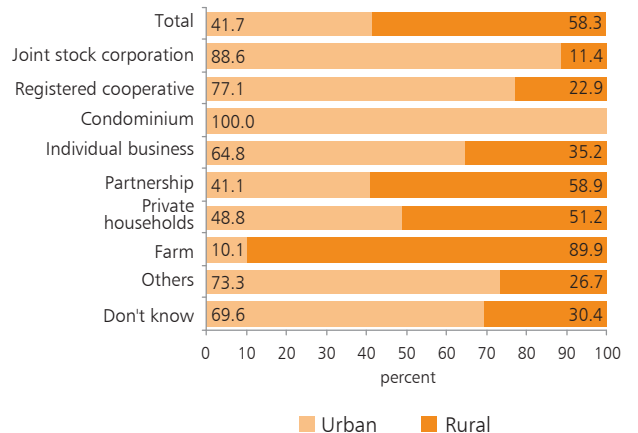


Figure 2.11.3 Private Sector Employment by Legal Organization and Urban/Rural



Note: Urban area includes Yerevan.

Table 2.11 Employment by Legal Organization, Nature of Employment, and Sex (%)

Legal Organization	Total					Nature of Employment				Total	
	Formal	Informal	Men	Women	Total	Formal		Informal			
						Men	Women	Men	Women		
Joint stock corporation	98.5	8.3	39.8	23.3	32.8	70.9	29.1	64.9	35.1	69.8	30.2
Registered cooperative	0.8	0.3	0.5	0.3	0.4	59.5	40.5	79.8	20.2	69.8	30.2
Condominium	0.2	...	0.1	...	0.1	100.0	0	–	–	100.0	0.0
Individual business	–	9.9	9.7	3.9	7.2	–	–	77.0	23.0	77.1	22.9
Partnership	–	2.2	2.3	0.7	1.6	–	–	82.5	17.5	82.5	17.5
Private household	–	1.6	1.3	1.0	1.2	–	–	62.4	37.6	62.4	37.6
Farm	–	76.5	45.0	70.4	55.8	–	–	46.3	53.7	46.3	53.7
Others*	0.1	0.1	0.1	0.1	0.1	0	100.0	90.5	9.5	73.5	26.5
Don't know	0.4	1.0	1.2	0.3	0.8	83.1	16.9	82.8	17.2	82.8	17.2
Total	100.0	100.0	100.0	100.0	100.0	70.9	29.1	52.5	47.5	57.5	42.5

... = no observation/no data available, – = not applicable.

* This group has only 14 observations, which may not provide adequate representation. Consequently, analysis by sex and nature of employment may not be reliable.

Notes: Figures do not match the other estimates due to the skipping pattern applied in the legal organization query. Only those who worked under privately owned or private employer types of enterprises provided answers to this item. Numbers may not sum precisely because of rounding.

Further interesting patterns were observed in Table 2.11. In general, employment by men was prevalent in all groups of legal organizations regardless of the nature of employment. Unique exceptions were the jobs in farms, in which women assumed 53.7% of employment. Meanwhile, formal arrangements were much more common among male (70.9%) than for female jobs (29.1%).

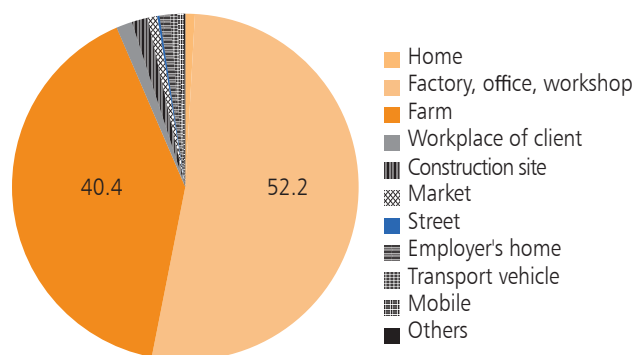
Employment is primarily available in the rural areas, at 58.3% of the total. This is due to the large number of private sector jobs (476,008 of the total 853,187) provided by farms. Meanwhile, the types of organizations, which supply jobs and are largely located in the urban areas, include condominiums, joint-stock corporations, registered cooperatives, and some with individual businesses (Figure 2.11.3).

2.12 Kind of Workplace

In Armenia, the most common places where jobs are carried out were factories, offices, and workshops (52.2%) and farms (40.4%) (Figure 2.12.1). Meanwhile, the least popular workplaces are the street (0.2%), mobile or no fixed location (0.6%), and transport vehicle (0.7%). Nevertheless, in some countries, these

three workplaces cited are quite widespread such that some occupations, such as hawkers,²¹ peddlers, street vendors, traveling salespersons, street sellers, and the like, are based on them.

A closer look at the workplaces shows that this variable is actually a good (alternative) indicator in

Figure 2.12.1 Employment by Place of Work

²¹ A person who offers goods for sale by shouting his or her wares in the street or going from door to door.

Figure 2.12.2 Employment by Place of Work and Nature of Employment


assuming the nature of a person's job. First, formal employment is only significantly visible in two workplace categories: factory, office, and workshop (91.0%) and market, bazaar stall, and trade fair (12.4%). Given this, a person working in a factory will most probably be formally employed. In the same manner, a person working in any other place, such as the home, workplace of a client, construction site, street, employer's home, transport vehicle, farm,

or is mobile, will most likely be informally employed (Figure 2.12.2).

2.13 Age Composition

Different patterns are observed in the analysis of employment and labor market, by age category. The average age of employed persons recorded is 43 years.

Table 2.12.1 Employment by Place of Work and Nature of Employment

Place of Work	Nature of Employment				
	1,000 jobs			Percent	
	Formal	Informal	Total	Formal	Informal
Home (with and without special workplace)	0.1	10.6	10.7	0.8	99.2
Factory, office, workshop	566.7	55.8	622.5	91.0	9.0
Farm or agricultural plot	1.9	480.0	481.9	0.4	99.6
Home or workplace of client	–	17.6	17.6	–	100.0
Construction site	–	17.7	17.7	–	100.0
Market, bazaar stall, trade fair	1.4	9.6	11.0	12.4	87.6
Street pavement or highway with fixed post	–	2.5	2.5	0.0	100.0
Employer's home	...	11.5	11.5	...	100.0
Transport vehicle	0.0	8.3	8.3	0.4	99.6
No fixed location, mobile	–	7.0	7.0	–	100.0
Others	0.6	1.1	1.6	34.1	65.9
Total	570.7	621.7	1,192.3	47.9	52.1

... = no observation/no data available, – = not applicable.

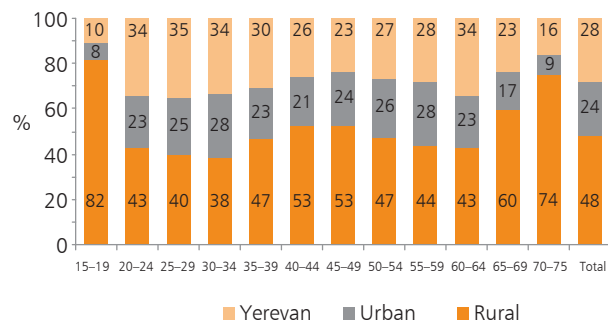
Table 2.13.1 Employment by Age Group and Urban/Rural

Age Group	Employment (1,000 jobs)			Total	Employment, %			
	Yerevan	Urban	Rural		Yerevan	Urban	Rural	Total
15–19	1.5	1.1	11.8	14.5	0.4	0.4	2.1	1.2
20–24	32.6	21.7	41.1	95.5	9.6	7.7	7.2	8.0
25–29	43.7	31.7	49.7	125.1	12.9	11.3	8.7	10.5
30–34	38.7	32.0	44.1	114.8	11.4	11.4	7.7	9.6
35–39	36.7	27.6	56.2	120.5	10.8	9.8	9.8	10.1
40–44	36.6	29.3	74.3	140.3	10.8	10.4	13.0	11.8
45–49	41.1	42.0	92.7	175.8	12.1	14.9	16.2	14.7
50–54	43.1	41.8	75.6	160.4	12.7	14.9	13.2	13.5
55–59	29.6	29.8	45.8	105.2	8.7	10.6	8.0	8.8
60–64	19.6	13.3	24.7	57.7	5.8	4.7	4.3	4.8
65–69	8.9	6.5	22.7	38.0	2.6	2.3	4.0	3.2
70–75	7.2	4.3	33.3	44.8	2.1	1.5	5.8	3.8
Total	339.2	281.0	572.1	1,192.3	100.0	100.0	100.0	100.0

By age category, the jobs carried out by the following age groups recorded the lowest prevalence: 1.2% for those aged 15–19; 3.2%, aged 65–69; and 3.8%, aged 70–75. The probable reason for low employment among the youth is their engagement in school, while the physical demands of most jobs may have limited the opportunities for the two older groups.

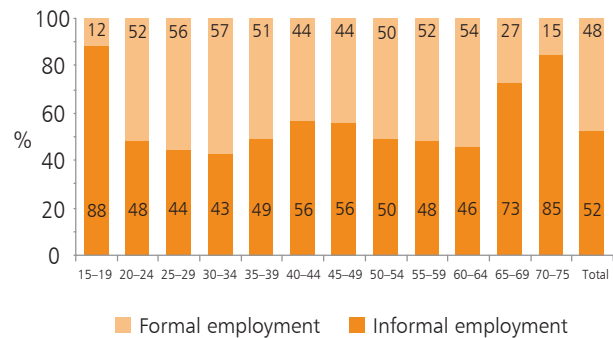
The highest employment was registered in age groups 45–49, 50–54, and 40–44, accounting for 14.7%, 13.5%, and 11.8%, respectively, of the total employment. The same pattern is observed in the rural areas where these jobs were likely to be in agriculture and, in particular, jobs that were located in farms.

Figure 2.13.1 Employment by Age Group and Urban/Rural



In general, the difference between formal and informal employment across age categories is not significant, except in age groups 15–19, 70–75, and 65–69 in which informal employment was higher than formal employment (Figure 2.13.2). These are the same age groups identified to assume the least number of jobs. Since youth are generally less experienced while the elderly are already passed their prime, informal employment is more prevalent in these categories. Informal employment arrangements are more available to the youth. In addition, skills required in informal jobs seem to suit the older age groups probably because of their limited physical capabilities.

Figure 2.13.2 Employment by Nature of Employment and Age Group



Of the total formal jobs, those assumed by people aged 50–54 (14.2%) had the highest prevalence, while of the total informal arrangements, the 45–49 age group (15.8%) registered the highest number (Table 2.13.2).

Similarly, Table 2.13.3 shows that jobs carried out by workers aged 50–54 posted the highest incidence in formal enterprises, while jobs performed by workers aged 45–49 comprised most of those in the informal enterprises. This shows that, in Armenia, the nature of employment and nature of production units follow the same patterns.

The jobs assumed by the youth (aged 15–19) and the older workers (aged 65–75) were more often performed in informal enterprises or in households. The employment of people aged 40–49, on the other hand, was distributed almost equally in the formal or

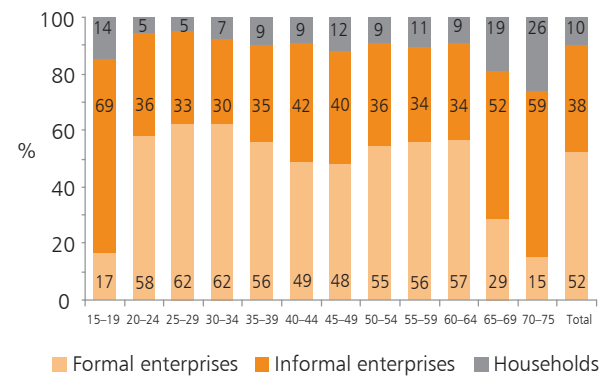
Table 2.13.2 Employment by Age Group and Nature of Employment

Age Group	Nature of Employment			
	1,000 jobs		Percentage	
	Formal	Informal	Formal	Informal
15–19	1.7	12.8	0.3	2.1
20–24	49.3	46.1	8.6	7.4
25–29	70.0	55.1	12.3	8.9
30–34	65.4	49.4	11.5	7.9
35–39	61.6	58.9	10.8	9.5
40–44	61.4	78.8	10.8	12.7
45–49	77.6	98.2	13.6	15.8
50–54	80.9	79.5	14.2	12.8
55–59	54.2	51.0	9.5	8.2
60–64	31.3	26.3	5.5	4.2
65–69	10.4	27.6	1.8	4.4
70–75	6.8	38.0	1.2	6.1
Total	570.7	621.7	100.0	100.0

Table 2.13.3 Employment by Age Group and Type of Production Unit

Age Group	Production Unit (1,000 jobs)			Production Unit (%)		
	Formal Enterprises	Informal Enterprises	Households	Formal Enterprises	Informal Enterprises	Households
	15–19	2.4	9.9	2.1	0.4	2.2	1.8
20–24	55.5	34.7	5.2	8.9	7.7	4.5
25–29	77.7	41.3	6.1	12.4	9.2	5.2
30–34	71.2	35.0	8.6	11.4	7.8	7.3
35–39	67.5	41.6	11.4	10.8	9.2	9.8
40–44	68.5	59.0	12.8	11.0	13.1	10.9
45–49	84.7	70.0	21.1	13.6	15.5	18.1
50–54	87.5	58.5	14.4	14.0	13.0	12.3
55–59	58.8	35.3	11.1	9.4	7.8	9.5
60–64	32.8	19.6	5.3	5.2	4.3	4.6
65–69	11.0	20.0	7.1	1.8	4.4	6.1
70–75	6.8	26.4	11.5	1.1	5.9	9.9
Total	624.3	451.4	116.7	100.0	100.0	100.0

informal enterprises. Distribution of jobs performed by people belonging to the other age categories showed greater prominence in formal enterprises.

Figure 2.13.3 Employment by Age Group and Type of Production Unit


2.14 Level of Education

People who reached the secondary level of education registered the highest prevalence among the employed population regardless of sex, at 41.3%, followed by those with vocational training, and postgraduate (and higher) level, at 23.6% and 22.6%, respectively. Knowledge and formal training are factors that have always affected one's marketability for employment; hence, it is not surprising that people with the least formal education posted the lowest number among the employed (at 0.4% for the illiterate and those with uncompleted primary education) (Table 2.14.1). It is interesting to note, however, that those who achieved the highest level of learning (postgraduate), were barely higher in number, comprising only 0.4% of the employed. It would be a good avenue for future analysis to determine whether the basis for this small incidence is the supply of workers or the demand for them.

In some countries, unpaid jobs were generally carried out by people who have low levels of education or no formal education at all. But in Armenia, this tendency is not exhibited. In fact, most of the unpaid family jobs were performed by people who have at least completed primary and entered the secondary level of education.²²

²² According to the RA legislation, general secondary education is obligatory. Based on the results of the Census of RA for 2001, 99.4% of the population (aged 15 and over) was literate.

Table 2.14.1 Number of Employed Persons by Level of Education and Sex

Level of Education	1,000 Persons			% to Total			% to Total of Each Group	
	Men	Women	Total	Men	Women	Total	Men	Women
Illiterate, uncompleted primary	2.0	2.8	4.8	0.3	0.5	0.4	42.3	57.7
Primary	10.6	9.1	19.7	1.7	1.7	1.7	53.9	46.1
General basic/lower secondary	52.8	30.2	83.0	8.6	5.6	7.2	63.6	36.4
Secondary	267.5	208.9	476.4	43.3	39.0	41.3	56.1	43.9
Preliminary vocational	22.4	13.7	36.2	3.6	2.6	3.1	62.0	38.0
Vocational*	130.5	141.1	271.7	21.1	26.4	23.6	48.1	51.9
Higher, postgraduate	131.4	129.7	261.0	21.3	24.2	22.6	50.3	49.7
Total	617.3	535.5	1152.8	100.0	100.0	100.0	53.5	46.5

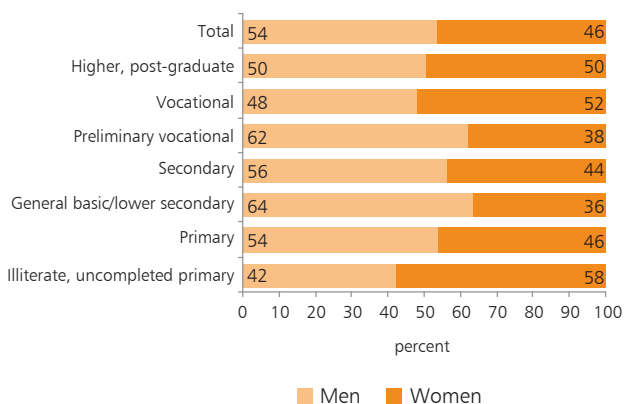
* Also includes non-complete higher education.

Table 2.14.2 Employment by Level of Education and Employment Status (1,000 jobs)

Level of Education	Status of Employment						Total		
	Employees			Non-employees					
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Illiterate, uncompleted primary	0.3	0.3	0.6	...	4.2	4.2	0.3	4.5	4.8
Primary	0.5	1.5	2.0	...	17.9	17.9	0.5	19.4	19.9
General basic / lower secondary	17.4	11.6	29.0	0.8	54.9	55.7	18.2	66.5	84.7
Secondary	136.1	58.4	194.4	1.9	284.4	286.3	138.0	342.8	480.7
Preliminary vocational	14.2	6.5	20.8	0.7	16.3	17.0	14.9	22.9	37.7
Vocational*	153.5	25.1	178.5	5.6	100.4	106.0	159.1	125.5	284.6
Tertiary, postgraduate	227.2	7.2	234.4	7.0	32.9	39.9	234.2	40.1	274.3
Total	549.2	110.6	659.7	21.5	511.1	532.6	570.7	621.7	1,192.3

... = no observation/no data available.

* Also includes non-complete higher education.

Figure 2.14.1 Employed Persons by Level of Education and Sex

Very distinct patterns are observed in Figure 2.14.2. Employees are more associated with those who have higher educational attainment. Conversely, the chances of being an own-account worker become smaller as the level of education increases. This same pattern is observed among those that carried out unpaid work in the family enterprise. Lastly, high skill and knowledge achievement seems to be the conditions for a better likelihood of becoming an employer.

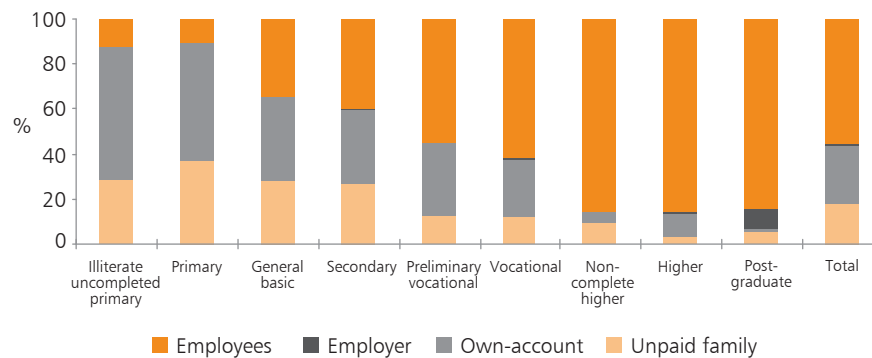
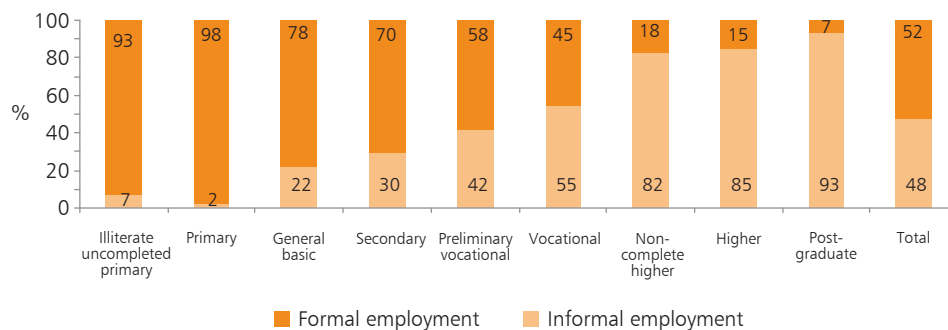
Meanwhile, a large proportion of employee job was associated with those who had higher education (tertiary and postgraduate) (35.5%), followed by workers who reached secondary (29.5%) and vocational (27.1%) (Table 2.14.3). Likewise, the employers reflected the same pattern shown by

Table 2.14.3 Employment by Level of Education and Employment Status (%)

Level of Education	Status of Employment						Total		
	Employees			Non-employees					
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Illiterate, uncompleted primary	0.1	0.2	0.1	...	0.8	0.8	0.1	0.7	0.4
Primary	0.1	1.4	0.3	...	3.5	3.4	0.1	3.1	1.7
General basic/lower secondary	3.2	10.5	4.4	3.9	10.7	10.5	3.2	10.7	7.1
Secondary	24.8	52.8	29.5	8.8	55.6	53.8	24.2	55.1	40.3
Preliminary vocational	2.6	5.9	3.1	3.0	3.2	3.2	2.6	3.7	3.2
Vocational*	27.9	22.7	27.1	26.0	19.7	19.9	27.9	20.2	23.9
Tertiary, postgraduate	41.4	6.5	35.5	32.5	6.4	7.5	41.0	6.5	23.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

... = no observation/no data available.

* Also includes non-complete higher education.

Figure 2.14.2 Employment by Level of Education and Employment Status

Figure 2.14.3 Employment by Level of Education and Nature of Employment


those with employee jobs. The same educational attainments recorded the largest proportions in the other employment statuses, though with variation in order of prevalence. More than half of the non-wage workers (non-employees) were composed of people who reached secondary education, while one-fifth, by those with vocational training (Table 2.14.2).

A link between the level of education and the nature of employment is evident in Figure 2.14.3. The likelihood of being formally employed increases as the educational achievement rises. Or stated differently, the lower the educational attainment, the higher the probability of being engaged in informal employment.

2.15 Employment Conditions of Informal Employees

The analysis of the employment conditions of informal employees involves examination of the benefits received by the workers and, hence, the extent of their social protection. In this section, the unit of analysis is the wage worker.²³

There is an estimated 656,356 wage workers in Armenia, of which 83.2% were formally employed. Almost all of these wage workers were identified through their primary jobs, and only a handful (0.2%) were classified by means of their second jobs. The number of male wage workers is greater than that of the women, at 56.9% and 43.1%, respectively. The same pattern is shown under both formal and informal employment.

Social protection in Armenia is only likely if a wage worker is engaged in formal employment arrangement. While being a formal wage worker does not guarantee receipt of benefits, it is still a better condition compared to that of informal workers who do not seem to receive any kind of benefits. A large proportion of formal wage workers (76.0%)

has pension funds paid by their employers, making it the most common benefit received. Meanwhile, the rest—sick leave, paid leave, and maternity or paternity leave—were received by at least 60.0% of the formal workers. This means that at least two in every three formal workers receive one of the said benefits (Table 2.15.2).

With these results, it can be concluded that a wage worker who receives any kind of employment benefits is definitely engaged in formal employment. In relation to this, given that formal employment is only supplied by formal enterprises, it can also be surmised that employment benefits are only provided by formal production units.

2.16 Exclusion of Agriculture, Forestry, and Fishing

The analysis of employment in the non-agriculture sector registered a wide gap between formal and informal employment rates, at 80.0% and 20.0%, respectively (Table 2.16.1). This is a significant change from the overall employment rates of 47.9% for formal and 52.1% for informal, implying the vital role of the agriculture sector in informal employment.

Figure 2.16.1 shows the high percentage (88.0%) of non-agriculture jobs that are predominantly supplied by formal enterprises, which is much greater than percentage of jobs provided by this production unit to total employment (at 52.0%). This is true in jobs assumed by either men or women. The opposite is observed regarding the non-agriculture jobs in informal enterprises, at 10.0%, to total employment's 38.0%; and in households in which 2.0% of the non-agriculture jobs are performed, smaller than the 10.0% recorded in the total employment (see section 2.2).

Gender bias in employment (measured in terms of number of jobs assumed by men and women), in favor of men, is observed in all types of production units, regardless of the nature of employment. The discrepancies are wider in informal enterprises and households, compared to those in formal enterprises. The overall percentage of male jobs in the formal enterprises reached 55.7%, only 11.4 percentage points higher than the female jobs. On the other hand, the gap recorded in the informal enterprises and households are 56.2 and 49.0 percentage points, respectively (Table 2.16.1).

²³ Employee jobs are taken into consideration in both the primary and secondary jobs and are referred to as wage worker jobs. A person with an employee status in the primary job is considered to be a wage worker. Meanwhile, if he or she has an employment status other than employee in the primary job, the second job is investigated. If in the second job, he or she is an employee, then the person is also tagged as a wage worker. In instances where both primary and secondary jobs record employee status, the primary job is prioritized, meaning the nature of employment associated to it will be the wage worker's employment arrangement.

Table 2.15.1 Number of Wage Workers in Either Primary or Second Jobs by Nature of Employment (thousand)

Wage Workers	Formal			Informal			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Employee, long-term written contract	243.1	224.3	467.4	–	–	–	243.1	224.3	467.4
Employee, short-term written contract	52.1	26.8	78.9	–	–	–	52.1	26.8	78.9
Employee, verbal contract	–	–	–	78.6	31.5	110.1	78.6	31.5	110.1
Total	295.2	251.1	546.3	78.6	31.5	110.1	373.8	282.6	656.4

– = not applicable.

Notes: Numbers may not sum precisely because of rounding.

Wage workers are classified as employed persons who have employee jobs, with written or verbal contracts, in either their primary or second jobs, or in both.

Table 2.15.2 Frequency Distribution of Wage Workers by Type of Benefits Received and Nature of Employment

Type of Benefit	Nature of Employment	Frequency (thousand)			Percent		
		Yes	No	Total	Yes	No	Total
Maternity/Paternity leave	Formal	156.8	56.3	213.1	64.3	35.7	100.0
	Informal	0.0*	30.9	30.9			
	Total	156.8	87.2	244.0**			
Payment in pension fund	Formal	495.4	50.9	546.3	75.5	24.5	100.0
	Informal	0.0*	110.0	110.1			
	Total	495.4	161.0	656.4			
Paid leave	Formal	404.2	142.1	546.3	61.6	38.4	100.0
	Informal	0.0*	110.0	110.1			
	Total	404.3	252.1	656.4			
Sick leave	Formal	402.7	143.6	546.3	61.4	38.6	100.0
	Informal	0.0*	110.0	110.1			
	Total	402.7	253.7	656.4			

* The informal wage workers receiving paid leaves are the employees with verbal contracts in their primary jobs and are classified as employees with written contracts in their second jobs. Given that the methodology for identifying the wage worker provides priority to the first job, the status, therefore, assumes the nature of employment in this job regardless of the nature of employment in the second job.

** Total excludes the observations who answered “not applicable” to the item.

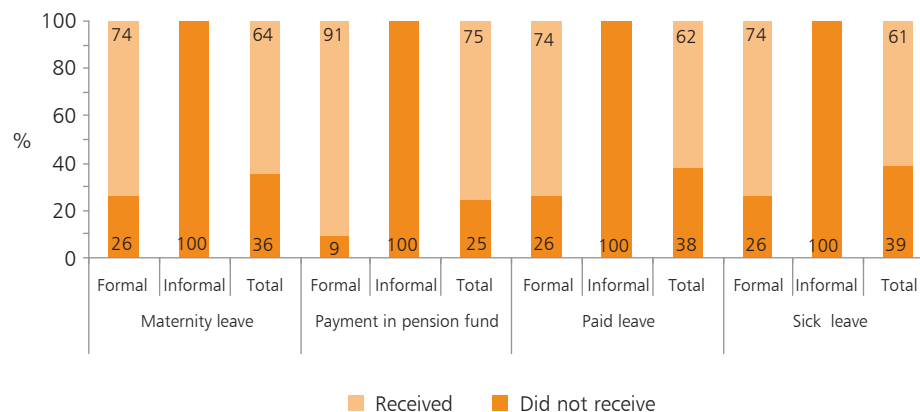
Figure 2.15 Frequency Distribution of Wage Workers by Type of Benefits Received and Nature of Employment


Table 2.16.1 Employment in the Non-Agriculture Sector by Nature of Employment, Type of Production Unit, and Sex

Nature of Employment	Type of Production Unit (thousand)						Total	
	Formal Enterprises		Informal Enterprises		Households			
	Men	Women	Men	Women	Men	Women	Frequency	%
Formal	308.8	254.8	–	–	–	–	563.6	80.0
Informal	34.8	18.3	57.1	16.0	10.8	3.7	140.9	20.0
Total	343.6	273.2	57.1	16.0	10.8	3.7	704.5	100.0

– = not applicable.

Note: Numbers may not sum to total because of rounding.

