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**NATIONAL POLICY FOR PROFESSIONAL EDUCATION
CONCEPT PAPER**

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Of a Concept Paper on the Development of a National Policy for Professional Education

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Introduction

OVERVIEW AND COMPONENTS OF THE PROJECT

Problem Description

A well-functioning system of professional education is extremely important for modern societies and economies. It plays a pivotal role for meeting the increasing demand of the industry, development of economic infrastructure, improvement of the education level of the population, growth of employment, reduction of unemployment, poverty reduction, creation of a robust, mobile and open society, as well as for addressing many other issues of national life.

Armenia's system of professional education was subjected to a fundamental reform since 1990's. Tuition fees were introduced and non-public education institutions were established to function along with the public ones. Legal and regulatory framework for the sector was established and the process of European integration is underway.

Along with positive developments, this process was characterized by numerous challenges and shortcomings. The relationship between the labor market and professional education institutions is weak and not coordinated, there is no cooperation between corporations and the education system, the latter is lacking in terms of efficiency and market orientation, the state does not effectively contribute to the financing of the system, there are problems with the quality and content of professional education.

For the purposes of further development of Armenia's professional education system, bringing it in line with changing and growing demands of the labor market, formulation and implementation of sound and flexible government policies, there is a need to look into the current state of the sector, its trends and opportunities, relationship with the labor market and management of professional education institutions.

Goals and objectives of the project

The project aims to support the development of a national policy for professional education, increase the efficiency of such policy through the following:

- Review the current supply and demand in Armenia's labor market, identify prevailing trends and prospects.
- Analyze the capacities of Armenia's vocational and higher professional education system in terms of meeting the labor market demand.
- Analyze and define the key requirements towards the professional education system at the current stage of the country's development and propose ways for meeting these requirements.
- Assess the current and future role of the state in administration of professional education, analyze opportunities and modalities for increasing the efficiency of interventions by the state.
- Review the experience and best practices of interaction between the professional education system and the labor market and make recommendations suitable for Armenia.

- Make policy recommendations for the development of a national agenda for professional education.

Activities undertaken in the framework of the project

The empirical base of the project comprises findings of six social surveys and analysis of official statistics.

The structure, the current state and development trends of Armenia's labor market were analyzed.

Employment of students of higher education institutions, employment motives and trends were reviewed.

Characteristics, mechanisms, pace and time frames of labor market integration of university graduates were analyzed along with contributing and inhibiting factors.

Content analysis of vacancy announcements in the national media was undertaken.

Occupational rating of various professions was analyzed to identify the main factors that determine occupation choices in Armenia.

A sample survey among employers was conducted to identify issues pertaining to recruitment, training and retraining of staff.

Medium- and long-term projections of employers with respect to economic development and labor force demand were analyzed along with cooperation opportunities between professional education institutions and corporations.

Official statistics on professional education, economy and labor market was analyzed and summarized.

Focus group discussions on identified challenges and proposed solutions were conducted to obtain professional opinion and expert assessment of heads and representatives of higher and secondary professional education institutions.

A set of recommendations and policy proposals for national agenda for professional education was formulated.

The project report consists of two parts.

Part one introduces findings of social surveys and offers an analysis of identified trends and official statistics.

Part two offers a conceptual framework and policy recommendations for improvement and development of the national agenda for professional education.

Acknowledgements

The project team would like to thank the Country Office of the United Nations Development Programme for technical and financial support, the Ministry of Education and Science for organizational and information support, the National Statistical Service and the National Employment Agency for information provided, the management of Yerevan State Institute of Economics for providing facilities, and all participants of professional discussions of findings and recommendations of the project for their inputs.

The project was implemented during May – November 2005.

PART ONE

FINDINGS OF SOCIAL SURVEYS, ANALYSIS OF STATISTICAL DATA

1.OVERVIEW OF ARMENIA’S LABOR MARKET

In Armenia, like in other CIS countries, the labor market is still in its formation stage. Presently, the factors inhibiting the development of Armenia’s labor market include negative consequences of mass privatization, hidden unemployment, especially in rural areas, shortcomings of the legal framework, lack of labor market infrastructure including underdeveloped information systems and irregular labor migration.

Armenia’s labor market is characterized by several issues including a large-scale unemployment due to the mismatch of labor supply and demand, hidden employment, uneven levels of the labor market and economic development across different regions, infrastructure weaknesses, inefficient application of financial instruments in the national labor policy.

The current state of Armenia’s labor market may be characterized by the following features. Since 2001 there has been a general trend towards narrowing the gap between the supply and demand of labor. In 2004, the supply totaled only 142.7 thousand people, while the demand has increased considerably resulting, in 2004, in 229 job seekers per vacancy (see annex 1).

The unemployment rate (calculated as a ratio of the average number of the unemployed to the total labor force or economically active population) was 9.4% in 2004, against 11.7% in 2000 (Table 1). Women’s registered unemployment is more than twice as high as that of men. Unemployment data, however, does not reflect the real unemployment level that should include unregistered and hidden unemployment figures.

According to expert assessments, the real level of unemployment is twice or even three times higher than the officially registered one. According to findings of a sample survey of 2,539 households conducted by the National Statistical Service in 2004, the real level of unemployment, calculated according to ILO methodology, was 31.6% (Table 2). The level of women’s unemployment in the reporting period was consistently higher than the men’s - 37.6% against 26.6%.

It is worth mentioning that the difference between the officially registered unemployment levels and findings of household surveys is typical not only for Armenia but also for some other transition economies. Unemployment levels established from household surveys across CIS and the Baltics invariably exceed the official statistical figures. Back in 1999, this difference was more than 7 times in Russia and 3 times in the Ukraine and Estonia.

Table 1. *Unemployment levels by gender*¹

	<i>% of economically active population</i>				
	2000	2001	2002	2003	2004
Total	11.7	10.4	10.8	10.1	9.4
Men	8.0	6.9	7.2	5.9	5.2
Women	15.7	14.1	14.5	14.4	13.6

Table 2. *Unemployment level by gender*³

¹ Source: RA NSS

	% of economically active population		
	Total	Men	Women
2001	38.4	36.8	40.2
2002	35.3	31.4	39.7
2003	31.2	24.9	38.2
2004	31.6	26.6	37.6

Disparity between high supply and low demand causes tensions in Armenia's labor market.

The emerging labor market is affected, among others, by the following factors:

- Deteriorating demographic situation,
- Outward migration due to the consequences of the war and the blockade and influx of refugees.
- Structural changes in the economy as well as spontaneous mass privatisation that resulted in quazi-modernisation of the sectoral structure of employment, characterised by increased employment in the services sector on the one hand and migration of the labor force from industry and construction towards agriculture, on the other hand. Many privatised enterprises failed to modernise their technology and operations and closed down, causing hidden unemployment.

Analyses indicate that the the share of the unemployed with university and secondary professional education in the total number of the unemployed is consistently increasing. In 2000, it was 35.8% of all unemployed, going up to 38.3% in 2004. Women comprise the majority of the unemployed with university or secondary professional education (62.8% in 2000 and 64.3% in 2004).

Elasticity of employment with respect to GDP calculated as the percentage change in the number of employed persons associated with a percentage change in economic output, measured by GDP, registered first positive values in 2003-2004 (Table 3). In 1994-2002, this indicator was negative in spite of the fact that the real GDP growth was high and consistent. This is due to a number of reasons, including economic reforms (including privatisation), structural shifts in the national industry and emergence of hidden employment. It is worth mentioning that in 2002-2004, adjustment of the employment growth rate was done based on 2001 census data. According to actual data, the real GDP growth in the reporting period was not informed by labor-intensive sectors, but rather resource-intensive ones, including mining industry, processing of precious stones and base metals. At the same time, labor intensive agriculture sector employs about one million people or almost half of working population. This means that productivity of labor in agriculture continues to remain extremely low, technology is obsolete and informal segment is prevailing. Notwithstanding, there is a trend towards the development of labor-intensive sectors including food processing, services and information technologies.

³ According to findings of a labor force sample survey, Armenia's Socio-economic situation, January – December 2004, RA NSS, Yerevan, p. 111.

Table 3.*Elasticity of employment to GDP, 1994-2004*⁴

	Armenia		
	Real GDP growth rate (%)	Employment growth rate (%)	Elasticity of employment to GDP
1994	5,40	-3,61	-0,67
1995	6,90	-0,75	-0,11
1996	5,90	-2,76	-0,47
1997	3,30	-4,42	-1,34
1998	7,30	-2,54	-0,35
1999	3,30	-2,92	-0,89
2000	5,90	-1,58	-0,27
2001	9,60	-0,10	-0,01
2002	13,20	-12,53	-0,95
2003	13,90	0,11	0,01
2004	10,10	0,30	0,03

Supply and demand mix of the labor market is assessed by using various indicators. The main indicator used for analysis purposes is the Beveridge curve (Chart 1). Such analysis is complicated due to the fact that some of the required data is missing (particularly with respect to the number of jobs available). Chart 1 presents what is known as the Beveridge curve and illustrates the relationship between the level of unemployment (s) and the number of available jobs (v).

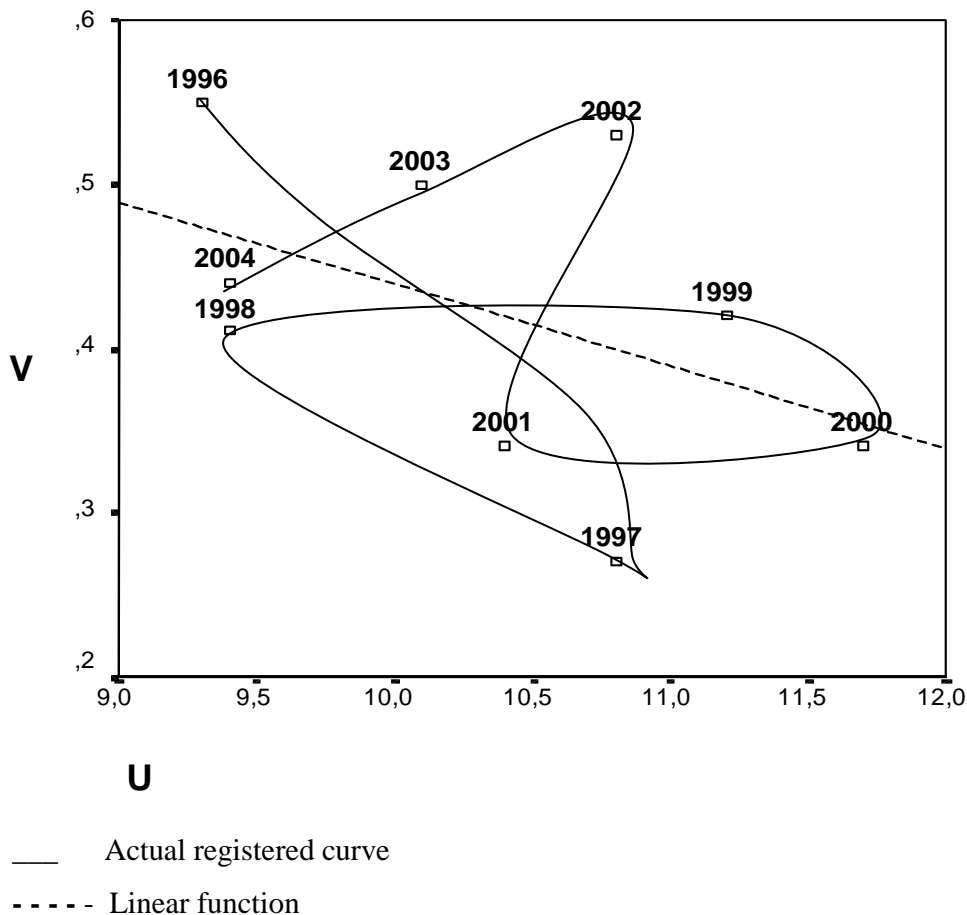
Changes of the Beveridge curve for Armenia in 1996 – 2004 are presented in Chart 1. The available jobs' indicator is presented as a % of the total number of job seekers.

It should be borne in mind that the numbers of the unemployed and the available jobs are those officially registered with the National Employment Agency. The linear regression curve illustrates an inverse relationship between the unemployment level and the number of available jobs.

Chart 1.*Regressive relationship between unemployment and available jobs, 1996 – 2004 (%)*⁵

⁴ Source: RA NSS

⁵ Source: RA NSS, National Employment Agency, author's estimates



According to Chart 1, indicators for available jobs and unemployment change in different directions, signaling fluctuations in the economy cycle. Between 1999-2000, the Beverage curve sharply shifted towards right, owing to introduction, as of 1 January 1999, of a family allowance system (unemployment status was a necessary eligibility criteria). However, against the relatively stable number of available jobs, the increase in the unemployment level indicates higher structural unemployment. This trend was typical of some EU countries in 1990's. 2001-2002 registered a simultaneous increase in the number of available jobs and the level of unemployment, possibly owing to low efficiency of filling the available vacancies and inefficiency of employment agencies. An opposite trend registered in 2003-2004 (decrease in the number of available jobs and unemployment levels) reflects certain improvements in the job matching process.²

According to some estimates, the tension in Armenia's labor market will ease starting from 2010, job supply will decrease owing to the reduced number of those entering working age and increased number of retirees.

Sustainable economic growth offers an opportunity to determine the potential job demand based on enterprise development and productivity growth prospects.

² According to European Central Bank survey findings, in 1997-2000 the Beverage curve in countries of Euro area moved upwards and registered growing mismatch in labour supply and demand especially in some areas of education and vocational training sectors (*Labour market mismatches in euro area countries*), European Central Bank, March 2002, p. 17, Eurostat (LFS), ECB estimates.

Quality-wise, the total job demand is an economic category that is important for formulation and implementation of national economic policies. Depending on the professionalism and quality levels of the labor force, the demand is divided into the following main categories:

- Demand for highly skilled labor force,
- Demand for moderately skilled labor force,
- Demand for low-skilled labor force and
- Demand for unskilled labor force

In developed countries, demand for highly skilled labor force prevails. In the countries of Euro zone, unemployment levels fall as the education level rises. In 2000, unemployment among those with higher education was only 5%, against 7.5% among those with upper secondary education and 11.2% of those with lower secondary education. This indicates higher demand for labor force with high education level. Between 1992-2000, the average annual employment growth rate among those with higher education was 3.3%, against 1.1% for those with upper secondary education and 0.6% for those with lower secondary education. *See annex 2.*

During transition period in CIS countries including Armenia, qualified labor force was either pushed out of the industry or partly emigrated, bringing about an increased labor force with moderate or low qualifications. Among negative implications of this process is the shortage of qualified labor, especially highly skilled industrial workers, registered in the last years; this shortage should be addressed through rehabilitation of vocational and secondary professional education system.

Armenia's labor market is currently characterised by low demand since the number of vacancies registered with employment agencies is grossly inadequate. The level of shadow employment, however, indicates that the real demand is considerably higher. According to expert assessments, the hidden employment is as large as 200 thousand people. According to findings of a sample survey undertaken by NSS between 2001 – 2004, hidden employment amounted 22.6% of all those employed in the national economy, with some officially registered as unemployed. Employees working on oral contracts accounted for 12.7%, and unregistered employers and sole entrepreneurs constituted 9.9% of all those employed in 2004.

The analysis of the labor demand structure demonstrates that in the last 5 years there has been a considerable improvement, owing, in the first place, to increased demand in the manufacturing sector. According to Table 4, as of 1 September 2005, more than a quarter of all vacancies registered with the national employment agency were related to qualified manual labor, and more than 85% of such demand was concentrated in Yerevan.

Table 4. *Distribution of labor demand by professional categories, as of 1 September 2005⁶*

No.	Profession	According to local employment agencies		According to data gathered from employment agencies and other sources	Total
		Yerevan	Regions		
1	Engineers	4	-	1	5
2	Teachers	5	100	-	105
3	Doctors, pharmacologists	1	218	1	220
4	Accountants, clerks	4	2	6	12
5	Service sector professionals	109	13	26	148
6	Industrial workers	290	42	8	340

⁶ The table is compiled based on data from RA National Employment Agency

7	Sales agents	7	7	1	15
8	Seamstresses	47	120	1	168
9	Drivers	27	2	2	31
10	Guards, cleaners	167	2	1	170
11	Other	55	36	29	120
	TOTAL	716	542	76	1334

The demand is particularly high for seamstresses, spinners, weavers, locksmiths, drivers, turners, etc. Back in 1999, the demand for labor in manufacturing sector was only 28% of the total.

Another issue is meeting the employers' demand for qualified labor force, since many of the unemployed do not correspond to vacancy requirements due to their low professional qualification. **In this connection, of importance is the rehabilitation and the development of vocational and professional education system in line with requirements of the labor market.**

The labor demand is fairly uneven across regions of the country. About 80% of the total demand is concentrated in Yerevan, while the majority of remaining vacancies are available in Syunik and Shirak regions.

According to findings of sample surveys in the regions of Armenia, the demand for skilled manual labor is also fairly high there. Findings of a survey undertaken in Lori and Tavush regions in the framework of an EU TACIS project on Support to the Development of Secondary Professional Education demonstrate that there is a high demand for locksmiths, turners, builders and seamstresses (Table 5).

Table 5. Labor demand distribution by vocation/occupation in Vanadzor and Ijevan cities⁷

Occupational code	Profession	Number of vacancies
Vanadzor		
Locksmiths	0103-12	373
Masons	0407-01	245
Welders	0406-01	219
Riggers and fitters	0405-02	209
Seamstresses	0604-02	154
Computer operators	0302-07	126
Ijevan		
Economics, accounting and audit (by sectors)	0601	34
Furniture Upholsterers	0404-05	26
Textile workers	0601-09	25
Computer operators	0302-07	17
Builders	0406-01	17

According to the survey findings, Armenia has a high demand for qualified economists which is primarily due to the high economic growth rate. Accountants, managers, business and marketing consultants, business development consultants, finance and banking experts are in particularly high demand both in local private enterprises and consulting companies and branches of

⁷ The table is compiled based on a sample survey of labor demand.

foreign companies operating in Armenia. Findings of a sample survey in Ijevan demonstrated that economists, including accountants and auditors, account for a fairly big share of labor demand.

Comparative analysis of the labor demand in Armenia and other CIS states demonstrates that the demand for labor force registered with employment agencies in Armenia is considerably lower than that in other countries. On the other hand, Armenia is second only to Russia and the Ukraine in terms of unemployed job seekers. As a result, the official indicator for vacancy load exceeds the CIS average by a factor of 20 and more.

The technological progress, or technological revolution, is one of the key factors affecting the labor supply structure. It informs the qualitative development of production means and labor force at the same time contributing, however, to release of the labor force from manufacturing sector. In developed countries like the US, 86% of workers are blue collars. In 1990's, employment among white collars in Western Germany shrank by 40% owing to proliferation of new office technologies.

Research conducted in the US projects an increased number of jobs available to economists, especially in the private sector companies mostly dealing with consulting and research.⁸ This is due to the current state of confusion in the global economy, growing competition and the fact that business sector projections are mostly based on quantitative analysis. This brings about an increased demand for economists in various industry sectors.

Experience of various countries, including those in Central and Eastern Europe, Baltics and the West, in terms of efficient and effective labor market and employment policies demonstrates that the only way to tackle the challenges of the labor market is the implementation of consistent and proactive employment policies and investment in human capital.

According to some estimates, proactive interventions are even cheaper than reactive ones considering all negative implications of unemployment, including depletion of the human capital, emigration, crime growth, social deprivation and alienation.

⁸ "Economics Careers, Jobs and Degree Information", www.CareerOverview.com, 2004.

ANNEXES

Annex 1. Dynamics of labor demand 1992-2004

(as of year-ends)

Years	Labor demand from companies (th. people)	Job seekers (th. people)	Load per vacancy (people)
1992	1.6	64.4	40
1993	1.0	110.2	110
1994	0.5	97.3	183
1995	1.1	133.3	121
1996	0.8	149.7	181
1997	0.9	185.6	217
1998	0.6	148.8	269
1999	0.8	202.2	255
2000	0.6	178.8	319
2001	0.5	162.8	313
2002	0.9	154.1	172
2003	0.7	148.4	201
2004	0.6	142.7	229

Source : Data from RA National Employment Agency and NSS

Annex 2. Educational mismatch in countries of Euro area

Country	Unemployment level in 2000 (%)				Mismatch by education level (var ui / u) (%)			
	Total	Lower secondary	Upper secondary	Higher education	2000	1992-2000	1992-1997	1997-2000
Belgium	5.7	9.3	5.5	2.4	37	7	9	-2
Germany	7.9	14.0	8.0	4.2	39	19	11	8
Greece	9.2	8.5	11.0	7.2	5	0	0	-1
Spain	12.3	14.1	11.4	9.2	4	-1	-2	1
France	9.2	14.0	8.0	5.1	24	11	2	9
Ireland	4.3	7.5	2.6	1.9	50	16	8	7
Italy	8.4	10.0	7.4	6.1	6	2	0	2
Luxemburg	2.4	3.4	2.1	1.4	17	-	-	-
Netherlands	2.2	3.4	1.8	1.7	19	-29	-28	-1
Austria	4.5	8.2	4.0	2.4	47	25	4	21
Portugal	3.4	3.5	3.8	2.4	5	-12	-1	-11
Finland	8.1	12.2	8.9	4.8	20	4	5	0
Average for Euro area countries	8.1	11.2	7.5	5.0	14	2	-1	3

Source: Labour Market Mismatches In Euro Area Countries, European Central Bank, March 2002, p. 17, Eurostat (LFS), ECB estimates

2. EMPLOYMENT AMONG STUDENTS OF HIGHER EDUCATION INSTITUTIONS (Survey findings)

Contents

- 2.1. Scope of the Survey
- 2.2. Level of employment among university students
- 2.3. Level of employment among students by years of study
- 2.4. Employment of students by fields of study
- 2.5. Salary levels of working students
- 2.6. Motivation to work
- 2.7. Annexes

2.1. Scope of the Survey

Problem:

Indicators of full or part-time employment among students offer interesting data and demonstrate trends of labor market demand and educational match. These indicators are quite illustrative in terms of showing the existing links (including spontaneous ones) established between educational institutions and employers, as well as opportunities for establishment and development of such links.