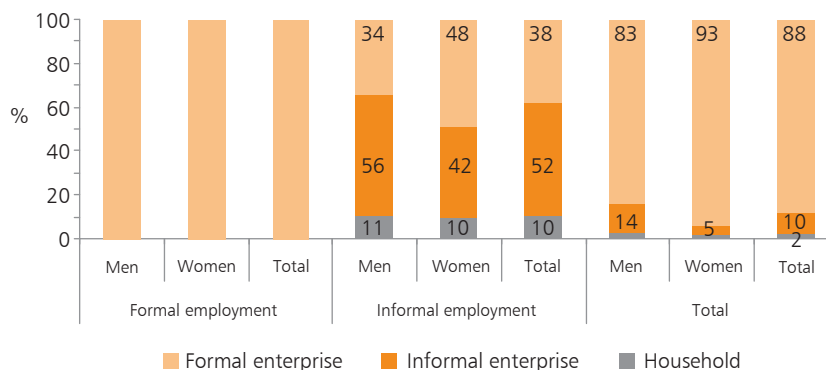
Table 2.16.2 Employment in the Non-Agriculture Sector by Employment Status, Type of Production Unit, and Sex (%)

Employment Status	Type of Production Unit					
	Formal Enterprises		Informal Enterprises		Households	
	Men	Women	Men	Women	Men	Women
Employees	55.1	44.9	82.4	17.6	75.4	24.6
Employer	91.5	8.5	100.0	...	–	–
Own-account worker	65.6	34.4	74.8	25.2	100.0	0.0
Unpaid family worker	58.5	41.5	63.3	36.7	27.0	73.0
Members of cooperative and others	100.0	0.0	0.0	0.0	–	–
Total	55.7	44.3	78.1	21.9	74.5	25.5

... = no observation/no data available, – = not applicable.

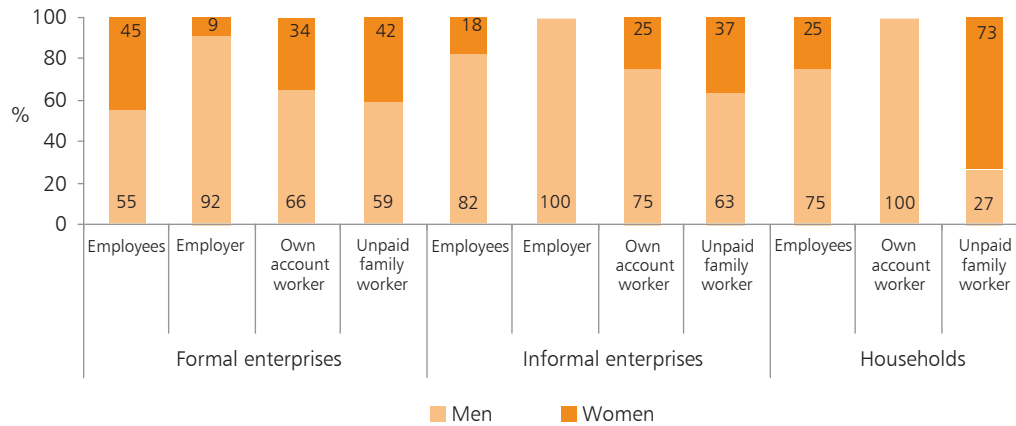
Note: Numbers may not sum precisely because of rounding.

Figure 2.16.1 Employment in the Non-Agriculture Sector by Nature of Employment, Sex, and Type of Production Unit



Note: Numbers may not sum up to 100 because of rounding.

Figure 2.16.2 Employment in Non-Agriculture Sector Type of Production Unit, Employment Status, and Sex



Note: Numbers may not sum up to 100 because of rounding.

The analysis by employment status showed that the observed gender bias in informal and household production units is due to the difference in the number of men and women in employee and own-account jobs. While the number of women carrying out unpaid family jobs is larger in the households (73.0%), the small number of unpaid jobs (590 to the total 14,503

household jobs), did not influence the prevalence of women in the production unit.

Given the patterns discussed, it is expected that the overall percentage of jobs performed by men is higher than that of jobs performed by women, at 58.4% and 41.6%, respectively.

Chapter 3

Contribution of the Informal Sector to GDP

The complete coverage of economic production is important to ensure good quality of national accounts and exhaustiveness of gross domestic product (GDP) estimates. Exhaustive coverage is difficult to achieve because of the wide range of economic activities, some of which are deliberately concealed from observation by those responsible for them. Some economic activities are referred to as non-observed because they are missing from the basic data used to compile the national accounts. These non-observed activities are underground, illegal, and informal or are due to deficiencies in the basic data collection system. They are said to comprise the non-observed economy (NOE), and including them in the national accounts is referred to as the measurement of the NOE.

The NOE includes

- *underground production*, defined as those activities that are productive and legal but are deliberately concealed from the public authorities to avoid payment of taxes or complying with regulations;
- *illegal production*, defined as those productive activities that generate goods and services forbidden by law or that are unlawful when carried out by unauthorized producers;
- *informal sector production*, defined as those productive activities conducted by unincorporated enterprises in the household sector that are unregistered and/or are less than a specified size in terms of employment, and that have at least some market production;
- *production of households for own final use*, defined as those productive activities that result in goods or services consumed or capitalized by the households that produced them.

Estimates for 2008 suggest that a quarter of Armenia's GDP can be accounted to the NOE, of which 10.7% is from informal sector production and 14.3% is from underground production. Throughout this chapter, we will focus on one particular component of the NOE—the informal sector.

A domain of the NOE that has gained attention in recent years is the informal sector. The International Labour Organization's (ILO) *Manual on Surveys of Informal Employment and Informal Sector* (Delhi Group 2010) argues that existing approaches on indirectly estimating the informal sector is generally deemed inadequate due to its reliance on hypothetical assumptions and the high level of aggregation for which the estimates can be derived at. Hence, direct estimation of the contribution of the informal sector provides a tool toward adopting a sustainable approach for national accounts compilation to accurately estimate GDP. On a macroeconomic perspective, detailed analysis of this sector is key toward reorienting socioeconomic policies to be more sensitive to the needs of the working poor who are mostly associated with the informal sector. As Chapter 4 of the Asian Development Bank (ADB) Handbook²⁴ on *Measuring Informal Employment and the Informal Sector* cites, these types of information allow economic planners to reflect on the sources of GDP growth, particularly the relative susceptibility of the informal sector to diverse socioeconomic policies.

In 2009, the National Statistical Service of the Republic of Armenia (NSSRA) conducted the expanded Section D, Occupation (module) of the Integrated Living Conditions Survey (ILCS), which is the expanded Labor Force Survey (LFS) version of Armenia, and the Informal Sector Survey (ISS) (Household Unincorporated Enterprises with at least Some Market Production [HUEM] survey), following the mixed survey approach.

²⁴ From here onward, will be referred to as "the Handbook."

Box 3.1 Measuring the Non-Observed Economy in Armenia

The estimation of the non-observed economy (NOE) in Armenia started in 1994 following the definition adopted in the Organisation for Economic Co-Operation and Development (OECD) handbook on measuring the Non-Observed Economy (excluding illegal production). Latest estimates show that, as of 2008, the NOE in Armenia contributes 25.0% of the total gross domestic product (GDP). Valuable sources for estimating the NOE include data from enterprise surveys, labor force surveys, and household income and expenditures surveys (e.g., Integrated Living Conditions Survey (ILCS)) conducted in Armenia. Sample surveys are the most debatable of all the methods used in estimation, but they are, nevertheless, a main source for measuring the size of the hidden (informal) path of the economy directly. Observing the hidden economy is complicated because it can be difficult to identify non-response, or distinguish between incomplete response and misreporting.

Bearing in mind these complexities, the calculations are based on data on output and the number of persons employed in the economy. Indirect macroeconomic methods are also employed using all possible sources of information. The method used by Armenia is based on the analyses of the supply of, and demand for labor. The results serve to determine the number of persons engaged in legal productive activities that have not been recorded. Another large category of information comprises data relating to production.

Since 2001, the National Statistical Service of the Republic of Armenia (NSSRA) has been conducting a labor force survey in coordination with the integrated household survey. The 2008 Labor Force Survey (LFS) serves as a good data source in studying and estimating informal employment in the Armenian labor market.

The NSSRA regularly conducts LFS but, from the point of view of national accounts, the following issues need to be clarified before estimating the NOE contribution to country GDP: (i) the exact type of economic informal activities should be defined in accordance with international classification of economic activities; and (ii) the computation of the number of full-time workers should be based on the total hours worked during a year, etc. The contribution of NOE is indirectly estimated by using a combination of indicators from existing surveys. The contribution of the informal sector is directly estimated in the survey by asking the proportion of activities, output, intermediate consumptions, fixed assets, etc.

The surveys were carried out through an ADB regional technical assistance on Measuring the Informal Sector. The expanded LFS had been implemented in 7,872 households in Armenia with the main objective of identifying HUEM which, in turn, serves as the sampling frame for an ISS. As seen from the previous chapter, data from the expanded LFS can also be used to estimate employment in the informal economy. Subsequently, the ISS questionnaire was outlined to collect detailed information on production activities to estimate gross value added (GVA) of informal sector enterprises. A sample consisting of 548 enterprises was surveyed. The detailed discussions of the sampling strategy are provided in Appendix 7 while the computational methodology is described in Appendix 5.

Conceptually, HUEM²⁵ is a broader concept than the informal sector. Both are characterized by

having low levels of organization and technology such that labor and capital, as well as household and production operations, are hardly distinguishable among these enterprises. Using HUEMs as a sampling unit for an ISS is a step toward ensuring good coverage of the informal sector and introduces flexibility for subsequent analyses when there are different informal sector definitions arising from the need of diverse users.

This chapter estimates the extent of the informal sector's contribution to the total GVA of different economic sectors. It also provides a snapshot on the geographic concentration of the informal economy, including its labor productivity. In the succeeding discussions, some considerations must be noted. The survey period coincided with the financial and economic crisis that affected Armenia's economy starting in October–November 2008. As a response, the Government of the Republic of Armenia drafted an anti-crisis program, which involved simplifying of all types of businesses, including small and medium-sized enterprises, and the new tax procedures. Those factors have been affecting economic units implementing informal activity. By this reason, the households covered by the survey had less income or some of them may have been inclined to hide their informal activities to avoid tax payments. The respondents reported

²⁵ In general, from the list of identified HUEMs, informal enterprises are distinguished by applying the criteria on registration and/or employment size based on the official definitions adopted by each country. In the case of Armenia, registration distinguishes informal enterprises from HUEMs. However, while seven sampled HUEMs were reported to be registered in either tax agency or state register in the ISS, there is reason to believe that they are not really registered on the basis of other information provided from the ISS. In turn, the contribution of the informal sector was derived from the production activities of all sampled HUEMs.

lower incomes because of concerns of being denied poverty and unemployment benefits, among other social protection schemes.

3.1 Industry

Until 2008, the construction sector remains to be the main driver of Armenia's economy over the recent years, contributing 25.3% of the total GDP. This is followed by agriculture²⁶ (16.3%), wholesale and retail trade (11.6%), and manufacturing (8.8%). The financial and economic crisis in 2009 has largely affected Armenia's economy. Its economic output, measured by GDP, noted a decline of as much as 14.2% in real terms. Construction was among the severely affected sectors, contracting by 42.3%. In proportion to the country's GDP, construction only contributed 17.6% in 2009. In real terms, manufacturing and wholesale and retail trade declined by 8.8% and 4.0%, respectively.

During the economic crisis, the share of the informal sector to total GDP in 2009 reached 11.2%. This is approximately the same as the estimated contribution of informal sector production²⁷ based on estimates of the NOE for 2008. Following the methodology described in ADB's handbook, Figure 3.1 depicts the estimated contribution of the informal economy to total GVA by sector.

The contribution of the informal sector to total GVA was highest in the following industries: agriculture (22.4%), other services (16.6%), construction (15.4%), and wholesale and retail trade (14.8%) (Figure 3.1).

In the ICLS Framework of Informal Employment devised by the ILO (Appendix 1), the three types of production units in which informal employment exists are formal enterprises, informal enterprises, and households. In this concept, subsistence agriculture

Figure 3.1 Share of Informal Sector to Total GVA by Industry¹ (%)



¹ Due to the limited sample size, the survey results were supplemented with information from other relevant indicators in estimating the contribution of the informal sector to total economy. The estimation procedures are documented in Appendix 5.

farming falls under the household and not under the informal sector.

Production for own consumption is a significant part of agricultural production in Armenia, and this has been verified by NSSRA from data it regularly collected (in the form of statistical report forms) from all local authorities in rural areas. Data are also collected through a sample survey of 7,480 of about 340,000 farm holdings and from about 100 profit-making (commercial) organizations. The importance of the household units in agriculture is also confirmed in the results of the expanded Section D of the ILCS. Of the total jobs under the activity, only 1.5% were supplied by formal enterprises, while the majority (77.5%) were provided by informal enterprises. Still, a substantial 20.9% of jobs were engaged in households.

Households that carry out subsistence farming and do not market agricultural goods are not included among the informal sector units.²⁸

²⁶ Throughout the chapter, the term agriculture represents agriculture, hunting, forestry, and fishing, unless stated otherwise.

²⁷ Strictly speaking, there may be minimal differences between the operational conceptualization of informal sector production within the NOE framework followed by the National Statistical Service (NSS) and the informal sector as a subset of HUEMs. For instance, own-account workers who have been registered as unemployed in the Employment Service of the Ministry of Labor and Social Issues of Republic of Armenia may be classified as part of underground production under the NOE but informal enterprise in the survey operations.

²⁸ Unfortunately, the HUEM survey was designed to collect information from production that market at least some of its goods or services, and hence, does not cover production for own consumption. Data to estimate the extent of household production in agriculture are, therefore, not available. Unfortunately, the HUEM survey was designed to collect information from production that market at least some of its goods or services, and hence, does not cover production for own consumption. Data to estimate the extent of household production in agriculture are, therefore, not available.

In terms of proportion to total GVA of the informal sector, the survey results suggest that informal economy in 2009 was dominated by agriculture (36.2%), construction (26.6%), and trade (18.6%). Comparing the NOE estimates of the national accounts in 2008 with the survey results, it is obvious that contribution of the construction and manufacturing sectors to the total informal economy has declined, suggesting that it may have been more affected by the crisis compared to the formal²⁹ sector. In particular, the share of construction in the total informal GVA fell from 50.4% in 2008 to 26.6% in 2009, causing agriculture to take the lead such that its contribution to Armenia’s total informal sector’s GVA increased from 17.3% in 2008 (using NOE-based estimates) to 36.2% in 2009.

3.2 Administrative Unit and Urbanity

The national accounts regularly compiled by NSSRA do not have the breakdown by administrative units and urbanity, such that the country’s GDP is only disaggregated by the economic sector. Under the program of state statistical works of the Republic of Armenia, compilation of national accounts by administrative unit and urbanity is not envisaged because of the shortage of financial and human resources.

However, the ISS can be used to provide estimates at the *marz* level. The following figure shows that 38.8% of total informal sector GVA comes from Yerevan, followed by Ararat (12.1%), Shirak (9.1%), Armavir (9.1%), Syunik (8.8%), and Kotayk (4.9%) (Figure 3.2.1).

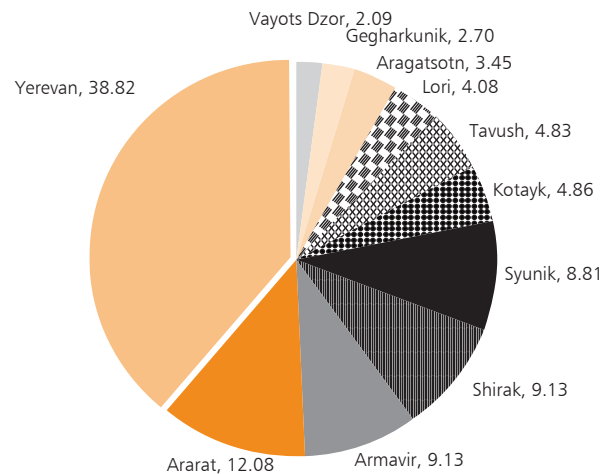
The informal sector’s GVA is more concentrated in urban areas (60.1% of total informal sector’s GVA), of which more than three quarters come from Yerevan city, and the urban areas of Shirak, and Ararat. In the

Box 3.2 A Snapshot on the Informal Economy Construction Sector of Armenia

Armenia is mainly driven by the construction sector. Its share to the total gross domestic product over the last five years has increased. This is fueled by households’ resources which, in turn, come from money transfers from abroad. In 2008, of the total construction volume, 70.0% of financing came from households assets from which 78.8% went to new housing construction, most of which were in Yerevan city. In other *marzes* of Armenia, it is typical to see small-scale construction activities financed by household’s resources.

Since construction carried out by households is mostly informal activity, it is not surprising that the share of construction to the total informal gross value added in 2008 was high. But the 2009 global financial crisis has affected the volume of money transfers, which have been reduced in 2009. The share of construction financed by households fell (32.1% in the total construction) and has declined by 70.5% in real terms.

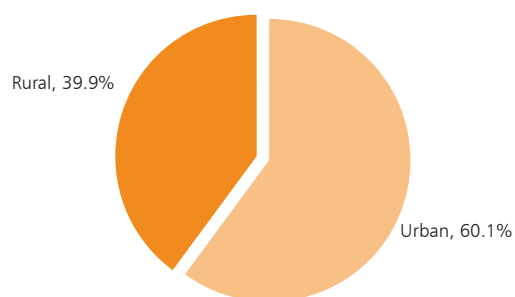
Figure 3.2.1 The Informal Sector’s Gross Value Added by *Marz* (%)



Note: Numbers may not sum up to 100 because of rounding.

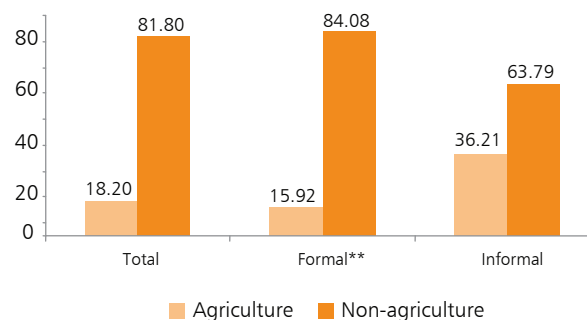
rural areas, high contribution of the informal sector was noted from Armavir (20.4% of total informal sector’s GVA in rural areas), Ararat (19.0%), and Syunik (16.5%). The fact that subsistence agriculture is prevalent in Armenia may have influenced the lower informal production in the rural areas.

²⁹ In this chapter, the GVA of formal** sector is computed as the residual of the total GVA less informal sector’s GVA. Hence, the term formal** may span all non-informal sectors: formal enterprises, underground and illegal production, and subsistence (household) final consumption. In some sectors, such as agriculture, the contribution of formal** may be mostly coming from the subsistence household sector.

Figure 3.2.2 The Informal Sector Gross Value Added by Urbanity in Armenia

3.3 Agriculture and Non-agriculture Sectors

Survey results show that out of the total GVA of the agriculture sector, 77.6% is formal** and 22.4% is informal. While in most developing countries, the agriculture sector is perceived to be coming from mostly informal sector production, the term formal**, as mentioned earlier, does not correspond to formal enterprises only. Subsistence farming, whose production output is exclusively³⁰ for household's own final consumption, is implicitly accounted in the formal** sector. This relatively low contribution of the informal sector, compared to the agriculture sector of most developing countries, is consistent with the NOE-based estimates wherein based on 2008 estimates, only 22.5% of total GVA of Armenia's

Figure 3.3 Agriculture and Non-Agriculture Gross Value Added in the Formal and Informal Sectors

Formal** = formal sector + households.

Notes: *Without financial intermediation services indirectly measured (FISIM).

agriculture sector is considered to be non-observed. This is further motivated by the fact that NSSRA regularly collects information on agriculture/farming through regular statistical report forms from the community authorities in rural areas, and hence, can be considered as the observed part of the economy. Independent validation exercises using indicators from agriculture module of ILCS (which collects information on crop production and utilization, cattle breeding, food production, agricultural equipment and expenditures), reveal that the informal sector's contribution is less than 30.0%.

In the non-agriculture sector, informal sector accounts for 8.8% of its total gross value added.

Table 3.3 Contribution of Informal Sector to GDP, Agriculture and Non-Agriculture Sectors

Sector	Contribution to GDP (AMD million)			Percentage		
	Total	Formal**	Informal	Total	Formal**	Informal
Agriculture	514,583.1	399,556.7	115,026.4	100.0	77.6	22.4
Non-agriculture*	2,312,760.2	2,110,117.4	202,642.8	100.0	91.2	8.8
Total*	2,827,343.3	2,509,674.1	317,669.2	100.0	88.8	11.2

GDP = gross domestic product.

Formal** = formal sector + households.

Note: *Without financial intermediation services indirectly measured (FISIM).

³⁰ The own consumption of identified informal sector enterprises are still considered part of informal sector gross value added. However, if a household is engaged in subsistence farming (i.e., no market production), its own consumption is not considered part of informal production.

The shares of agriculture and non-agriculture GVAs produced in the total economy by formal** and informal sector classification are shown in Figure 3.3.

3.4 Labor Productivity

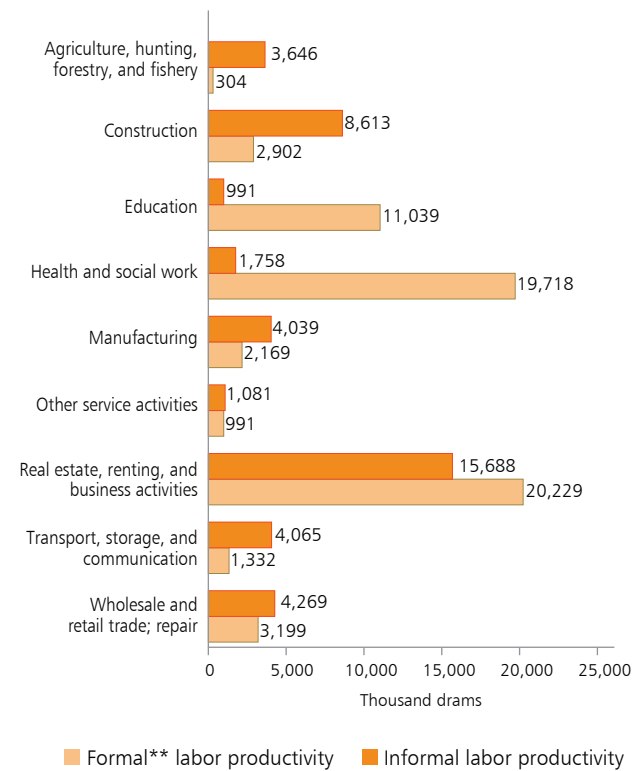
This section investigates how productively labor is used to generate economic output among informal enterprises in Armenia. Productivity measures reflect the joint influence of changes in capital, intermediate inputs, technical efficiency, and economies of scale and capacity utilization of enterprises (*OECD Manual on Measuring Productivity*). Productivity in the informal sector can be measured with respect to a variety of measures. For example, gross output-based labor productivity measures labor requirements per unit of output while value added-based labor productivity serves as an alternative measure that can be directly linked with existing income-based measures of living standards. This section uses value added-based measure of labor productivity.

Informal employment data collected with ISS is consistent with the data collected during first stage of survey. The denominators used in estimating labor productivity have been total employment, formal and informal employment in formal enterprises, informal employment in informal enterprises by industry, total employment in agriculture, and total employment in non-agriculture.

The total labor productivity in 2009, measured by the ratio of GDP to total employment, is AMD2,376,000 per worker. Expectedly, labor productivity in the formal** sector exceeded that of the informal sector by 4.8 times. In particular, an average worker in the formal** sector contributed AMD3,397,000 in value-added terms while an average worker in the informal sector contributed AMD704,000.

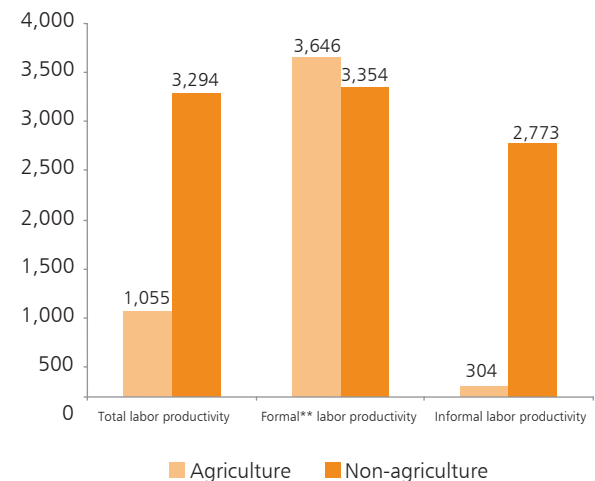
Labor productivity for formal** economy in real estate, renting, and business activities (AMD15,688,000) and construction (AMD8,613,000) shows the highest figures. The lowest labor productivity within formal** part of economy is in education (AMD991,000); other community, social, and personal service activities (AMD1,081,000); and agriculture, hunting, forestry, and fishing (AMD3,645,000). Meanwhile, according to the survey results and estimation made, within the informal sector, the highest labor productivity was recorded in real estate, renting, and business activities (AMD20,229,000); health and social work (AMD1,9718,000); and education (AMD11,039,000). The lowest labor productivity in informal sector was recorded in agriculture, hunting, and forestry (AMD304,000); other community, social, and personal service activities (AMD991,000); and manufacturing (AMD2,169,000) (Figure 3.4).

Figure 3.4 Labor Productivity by Industry in the Formal and Informal Sectors**



Formal** = formal sector + households.

Figure 3.4.1 Labor Productivity in Agriculture and Non-Agriculture Sectors (AMD '000)



Formal** = formal sector + households.

Comparing formal** and informal labor productivity within an industry from data cited in Figure 3.4, it is apparent that formal** labor productivity in some industries is much higher than that in informal. For example, in construction, labor productivity in the formal** sector is 3.0 times higher than labor productivity in the informal sector, and in transport, storage, and communication, formal** labor productivity is 3.1 times “that of” labor productivity. Interestingly, labor productivity in other community, social, and personal service activities is roughly the

same between the formal** and informal sectors. It is also noteworthy that labor productivity in the informal economy is higher than that in the formal** sector, e.g., for the sectors of education (11.1 times) and health and social work (11.2 times).

In general, the survey results suggest that labor productivity of the formal** sector in agriculture is 12.0 times than that of the informal sector’s, while in non-agriculture, labor productivity in the formal** sector is 1.2 times the productivity in informal economy.

Chapter 4

Characteristics of Informal Sector Enterprises

The estimates provided in the previous sections suggest that the informal sector accounts for a significant portion of the total economy of a developing country such as the Republic of Armenia. Informal enterprises also supply a notable portion of employment at 37.9% of the total, and about three-fourths of the informal employment.

To better understand the production behavior of the informal sector, this chapter examines the characteristics of these enterprises. In particular, it describes the informal sector unit in terms of (i) type of premises where business activity is conducted, (ii) employment size, (iii) reason for choosing the respective type of entrepreneurial activities and (iv) source of financial resources.

Based on the survey results, about 84.3% of all the sampled household unincorporated enterprises

with at least some market production (HUEMs) carry out their business activities at farms or agriculture or subsidiary plots, 4.3% at clients' home or workplace, and 2.6% at a transport vehicle.

In terms of employment size, Table 4.2 shows that, on the average, each informal enterprise in the agriculture sector provides jobs to more than two persons, approximately the same with manufacturing. This supports the usual notion that informal sector units are usually microenterprises, and this is consistent with the results in Section 2.10. Thus, microenterprises in Armenia are also more likely to be informal than formal, though the other characteristics of the production unit still need to be examined for a definite classification.

Informal sector operators tend to choose their respective line of business activities not necessarily because they want to maximize profits, but because this is the only activity that they are more familiar with. In particular, of all the sampled HUEMs, 49.4% reported to have been motivated by either family tradition or their knowledge of the profession in choosing their respective business activities (Table 4.3). These results provide empirical support for the conclusion of Brooks et al. (2010), that those at the bottom part of the labor population are forced to make suboptimal choices to reduce income risks. Informal enterprises, most of which are associated with low-scale production and thus, are more vulnerable to income, are less attracted to riskier entrepreneurial activities even though these are expected to generate higher future returns. Brooks et al. (2010) concluded that when the vulnerable members of the population discount the future, this can have a negative impact for the economy in the long run because investment decision at the household level are suboptimal.