One of the components of the project is an analysis of the scope and characteristics of employment among students in various fields of study.

Goals of the survey:

- Study employment among students of Armenia's universities, its levels, general characteristics and possible trends.
- Identify, based on statistical data, occupations that enjoy higher demand in the labor market and compare these data with the analysis of the current trends in the labor market.

The survey was descriptive and pursued the following *objectives*:

- Find out how many students combine their studies with stable (full-time) or not stable (ad hoc, seasonal) jobs.
- Find out how many students succeeded in finding a matching job. Identify occupations that enjoy highest demand in the labor market and thus offer employment opportunities to the future professionals.
- Identify the average monthly salary level of students compared to that of qualified professionals.
- Identify main motives that prompt employment of university students.

Answers to these questions will help identify occupations that enjoy or will enjoy a relatively high labor market demand thus enabling future professionals to take first steps towards occupying their niche in this market.

The survey was conducted between 10 – 30 May 2005, by a questionnaire method.

The survey used sampling by source method and covered students of two state (Yerevan State University and Yerevan State Pedagogical University) and one private (Northern University) universities with a total of 13 departments. It covered the students of all years. The number of students covered at source and present in auditoriums at the time of the polling was 3,031. Out of these, 326 working students identified through total polling, were requested to fill in the questionnaire. This means that **employment level among students in 13 professional departments of various universities of Yerevan is 10.8%.**

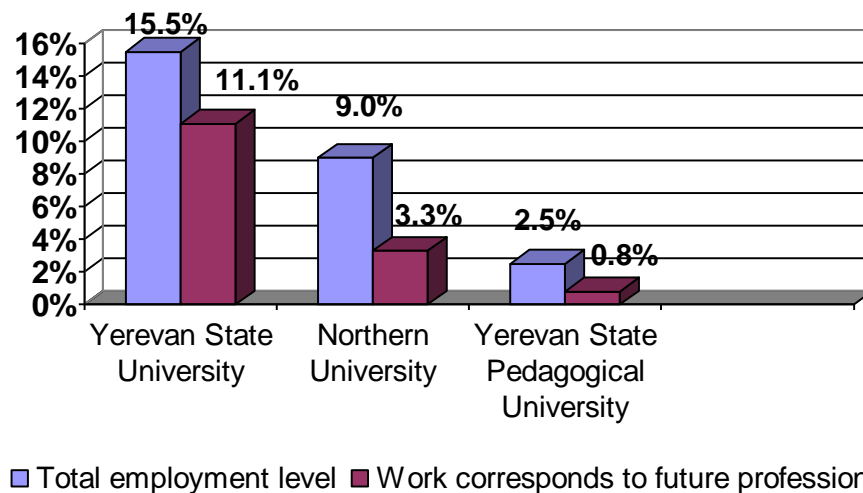
2.2. Level of employment among students

According to the survey findings, full-time or part-time employment level among students covered by the survey is 10.8%. Of these, 7.1% work according to their future profession, and 7.1% have stable, full-time jobs. An average job experience of working students across different occupations and years of schooling is approx. 16.5 months.

Employment level among Yerevan State University students (15.5%) is higher than, for example, among surveyed students of Yerevan State Pedagogical University (2.5%) and Northern University (9%).

71.6% of working students of Yerevan State University (or 11.1% of the total number of students at Yerevan State) work according to their future profession. At the same time, this is true for only 33.3% of Pedagogical University students and 37% of students at Northern University (*Chart 1*).

Chart 1. *Level of employment among students by universities*

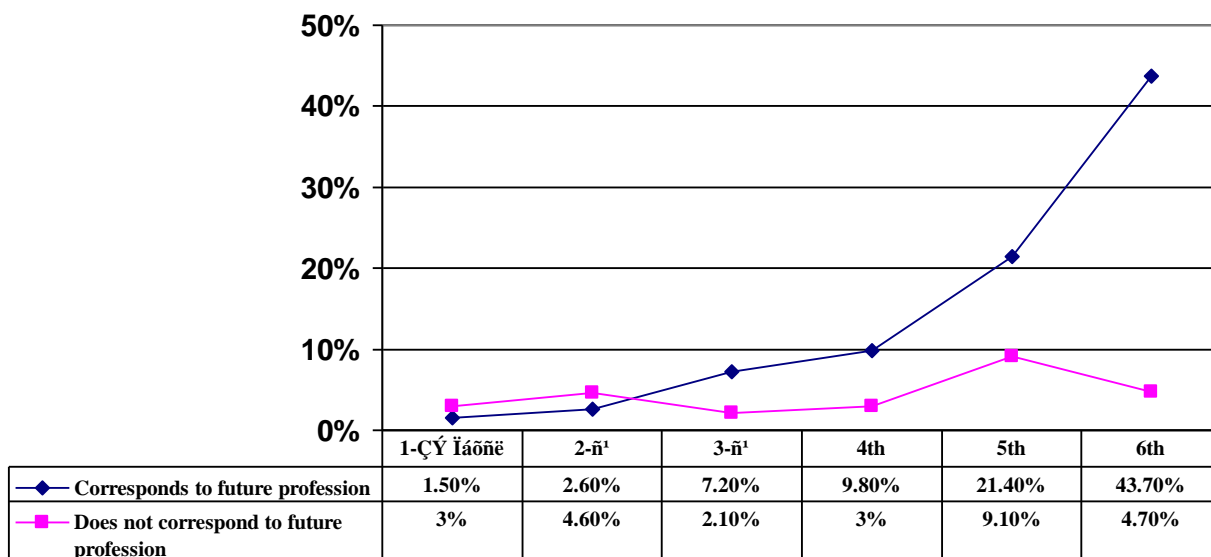


2.3. Students' employment level by years of study

The number of working students increases parallel to the years of study. The employment level among 1st year students is only 2.9%, and is relatively high among students of private universities, reaching 5.8% in Northern University. This is understandable since private universities have a relatively higher number of students who already have a job and want to acquire a university diploma for their career advancement purposes and increase their qualification in the selected field.

The number of working students grows parallel to the years of study and increased professional skills. The employment level among 2nd and 3rd year students is 6.8%, among 4th year ones – 10.2%, and employment level of 5th and 6th year students reaches 33.7%, of which 26% have matching jobs. (See annex 1. Respective data for YSU students is presented in Chart 2)¹.

Chart 2. Changes in employment level by years of study, in YSU (% of the total number of students)



2.4. Employment of students by fields of study

The survey covered students of 11 fields of study in 13 university departments and confirmed the hypothesis of the working team that the programmer’s profession is the one that presently enjoys a relatively high demand that is likely to continue. According to the findings, **Informatics and Applied Mathematics** department of the Yerevan state was the first in terms of the students’ employment level. 27.2% of 217 future programmers covered by the survey have matching jobs. Of these, 88.2% have stable jobs, 67.6% work in private and 20.6% in public companies.

The number of working programmer students increases parallel to the number of years of schooling. While the employment level among YSU students of 1st and 2nd years in Informatics and Applied Math department is 3.8%, the number of employed students in the Master’s programme (5th and 6th years) is as high as 69%. Three quarters (53.4%) are employed in the private sector.

Students of YSU Journalism department are the second in terms of employment level, with 12.1%. In the Master’s programme, the number of working students reaches 27.9%.

English language students are in the third place in terms of their employment level, with 12.0%. Employment level of Master students reaches 40.5%. 73.1% of working students of English found jobs in the private sector.

Law and sociology students of YSU are in the 4th place, with 8.8% of them working. (See Table 1). In the Master programme, the employment level is 35.9% (against 34.4% in the 1st year and 39.35 in the 2nd year). More than half of working future lawyers are employed in the public

¹ The chart is designed based on survey results for YSU for the purposes of more comprehensive presentation of the trend in view of the fact that the other 2 universities do not offer master’s programme.

sector. The bulk of sociology students, however, take their first career steps in NGOs and the private sector (See Table 1).

Table 1. Students' employment by field of study

1. Yerevan State University					
	Department	No. of respondents	# of working students %	Match	Mismatch %
1.	Informatics and Applied Math	217	68 31.3%	59 27.2%	9 4.1%
2.	Journalism	190	28 14.7%	23 12.1%	5 2.6%
3.	Roman and Germanic languages	491	74 15.1%	59 12.0%	15 3.1%
4.	Law	340	43 12.6%	30 8.8%	13 3.8%
5.	Sociology	194	28 14.4%	17 8.8%	11 5.6%
6.	Economics	206	21 10.2%	8 3.9%	13 6.3%
7.	Geography	136	13 9.5%	1 0.7%	12 8.8%
	Total for YSU	1774	275 15.5%	197 11.1%	78 4.4%
2. Yerevan State Pedagogical University					
8.	History and geography	428	7 1.6%	4 0.9%	3 0.7%
9.	Armenian language and literature	264	7 2.7%	2 0.8%	5 1.9%
10.	Elementary education pedagogics and methodology	185	7 3.8%	1 0.5%	6 3.3%
11.	Museums and protection of historical monuments	79	3 3.8%	0 0.0%	3 3.8%
	Total for YSPU	956	24 2.5%	7 0.7%	17 1.8%
3. Northern University					
12.	Journalism	161	15 9.3%	9 5.6%	6 3.7%
13.	Law	140	12 8.6%	1 0.7%	11 7.9%
	Total for Northern University	301	27 8.9%	10 3.3%	17 5.6%
	Total	3031	326 11.1%	226 7.7%	100 3.4%

2.5. Salary level of working students

Working students of informatics and applied math departments are the most well-off in terms of their salary level. Their average monthly salary is about AMD90,000.

The second in terms of the salary level are working students of YSU Journalism department, with an average monthly salary of AMD 61 000.

The third in terms of the salary level are future economists, with an average monthly salary of AMD 55 275.

The fourth are the students of YSU Law department, with an average monthly salary of AMD 52 350.

The fifth are the future sociologists, with an average monthly wage of AMD 44 818.

2.6. Motivation to work

9.2% of all working students mentioned that the main factor that made them combine studies with work is the need to address financial issues such as paying their tuition fees.

46.3% are attracted by the possibility to gain professional experience required for their future career.

33.1% stress lucrative aspects of employment and believe that it would help them gain the required professional experience.

3.7% state that combining studies and work enables them to be more independent from parents and relatives.

5.5% believe that combining work with studies helps them make their free time more interesting and meaningful.

Annex 1. Students' employment level by years of study

	YSU				YSPU				Northern University			Total				
Year	Combine work and study	Do not combine	Total working	<i>Total present</i>	Combine work and study	Do not combine	Total working	<i>Total present</i>	Combine work and study	Do not combine	Total working	<i>Total present</i>	Combine work and study	Do not combine	Total working	<i>Total present</i>
1 st	1.5% 4	3.0% 8	4.5% 12	268	0.3% 1	0.6% 2	0.9% 3	345	1.2% 1	4.6% 4	5.8% 5	87	0.9% 6	2.0% 14	2.9% 20	70
2 nd	2.6% 10	4.6% 17	7.2% 27	373	0% 0	3.8% 8	3.8% 8	212	2.5% 2	9.8% 8	12.3% 10	81	1.8% 12	5.0% 33	6.8% 45	66
3 rd	7.2% 27	2.1% 8	9.3% 35	378	0.9% 2	0.9% 2	1.8% 4	218	4.9% 4	3.7% 3	8.6% 7	81	4.9% 33	1.9% 13	6.8% 46	67
4 th	9.8% 29	3.0% 9	12.8% 38	296	3.3% 5	2.0% 3	5.3% 8	153	5.8% 3	3.8% 2	9.6% 5	52	7.4% 37	2.8% 14	10.2% 51	50
5 th	21.4% 71	9.1% 30	30.5% 101	331	0% 0	3.6% 1	3.6% 1	28	0	0	0	0	19.8% 71	8.6% 31	28.4% 102	35
6 th	43.7% 56	4.7% 6	48.4% 62	128	0	0	0	0	0	0	0	0	43.7% 56	4.7% 6	48.4% 62	12
Total	11.1% 197	4.4% 78	15.5% 275	1774	0.8% 8	1.7% 16	2.5% 24	956	3.3% 10	5.7% 17	9.0% 27	301	7.1% 215	3.7% 111	10.8% 326	303

2.7. Annexes

Annex 2. Survey questionnaire – one-dimensional data

Dear Friend,

The purpose of this survey is to determine the employment level among students. The survey is a part of a project that aims to study the involvement of young professionals in Armenia’s labor market.

This survey is anonymous. Its results will be used for aggregation and statistical purposes only.

Your honest and uninhibited responses will help the authors of the survey address their challenging tasks and will contribute to the development of a professional education strategy in Armenia.

To be completed by the student	To be completed by the interviewer
1. University, 1.YSU-84.4%, 2. YSPU-6.7%, 3. Northern University-8.9%	
2. Department	Total number of students in the year (group)
3. Chair	Number of students present in the auditorium- <u>3031</u>
4. Year (circle one) - 1 st , 2 nd , 3 rd , 4 th , 5 th , 6 th Current number of students 700; 666; 677; 501; 359; 128	Number of students with stable or temporary jobs - <u>326</u>

5. Nature of the Job							
Stable, permanent employment-7.1%				Temporary employment (ad hoc, seasonal) -3.7%			
Job matches future occupation 5.5%		Job does not match future occupation 1.6%		Job matches future occupation 2.0%		Job does not match 1.7%	
Works in a public enterprise	Works in a non-public, private or other company	Works in a public enterprise	Works in a non-public, private or other company	Works in a public enterprise	Works in a non-public, private or other company	Works in a public enterprise	Works in a non-public, private or other company
2.3%	3.2%	0.4%	1.2%	0.5%	1.5%	0.3%	1.4%
43 484	80 558	30 250	48 211	45 000	31 731	46 666	30 984
6. Average monthly income (salary) in AMD							
(write in the corresponding column above, on the line)- average salary for the total is AMD 50 623							

7. In case you have a stable and permanent job (as mentioned in points 5.1 thru 5.4 above), please state the length of your work experience, in month, concurrent with the years of study - 16 months (min.-0.5, max.-56).

8. Which of the following best corresponds to your own motivation to work?

- 8.1. You are compelled to work to address financial problems– **9.2%**
- 8.2. You work to gain experience required for your future career - **46.3%**
- 8.3. Both the first and the second above - **33.1%**
- 8.4. I want to be independent and self-sufficient - **3.7%**
- 8.5 I want to make my free time interesting and meaningful - **5.5%**
- 8.6 Other - **2.1%**

9. What is your family’s average monthly income without your salary?

- 9.1. up to AMD10,000 – **2.5%**
- 9.2. between AMD10,000-20,000 - **4.6%**
- 9.3. between AMD21,000-40,000 - **3.7%**
- 9.4. between AMD41,000-60,000 - **7.7%**
- 9.5. between AMD61,000-80,000 - **6.1%**
- 9.6. between AMD81,000-100,000 - **9.8%**
- 9.7. between AMD101,000-120,000 - **9.2%**
- 9.8. between AMD121,000-140,000 - **2.1%**
- 9.9. between AMD141,000-160,000 - **3.4%**
- 9.10. between AMD161,000-180,000 - **4.3%**
- 9.11. above AMD180,000 - **18.2%**
- 9.12.** no answer - **28.2%**

10. Interviewee’s sex

10.1. male - **34.7%**

10.2. female - **65.3%**

Thank you for participating in this interview

3. 2002 UNIVERSITY GRADUATES IN THE LABOR MARKET

(Analysis of Graduate 2002 Social Survey Findings)

Contents

- 3.1. Scope of the Survey
- 3.2. 1st year after graduation
- 3.3. Three years after graduation. Integration of young professionals in Armenia's labor market
- 3.4. What steps do young graduates take to find a job?
- 3.5. Overview of employment position of 2001 – 2002 academic year graduates
- 3.6. Pace and period of integration in the labor market
- 3.7. Incentives and disincentives of the labor market
- 3.8. Knowledge gained in the university and professional training– views of Armenia's university graduates
- 3.9. Annexes

3.1. Scope of the survey

The goal of the survey was to analyze the pace and characteristics of 2002 graduates' integration in the labor market.

The *objective* of the survey was to identify the ratio of the graduates who managed to find a job within a certain time frame (within 3-4 years after graduation), main methods and ways of looking for a job, conditions offered to young professionals in the labor market, as well as the views of the graduates on positive aspects and shortcomings of their professional training.

The *sample frame* of the survey was formed through a two-tier process, a combination of a *source and proportional sampling* methods.

Participating in the survey were graduates of Armenia's public and non-public universities who graduated in 2001 – 2002 academic year.

The number of the interviewees was determined by the following formula:

$$n = \frac{Nt^2s^2}{N\Delta^2 + t^2s^2}, \text{ where } n \text{ is the sample frame}$$

N is the Universe (N= 10584),

s² · dispersion of the surveyed feature (s²= 0,3),

Accuracy level 1- α = 0,95

α - level of significance taken as 0,05

Coefficient of significance t = 1,94

Δ = 0,03 (margin of error taken at 3%)

n = 1200.

The sample frame represents 11.34% of the universe. The structure of the sample frame was further determined through the following five stages:

In the first stage, a proportional sample was established using the statistical proportion of graduates of public and non-public universities in 2001 – 2002 academic year (72.5% and 27.5% respectively).

In the second stage, a source sampling was done in each of these frames; 13 public universities and their 2 regional branches were selected, as well as 12 non-public universities¹.

In the third stage, according to the ratios established for the source samples, the number of students to be interviewed was determined for each university.

In the fourth stage, 118 departments training professionals in 42 fields of study were identified by source sampling.

In the fifth stage, the graduates of these departments were included in the survey according to the existing statistical correlation (the ratio of graduates covered in the source frame of the given university to the total number of graduates). *See Annex 2*.

The survey was conducted between July 5 to August 15 of 2005, through formal telephone interviews. The average length of an interview was 14 minutes, effectiveness of the telephone calls was 35.4%.

3.2. First year after graduation

50.9% of respondents graduated as qualified professionals, 41.8% with bachelor's degree and 7.2% with master's degree.

20.7% of respondents continued their education in the master's programme, 9.1% went for post-graduate studies, and 2.2% decided to acquire a new profession.

While statistically the majority of Armenian university graduates were female², males tend to be more inclined towards joining a post-graduate programme (13.5% of male respondents were enrolled in post-graduate programmes), than representatives of the fair sex (7.1%).

54.1% of 2002 graduates tried to find a job in the first year after graduation, but not all of them succeeded in securing a stable and permanent job.

Young professionals sometimes fail to successfully integrate in the labor market during the first year after graduation. 45.9% of the graduates during the 1st year after graduation do not work, owing to various reasons. Of these, 28.6% (13.3% of the respondents) explain this fact by their failure to find a matching job. The number of those who did not find a job owing to this reason varies across professions and fields of study included in the survey.

36.4% of graduates of trade and marketing departments, 28.6% of physicists, 23.8% of psychology and philosophy department graduates, 20.6% of young lawyers, 44.4% of defectologists, 21.1% of Armenian language and literature specialists and 20% of graduates of Oriental studies department did not get a job in the first year after graduation due to the failure to find a matching job.

The most successful in terms of finding a matching job in the first year after graduation were representatives of the following professions:

journalism - 70%

chemistry - 51.9%:

¹ Initially, the survey sample included 6 non-public universities (Yerevan School of Economics, Haybusak, Northern, Gladzor, Interlingua and Movses Khorenatzi universities). However, problems connected with ensuring 27.5% (330 students) of non public university graduates required by the proportionate principle of the sampling, made the authors redesign the sample frame by expanding the pool of 2002 graduates and including an additional 6 non-public universities.

² See Armenia's Social Trends in 2003 statistical publication. Yerevan, 2004, pp. 69-70.

music - 50%
 applied math and IT - 45.8%
 foreign languages (English, French and German) - 45%

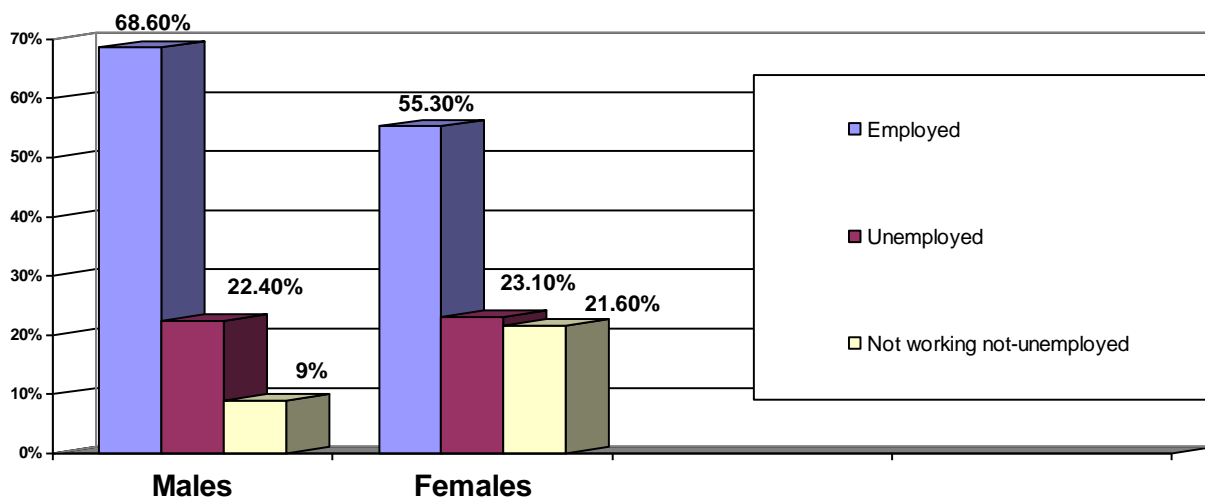
3.3. Three years after graduation. Integration of young professionals in Armenia’s labor market

59.5% of respondents had lucrative jobs in three years after graduation; of these, the number of males was by 13.3% higher (68.6%) than that of females (55.3%).