From all the sampled HUEMs, 21.3% reported availing themselves of a loan to manage their business activities. It is interesting to note that among those

Table 4.1 Type of Premises Where Business Activities are Carried Out

Location	Proportion (%)
At home with no special work space	2.25
At home with work space inside / attached to the home	1.20
Business premise with fixed location independent from home	0.38
Farm or individual agriculture / subsidiary plot	84.25
Home or workplace of the client	4.34
Construction site	0.59
Market, bazaar stall, trade fair	1.94
Street, pavement, or highway with fixed post	1.11
Employer's home	0.21
Transport vehicle	2.60
No fixed location (e.g., mobile, door-to-door, street w/o fixed post)	0.75
Others	0.38

Table 4.2 Employment Size by Industry

Industry	Number of Sampled HUEMs	Total Number of Workers			Total Number of Paid Workers		
		Minimum	Mean	Maximum	Minimum	Mean	Maximum
Agriculture, hunting, and forestry	353	1	2.32	6	1	1.14	5
Manufacturing	47	1	1.91	5	1	1.03	4
Construction	40	1	1.17	3	1	1.10	2
Wholesale and retail trade	45	1	1.26	3	1	1.08	3
Transport, storage, and communication	26	1	1.26	3	1	1.00	1
Real estate, renting	1	1	1.00	1	1	1.00	1
Education	7	1	1.00	1	1	1.00	1
Health and social work	2	1	1.00	1	1	1.00	1
Other service activities	27	1	1.25	2	1	1.12	2

Table 4.3 Reason for Choosing the Business Activity (%)

Reason	Proportion (%)
Family tradition	41.76
It is the profession that I know	7.59
It gives better income / higher profits than other products or services	5.94
More stable returns than other products / services	12.24
Others	32.47

who availed credit to finance their business activities, 77.7% reported that their sources of financing are private banks. Among HUEMs, 52.1% of those who did not apply for loan to finance their business identified high interest rate as a reason. This is followed by burdensome requirements at 30.8%.

Tables 4.4 and 4.5 reveal significant information about the attitudes of HUEM operators in Armenia. The fact that two in every three owners of HUEMs that carried loans borrowed money from banks suggests the following scenarios: (i) they are knowledgeable that banks can provide loans to small enterprises; (ii) they know that they have access to banks; and (iii) they prefer formal financial transactions than informal arrangements, such as borrowing money from relatives, friends, and employers. In addition, given that there are no informal private money lenders in Armenia,

Table 4.4 Source of Financing

Source	Proportion (%)
Relative/neighbor/friends	11.23
Employer/landlord	0.00
Private moneylender/pawnshop	12.82
Private bank	77.74
Cooperative	1.30
Others	16.07

Table 4.5 Reason for Not Availing Loan to Finance Business Activity

Reason	Proportion (%)
Has other source of income	16.65
Burdensome requirements	30.76
Unaware of source	5.23
High interest rate for loans	52.11
Others	17.98

the results also imply that banks are more preferable source of loans than other private formal ones.

How will these information help in formulating policies or programs? For one, there is now evidence that HUEM owners are open to getting loans from banks, but relatively shy away from other private money lenders or pawnshops. If the objective is to

provide financial support to them, this information is very useful. Table 4.5 also presents valuable data, such as if the HUEM owners are to be encouraged to borrow from banks, information dissemination concerning the availability of banks as a source of loans should not be a priority. People are already adequately aware of the fact. The significant avenues to pursue are related to requirements in loan applications and the level of interest rates. A program design, therefore, can concentrate on these two items.

The survey results also provide other interesting information about perceptions of HUEM. For example, based from the opinion of HUEM operators, the average monthly income in wholesale and retail trade (AMD463,000), mining and quarrying (AMD457,000), manufacturing (AMD404,000), and construction (AMD340,000), which exceed correspondingly 5.9, 3.9, 4.8, and 3.7 times of the same industry's average monthly compensation of employees (Table 4.1, Appendix 6).

In addition, approximately 24.2% of HUEM owners think that only (at most) 20.0% of their incomes should be reported to state bodies, 25.4% think that it should be about 21%–50%, 28.1% think that more than half to 80.0% of the income should be reported, while 10.8% admitted that at least 81.0% of their income should be reported to the state bodies. The remaining 11.5% think that there is no need to hide anything (Table 4.2, Appendix 6). This may mean that tax burden instigates the small producing units to hide their incomes and not pay taxes.

Overall, pieces of information, such as knowing the characteristics of HUEMs and those of their owners, are valuable for effective socioeconomic policies and programs. The results of the survey are valuable tools for improving the status of informal workers, as well as for developing further the production capacities of HUEMs.

Chapter 5

Institutionalizing Informal Employment and Informal Sector Statistics

This chapter outlines the recommendations toward institutionalization of the statistics on informal employment and informal sector as part of regular statistics compiled by the National Statistical Service of the Republic of Armenia (NSSRA). The support of the fundamental stakeholders, especially the government, is vital for the realization of this endeavor.

Discussions highlight the significance of informal employment and informal sector to Armenia and, consequently, the relevance of producing the related statistics. Assuming that all the essential elements for the institutionalization have been secured, it also presents the process by which the data can be regularly collected, and the possible integration of the informal employment and informal sector among the official statistics released by the NSSRA.

The results of the 2009 expanded Section D of the Integrated Living Conditions Survey (ILCS) and the Informal Sector Survey (ISS) which is also known as the HUEM Survey confirmed the significance of informal employment and informal sector in the economy of Armenia. Data showed that informal employment is widespread in agriculture and in the rural areas. Moreover, results confirmed that informality in labor arrangements and production units play significant roles in households that need additional sources of income. Of the second jobs of workers in Armenia, totaling 39,500 thousands, 89.9% are engaged in informal employment.

Taking into account that Armenia's economy is still in transition toward a market-oriented economy, it is obvious that designing effective economic policies for the labor, or even the total economy, would need relevant estimates of informal employment and the informal sector. Furthermore, these statistics should be updated regularly, to monitor the developments in the informal economy and make the necessary adjustments in the policies, if needed.

Understanding the importance of reliable estimates for informal employment and informal economy for Armenia, and taking into account known difficulties in collecting regular information about informal activities in the economy, NSSRA tried to produce the needed statistics by referring to the different sources used in compiling data for the non-observed economy. Unfortunately, not all data sources for informal activities are available regularly, mainly because of the lack of relevant financial resources and support to organize the needed surveys.

The succeeding discussions summarize the various sources used to generate informal sector statistics in Armenia.

Three rounds of sample surveys, conducted in November 1997–January 1999, are considered to be the early data sources of estimates for informal employment and informal economy in Armenia. These were

- Sample survey of 2,500 small enterprises (with up to 10 employees), which was carried out in November–December 1997;
- Labor Force Survey of 5,000 urban households in December 1997; and
- Sample survey of employers and self-employed in December 1998–January 1999, which covered 2,046 registered entrepreneurs and 1,800 employers and self-employed.

These rounds of surveys helped in understanding the peculiarities of informal activities, as well as data collection procedures, by providing an opportunity for estimates of the informal sector to be generated. In recent years, the main survey used as the basis of most statistics is the Armenian ILCS; it also includes, in one of its modules, some questions from the Labor Force Survey (LFS). In Armenia, the LFS was previously

conducted separately from the ILCS, but due to the lack of resources, some of its questions were transferred into the ILCS, specifically, in Section D, which is entitled employment.

While informal sector statistics have been generated by the NSSRA for several years, the quality of those estimates may decline if data sources are not available regularly. The rapid economic development in Armenia may have a significant influence on the informal sector and without a steady source of statistics, the changes in the informal sector may not be monitored effectively.

Since 2001, the NSSRA has included informal employment estimates among the annual employment statistics based on ILCS data. In 2008, NSSRA conducted a one-off survey on the labor force and informal employment in Armenia, in which the recommendations and the new methodology from the International Labour Organization were applied. The estimates of value added from informal activities are generally also based on the results these one-off surveys. Such surveys were conducted last for separate types of activities such as health, transportation, and construction. Weak points of using these surveys for estimating the informal economy are the inconsistent year intervals in which they were conducted, as well as the fact that these surveys were not designed to collect information on informal activities.

In 2009, the NSSRA carried out the mixed survey approach in estimating informal employment and the informal sector. An expanded Section D (of the ILCS) was conducted in Phase 1 of the method, while the ISS or the household unincorporated enterprises with at least some market production (HUEM) survey comprised phase 2. The approach has obvious advantages compared to other data sources that have been used by the NSSRA to generate informal sector statistics. Aside from the fact that the surveys were aimed to collect data on informal employment and informal sector activities, the survey design enabled the collection of data for the whole year. This design gave an opportunity for the data gathered to incorporate the seasonal production in different activities. Moreover, more detailed statistics, by region and type of activity, were collected. The experience also improved the skills of labor and national accounts statistics staff of the NSSRA.

The mixed survey can be used as a basis for the regular collection of data on informal employment

and informal sector. The methodology and procedure learned from the conduct of the survey should be introduced in the generation of regular statistics, taking into account some improvements based on practice in Armenia. Particularly, the estimation methodology used in computing the contribution of the informal sector to gross domestic product (GDP) will be applied in the estimation of the regular national accounts statistics. The methodology will be presented to all national accounts statistics staff of the NSSRA; the staff should also be regularly trained in informal sector estimation procedures.

The regular conduct of the mixed survey is the best move toward producing quality statistics on the informal sector. However, due to the limited financial (and other resources) allocation for statistics in Armenia, this is quite difficult to accomplish. Thus, the following survey implementation strategies related to the generation of informal sector statistics take into account the reality faced by the Armenia statistical system, that is, the limitations in resources. Still, the strategies cited will need additional resources above the amount allocated to NSSRA, for that purpose, in recent years.

The NSSRA intends to annually conduct the expanded LFS, introduced in the 2009 ILCS Section D, for the regular estimation of informal employment, as well as for monitoring the development patterns concerning the informal economy. The HUEM survey, which was used to estimate the size and structure of informal activities and the value added produced by those activities, should also be conducted every 3 years. However, for the next HUEM survey, it will be useful to conduct another round in 2011 because the peculiarities from the 2009 survey results may have been affected by the global financial crisis, masking the typical conditions that transpired in the informal sector during the previous years.

NSSRA will apply some changes to the survey operations based on the experiences from 2009 survey operations.

1. Expanded LFS questionnaire will be reviewed since some of the questions are not relevant to Armenia (or these questions are totally related and answers can be retrieved depending on other questions).³¹

³¹ For details, see Chapter 7: Recommendations.

2. Improve the enumerators and supervisors training, especially on the concerns and questions related to defining particular types of economic activities. Consequently, improvements in the questionnaire may also be needed.
3. The ISS questionnaire, which is expected to be administered once in 3 years, should also be reviewed. Based on experience and results of the 2009 survey, difficulties were experienced in administering the questionnaire, particularly in the section related to capital expenditures. Hence, revisions in the questionnaires must be revised to address the issues encountered, with considerations based on the 2008 System of National Accounts.
4. The conduct of the 2009 survey showed that it is difficult for enumerators who specialize in living conditions-type surveys to carry out questionnaires related to national accounts. Therefore, it is better to have a separate set of enumerators trained for enterprise-type of questionnaires. The administration of the ILCS questionnaire involves several visits to households; these national accounts-trained enumerators may join the ILCS enumerators during their last visit to household and conduct the interview if the household qualifies to be a respondent in the HUEM survey.

Chapter 6

Summary and Conclusions

6.1 Summary of the Main Results

Estimates from the Informal Sector Survey (ISS) showed that, in 2009, the share of the informal sector to total gross domestic product (GDP) of Armenia was 11.2%. Highest informal sector gross value added (GVA) shares, by industry, were recorded in agriculture, hunting, forestry, fishing (22.4%); other service activities (16.6%); construction (15.4%); and wholesale and retail trade (14.8%).

The total informal economy in Armenia was dominated in 2009 by agriculture (36.2% of total informal sector GVA in the informal sector), construction (26.6%), and trade (18.6%). The contribution of the construction and manufacturing sectors to the total informal economy has declined, compared to the 2008 Armenian national accounts data. Informal sector production in these two industries was more affected by the crisis compared to that of their counterparts in the formal sector. The share of construction in the total informal GVA fell from 50.4% in 2008 to 26.6% in 2009, causing agriculture to take the lead in Armenia's informal sector production in 2009. While comparison of these statistics produce relevant insights in the performance of the informal economy, further investigation is needed to confirm the conclusions due to the different methodologies applied in the 2008 and 2009 surveys.

The ISS 2009 results made it possible to have estimates of the informal sector with regional breakdown (on *marz* level). Yerevan contributed 38.8% to the total informal sector GVA, followed by Ararat (12.1%), Shirak (9.1%), Armavir (9.1%), and Syunik (8.8%). Meanwhile, contribution of the urban area was higher than that of the rural area, at 60.1% and 39.9%, respectively.

Labor productivity, measured by the ratio of GDP to total employment (jobs), in the formal** sector exceeded that of the informal sector by 4.8 times in 2009. The highest labor productivity figures, within informal sector, were posted in health and social

work (AMD19,718,000); real estate, renting, and business activities (AMD20,229,000); and education industries (AMD11,039,000). On the other hand, the lowest labor productivity figures were recorded in agriculture, hunting, and forestry (AMD610,000); other community, social, and personal service activities (AMD991,000); and manufacturing industries (AMD2,169,000).

Comparison of the industry labor productivity between the formal** and informal sectors showed that while in some industries, productivity is higher in the formal** sector (e.g., in construction, 3.0 times; in transport, storage, and communication, 3.1 times), other industries (e.g., education, 11.1 times; health and social work, 11.2 times) registered higher labor productivity in the informal sector.

The preceding discussions suggest that the informal sector accounts for a significant portion of the economy of Armenia. Likewise, the informal enterprises perform a relevant role by supplying a notable portion in employment, at 37.9% of the total, and about three-fourths of the informal employment.

Informal employment (consisting of primary and secondary jobs) comprised 52.1% of total employment and was estimated at 621,700 jobs (including the agriculture sector). Meanwhile, informal employment was estimated at 20.0% of the total non-agriculture employment. The greatest prevalence of informal employment in the non-agriculture sectors was in construction (34.2%), followed by wholesale and retail trade and repairs (26.9%) and manufacturing industries (11.8%).

Formal enterprises or production units provide the greatest employment at 52.4% of the total number of jobs, followed by informal enterprises (37.9%) and households (9.8%). Noteworthy, 42.0% of the jobs in the informal sector were identified as own-account workers in farms. In Armenia, enterprises of own-account workers in farms are classified under the informal sector due to the characteristics of the production units, specifically the absence of the

institutional–organizational and legal status in this kind of enterprise.

In Armenia, the highest share of employment was recorded in agriculture (40.9%). Meanwhile, the highest incidence of informality was recorded also in agriculture (98.6%).

In terms of income, earnings were higher among those engaged in formal employment (AMD77,665) than among those informally employed (AMD48,919).

Formal enterprises also supplied informal employment, though only at a minimal level, at 8.9% of the total jobs in this type of production unit. Informal workers mainly got employment from informal enterprises (72.6%); households also provided informal jobs at a notable rate (18.8%).

Overall, employment in the private sector was concentrated in micro-sized (less than five workers) establishments, at 72.0%, implying that the enterprises that provided most of the private sector's jobs in Armenia are actually small scale. Among the total jobs in micro-sized establishments, the percentage of those employed in informal enterprises was high (71.0%). Simultaneously, of all the informal jobs, 91.1% were carried out in establishments with less than five workers.

6.2 Importance of Measuring Informal Employment and the Informal Sector

The statistics and analysis on informal employment and the informal sector presented in this report are important support for evidence-based policy making that can help improve the economic and social development of Armenia.

Informal sector measurement approaches provide a significant contribution toward exhaustive estimations of the national economy, including economic and employment indicators. In developing countries, such as Armenia, where informal sector activities are significant, there is an urgent need for policy makers to have comprehensive and detailed information on the informal sector and informal employment in the country. Workers under informal employment are more vulnerable and need more help from the government and policy makers so that they would be able to fully support their families, as well as get protection against

unforeseen circumstances. It is necessary for policy makers to fully understand the plight of the informal workers so that they could enact or revise laws or review regulations as needed to promote worker-centered economic policies.

Measuring the contribution of the informal sector to the total economy is fast gaining interest as a statistical concern. The reliable estimate of GDP for every country by internationally accepted methodology should include also good estimate of “non-observed economy,” the main part of which in many developing countries is the informal economy.

This constituted the importance of periodical data collection on the informal sector and informal employment, using the cost-effective survey approach applied in this project.

6.3 Other Issues

While the 2009 expanded LFS and ISS conducted under the Asian Development Bank's regional technical assistance on Measuring the Informal Sector gave NSSRA opportunities to generate the necessary information on informal sector and informal employment, and also improve the staff's methodological skills in this sphere of statistics, the survey results should still be treated with caution.

This was the first survey on informal activities during last decade in Armenia, which focused on the informal sector and informal employment issues simultaneously. Furthermore, the conduct of mixed survey showed many advantages, especially in terms of the survey methodology and effective use of resources. However, the lack of experience in conducting these types of surveys has proven to be a difficulty for the efficient implementation of data collection. It revealed the need for more training for interviewers, especially with regard to administering the questionnaire on the informal sector or the HUEM owners, which contains comprehensive questions on national accounts issues.

Another issue encountered is related to the estimation process, specifically on data imputations, due to the lack of data collected from the survey. The types of activities in which extensive imputations were applied were fishing, real estate, and business services. A probable reason for the insufficient coverage of activities may be the lack of experience of interviewers on defining particular types of activities. Another

reason can be the small number of surveyed units due to resource limitations and influence of economic crisis.

The survey was conducted during whole of 2009, which was not a typical year from the socioeconomic development's point of view for Armenia. It was a year during which the country experienced a significant economic decline as after effects of the global financial-economic crisis. On the one hand, the results

of the survey may provide very useful information for analyzing the economic situation during an economic crisis; in addition, the estimates from the survey cannot be used as a reliable basis of the long-term economic performance of the informal sector in Armenia. Given this, the need for another similar survey that should be conducted in the next 2 years becomes an urgent priority.

Chapter 7

Recommendations

The conduct of the Informal Sector Survey (ISS) 2009 has enabled the National Statistical Service of the Republic of Armenia (NSSRA) to gain more knowledge on the different aspects of survey operations and analyses toward producing reliable informal sector statistics. It provided valuable experiences on designing the survey instruments, field operations, data processing, and estimation procedures that are relevant to estimating the informal employment and the contribution of informal sector to total economy. At each stage of the process, possible improvements were identified. In turn, these may be used to enhance the efficiency of conducting future surveys, which will be outlined to generate informal sector and employment statistics.

The identified areas for improvement revealed that while direct estimation of informal employment and gross value added (GVA) of the informal sector may not be a simple task, it is feasible through further improvements in the survey operation process. Thus, the main recommendation is to integrate this tool with other regularly compiled official statistics. This is expected to continuously improve the estimation, which can provide evidence-based statistics to guide economic planners on outlining socioeconomic policies that will be more sensitive to the needs of the informal economy in Armenia.

As mentioned in Chapter 5, NSSRA intends to permanently include the additional questions introduced in the 2009 Integrated Living Conditions Survey (ILCS) Section D for estimation of informal employment, into the ILCS questionnaire. Similarly, NSSRA also plans to conduct the household unincorporated enterprises with at least some market production (HUEM) survey; and the data collection tool used for estimating the size, structure, and value added of different types of economic activities in the informal sector regularly. Taking into account the limited resources available to NSSRA, the HUEM survey may be conducted once every 3 years.

The following discussions enumerate the specific recommendations toward improving the survey operation process:

On recommendations for improving the questionnaires

The administration of the revised Section D of the ILCS 2009 showed that the additional queries in the questionnaire, such as bookkeeping and legal status, were effective in classifying formal and informal employment. All items included in the decision matrices used in classifying the nature of employment and type of establishment are, therefore, recommended to be retained in Section D of the ILCS or in future LFS questionnaires. However, some of the additional questions were not relevant to Armenia's legal and economic situation. Hence, it is recommended to review the questionnaire thoroughly to be able to minimize the burden among respondents. Meanwhile, the confusion and difficulty in understanding some questions along with their corresponding possible answers (e.g., place of work), as experienced by both the enumerators and respondents, emphasized the need to revisit the enumerator's manual of the questionnaire. Specifically, the definitions of the answer choices should be clarified, accompanied with specific examples and applications. On the other hand, the experiences in conducting the second phase of the survey revealed that the ISS questionnaire was well-designed such that the questions meet the general data requirements of national accounts. Still, it can be simplified and improved further.

Some recommendations on question from Section D

- Question 7 with annual periodicity could be discarded as this question creates confusion and is often misunderstood by the respondents. Moreover, the information collected from Question 7 can also be provided by Question

10. Question 7 can be used with a 3 or 5 year periodicity to monitor the developments of changes in workplaces. However, the question should still be reviewed and the answer choices clarified to avoid confusion.
- Taking into account the respondent's difficulty in understanding the questions, Questions 12–14 could be discarded since Question 11 provides the same information.
 - Question 34 could also be discarded because it is not relevant to Armenia's current situation.
 - Question 43 could also be discarded as it repeats information collected from question 45.

Some recommendations on ISS questionnaire

- Answers to questions C5 and C6 showed that the respondents had difficulty estimating the amount of changes in inventories. The amount of inventories in the beginning and end of a given period should be asked instead.
- The questionnaire did not provide information on agricultural output in progress, which needs to be estimated for national accounts. It should be discussed if it is possible to have some questions that can be used for the estimation of agricultural output in progress.
- The Armenian version of the ISS questionnaire lacks some of the modifications included in the Indonesian and Bangladesh questionnaires, i.e., "If you were to rent the work space, how much will you pay for it?" and "How much do you receive as interest payment for the money you lent?" These questions should be included in the Armenian questionnaire as they can provide information to estimate some aspects of imputed rent and financial intermediation services indirectly measured (FISIM).
- Section E (on capital assets) should be revised as the respondents did not have a clear

understanding of each item. The section should focus on capital assets that were purchased within the reference period.

- Section B (on employment and compensation) should be reviewed, especially for respondents with agricultural production. This created confusion because while the questionnaires adopted the 6-month reference period for agriculture, Section B asked information to be expressed on a monthly basis, which restricts the straightforward estimation of value added of agriculture using the income approach.

On recommendations for improving the survey operations

Enumerators' and supervisors' training should also focus on the peculiarities of informal employment and the informal sector in comparison to the general profile of the labor market. In particular, they should be trained to properly identify the different types of economic activities in the informal sector. Sometimes, it is very difficult to differentiate between agricultural and non-agricultural activities; for instance, when respondents produce milk, meat, or when they engaged in trade of agricultural products.

The experiences also showed that it is very difficult for enumerators who specialize in living conditions-type surveys to carry out questionnaires related to national accounts estimation. Thus, it is recommended to have special enumerators trained in national accounts concepts and issues to facilitate the questionnaires related to the informal sector. As the procedure of filling out the ILCS questionnaire usually entails several visits to a household, these specially trained enumerators may join usual enumerators during their last visit to the household if that household's expanded LFS questionnaire shows that they have HUEM activity.

Having a complete representation of all types of activities in the informal sector in the survey is difficult. The ISS 2009 did not have adequate coverage of some activities, such as fishery, real estate, and business services activities, among others. To minimize this type of problem, all HUEMs defined during first stage of survey must be surveyed (instead of applying sampling in rural areas as done during

2009 survey), if resources are sufficient. Otherwise, the survey design can be revisited to improve the stratification of sampling units. Another possible cause of this problem is the difficulty encountered in identifying or evaluating whether the enterprises owned by the respondents are HUEMs. To solve this problem, enumerators and supervisors must be trained on classifying of types of economic activities.

On recommendations for improving the estimation methodology

The formulated methodology for estimating informal employment and contribution of informal sector is expected to become one of the valuable sources of informal sector statistics. Improving the methodology is a continuous process. With the help of experts from international and national organizations (whom the NSSRA has personal contact with), the NSSRA will review the estimation methodology of informal employment and informal sector. The methodology learned through the Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector funded

by the Asian Development Bank should also be presented to the NSSRA experts who may be involved in estimating informal employment and other informal sector statistics.

On recommendations related to dissemination

The NSSRA will follow general dissemination policy in the publication of data received from surveys on informal employment and informal sector. These data will be incorporated into regular special publications on employment and national accounts statistics, with additional chapters providing detailed results on the informal economy. The general survey results in metadata form will also be published. In addition, these informal sector statistics will be published in the *Statistical Yearbook of Armenia*, along with estimates of employment and national accounts indicators. Further, similar to other surveys conducted by the NSSRA, researchers who will be interested to carry out in-depth analyses of the informal economy may also request for a copy of the data from the NSSRA.

Appendix 1

Concepts and Definitions

Basic Concepts (Definitions)

The concepts presented are mainly based on the definitions and principles recommended by the International Labour Organization (ILO), taking into account the peculiarities of their application in Armenia (comprehensive clarification and footnotes are provided).

1. Economically active population (labor force)—the employed and unemployed population, aged 15–75 years, during the reference period who forms the labor force.
2. Economically inactive population – people between ages 15–75 years who are not considered among the labor force.
3. Labor resources – sum of economically active and inactive population.
4. Economic activity rate (Labor force participation rate) – proportion of economically active population to total labor resources.
5. Employment rate – proportion of employed population to total labor resources.
6. Unemployment rate – proportion of unemployed to total economically active population.
7. Farm as legal status – The activities implemented in farms are considered to be informal. The majority of those employed in agriculture in Armenia have no organizational and legal statuses, therefore they are considered informally employed based on the ILO methodology. From the institutional point of view, these employed persons are classified to the informal sector of the economy, stipulated by the absence of institutional–organizational and legal status.

Concepts and Definitions for Informal Employment (Discussions were lifted from the ADB Handbook on Using the Mixed Survey in Measuring the Informal Employment and Informal Sector)

For an internationally comparable definition of informal employment in Armenia, classification of the employed population was primarily based on the Fifteenth (15th) and Seventeenth (17th) International Conference of Labour Statisticians (ICLS) guidelines. The 15th ICLS conceptualized the informal sector as

- (1) The informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production and on a small scale. Labor relations—where they exist—are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees.
- (2) Production units of the informal sector have the characteristic features of household enterprises. The fixed and other assets used do not belong to the production units as such but to their owners. The units as such cannot engage in transactions or enter into contracts with other units, nor incur liabilities, on their own behalf. The owners have to raise the necessary finance at their own risk and are personally liable, without limit, for any debts or obligations incurred in the production process. Expenditure for production is often indistinguishable from household expenditure. Similarly, capital goods such as buildings or vehicles may be used indistinguishably for business and household purposes.

Figure A1.1 17th ICLS Conceptual Framework on Informal Employment¹

Production units by type	Jobs by status in employment								
	Own-account workers		Employers		Contributing (unpaid) family workers	Employees		Members of producers', consumers' cooperatives	
	Informal	Formal	Informal	Formal	Informal	Informal	Formal	Informal	Formal
Formal sector enterprises					1	2			
Informal sector enterprises ^a	3		4		5	6	7*	8	
Households ^b	9				**	10			

¹ The framework was modified according to its application in Armenia.

* The phenomenon is a typical for labor market: in Armenia, formal employment only exists in formal enterprises.

** This category is not provided by methodology developed by International Labour Organization, but has been included because of prevalence on labor market of Armenia.

^a As defined by the Fifteenth International Conference of Labour Statisticians (excluding households employing paid domestic workers).

^b Households producing goods exclusively for their own final use and households employing paid domestic workers.

Sources: 17th ICLS Final Report and Hussmann, R. 2004a.

(3) Activities performed by production units of the informal sector are not necessarily performed with the deliberate intention of evading the payment of taxes or social security contributions, or infringing labour or other legislations or administrative provisions. Accordingly, the concept of informal sector activities should be distinguished from the concept of activities of the hidden or underground economy.

According to the 17th ICLS final report, “since the adoption of the resolution concerning statistics of employment in the informal sector by the 15th ICLS in 1993, and the inclusion in the System of National Accounts, 1993, of the 15th ICLS informal sector definition, it had been recommended by the Expert Group on Informal Sector Statistics (Delhi Group) and others that the definition and measurement of employment in the informal sector should be complemented with a definition and measurement of informal employment”. Hence, the conceptual framework on informal employment developed by the ILO linked the enterprise-based concept of employment in the informal sector with a broader, job-based concept of informal employment (Appendix 1, Figure A1.1). As a result, clear delineations among i) employment in the informal economy; ii) informal employment; iii) employment in the informal sector; and iv) informal employment outside the informal sector were established.

While the concept of informal sector refers to production units as observation units, the concept

of informal employment refers to jobs as observation units. The framework above also applied, for the purpose of statistics on informal employment, the 15th ICLS resolution that excludes households employing paid domestic workers from informal sector enterprises, and to treat them separately as part of a category named “households”. On the other hand, informal employment comprises the total number of informal jobs whether carried out in formal sector enterprises, informal sector enterprises, or households, during a given reference period.

Hence, given the conceptual framework, informal employment includes

- (i) own-account workers and employers employed in their own informal sector enterprises (cells 3 and 4) – The employment situation of own-account workers and employers can hardly be separated from the type of enterprise, which they own. The informal nature of their jobs follows thus directly from the characteristics of the enterprise.
- (ii) contributing family workers, irrespective of whether they work in formal or informal sector enterprises (cells 1 and 5³²) – The informal nature of their jobs is due to the fact that contributing

³² Contributing (unpaid) family workers who produced goods for own final consumption into primary job were considered as employed in household, if the produced goods comprised the significant share in the consumption of household.

- family workers usually do not have explicit, written contracts of employment, and that usually their employment is not subject to labor legislation, social security regulations, collective agreements, etc.
- (iii) members of informal producers' cooperatives (cell 8) – The informal nature of their jobs follows directly from the characteristics of the cooperative of which they are members.
 - (iv) employees holding informal jobs in formal sector enterprises, informal sector enterprises, or as paid domestic workers employed by households (cells 2, 6, and 10) – Employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labor legislation, income taxation, social protection, or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.) for reasons, such as no declaration of the jobs or the employees; casual jobs or jobs of a limited short duration; jobs with hours of work or wages below a specified threshold (e.g., for social security contributions); employment by unincorporated enterprises or by persons in households; jobs where the employee's place of work is outside the premises of the employer's enterprise (e.g., outworkers without employment contract); or jobs, for which labor regulations are not applied, not enforced, or not complied with for any other reason.
 - (v) own-account workers engaged in the production of goods exclusively for own final use by their household (cell 9).
 - (iii) own-account workers engaged in the production of goods exclusively for own final use by their household (cell 9), if considered employed according to the resolution concerning statistics of the economically active population, employment, unemployment, and underemployment adopted by the 13th ICLS;
 - (iv) contributing family workers engaged in the production of goods exclusively for own final use by their household in primary job, if the produced goods comprised the significant share in the consumption of household.

One significant idea to consider in analyzing the nature of employment is whether informality pertains to persons or jobs. According to the 15th and 17th ICLS, employment in the informal sector is defined as,

“comprising all jobs in informal sector enterprises, or all persons who, during a given reference period, were employed in at least one informal sector enterprise, irrespective of their status in employment and whether it was their main or a secondary job A person can simultaneously have two or more formal and/or informal jobs. Due to the existence of such multiple jobholding, jobs rather than employed persons were taken as the observation units for employment ... informal employment as comprising the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises, or households, during a given reference period” (Hussmann 2004a and 2004b).

Additional concepts have also been introduced by organizations dedicated to endeavors pertaining to the informal economy and informal employment, such as the Women in Informal Employment: Globalizing and Organizing (WIEGO). According to one of the known affiliates of WIEGO, Martha Chen, in her paper entitled, “Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment,” while the informal economy consists of a range of informal enterprises and informal jobs, it can still be segmented into the following:

- (i) employees holding informal jobs (as defined in paragraph 3(5) above) in formal sector enterprises (cell 2) or as paid domestic workers employed by households (cell 10);
 - (ii) contributing family workers working in formal sector enterprises (cell 1); and
1. *Self-employment in informal enterprises*: workers in small unregistered or unincorporated enterprises, including

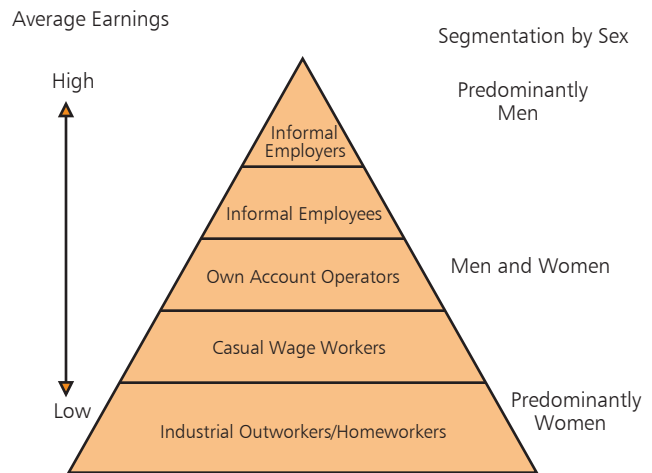
- employers
- own-account operators: both heads of family enterprises and single person operators
- unpaid family workers

2. *Wage employment in informal jobs: workers without worker benefits or social protection who work for formal or informal firms, for households or with no fixed employer, including*

- employees of informal enterprises or other informal wage workers, such as
 - casual or day laborers
 - domestic workers
 - unregistered or undeclared workers
 - some temporary or part-time workers
- industrial outworkers (also called home-workers)

Research also showed distinct characteristics of the informal economy in terms of income earnings and sex of workers. Chen (2007) depicted this in an “iceberg” segmentation of the informal economy, which illustrates the significant gaps in earnings within the informal economy and general patterns in men–women employment ratios (shown in Appendix 1, Figure A1.2). Given that the figure represents increasing earnings toward the top, it shows that employers have the highest earnings, followed by their employees and other more “regular” informal wage workers, own-account operators, “casual” informal wage workers, and industrial outworkers. Meanwhile, it also demonstrates that, in general, men are likely to be overrepresented in the top segment while women tend to be overrepresented in the bottom

Figure A1.2 Segmentation of the Informal Economy



Note: The informal economy may also be segmented by race, ethnicity, or region.

Source: Chen 2007.

segments. However, the shares of men and women in the intermediate segments vary across sectors. These concepts ultimately point to the significant gender disparity in earnings within the informal economy, with men having the advantage over women.

The concepts and ideas presented are the chief considerations applied in the estimation and analysis of informal employment in Armenia, using the 2009 expanded Integrated Living Conditions Survey and Informal Sector Survey or Household Unincorporated Enterprises with at least Some Market Production (HUEM) Survey.

Appendix 2

Cost-Effective Sampling Design for the Informal Sector

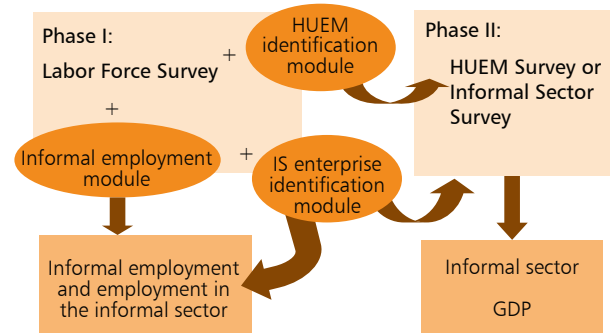
The Mixed Survey: Overview (Discussions are lifted verbatim from Maligalig, D., 2010.)

On the basis of the definitions of the informal sector that were agreed at the 15th International Conference of Labour Statisticians (ICLS), there are two types of informal sector production units: informal own-account enterprises and enterprises of informal employers. Both these types of informal production units are owned by households, and since the operations of these enterprises are not easily distinguishable from those of the households that own them, a household survey has an advantage in identifying these production units. How can this be done? Respondent households have to be screened for these enterprises following the dichotomy presented in Appendix 2, Figure A2.1. Those household enterprises that are producing at least some goods and services for the market and belonging either in the agricultural or non-agricultural informal sectors will be the target sampling units. These are called household unincorporated enterprises with at least some market production (HUEMs).

The mixed survey approach utilizes a household survey in the first phase to identify the HUEMs, some of which will be sampled for the second phase survey or the HUEM survey. Since the labor force survey's (LFS) ultimate sampling units are the adults in sampled

households and its questions are mostly on labor and employment, LFS is the most appropriate household survey to use for the first phase. Also, LFS is the most frequently conducted household survey and hence, informal employment statistics will be up to date. LFS is expanded by adding questions to identify HUEMs, informal enterprises, informal employment, benefits received, and working conditions of workers.

Figure A2.2 Mixed Survey Approach



Modified from Gennari, P., M. Guerrero, and Z. Orhun. 2009.

Figure A2.1 Dichotomy of Household Enterprises

Household Enterprises					
Producing at least some goods and services for market				Producing goods and services for own final use	
Non-agricultural		Agricultural		Goods	Services
Formal sector	Informal sector	Formal sector	Informal sector	Agriculture, forestry, fishing	Paid domestic services
				Other activities	Owner occupied dwelling services

Household Unincorporated Enterprises with at least some Market Production (HUEMs)

The graphical description of the mixed survey approach is shown in Appendix 2, Figure A2.2. Phase 1 or the expanded LFS contains additional questions that can be classified into three categories, namely, 1) informal employment module, 2) informal sector enterprise module, and 3) HUEM identification module. The informal employment module will determine the extent of informal employment by distinguishing the informal from the formal workers. The data to be collected will be used to analyze the characteristics of the informal workers, available social protection mechanisms, and working conditions. This module, when combined with the informal enterprise module, will further enrich the examination by determining informal employment in the informal sector. The informal sector enterprise module will determine if

the enterprise/establishment of a respondent worker is informal or not. This is significant since the concept of informal employment also covers the people working in the formal sector who are informally employed. The HUEM identification module determines the existence of a probable HUEM in the household and identifies the respondent in phase 2 of the survey. Meanwhile, phase 2 concentrates on the enterprise and its production, providing relevant information on the informal sector's contribution to the country's economic output or the gross domestic product.

The HUEMs that were identified in the second phase will be used as the sampling frame for the phase 2 survey. Hence, the cost of listing operations, which could be very large because small production units are difficult to identify, will not be incurred, and the second phase—the HUEM survey—will still maintain a probability sample design.

Sampling Design of Phase 2 in the Mixed Survey

The mixed survey is a variant of double phase sampling in which the second phase survey is usually a subset of the first phase sample and hence, both phases have the same ultimate sampling units. In the case of the mixed survey, however, the sampling units differ with households/individuals in the LFS or phase 1 and HUEMs in the second phase. The LFS is usually designed such that all the relevant geographical areas and household social/income classes are well represented. However, there is no mechanism that has been incorporated in the LFS design that ensures that all sectors of national accounts will be well represented in phase 2. Some sectors may be overrepresented and some, with very few HUEMs. Hence, the strategy might result in less-efficient estimates than those from independent informal sector surveys in which the sampling frame of HUEMs is the result of listing operations conducted solely for that purpose. It is, therefore, important that the phase 2 sample be carefully designed to address this issue.

Another issue that has to be considered in designing the second phase survey is the high turnover of HUEMs. To control for unit non-response (e.g., cannot be located, closed) in the second-phase HUEM survey, the interval between the two phases should be kept short. In fact, survey operations can be designed such that the two phases can be done

almost simultaneously. This would not only reduce the ineligible HUEMs and those that cannot be located but would also save some travel costs for the enumerators and the supervisors. This, of course, is straightforward if all the HUEMs that are identified in the LFS will also be enumerated in the HUEM survey. Otherwise, reliable auxiliary information from previous survey is needed. For example, if the sample primary sampling units (PSUs) in the LFS are the same or very similar in previous surveys, the distribution of "own-accounts" and self-employed individuals in the survey can be a good auxiliary variable that can be used as a measure of size or stratification variable in subsampling PSUs.

To implement the simultaneous field operations, there are several options in designing the second phase: (i) a subsample of the PSUs of the household sample survey can be taken, in which all the informal sector units will be enumerated; (ii) a subsample of the HUEMs that were identified will be interviewed for the second phase survey; and (iii) all HUEMs that have been identified will be interviewed. Decision on which is the most appropriate variation depends on the following conditions: (i) availability of auxiliary information from previous survey results, (ii) budget limitations, and (iii) skill level of enumerators and field supervisors.

A subsample of PSUs may be drawn prior to the survey if relevant auxiliary information is available. For example, if the distribution of "own-account" or self-employed individuals by sector (of national accounts) are available for each domain, then PSUs can be selected accordingly. Subsampling HUEMs for the second phase would usually require another field operation because to subsample, a list frame is needed and, hence, results of the first phase must first be processed. Furthermore, since the HUEMs are likely not distributed evenly across geographical areas, balancing the workload of field operation staff will be more challenging. Subsampling HUEMs in simultaneous phase 1 and 2 operations can be implemented only if the enumerators and field supervisors are adept in screening the HUEMs and are able to apply the correct sampling fractions. The third option is the easiest to implement but would require a large budget since the sample size is not controlled at the onset. It could turn out that the sample size will be very large and may require longer enumeration period and more human resources to complete. Also, the number of questionnaires that have to be printed will be quite

large. And there is no mechanism for making the workload among enumerators equitable.

In the case of Armenia, a fresh set of PSUs is selected for each survey round so that previous survey rounds cannot provide good information about industry classification of PSUs for the next survey round. Hence, there is no available auxiliary variable

that can be used in applying the dominant/sparse sector rule. Only the design variables are the auxiliary variables that are common to all survey rounds. These are the *marz* (province) and urban/rural classification. For this country, PSUs were subsampled according to the urban/rural stratification. It was assumed that PSUs in the rural areas will have mostly agriculture HUEMs and since, agriculture HUEMs are the most prevalent in these countries, only PSUs in the rural areas were subsampled. The distributions of sample PSUs across domains for Armenia are shown in Appendix 2, Table A2.1.

The survey weight for the phase 2 survey is the product of the survey weights in phase 1 and the inverse of the selection probability of the sampled PSU. The survey weights of respondents in phase 1 are well known since phase 1 is usually the expanded LFS or, in the case of Armenia, the Integrated Living Conditions Survey (ILCS). For a HUEM in either the urban or other urban areas, its survey weight will be equal to the survey weight of the respondent household to which it belongs in the first phase (ILCS) since the selection probability of all sample PSUs in urban or other urban areas for phase 2 is 1. The selection probability of a PSU in a rural area is 1/6 and, hence, the survey weight for phase 2 of a HUEM in the rural areas in Armenia is 6 times the survey weight of the households that owned it in ILCS.

Note that the initial survey weight of all HUEMs in a specific PSU will be uniform regardless of the current sectors of the HUEMs. For example, if a HUEM is in the finance sector but is found in a PSU that has been classified under rural area, that HUEM will have a survey weight of 6 for phase 2.

2009 ILCS Section D and the Informal Sector Survey Form

Armenia Section D of the 2009 ILCS was modified to incorporate queries related to formal and informal employment, as well as items concerning the characteristics of enterprises. Hence, this section of the questionnaire, which deals with labor and employment, was “expanded” to gather sufficient information for identifying informal employment and the informal sector. This is considered the first phase of the mixed survey approach. Meanwhile, the ISS Form or the HUEM survey is considered the phase 2.

Table A2.1 PSU Distribution for Phases 1 and 2 of the Informal Sector Survey: Armenia

Marz (Province)	Settlement	No. of PSUs in Phase 1: ILCS	No. of PSUs in Phase 2
Yerevan	Urban	168	168
Aragatsotn	Other urban	12	12
	Rural	48	8
	Urban	12	12
Ararat	Other urban	12	12
	Rural	48	8
	Urban	36	36
Armavir	Other urban	12	12
	Rural	48	8
	Urban	36	36
Gegharkunik	Other urban	12	12
	Rural	48	8
	Urban	24	24
Lori	Other urban	24	24
	Rural	48	8
	Urban	24	24
Kotayk	Other urban	12	12
	Rural	48	8
	Urban	36	36
Shirak	Other urban	12	12
	Rural	48	8
	Urban	36	36
Syunik	Other urban	12	12
	Rural	24	4
	Urban	24	24
Vayots Dzor	Other urban	24	24
	Rural	24	4
Tavush	Other urban	12	12
	Rural	48	8
	Urban	12	12
Total		984	624

ILCS = Integrated Living Conditions Survey; PSU = primary sampling unit.

Section D, ILCS (Phase 1) Questionnaire	This is the questionnaire which was used to record information about the household members who are 15–75 years old. In this form, the employed and unemployed were identified and, among the employed population, the following information were gathered: Employment Status; Terms of Employment; Benefits, such as social security contribution, paid leave, maternity/paternity leave, paid sick leave, and termination of employment; Place of Work; Industry of Enterprise; Legal Organization of Enterprise; Employment Size of Enterprise; Registration of Enterprise; Bookkeeping and Accounting Practices of Enterprise; and Market Production of Enterprise.
ISS Form or HUEM Survey (Phase 2) Questionnaire	This questionnaire records information about HUEMs, such as Identification and General Information; Organization and Status of Business; Employment and Compensation; Production and Sale; Expenditures on Raw Material and Stocks; Capital Expenditure; and Credit Information. The respondents for this form are either employers or own-account workers who are owners of the HUEM.

The objectives of the expanded Section D (Phase 1) Questionnaire are to

- Identify and construct a sampling frame of household unincorporated enterprises with at least some market production (HUEMs) among the enterprises in which employed persons work;
- Provide data for estimating employment in informal sector enterprises; and
- Provide data for estimating total informal employment.

In this document, the questionnaire items relating to each of these objectives are grouped into two modules—a module on the primary and second jobs, where queries relating to employment statuses, and enterprises, such as registration, bookkeeping practices, and employment size, are presented. The second module identifies the HUEMs and contains the four vital criteria for evaluation.

The primary purpose of the ISS Form (HUEM) Questionnaire is to generate data that can be a direct measure of informal production activities. The results of the HUEM Survey will provide the basis for estimating the benchmark gross value added (GVA) for the informal sector, and thus, measure its contribution to the gross domestic product (GDP) of the country. The HUEM Survey is meant to provide the data specifically for the informal sector.

The ISS Form 2 has seven (7) sections:

- A. Organization of Business
- B. Employment and Compensation
- C. Production, Inventory, and Sale
- D. Expenditures on Raw Materials and Stock
- E. Capital Expenditures
- F. Banks, Micro-Finance Services, and Other Support Structure
- G. Problems and Prospects

Screening of HUEM Survey Respondents

The mixed survey approach administered in Armenia utilized the Section D of ILCS 2009 in the first phase to screen the respondents for the second phase or the HUEM survey. The following questionnaire items from Section D were used to identify the potential HUEMs, whose owners were interviewed in the next phase: 1) employment status, 2) legal status, 3) marketed production, and 4) business records or accounts.

Meanwhile, the conditions presented in Table A2.2 were applied to determine whether or not the enterprise is a potential HUEM.

Those respondents that satisfied these conditions were evaluated as either owning or working in a potential HUEM and, therefore, were interviewed for the HUEM survey. This assessment was conducted for all the respondents and job numbers. It was necessary that all jobs—whether primary or secondary and regardless if it is the same respondent or not—were screened for the HUEM survey. For example, an employed person may be a formal employee, working as a regular bus driver in a company (his main job), but may also be working as a carpet maker (his second job). Thus, he can be considered as an own-account worker in this other job. If he receives payment for the carpets he sells, and the legal status of his business is single proprietorship with no business records or accounts, then his business is a potential HUEM.

Table A2.2 HUEM Decision Matrix

Employment Status		Legal Status		Marketed Production	Business Records or Accounts	
Employer	&	Individual business	&	Yes	&	No written accounts
Own-account worker in farms		Partnership				Informal records for personal use
		Farm				Simplified accounting format required for tax payment
Other own-account worker		Others				
	Do not know					

HUEM = household unincorporated enterprise with at least some market production.

These considerations were applied in the HUEM surveys conducted; thus, a person with the described characteristics was a respondent in this phase.

It should be noted that, as a rule, the respondent interviewed for the HUEM survey was the owner of

the enterprise. This is a strict condition implemented because the respondent must have extensive knowledge of the revenues and expenditures, as well as the production process of the enterprise, to be able to answer the HUEM questionnaire.

Appendix 3

Sampling Errors

Table A3.1 Distribution of Jobs by Employment Status

Employment Status	Proportion	Linearized Standard Error	95% Confidence Interval	
Employee with a written contract (long-term)	0.3937	0.0103	0.3735	0.4139
Employee with a written contract (short-term)	0.0664	0.0044	0.0579	0.0750
Employee with verbal agreement	0.0927	0.0055	0.0818	0.1035
Employer	0.0053	0.0010	0.0034	0.0073
Own-account workers in farm	0.2183	0.0065	0.2056	0.2311
Other own-account workers	0.0446	0.0041	0.0366	0.0527
Unpaid worker/ family member	0.1786	0.0087	0.1616	0.1956
Member of the production cooperative	0.0000	0.0000	0.0000	0.0001
Others	0.0002	0.0002	-0.0002	0.0007

Table A3.2 Number of Jobs by Employment Status

Employment Status	Total	Linearized Standard Error	95% Confidence Interval	
Employee with a written contract (long-term)	469,870	11,601	447,102	492,637
Employee with a written contract (short-term)	79,298	5,030	69,427	89,169
Employee with verbal agreement	110,577	6,707	97,416	123,739
Employer	6,384	1,152	4,123	8,646
Own-account workers in farm	260,593	14,259	232,610	288,575
Other own-account workers	53,262	5,138	43,178	63,346
Unpaid worker/ family member	213,160	15,151	183,426	242,894
Member of the production cooperative	44	26	-7	96
Others	284	259	-225	792

Table A3.3 Distribution of Jobs by Industry

Industry	Proportion	Linearized Standard Error	95% Confidence Interval	
Agriculture, hunting, and forestry	0.4104	0.0131	0.3847	0.4361
Fishing	0.0002	0.0001	-0.0001	0.0004
Mining and quarrying	0.0081	0.0013	0.0054	0.0107
Manufacturing	0.0583	0.0037	0.0511	0.0655
Electricity, gas, and water supply	0.0295	0.0025	0.0246	0.0344
Construction	0.0694	0.0044	0.0609	0.0780
Wholesale and retail trade; repairs	0.0817	0.0053	0.0713	0.0920
Hotels and restaurants	0.0109	0.0015	0.0080	0.0138
Transport, storage, and communications	0.0548	0.0038	0.0474	0.0622
Financial intermediation	0.0109	0.0015	0.0079	0.0140
Real estate, renting, and business activities	0.0075	0.0013	0.0050	0.0100
Public administration and defense	0.0649	0.0035	0.0580	0.0718
Education	0.0909	0.0043	0.0825	0.0993
Health and social work	0.0518	0.0035	0.0449	0.0587
Other community, social, and personal services	0.0450	0.0037	0.0377	0.0523
Private households employing domestic employees	0.0037	0.0008	0.0021	0.0053
Extraterritorial organizations	0.0019	0.0006	0.0007	0.0031

Table A3.4 Number of Jobs by Industry

Industry	Total	Linearized Standard Error	95% Confidence Interval	
Agriculture, hunting, and forestry	489,901	28,382	434,201	545,601
Fishing	224	151	-72	520
Mining and quarrying	9,652	1,599	6,513	12,790
Manufacturing	69,589	4,296	61,158	78,019
Electricity, gas, and water supply	35,208	3,013	29,295	41,122
Construction	82,892	5,410	72,274	93,510
Wholesale and retail trade; repairs	97,486	6,055	85,603	109,368
Hotels and restaurants	13,053	1,738	9,643	16,464
Transport, storage, and communications	65,419	4,318	56,945	73,893
Financial intermediation	13,058	1,830	9,466	16,650
Real estate, renting, and business activities	8,913	1,502	5,965	11,860
Public administration and defense	77,519	4,435	68,815	86,223
Education	108,510	5,471	97,773	119,247
Health and social work	61,850	4,038	53,926	69,774
Other community, social, and personal services	53,693	4,409	45,040	62,347
Private households employing domestic employees	4,436	951	2,571	6,302
Extraterritorial organizations	2,291	733	852	3,729

Table A3.5 Proportion of Informal Jobs by Marz

Marz	Proportion	Linearized Standard Error	95% Confidence Interval	
Yerevan	0.1930	0.0167	0.1602	0.2257
Aragatsotn	0.7422	0.0247	0.6937	0.7907
Ararat	0.7269	0.0224	0.6829	0.7709
Armavir	0.7517	0.0293	0.6941	0.8093
Gegharkunik	0.7090	0.0247	0.6606	0.7575
Lori	0.5995	0.0365	0.5278	0.6712
Kotayk	0.5319	0.0278	0.4774	0.5864
Shirak	0.5662	0.0365	0.4946	0.6377
Syunik	0.5025	0.0540	0.3966	0.6084
Vayots Dzor	0.5989	0.0372	0.5260	0.6718
Tavush	0.7226	0.0229	0.6777	0.7675

Table A3.6 Number of Informal Jobs by Marz

Marz	Total	Linearized Standard Error	95% Confidence Interval	
Yerevan	65,459	5,994	53,697	77,222
Aragatsotn	48,823	7,615	33,879	63,768
Ararat	92,284	11,598	69,523	115,046
Armavir	85,624	14,991	56,204	115,044
Gegharkunik	66,228	10,969	44,702	87,754
Lori	64,192	10,076	44,417	83,967
Kotayk	53,188	6,405	40,619	65,757
Shirak	48,947	8,820	31,637	66,257
Syunik	34,244	8,320	17,917	50,572
Vayots Dzor	14,684	2,517	9,744	19,624
Tavush	49,128	7,658	34,099	64,157

Table A3.7 Proportion of Workers Who Receive Benefits

Benefits	Proportion	Linearized Standard Error	95% Confidence Interval	
Does your employer pay contributions to the legislated pension fund for you?	0.7547	0.0114	0.7324	0.7771
Do you benefit from paid annual leave/holiday leave or from compensation instead of it?	0.6159	0.0123	0.5917	0.6401
In case of incapacity to work due to health reasons, would you benefit from paid sick leave?	0.6135	0.0120	0.5900	0.6370
In case of birth of a child, would you be given the opportunity to benefit from maternity leave?	0.2388	0.0085	0.2221	0.2556
Unless there is due cause, could your employment be terminated by your employer without advance notice?	0.1364	0.0084	0.1199	0.1528

Table A3.8 Number of Workers Who Receive Benefits

Benefits	Total	Linearized Standard Error	95% Confidence Interval	
Does your employer pay contributions to the legislated pension fund for you?	495,383	12,314	471,215	519,552
Do you benefit from paid annual leave/holiday leave or from compensation instead of it?	404,252	11,649	381,390	427,115
In case of incapacity to work due to health reasons, would you benefit from paid sick leave?	402,682	11,627	379,862	425,502
In case of birth of a child, would you be given the opportunity to benefit from maternity leave?	156,755	6,630	143,742	169,767
Unless there is due cause, could your employment be terminated by your employer without advance notice?	89,510	5,914	77,902	101,118

Appendix 4

Measuring Informal Employment and Informal Enterprises

(Discussions were lifted from CHAPTER 3 of the *ADB Handbook on Using the Mixed Survey on Measuring Informal Employment and the Informal Sector*)

Informal Employment

Classifying informal employment using the Informal Sector Survey (ISS) data entailed determining the characteristics of the dataset itself and then applying the International Conference of Labour Statisticians (ICLS) concepts and definitions in consideration of these characteristics. The significance of this type of dataset analysis was acquired from Maligalig et al.'s (2008) results in identifying informal employment in Bangladesh using the 2005–2006 Labor Force Survey (LFS). The methodology developed, that is cross-tabulating variables to determine the properties of the dataset, as well as identify the relationships among them, is also an appropriate process to apply in the

expanded Section D of the ICLS of Armenia. Through the series of cross tabulations, the survey questions were examined, the responses validated, and reliable variables to apply in the informal employment decision matrix were identified. The combination of questions used for the cross tabulation analysis is shown in Appendix 4, Table A4.1.

The cross tabulations described the type of dataset and the potential variables to consider for the informal employment decision matrix. However, it should be first noted that the dataset of the Armenia 2009 Integrated Living Conditions Survey (ILCS) Section D is divided into two types of variables: one pertains to the primary job, while the other to the second or other jobs. Thus, by person analysis, the employed population is equal to 12,180 (unweighted) while by job analysis, the number of observations reached 12,679. Since the employment status categories of Armenia already incorporate the concept of employment contract, the variable is no

Table A4.1 Combination of Questions from the 2009 Section D of ILCS Used for the Cross Tabulation Analysis

Question	Description		Question	Description
Q.8	Employment status	versus	Q.9	Type of enterprise
Q.8	Employment status	versus	Q.10	Legal status of enterprise
Q.8	Employment status	versus	Q.43	Bookkeeping practice
Q.8	Employment status	versus	Q.7	Place of work
Q.8	Employment status	versus	Q.34	Type of payslip
Q.8	Employment status	versus	Q.27	Market enterprise (sell goods or services)
Q.8	Employment status	versus	Q.45	Registration of enterprise
Q.7	Place of work	versus	Q.9	Type of enterprise
Q.7	Place of work	versus	Q.10	Legal status of enterprise
Q.7	Place of work	versus	Q.45	Registration of enterprise
Q.43	Bookkeeping practice	versus	Q.45	Registration of enterprise
Q.43	Bookkeeping practice	versus	Q.10	Legal status of enterprise
Q.10	Legal status of enterprise	versus	Q.45	Registration of enterprise
Q.10	Legal status of enterprise	versus	Q.34	Type of payslip

ILCS = Integrated Living Conditions Survey.

longer a separate item in the questionnaire. Moreover, given that the employee statuses explicitly identify the type of contract or agreement they are engaged in, it is concluded that there is no employee in Armenia without any kind of contract, written, or verbal.