According to the survey findings, men, even if they have to serve in the army after graduation, are more successful in finding a more or less stable employment, than women. While 68.6% of males who graduated in 2002 had jobs as of July - August 2005, i.e. three years after graduation, only 55.3% of female graduates succeeded in finding a job during that period.

During the survey implementation period (July – August 2005), 22.9% of 2002 graduates were still looking for a job and, according to their own assessments, were unemployed. The proportion of males and females among the job seekers is almost the same (23.1% and 22.4% respectively). *See Chart 1.*

Chart 1. *Employment and unemployment levels among male and female 2002 graduates as of July – August 2005 (July – August 2005)*



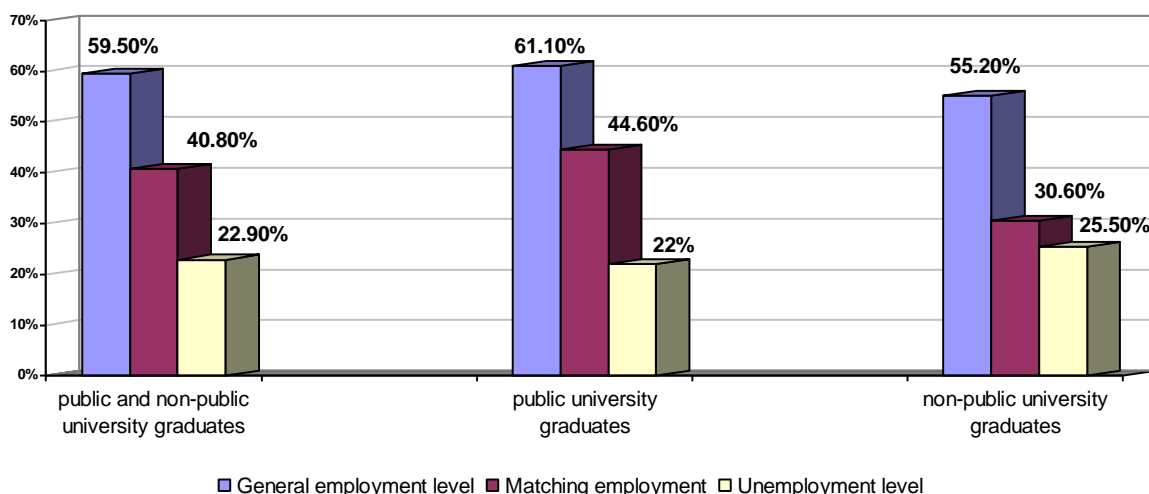
17.6% of the respondents, while not working, did not consider themselves unemployed. Interestingly, 14.8% of them are young women, mostly housewives.

The average employment level is 61.1% among public university graduates and 55.2% among non-public university graduates³. *See Chart 2.*

The unemployment level among graduates of non-public universities is also somewhat higher - 25.5% than that among those who graduated from public universities - 22%: These differences and indicators may be explained by a higher quality of professional education and knowledge offered by public universities as well as by low credibility of non-public higher education institutions.

³ 63.3% for Yerevan State University

Chart 2. Employment and unemployment among 2002 graduates of public and non-public universities



The average unemployment level of 2002 graduates was 22.9%⁴. Higher than the average unemployment levels were registered among graduates of the following universities:

1. Kapan branch of Yerevan State Engineering University -33.3%
2. Gyumri branch of Yerevan State Engineering University -31.3%
3. Yerevan State Institute of Economics -29.6%
4. Yerevan State Engineering University-29.3%
5. Yerevan State Linguistic University-28.2%
6. Vanadzor Pedagogical Institute-26.7%
7. Northern University-31.7%
8. Management and IT University -31.6%
9. Yerevan School of Economics and Law -30.2%
10. Gladzor University - 34.3%
11. Interlingua University - 55%
12. Yerevan School of Management - 31.3%

See Annex 3.

The unemployment level is fairly high among young representatives of the following professions:

1. mining and geology - 50%
2. trade and marketing - 50%
3. veterinary medicine, livestock breeding- 50%
4. theology - 50%
5. Oriental studies - 40%
6. Physical culture - 37.5%
7. Transport systems (YSEU) - 33%
8. Biology - 30.3%

⁴ According to findings of a sample survey by NSS, the unemployment level in 20 – 29 age group is 25.9%. Estimates are made based on the findings of a sample survey on Labour Force and Child Labour in Armenia, Yerevan, 2004, page 49.

9. Psychology and philosophy - 28.6%

10. Law - 28.4%

See Table 1

Table 1. *Employment and unemployment levels by fields of study (ranked according to the unemployment rate)*

	Department	Average employment	Unemployment	Not working but not unemployed
1.	Russian philology	87.5%	0%	12.5%
2.	Prophylactics, pharmacology	85.7%	0%	14.3%
3.	Dentistry	57.7%	3.8%	38.5%
4.	Armenian language and literature	73.7%	5.3%	21.1%
5.	Sociology, social work	61.6 %	7.7%	30.8%
6.	Music	57.7%	7.7%	34.6%
7.	Journalism	80%	10.0%	10%
8.	Pediatrics	30%	10%	60%
9.	Medicine	41.5%	10.3%	48.3%
10.	Agriculture and biology	60.9%	13%	26.1%
11.	Directing and acting	80%	13.3%	6.7%
12.	Mathematics	72.7%	13.6 %	13.6%
13.	Geography, history, geology	73.7%	15.8%	10.5%
14.	Arts	83.3%	16.7%	0%
15.	Chemistry	62.5 %	16.7%	20.8%
16.	Business management	70.6%	17.6%	11.8%
17.	Applied math, informatics, computer sciences	68.6 %	18.1%	13.3%
18.	Engineering	76.2%	19%	4.8%
19.	Economics, except YSPU	61.4%	20.9%	17.7%
20.	Physics	64.3%	21.4%	14.3%
21.	Architecture	77.8%	22.2%	0%
22.	Defectology	66.6%	22.2%	11.1%
23.	Food processing	44.4%	22.2%	33.3%
24.	Finance and accounting	70.3%	24.3%	5.4%
25.	Pedagogics	46.3%	24.6%	29%
26.	Radio engineering and communication systems	68.8%	25%	6.3%
27.	Energy, electricity	73.9%	26.1%	0%
28.	Foreign relations	53.4%	27.9%	18.6%
29.	Industrial and civil engineering	48%	28%	24%
30.	French and German languages	59%	28.2%	12.8%
31.	Law	57.8%	28.4%	13.7%
32.	Pshychology and philosophy	61.9 %	28.6%	9.5%
33.	Light industry	71.4%	28.6%	0%
34.	English, translation	53.6 %	28.9%	17.5%
35.	Biology	48.5 %	30.3%	21.1%
36.	Transport	58.3%	33.3%	8.3%
37.	Physical culture	37.5%	37.5%	25%
38.	Oriental studies	40 %	40.0%	20%
39.	Theology	33.4%	50%	16.7%
40.	Mining and geology	45%	50%	5%
41.	Trade and marketing	31.8%	50.0%	18.2%
	Total	59.5%	22.9%	17.6%

Why 40.5% of university graduates do not have a job three years after graduation?

The reasons include both objective realities like the current state of the labor market and limited demand, excessive supply and market saturation, inadequate skills and knowledge received in the university, and subjective, person-specific factors.

12% of the respondents (29.6% of those who do not work) claimed that they did not have a job because there are no matching vacancies. This reason was most often mentioned by representatives of the following professions:

Table 2. Professionals who cannot find a job due to the lack of vacancies that would match their professional qualifications

	Profession	% of those who cannot find a job matching their professional qualifications	Unemployment rate, %	Not working, %
1.	Veterinary medicine and livestock breeding	50%	50%	50%
2.	Mining and geology	40%	50%	55%
3.	Physical culture	37.5%	37.5%	62.5%
4.	Theology	33.3%	50%	66.6%
5.	Oriental studies	30%	40%	60%
6.	Psychology and philosophy	28.6%	28.6%	38.1%
7.	Radio engineering and communication systems	25%	25%	31.3%
8.	Trade and marketing	22.7%	50%	18.2%
9.	Defectology	22.2%	22.2%	33.3%
10.	Food processing	22.2%	22.2%	55.5%
11.	Energy, electrical engineering	21.7%	26.1%	26.1%
12.	Physics	21.4%	21.4%	35.7%
13.	Industrial and civil engineering	20%	28%	52%
14.	Biology and biosciences	18.2%	30.3%	51.4%
15.	Finance and accounting	16.2%	24.3%	28.7%
16.	Applied math, informatics, computer sciences	13.3%	18.1%	31.4%
17.	Law	10.8%	28.4%	42.1%

Failure to find a matching job may be often explained by realities of transitional economy and crisis in some sectors. Another important reason, however, is that quite often quality and substance of university education do not match requirements of the labor market.

For example, 55.4% of 2002 graduates of applied math, informatics and computer sciences departments found suitable jobs within 3 years after graduation. According to the findings of a survey conducted among applied math students at YSU in 2002, 30.7% had jobs matching their future profession; in the master's programme, the number of such students was as high as 70%.

These data illustrate the following two points. *First*, quality of professional training offered by public universities in these areas is relatively higher compared to the non-public ones. (20.5% of 2002 graduates participating in the survey graduated from programming and computer technology departments of non-public universities).

Second, public universities consistently improve quality of instruction in computer science departments, improve their technical base and offer increased opportunities for acquiring practical knowledge and skills.

Interestingly, 2002 graduates from computer science departments ranked the quality of instruction relatively low, assigning it 3.78 points. Accordingly, quality of instruction in informatics, applied math and computer science was ranked 32nd in the list of 42 professions. See Table 8.

This issue is also typical for other CIS states. The Ukrainian experts, for example, state that computer science students tend to earn more than their university teachers⁵. Therefore, quality professionals prefer better paid programming jobs to teaching, which cannot but have a detrimental impact on the quality of instruction in computer science departments.

5.5% of the respondents claimed that they do not work owing to inadequate conditions offered in the labor market, such as low salary levels (mentioned by 13.6% of not working respondents).

⁵ Ієєієääâ Ð. Ðáéðèřä řðíðáñéé: Ñáâřäřý è +âðâç řýðü èâð. Āâçâðâ "Āâřèřð". 03.06.2004 . <http://dancor.sumy.ua/articles/1245.htm>

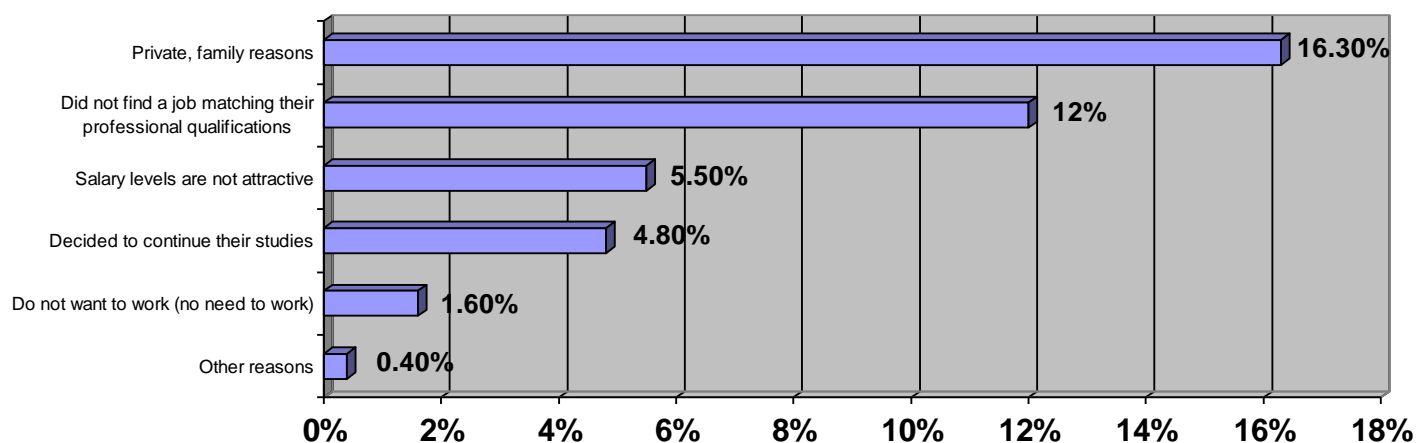
While low salary is not the key factor explaining why young professionals do not work it is still important for representatives of the following professions:

Table 3. Professionals who do not work owing to low salary

	Profession	% of those who do not work because salaries are low	Unemployment rate	% of those who do not work
1.	Trade and marketing (Yerevan School of Economics)	27.3%	50%	68.2%
2.	Transport (Yerevan State Engineering University)	16.7%	33.3%	41.6%
3.	Industrial and civil engineering	12%	28%	52%
4.	International relations	11.6%	27.9%	46.5%
5.	Oriental studies (YSU)	10%	40%	60%
6.	Construction (Yerevan State Engineering University)	9.5%	19%	23.8%
7.	English, translation	9.3%	28.9%	46.4%
8.	Law	8.8%	28.4%	42.1%
9.	Arts	8.3%	16.7%	16.7%
10.	Chemistry	7.4%	14.8%	33.3%
11.	Directing and acting	6.7%	13.3%	20%
12.	Economics (except YSPU)	6.3%	20.9%	38.6%

16.3% of young professionals without jobs claimed that they did not work due to private, family reasons⁶. See Chart 3.

Chart 3. Main reasons for not working



Thus, **number one reason of low integration of young professionals in Armenia's labor market is the lack of jobs, followed by low compensation levels.** Sometimes, issues of education quality and educational mismatch play a role and merit a special study.

⁶ Significant number of such responses is explained by the fact that 29% of the respondents are young married women who have to do the housework and take care of their children. Interestingly, 97.9% of those who justified their not working by family reasons (15.9% of the total number of respondents) were women.

3.4. What steps would young unemployed professionals take to find a job?

The spontaneous and irregular interaction between the labor market and professional education institutions is exacerbated by the lack or inefficient functioning of infrastructures tasked with enabling integration of young professionals in the labor market, as well as the absence of an appropriate culture.

More than half of respondents without jobs, 61.3% (24.8% of all respondents) did not turn to any organization to get a job.

11.5% applied to local branches of the National Employment Agency.

8.4% commissioned private recruitment agencies, 8.2% relied on friends and relatives. Only 6.8% of job seekers visited various institutions. 2.4% responded to vacancy announcements in the media, 1.2% placed their CVs on the Internet. *See Annex 1.*

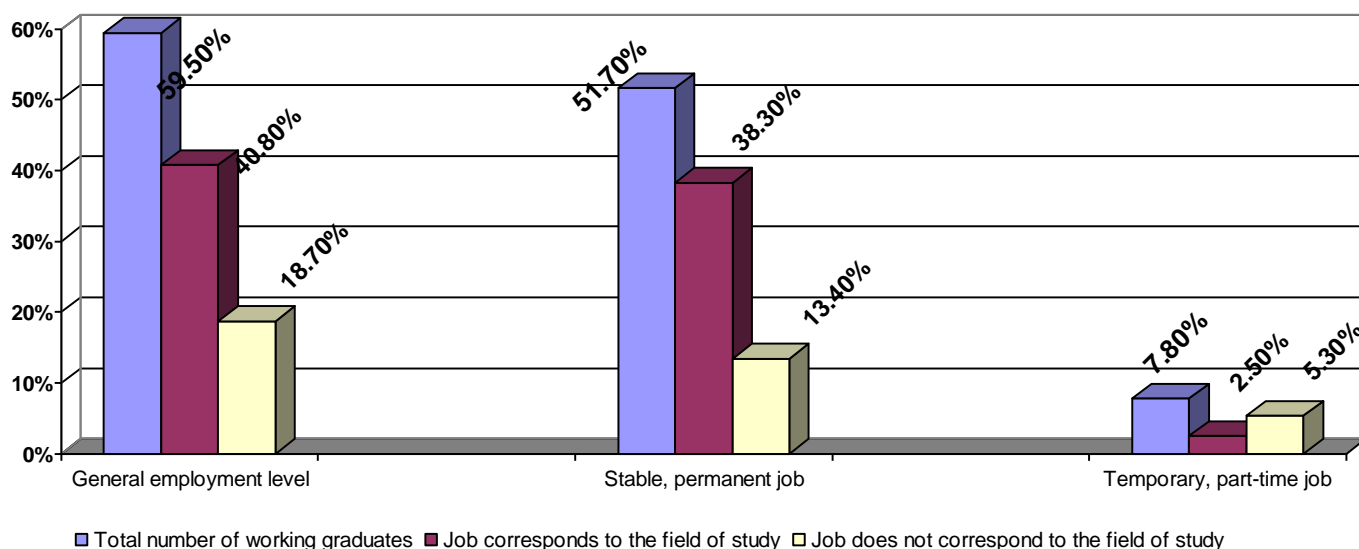
Interestingly, job seeking activity among males without jobs (57.2%) (visiting offices, publication of announcements, responding to announcements) is twice as high as among women (32.7%).

3.5. Overview of labor market integration of 2001 – 2002 graduates

As mentioned earlier, 59.5% of respondents are this or that way integrated in the labor market. Of these, 51.7% have stable permanent jobs. The remaining 7.8% have ad-hoc, temporary or seasonal jobs.

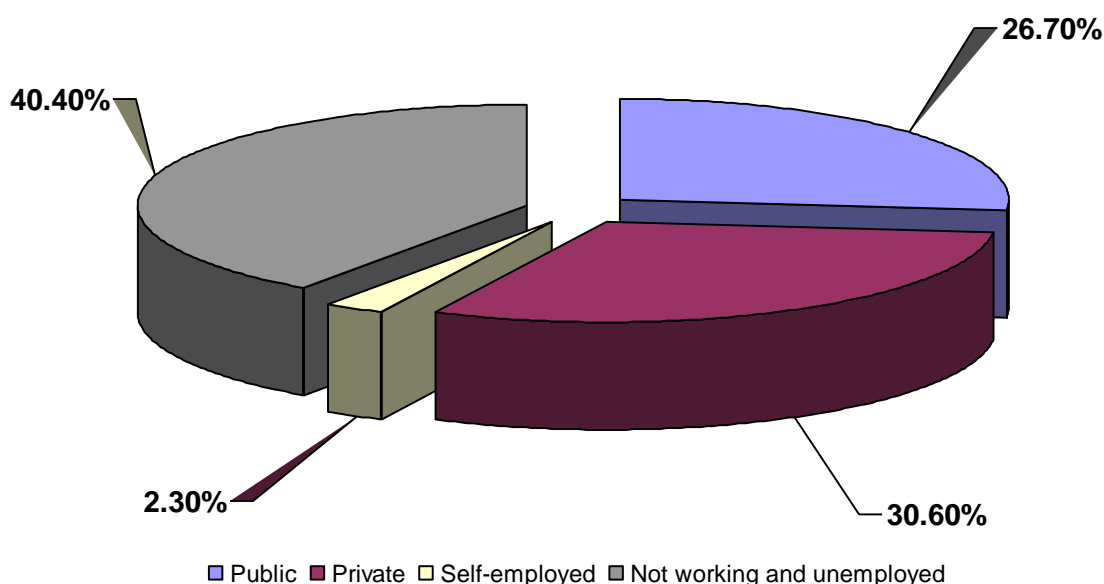
Besides, not every stable job is a matching job. Only 38.3% of 2002 graduates have permanent and matching jobs. Overall, 40.8% have matching jobs. *See Chart 4.*

Chart 4. Overview of employment of 2002 graduates integrated in the labor market



26.7% of employed young professionals work in government-financed institutions, while 30.6% are employed in the private sector. 2.3% of 2002 graduates are self-employed. Only 0.1% of the latter succeeded in establishing their own business within this relatively short period. *See Chart 5.*

Chart 5. Employment of 2001-2002 academic year graduates in public and private sectors.



Against the background of an emerging market economy that is still defining its priorities and is at times going through dramatic transformations, there are professions that are in high and low demand.

Which professions enjoy a relatively stable and constant demand? According to the findings, representatives of the following professions have best changes of finding *a job that best corresponds to their education background*:

1. Arts (visual arts, sculpture, painting, design) - 75%
2. Journalism - 70%
3. Russian philology - 62.5%
4. Psychology and philosophy - 57.1%
5. Radio engineering and communication systems - 56.3%
6. Math - 54.5%
7. Applied math, informatics, computer sciences - 54.2%
8. Finance and accounting - 54.1%
9. Dentistry - 53.9%
10. Architecture and civil engineering - 53.3%
11. Geography and history - 52.6%
12. Physics - 50%
13. Music - 50%
14. French and German languages - 48.7%
15. Chemistry - 48.1%

Table (rating) 4. Educational match⁷

	Department/profession	Total number of employed		Unemployment rate	Not working not unemployed
		Match	Mismatch		
1.	Prophylactics and pharmacology	85.7%	0%	0%	14.3%
2.	Arts	75%	8.3%	16.7%	0%
3.	Journalism	70%	10%	10.0%	10%
4.	Architecture	66.7%	11.1%	22.2%	0%
5.	Russian philology	62.5%	25%	0.0%	12.5%
6.	Psychology and philosophy	57.1%	4.8%	28.6%	9.5%
7.	Radio engineering and communication systems	56.3%	12.5%	25.0%	6.3%

⁷ Professions in shaded cells are characterised by lower than the average educational match level of 40.8%.