The significance of the methodology described in Appendix 4, Table A4.1 is the determination of the characteristics and properties of the dataset. To illustrate, cross tabulation of the employment status and legal status generally showed consistent relationships between the different answer choices. But experience from the Indonesia ISS showed that it is important to completely understand the definitions of answer items, especially if they manifest some inconsistencies with the usual known concepts. Thus, this experience should be applied in analyzing the dataset of Armenia. In this case, there are a number of own-account workers who identified their businesses to be joint-stock companies or corporations. Hence, the use and definition of joint-stock company or corporation in Armenia must be clarified to determine whether this situation is really an inconsistency in the data or is actually an acceptable case. The same argument is applied to those own-account observations who identified the registered cooperative as the legal status of their production unit.

There are also instances when combinations of three or four variables were cross-tabulated to further validate the inconsistencies and understand their source. For example, to learn more about these own-account workers (working in companies and registered cooperatives), the employment size of their enterprises and their workplaces were crosstabulated. Results suggest two types of situations. Either the corporation/company answer choice was misinterpreted by respondents since most of them say that the employment size of the establishment is only less than five, or there is a different definition and concept (than the usual) for corporation or company in Armenia. With regard to the workplace, it is unfortunate that the factory choice was lumped with the office, workshop, and kiosk items, since this cannot be used to verify whether the identified employment size is consistent with the place of work. On the other hand, cross tabulation of employment status and type of enterprise suggests a clean dataset. The tables also illustrate that all employments with the government is covered by written contracts, whether the arrangement is short or long term. In addition, no employer or own-account worker identified any government agency/organization or nongovernment

organization as his/her type of enterprise, as should be the case.

The relationship between bookkeeping and registration of enterprises was also identified through the cross tabulation of variables. All the enterprises with complete bookkeeping—a characteristic associated with formal establishments—are all registered. The same is noted among those with simplified legal accounts. Thus, given the strict implementation of registration in Armenia, this relationship is quite significant, suggesting that a combination of bookkeeping and registration will most likely be among the conditions implemented for identifying formal and informal employment/enterprises among the self-employed. Along this line of thought, the observations that were registered and have either complete bookkeeping or simplified legal accounting practices were further examined to determine if they would manifest inconsistencies with the other variables, such as type of enterprise and legal status. The examination showed that the said observations illustrate characteristics consistent with the concept of formal enterprises.

The whole process of determining the properties of the dataset has led to the assessment that the reliable variables to use in classifying the informality of employment for own-account and employers are the employment status, registration, and bookkeeping practice of the enterprise, with the priority on the following answer choices: 1) no written accounts and 2) informal records. On the other hand, for employees, the employment status was deemed to be a sufficient condition to apply. Meanwhile, the variables evaluated to be good determinants of informal employment are the employment status and legal status (among members of cooperatives), and the employment status and type of enterprise (among other types of workers).

Informal Enterprises

Classification of enterprises requires the application of the ICLS conceptual framework, which identified three types of production units, namely, formal enterprises, informal enterprises, and households. Determining the workers that are employed in households poses a difficulty since no single variable or answer choice from the questionnaire may be used. Typically, this variable is available in the employment status query, like in the Philippines, through the answer choice of “Worked in private households”. While Armenia can identify the households using the legal status variable answer choice “Private household employing domestic

Table A4.2a Decision Matrix for Determining Formal and Informal Employment: Employees, Unpaid Family Workers, and Members of Cooperatives and Others

Nature of Employment	Employment Status		Legal Status		Type of Enterprise								
Formal employment	1	Employee with long-term written contract											
	2	Employee with short-term written contract											
	8	Members of cooperatives	&	2	Registered cooperative	<table border="1"> <tr> <td>1</td> <td>State-owned</td> </tr> <tr> <td>2</td> <td>Municipals</td> </tr> <tr> <td>3</td> <td>Nongovernment organizations</td> </tr> </table>		1	State-owned	2	Municipals	3	Nongovernment organizations
	1	State-owned											
2	Municipals												
3	Nongovernment organizations												
90	Others												
Informal employment	3	Employee with verbal agreement											
	7	Unpaid family worker											
	90	Others	&	4	Individual business								
				5	Partnership								
				7	Farm								
90				Others									
98	Don't know												

staff”, this is not sufficient in classifying the other own-account workers.

One of the variables critical in identifying the households in Armenia is the query “Does the enterprise you own sell its goods or services?” since households are defined in the framework to be producing exclusively for its own consumption. With the experience in Indonesia, wherein confusion on how to answer the query occurred resulting in doubtful data, this item was validated repeatedly by the National Statistical Service of the Republic of Armenia (NSSRA). While there were, indeed, some data observations revised due to misinterpretation of the item, these cases were just minimal to affect the reliability of the variable. Moreover, the NSSRA staff was able to validate and correct the data. This exercise, however, revealed one of the customs in Armenia, that is, households (own-account workers in particular) producing for own consumption sometimes hire paid workers. Generally, the workers are paid in kind, like the produce of the farm production.

The cross tabulations also suggested caution in using the payslip variable, and to take into consideration the practice in Armenia (or the lack of it) if it will be applied as one of the conditions. Basically, the provision of payslips is not yet an established norm in Armenia’s employment market. In fact, the NSSRA staff themselves only receive simple payslips instead

of detailed ones. Hence, while payslips are provided to some employees, the fact that it is not part of the system in Armenia suggests that this variable cannot be reflective of the bookkeeping practices of the establishments to which the employees work at.

The same methodology in determining the decision matrices for formal and informal employment was applied for classification of production units. Results of the cross tabulations were examined and analyzed using the labor concepts, specifically the ILCS ideas. With these, the following assumptions are applied in formulating the informal enterprise decision matrix:

1. State-owned, municipals, and nongovernment organizations are automatically considered formal establishments. Since these are available in the enterprise query, this variable will be included among the conditions.
2. Given the strict implementation of registration in Armenia, registered cooperatives are considered formal.
3. Using the ICLS framework on informal employment definition of households, respondents with the legal status “Private household employing domestic staff” are classified as household production unit.

4. Also using the ICLS framework, those producing for own consumption are identified as household production units. Thus, those own-account and employers confirmed to be “not selling” their goods and services are considered households.
 5. Some own-account workers in Armenia hire some paid workers even if the production is for own consumption. Payment of the workers is typically in kind. In the same manner, some unpaid family workers help in the production activities for own consumption. Given that if the production of the enterprise is for own consumption the unit is classified as household, there will be some cases in Armenia wherein the production unit of an unpaid family worker will be the household. This is not in accordance with the ICLS framework, which states that unpaid family workers may only exist in formal or informal enterprises. Hence, specific mention of the practice in Armenia should be provided with the estimates.
 6. Since the provision of payslips is not a common practice in Armenia, e.g., NSSRA staff only receives simple payslips, this condition will not be applied.
- The enterprise decision matrices are illustrated in Appendix 4, Table A4.3a, Table A4.3b, and Table A4.3c.

Table A4.2b Decision Matrix for Determining Formal and Informal Employment: Own-Account Workers and Employers

Nature of Employment	Employment Status		Registration		Bookkeeping			
Formal employment	4	Employer	&	1	Yes	&	1	Complete bookkeeping
	5	Own-account workers in farm					2	Simplified legal accounts
	6	Other own-account workers					90	Others
Informal employment	4	Employer	&	2	In the process of being registered	&	3	Informal records
	5	Own-account workers in farm		3	No			
				4	Don't want to answer			
	6	Other own-account workers		5	Don't know		4	No written accounts
				6	Activity has been implemented in farm			
				90	Others			

Table A4.3a Decision Matrix for Classifying Production Units: Employees, Members of Cooperatives, and Others

Nature of Enterprise	Employment Status		Legal Status		Type of Enterprise		Sell Products and Services					
Formal enterprises	1	Employee with long-term written contract	&	1	Joint-stock company/ corp	OR	1	State-owned				
	2	Employee with short-term written contract										
	3	Employee with verbal contract							2	Registered cooperative	2	Municipals
	90	Others							3	Condominium	3	Nongovernment organizations
	8	Member of cooperative							2	Registered cooperative		
Informal enterprises	3	Employee with verbal agreement	&	4	4	Individual business	4	Privately owned enterprise				
					5				Partnership			
					7				Farm			
					90				Others			
					98				Don't know			
	90	Others	&	4	4	Individual business	5	Private employer				
					5				Partnership			
					7				Farm			
90	Others	&	4	90	Others	5	Private employer					
				98				Don't know				
Households	3	Employee with verbal agreement	&	6	Private household employing domestic staff							

Table A4.3b Decision Matrix for Classifying Production Units: Own-Account Workers and Employers

Nature of Employment	Employment Status	Bookkeeping	Registration	Sell Products and Services			
Formal enterprise	4 Employer	1 Complete bookkeeping	& 1 Yes				
		2 Simplified legal accounts					
		90 Others					
	5 Own-account workers in farm	1 Complete bookkeeping	& 1 Yes		1 Yes, regularly		
		2 Simplified legal accounts			& 2 Yes, from time to time		
		90 Others					
6 Other own-account workers							
Informal enterprise	4 Employer	3 Informal records	& 2 In the process of being registered 3 No 4 Don't want to answer 5 Don't know 6 Activity has been implemented in farm				
		4 No written accounts					
		90 Others					
		5 Own-account workers in farm			3 Informal records	& 2 In the process of being registered 3 No 4 Don't want to answer 5 Don't know 6 Activity has been implemented in farm	1 Yes, regularly
					4 No written accounts		& 2 Yes, from time to time
					90 Others		
	6 Other own-account workers						
		5 Own-account workers in Farm	3 Informal records	& 2 In the process of being registered 3 No 4 Don't want to answer 5 Don't know 6 Activity has been implemented in farm	3 No		
			4 No written accounts				
	6 Other own-account workers		90 Others			& 4 Don't know	

Table A4.3c Decision Matrix for Classifying Production Units: Unpaid Family Workers

Nature of Enterprise	Legal Status	Sells Products and Services
Formal enterprises	1 Joint-stock company/corporation	
	2 Registered cooperative	
	3 Condominium	
Informal enterprises	4 Individual business	& 1 Yes, regularly
	5 Partnership	
	7 Farm	& 2 Yes, from time to time
	90 Others	
	98 Don't know	
Households	4 Individual business	& 3 No
	5 Partnership	
	7 Farm	& 4 Don't know
	90 Others	
	98 Don't know	

Appendix 5

Estimating the Contribution of the Informal Sector to GDP

(Discussions were lifted from CHAPTER 4 of the *ADB Handbook on Using the Mixed Survey on Measuring Informal Employment and the Informal Sector*)

This section provides an overview discussion of the methodology for estimating the informal sector gross value added (GVA). For detailed discussions, the readers are referred to *A Handbook on Using the Mixed Survey for Measuring the Informal Employment and the Informal Sector* developed by the Asian Development Bank through the Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector. Details are available in Chapter 4 of the Handbook. While the general principles behind the production and income approaches used in the system of national accounts to estimate GVA still apply in the context of the informal sector, modifications must be applied to some specific processes to be able to effectively capture the economic output of this sector. These adjustments are brought about by a combination of the following: i) the innate characteristics of the informal sector, ii) production patterns and properties of informal enterprises, iii) inefficiencies in the Informal Sector Survey (ISS) Form questionnaires, and iv) lessons learned during the ISS Form 2 survey operations. Due to these varying factors, some adjustments are needed to tie the national accounts concepts with the data collected from the household unincorporated enterprises with at least some market production (HUEM) survey.

5.1 Household Unincorporated Enterprises with at Least Some Market Production

The ISS Form questionnaire was administered to HUEMs, which the regular data collection system of national statistical offices do not cover. These households or units are characterized as having low levels of organization and technology. Moreover, they have an unclear

distinction between labor and capital, or between household and production operations, thus are expected to have informal books of accounts for personal use or none at all. They are highly mobile, seasonal, lacking of recognizable features for identification, and are usually reluctant to share information. Moreover, the turnover of these production units is quite fast (Maligalig and Guerrero 2008).

Charmes (2009) cites that HUEMs can be split up into informal and formal subsectors such that the informal subsector can be extracted following the definition³³ of informal sector adopted by each country. In the case of the ISS, the HUEMs served as the starting point for data collection on informal sector enterprises. HUEMs are identified from information gathered in ISS Form 1, following the conditions presented in Appendix 2, Table A2.2: HUEM Decision Matrix. This is similar to the approach adopted in the United Nations' Interregional Cooperation on the Measurement of Informal Sector and Informal Employment. Generally, the concept of HUEMs' coverage is noted to be broader and more internationally comparable for purposes of data collection. Following the operational definition of informal sector enterprises outlined in the 15th International Conference of Labour Statisticians (ICLS) resolution, informal sector enterprises are a subset of HUEMs that can be distinguished from "formal" HUEMs by adopting the criteria of registration and employment size. For detailed discussions, readers may refer to the International Labour Organization's draft *Manual on Surveys of Informal Employment and Informal Sector* (Chapter 6).

Due to these unique characteristics of the informal sector, specifically the HUEMs', the general

³³ Strictly speaking, if we are to follow the System of National Accounts (SNA) 2008, the coverage of HUEM should not include subsistence households whose primary objective of production is for own-consumption, but may have incidental sales during a specific accounting period.

methodology for estimating the national accounts needs to be adjusted. Moreover, additional assumptions on the different components of GVA may be introduced in consideration of the HUEMs' short and small-scale production cycles, linkages between household and enterprise in terms of labor and capital, HUEM survey questionnaire design, as well as the quality of data collected from the survey. These concerns will be elaborated in the succeeding discussions.

5.2 ISS Form 2 or HUEM Survey Questionnaire: Specific Description

In general, the ISS Form facilitates data collection of the basic components of GVA, with some changes among the three countries covered by the study. For instance, there are some data that are collected in one country but not in the others, prompting the need for imputations which will be discussed later. Table A5 compares the data collected for each of the three countries under the RETA 6430, to which Armenia is a part of.

5.3 GVA Estimation: Production Approach

5.3.1 General Guidelines and Assumptions

As a snapshot, estimating the GVA of the HUEMs assumes the following:

- For simplicity, the major economic activity shall prevail for all HUEMs covered in the survey, that is, primary and secondary outputs are all recorded under the industry of the primary activity.
- Armenia's ISS questionnaire collected both beginning and ending inventories, hence, the change in inventories can be readily estimated.
- Own consumption is assumed constant for all levels of production and business cycle. While own consumption may be adjusted by

households, depending on the production performance (e.g., goods consumed may be lessened when production is at the minimum), changes are assumed to be small as the needs of the households do not vary according to the output of the HUEM.

- Value of own-produced capital assets is already annualized and can be added directly to the obtained annual value of output.
- Given that the production cycle of HUEMs is short, especially those in the non-agriculture sector, it can be assumed that inventories of raw materials are very small and may be approximated to be zero. In other cases, information derived from Input–Output tables and other administrative data may be useful to impute changes in input inventories.
- The inclusion of imputed services, such as services of owner-occupied dwellings, in the estimation of the total informal sector GVA cannot be performed on Armenia as the questionnaire was not modified to accommodate the needed information, unlike in the questionnaires of Bangladesh and Indonesia. Therefore, an alternative methodology is presented for Armenia.
- While fluctuations of output and intermediate input during an entire accounting period tend to point to the same direction, one component may move faster than the other. Hence, this general notion is incorporated in computing for annual GVA. In particular, different approaches are adopted for each component of output and intermediate inputs.

5.3.2 Output

Informal sector enterprises have production and consumption activities that generally overlap. In addition, studies show that enterprises in the informal sector cannot maintain large stock of goods that do not have a ready market. Hence, survival of the informal sector is anchored on the rapid turnover of goods and services.

Table A5 Contents of the ISS Form 2: Armenia, Bangladesh, and Indonesia

National Accounts Item	Description	Armenia
Income approach – compensation and operating surplus	– Gathers information on the incomes paid from the production and other components of GVA under the income approach	Section B, Employment and Compensation (Questions B.1. – B.3.)
Production approach – output	– Information include sales, revenues, inventories, and own consumption of the enterprise from production, either in agriculture or non-agriculture enterprises	Section C, Production, Inventory and Sale (Questions C.1. – C.9.)
Production approach – intermediate input	– Data gathered are on expenditures on inputs to production incurred by the enterprise, either in agriculture or non-agriculture enterprises	Section D, Expenditures on Raw Materials and Stock (Questions D.1. – D.3.)
Other variables – gross fixed capital formation	– Consists of items on the types and costs of fixed capital purchases / sold by the enterprise	Section E, Capital Expenditures (E.1.)
Annualization of GVA estimates	– Records the sales trend of the business that can be utilized to approximate the annual level of production or verify the estimated degree of business activities	Section C (Question C8)
Production approach – Inventories	Availability of beginning and ending inventories of output	Beginning and ending inventories
Production approach – FISIM	Availability of interest paid and received	Not available
Production approach – services of owner-occupied dwellings	Availability of imputed rent	Not available

FISIM = financial intermediation services indirectly measured, GVA = gross value added, ISS = informal sector survey.

Given that the ISS Form covers 6 months of agricultural production and that this industry is highly seasonal, it is likely that the survey would have covered outputs that are considered to be *work in progress*. Moreover, the HUEM survey was designed to collect information on the primary components of output, namely, sales, inventories, and own consumption. While all ISS Form of the three countries inquire for these items, they still vary on certain aspects, i.e., inventory (see Appendix 5, Table A5).

5.3.3 Intermediate Inputs

In general, most informal sector enterprises are engaged in labor-intensive production process. Barwa (1995) characterized the mode of operation in the informal sector, which employs a variety of equipment consisting mostly of simple tools that are either second hand or self-constructed. Further, informal sector enterprises largely depend on cheap raw materials that are locally produced and sold as inputs for their production of goods and services.

Conceptually, intermediate inputs³⁴ (or intermediate consumption) consist of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital (United Nations, 2006). The goods and services may be either transformed or used up by the production process during an accounting period. Some inputs are transformed into new products (e.g., coconut husks are transformed into buff or coconut brush, wood into charcoal, sugarcane into refined sugar). Other inputs, such as electricity and other services, are complete used up. It also includes rentals of equipment or buildings and also fees, commissions, royalties, among others, which are payable under licensing arrangements. Further,

³⁴ Expenditures by enterprise on valuables consisting of work of arts, jewelries, among others, are not considered as intermediate inputs. These do not include costs incurred by the gradual using up of fixed assets owned by the enterprise, treated as consumption of fixed capital in the SNA.

Box 5.1 Estimating Value of Output from the HUEM Survey

Items critical to the estimation of the total output, such as records of sales, revenues, inventories, and own consumption of the household unincorporated enterprises with at least some market production (HUEMs), are available in Section C, Production, Inventory and Sale, of the ISS Form 2.

Section C provides the basic data to compute for the informal sector HUEM output (Equation 1). It is assumed that prior to estimation, the dataset has already been assessed and edited for item and unit non-response, sum of parts not equal to total, etc. Therefore, the totals for items C.2., C.3., C.4., C.5., C.6, and C.7. are assumed to be reliable numbers to work on.

Output at basic or producer's prices

Output	= Total value of products sold after transformation	C.2	Equation 1
	+ Total value of products sold without transformation	C.3	
	+ Own-account consumption	C.7	
	+ Own-account capital formation	E	
	- Cost of products sold for resale (trade)	D.2	
	+ Value of services offered	C.4	
	+ Changes in inventories (output)	C.5, C.6	

It must be noted that the values of own-produced capital assets, as recorded in Section E, will be added to output after obtaining annual estimates of output.

Note: Valuation of gross output, either basic of producer's prices, depends on whether taxes on products is included.

goods and services used by ancillary activities, such as purchasing, sales, accounting, transportation, storage, and maintenance, are included.

The following sections discuss each component of intermediate consumption in the context of estimating the GVA from the HUEM survey.

5.4 Income Approach

While the HUEM survey aimed to collect detailed information on the different components needed to estimate GVA under a production approach framework, the questionnaire also collects data on income components to facilitate rough approximation of HUEMs' mixed income. In particular, wages and salaries, social insurance, bonuses and allowances, and taxes on product incurred by the HUEMs are also asked. Conceptually, operating surplus serves as a balancing item to harmonize production and income accounts. Joshi et al. (2009) emphasized that accurate measurement of profits from microenterprises is crucial for understanding the success of a variety of policy and programmatic interventions. It is operationally useful in providing a complete picture of the market conditions confronting the HUEMs. While the computation of operating surplus is not a prerequisite to be able to compute the

Box 5.2 Estimating Cost of Intermediate Inputs from the HUEM Survey

Items concerning the intermediate inputs are available in Section D, Expenditures on Raw Materials and Stock, of the HUEM survey questionnaire. Not all items under Section D can be considered as intermediate inputs. Thus, the intermediate inputs have to be drawn individually from D.3.

For value of raw materials used, the data given for D.1 is assumed to be the value of raw materials used (D.1) for manufacturing; electricity, gas, and water; agriculture; mining; and construction. On the other hand, D.2 is assumed to be the value of purchases of goods for resale during the period.

Intermediate inputs at purchasers' prices	Equation 2
= Value of raw materials used	
+ Fuel, gasoline, and lubricants	
+ Water	
+ Electricity	
+ Rental payments	
+ Transport services	
+ Communication expenses	
+ Non-industrial services	
+ Repair and maintenance of facilities and equipment	
+ Other industrial services	
+ Insurance	
+ Packaging	
+ Other costs	

contribution of informal sector to total economy since the former will be computed residually from the GVA, its analysis would contribute to the existing literature on the measurement issues in the informal sector.

5.4.1 Operating Surplus or Mixed Income

For our purpose, the income approach adds up all incomes paid in the process of production. In general, the income measure of gross domestic product (GDP) is computed as the sum of compensation of employees, indirect taxes net of subsidies (i.e., taxes on production and imports), and operating surplus. Arguably, the application of concepts, such as indirect taxes and subsidies, is limited in the case of informal sector enterprises for reasons mentioned earlier.

By definition, operating surplus is a measure of the surplus accruing from processes of production before interest charges, rents, and other property incomes are deducted. Intuitively, it provides a quantitative measure of the HUEMs' profits or losses, which is invariant to the extent to which assets are financed (e.g., whether land is owned or rented by the enterprise).³⁵ As a balancing item, a HUEM's operating surplus can be computed by subtracting compensation from the GVA computed from the production approach. Specifically, this is usually coined as mixed income in the context of unincorporated enterprises where owners and other workers within the enterprise do not usually receive any form of salary. Further, operating surplus or mixed income can be computed net of consumption of fixed capital (i.e., depreciation). As mentioned earlier, depreciation of assets is computed by dividing the purchaser's price of the fixed asset by its remaining useful life.

5.5 Supplementing ISS Data With Other Relevant Indicators

The identified shortcomings in the different aspects of the ISS operation revealed that while direct estimation

³⁵ However, according to SNA, the operating surplus / mixed income is not invariant to the extent to which the fixed assets used in production are owned or rented. In particular, rental payments are usually recorded under purchases of services, which is a component of intermediate consumption.

Box 5.3 Estimating Operating Surplus from the HUEM Survey

Items concerning the operating surplus are provided from different sections. The first component is the gross value added computed using the production approach (i.e., output less intermediate inputs). Section D.3 provides the compensation and taxes on product. Depreciation of fixed assets can be computed from Section E, Capital Expenditures.

Operating Surplus	Equation 3
= Output	Equation 1
– Intermediate inputs	Equation 2
– Wages and salaries	D.3.1
– Social insurance	D.3.2
– Bonuses and allowances	D.3.3
– Tax on product	D.3.16
– Consumption of fixed capital	E

of GVA of the informal sector posts a strenuous task, it is very feasible through further improvements in the data collection. However, due to these limitations, the use of ISS 2 or HUEM survey data alone to generate reliable estimates of the contribution of the informal sector to total economy may not be sufficient.

5.5.1 Adjustments for Bias

The key assumption behind the use of the "neighborhood approach" is that within a given neighborhood, there exists a group of records that can provide reliable data sufficient to correct inconsistencies observed from other records within the same neighborhood. However, some problems tend to affect the entire neighborhood system; in which case, the use of the said approach is not optimal.

For simplicity, let us consider two forms of bias. If the sample is well-represented but the reported information from each sampled unit tend to be uniformly affected by a bias, it is said to be multiplicative in form. Here, we can use procedures analogous to reweighting to correct the bias.

Suppose that α is the parameter of interest, and we wish to estimate it using $\hat{\alpha}$ computed from the survey. In addition, suppose also that based on prior information, there is sufficient reason to believe that a systematic bias, which is multiplicative in form, had been induced in the survey process:

$$\ell * E(\hat{\alpha} | \ell) = \alpha,$$

where ℓ is a measure of bias, $\sum_i a_i * \omega_i$, a_i denotes the observed survey data and ω_i is its corresponding survey weight.

For $\ell > 1$, it means that we are systematically underestimating α if we use the survey data alone without further adjustments to estimate the parameter of interest. On the other hand, there is a systematic overestimation when $\ell < 1$.

The key question is how to derive a "better" estimator for α . To do so, we need to estimate ℓ , a parameter that may be estimated using supplementary data other than what the survey provides. A process analogous to reweighting adjustment may be adopted to be able to derive a "better" estimator for α when the bias is multiplicative in form. Through such adjustments, the structural distribution of the reported ISS data is preserved but, at the same time, it also addresses the bias.

Suppose that we have evaluated $\hat{\ell}$ to be an "adequate" estimator for ℓ . In turn, a better estimator for α is $\hat{\alpha}'$ such that

$$\begin{aligned}\hat{\alpha}' &= \hat{\ell} * \hat{\alpha} \\ &= \hat{\ell} * \sum_i a_i * \omega_i \\ &= \sum_i a_i * \omega_i', \text{ where } \omega_i' = \hat{\ell} * \omega_i\end{aligned}$$

To apply this in the case of Armenia, suppose the goal is to estimate the true GVA of the informal economy for a fixed sector i . Here, we will assume that labor productivity in the non-observed economy (NOE) is greater than the productivity in the informal sector. We choose the NOE since the National Statistical Service of the Republic of Armenia regularly estimates the contribution of NOE to total economy.

Let,

α_{IS} – true gross value added of the informal economy in the i^{th} sector

$\hat{\alpha}_{ISS}$ – preliminary estimated gross value added of the informal economy in the i^{th} sector using ISS data

LP_{Total} – true labor productivity in total economy of the i^{th} sector

\hat{LP}_{Total} – estimated labor productivity in total economy

of the i^{th} sector using national accounts data and total employment from Section D

LP_{NOE} – true labor productivity in non-observed economy of the i^{th} sector

\hat{LP}_{NOE} – estimated labor productivity in non-observed economy of the i^{th} sector approximated by dividing GVA_{NOE} by total informal employment from Section D of the Integrated Living Conditions Survey. Note that total employment in NOE is expected to be much larger than total informal employment from Section D.

$$LP_{NOE}^{2009} \approx \frac{GVA_{Total}^{2009} * \frac{GVA_{NOE}^{2008}}{GVA_{Total}^{2008}}}{InformalEmployment_{2009}}$$

LP_{IS} – true labor productivity in the informal economy of the i^{th} sector

\hat{LP}_{ISS} – estimated labor productivity in the informal economy of the i^{th} sector using ISS only

Here we can treat the source of the bias to be

such that $\ell = \frac{LP_{IS}}{\hat{LP}_{ISS}}$. The next step is to derive $\hat{\ell}$.

Suppose we can assume that $\frac{LP_{Total}}{LP_{NOE}} \approx \frac{LP_{NOE}}{LP_{IS}}$.

This assumption is intuitive if $\frac{LP_{Total}}{LP_{NOE}} > 1$ (i.e., $LP_{Total} > LP_{NOE} > LP_{IS}$) and when the share of NOE to total economy is almost the same as with the share of informal sector to NOE.

$$\begin{aligned}\rightarrow LP_{IS} &\approx \frac{(LP_{NOE})^2}{LP_{Total}} \\ \rightarrow \ell &\approx \frac{(LP_{NOE})^2}{(LP_{Total})(\hat{LP}_{ISS})} \\ \rightarrow \hat{\ell} &= \frac{(\hat{LP}_{NOE})^2}{(\hat{LP}_{Total})(\hat{LP}_{ISS})}\end{aligned}$$

It follows that a better estimator for α_{IS} is $\hat{\alpha}'_{ISS+other}$ where,

$$\hat{\alpha}'_{ISS+other} = \hat{\ell} * \hat{\alpha}_{ISS}$$

$$\hat{\alpha}'_{ISS+other} = \frac{(LP_{NOE})^2}{(LP_{Total})(LP_{ISS})} * \hat{\alpha}_{ISS}$$

Otherwise, if $\frac{LP_{Total}}{LP_{NOE}} < 1$, it is still intuitive to

assume that $\frac{LP_{Total}}{LP_{NOE}} = \frac{LP_{IS}}{LP_{Total}}$. In this case,

$$\hat{\alpha}'_{ISS+other} = \frac{(LP_{NOE})^2}{(LP_{Total})(LP_{ISS})} * \hat{\alpha}_{ISS}$$

The second form of bias is the additive form. This is mainly applicable when the reported information from the sampled units are not affected by the bias individually; but collectively, these units do not provide an adequate representation of the underlying population. Following similar notations, we can denote this, such that

$$\ell + E(\hat{\alpha}) = \alpha,$$

Here, $\ell > 0$ implies that we are systematically underestimating α if we use the survey data alone without further adjustments to estimate the parameter of interest. On the other hand, there is a systematic overestimation when $\ell < 0$.

Again, suppose we have evaluated $\hat{\ell}$ to be an "adequate" estimator for ℓ . It implies that a better estimator for α is $\hat{\alpha}'$ where,

$$\begin{aligned} \hat{\alpha}' &= \hat{\ell} + \hat{\alpha} \\ &= \hat{\ell} + \sum_i a_i * \omega_i \end{aligned}$$

On the other hand, some sectors in Armenia are not well-represented in the ISS. We may contextualize this as underestimation of the contribution of the informal sector using an additive form of bias, such that $\ell + E(\hat{\alpha}) = \alpha$ where $\ell > 0$. To estimate ℓ , we can use other data sources.

Sectors	ISS Sample Size
Fishing	0
Hotels and restaurants	0
Real estate and business activities	1
Health and social work	2
Education	7

ISS = Informal sector survey.

In particular, to estimate the contribution of informal sector to total GVA of fishing sector, household expenditure data from the ILCS may be used. In particular, expenditures incurred by households to buy fresh fish in the streets, markets, and other places may be used to impute output of informal economy, after adjusting for trade margin.

Armenia's questionnaire does not collect data on services of owner-occupied dwellings or imputed rent. Following the System of National Accounts (SNA) rule, the services of owner-occupied dwellings can be considered as assets produced for own-account and hence are a component of gross output. In turn, imputed rent in Armenia was estimated using information from the ILCS. In particular, Section C of the ILCS collects data on the floor area (in square meter) of each respondent's household dwelling, including the type of ownership. If rented, the amount of monthly rent is also asked from the survey respondents. From this set of information, one can estimate the average monthly rent per square meter. On the other hand, the ISS respondents are asked about the type of premises in which their business activities are carried out. Since the two surveys are linked, one can estimate the average floor area of the dwellings of informal sector operators who conduct business activity at home. The contribution of imputed rent in the informal sector is approximated by counting the number of ISS respondents who carry out business activity at home and multiplying it by the average monthly rent per square meter (with an assumed floor area). However, this procedure did not result in negligible estimates. Consequently, a simpler procedure was adopted to "improve" the estimates for the real estate sector. In particular, labor productivity data was examined, taking into account employment data in 2008 (for 2009 employment in sector K is too low -8000 employees instead of 18,500 in 2008 and no non-formal employment in 2009).

For education, informal tutorial services are imputed based on the number of university entrances, subject matters, and cost of subject. The last survey for education was conducted in 2001. According to this survey, 85.0% of university entrants hired tutors for on average 2.1 subjects each for \$800 (this is for the last 2 years).

Further, based on ILCS data on household debts and savings, it seems that the contribution of financial intermediation services indirectly measured (FISIM) to the informal sector is nil.

Appendix 6

Statistical Tables

Table 2.1.1 Population and Labor Force Characteristics by Sex

Characteristic	Sex				Total
	Frequency		Percentage		
	Men	Women	Men	Women	
Total population (de jure)	1,572,897	1,704,770	48.0	52.0	3,277,667
(de facto)	1,448,332	1,668,616	46.5	53.5	3,116,948
Labor resources/ Working age population (de jure)	1,208,472	1,340,845	47.4	52.6	2,549,317
(de facto)	1,088,050	1,309,583	45.4	54.6	2,397,633
Economically active	750,643	668,131	52.9	47.1	1,418,774
15–24 years	104,277	80,355	56.5	43.5	184,632
25–29 years	100,310	64,378	60.9	39.1	164,688
30–62 years	492,281	472,683	51.0	49.0	964,965
63–75 years	53,774	50,715	51.5	48.5	104,489
Unemployed	133,307	132,629	50.1	49.9	265,935
Employed	617,336	535,502	53.5	46.5	1,152,838
Employed in agriculture	209,949	244,892	46.2	53.8	454,841
Formal employment	4,337	2,731	61.4	38.6	7,068
Informal employment	205,612	242,162	45.9	54.1	447,710
Formal enterprise	244	210	53.7	46.3	454
Informal enterprise	168,959	184,359	47.8	52.2	353,318
Household	36,482	57,616	38.8	61.2	94,098
Employed in non-agriculture	407,387	290,610	58.4	41.6	697,997
Formal employment	306,185	253,788	54.7	45.3	559,973
Informal employment	101,202	36,822	73.3	26.7	138,025
Formal enterprise	34,766	18,058	65.8	34.2	52,824
Informal enterprise	55,969	15,067	78.8	21.2	71,036
Household	10,467	3,697	73.9	26.1	14,164
Economically inactive*	337,407	641,452	34.5	65.5	978,859
15–24 years	180,993	215,342	45.7	54.3	396,336
25–29 years	16,556	63,477	20.7	79.3	80,032
30–62 years	78,606	255,757	23.5	76.5	334,363
63–75 years	61,252	106,876	36.4	63.6	168,128

* Economically inactive population refers to those 15–75 years old who are neither employed nor unemployed.

Notes: Data shown pertain to the primary job only (by person analysis). Urban area includes Yerevan. Working age population refers to those 15–75 years old.

Table 2.1.2 Population and Labor Force Characteristics by Urban/Rural

Characteristic	Area				
	Frequency		Total	Percentage	
	Urban	Rural		Urban	Rural
Total population (de jure)	2,127,450	1,150,216	3,277,667	64.9	35.1
(de facto)	2,034,074	1,082,874	3,116,948	65.3	34.7
Labor resources / Working age population (de jure)	1,668,617	880,700	2,549,317	65.5	34.5
(de facto)	1,579,102	818,531	2,397,633	65.9	34.1
Economically active	839,559	579,215	1,418,774	59.2	40.8
15–24 years	113,848	70,784	184,632	61.7	38.3
25–29 years	107,873	56,815	164,688	65.5	34.5
30–62 years	577,016	387,949	964,965	59.8	40.2
63–75 years	40,822	63,667	104,489	39.1	60.9
Unemployed	229,300	36,636	265,935	86.2	13.8
Employed	610,260	542,579	1,152,838	52.9	47.1
Employed in agriculture	46,954	407,888	454,841	10.3	89.7
Formal employment	3,527	3,541	7,068	49.9	50.1
Informal employment	43,427	404,347	447,710	9.7	90.3
Formal enterprise	334	120	454	73.5	26.5
Informal enterprise	13,645	339,673	353,318	3.9	96.1
Household	29,521	64,577	94,098	31.4	68.6
Employed in non-agriculture	563,306	134,691	697,997	80.7	19.3
Formal employment	461,994	97,979	559,972	82.5	17.5
Informal employment	101,312	36,712	138,025	73.4	26.6
Formal enterprise	47,682	5,142	52,824	90.3	9.7
Informal enterprise	44,090	26,946	71,036	62.1	37.9
Household	9,540	4,624	14,164	67.4	32.6
Economically inactive*	739,543	239,316	978,859	75.6	24.4
15–24 years	255,432	140,904	396,336	64.4	35.6
25–29 years	60,553	19,479	80,032	75.7	24.3
30–62 years	287,497	46,866	334,363	86.0	14.0
63–75 years	136,061	32,068	168,128	80.9	19.1

* Economically inactive population refers to those 15–75 years old who are neither employed nor unemployed.

Notes: Data shown pertain to the primary job only (by person analysis). Urban area includes Yerevan. Working age population refers to those 15–75 years old.

Table 2.2.1 Total Number of Jobs by Type of Production Unit, and Nature of Employment

Production Unit	Nature of Employment						
	Primary Job		Second Job		Total		
	Formal	Informal	Formal	Informal	Formal	Informal	Total
Formal	567,040	53,278	3,631	362	570,671	53,640	624,311
Informal	0	424,354	0	26,997	0	451,351	451,351
Household	0	108,166	0	8,501	0	116,667	116,667
Total	567,040	585,798	3,631	35,860	570,671	621,659	1,192,329

Table 2.2.2 Total Number of Jobs by Urban/Rural, and Nature of Employment

Area	Nature of Employment						
	Primary Job		Second Job		Total		
	Formal	Informal	Formal	Informal	Formal	Informal	Total
Yerevan	271,480	64,298	2,298	1,161	273,779	65,459	339,238
Urban	194,040	80,441	636	5,841	194,676	86,282	280,958
Rural	101,520	441,059	696	28,858	102,216	469,917	572,133
Total	567,040	585,798	3,631	35,860	570,671	621,658	1,192,329

Table 2.3.1 Employment by Type of Production Unit and Employment Status

Employment Status	Production Unit						
	Frequency				Percentage		
	Formal	Informal	Household	Total	Formal	Informal	Household
Employee	600,810	42,514	16,420	659,745	91	6	2
Employer	5,938	416	–	6,355	93	7	–
Own-account worker	15,236	226,694	71,953	313,884	5	72	23
Unpaid family worker	1,998	181,726	28,293	212,017	1	86	13
Member of cooperative	44	–	–	44	100	–	–
Others	284	–	–	284	100	–	–
Total	624,311	451,351	116,667	1,192,329	52	38	10

Table 2.3.2 Employment by Employment Status and Urban/Rural

Employment Status	Urbanity/Area						
	Frequency				Percentage		
	Yerevan	Urban	Rural	Total	Yerevan	Urban	Rural
Employee	307,426	222,597	129,721	659,745	47	34	20
Employer	4,405	1,235	715	6,355	69	19	11
Own-account worker	25,261	43,949	244,674	313,884	8	14	78
Unpaid family worker	2,120	13,177	196,721	212,017	1	6	93
Member of cooperative	44	–	–	44	100	–	–
Others	284	–	–	284	100	–	–
Total	339,540	280,958	571,831	1,192,329	28	24	48

Table 2.4.1 Employment by Type of Production Unit, Nature of Employment, and Sex

Type of Production Unit	Nature of Employment				Total	
	Formal		Informal			
	Men	Women	Men	Women	Men	Women
Formal enterprises	313,128	257,543	35,084	18,556	348,212	276,099
Informal enterprises	0	0	240,009	211,342	240,009	211,342
Households	0	0	51,297	65,370	51,297	65,370
Total	313,128	257,543	326,390	295,268	639,518	552,811

Table 2.4.2 Employment by Urban/Rural, Nature of Employment, and Sex

Area	Nature of Employment				Total	
	Formal		Informal			
	Men	Women	Men	Women	Men	Women
Yerevan	148,707	125,072	44,264	21,195	192,971	146,267
Urban	108,426	86,250	50,065	36,217	158,491	122,467
Rural	55,995	46,221	232,061	237,856	288,055	284,077
Total	313,128	257,543	326,390	295,268	639,518	552,811

Table 2.5.1 Employment by Industry, Nature of Employment, and Sex

Industry	Nature of Employment					
	Formal			Informal		
	Men	Women	Total	Men	Women	Total
Agriculture, hunting, and forestry	4,189	2,718	6,907	223,555	257,189	480,744
Fishing	148	12	160	64	0	64
Mining and quarrying	7,380	2,123	9,503	149	0	149
Manufacturing	41,490	13,151	54,642	8,582	7,287	15,869
Electricity, gas, and water supply	29,472	4,708	34,180	374	310	684
Construction	33,637	1,180	34,817	47,564	511	48,075
Wholesale and retail trade, repairs, etc.	33,277	26,679	59,956	21,415	16,460	37,875
Hotels and restaurants	3,340	4,684	8,024	1,477	3,553	5,029
Transport, storage, and communications	41,517	9,824	51,341	13,451	627	14,079
Financial intermediation	6,161	6,897	13,058	0	0	0
Real estate, renting, and business activities	4,659	4,079	8,738	638	175	813
Public administration and defense, social security	52,514	25,005	77,519	0	0	0
Education	20,706	86,489	107,195	220	1,095	1,315
Health and social work	10,414	51,151	61,565	50	235	285
Other community, social, and personal services	22,949	17,828	40,777	7,846	5,034	12,880
Private households with employed persons	0	0	0	1,005	2,792	3,798
Extraterritorial organizations	1,275	1,015	2,291	0	0	0
Total	313,128	257,543	570,671	326,390	295,268	621,658

Table 2.5.2 Employment by Industry, Nature of Employment, and Urban/Rural

Industry	Nature of Employment					
	Formal			Informal		
	Urban	Rural	Total	Urban	Rural	Total
Agriculture, hunting, and forestry	3,385	3,523	6,907	48,907	431,837	480,744
Fishing	142	18	160	45	19	64
Mining and quarrying	7,702	1,801	9,503	36	112	149
Manufacturing	48,389	6,253	54,642	10,794	5,076	15,869
Electricity, gas, and water supply	26,064	8,115	34,180	630	54	684
Construction	28,911	5,905	34,817	29,882	18,193	48,075
Wholesale and retail trade, repairs, etc.	55,850	4,106	59,956	31,714	6,161	37,875
Hotels and restaurants	7,399	625	8,024	4,772	257	5,029
Transport, storage, and communications	46,646	4,695	51,341	10,985	3,094	14,079
Financial intermediation	12,133	925	13,058	0	0	0
Real estate, renting, and business activities	8,451	287	8,738	660	154	813
Public administration and defense, social security	56,261	21,258	77,519	0	0	0
Education	74,998	32,196	107,195	1,315	0	1,315
Health and social work	53,900	7,665	61,565	285	0	285
Other community, social, and personal services	35,945	4,832	40,777	8,612	4,268	12,880
Private households with employed persons	0	0	0	3,105	693	3,798
Extraterritorial organizations	2,279	12	2,291	0	0	0
Total	468,455	102,216	570,671	151,741	469,917	621,658

Note: Urban area includes Yerevan.

Table 2.5.3 Employment by Industry and Nature of Employment

Industry	Nature of Employment		Urbanity/Area	
	Formal	Informal	Urban	Rural
Agriculture, hunting, and forestry	1.4	98.6	10.7	89.3
Fishing	71.5	28.5	83.4	16.6
Mining and quarrying	98.5	1.5	80.2	19.8
Manufacturing	77.5	22.5	83.9	16.1
Electricity, gas, and water supply	98.0	2.0	76.6	23.4
Construction	42.0	58.0	70.9	29.1
Wholesale and retail trade, repairs, etc.	61.3	38.7	89.5	10.5
Hotels and restaurants	61.5	38.5	93.2	6.8
Transport, storage, and communications	78.5	21.5	88.1	11.9
Financial intermediation	100.0	0.0	92.9	7.1
Real estate, renting, and business activities	91.5	8.5	95.4	4.6
Public administration and defense, social security	100.0	0.0	72.6	27.4
Education	98.8	1.2	70.3	29.7
Health and social work	99.5	0.5	87.6	12.4
Other community, social, and personal services	76.0	24.0	83.0	17.0
Private households with employed persons	36.7	63.3	81.8	18.2
Extraterritorial organizations	100.0	0.0	99.5	0.5
Total	47.9	52.1	52.0	48.0

Note: Urban area includes Yerevan.

Table 2.6.1 Average Number of Hours Worked by Employment Status, Nature of Employment, and Activity

Production Unit	Nature of Employment			
	Primary Job		Second Job	
	Formal	Informal	Formal	Informal
Employee	44	46	31	15
Own-account worker	53	23	15	13
Employer	48	68	*	
Unpaid family worker	–	20	–	13
Average	44	26	29	13

– = no observation.

* Only one observation classified as employer in the second job category.

Note: Number of hours worked during the survey week.

Table 2.6.2 Average Number of Hours Worked by Employment Status, and Urban/Rural

Employment Status	Urbanity/Area					
	Primary Job			Second Job		
	Yerevan	Urban	Rural	Yerevan	Urban	Rural
Employee	48	42	40	29	29	22
Own-account worker	40	25	23	19	8	14
Employer	52	45	37	*		
Unpaid family worker	25	17	20	–	11	13
Average	47	39	26	26	11	14

– = no observation.

* Only one observation classified as employer in the second job category.

Note: Number of hours worked during the survey week.

Table 2.7.1 Employment by Employment Status, Nature of Employment, and Sex

Production Unit	Nature of Employment				Total	
	Formal		Informal			
	Men	Women	Men	Women	Men	Women
Employee	297,305	251,863	78,827	31,750	376,131	283,614
Employer	5,445	494	416	0	5,861	494
Own-account worker	10,080	5,157	173,465	125,183	183,545	130,340
Unpaid family worker	0	0	73,682	138,335	73,682	138,335
Member of cooperative	15	30	0	0	15	30
Others	284	0	0	0	284	0
Total	313,128	257,543	326,390	295,268	639,518	552,812

Table 2.7.2 Employment by Employment Status, Production Unit, and Sex

Employment Status	Production Unit					
	Formal Enterprises		Informal Enterprises		Households	
	Men	Women	Men	Women	Men	Women
Employee	331,222	269,589	33,053	9,462	11,858	4,563
Employer	5,445	494	416	0	0	0
Own-account worker	10,079	5,157	144,193	82,501	29,272	42,681
Unpaid family worker	1,168	830	62,347	119,379	10,167	18,127
Member of cooperative	15	30	0	0	0	0
Others	284	0	0	0	0	0
Total	348,212	276,099	240,009	211,342	51,297	65,370

Table 2.8.1 Average Wage and Earnings by Employment Status and Nature of Employment

Employment Status	Average Earnings (AMD)	
	Formal Employment	Informal Employment
Employee	75,342	64,647
Own-account worker	109,195	42,182
Employer	223,431	165,055
Average earnings	77,665	48,919

Table 2.8.2 Average Wage and Earnings by Employment Status, Nature of Employment, and Sex

Employment Status	Average Earnings (AMD)				Average Earnings		Average Earnings
	Formal Employment		Informal Employment		Men	Women	
	Men	Women	Men	Women			
Employee	89,614	58,327	73,849	42,390	86,450	56,572	73,612
Own-account worker	116,132	95,066	55,046	24,719	58,966	27,793	45,908
Employer	227,697	181,327	165,055	–	222,765	181,327	219,227
Average Earnings	92,665	59,279	61,605	28,658	79,790	48,499	66,511

– = no observation/no data available.

Table 2.8.3 Average Wage and Earnings by Employment Status, Nature of Employment, and Urban/Rural

Employment Status	Average Earnings (AMD)								
	Formal Employment			Informal Employment			Yerevan	Urban	Rural
	Yerevan	Urban	Rural	Yerevan	Urban	Rural			
Employee	83,154	69,075	66,457	72,377	60,048	58,741	81,653	67,653	64,736
Own-account worker	136,946	97,982	92,317	81,270	30,859	40,514	93,421	43,681	41,345
Employer	249,310	203,205	91,909	154,735	*	–	240,661	205,011	91,909
Average earnings	86,426	70,868	67,456	75,447	47,062	42,690	84,434	65,007	50,167

– = no observation/no data available.

* Only one observation classified as employer engaged in informal employment working in the urban area answered the income query. It was assessed to be insufficient for comparison with other average incomes.

Table 2.9 Employment by Type of Enterprise, Type of Production Unit, and Nature of Employment

Type of Enterprise	Production Unit				Total
	Formal Enterprises		Informal Enterprises	Households	
	Formal Employment	Informal Employment			
State-owned	301,086	0	0	0	301,086
Municipal	21,152	0	0	0	21,152
NGO	10,450	0	0	0	10,450
Privately owned enterprise	227,585	53,015	451,074	106,854	838,528
Private employer	0	0	278	9,813	10,090
Total	570,671	53,640	451,351	116,667	1,192,329

NGO = nongovernment organization.

Table 2.10.1 Employment by Employment Size of Establishment, Type of Production Unit, and Nature of Employment

Employment Size	Type of Production Unit				Total
	Formal Enterprises		Informal Enterprises	Households	
	Formal Employment	Informal Employment			
Less than 5	48,298	17,381	432,706	111,326	609,711
6–15	30,600	9,338	12,089	937	52,964
16–30	58,572	15,701	3,157	861	78,291
31–49	19,264	4,785	414	7	24,470
50–99	17,817	2,667	0	20	20,504
100 and more	22,679	2,343	217	226	25,465
Don't know	34,300	1,424	2,745	3,313	41,782
Total	231,530	53,639	451,328	116,690	853,187

Note: Total will not equal the total employment since not all respondents answered the query.

Table 2.10.2 Employment by Employment Size of Establishment, Type of Production Unit, and Nature of Employment (%)

Employment Size	Type of Production Unit				
	Formal Enterprises (%)		Total Formal Enterprises (%)	Informal Enterprises (%)	Households (%)
	Formal Employment	Informal Employment			
Less than 5	7.9	2.9	10.8	71.0	18.3
6–15	57.8	17.6	75.4	22.8	1.8
16–30	74.8	20.1	94.9	4.0	1.1
31–49	78.7	19.6	98.3	1.7	0.0
50–99	86.9	13.0	99.9	0.0	0.1
100 and more	89.1	9.2	98.3	0.9	0.9
Don't know	82.1	3.4	85.5	6.6	7.9
Total	27.1	6.3	33.4	52.9	13.7

Table 2.10.3 Employment by Employment Size of Establishment, Nature of Employment, and Urban/Rural

Employment Size	Area							
	Formal Employment				Informal Employment			
	Yerevan	Urban	Rural	Total	Yerevan	Urban	Rural	Total
Less than 5	22,159	18,667	7,473	48,299	36,745	70,119	454,549	561,413
6–15	19,351	7,831	3,417	30,599	4,586	6,449	11,328	22,363
16–30	36,720	17,839	4,013	58,572	10,364	7,077	2,278	19,719
31–49	14,311	3,534	1,419	19,264	4,774	411	22	5,207
50–99	11,957	4,083	1,777	17,817	2,143	291	254	2,688
100 and more	14,092	7,277	1,310	22,679	2,424	135	226	2,785
Don't know	11,202	14,683	8,414	34,299	4,423	1,800	1,259	7,482
Total	129,792	73,914	27,823	231,529	65,459	86,282	469,916	621,657

Note: Total will not equal the total job employment since not all respondents answered the query.

Table 2.11.1 Employment by Legal Organization, Nature of Employment, and Sex

Legal Organization	Nature of Employment				Total	
	Formal		Informal			
	Men	Women	Men	Women	Men	Women
Joint-stock corporation	161,530	66,377	33,561	18,170	195,091	84,547
Registered cooperative	1,100	749	1,523	385	2,623	1,135
Condominium	533	0	0	0	533	0
Individual business	0	0	47,546	14,144	47,546	14,144
Partnership	0	0	11,147	2,359	11,147	2,359
Private household	0	0	6,269	3,770	6,269	3,770
Farm	227	0	220,488	255,293	220,715	255,293
Others	0	172	674	71	674	243
Don't know	699	142	5,183	1,076	5,882	1,218
Total	164,089	67,439	326,390	295,268	490,479	362,708

Note: Total will not equal the total job employment due to the skipping pattern applied in the legal status query.

Table 2.11.2 Employment by Legal Organization, Nature of Employment, and Urban/Rural

Legal Organization	Nature of Employment				Total	
	Formal		Informal			
	Urban	Rural	Urban	Rural	Urban	Rural
Joint-stock corporation	201,039	26,867	46,799	4,932	247,838	31,799
Registered cooperative	1,347	502	1,549	359	2,896	861
Condominium	533	0	0	0	533	0
Individual business	0	0	39,958	21,731	39,958	21,731
Partnership	0	0	5,549	7,957	5,549	7,957
Private household	0	0	4,899	5,139	4,899	5,139
Farm	0	227	48,160	427,620	48,160	427,848
Others	172	0	499	245	671	245
Don't know	615	226	4,327	1,932	4,942	2,158
Total	203,706	27,823	151,741	469,917	355,447	497,740

Notes: Total will not equal the total employment due to the skipping pattern applied in the legal status query. Urban area includes Yerevan.