8.	Applied math, informatics and computer sciences	55.4%	13.2%	18.1%	13.3%
9.	Mathematics	54.5%	18.2%	13.6%	13.6%
10.	Finance and accounting	54.1%	16.2%	24.3%	5.4%
11.	Dentistry	53.9%	3.8%	3.8%	38.5%
12.	Geography, history	52.6%	21.1%	15.8%	10.5%
13.	Construction	52.4%	23.8%	19.0%	4.8%
14.	Physics	50%	14.3%	21.4%	14.3%
15.	Music	50%	7.7%	7.7%	34.6%
16.	French, German	48.7%	10.3%	28.2%	12.8%
17.	Chemistry	41.7%	20.8 %	16.7%	20.8%
18.	Sociology, social work	46.2%	15.4%	7.7%	30.8%
19.	Law	45.1%	12.8%	28.4%	13.7%
20.	Business administration	44.1%	26.5%	17.6%	11.8%
21.	Armenian language and literature	42.1%	31.6%	5.3%	21.1%
22.	Economics except YSPU	41.1%	20.3%	20.9%	17.7%
23.	Medicine	34.5%	7.0%	10.3%	48.3%
24.	Agriculture	39.1%	21.7%	13.0%	26.1%
25.	Energy, electrical engineering	39.1%	34.8%	26.1%	0%
26.	Physical culture	37.5%	0%	37.5%	25%
27.	English, translation	34 %	19.6%	28.9%	17.5%
28.	Directing and acting	33.3%	46.7%	13.3%	6.7%
29.	Defectology	33.3%	33.3%	22.2%	11.1%
30.	Pediatrics	30%	0%	10.0%	60%
31.	Light industry	28.6%	42.9%	28.6%	0%
32.	Pedagogics	26.1%	20.3%	24.6%	29%
33.	Oriental studies	25%	15 %	40.0%	20%
34.	Biology	24.2 %	24.2%	30.3%	21.1%
35.	Industrial and civil engineering	24%	24%	28.0%	24%
36.	International relations	23.2%	30.2%	27.9%	18.8%
37.	Mining and geology	20%	25%	50.0%	5%
38.	Transport systems	16.7%	41.6%	33.3%	8.3%
39.	Theology	16.7%	16.7%	50.0%	16.7%
40.	Trade and marketing	13.6%	18.2%	54.5%	18.2%
41.	Food processing	11.1%	33.3%	22.2%	33.3%
	Total	40.8%	18.7%	22.9%	17.6%

3.6. Pace and period of integration in the labor market

According to the survey findings, 10.9% of the respondents were employed prior to graduation.

During three years after graduation, 51.7% of 2002 graduates found stable and permanent jobs. 38.3% have jobs corresponding to their education background. This indicator is 1.5 times higher for graduates of public universities (44.6%) than for graduates of non-public universities (30.6%). See Chart 2.

On the average, it took the graduates about **4 months** to find a job. This was the maximum time that a considerable number of job seekers (24.3%) spend looking for a job, while others had to spend as long as **7.4 months** to find employment. See Charts 6, 7 and 8.

Chart 6. Time required for 2001-2002 graduates to find a stable permanent job in a period between graduation and the 1st semester of 2005.

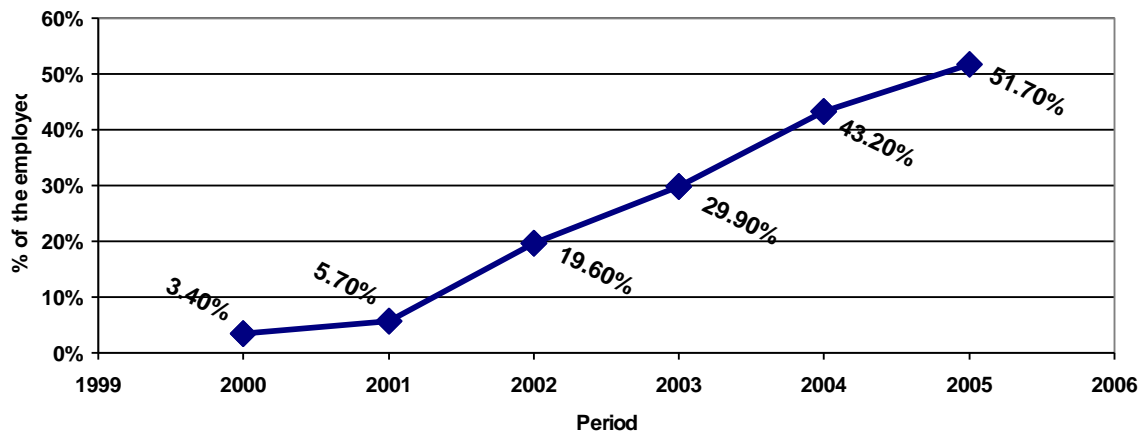


Chart 7. Time required for 2001-2002 academic year graduates to find a stable matching job

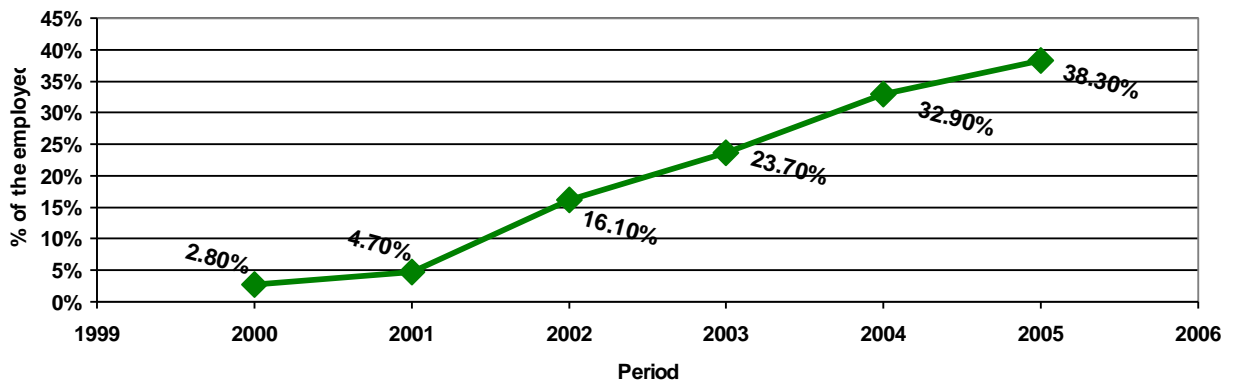
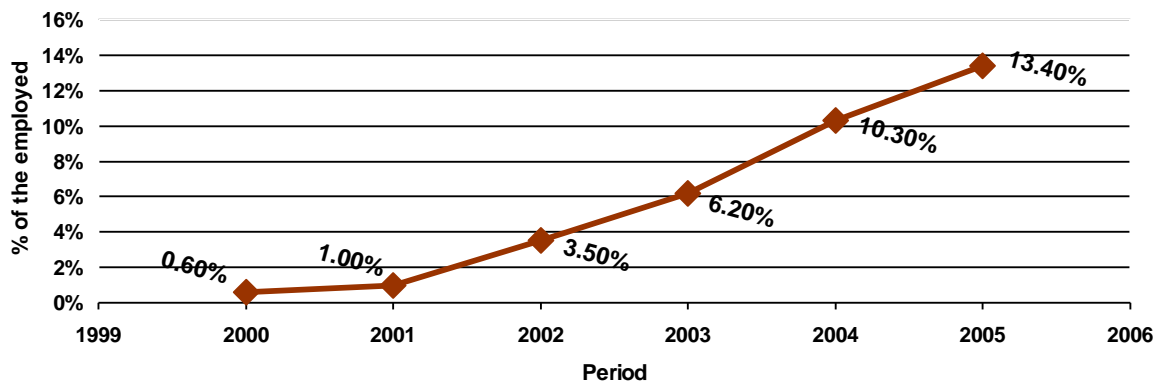


Chart 8. Time required for 2001 -2002 academic year graduates to find a stable and job which, however, does not match their education background



Theologians, physicists, business administration specialists and industrial and civil engineers took more time to find a stable job – 16.5, 7.7, 7.2 and 6.7 months respectively.

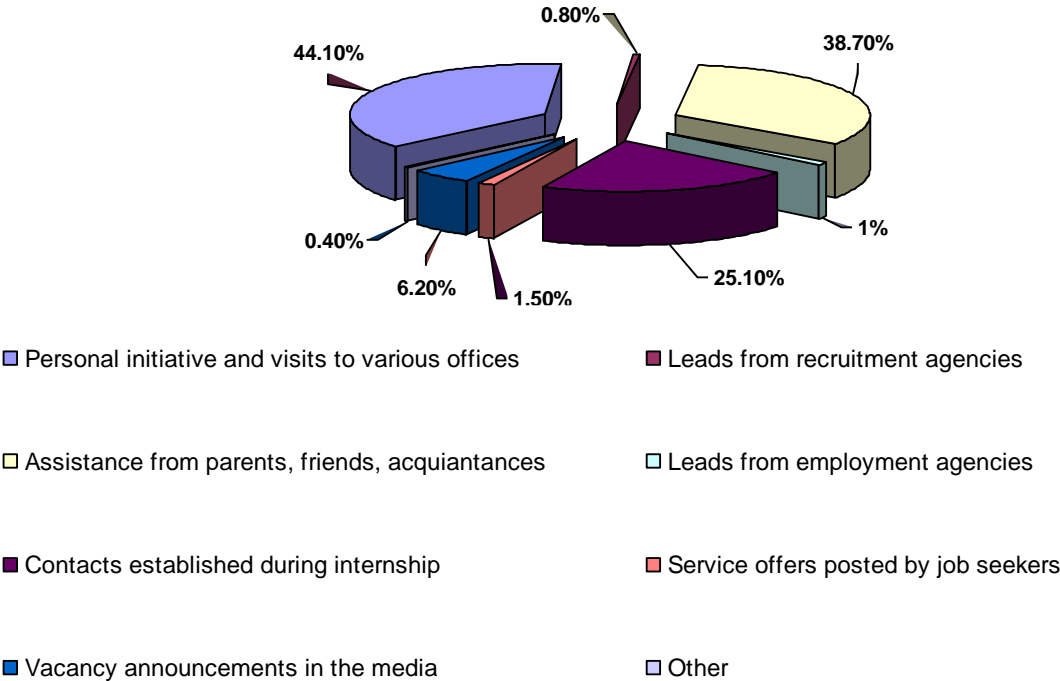
Which factors most contributed to successful employment? Analysis of responses demonstrates that most often, the given field is characterized by low level of institutionalization and spontaneity.

For 44.1% of young employed professionals (22.7% of the total number of respondents) the most important was their proactive attitude and visits to various institutions. In the case of 38.7%

(19.9% of the total number of respondents), the most important factor was references and interventions from friends and acquaintances.

Unfortunately, **the importance of internship and field work during the schooling years is small.** Meanwhile, this component of education should play an important role both in terms of acquiring practical skills and providing a labor market exposure. Only 25.1% of the working respondents (12.95 of the total), mentioned that contacts and acquaintances established during internship helped them find a job. See Chart 9.

Chart 9. Importance of various factors for finding a stable permanent job



11.7% of the respondents attended extracurricular training courses to get a job. This is especially true for those young professionals whose job does not fully correspond to their education background.

According to the survey findings, graduates of departments listed below most needed additional training or re-training to get a job.

Table 5a. Respondents who received additional training and re-training to get a job, by field of study

	Field of study	% of those who received additional training in the total number of graduates in the field	% of those who received additional training in the total number of graduates who found a stable job
1.	Math	27.2%	54.5%
2.	Geography and history	26.3%	41.7%
3.	Psychology and philosophy	47.6%	83.3%

4.	Theology	16.7%	50%
5.	Defectology	22.2%	40%
	<i>Total from all respondents</i>	<i>11.7%</i>	<i>22.8%</i>

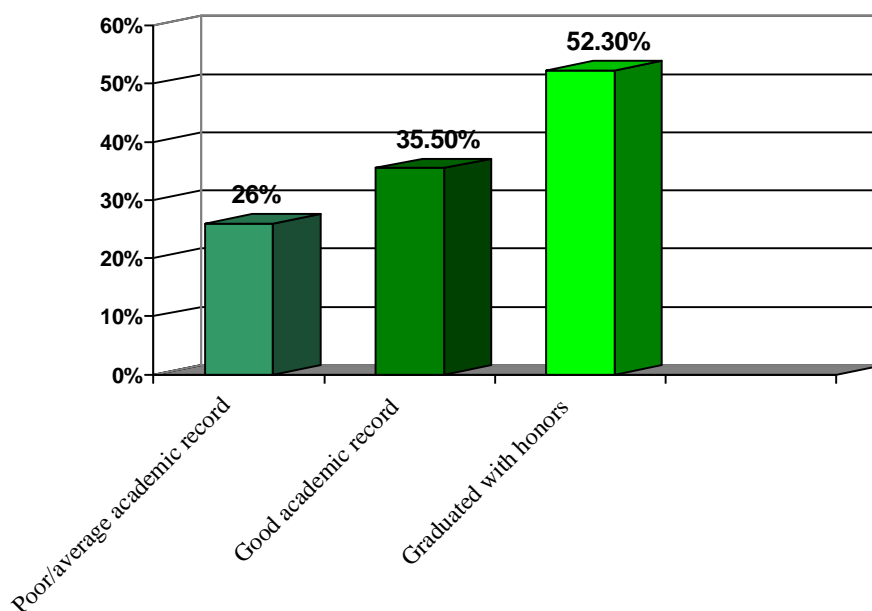
Representatives of the following professions are in less need of additional training, and they less frequently take jobs that do not match their education background.

Table 5b.

	Field of study	% of those who received additional training	% of those who received additional training in the total number of graduates in this field who found a stable job
1.	Informatics and applied math	9.6%	15.7%
2.	Biology	3%	7.1%
3.	Chemistry	3.7%	7.1%
4.	Law	6.9%	12.5%
5.	Music	3.8%	6.7%
6.	Arts	8.3%	12.5%
	<i>Total for all respondents</i>	<i>11.7%</i>	<i>22.8%</i>

The survey findings confirm that the pace and success of integration in the labor market are in direct correlation with the level of professional qualifications and knowledge of the graduates. Interestingly, only a quarter of graduates with a mediocre academic record succeeded in finding a job that would match their education background. Among graduates with a good record, this ratio is 35.5%. As for those who graduated with honors, 52.3% managed to find a matching job within 3 years after graduation.

Chart 10. Employment by professional qualifications and knowledge level⁸



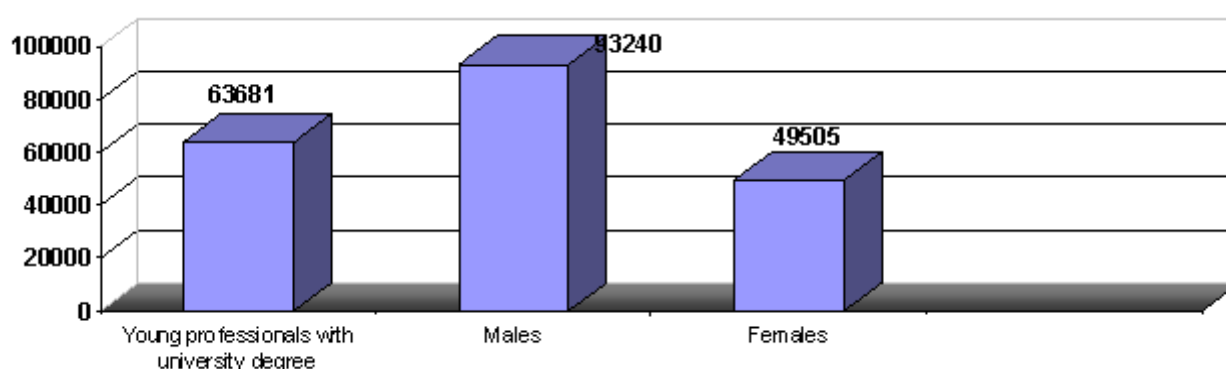
3.7. Incentives and disincentives of the labor market

⁸ The chart was compiled based on self-assessment of academic performance provided by the respondents.

According to the survey findings, *the most discouraging, for the young professionals, element of the labor market is the low compensation level*. For 81.9% of the respondents, the offered salary level is not enough to afford such things like an apartment, furniture, car, and 47.9% find it insufficient to cover even current household expenses. 49.4% of the respondents believe that the offered salary levels are more or less enough to cover the current expenses.

According to the same findings, an average monthly salary of a young professional with university degree is AMD63 681. Interestingly, men usually earn twice as much (AMD93 240) as women professionals (AMD49 505). See Chart 11.

Chart 11. Average monthly salary of young professionals, by gender



The highest salary levels are offered in the trade sector (AMD123 000), finance and accounting (AMD113 200), IT and computer technologies (AMD92 356), law (AMD79 735).

Considerably lower salaries are offered to physicists (AMD26 943), mathematicians (AMD34 182), specialists of Armenian language and literature (AMD31 182), teachers (AMD30 739), musicians and art workers (AMD27 261). See Table 6.

Table 6. Average monthly salary of 2002 graduates, by profession/field of study ⁹

	Field of study	AMD
1.	Trade	123 000.00
2.	Finance and accounting	113 200.00
3.	Geology	101 250.00
4.	Industrial and civil engineering	100 625.00
5.	Applied math, IT, computer sciences	92 355.56
6.	Radio engineering and communication systems	82 000.00
7.	Business administration	80 388.89
8.	Arts	80 111.11
9.	Journalism	80 000.00
10.	Law	79 734.69

⁹ Fields of study listed in shaded rows offer salaries lower than the average across all professions as per the findings of this survey, i.e. AMD 63 681.

11.	Russian philology	77 714. 29
12.	Economics except in YSPU	73 557. 75
13.	Architecture	67 500. 00
14.	International relations	66 750. 00
15.	Energy, electrical engineering	65 400. 00
16.	Construction	63 333. 33
17.	Agriculture	63 260. 40
18.	French, German	62 523. 81
19.	Public health, pharmacology	62 666. 67
20.	Directing and acting	58 181. 82
21.	Light industry	57 250. 00
22.	Sociology, social work	51 142. 86
23.	Chemistry	49 461. 54
24.	Medicine	46 666. 67
25.	Oriental studies	46 500. 00
26.	English, translation	43 282. 61
27.	Dentistry	43 100. 00
28.	Psychology and philosophy	30 636. 36
29.	Transport	39 000. 00
30.	Biology	36 966. 67
31.	Defectology	35 166. 67
32.	Mathematics	34 181. 82
33.	Food processing	33 333. 33
34.	Geography, history	32 321. 43
35.	Armenian language and literature	31 181. 82
36.	Pedagogics	30 739. 13
37.	Music	27 261. 54
38.	Theology	27 000. 00
39.	Physics	26 942. 86
40.	Pediatrics	23 000. 00
	<i>Average for all respondents</i>	<i>63 680. 70</i>

Notwithstanding, the main incentive for young professionals is the interest they have in the job (73.8%), prestige and authority (79.4%), sense of accomplishment and satisfaction (61.9%). See Annex 1.

Legal profession is leading in terms of interest, prestige, career opportunities and a meaningful and useful vocation. *The second in this sense, with almost same incentives, are professions of the programmer and economist.*

Young professionals who are taking their first steps towards their career, are not satisfied with the level of prestige (45.4%) and also opportunities for meaningful and useful vocation.

3.8. Knowledge gained and professional training – graduates’ view

Do you think that the knowledge gained in university is enough for becoming a qualified professional and finding a suitable job?

54.8% of the respondents answered this question positively. The number of graduates who positively answered this question is almost the same for public and private universities (55.4% and 53.6%) respectively. See Table 7.

Table 7. *Do you think that the knowledge gained in university is enough for becoming a qualified professional and finding a suitable job?*

University	Yes	Partially	No
Graduates of public universities	55.4%	26.1%	18.5%
Graduates of private universities	53.6%	35.2%	11.2%
<i>Total</i>	54.8%	28.6%	16.6%

See Annex 7.

There are several fields of study where graduates rated the level of knowledge and professional qualifications fairly high. Among these are chemistry, physics, geography, history, sociology and social work, psychology and philosophy, French, German and English philology, and Oriental studies. See Table 8

Table (rating) 8. *Average statistical rating of quality of instruction in graduates’ own field of study (according to a 5-point system)¹⁰*

	Field of study	Average statistical rating
1.	Russian philology	4.38
2.	French, German	4.36
3.	Music	4.27
4.	Chemistry	4.25
5.	Agriculture	4.24
6.	Medicine	4.21
7.	Law	4.18
8.	Theology	4.17
9.	Geology	4.15
10.	Dentistry	4.15
11.	Psychology and philosophy	4.14
12.	Physics	4.14
13.	Light industry	4.14
14.	Trade	4.14
15.	Geography, history	4.11
16.	Defectology	4.11

¹⁰ Fields of study listed in shaded rows are those rated below the average statistical rating of 3.998

17.	Industrial and civil engineering	4.08
18.	Sociology, social work	4.08
19.	English translation	4.05
20.	Oriental studies	4.00
21.	Biology	4.00
22.	Physical culture	4.00
23.	Armenian language and literature	4.00
24.	Directing and acting	4.00
25.	Public health, pharmacology	4.00
26.	Economics, except YSPU	3.98
27.	Pedagogics	3.94
28.	International relations	3.91
29.	Business administration	3.91
30.	Pediatrics	3.90
31.	Veterinary medicine	3.83
32.	Mathematics	3.82
33.	Applied math, IT and computer science	3.78
34.	Food processing	3.78
35.	Architecture	3.78
36.	Energy and electrical engineering	3.78
37.	Transport	3.75
38.	Finance and accounting	3.73
39.	Construction	3.71
40.	Journalism	3.70
41.	Radio engineering and communication systems	3.69
42.	Arts	3.67
	Total (average)	3.998

Overall, all fields of study/professions covered by the survey may be divided into 4 groups in terms of the labor market demand and evaluation of quality of instruction.