Table 2.12.1 Employment by Place of Work and Nature of Employment

Place of Work	Nature of Employment				
	Frequency		Total	Percent	
	Formal	Informal		Formal	Informal
Home (with and without special workplace)	82	10,646	10,728	0.76	99.24
Factory, office, workshop	566,692	55,788	622,480	91.04	8.96
Farm or agricultural plot	1,944	479,970	481,913	0.40	99.60
Home or workplace of client	0	17,649	17,649	0.00	100.00
Construction site	0	17,702	17,702	0.00	100.00
Market, bazaar stall, trade fair	1,363	9,632	10,995	12.39	87.61
Street pavement or highway with fixed post	0	2,480	2,480	0.00	100.00
Employer's home	0	11,496	11,496	0.00	100.00
Transport vehicle	29	8,259	8,289	0.36	99.64
No fixed location, mobile	0	6,955	6,955	0.00	100.00
Others	561	1,082	1,643	34.14	65.86
Total	570,671	621,659	1,192,329	47.86	52.14

Table 2.12.2 Informal Employment by Place of Work (Excluding Farm and Agricultural Plots) and Urban/Rural

Place of Work	Informal Employment						
	Frequency				Percent		
	Yerevan	Urban	Rural	Total	Yerevan	Urban	Rural
Home (with and without special workplace)	6,059	2,233	2,354	10,646	56.9	21.0	22.1
Factory, office, workshop	28,456	19,754	7,578	55,788	51.0	35.4	13.6
Home or workplace of client	6,649	4,775	6,225	17,649	37.7	27.1	35.3
Construction site	2,773	5,740	9,188	17,702	15.7	32.4	51.9
Market, bazaar stall, trade fair	5,549	2,828	1,256	9,632	57.6	29.4	13.0
Street pavement or highway with fixed post	1,650	774	57	2,480	66.5	31.2	2.3
Employer's home	3,142	2,787	5,566	11,496	27.3	24.2	48.4
Transport vehicle	2,903	2,651	2,706	8,259	35.1	32.1	32.8
No fixed location, mobile	2,318	1,135	3,502	6,955	33.3	16.3	50.4
Others	301	36	745	1,082	27.8	3.4	68.9
Total	59,799	42,712	39,178	141,689	42.2	30.1	27.7

Table 2.13.1 Employment by Age Group and Urban/Rural

Age Group	Frequency			Total	Percent		
	Yerevan	Urban	Rural		Yerevan	Urban	Rural
15-19	1,513	1,136	11,804	14,453	10.5	7.9	81.7
20-24	32,602	21,735	41,132	95,469	34.1	22.8	43.1
25-29	43,702	31,670	49,718	125,090	34.9	25.3	39.7
30-34	38,700	32,039	44,055	114,793	33.7	27.9	38.4
35-39	36,726	27,554	56,205	120,484	30.5	22.9	46.6
40-44	36,609	29,322	74,330	140,260	26.1	20.9	53.0
45-49	41,092	41,957	92,749	175,798	23.4	23.9	52.8
50-54	43,057	41,767	75,552	160,375	26.8	26.0	47.1
55-59	29,572	29,781	45,831	105,184	28.1	28.3	43.6
60-64	19,608	13,295	24,747	57,651	34.0	23.1	42.9
65-69	8,886	6,452	22,673	38,011	23.4	17.0	59.6
70 and over	7,172	4,251	33,338	44,760	16.0	9.5	74.5
Total	339,238	280,958	572,133	1,192,329	28.5	23.6	48.0

Table 2.13.2 Employment by Age Group and Nature of Employment

Age Group	Frequency		Total	Percent	
	Formal	Informal		Formal	Informal
15-19	1,672	12,781	14,453	11.6	88.4
20-24	49,345	46,124	95,469	51.7	48.3
25-29	70,029	55,062	125,090	56.0	44.0
30-34	65,397	49,397	114,793	57.0	43.0
35-39	61,629	58,855	120,484	51.2	48.8
40-44	61,445	78,815	140,260	43.8	56.2
45-49	77,573	98,225	175,798	44.1	55.9
50-54	80,864	79,512	160,375	50.4	49.6
55-59	54,175	51,009	105,185	51.5	48.5
60-64	31,322	26,328	57,651	54.3	45.7
65-69	10,428	27,582	38,011	27.4	72.6
70 and over	6,791	37,969	44,760	15.2	84.8

Table 2.13.3 Informal Employment by Age Group and Type of Production Unit

Age Group	Informal Employment			
	Formal Enterprises	Informal Enterprises	Households	Total
15-19	761	9,945	2,075	12,781
20-24	6,142	34,733	5,249	46,124
25-29	7,676	41,328	6,057	55,062
30-34	5,843	34,984	8,569	49,397
35-39	5,870	41,599	11,385	58,855
40-44	7,021	59,024	12,770	78,815
45-49	7,139	69,996	21,089	98,225
50-54	6,623	58,487	14,402	79,512
55-59	4,593	35,299	11,117	51,009
60-64	1,428	19,574	5,326	26,328
65-69	544	19,953	7,086	27,582
70 and over	0	26,428	11,541	37,969

Table 2.14.1 Employment by Level of Education, Employment Status, and Sex

Level of Education	Employment Status										Total	
	Employee		Own-account Worker		Employer		Unpaid Family Worker		Member of Cooperative and Others			
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Illiterate	0	287	935	694	0	0	125	394	0	0	1,060	1,376
Uncompleted primary	68	249	378	823	0	0	534	336	0	0	981	1,409
Primary	1,636	363	6,752	3,839	0	0	2,428	4,889	0	18	10,816	9,109
General secondary	23,369	5,628	19,797	12,018	78	0	11,071	12,740	0	0	54,315	30,386
Secondary	134,440	60,008	90,457	67,754	1,561	412	47,015	84,311	258	12	273,731	212,496
Preliminary vocational	14,238	6,519	8,134	4,094	0	0	1,081	3,672	0	0	23,452	14,285
Vocational	84,663	84,807	37,745	32,268	1,340	82	6,218	26,887	15	0	129,981	144,044
Non-complete higher	5,470	3,593	358	119	8	0	655	353	0	0	6,490	4,066
Higher	109,248	121,071	18,922	8,730	2,415	0	4,306	4,743	26	0	134,917	134,544
Postgraduate	3,000	1,088	66	0	460	0	249	9	0	0	3,775	1,097
Total	376,132	283,613	183,545	130,340	5,861	494	73,682	138,335	299	30	639,518	552,811

Table 2.14.2 Employment by Level of Education, Employment Status, and Nature of Employment

Level of Education	Employment Status										Total	
	Employee		Own-account Worker		Employer		Unpaid Family Worker		Member of Cooperative and Others			
	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal
Illiterate	242	45	0	1,629	0	0	0	519	0	0	242	2,193
Uncompleted primary	87	230	0	1,202	0	0	0	871	0	0	87	2,303
Primary	466	1,533	0	10,591	0	0	0	7,318	18	0	484	19,442
General secondary	17,400	11,597	828	31,065	78	0	0	23,811	0	0	18,306	66,474
Secondary	136,057	58,391	5,494	152,717	1,628	345	0	131,326	269	0	143,447	342,780
Preliminary vocational	14,227	6,530	650	11,578	1,395	26	0	4,753	0	0	16,272	22,887
Vocational	145,220	24,250	4,137	65,876	8	0	0	33,105	15	0	149,380	123,231
Non-complete higher	8,247	816	53	424	2,370	45	0	1,008	0	0	10,670	2,293
Higher	223,135	7,184	4,153	23,499	460	0	0	9,049	26	0	227,773	39,732
Postgraduate	4,088	0	0	66	460	0	0	258	0	0	4,547	324
Total	549,168	110,577	15,236	298,648	5,938	416	0	212,017	328	0	570,671	621,658

Table 2.14.3 Informal Employment by Level of Education and Employment Status

Level of Education	Informal employment										
	Frequency					Total	Percent				
	Employee	Own-account Worker	Employer	Unpaid Family Worker	Member of Cooperative and Others		Employee	Self-Employed	Employer	Unpaid Family Worker	Member of Cooperative and Others
Illiterate	45	1,629	0	519	0	2,193	2.1	74.3	0.0	23.7	0.0
Uncompleted primary	230	1,202	0	871	0	2,303	10.0	52.2	0.0	37.8	0.0
Primary	1,533	10,591	0	7,318	0	19,442	7.9	54.5	0.0	37.6	0.0
General secondary	11,597	31,065	0	23,811	0	66,474	17.4	46.7	0.0	35.8	0.0
Secondary	58,391	152,717	345	131,326	0	342,780	17.0	44.6	0.1	38.3	0.0
Preliminary vocational	6,530	11,578	0	4,753	0	22,861	28.6	50.6	0.0	20.8	0.0
Vocational	24,250	65,876	26	33,105	0	123,257	19.7	53.4	0.0	26.9	0.0
Non-complete higher	816	424	0	1,008	0	2,248	36.3	18.8	0.0	44.8	0.0
Higher	7,184	23,499	45	9,049	0	39,777	18.1	59.1	0.1	22.7	0.0
Postgraduate	0	66	0	258	0	324	0.0	20.5	0.0	79.5	0.0
Total	110,577	298,648	416	212,017	0	621,658	17.8	48.0	0.1	34.1	0.0

Table 2.15.1 Employees Receiving Benefits by Nature of Employment and Job Holding

Nature of Employment	Primary Job (%)				Second Job (%)			
	Pension Fund	Paid Leave	Sick Leave	Maternity/Paternity Leave	Pension Fund	Paid Leave	Sick Leave	Maternity/Paternity Leave
Formal	90.7	74.0	73.7	64.3	73.2	38.3	46.8	13.4
Informal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	75.5	61.6	61.4	64.3	56.1	29.4	35.9	7.7

Table 2.15.2 Frequency Distribution of Employees by Type of Benefits Received and Job Holding

Type of Benefit	Nature of Employment	Primary Job					Second Job				
		Yes	No	Don't Know	Not Applicable	Total	Yes	No	Don't Know	Not Applicable	Total
Maternity leave	Formal	156,521	18,305	37,440	333,504	545,769	339	438	89	2,534	3,399
	Informal	0	25,107	5,548	78,891	109,546	0	251	0	781	1,031
	Total	156,521	43,412	42,987	412,395	655,315	339	688	89	3,314	4,430
Pension	Formal	494,849	22,177	28,743	0	545,769	2,487	295	617	0	3,399
	Informal	0	82,326	27,220	0	109,546	0	1,031	0	0	1,031
	Total	494,849	104,502	55,963	0	655,315	2,487	1,326	617	0	4,430
Paid leave	Formal	403,952	111,153	30,663	0	545,769	1,303	1,813	283	0	3,399
	Informal	0	103,519	6,027	0	109,546	0	1,031	0	0	1,031
	Total	403,952	214,673	36,690	0	655,315	1,303	2,844	283	0	4,430
Sick leave	Formal	402,374	92,020	51,375	0	545,769	1,591	1,439	370	0	3,399
	Informal	0	92,675	16,870	0	109,546	0	1,031	0	0	1,031
	Total	402,374	184,696	68,245	0	655,315	1,591	2,470	370	0	4,430

Table 2.16 Employment by Employment Status, Type of Production Unit, and Sex (Excluding Agriculture)

Employment Status	Production Unit								
	Formal Enterprises			Informal Enterprises			Households		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Employee	327,039	266,690	593,729	28,425	6,091	34,517	10,037	3,266	13,303
Own-account worker	9,801	5,145	14,946	26,763	9,038	35,801	610	0	610
Employer	5,325	494	5,818	371	0	371	0	0	0
Unpaid family worker	1,168	830	1,998	1,566	906	2,472	159	431	590
Members of cooperative and others	299	0	299	0	0	0	0	0	0
Total	343,631	273,158	616,789	57,125	16,036	73,161	10,806	3,697	14,503

Table 2.17.1 Total Number of Jobs by Marz and Nature of Employment

Marz	Nature of Employment				
	thousand			%	
	Formal	Informal	Total	Formal	Informal
Yerevan	273.8	65.5	339.2	80.7	19.3
Aragatsotn	17.0	49.0	66.0	25.7	74.3
Ararat	34.7	92.3	127.0	27.3	72.7
Armavir	28.3	85.6	113.9	24.8	75.2
Gegharkunik	27.2	66.1	93.3	29.1	70.9
Lori	42.9	64.2	107.1	40.1	59.9
Kotayk	46.8	53.2	100.0	46.8	53.2
Shirak	37.5	48.9	86.5	43.4	56.6
Syunik	33.9	33.7	67.6	50.1	49.9
Vajoc Dzor	9.8	14.7	24.5	40.1	59.9
Tavush	18.9	48.4	67.2	28.1	71.9
Total	570.7	621.7	1,192.3	47.9	52.1

Table 2.17.2 Total Number of Jobs in Non-Agricultural Sector by Marz and Nature of Employment

Marz	Nature of Employment				
	thousand			%	
	Formal	Informal	Total	Formal	Informal
Yerevan	272.7	59.8	332.5	82.0	18.0
Aragatsotn	16.4	6.4	22.8	72.1	27.9
Ararat	34.1	13.2	47.3	72.1	27.9
Armavir	27.7	13.0	40.8	68.0	32.0
Gegharkunik	26.7	5.5	32.2	82.8	17.2
Lori	42.3	9.7	52.1	81.3	18.7
Kotajq	45.6	14.4	60.1	76.0	24.0
Shirak	36.5	4.2	40.6	89.8	10.2
Syunik	33.7	5.0	38.6	87.2	12.8
Vajoc Dzor	9.5	1.0	10.5	90.9	9.1
Tavush	18.5	8.7	27.2	68.2	31.8
Total	563.8	140.8	704.6	80.0	20.0

Table 2.17.3 Total Number of Jobs by Marz, Type of Production Unit, and Nature of Employment

Marz	Type of Production Unit					Total
	Formal Enterprises			Informal Enterprises	Households	
	Formal	Informal	Total			
Yerevan	273.8	29.6	303.3	27.5	8.4	339.2
Aragatsotn	17.0	0.3	17.2	40.0	8.8	66.0
Ararat	34.7	3.7	38.4	75.4	13.1	127.0
Armavir	28.3	3.0	31.3	77.2	5.5	113.9
Gegharkunik	27.2	1.2	28.4	48.8	16.1	93.3
Lori	42.9	4.2	47.1	47.9	12.1	107.1
Kotajq	46.8	6.5	53.4	22.8	23.9	100.0
Shirak	37.5	0.5	38.0	43.3	5.2	86.5
Syunik	33.9	1.3	35.2	23.6	8.8	67.6
Vajoc Dzor	9.8	0.7	10.6	10.5	3.4	24.5
Tavush	18.9	2.6	21.5	34.3	11.4	67.2
Total	570.7	53.6	624.3	451.4	116.7	1,192.4

Table 3.1 Gross Value Added in Formal and Informal Sectors by Industry

Industry	Gross Value Added			
	Frequency (AMD million)		Percent	
	Formal**	Informal	Formal**	Informal
Agriculture, hunting and forestry, fishing	399,557	115,026	77.7	22.4
Mining and quarrying	55,051	0	100.0	0.0
Manufacturing	259,491	13,577	95.0	5.0
Electricity, gas, and water supply	99,100	0	100.0	0.0
Construction	463,174	84,500	84.6	15.4
Wholesale and retail trade, repairs, etc.	338,962	58,971	85.2	14.8
Hotels and restaurants	17,124	0	100.0	0.0
Transport, storage, and communications	238,008	9,152	96.3	3.7
Financial intermediation	126,948	0	100.0	0.0
Real estate, renting, and business activities	139,480	13,351	91.3	8.7
Public administration and defense, social security	109,254	0	100.0	0.0
Education	106,807	7,981	93.1	7.0
Health and social work	108,211	5,620	95.1	4.9
Other community, social, and personal services	47,629	9,491	83.4	16.6
Private households with employed persons	878	0	100.0	0.0
Total	2,509,674	317,669	88.8	11.2

Note: Formal** = formal sector + households.

Table 3.2 Formal and Informal Sectors' Contributions to GDP by Marz

Marz	Contribution to GDP			
	Frequency (AMD million)		Percentage	
	Formal**	Informal	Formal	Informal
Yerevan City	n.a	123,330	n.a	38.8
Aragatsotn	n.a	10,951	n.a	3.4
Ararat	n.a	38,380	n.a	12.1
Armavir	n.a	29,018	n.a	9.1
Gegharkunik	n.a	8,592	n.a	2.7
Lori	n.a	12,972	n.a	4.1
Kotayk	n.a	15,445	n.a	4.9
Shirak	n.a	29,009	n.a	9.1
Syunik	n.a	27,998	n.a	8.8
Vayots Dzor	n.a	6,629	n.a	2.1
Tavush	n.a	15,346	n.a	4.8
Urban	n.a	190,936	n.a	60.1
Rural	n.a	126,733	n.a	39.9
Total	2,509,674	317,669	88.8	11.2

Notes: Formal** = formal sector + households; GDP = gross domestic product; n.a. = not available.

Table 3.3 Formal and Informal Sectors' Contributions to GDP by Agriculture and Non-Agriculture Sector Segregation

	Contribution to GDP			
	Frequency (AMD million)		Percentage	
	Formal**	Informal	Formal	Informal
Agriculture	399,557	115,026	77.7	22.4
Non-agriculture	2,110,117	202,643	91.2	8.8
Total	2,509,674	317,669	88.8	11.2

GDP = gross domestic product.

Note: Formal** = formal sector + households.

Table 3.4 Labor Productivity in Formal and Informal Sectors by Industry

Industry	Labor Productivity (AMD thousand)		
	Formal** Sector	Informal Sector	Whole Economy
Agriculture, hunting and forestry, fishing	3,645	304	1,055
Mining and quarrying	5,784	0	5,704
Manufacturing	4,039	2,169	3,873
Electricity, gas, and water supply	2,849	0	2,842
Construction	8,613	2,902	6,607
Wholesale and retail trade, repairs, etc.	4,269	3,199	4,068
Hotels and restaurants	1,412	0	1,312
Transport, storage, and communications	4,065	1,332	3,778
Financial intermediation	9,722	0	9,722
Real estate, renting, and business activities	15,688	20,229	16,002
Public administration and defense, social security	1,409	0	1,409
Education	991	11,039	1,058
Health and social work	1,758	19,718	1,840
Other community, social, and personal services	1,081	991	1,065
Private households with employed persons	231	0	231
Total	3,397	704	2,376

Note: Formal** = formal sector + households

Table 4.1 Average Real Income of Small Producing Units by Industry (AMD thousand)

Industry	Average Monthly Income of Owner	Average Monthly Compensation of Employees
Mining and quarrying	456.7	118.7
Manufacturing	404.5	83.6
Construction	340.2	90.8
Wholesale trade	463.5	78.8
Retail trade	193.7	46.7
Transportation	247.6	90.5
Education	179.1	67.6
Health	303.1	62.1
Other services	156.1	37.7

Table 4.2 Proportion of Real Income Perceived by HUEM Owners That Should Be Reported to State Bodies

Margins	Proportion (%)
Up to 20%	24.18
21%–50%	25.38
51%–80%	28.08
81% and more	10.81
Totally (no need to hide anything)	11.54

Appendix 7

Section D, Integrated Living Conditions Survey 2009
Questionnaire: Armenian Version

ԱՅՑԵԼՈՒԹՅՈՒՆ 1

Բաժին Ա
ՏԱՅԻՆ ՏԱՏԵՍՈՒԹՅԱՆ ԱՆՎԱՄՆԵՐԻ ՑՈՒՑԱԿԸ

Ա.1. Ես կցակնանայի կազմել Ձեր տնային տնտեսության բոլոր ինչպես ներկա, այնպես էլ բացակա անդամների ցուցակը: Տնային տնտեսություն անվել էս նկատի ունեն այն անձանց, ովքեր սովորաբար բնակվում են միասին, վարում են միասնական տնտեսություն և ունեն միասնական բյուջե: Առաջին հերթին ես կցակնանայի գրանցել տնային տնտեսության գլխավոր անդամին, ապա նրա կնոջը (ամուսնուհի), նրանց երեխաներին և տնային տնտեսության մնացած անդամներին (հյուրերին մի թվարկվեք):

Աղյուսակ 1

Ան- դամի հ/հ	Անունը	Մեղը 1. արական 2. իգական	Կապը տնային տնտեսության գլխավորի հետ 1. գլխավորը 2. կինը/ամուսինը 3. տղան/սղջիկը 4. փեսան/հարսը 5. թոռը 6. նաբը/ հայրը/ գրքանցը/ աննրը պնեաղը/ սկեաղը 7. գլխավորի այլ ազգականները 8. գլխավորի հետ ազգակցական կապ չունեցող ... և, է. ...	Ծննդյան ամիսը և տարեթիվը		Ամուսնական վիճակը (16 տարեկանից) 1. ամուսնացած 2. երբեք ամուսնա ցած չի եղել 3. այրի 4. բաժանված են, ապրում են առանձին 5. ապրում են համատեղ (արտաց ամուսնության գրանցման)	Ծննդավայրը 1. Երևան 2. քաղաք Հայաստանում 3. գյուղ 4. Ռուսաստան Հայաստանում 5. Արշ-ի այլ երկիր 6. Եվրոպայի դրեճ երկիր 7. ԱՄՆ և Կանադա 8. Այլ	Եթե հետազոտ- վող ամբողջ ամսվա ընթացքում տնային տնտեսու- թյունում կան բացակա անդամներ, ապա իրենց ստորվ եջել 1	Բացակայու-թյան հիմնական պատճառը 1. ուսում 2. լուծում 3. աշխատանք 4. ամուսնություն 5. այլ ընտանեկան պատճառներ 6. բանակ 7. այլ	Ինչպիսի՞ կրթական մակարդակ ունենք (6 տարեկանից) 1. անտրոպիտ 2. ոչ ընդ տարրական 3. տարրական 4. հիմնական ընդհանուր 5. միջնակարգ(ընթ) ընդհանուր 6. երկրորդական մասնագիտական (արևեստագրիական) 7. միջին մասնագիտական 8. թերթ բարձրագույն 9. բարձրագույն 10. հետբուհական
				ամիս	տարի					
1		1		3	4	5	6	7	8	9
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

Հավելված 1

ՏՆՏԵՍԱԿԱՆ ԳՈՐԾՈՒՆԵՈՒԹՅԱՆ ՏԵՍԱԿՆԵՐԻ ԴԱՍՍԱԿԱՐԳԻՉ

1. Գյուղատնտեսություն, որսորդություն, անտառային տնտեսություն
2. Ձկնորսություն, ձկնաբուծություն
3. Հանքագործական արդյունաբերություն (արդյունահանում)
4. Մշակող արդյունաբերություն
5. Էլեկտրաէներգիայի, գազի, ջրի արտադրություն և բաշխում
6. Շինարարություն
7. Առևտուր՝ բացի ավիատոմսերի վաճառքից, ավտոմեքենաների, կենցաղային արտադրատեսակների և անձնական օգտագործման իրերի նորոգում
8. Հյուրանոցներ և ռեստորաններ
9. Տրանսպորտ և կապ (նաև՝ զբոսաշրջության գործակալությունների գործունեություն)
10. Ֆինանսական գործունեություն (նաև՝ գրավատների) և ապահովագրություն
11. Անշարժ գույքի հետ կապված գործառնություններ, վարձակալում և սպառողներին ծառայությունների մատուցում (հաշվող տեխնիկայի հետ կապված գործունեություն, հետազոտություններ և մշակումներ, իրավունքի բնագավառում և աուդիտորական գործունեություն, համատիրությունների գործունեություն,)
12. Պետական կառավարում, դատաիրավական համակարգ, բանակ, ոստիկանություն, հրշեջ ծառայություն
13. Կրթություն
14. Առողջապահություն, սոցիալական ծառայությունների մատուցում (ծերանոցների, մանկատների, խուլ-համրերի, կույրերի և մտավոր, ֆիզիկական թերություններով անձանց համար հաստատությունների գործունեություն)
15. Կոմունալ սոցիալական և անհատական ծառայությունների մատուցում (մշակույթ, սպորտ, կոմունալ և այլ ծառայություն, հասարակական կազմակերպությունների գործունեություն)
16. Տնային տնտեսությունների վարման ծառայություններ (տնային տնտեսությունում աշխատող վարձու անձինք)
17. Օտարերկրյա կազմակերպությունների գործունեություն

Section D, Integrated Living Conditions Survey 2009 Questionnaire: English Version

VISIT 1. **Section A.**
HOUSEHOLD MEMBERS' ROSTER.

A1. I would like to make a complete list of all the members of your household, both present and absent. By saying a household I mean people who usually live together, share the same housekeeping and have the same budget. At first, I would like to write down the name of the head of the household, then his spouse, their children and then other members of the household. Do not include the visitors.

Table 1.

No of h/h member	Name	Sex 1.male 2.female	Relationship to head of h/h 1.head 2.spouse 3.son/daughter 4.son in law/ daughter in law 5.grandchild 6.father/mother of head / spouse 7.other relatives 8.have no relationship to head	Date of birth		Marital status (from 16 years of age) 1.married 2.never married 3.widowed 4.divorced/ separated 5.cohabiting (without being registered as married)	Place of birth 1. Yerevan 2. town in Armenia 3. village in Armenia 4. Russia 5. Other CIS country 6. Other European country 7. USA and Canada 8. Other	If during the whole survey month some members of the household are absent, then mark the respective line by putting 1.	What was (is) the main reason for the absence 1.education 2.treatment 3.work 4.marriage 5.other family reasons 6.army 7. other	What is the level of education completed? (from 6 years and over) 1. illiterate 2. non-complete primary (1-2 forms) 3. primary (3 rd form form) 4. general secondary (8 th form) 5. secondary (10 th form) 6.preliminary vocational 7. vocational 8. non-complete higher 9. higher 10. post-graduate
				month	year					
1		1	2	3	4	5	6	7	8	9
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

VISIT 2

Section D. EMPLOYMENT
(For members aged 15-75)
MAIN AND SECOND JOBS

Table 1 (continuation)

HH member's ID number from Section A)	J O B N U M B E R (specify 1, 2)	What is your employment status? 1. Employee with a written contract for long-term employment 2. Employee with a written contract for short-term employment 3. Employee with verbal agreement 4. Employer (<i>owner with permanent employees</i>) 5. Own-account workers in farm 6. Other own-account workers 7. Unpaid worker/ family member 8. Member of the production cooperative 90. Others, <i>specify</i>	What is the type of ownership of the enterprise in which you work? 1. State-owned (fully or partly) enterprise →16-19 2. Municipals →16-19 3. Non profit institutions, NGOs (e.g., development organizations), associations, international agencies →16-19 4. Privately owned enterprise (also farms) 5. Private employer (this point can record only for employees: <i>col. 8-1, 2, 3</i>)	What is the legal status/ organization of the private enterprise where you work? 1. Joint stock company/ corporation, Limited liability 2. Registered cooperative 3. Condominium 4. Individual business 5. Partnership 6. Private household employing domestic staff 7. Farm 90. Others, <i>specify</i> 98. Do not know	How many persons (including yourself) usually work in your enterprise/ household/ the enterprise where you are employed? 1. less than 5 2. 6 -15 3. 16 - 30→ 15 4. 31- 49→ 15 5. 50 - 99→ 15 6. 100 and more→15 7. do not know	Please give the exact number of workers (including yourself)		
						total	women	men
	4	8	9	10	11	12	13	14

Section D. UNEMPLOYMENT
(for members aged 15-75)

Table 3

HH member's ID number from Section A)	Please, record the reason why you didn't work during the last 7 days	Have you ever had a paid or a profitable work?	The main reason for interrupting the work:	For how long have you not been working?	Did you look for a paid job or try to start your own business (including the 7 days of the survey) during the last 4 weeks?	Why haven't you looked for a job during the last 4 weeks (including 7 days of the survey)?	What did you undertake to get a job (possible 2 answers)?
1.	1. Pupil, student (stationary) 2. Housekeeper 3. Pensioner (by age, health, privileged conditions) 4. No work 90. Others, <i>specify</i>	1. Yes 2. No → 5	1. Dismissal or reduction of work places 2. Liquidation of the enterprise 3. End of temporary activity 4. Retirement 5. Illness or disability study 6. Education 7. Mandatory military service 8. Family circumstances 9. Forced administrative vacation 70 Dismissal or forced vacation due to current economic crisis 90. Other reasons, <i>specify</i>	1. Up to 1 month 2. 1 to 3 month 3. 4 to 6 month 4. 7 to 12 month 5. 1 to 2 years 6. 2 to 4 years 7. Over 4 years	1. Yes, I looked for a paid job → 7, 8 2. Yes, I tried to start my own business → 9, 10 3. No	1. I have already found a job and will start to work within 2 weeks 2. I have applied for job and am waiting for a reply 3. I have been sent to training 4. I am waiting for an offer from my last employment place 5. Because of overload in household 6. Because of sickness, injury 7. Hopeless to find a job 8. Don't know where or how to look for a job 9. Don't want to work → 16 90. Others, <i>specify</i> → 16 <i>For interviewer:</i> If 1, 2 → 11 If 3 - 8 → 14	1. Applied to the state employment service 2. Applied to the private employment agency 3. Read announcements on a regular basis 4. Issued announcements on a regular basis 5. Looked for a job with the help of friends, relatives 6. Applied directly to the employer 90. Others, <i>specify</i>
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							

Section D. UNEMPLOYMENT
(for members aged 15-75)

Table 3 (continuation)

HH member's ID number (Copy from Section A)	What steps did you undertake to start your own business?	If it was possible to work during the surveyed week, would you be able and ready to start your work?	If it was possible to work within the 2 weeks, would you be able and ready to start your work?	How long are you looking for a job, trying to start own business?	Do you need training to be more competitive in the employment market?	If yes, then what kind of training or skills would you like to have?	Are you registered with the state employment services?	Have you received or currently receiving training(s) by state employment service during the last 1 year?	If still in training or just completed, when did you start the training? (month and year) Please, specify month and year, when you start the training?	
	9	10	11	12	13	14	15	16	17	month	year
1.	1. Looked for location, inputs, equipment 2. Attempted to raise funds/get credit 3. Applied to state authorized bodies for permits	1. Yes → 13 2. No	1. Yes 2. No	1. Up to 1 month 2. 1 to 3 month 3. 4 to 6 month 4. 7 to 12 month 5. 1 to 2 years 6. 2 to 4 years 7. Over 4 years	1. Yes → 16 2. No	1. Additional education, new profession 2. Crafts 3. Technical skills 90. Others, specify	1. Yes 2. No → Section E	1. Yes 2. No → Section E	18	19
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

Annex 1.
Types of Economic Activity

1. Agriculture, hunting, forestry
2. Fishing, fish-breeding
3. Mining and quarrying
4. Manufacturing
5. Electricity, gas and water supply
6. Construction
7. Wholesale and retail trade, repairs of motor vehicles, motorcycles and personal and household goods
8. Hotel and restaurants
9. Transport and communication
10. Financial activity
11. Real estate, renting and business activities
12. Public administration
13. Education
14. Health and social work
15. Community, social and personal service activities
16. Private households with employed persons
17. Services related to housekeeping
18. Activities of extraterritorial organizations and bodies

Appendix 9

Informal Sector Survey 2009 Questionnaire: Armenian Version

Անհատական (անվանական) տվյալների գաղտնիությունը երաշխավորված է «Պետական վիճակագրության մասին» Հայաստանի Հանրապետության օրենքով, համաձայն որի, հարցազրույցի ժամանակ ստացված տեղեկատվությունը ենթակա է հրապարակման միայն անվտանգ տեսքով:

ՀՀ ԱԶԳԱՅԻՆ ՎԻՃԱԿԱԳՐԱԿԱՆ ԾԱՌԱՅՈՒԹՅՈՒՆ

Ձև թիվ 1 - ՈՖ
Հաստատված է ՀՀ վիճակագրության
պետական խորհրդի 2008թ.
դեկտեմբերի 5-ի թիվ 43-Ա որոշմամբ

ՈՉ ՖՈՐՄԱԼ ՀԱՏՎԱԾԻ ՀԵՏԱԶՈՏՈՒԹՅՈՒՆ

Հարցաթերթի համարը

Տնային տնտեսության
հերթական համարը

Տնային տնտեսության անդամի
հերթական համարը
(Ձև 1-ՏՏ, բաժին Ա, աղյուսակ 1 կամ
բաժին Դ, աղյուսակ 2, սյունակ 1)

Ուսումնասիրության ժամանակահատվածը ամիս 2009թ.

Բնակավայր
անվանում ծածկագիր

Մարզ
անվանում ծածկագիր

Հարցազրուցավարի համարը

Հարցազրույցի
ամսաթիվը
I այց II այց III այց IV այց V այց

Հարցազրուցավարի անուն, ազգանունը

(ստորագրություն)

Քանոն 9. Գործունեության (բիզնեսի) կազմակերպում

Ա1. Ո՞րն է Ձեր գործունեության (բիզնեսի) հիմնական տեսակը (ապրանքի արտադրություն և/կամ վաճառք, վճարովի ծառայություն): (տես 1-SS էջ 11, սյ 5)

ՏՂՏՂ:

Ա2. Ե՞րբ է Ձեր գործունեությունը (բիզնեսը) հիմնվել (նշել տարեթիվը):

Ա3. Որտե՞ղ եք վարում տվյալ գործունեությունը (բիզնեսը): (տես 1-SS էջ 11, սյ 7)

Մշտական (ֆիքսված) տարածք	Շարժական տարածք
01 Տանը, առանց հատուկ աշխատատեղի	10 Տրանսպորտային միջոցում
02 Տանը, հատուկ աշխատատեղով (տան ներսում կամ կից)	11 Փողոցում կամ մայրուղու վրա (առանց ֆիքսված դիրքի)
03 Տնից դուրս՝ ֆիքսված տարածք գործունեության համար	12 Այլ (նշել) _____
04 Ֆերմա կամ աննատական գյուղացիական / օժանդակ տնտեսություն	
05 Հաճախորդի տանը կամ աշխատավայրում	
06 Շինարարական հրապարակում (շինհրապարակ)	
07 Շուկայում, տնավաճառում	
08 Փողոցի կամ մայրուղու վրա (ֆիքսված դիրքով)	
09 Գործատուի (պատվիրատուի) տանը	

Ա4. Իրականացնո՞ւմ եք արդյոք (բացի ձեր հիմնական գործունեությունից) այլ գործունեություն հիմնական գործունեության վայրում:

1 Այո, (նշել) _____ 2 Ոչ

Չլրացնել ⇒ ՏՂՏՂ:

Ա5. Իրականացնո՞ւմ եք Դուք արդյոք Ձեր հիմնական գործունեությունը այլ վայրերում:

1 Այո 2 Ոչ → Սեզոնի Ա6-ին

Ա5.1. Քանի՞ սն են դրանք:

Ա6. Գրանցվա՞ծ է արդյոք Ձեր գործունեությունը (բիզնեսը) որևէ պետական մարմնում:

	ԱՅՈ	ՈՉ	Գրանցման գործընթացում է	<input type="checkbox"/>
Ա6.1 Հարկային մարմնում	1	2	3	<input type="checkbox"/>
Ա6.2 Պետական ռեգիստրի մարմնում	1	2	3	<input type="checkbox"/>
Ա6.3 Մոցիսկայական ապահովագրության մարմիններում	1	2	3	<input type="checkbox"/>

Ա7. Ունե՞ք արդյոք Ձեր գործունեության (բիզնեսի) անունով բանկային հաշիվ:

1 Այո 2 Ոչ

Ա8. Ինչպիսի՞ հաշվապահական հաշվառում եք վարում Ձեր գործունեության համար:

1 Գրավոր հաշվառում չեն վարում:	4 Մանրամասն պաշտոնական հաշվառում (հաշվապահական հաշվեկշիռ):
2 Հաշվառում միայն սեփական վերահսկման համար:	5 Այլ (նշել) _____
3 Պարզեցված հաշվառում հարկային վճարումների համար:	

Ա9. Իրականացնո՞ւմ եք Դուք արդյոք այլ գործունեություն այլ տարածքում, որը տարբերվում է Ձեր հիմնական գործունեությունից:

1 Այո 2 Ոչ → Սեզոնի բաժին Բ-ին

Ա9.1. Քանի՞ սն են դրանք:

Բաժին Բ Ցրադվածություն և վարձատրություն

Բ1. Քանի՞ մարդ է (ներառյալ Դուք) աշխատել Ձեր բիզնեսում (ևշել անգամ նրանց՝ ովքեր մեկ ժամ են աշխատել) գործունեության վերջին ամսվա ընթացքում:

Աշխատողների ընդհանուր թիվը
Քանիսն են վարձատրվել

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Բ2. Բնութագրեք նրանց, որոնք մշտական են աշխատել Ձեր բիզնեսում վերջին ամսվա ընթացքում (ներառյալ Դուք):

No.	Անուն (1)	Սեռ (2)	Տարիք (3)	Կարգավիճակ (4)	Պայմանագիր (5)	Ընդհանուր աշխատատե- մանակ (ժամ) (6)	Վճարման բազա (7)	Աշխատավարձ, հազար դրամ (8)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Բ2.1 Ընդամենը ամսվա համար (հազար դրամ)

Սեռի ծածկագրեր 1 - Արական 2 - Իգական	Կարգավիճակի ծածկագրեր 1 - Ղեկավար (գործատու) 2 - Ինքնագրաված 3 - Վարձու աշխատող 4 - Վարձատրությամբ աշխատող ընտանիքի անդամ 5 - Առանց վարձատրության աշխատող	Պայմանագրի ծածկագրեր 1 - Պայմանագիր, որը կնքված է որոշակի ժամանակով 2 - Պայմանագիր, որը կնքված է անորոշ ժամանակով 3 - Բանավոր համաձայնություն 4 - Փորձաշրջանով 5 - Առանց պայմանագրի	Վճարման բազայի ծածկագրեր 0- Բնեղեն, պայմանականորեն հաշվարկված 1- Ըստ արտադրանքի փափուրի 2- Ժամային 3- Օրական 4- Ամսական 5 Այլ աշխատավարձ (ևշել) 6- Առանց աշխատավարձ (կոմիսիոն վճարներ) 7 - Գյուղացիական տնտեսությունում առանց վարձատրության աշխատող
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Բ3. Աշխատողներին տրված նպաստներն ու դրամական պարգևները (գործունեության վերջին ամսում)

Բ3.1. Գործատուի կողմից վճարված պարտադիր սոցիալական ապահովագրությունը:

Բ3.2. Գործատուի կողմից վճարված մյուս բոլոր նպաստներն ու դրամական պարգևները:

Բ3.3. Ընդամենը ամսվա համար (Բ3.1 և Բ3.2 ընդհանուր գումար)

(հազար դրամ)

Բաժին 9. Արտադրություն, պաշարներ և վաճառք							
Գ1. Որքան է կազմել Ձեր գործունեության հասույթը (ներառյալ բարտերով փոխանակված ապրանքների իրացումը)							
Գ1.1. Գյուղատնտեսական գործունեության համար. (վերջին վեց ամսում) [][][][][][][][][] (հազար դրամ)				Գ1.2. Ոչ գյուղատնտեսական գործունեության համար. (վերջին ամսում) [][][][][][][][][] (հազար դրամ)			
Գ2. Վերաձևված (ձևափոխված) ենթարկված ապրանքների վաճառքը:							
Գյուղատնտեսական				Ոչ գյուղատնտեսական			
Ապրանքի տեսակը	Զտփի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)	Ապրանքի տեսակը	Զտփի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)
1				1			
2				2			
3				3			
4				4			
5				5			
Գ2.1. Ընդամենը վերջին վեց ամսում				Գ2.2. Ընդամենը վերջին ամսվա համար			
Գ3. Առանց վերաձևված (ձևափոխված) ապրանքների վաճառքը (վերավաճառքի համար գնված ապրանքների վաճառքից հասույթը):							
Գյուղատնտեսական				Ոչ գյուղատնտեսական			
Ապրանքի տեսակը	Զտփի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)	Ապրանքի տեսակը	Զտփի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)
1				1			
2				2			
3				3			
4				4			
5				5			
Գ3.1. Ընդամենը վերջին վեց ամսում				Գ3.2. Ընդամենը վերջին ամսվա համար			
Գ4. Մատուցված ծառայություններ							
Գյուղատնտեսական			Ոչ գյուղատնտեսական				
Ծառայության տեսակը	Ընդհանուր արժեքը (հազար դրամ)		Ծառայության տեսակը	Ընդհանուր արժեքը (հազար դրամ)			
1			1				
2			2				
3			3				
4			4				
5			5				
Գ4.1. Ընդամենը վերջին վեց ամսում			Գ4.2. Ընդամենը վերջին ամսվա համար				

Գ.5. Վերամշակման (ձևափոխման) ենթարկված ապրանքների (ներառյալ կիսապատրաստուկների) պաշարների փոփոխություն

Գյուղատնտեսական					Ոչ գյուղատնտեսական				
Ապրանքի տեսակը	Չափի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)		Ապրանքի տեսակը	Չափի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)	
1				1					
2				2					
3				3					
4				4					
5				5					
Գ5.1. Ընդամենը վերջին վեց ամսում					Գ5.2. Ընդամենը վերջին ամսվա համար				

Գ.6. Վերավաճառքի համար զնված ապրանքների պաշարների փոփոխությունը

Գյուղատնտեսական					Ոչ գյուղատնտեսական				
Ապրանքի տեսակը	Չափի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)		Ապրանքի տեսակը	Չափի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)	
1				1					
2				2					
3				3					
4				4					
5				5					
Գ6.1. Ընդամենը վերջին վեց ամսում					Գ6.2. Ընդամենը վերջին ամսվա համար				

Գ.7. Սեփական կարիքների համար օգտագործված սեփական արտադրության ապրանքների ծավալը

Գյուղատնտեսական					Ոչ գյուղատնտեսական				
Ապրանքի տեսակը	Չափի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)		Ապրանքի տեսակը	Չափի միավոր	Քանակը	Ընդհանուր արժեքը (հազար դրամ)	
1				1					
2				2					
3				3					
4				4					
5				5					
Գ7.1. Ընդամենը վերջին վեց ամսում					Գ7.2. Ընդամենը վերջին ամսվա համար				

Գ8. Ինչպիսի՞ տատանումներ են գրանցվել Ձեր բիզնեսում անցած 12 ամիսների ընթացքում:

Անիս	Ա1	Ա2	Ա3	Ա4	Ա5	Ա6	Ա7	Ա8	Ա9	Ա10	Ա11	Ա12
Գործունեության ծածկագիր												

Գործունեության ծածկագիր: 0 – Ոչ մի գործունեություն 1 – Նվազագույն 2 – Միջին 3 – Առավելագույն

Բաժին Գ. Հույժերի, նյութերի և վերավաճառման համար ապրանքների ձեռք բերման ծախսեր		
4. Հույժ, նյութեր (Դ1.1., Դ1.2.)		
5. Վերավաճառքի համար գնված ապրանքների արժեքը (Դ2.1., Դ2.2.)		
6. Վառելիք		
7. Ջուր		
8. Էլեկտրաէներգիա		
9. Վարձակալական վճարներ (տարածք, մեքենա-սարքավորումներ)		
10. Տրանսպորտային ծառայություններ		
11. Կապ, հաղորդակցություն, ինտերնետ		
12. Այլ ոչ արտադրական ծառայություններ (բանկային ծախսեր ներառյալ տոկոսներ և այլն)		
13. Արտադրական միջոցների պահպանում և վերանորոգում		
14. Այլ արտադրական ծառայություններ		
15. Վճարված տոկոսներ		
16. Հարկեր		
17. Ապահովագրական վճարներ		
18. Այլ ծախսեր (եջել)		
Դ3.1.Ընդամենը (հազար դրամ)		

Բաժին Ե. Կապիտալ ծախսեր					
Ե.1. Վերջին 12 ամիսների ընթացքում Ձեր գործունեության համար ինչ հիմնական միջոցներ են օգտագործվել:					
Տեսակը	Բնութագրեր (Կարճ նկարագիր)	Գործար- քի ձև	Մեխանի- զմություն ձև	Ձեռք բերման, վաճառքի կամ օտարման (ամիս / տարի)	Արժեք (փոխհատուցման ծախսեր) (հազար դրամ)
1. Հող	ա)				
	բ)				
	գ)				
2. Շենքեր	ա)				
	բ)				
	գ)				
3. Այլ կառուց- վածքներ	ա)				
	բ)				
	գ)				
4. Մեքենաներ և սարքա- վորումներ	ա)				
	բ)				
	գ)				
5. Տրանսպոր- տային միջոցներ	ա)				
	բ)				
	գ)				
6. Կահույք և գրասենյակայ ին սարքավո- րումներ	ա)				
	բ)				
	գ)				
7. Ձեռքի	ա)				
	բ)				

գործիքներ	զ)				
8. Բազմամյա տնկարկներ	ա)				
	բ)				
	գ)				
9. Բանող և մթերատու անասուններ	ա)				
	բ)				
	գ)				
10. Այլ	ա)				
	բ)				
	գ)				
	դ)				
	ե)				
	զ)				

Գործարքի ծածկագրեր: 1 - նոր գնված 2 - օգտագործված 3 - զգալի փոփոխությունների ենթարկված 4 - սեփական արտադրության 5 - վաճառք 6 - օտարում
Մեխանիզմների ծածկագրեր: 1 - անձնական սեփականություն 2 - համատեղ սեփականություն 3 - վարձակալված 4 - լիզինգ

Բաժին 2. Վարկային տեղեկատվություն

21. Ո՞րն է հիմնական պատճառը, որ Ղուբքը ընտրել էր այս գործունեությունը:

- 1 Ընտանեկան ավանդույթ
- 2 Համապատասխանում է իմ մասնագիտությանը:
- 3 Այն տալիս է ավելի բարձր եկամուտ (շահույթ):
- 4 Ապահովում է ավելի կայուն եկամուտ (շահույթ):
- 5 Այլ (նշել) _____

22. Ղուբքը Ձեր գործունեության համար վերցրել է արդյոք վարկ վերջին 12 ամիսների ընթացքում:

1 Այո 2 Ոչ → Մեզինքն ըստինքն 24

23. Ո՞րն է Ձեր բիզնեսի ֆինանսավորման աղբյուրը:

(Մուտքագրել "1" Այո -ի դեպքում կամ "2"՝ Ոչ-ի դեպքում)

1 Ազգականներ, հարևաններ, ընկերներ	1	<input type="checkbox"/>
2 Գործատու (կազմակերպության սեփականատեր)	2	<input type="checkbox"/>
3 Մասնավոր վարկային կազմակերպություն (գրավատուն)	3	<input type="checkbox"/>
4 Առևտրային բանկ	4	<input type="checkbox"/>
5 Կոոպերատիվ	5	<input type="checkbox"/>
6 Այլ (նշել) _____	6	<input type="checkbox"/>

24. Ինչու՞ վարկ չէք վերցրել Ձեր գործունեության համար:

(Մուտքագրել "1" Այո -ի դեպքում կամ "2"՝ Ոչ-ի դեպքում)

1 Ունեմ եկամտի այլ աղբյուր	1	<input type="checkbox"/>
2 Անչափ մեծ պահանջներ են	2	<input type="checkbox"/>
3 Տեղեկություն չունեմ վարկի աղբյուրի մասին	3	<input type="checkbox"/>
4 Բարձր տոկոսադրույթը	4	<input type="checkbox"/>
5 Այլ (նշել) _____	5	<input type="checkbox"/>

Բաժին Է. Այլ տեղեկատվություն

Է1. Ձեր կարծիքով, որքան է կազմում Հայաստանում փոքր ձեռնարկության (անհատ տնտեսավարողի) միջին ամսական փաստացի եկամուտը, ինչպես նաև վարձու աշխատողի միջին ամսական աշխատավարձը

(Հարողը կը կռն մասնական ծրուղները, որոնց վերաբերող տներ գնահատականներ)

(Հազար դրամ)

		սեփականատիրոջ միջին ամսական եկամուտ	վարձու աշխատողի միջին ամսական աշխատավարձ
1	Լեռնահանքային արդյունաբերություն		
2	Վերամշակող արդյունաբերություն		
3	Շինարարություն		
4	Մեծածախ առևտուր		
5	Մանրածախ առևտուր		
6	Տրանսպորտ		
7	Կրթություն		
8	Առողջապահություն		
9	Այլ ծառայություններ		

Է2. Ձեր կարծիքով, Հայաստանում փոքր ձեռնարկությունները (անհատ տնտեսավարողները) իրենց իրական շրջանառության կամ եկամուտների, որ մասը պիտի արտացոլեն պաշտոնական մարմիններին տրվող հաշվետվություններում, որպեսզի չզրկվեն գոնե նվազագույն եկամտից:

- 1 մինչև 20%-ը
- 2 21-ից 50 %-ը
- 3 51-ից 80 %-ը
- 4 81-ից բարձր
- 5 ամբողջը (ոչինչ պետք չէ թաքցնել):

Հարցազրույցի ավարտ

Շնորհակալություն

Appendix 10

Informal Sector Survey 2009 Questionnaire: English Version

Confidentiality of the provided information is guaranteed by the RA Law “On State Statistics”. According to the RA Law “On State Statistics”, information received during the interview will be published only in the summarized form for statistical analysis on employment.

National Statistical Service of the Republic of Armenia

*Approved by State Council on Statistics
on 5 Dec 2008, No 43-A decision*

The Informal Sector Survey

Number of Questionnaire

Number of Household

Number of Household Head
(form 1-HH, section A, table 1 or section D, table 2, column 1)

Survey period *month 2009 year*

Country _____
name code

City _____
name code

Number of Interviewer

Interview Date
I visit I I visit III I visit IV visit V visit

Name of Interviewer

(signature)

SECTION A. ORGANIZATION OF BUSINESS																			
A1. What is the main activity (product made and/or sold/ service provided for pay) of your business? <i>see 1- HH, page 11 column 5)</i>																			
_____	NACE	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																	
A2. In what year was this business established?																			
<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																			
A3. In which type of premises do you conduct this business activity? <i>(see 1- HH, page 11 column 7)</i>																			
<u>Fixed premises</u>		<u>No fixed premises</u>																	
01 At home with no special work space	02 At home with work space inside/attached to the home	10 Transport vehicle	11 No fixed location (e.g. mobile, door-to-door, street w/o fixed post)																
03 Business premises with fixed location independent from home	04 Farm or individual agriculture/subsidiary plot	90 Others (specify) _____																	
05 Home or workplace of the client	06 Construction site																		
07 Market, bazaar stall, trade fair	08 Street, pavement or highway with fixed post																		
09 Employer's home			<table border="1" style="width: 40px; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 20px;"></td> <td style="width: 20px;"></td> </tr> </table>																
A4. In addition to the main activity you described above, do you carry out other activities in this place of business?																			
1 Yes, specify _____			2 No																
<input type="checkbox"/>																			
NACE		<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																	
A5. Do you have other places of business where you also conduct your main activity?																			
1 Yes		2 No →																	
<input type="checkbox"/>			<table border="1" style="width: 60px; height: 20px; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;">Skip to A6</td> </tr> </table>	Skip to A6															
Skip to A6																			
A5.1. How many other places?																			
<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																			
A6. Is your business registered in any local or national government agency?																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;">Yes</th> <th style="width: 10%; text-align: center;">No</th> <th style="width: 20%; text-align: center;">In the process of being registered</th> </tr> </thead> <tbody> <tr> <td>A6.1 Tax agency</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> </tr> <tr> <td>A6.2 State redister</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> </tr> <tr> <td>A6.3 Social security agency</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> </tr> </tbody> </table>				Yes	No	In the process of being registered	A6.1 Tax agency	1	2	3	A6.2 State redister	1	2	3	A6.3 Social security agency	1	2	3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Yes	No	In the process of being registered																
A6.1 Tax agency	1	2	3																
A6.2 State redister	1	2	3																
A6.3 Social security agency	1	2	3																
A7. Do you have a bank account in the name of this business?																			
1 Yes		2 No																	
<input type="checkbox"/>																			
A8. What type of bookkeeping and account practices do you keep for this business?																			
1 No written records are kept	2 Informal records for personal use	4 Detailed formal accounts (balance sheets)	5 Others (specify) _____																
3 Simplified accountinging format required for tax payment																			
<input type="checkbox"/>																			
A9. Do you run a business in other locations which is different from this main activity?																			
1 Yes		2 No →																	
<input type="checkbox"/>			<table border="1" style="width: 60px; height: 20px; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;">Skip to section B</td> </tr> </table>	Skip to section B															
Skip to section B																			
A9.1. How many other places?																			
<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																			

SECTION B. EMPLOYMENT AND COMPENSATION									
B1. How many persons, including yourself, worked in your business even for just an hour during the <u>last month of operation</u>?									
Total number of employees							<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>		
How many paid workers?							<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>		
B2. Characteristics of those who worked regularly during the last month your business operated (including yourself)									
No.	Name (1)	Sex (2)	Age (yrs) (3)	Status (4)	Contract (5)	Total working hours (6)	Basis of Payment (7)	Wages and salaries (thousand dram) (8)	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
B2.1 Total for the month							(Thousand Dram)		
								<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	
Codes for Sex		Codes for Status		Codes for Contract		Codes for Basis of Payment			
1 – Male 2 – Female		1 – Boss/employer 2 – Own-account worker/ Self employed 3 – Wage earner 4 – Paid family worker 5 – Unpaid family worker		1 – Written contract without fixed duration 2 – Written contract with fixed duration 3 – Verbal agreement 4 – On trial/probation 5 – No contract		0- In kind, imputed (received as wage/salary) 1- Per piece 2- Per hour 3- Per day 4- Monthly 5- Other salaries/wages (specify) 6- Not salaries/wages (specify e.g. commission basis) 7- Unpaid farm worker			
B3. Allowances and bonuses paid to workers (last month of operation)									
B3.1. Total social insurance paid by employer						(Thousand Dram)		<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	
B3.2. Total of all other allowances/bonuses paid by employer						(Thousand Dram)		<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	
B3.3. Total for the month (Total of B3.1 and B3.2)						(Thousand Dram)		<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	

SECTION C. PRODUCTION AND SALE (last month of operation)									
C1. What was the total amount of your gross sale/revenue (including barter)? (Thousand Dram) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>									
C1.1. FOR AGRICULTURE: What was the total amount of your gross sale/ revenue for the last 6 months of operation? (Thousand Dram) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>					C1.2. FOR NON-AGRICULTURE: What was the total amount of your gross sale/ revenue for the last month of operation? (Thousand Dram) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
C2. Products sold after transformation									
AGRICULTURE					NON-AGRICULTURE				
N	Kind of product	Qty	Unit	Total value (Thousand Dram)	N	Kind of product	Qty	Unit	Total value (Thousand Dram)
1					1				
2					2				
3					3				
4					4				
5					5				
C2.1. TOTAL (for the last 6 months)					C2.2. TOTAL (for the last month)				
C3. Products sold without transformation (sales of products bought for trade)									
AGRICULTURE					NON-AGRICULTURE				
N	Kind of product	Qty	Unit	Total value (Thousand Dram)	N	Kind of product	Qty	Unit	Total value (Thousand Dram)
1					1				
2					2				
3					3				
4					4				
5					5				
C3.1. TOTAL (for the last 6 months)					C3.2. TOTAL (for the last month)				
C.4 Services offered									
AGRICULTURE					NON-AGRICULTURE				
No.	Type of service	Total value (Thousand Dram)			N o.	Type of service	Total value (Thousand Dram)		
1					1				
2					2				
3					3				
4					4				
5					5				
C.4.1. TOTAL (for the last 6 months)					C.4.2. TOTAL (for the last month)				

C.5. Changes in inventories of products (including semi-products) after transformation												
AGRICULTURE					NON-AGRICULTURE							
	Kind of product	Qty	Unit	Total value (Thousand Dram)		Kind of product	Qty	Unit	Total value (Thousand Dram)			
1					1							
2					2							
3					3							
4					4							
5					5							
C.5.1 TOTAL (for the last 6 months)					C.5.1 TOTAL (for the last month)							
C.6. Changes in inventories of products without transformation												
AGRICULTURE					NON-AGRICULTURE							
	Kind of product	Qty	Unit	Total value (Thousand Dram)		Kind of product	Qty	Unit	Total value (Thousand Dram)			
1					1							
2					2							
3					3							
4					4							
5					5							
C.6.1 TOTAL (for the last 6 months)					C.6.1 TOTAL (for the last month)							
C.7 Products (after transformation) used for own consumption												
AGRICULTURE					NON-AGRICULTURE							
	Kind of product	Qty	Unit	Total Total value (Thousand Dram)		Kind of product	Qty	Unit	Total value (Thousand Dram)			
1					1							
2					2							
3					3							
4					4							
5					5							
C.7.1 TOTAL (for the last 6 months)					C.7.1 TOTAL (for the last month)							
C. 8 How did your business activity fluctuate within the past 12 months?												
Month	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Activity												
Activity codes: 0 – No activity 1 – Minimum 2 – Average 3 – Maximum												

SECTION D. EXPENDITURES ON RAW MATERIALS AND STOCK (last month of operation)		
4. Raw materials (from D1.1, D1.2)		
5. Purchase cost of products sold (from D2.1, D2.2)		
6. Fuel, gasoline & lubricants		
7. Water		
8. Electricity		
9. Rental payments (<i>space, machinery, structures</i>)		
10. Transport services		
11. Post, communication, internet		
12. Other non-industrial services (<i>bank charges excluding interest, professional, business and other service fees, representation and entertainment expense, storage and warehousing fees, stevedoring, forwarding and other freight charges</i>)		
13. Repair & maintenance of facilities & equipment		
14. Other industrial services		
15. Paid interests		
16. Taxes		
17. Insurance		
18. Other charges (specify)		
D3.1 Total for the month	(Thousand Dram)	

SECTION E. CAPITAL EXPENDITURES					
E1. What are the capital assets you used for your business activity during the past 12 months?					
Type	Characteristics (Short Description)	Mode of transaction	Ownership	Date of acquisition/sale/lost (month / year)	Value (replacement cost) (Thousand Dram)
1. Land	a)				
	b)				
	c)				
2. Buildings	a)				
	b)				
	c)				
3. Other structures	a)				
	b)				
	c)				
4. Transport equipment	a)				
	b)				
	c)				
5. Other machinery	a)				
	b)				

and equipment	c)				
6. Furniture and office equipment	a)				
	b)				
	c)				
7. Small tools	a)				
	b)				
	c)				
8. Other agricultural assets	a)				
	b)				
	c)				
9. Livestock and poultry	a)				
	b)				
	c)				
10. Others	a)				
	b)				
	c)				
	d)				
	e)				
	f)				
<p>Mode codes: 1 – Bought new 2 – Bought used 3 – Made major improvements 4 – Own-produced 5 – Sold 6 – Loss</p> <p>Ownership codes: 1 – Personal property 2 – Rent 3 – Lease 4 - Share property</p>					

SECTION F. CREDIT INFORMATION

F1. What is the main reason you chose this business activity?

- 1 Family tradition
- 2 It is the profession that I know
- 3 It gives better income/higher profits than other products or services
- 4 More stable returns than other products/services
- 5 Other (specify) _____

F2. During the last 12 months of operation, did you avail of any credit to finance your business?

1 Yes

2 No → **Skip to F4**

F3. What was/were your source(s) of financing your business?

(Enter "1" for YES; "2" for NO)

- 1 Relative/neighbor/friends
- 2 Employer/landlord
- 3 Private money lender/pawnshop
- 4 Private bank
- 5 Cooperative
- 6 Others, specify _____

1
2
3
4
5
6

F4. Why did you not avail of any loan to finance your business?
 (Enter "1" for YES; "2" for NO)

1	Has other source of income	1	<input type="checkbox"/>
2	Burdensome requirements	2	<input type="checkbox"/>
3	Unaware of source	3	<input type="checkbox"/>
4	High interest rate for loans	4	<input type="checkbox"/>
5	Others, specify _____	5	<input type="checkbox"/>

SECTION G .OTHER INFORMATION

G1. In your opinion, how much is the average real income of small producing unit (organisation or person) in Armenia by the following industries
 (Fill only those rows where you have estimates)

(Thousand dram)

1	Mining and Quarrying	
2	Manufacturing	
3	Construction	
4	Wholesale trade	
5	Retail trade	
6	Transportation	
7	Education	
8	Health	
9	Other services	

G2. In your opinion, what share of their real income should small producing units report to state bodies, to be able to receive at least minimal profit.

1	up to 20%	<input type="checkbox"/>
2	21-50 %	
3	51-80 %	
4	81 and more	
5	totally (no need to hide anything)	

End Interview
Thank You!!!

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About the Country Report

This country report is one of the outputs of Asian Development Bank's (ADB) regional technical assistance (RETA) 6430: Measuring the Informal Sector. The National Statistical Service of the Republic of Armenia, one of the three partner statistical agencies of RETA 6430, worked closely with ADB in adapting the mixed survey approach for collecting informal sector and informal employment data, in analyzing the survey results, and in writing this country report.

The country report presents an in-depth analysis of informal employment, which comprises about 52.1% of all jobs in Armenia. The method for estimating the contribution of the informal sector to the gross domestic product, the resulting estimates, labor productivity, and the characteristics of informal sector production units are also discussed in this report.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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