The first group includes professions where graduates provided high rating to the quality of instruction and knowledge gained. At the same time, these professions enjoy high demand in the labor market. Combination of these two factors informs low unemployment rate among graduates and relatively high levels of employment. The leaders in this group are Russian philology, French and German languages, medicine, music, sociology and social sciences.

The second group is composed of professions where quality of instruction, according to the respondents, is adequate but owing to the low economic and social development level in the field the demand for these professions is non-existent or is far below the supply, thus leaving young professionals without a job. Professions in this group include chemistry, physics, geography, history, Oriental studies, physical culture, theology, geology, energy and electrical engineering, psychology and philosophy, English, law, directing and acting.

The third group includes fields of study where the quality of instruction is rated relatively low, but which, however, enjoy demand in the labor market. These are IT and computer sciences, pediatrics, architecture and construction, public health and pharmacology, journalism, arts and economics.

The fourth group includes professions where quality of professional training is low and the demand in the labor market is limited. Therefore, the level of employment among young professionals

in these fields is also low. These professions include international relations, radio engineering and communication systems, transport, veterinary medicine, food processing, light industry. *See Table 9*

Table 9. *Classification of professions by labor market demand and quality of professional training in respective fields*

	Professions in relatively high demand in Armenia’s labor market	Professions in relatively low demand in Armenia’s labor market	
Fields of study with relatively high quality of instruction	Russian philology, French and German, Medicine, Music, Sociology and social work, Public health and pharmacology	Chemistry, Physics, Geography, History, Oriental studies, Physical culture, Theology, Geology, Energy and electrical engineering Psychology and philosophy, English language, Law, Directing and acting	+
Fields of study with relatively low quality of instruction	IT, computer sciences and programming, pediatrics, Architecture and construction, Journalism, Arts Economics	International relations, radio engineering and communication systems, transport, veterinary medicine, food processing, light industry	-
	+	-	

Overall, the respondents rate the quality of instruction in Armenia’s universities fairly high. According to a 5-point scale, the average rating across all fields of study is 4 points.

There are no considerable differences in the views of public and private university graduates. This may be explained by higher expectations of public university students, more strict and impartial grading criteria in these institutions and professional ambitions of private university students.

45.2% of the respondents believe that university education is partially sufficient to become a full-fledged professional and find a job (28.6%) or believe that it is not sufficient at all (16.6%).

While 54.9% believe that the knowledge gained in the university is necessary and required for finding a proper job in the labor market, another 43.7% consider this knowledge necessary, but not sufficient. Another 1.1% believe that this knowledge is redundant.

Transitional education systems are characterized by various issues and components that are yet to be defined and which, to various degrees, impede the process of professional education and affect the quality and level of such education.

Which are the main obstacles and shortcomings that, according to the respondents, negatively affect the quality of higher education?

25.6% of the respondents believe that the knowledge offered in the university is predominantly theoretical and not sufficient in terms of practical knowledge and skills. Interestingly, 14.9% of young professionals consider the lack or the formal nature of internship as the most significant shortcoming of the education process that precludes their subsequent successful integration in the labor market.

4.5% of the respondents believe that both the theoretical and the practical components of university education are deficient.

7% are more self-critical and believe that the obstacle is the prevailing lack of motivation and self-discipline among students.

3.4% mentioned organizational drawbacks and corruption in the higher education system as the key impeding factors. See Annex 1.

3.9. ANNEXES

Annex 1. Survey questionnaire – one-dimensional data

No. of the questionnaire _____
Interviewer ID _____

0. Contact list

Interview date	Time	City of residence of the respondent	Phone No.	Result (use the code)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

Score

1. Call unanswered 26.7%
2. The respondent has left Armenia 5.6%
3. Refused to participate 1.1%
4. Moved to another apartment 6.8%
5. Asked to call later 8.5%
6. Other obstacles 15.9%
7. Interview conducted 35.4%

Phone interview questionnaire Graduate 2002

1. **University of the graduate**
(write) _____
2. **Department (chair)** _____
3. **Degree obtained in 2002**
 - 3.1. Bachelor's -41,8%
 - 3.2. Master's -7,2%
 - 3.3. Qualified professional -50,9%

Interviewer. Let's discuss what you were doing during in the first 1-2 years after graduation.

4. **Did you continue your professional education after graduating in 2002 (in any way)?**
[more than 2 answers are possible]
 - 4.1 no - 70,3%
 - 4.2 continued in the Master's programme -20,7%
 - 4.3 continued in post-graduate school -9,1%
 - 4.4 continued in another field of study (learned a different profession) -2,2%
 - 4.5 attended re-training courses -1%
5. **Please mention which of the following you did in the first year after graduation.**
 - 5.1 Worked according to the education background -36,6%
 - 5.2 Worked, but not according to the education background -17,5%
 - 5.3 Did not work -45,9%

!Ask those who did not worked, i.e. those who checked point 5.3 !

6. **If you did not work, what was the reason? (select up to 2 answers)**
 - 6.1 Because I could not find a job that would correspond to my education background -13,3%
 - 6.2 Available jobs were not attractive in terms of the salary level -1,3%
 - 6.3 Continued education which prevented me from working -6,4%
 - 6.4 For family and personal reasons (got married, had to take care of children or relatives, etc. -10,7%
 - 6.5 Served in the army -11,2%
 - 6.6 Did not want to work (there was no need to work) -3,2%
 - 6.7; 6.8 Other reasons (please specify) - 0,2%

!Ask everyone !

7. **Do you have a paid job at present?**

- 7.1 yes (move on to question 10) -59,5%
 7.2 no, but I keep looking for a job (unemployed) -22,9%
 7.3 no, but I do not consider myself unemployed -17,6%

! Ask those who do not have a job (i.e. those who selected answers 7.2 or 7.3) !

8. Why is it that you do not work?

- 8.1 Could not find a matching job -12,0%
 8.2 Available jobs were not attractive because of the low salary level -5,5%
 8.3 My studies prevent me from working -4,8%
 8.4 For personal, family reasons-16,3%
 8.5 Do not want to work (no need) -1,6%
 8.6; 8.7 other reasons (please specify) - 0,4%

9. What services did you apply to or what steps have you taken to find a job (more than 1 answers are accepted)

- 9.1 Local branch of the national employment agency 4.7%
 9.2 Private employment agency 3.4%
 9.3 Asked for help from acquaintances and friends 3.3%
 9.4 Personally visited various offices 2.8%
 9.5 Offered my services through the media 0%
 9.6 Offered my services on the web 0.5%
 9.7 Responded to media job announcements 1%
 9.8 Did not apply anywhere and did not do anything 24.8%
 9.9; 9.10 Other (please specify)

! Ask those who do not work (as per their answer to point 7.1). For others, move to question 22

10. What kind of job do you have?

- Is it a stable, permanent job or it is temporary or seasonal?
- Does your job match your education background?
- Do you work for a private or a public institution?

10. Nature of the job											
10.1 stable, full-time 51.7%						10.2 not stable (ad hoc, seasonal) 7.8%					
11.1 38.3% have matching jobs			11.2 13.4% have jobs that do not match education background			11.3 8.5% have matching jobs			11.4 5.3% have jobs that do not match education background		
Work for a public entity	Work for a private entity	Self- employe d	Work for a public entity	Work for a private entity	Self- employe d	Work for a public entity	Work for a private entity	Self- employe d	Work for a public entity	Work for a private entity	Self- employe d
12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	12.10	12.11	12.12
20.6%	16.8%	0.9%	4.8%	7.7%	0.9%	0.7%	1.7%	0.2%	0.6%	4.4%	0.3%

13. Please state your average monthly income (salary) in Armenian drams

write on this line - 63 680.7 AMD

14. In more specific terms, how fully does your job match your education background

- 14.1 Matches fully
 14.2 Matches mostly or partially
 14.3 Matches only partially (move to question 21)
 14.4 Does not match at all(move to question 21)

! Ask those who have stable full-time jobs that match their education background (i.e. those who chose answer 11.1) !

15. Since when have you had this job?

- 15.1 Since 2000 2.8%
 15.2 Since 2001 1.9%

Year	1 st quarter		2 nd quarter		3 rd quarter		4 th quarter	
2002	3	2.1%	4	2.3%	5	4.8%	6	2.2%
2003	7	2.6%	8	1.2%	9	3.0%	10	0.8%
2004	11	1.8%	12	2.9%	13	3.1%	14	1.8%

2005	15	3.2%	16	2.2%
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! Ask those, who have a stable full-time job which does not match their education background (i.e. those who chose answer 11.2) !

16. Since when have you had this job?

- 16.1** Since 2000 - 0.6%
16.2 Since 2001 - 0.4%

Year	1 st quarter		2 nd quarter		3 rd quarter		4 th quarter	
2002	3	0.7%	4	0.1%	5	0.8%	6	1.0%
2003	7	0.7%	8	0.6%	9	0.8%	10	0.7%
2004	11	1.0%	12	1.7%	13	1.0%	14	0.4%
2005	15	2.0%	16	1.1%				

! Ask all those who have stable, full-time job (i.e. those who chose answer 10.1) !

17. How much time did it take you to find this job (in months)?

- 17.1** no extra time was needed – 24.3%
17.2 Less than 1 month – 5.1%
17.3 Between 1 and 3 months – 5.3%
17.4 Between 3 and 6 months – 5.7%
17.5 More than 6 months – 7.2%
17.6 Between 12 and 18 months – 1.3%
17.7 Between 18 and 24 months – 2.3%
17.8 Between 24 and 36 months – 0.3%

18 Average time required to find a job

Number of months required - 3.88 months

19 Which of the following helped you most in finding the job? (more than one answer are allowed)

- 19.1** connections and contacts established during internship – 12.9%
19.2 Advice and assistance from relatives and friends– 19.9%
19.3 Media vacancy announcements – 3.2%
19.4 Personal initiative and visits to various institutions– 22.7%
19.5 Advertisements you published – 0.8%
19.6 Leads from the national employment agency – 0.4%
19.7 Leads from private recruitment agencies – 0.5%
19.8; 19.9 Other – 0.2%

20. Have you attended any extracurricular training programmes or courses to get the job?

- 20.1** yes 11.7%
20.2 no 39.6%

21. Do you find your job satisfactory in terms of the following aspects?

Job aspect	yes	partially	no	No answer
21.1 Salary (income)	22,7%	28,0%	46,9%	2,4%
21.2 Ability to take care of the current family needs	20,2%	29,2%	47,9%	2,4%
21.3 Ability to take care of substantive needs like an apartment, furniture, car	4,5%	12,6%	81,9%	1,0%
21.4 Interest	73,8%	16,8%	8,8%	0,6%
21.5 Respect of others	79,4%	12,9%	5,9%	4 1,8%
21.6 Level of authority and influence	19,6%	26,3%	45,4%	8,7%
21.7 Creativity and initiative	43,6%	31,0%	23,9%	1,5%
21.8 Career opportunities	46,2%	20,0%	28,7%	5,0%

21.9 Professional fulfillment	54,9%	23,0%	21,4%	0,7%
21.10 Spiritual fulfillment	61,9%	26,8%	10,5%	0,8%
21.11 Useful and enjoyable free time and recreation	49,0%	30,4%	19,9%	0,7%

!Ask everyone !

22. Do you think that the knowledge gained in the university is enough to become a qualified professional and find a matching job?

22.1 yes-54,8% **22.2** partially-28,6% **22.3** no-16,6%

! Ask those who chose answers 22.2 .. 22.3 !

23 If you believe that the knowledge gained in the university is not enough or is partially enough (to become a qualified professional) what you think are the reasons? (more than 1 answer are possible)

23.1 Instruction is based on obsolete materials and does not correspond to modern requirements 11%

Instruction is mostly theoretical and does not provide practical knowledge and skills 25.6%

23.2 Instruction is mostly empirical (practical and applied), the theoretical component is lacking 3%

23.4 Instruction is weak both in theoretical and in practical terms 4.5%

23.5 Lack of motivation and discipline on the part of the students 7.0%

Management problems and corruption compromise the quality of instruction 3.4%

23.7 Internship is inadequate 14.9%

23.8; 23.9 Other reasons (please specify) - 0.8%

24. Based on your experience, please rate the importance and value of knowledge gained in the university in terms of usefulness for finding a job.

Which of the following do you agree with?

24.1 the knowledge gained in the university is necessary and sufficient for finding a job -54,9%

24.2 The knowledge is necessary but it is not sufficient -43,7%

The knowledge is not necessary for finding a job -1,1%

24.4 Other (please specify) - 0,1%

24.5 No answer -0,2%

25. Use a 5-point scale to rate the quality of instruction in your university department, with 1 as very poor and 5 as very good.

25. 1 very poor - 0,7% **25. 4** good-56,2%

25. 2 poor -1,5% **25. 5** very good -23,7%

25. 3 average- 18%

26. How was your performance in the university (your average grade)

26.1 poor-0,3% **26.3** good-54,2%

26.2 average-13,3% **26.4** excellent-32,2%

27. Your employment status

27.1 Hired worker -1,6%

27.2 Employee (low to middle level) -26,2%

27.3 Qualified professional -26,2%

27.4 Head of an SME (up to 15 staff) -1,7%

27.5 Head of a big team (16 and more staff) -0,4%

27.6 self employed -2,3%

27.7 entrepreneur -0,1%

27.8 housewife -13,9%

27.9 student (incl. Post-graduate) -4,3%

27.10 unemployed -22,9%

27.11 other (please specify) - 0,5%

28. Field of work

Public sector

28.1 manufacturing enterprise -3,9%

28.2 public administration -3,7%

28.3 law enforcement -1,3%

28.4 judiciary -0,7%

28.5 military -0,9%

28.6 education and science -11,3%

28.7 healthcare -2,8%

Private sector

28.8 manufacturing enterprise -4,3%

28.9 agriculture -0,7%

28.10 services -14,4%

28.11 commerce -4,8%

28.12 healthcare -1,2%

28.13 education -3,8%

28.14 NGO 2,1%

28.15 other (please specify) -0,7%

28.16 finance and accounting -1,9%

28.17 culture – 1,2%

The last question !

This last question is related to the migration of skilled labor force from Armenia

29. Which of the following you believe are significant or insignificant causes of labor migration?

Factor	significant	Somewhat significant	insignificant	Don't know
29.1 lack of jobs	79.0%	10.9%	8.3%	1.8%
29.2 low salary	83.3%	11.8%	4.3%	0.7%
29.3 political instability	29.8%	30.4%	31.7%	8.1%
29.4 danger of war	17.4%	22.8%	51.7%	8.2%

30. Marital status

- 30.1 single-62,8%
- 30.2 divorced -0,9%
- 30.3 married -36,3%

31.1 Sex

- 31.1 male -31,6%
- 31.2 female -68,4%

Thank you for your participation

ANNEX 2a. Source and proportional sample frames

Public universities				
		Official number of graduates	% of the total official number of surveyed university graduates	Survey sample frame
N	University		%	No. of graduates
1.	Yerevan State University	2190	31.6%	275
2.	Yerevan State Engineering	1055	15.2%	132
3.	YSE Gyumri	133	1.9%	17
4.	YSE Kapan	68	1.0%	9
5.	YSPU	561	8.1%	70
6.	Yerevan State Economic Institute	642	9.3%	81
7.	Yerevan State Medical University	385	5.6%	49
8.	Agriculture Academy	517	7.5%	64
9.	իՕԷ	359	5.2%	45
10.	Yerevan Architecture and Construction Institute	243	3.5%	30
11.	Yerevan Linguistic University	315	4.5%	39
12.	Musical Conservatory	209	3.0%	26
13.	ՔԻՃ	111	1.6%	14
14.	Agricultural Academy	71	1.0%	9
15.	Yerevan Institute of Art and Drama	69	1.0%	9
Total number of graduates in the sample frame		6 928	100%	870
Total number of public university graduates		7 677		
Private universities				
16.	Yerevan School of Law and Economics	150	16.2%	53
17.	Haybusak	147	15.7%	52
18.	Northern	117	12.5%	41
19.	Kalashian Open University	101	10.8%	36

20.	Gladzor	100	10.7%	35
21.	MFB Finance Academy	62	6.6%	22
22.	Interlingua	57	6.1%	20
23.	School of IT and Management	54	5.8%	19
24.	Movses Khorenatzi University	48	5.1%	17
25.	Yerevan School of Management	47	5.0%	16
26.	Eurasia University	27	2.9%	10
27.	Urartu	24	2.6%	9
Total number of private university graduates in the sample frame		934	100%	330
Total number of graduates of private universities		2 907		
Total number of all public and private university graduates in 2002		10 584		1200

ANNEX 2b Professions included in the survey, by university and department¹¹

1 Mathematics - 22 / 1.8%		
	University	Department
1.	Yerevan State University	Mathematics - 14
2.	ԻՕԷ	Mathematics - 8

2 Applied Math, IT and Computer Science – 83 / 6.9%		
	University	Department
1.	Yerevan State University	IT and applied math - 27
2.	YSEU Yerevan	Computer systems and IT - 21
3.	YSEU Yerevan	Cybernetics - 18
4.	Kalashian Open University	Computer science - 3
5.	School of Management and IT	Information Technologies - 9
6.	Movses Khorenatzi University	Applied math and IT - 4

3 Chemistry - 24 / 2%		
	University	Department
1.	Yerevan State University	Chemistry - 9
2.	YSEU Yerevan	Chemical technologies and environmental engineering - 15

4 Physics- 14 / 1.2%		
	University	Department
1.	Yerevan State University	Physics - 8
2.	ԻՕԷ	Physics - 6

5 Biology – 33 / 2.3%		
	University	Department
1.	YSU	Biology - 20
2.	ԻՕԷ	Biology and chemistry - 8
3.	ԻՕԷ	Biology and ecology - 5

6 Geography and History – 19 / 1.6%		
	University	Գեոգրաֆիա և Իստորիա
1.	YSU	Geography - 10
2.	YSPU	History and geography – 8
3.	ԳԻՃ	History - 1

7 International relations – 43 / 3.6%		
	University	Department
1.	YSU	International relations – 24
2.	Kalashian open university	International relations – 1
3.	Yerevan School of Economics and Law	International relations – 9
4.	Gladzor	International relations - 9

8 Economics except YSPU– 158 / 13.2%		
	University	Department
1.	YSU	Economics - 37
2.	YSEU Gyumri	Economics and Management of light industry -12
3.	YSEU Kapan	Economics and enterprise management - 4

¹¹ Data of the universe by departments (professions) was derived from university records

4.	Agriculture Academy	Economics - 22
5.	ԳԱԺ	Accounting, finance and credit - 4
6.	Yerevan School of Economics	Economics - 14
7.	Haybusak	Economics and Enterprise Management - 9
8.	Haybusak	Accounting and Audit - 6
9.	Northern	Economics - 8
10.	Kalashian Open University	Management - 9
11.	University	Finance and Credit - 6
12.	MFB Finance Academy	Finance and Credit - 17
13.	MFB Finance Academy	Accounting and Audit - 5
14.	School of IT and Economics	Business and Management - 6
15.	Yerevan School of Management	Economics - 1
16.	Eurasia University	Economics - 4

9 Sociology, Social Work – 13 / 1.1%		
	University	Department
1.	Yerevan State University	Sociology, Social Work - 13

10 Psychology and Philosophy – 21 / 1.8%		
	University	Department
1.	Yerevan State University	Psychology and Philosophy – 13
2.	Urartu	Psychology - 8

11 Law – 102 / 8.5%		
	University	Department
1.	Yerevan State University	Law – 31
2.	ԳԱԺ	Law – 1
3.	Yerevan School of Economics	Law and psychology of law – 30
4.	Northern	Law – 6
5.	Kalashian open university	Law – 9
6.	Gladzor	Law – 19
7.	Eurasia	Law - 6

12 English, translation – 97 / 8.1%		
	University	Department
1.	Yerevan State University	Roman and Germanic languages – 32
2.	ԳԱԺ	English – 2
3.	Haybusak	Foreign languages (English) – 9
4.	Northern	Foreign languages – 15
5.	Kalashian open university	Foreign languages – 8
6.	Interlingua	Foreign languages – 20
7.	Management and IT Academy	Translation – 4
8.	Movses Khorenatzi University	Roman and Germanic languages - 4
9.	Yerevan School of Management	Technical translation – 2
10.	Urartu	Foreign languages – 1

13 Oriental studies – 20 / 1.7%		
	University	Department
1.	Yerevan State University	Oriental studies - 20

14 Journalism – 10 / 0.8%		
	University	Department
1.	Yerevan State University	Journalism - 5
2.	Gladzor	Journalism – 1
3.	Yerevan School of Management	Journalism - 4

15 Theology – 6 / 0.5%		
	University	Department
1.	Yerevan State University	Theology – 6

16 Russian Philology – 8 / 0.7%		
	University	Department
1.	Yerevan State University	Russian philology - 8

17 Geology – 20 / 1.7%		
	University	Department
1.	ASEU Yerevan	Geology and Metallurgy - 15
2.	ASEU Kapan	Ferrous and non-ferrous metals – 2
3.	ASEU Gyumri	Mining and metallurgy – 3

18 Transport Systems – 12 / 1%		
	University	Department

1.	ASEU Yerevan	Transport systems – 12
19 Energy and Electrical Engineering -23 / 1.9%		
	University	Department
1.	ASEU Yerevan	Electrical engineering - 6
2.	ASEU Yerevan	Energy - 17
20 Industrial and civil engineering - 25 / 2.1%		
	University	Department
1.	ASEU Yerevan	Industrial engineering – 13
2.	Agriculture Academy	Industrial engineering, agricultural machinery and equipment – 12
21 Radio engineering and communication systems – 16 / 1.3%		
	University	Department
1.	ASEU Yerevan	Radio engineering and communication systems – 16
22 Light industry – 7 / 0.6%		
	University	Department
1.	ASEU Gyumri	Textile and light industry design – 2
2.	ASEU Gyumri	Production of textiles and leather - 3
3.	Kalashyan open university	Textile and light industry design - 2
23 Armenian Language and Literature – 19 / 1.6%		
	University	Department
1.	YSPU	Armenian language and literature – 12
2.	ԿՊՔ	Armenian language and literature – 3
3.	Khorenatzi	Philology – 4
24 Directing and Acting – 15 / 1.3%		
	University	Department
1.	YSPU	Culture and directing of mass events - 3
2.	YSPU	Culture, Directing - 3
3.	Yerevan Drama and Cinema Institute	Acting – 8
4.	Yerevan Institute of Drama and Cinema	Directing - 1
25 Pedagogics – 69 / 5.8%		
	University	Department
1.	YSPU	Elementary education - 21
2.	YSPU	Pre-school education and psychology - 15
3.	Haybusak	Elementary education and methodology - 5
4.	Northern	Pedagogics - 12
5.	Kalashian Open University	Pedagogics and psychology - 3
6.	Khorenatzi	School pedagogics - 5
7.	ԻՕՔ	Preschool pedagogics and psychology - 7
26 Defectology - 9 / 0.8%		
	University	Department
1.	YSPU	Defectology - 9
27 Finance and Accounting – 37 / 3.1%		
	University	Department
1.	Yerevan School of Economics	Finance and Accounting – 37
28 Business Administration – 34 / 2.8%		
	University	Department
1.	Yerevan School of Economics	Management – 22
2.	School of Management and IT	Business and Management – 6
3.	Yerevan School of Management	Management – 7
29 Commerce – 22 / 1.8%		
	University	Department
1.	Yerevan School of Economics	Commerce and Marketing – 22
30 Medical – 29 / 2.4%		
	University	Department
1.	Yerevan State Medical University	Medical – 23
2.	Haybusak	Medical – 6
31 Pediatrics – 10 / 0.8%		
	University	Department
1.	Yerevan State Medical University	Pediatrics – 10

32 Dentistry – 26 / 2.2%		
	University	Department
1.	Yerevan State Medical University	Dentistry – 9
2.	Haybusak	Dentistry - 17

33 Public Health, Pharmacology – 7 / 0.6%		
	University	Department
1.	Yerevan State Medical University	Public Health – 3
2.	Yerevan State Medical University	Pharmacology - 4

34 Agriculture – 17 / 1.4%		
	University	Department
1.	Agriculture Academy	Agriculture – 15
2.	ԳԱԷ	Agriculture – 2

35 Music – 26 / 2.2%		
	University	Department
1.	Conservatory	Piano – 13
2.	Conservatory	String and Wind instruments, percussion and folk instruments - 13

36 Veterinary medicine, livestock breeding - 6 / 0.5%		
	University	Department
1.	Agricultural Academy	Veterinary medicine and livestock breeding - 6

37 Food Processing - 9 / 0.8%		
	University	Department
1.	Agricultural Academy	Food processing technology - 9

38 Physical Culture - 8 / 0.7%		
	University	Department
1.	ԻՕԷ	Physical education and sports - 8

39 Arts – 12 / 1.0%		
	University	Department
1.	ԻՕԷ	Visual and graphical arts – 3
2.	Arts Academy	Painting – 4
3.	Arts Academy	Design – 4
4.	Arts Academy	History and Theory of Art – 1

40 Architecture – 9 / 0.8%		
	University	Department
1.	Yerevan Architecture and Construction University	Architecture – 9

41 Construction, other – 21 / 1.8%		
	University	Department
1.	Yerevan Architecture and Construction University	Urban Development – 11
2.	Yerevan Architecture and Construction University	Urban Development – 10

42 French, German – 39 / 3.3%		
	University	Department
1.	Yerevan Institute of Foreign Languages	French – 23
2.	Yerevan Institute of Foreign Languages	German – 16

Employment and unemployment levels among graduates of various universities

Public Universities						
		Total number of employed, in %	Job matches education %	Job does not match education %	Unemployment rate	Number of not working
1.	Yerevan State University	63.6%	53.1%	10.5%	20.4	16
2.	Yerevan State Engineering University	59.4%	33.8%	25.6%	29.3	11.3
3.	YSEU Gyumri	56.3%	25.0%	31.3%	31.3	12.5
4.	YSEU Kapan	55.5%	44.4%	11.1%	33.3	11.1
5.	YSPU	60.9%	36.6%	32.4%	18.3	12.7
6.	Yerevan School of Economics	60.5%	43.2%	17.3%	29.6	9.9
7.	Medical Institute	46.9%	44.9%	2.0%	8.2	44.9
8.	Agricultural Academy	26.6 %	34.4%	23.5%	15.6	26.6
9.	իՕԷ	46.7 %	33.3%	13.3%	26.7	26.7
10.	Architecture and Construction University	76.7%	56.6%	20 %	20	3.3
11.	Foreign Language University	59 %	48.7%	10.3%	28.2	12.8
12.	Conservatory	57.7 %	50%	7.7%	7.7	34.6
13.	Gyumri University	78.5 %	64.7%	14.3%	14.3	7.1
14.	Arts Academy	77.8%	66.7%	11.1%	22.2	0
15.	ճՊԱԷ	66.7%	44.4%	22.2%	22.2	11.1
	Total in public universities	61.1%	44.6%	16.6%	22	16,9
Private Universities						
		Total number of employed, in %	Job matches education %	Job does not match education %	Unemployment rate	Number of not working
16.	Yerevan School of Economics and Law	50.9%	30.2%	20.7%	30.2	18.9
17.	Haybusak	57.7%	36.5%	21.2%	7.7	34.6
18.	Northern	48.8 %	17%	31.8%	31.7	19.5
19.	Kalashian Open University	61.1%	25%	36.1%	22.2	16.7
20.	Gladzor	51.4%	28.6%	22.9%	34.3	14.3
21.	MFB Finance Academy	72.7%	36.4%	36.3%	18.2	9.1
22.	Interlingua	45%	35%	10%	55	0
23.	School of Management and IT	47.4%	36.8%	10.6%	31.6	21.1
24.	Movses Khorenatzi University	52.9%	11.8%	41.2%	5.9	41.2
25.	Yerevan School of Management (16)	62,5%	37.5%	25%	31.3	6.3
26.	Eurasia	60%	50%	10%	20	20
27.	Urartu	66.7%	55.6%	11.1%	22.2	11.1
	Total in private universities	55.2%	30.6%	24.5%	25.5	19.4
	Total in public and private universities	59.5%	40.8%	18.7%	22.9	17.6

Annex 4. Employment and unemployment levels, educational match and mismatch by profession

	Department	Employment rate	Match	Mismatch	Unemployed	Not working
1.	Mathematics	72.7%	54.5%	18.2%	13.6%	13.6%
2.	Applied Math, IT and Computer Science	68.6%	55.4 %	13.2%	18.1%	13.3%
3.	Chemistry	62.5%	41.7%	20.8%	16.7%	20.8%
4.	Physics	64.3%	50%	14.3%	21.4%	14.3%
5.	Biology	48.5%	24.2%	24.2%	30.3%	21.2%
6.	Geography and History	73.7%	52.6%	21.1%	15.8%	10.5%
7.	International relations	53.4%	23.2%	30.2%	27.9%	18.6%
8.	Economics except YSPU	46.8%	41.1%	5.7%	20.9%	17.7%
9.	Sociology, social work	61.6%	46.2%	15.4%	7.7%	30.8%
10.	Psychology and philosophy	61.9%	57.1%	4.8%	28.6%	9.5%
11.	Law	57.8%	45.1%	12.8%	28.4%	13.7%
12.	English, translation	53.6%	34%	19.6%	28.9%	17.5%
13.	Oriental studies	40%	25%	15 %	40%	20%
14.	Journalism	80%	70%	10%	10%	10%
15.	Theology	33.4%	16.7%	16.7%	50%	16.7%
16.	Russian philology	87.5%	62.5%	25. %	0%	12.5%
17.	Geology	45%	20%	25%	50%	5%
18.	Transport	58.3%	16.7%	41.6%	33.3%	8.3%
19.	Energy and electrical engineering	73.9%	39.1%	34.8%	26.1%	0%
20.	Industrial and civil engineering	48%	24%	24%	28%	24%
21.	Radio engineering and communication systems	68.8%	56.3%	12.5%	25%	6.3%
22.	Light industry	71.4%	28.6%	42.9%	28.6%	0%
23.	Armenian language and literature	73.7%	42.1%	31.6%	5.3%	21.1%
24.	Directing and acting	80%	33.3%	46.7%	13.3%	6.7%
25.	Pedagogics	46.3%	26.1%	20.3%	24.6%	29%
26.	Defectology	66.6%	33.3%	33.3%	22.2%	11.1%
27.	Finance and accounting	70.3%	54.1%	16.2%	24.3%	5.4%
28.	Business administration	70,6%	44,1%	26,5%	17,6%	11,8%
29.	Commerce and marketing	31,8%	13,6%	18,2%	50%	18,2%
30.	Medicine	41,5%	34,5%	7%	10,3%	48,3%
31.	Pediatrics	30%	30%	0%	10%	60%
32.	Dentistry	57,7%	53,9%	3, 8%	3,8%	38,5%
33.	Public health and pharmacology	87.5%	87.5%	0%	0%	14.3%
34.	Agriculture	60.9%	39.1%	21.7%	13%	26.1%
35.	Music	57,7%	50%	7,7%	7,7%	34,6
36.	Food processing	44,4%	11,1%	33,3%	22,2%	33,3%
37.	Physical culture	37,5%	37,5%	0%	37,5%	25%
38.	Arts	83,3%	75%	8,3%	16,7	0%
39.	Architecture	77,8%	66,7%	11,1%	22,2%	0%
40.	Construction	76,2%	52,4%	23,8%	19%	4,8%
41.	French, German	59%	48,7%	10,3%	28,2%	12,8%
	Total	59.5 %	40.8%	18.7%	22.9%	17.6%

4. CONTENT ANALYSIS OF VACANCY ANNOUNCEMENTS POSTED IN GIND ADVERTISING WEEKLY

Contents

4.1. Description of the survey

4.2. Demand for manual and intellectual labor, permanent and temporary job offers, distribution of vacancies between public and private sectors.

4.3. Ratio of various occupations as per vacancy announcements posted in GIND

4.4. *Annexes*

4.1. Description of the Survey

Key structural characteristics of the labor market include labor supply and demand, employment agencies, funds and exchanges, training services as well as advertising agencies and the number of media working in the sector.

According to international experience, official statistics does not always adequately reflect the situation in the labor market, including its supply and demand sides and real levels of employment and unemployment.¹

According to expert assessments, Armenian labor market is characterized by high tension levels due to consistent growth of labor supply and decrease in the demand.²

For the purposes of obtaining an objective and comprehensive view of Armenia's labor market demand, the project undertook a content analysis of 1,504 vacancy announcements posted in 15 issues of GIND advertising weekly in January thru August 2005.

Since it turned out that many vacancy announcements posted in GIND are re-printed in the next week's issue, it was decided to analyze every second issue of the weekly, i.e. two issues per month.

4.2. Demand for manual and intellectual labor, permanent and temporary jobs offers, distribution of vacancies between public and private sectors

According to the analysis findings, the bulk of the demand (69.1% of vacancy announcements), is for manual labor. Demand for intellectual labor accounts for 30.1% of the total.

88.4% of vacancy announcements offer stable, permanent jobs, 0.4% are for temporary jobs and 11.2% of the announcements do not specify if the vacancy is permanent or temporary. *See Charts 1 and 2.*

¹ Secondary Professional Education In Armenia. Legal and Administrative Issues, performance of the system, occupational employment, financial issues, Yerevan, 2002, p. 21.

² Ibid. Also see Armenia's Statistical Yearbook, Yerevan, 2004, pp. 110-113.

Chart 1. Offers for stable and temporary jobs

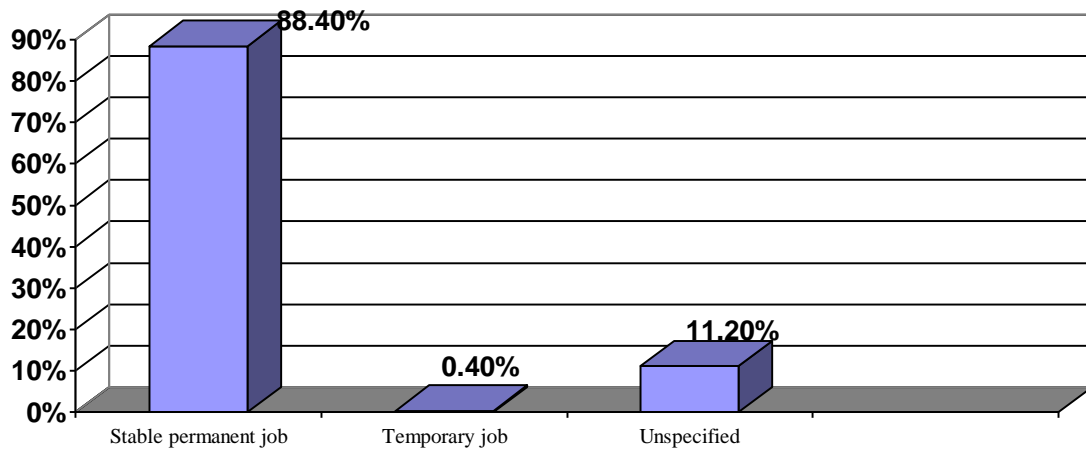
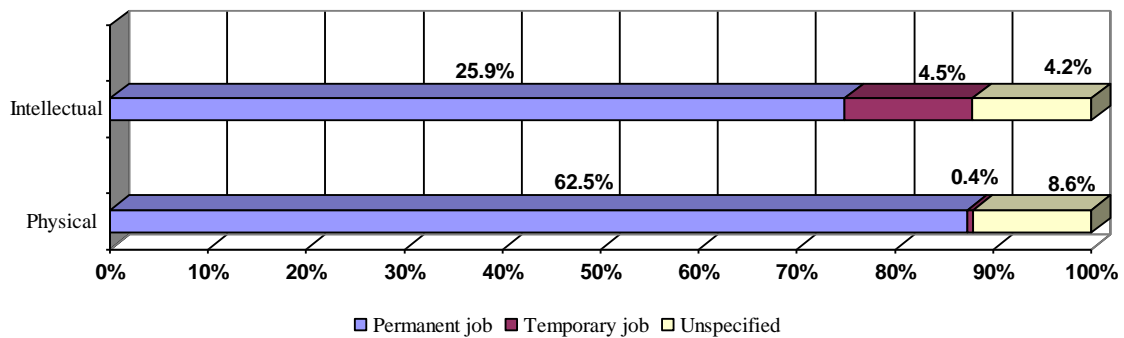


Chart 2. Offers for manual and intellectual jobs, disaggregated by job stability



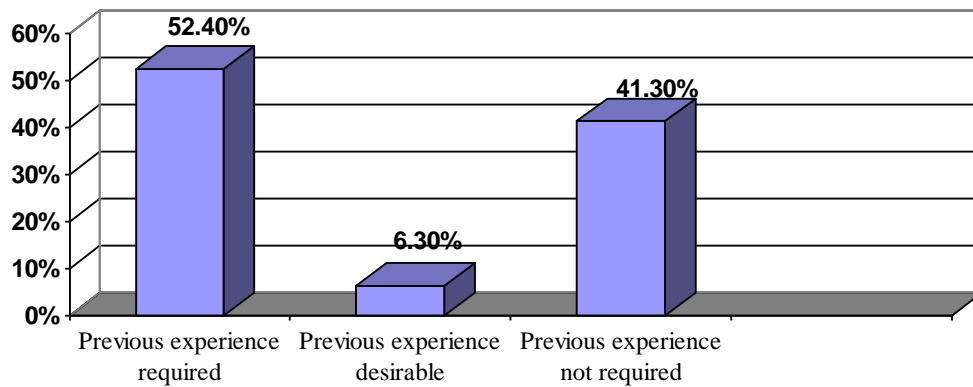
88% of the demand comes from private companies and institutions. 11.9% of the announcements do not specify the type of ownership, and only 0.1% of vacancy announcements in GIND weekly are posted by public sector institutions.

The majority of announcements are fairly broad on age requirements; 86.1% of announcements do not specify any age requirements, while 14.8% are addressed to 18 – 39 age group. *See Annex 2.*

Many employers stress the previous experience as a key requirement.

52.4% of announcements state that professional experience is required, while 6.3% mention that it is desirable. (*See Chart 3*).

Chart 3. Importance of professional experience for employers (according to requirements contained in GIND vacancy announcements)



4.3. Distribution of vacancy announcements across occupations

Which are the professions that enjoy highest demand in the labor market, according to GIND vacancy announcements?

According to the findings, the majority – 48.26% of all vacancy announcements are for *various industrial worker positions*.

The first ones in the terms of the demand in this group are workers of public catering sector - **22.5%** (salesmen, cashiers, waiters (10.2%), cooks, bakers (4.1%)³

The second group includes highly demanded transport and communication sector specialists - 13%. 7.7% of the demand is for drivers⁴, car mechanics 2.9%, telephone masters - 2.4%.

Within the demand for industrial workers, the third largest group is for construction workers – 4%.

The forth largest group includes mechanics and metal workers - 2,8% (welders, turners, tinsmiths, locksmiths, tool-makers, etc.).

The fifth group includes office staff (secretaries and clerks with language and computer skills – 2.1%.

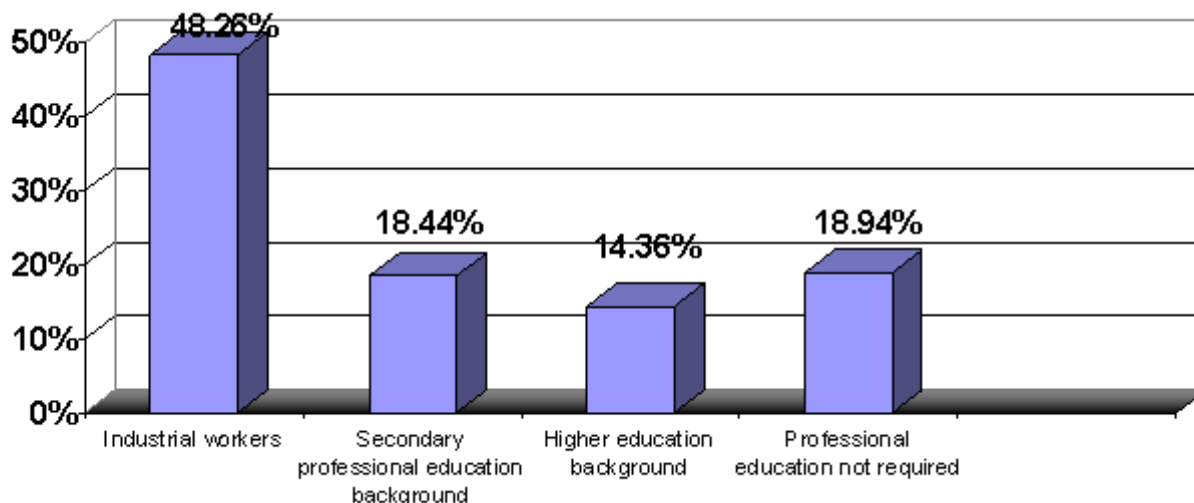
In the total structure of labor force demand, **the second highest number of offers is for unskilled labor** (handymen, porters, cleaners, couriers, etc.) 18.9%.

According to the analysis findings, the **third largest number of offers is for professionals with secondary education – 18.4%**, like accountants, managers, marketologists and sales professionals – 2.9%, as well as pharmacologists, nurses and dentists – 2.8%.

The forth largest number of offers is for professionals with university degrees - 14.4%. (See Chart 4). There is a considerable number of vacancies for doctors (esp. dentists) – 4.7%, professionals of business administration and marketing - 3.7%, applied math, accounting systems and networks, software engineering – 2.1% and translation- 1.1%.

Chart 4. Ratio of various professions in the total labor demand, as per GIND vacancy announcements

⁴ These indicators are explained both in terms of the general economic growth and increased number of transportation and taxi services offered in Yerevan.



Only 4.45% of vacancy announcements published in GIND weekly specify the salary size, which on the average, is equal to AMD75,380. The average salary levels offered across occupations are as follows:

Table 1. Average salary levels offered across occupations

Industrial workers	
Drivers and mechanics	40 000 AMD
Seamstresses, weavers, machine operators	55 000
Salesmen, cashiers	58 000
Bakers, waiters	50 000
Office secretaries, clerks	35 000
Botanists	35 000
Professionals with secondary professional education	
Operators of electrical machines and equipment	27 500
Butlers	75 000
Advertising clerks	50 000
Professions where no professional education is required	
Couriers	64 285
Handymen	66 464
Porters	90 000
Dispatchers	62 500

Some of vacancy announcements contain additional requirements, like a car (5.9%), language and computer skills (3.5%), good looks (3.5%), etc.

According to the findings of the content analysis of vacancy announcements published in GIND weekly, there is a fairly high demand for industrial workers. Consequently, the policy to restore the system of vocational and secondary professional education seems justified both for meeting the demand of the growing labor market and in terms of the implementation of the poverty reduction strategy.

5. OCCUPATIONAL RATING ACCORDING TO YEREVAN RESIDENTS

Contents

- 5.1. Scope and methodology of the survey
- 5.2. Occupational rating. Relationship between prestige and income level
- 5.3. Education in the context of modernization of Armenian society
- 5.4. Interest towards the future profession as the key factor
- 5.5. Conclusion
- 5.6. Annex

5.1. Scope and methodology of the survey

Occupation is one of the key determinants of social stratification. Occupational stratification is universal, as the occupation often becomes a means of transition from one social class to another. This is especially true for the youth, for whom professional education and occupation may open a way up the social ladder, since the social stance is determined by the occupational field where one belongs by virtue of his/her profession, and the level of prestige this occupation enjoys.

There are different ways to measure occupational prestige. For example, it could be determined against the following six criteria: income level, confidence towards the future, career opportunities, working conditions, physical requirements and stress levels. Our survey looks at the relationship between the income level and prestige as seen by the residents of Yerevan. The survey covered 604 respondents above 15 years of age. Results of 2001 census informed sampling by gender (44.2% men and 55.8% women), six age group and education levels (33.4% higher education, 21.9% secondary professional and 44.7% all others). The number of the respondents was determined using the following formula:

$$n = \frac{Nt^2s^2}{N\Delta^2 + t^2s^2}$$

where n is the sample frame and N is the universe (N= 858106),
 s^2 - dispersion of surveyed feature ($s^2= 0,2$),
 $1 - \alpha = 0,90$ $t = 1,65$
 $\Delta = 0,03$ (representativeness error margin of 3%)
as a result, $n = 604$.

The data series were processed using quantitative statistical methods, with SPSS software.

5.2. Occupational rating. Relationship between prestige and income level

Subjective opinions expressed by residents of Yerevan in relation to the correlation between the income and prestige levels of 54 selected professions were used to construct the following occupational rating which demonstrates that well paid intellectual work enjoys highest prestige (see Table 1.).

Table 1.¹ Occupational rating

Rating	Occupation	Prestige (%)	Income level (%)	Rating	Occupation	Prestige (%)	Income level (%)
1.	Lawyer	4.49	4.54	28.	Sociologist	3.53	3.25

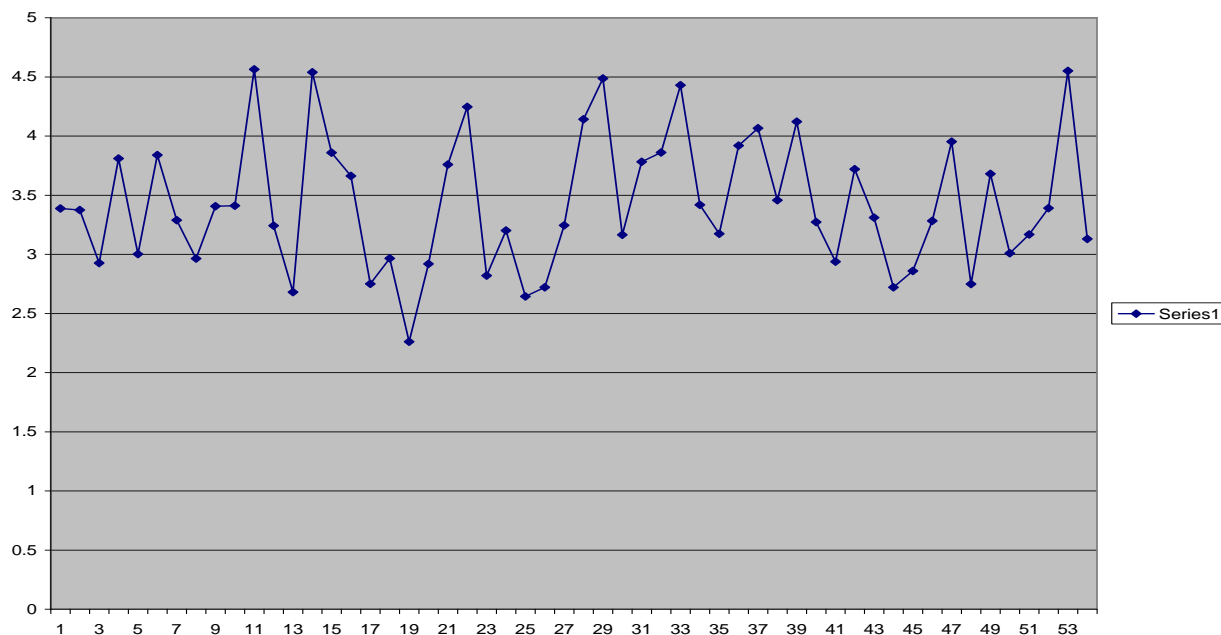
¹ The respondents used a 5-point scale to rate the occupations by the level of prestige and income. The occupations in dark rows are those having high and relatively low prestige.

2.	Doctor	4.50	4.43	29.	Athlete	3.58	3.17
3.	Banking sector professional	4.36	4.56	30.	Art critic	3.74	2.94
4.	Programmer	4.38	4.49	31.	Nurse	3.36	3.27
5.	Economist	4.34	4.25	32.	Teacher	3.68	2.92
6.	Customs official	3.79	4.55	33.	Worker	3.31	3.28
7.	Diplomat	4.13	4.12	34.	Policeman	2.92	3.66
8.	Accountant	4.02	4.14	35.	Mathematician	3.58	2.97
9.	Translator	4.02	4.07	36.	Hairdresser	3.12	3.41
10.	Pilot	4.05	3.95	37.	Veterinary doctor	3.35	3.13
11.	University professor	4.07	3.92	38.	Social worker	3.28	3.17
12.	Architect	4.05	3.78	39.	Historian	3.54	2.82
13.	Designer	3.89	3.86	40.	Physicist	3.50	2.86
14.	Political scientist	3.81	3.84	41.	Secretary, clerk	3.10	3.24
15.	Singer	3.63	3.72	42.	Artist	3.56	2.75
16.	Farmer	3.59	3.76	43.	Biologist	3.46	2.75
17.	Broker	3.48	3.86	44.	Baker	3.18	3.01
18.	Jeweler	3.51	3.81	45.	Tailor	3.11	3.00
19.	Psychologist	3.80	3.42	46.	Chemist	3.36	2.72
20.	Military officer	3.52	3.68	47.	Geologist	3.16	2.72
21.	Actor	3.82	3.16	48.	Salesman	2.84	2.96
22.	Pharmacologist	3.54	3.41	49.	Driver	2.84	2.93
23.	Journalist	3.57	3.37	50.	Turner	2.85	2.68
24.	Builder	3.54	3.39	51.	Welder	2.83	2.64
25.	Musician	3.62	3.29	52.	Thief	1.79	3.31
26.	Engineer	3.60	3.20	53.	Prostitute	1.49	3.46
27.	PR professional	3.41	3.39	54.	Handyman	2.54	2.26

In terms of occupational prestige, occupations may be divided into three groups with their respective subgroups, i.e. occupations with high, average and low prestige. The first group includes occupations of *doctor, lawyer, programmer, banker, economist, diplomat, university lecturer, pilot, architect, accountant and translator*. The respondents believe that these occupations are prestigious since they are well paid. Low prestige occupations include manual labor occupations (welder, driver, salesman, turner, policeman, etc.), as well as those of geologist, social worker, veterinary doctor and chemist, which are not lucrative. According to Goldhorpe Class Schema², in post-industrial societies occupations requiring intellectual labor enjoy higher prestige compared to manual labor ones, since they are more lucrative and imply certain administrative power. According to Goldhorpe, ranking occupations by level of income will automatically produce their occupational rating. Under such approach our rating will look as follows:

Chart 1. Rating scale

² Goldhorpe S. H., 1997: The «Goldhorpe» Class Schema, Constructing Classes: Toward a New Social Classification for the UK, Swindon



- | | | |
|-----------------------------|--------------------------|-----------------------|
| 1. Builder | 19. Handyman | 37. Translator |
| 2. Journalist | 20. Teacher | 38. Prostitute |
| 3. Driver | 21. Farmer | 39. Diplomat |
| 4. Jeweler | 22. Economist | 40. Nurse |
| 5. Tailor | 23. Historian | 41. Art critic |
| 6. Political scientist | 24. Engineer | 42. Singer |
| 7. Musician | 25. Welder | 43. Thief |
| 8. Salesman | 26. Chemist | 44. Geologist |
| 9. Hairdresser | 27. Sociologist | 45. Physicist |
| 10. Chemist | 28. Accountant | 46. Craftsman |
| 11. Banking sector employee | 29. Programmer | 47. Pilot |
| 12. Secretary, clerk | 30. Actor | 48. Biologist |
| 13. Turner | 31. Architect | 49. Military officer |
| 14. Lawyer | 32. Designer | 50. Baker |
| 15. Broker | 33. Doctor | 51. Social worker |
| 16. Policeman | 34. Psychologist | 52. PR professional |
| 17. Artist | 35. Athlete | 53. Customs official |
| 18. Mathematician | 36. University professor | 54. Veterinary doctor |

The general rating scale (*see Table 1*), however, demonstrates that in the opinion of Yerevan residents, not all well-paid occupations are prestigious and not all prestigious occupations are well paid. Below is a list of occupations where the levels of prestige and income are considerably different (*see Table 2*).

Table 2. *Occupations with discrepant levels of prestige and income*

No	occupation	Income rating	Prestige rating
1	Teacher	45	18
2	Art critic	43	17
3	Actor	37	13
4	Artist	48	26
5	Historian	47	29
6	Mathematician	41	24
7	Biologist	49	35
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1	prostitute	21	54

2	Policeman	20	47
3	Thief	28	53
4	Broker	13	34
5	Hairdresser	24	44
6	Jeweler	15	32
7	Customs official	2	16

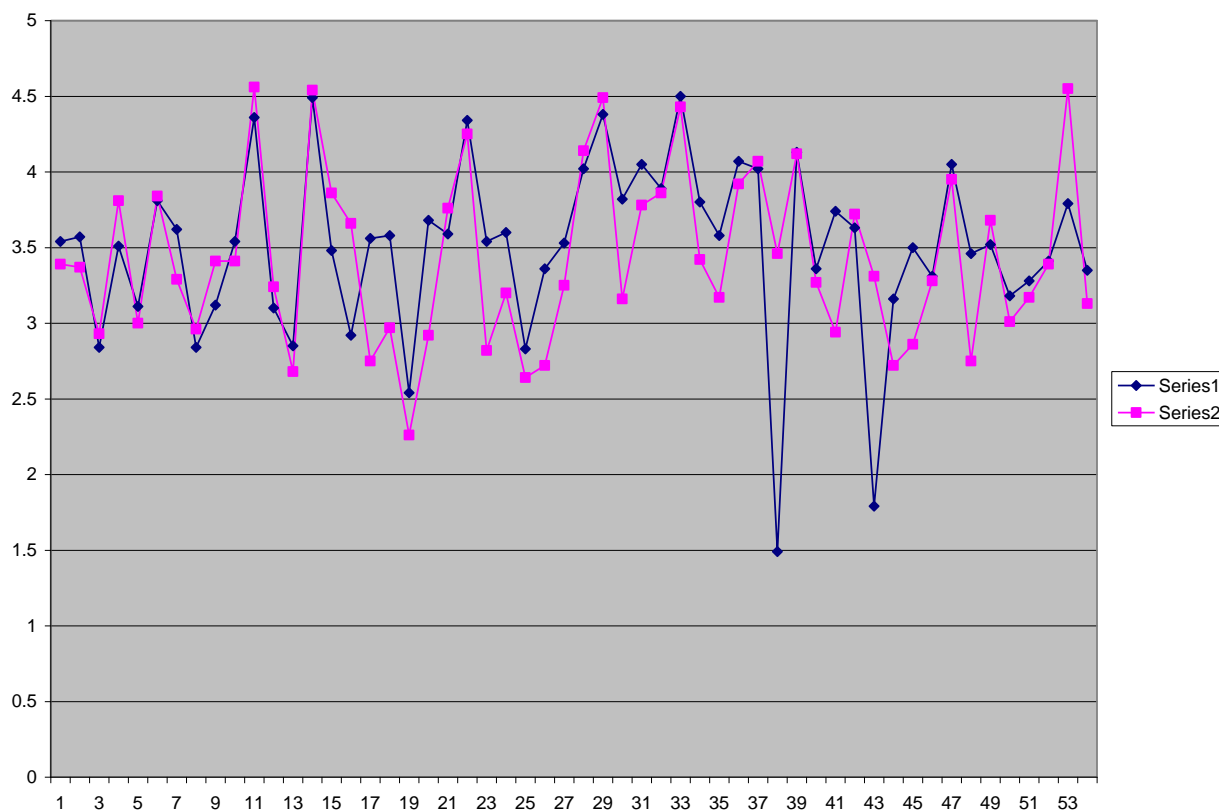
Yerevan residents believe that the first seven occupations offer extremely low income level against average prestige. The next seven occupations, on the contrary, are not considered prestigious (with the exception of customs officials who enjoy an average level of prestige), but have much higher ratings in terms of the income level (a considerable number of respondents believe that customs officials have the most lucrative occupation).

The occupational rating is based on such criteria as level of income and authority and privileges which are considered important by representatives of all social classes regardless of cultural differences. The occupations that give authority imply a higher income level and are therefore ranked higher. These are the conclusions drawn by Treiman from comparing findings of research he undertook in sixty countries³. Treiman believes that occupational prestige and income levels are interrelated since occupations are rated depending on the income level they offer. In his view, the similarity of occupational ratings across modern societies is informed by domination of western values. Therefore, any significant country differences in occupational ratings mean that some societies are not modern.

In this sense, the Armenian society, on the one hand, demonstrates features characteristic of traditional societies (*see Table 2*) and, on the other hand, is approaching modern societies as we tend to assign higher rating to occupations that pay well. (*see Table 1*). The correlation between the occupational prestige and the income level as seen by the respondents of this survey (*see Chart 2*) confirms this statement.

³ See Treiman D. J., 1977: Occupational Prestige in Comparative Perspective. New York; Academic Press Treiman constructs his scale of prestigious occupations based on socio-economic indicators, emphasizing education→occupation→income correlation where the occupation acquired to corresponding education also implies a level of income also corresponding to the level of education.

Chart 2. Correlation between occupational prestige and income level



According to the chart, the correlation between the occupational prestige and income level is not great ($r = 0,61$), but is not too far from threshold values for Treiman’s index of modern societies ($r \geq 0,75$).

5.3. Education in the context of modernisation of Armenian society

The occupation is an important element linking education and income, but in our society the high education level does not yet guarantee high income. This is confirmed by the occupational rating table where occupations requiring high education level and certain fundamental competencies like engineer, mathematician, physicist, biologist and chemist, rank fairly low in terms of income (34, 41, 46, 49, and 50 respectively), and lag behind the occupations of the nurse and secretary and even professions that do not require any higher education (e.g. hairdresser).

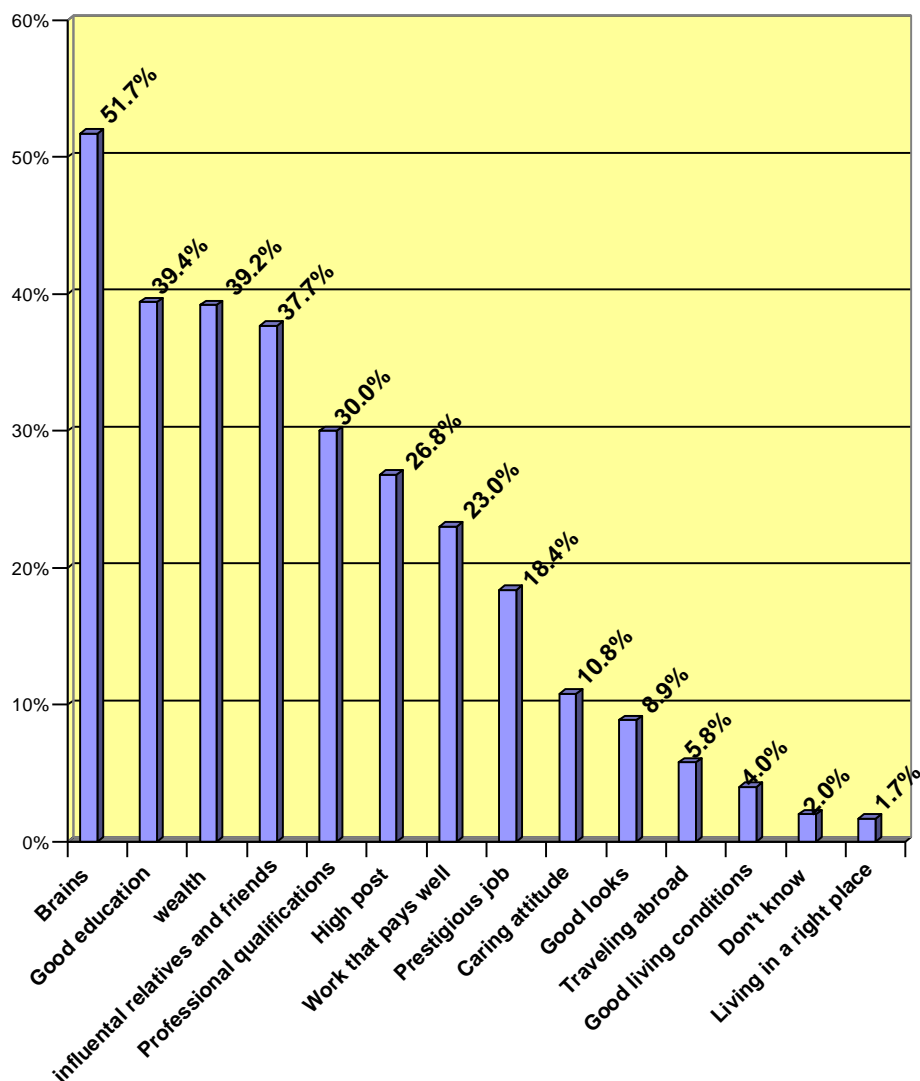
This explains the decrease in the number of applicants to the respective university departments. In choosing an occupation, people first of all consider the anticipated level of income (30%), and only then the occupational prestige (17.1%). Interestingly, responses provided by men and women were considerably different. In view of the traditional distribution of breadwinner roles, men tend to pay more attention to the income level (37,1%) than women (24,3%).

The respondents assign more importance to holding a high post (26.8%) and having a high income (23%), than to higher occupational prestige (18.4%). Therefore, the occupations of an artist, historian, teacher, art critic and actor rank low in terms of the income level (48, 47, 45, 43 and 37 positions respectively). When ranking the income level, 54.5% of respondents working in the culture sector stated that their income level is hardly enough to make the both ends meet. This is against 32.5% of the total number of respondents who provided a similar response.

The Armenian society shows some modernisation trends which are manifested in responses provided by 39.4% of the respondents who believe that good education is a prerequisite for enjoying high prestige. According to Chart 3, the most important factors include the level of intellect (51,7%),

wealth (39,2%) and influential relatives and friends (37,7%). Men’s and women’s responses are somewhat different. Women assign relatively more importance to good education (43,9%), while men believe that it is the wealth (42,7%) and influential relatives and friends (45,3%) that matter.

Chart 3. Qualities required for enjoying high social status



Interestingly, young respondents (15-20 and 21-29 years of age) believe that good education (42% and 43,4% respectively), and brains (56,8% and 56,6%) are important. Respondents under 20 years of age tend to attach less, compared to other age groups, importance to wealth (28,4%). It may be concluded that there is a demand for good education in Armenia. At the same time, value of education varies considerably across occupational groups of respondents. Education is mentioned as a prerequisite for holding a high status in the society by representatives of the science (75%), law enforcement (71,4%), finance (57,9%), service (55,6%) and education (48,7%) sectors, students (46,5%) and housewives (46,5%). Less importance is attached to education among workers (27,6%), unemployed (29,9%), craftsmen and tradesmen (29,4%). While such responses from these groups are understandable, the fact that only 15,8% of surveyed entrepreneurs and 27,3% of public and civil servants believe that education is important causes great concern since it indicates that these important employment sector are lagging

considerably behind in terms of modernisation, do not function based on modern criteria and hence do not require any in-depth knowledge and good education.

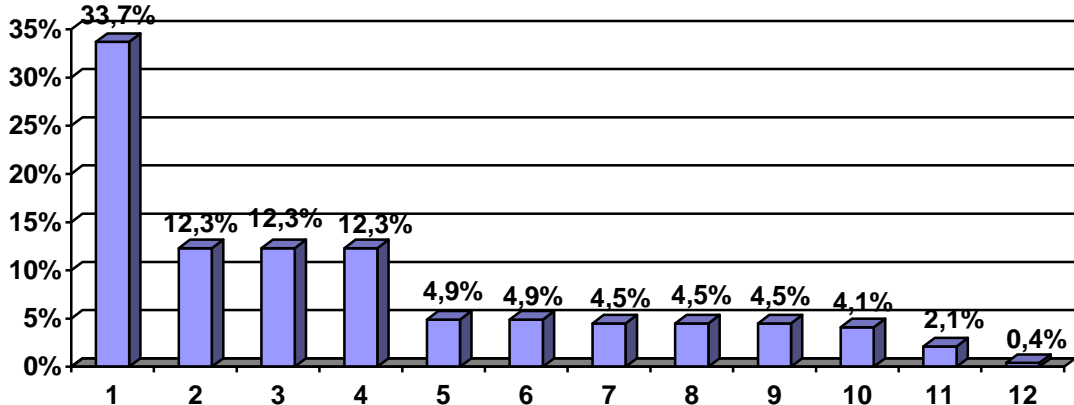
This is corroborated by the findings of the survey, according to which only 52.6% of responding entrepreneurs had higher education, while there are people with secondary education among public servants. Since higher education is supposed to provide human resources for these sectors, it is obvious why university graduates cannot find a job in public administration and business sectors.

The number of people with secondary education is also surprisingly high among respondents working in information and law enforcement (44,4% and 28,6%) respectively. At the same time, there are quite a few people with university education among industry workers and traders (19,1%). Difficulties with finding a matching job with an adequate salary level make people change their profession or become an unemployed. Household members of 22,4% of the respondents include those who changed their profession in the last 10 years. For 32.6% of such people the main reason was low salary paid in their former occupations. 28,1% mentioned that the system they used to work in no longer existed, 20% stated lack of career opportunities and 18,5% mentioned change of interests.

Change of occupation does not always result in improved social status of the household. During the last 5 years, this improvement happened only for 24% of the respondents' households (or with 35% of the households where someone changed their occupation). In 61,4% of the cases, the social status of the family remained the same, and 14.6% of the households reported worsening of their social status.

Only 4,5% of the respondents consider that high education level would help raise their social status (see Chart 4.), while 33.7% of them believe that it is a good job that matters⁴. It turns out that in our society a good job does not require good education which, of course, indicates a low level of modernisation.

Chart 4. Factors affecting the change in the social status of households



- 1 good job
- 2 a job outside Armenia
- 3 losing a job

⁴ Interestingly, 12.3% of the respondents believe that improved social status of their households has to do with outward labor migration of some of household members

- 4 low income
- 5 social environment
- 6 depreciation of professional skills
- 7 loss of savings
- 8 high level of education
- 9 loss of one of family working members
- 10 entrepreneurship
- 11 don't know
- 12 inheritance

In a modern society, appropriate professional education may help reach highest levels of the social hierarchy. 59.8% of the respondents mention the lawyer's occupation as the best one for making it to the top of the social ladder. Other such occupations are, in order of importance, those of a doctor (48,7%), economist (41,2%), programmer (22,4%), banking sector employee (12,9%), business manager (12,1%). Women rank the doctor's profession fairly high, while men give preference to the programmer's occupation.

According to 2004 data of Russia's Public Opinion Research Centre, Russia's population holds similar opinions about professional education⁵. Findings of a survey conducted between 2-4 April 2004 in all regions of the Ukraine by Razumovski Centre indicate that the population of the Ukraine assigns very similar occupational prestige ratings (lawyer, doctor, economist, bank sector employee, businessman, accountant, programmer, etc.)⁶

Post-Soviet societies facing similar modernisation challenges demonstrate similar attitudes towards occupational prestige which confirms Treiman's idea that occupational prestige ratings are consistent across similar societies. But are they also consistent across all social groups?

The answer is yes, since according to the analysis of the present survey's findings, there are no considerable differences in responses provided by representatives of households with different income levels. The top five occupations are almost the same across all social groups. It is interesting to compare ratings assigned by the members of the group who, according to their own estimates, hardly make two ends meet, with those assigned by respondents who believe that their financial position allows them to engage in charity. Such comparison demonstrates that the discrepancy between ratings of the lawyer's occupation as the most prestigious one is below 0.2%. The same is true for the rating assigned by representatives of these different social groups to other occupations.

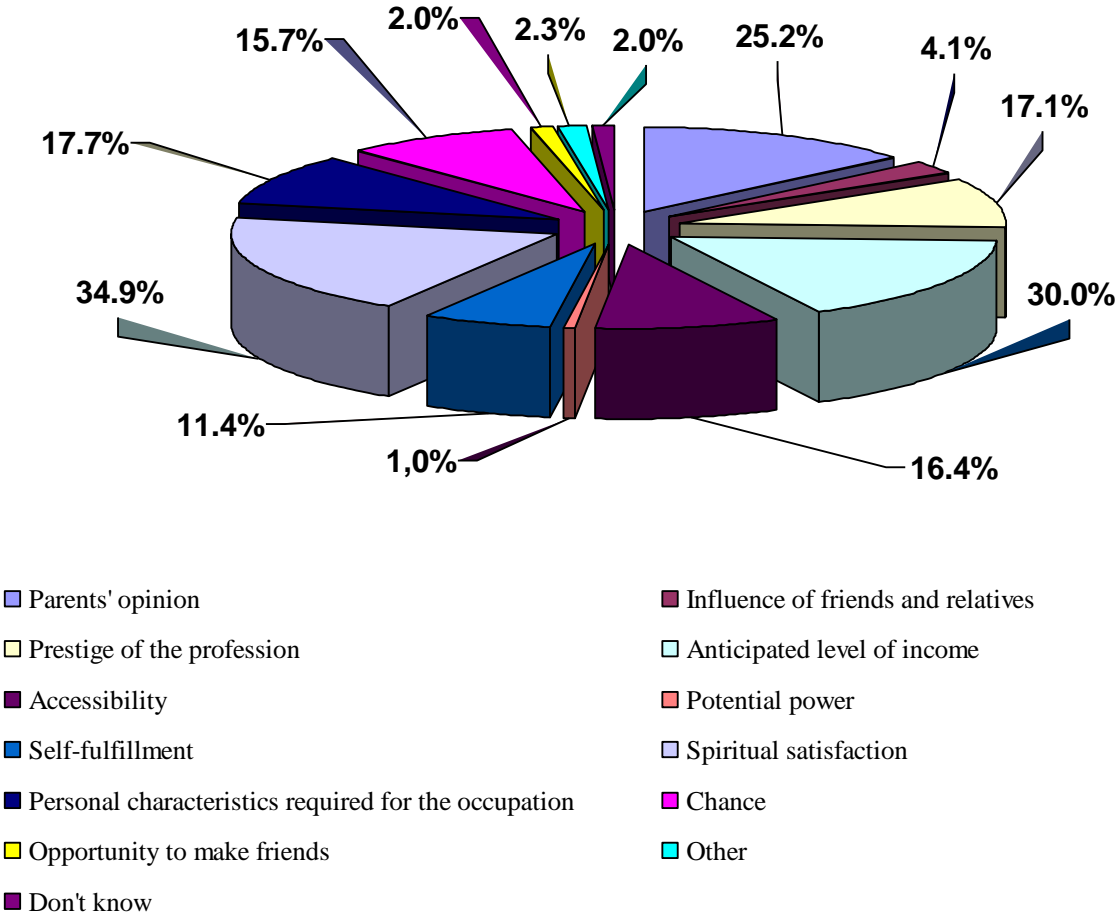
5.4. Interest as a key factor for choosing an occupation

⁵ See http://i2r.ru/static/223/out_12083.s.html

⁶ *Иллюстрация „Зеркало недели“ от 29 мая 2004 г., N21.*

For the purposes of formulation and implementation of appropriate education strategies and policies, it is important to know the factors determining the choice of occupation. Chart 5 demonstrates the correlation between the key factors affecting this choice.

Chart 5. *Factors affecting the choice of profession*



According to the chart, for a relative majority of the respondents (34,9%), the key factors include the prestige and interest towards the job (40,7% of female and 27,7% of male respondents hold this opinion), and only 16,4% consider accessibility as a key factor that affects their choice. Accessibility is much more important for respondents from 40-49 age group which may be explained by the fact that most of the people of this age have student children and cover their education costs. Young respondents of 15 – 20 years of age believe that the most important factors are spiritual satisfaction and interest. Since the majority of students are in this age group and only 7% of the students assessed their financial situation as very poor (39,5% mentioned that their families even manage to make savings, while another 2,4% consider their households even better off), it is clear why the representatives of this group follow their preferences in choosing a future occupation.

Consequently, by stirring interest of potential students towards an occupation, it is possible to affect their choices for the sake of meeting the demand of the growing economy and society. Therefore,

awareness and professional orientation campaigns should be conducted for the Armenian youth to stimulate their interest towards certain professions.

Working with parents is also important because 25.2% of the respondents (29.4% of women and 19.9% of men) stated that parents' opinion affected their choice of profession. 82,7% of the parents do not want their children to choose professions that would be similar to theirs and want their children to have a higher social status. This is particularly true for respondents with secondary and lower education who consider themselves poor⁷. In this case traditionalism has given way to modern approaches and there is plenty of room for careful interventions by the public education system.

5.5. Conclusion

The society in Yerevan, in spite of its stratification, shares views on occupational prestige of professions that guarantee high income level. Although analysis of the survey findings showed that there are professions for which prestige and income level perceptions are quite different, there is still a strong correlation between these two parameters which is not too far from indicators registered in western modern societies. This means that modernisation process is underway. The education policy should aim to contribute to the society's modernisation with modern and effective tools and methods.

⁷ Interestingly, 71% of those with higher education do not want their children to follow their choice of occupation, while 28.9% want that their children enjoy a higher income level, which may be attributed to the parents' unhappiness about the education they had received.

6. ANALYSIS OF FINDINGS OF AN EMPLOYERS' SURVEY

Contents

- 6.1. Scope and methodology of the survey
- 6.2. General overview of surveyed organisations
- 6.3. Recruitment issues
- 6.4. Improvement of professional qualifications and retraining issues
- 6.5. Assessments and attitudes of employers towards professional education institutions
- 6.6. Preparedness of employers to support professional training institutions
- 6.7. Employers' 5 – 10 year projections and expectations in terms of economic development, labor market size and demand.
- 6.8. To what extent is it possible to project and meet labor market demand in the short and medium term?
- 6.9. Annexes

6.1. Scope and methodology of the survey

Employers' opinions, along with statistical data and reports, are an important source of first hand information that would help describe the current state of the labor market, identify current trends and make short and medium term projections.

A sample survey of employer organisations in Yerevan, Vayots Dzor, Gegharkuniq and Armavir was undertaken in September – October 2005.

The survey sample included 322 organisations working in high-tech, agricultural production, food processing, tourism and recreation (hotels, sanatoria) sectors.

The survey was conducted by means of a standardized interview. Participating in the survey were owners and managers of organisations or authorised management and development staff.

Respondent enterprises (micro-enterprises - 1-5 employees, small 6-15, medium - 16-50 and large with 51 and more employees) were grouped by size based on criteria established by a law on State Support to Small and Medium Enterprises. Number of enterprises by regions and sectors was informed by data of the National Statistical Service on distribution of enterprises across the regions, published in monthly reports on the country's social and economic situation.

Distribution by the number of employees and industries in the universe is presented in Table 1.

Table 1. *Distribution of enterprises by the number of employees and industry sector in the universe*

Number of employees	Industry Sector				Total
	Hi Technologies	Agriculture	Food processing	Tourism and recreation	
Micro	183	19	108	99	409
Small	32	19	82	62	195
Medium	14	8	19	16	57
Large	13	4	19	6	42
Total	242	50	228	183	703

Sampling of enterprises followed their distribution in the universe.

Proportions presented in Table two describe the sample frame in terms of the enterprise size and sector distribution.

Table 2. *Distribution of sample enterprises by size and sector*

Number of employees	Industry sector				Total
	Hi Technologies	Agriculture	Food processing	Tourism and recreation	
Micro	78	12	46	43	179
Small	15	11	37	27	90
Medium	6	6	10	7	29
Large	6	3	10	5	24
Total	105	32	103	82	322

According to the Table 2, the total number of surveyed enterprises was 322, or 45.8% of the universe.

Due to the limited number of employer organisations in some of the sectors, all their enterprises were surveyed to ensure proper representativeness. In sectors with considerable number of enterprises, sampling was done in line with the above proportions. (*Annex 3*).

6.2. General Overview of Employer Organisations

The surveyed enterprises work in areas of hi-tech (32.6%), agriculture (9.9%), food processing and manufacturing (32.0%), tourism and recreation (25.5%).

The surveyed enterprises have 17.5 staff each on the average. *See Table 3.*

Table 3. *Average statistical size of surveyed enterprises by the number of employees and their education levels (%)*

		Number of employees with different education levels in sector enterprises according to average statistical data produced by the survey (%)				
	Sector	Average number of employees	Higher education	Secondary professional	Vocational	Employees without professional education
1.	Hi Tech	11.43	90.4%	5.2%	0.9%	3.5%
2.	Agriculture	13.15	22.6%	21.1%	7.5%	49.2%
3.	Food processing and manufacturing	30.59	23.5%	31.1%	3.9%	41.5%
4.	Tourism and recreation	10.46	33.7%	22.1%	4.8%	39.4%
<i>Average indicators for all respondent enterprises</i>		<i>17.51</i>	<i>39.3%</i>	<i>23.5%</i>	<i>3.5%</i>	<i>33.6%</i>

7.4% of respondent enterprises engage, in addition to their core business, in selling their products or, in the case of hi-tech enterprises, organize paid training courses.

6.3. Recruitment issues

89.1% of employers are happy about the current size of their staff. 3.4% mentioned surplus staff. And only 7.5% mentioned that they needed additional staff. The need for more staff, primarily programmers, is relatively higher in the hi-tech sector enterprises - 14.3%. Information on staff demand among surveyed enterprises is presented in Table 4.

Table 4. Recruitment issues by sectors

		Number of staff is sufficient	Have surplus staff	Have vacancies
1.	Hi Tech	84.8%	1%	14.3%
2.	Agriculture	93.9%	0%	6.1%
3.	Food processing	93.2%	5.8%	1%
4.	Tourism and recreation	87.8%	4.9%	7.3%
	<i>Total for all respondent enterprises</i>	<i>89.1%</i>	<i>3.4%</i>	<i>7.5%</i>

Which are the occupations that are in highest demand and how many of such professionals would enterprises currently need?

Table 5. Occupations in high demand

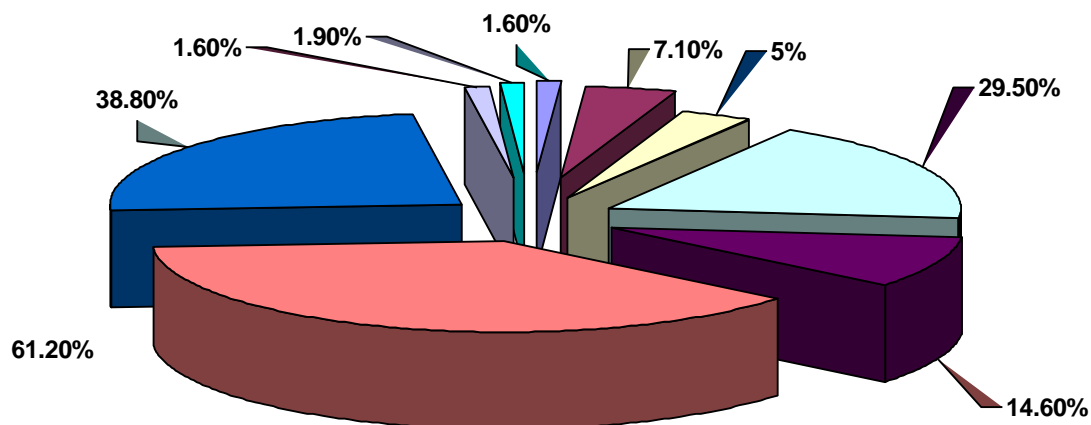
	Occupation	Hi Tech	Agriculture	Food processing and manufacturing	Tourism and recreation	Total
1.	Programmer	160	2	-	-	162
2.	Accountant	1	-	-	2	3
3.	Marketologist	0	-	-	3	3
4.	Baker, cook	-	-	-	1	1
5.	Qualified professionals in food processing industry	-	2	2	-	4
6.	Service staff	2	-	-	-	2
7.	Office staff	1	1	-	6	8
8.	Qualified professionals in agriculture and farming	-	2	-	-	2
	<i>Total by respondent enterprises</i>	<i>164</i>	<i>7</i>	<i>2</i>	<i>12</i>	<i>185</i>

How do surveyed enterprises recruit their staff? The answers to this question indicate that the relations between employers and employees and enterprises and the labor market are not yet regulated and institutionalized.

60.1% of the employers turn to their friends and relatives, 38.8% enlist support of their current employees to find new staff, and only 29.5% post vacancy announcements in the media. 14% follow offers in the media. 7.1% turn to recruitment agencies and 1.65% to the national employment and recruitment agency offices.

Only 5% of the respondents turn to professional education institutions (universities, vocational and secondary professional education institutions) for recruitment purposes. *See Chart 1.*

Chart 1. Main recruitment channels used by surveyed employers



- Labor and employment agency
- Private recruitment agency
- Professional education institution
- Post vacancy announcements
- Follow media for suitable offers
- Turn to family and friends
- Rely on their staff
- Turn to other employers
- Other

Correlation analysis of the survey findings demonstrates that the larger the enterprise, the more it would resort to institutional recruitment channels and methods. For example, against 65.3% of micro and small enterprises requesting help from family and friends, the number of medium and large enterprises using this traditional recruitment method is 46.5%. While only 25.1% of micro and small enterprises post vacancy announcements and do competitive recruitment, 45.1% of medium-sized (34.9%) and large enterprises (60.7%) use this recruitment method.

The relations with professional training institutions are much more established among medium-sized (14%) and large (17,9%) enterprises, which is quite promising in spite of the fact that only 1.7% of micro and 2.7% of small enterprises engage in such relations.

In this context, the role of the national employment agency and private recruitment agencies should increase in terms of strengthening the links with employers and establishment of more flexible cooperation mechanisms.

6.4. Improving professional qualifications and staff re-training

Economic development and proliferation of new technologies and management practices imply regular training and re-training of the staff.

26.3% of respondent employers claimed that professional qualifications and skills of their staff should be improved. This indicator is almost the same across surveyed enterprises in all 4 sectors and is somewhat higher – 30.5% for the enterprises working in tourism and recreation sector.

The need for professional training of the staff is more acute in large enterprises (57.1%), where introduction of new technologies is gaining momentum.

Although 23.6% of the surveyed enterprises need to upgrade professional qualifications of their staff, only 12.1% manage to provide such professional training. This indicator varies depending on the enterprises size and across industry sectors. See Charts 2 and 3.

Chart 2. Proportion of enterprises needing to upgrade professional qualifications of their staff and those who successfully addressed this issue, by enterprise size

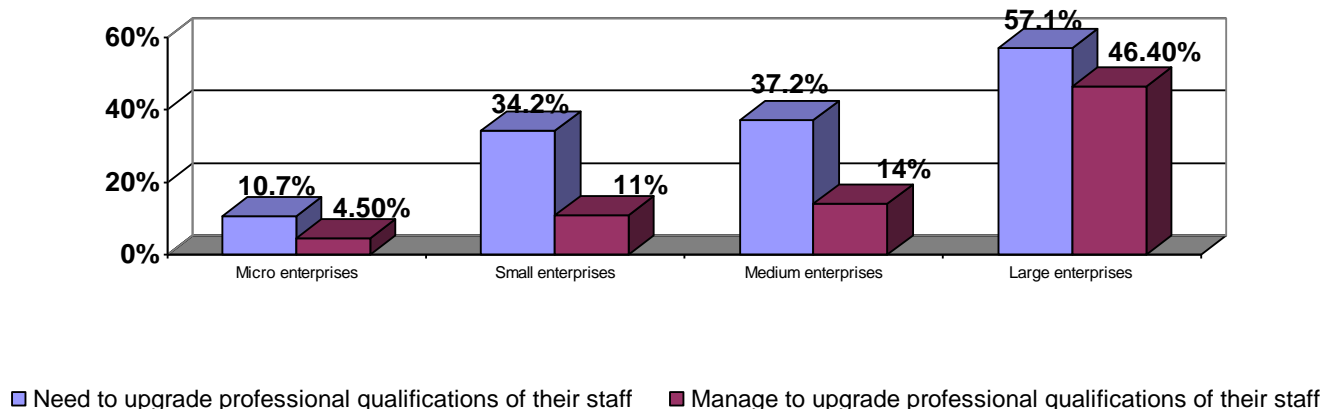
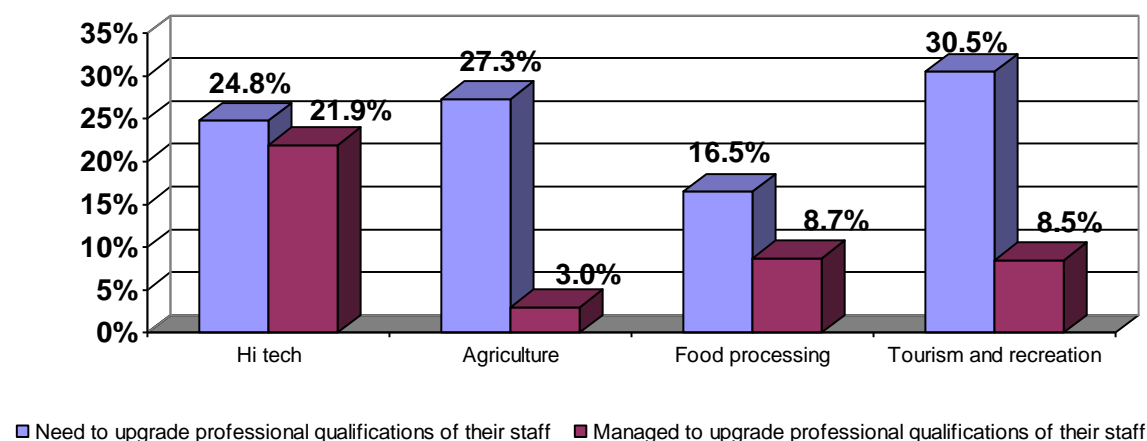


Chart 3. Proportion of enterprises that need to upgrade professional qualifications of their staff and those who manage to do so by industry sectors



According to Chart 3, professional training is much weaker in agriculture and tourism and recreation sector enterprises.

How the surveyed enterprises address the issue of upgrading professional qualifications of their staff? The bulk (90%) of enterprises that successfully address this issue (12.1%) conduct on-the-job training with enterprise’s own resources. 5.6% pay for short-term training courses. Only 2.2% manage to arrange for their staff training at professional training institutions and pay tuition fees.

Professional training is an area where emerging and established enterprises increasingly pose their specific demands and where the professional education institutions can, with state and grant support, extent a helping hand to enterprises to make this cooperation well-established and regular.

6.5. Assessment and attitudes of employers towards professional education institutions

What is the opinion of employers about the knowledge and skills of the staff they recruited in the last 3 years?

The employers were requested to rate, using a 5-point scale, the professional knowledge and skills of their young staff. The statistical average grade for the staff with vocational and secondary professional education background was 3.1, while that for the staff with higher education background was 3.2. The employers in tourism and recreation sector rated their staff rather low, assigning 2.4 points to the staff with vocational and secondary professional education background and 2.8 for the staff with higher education.

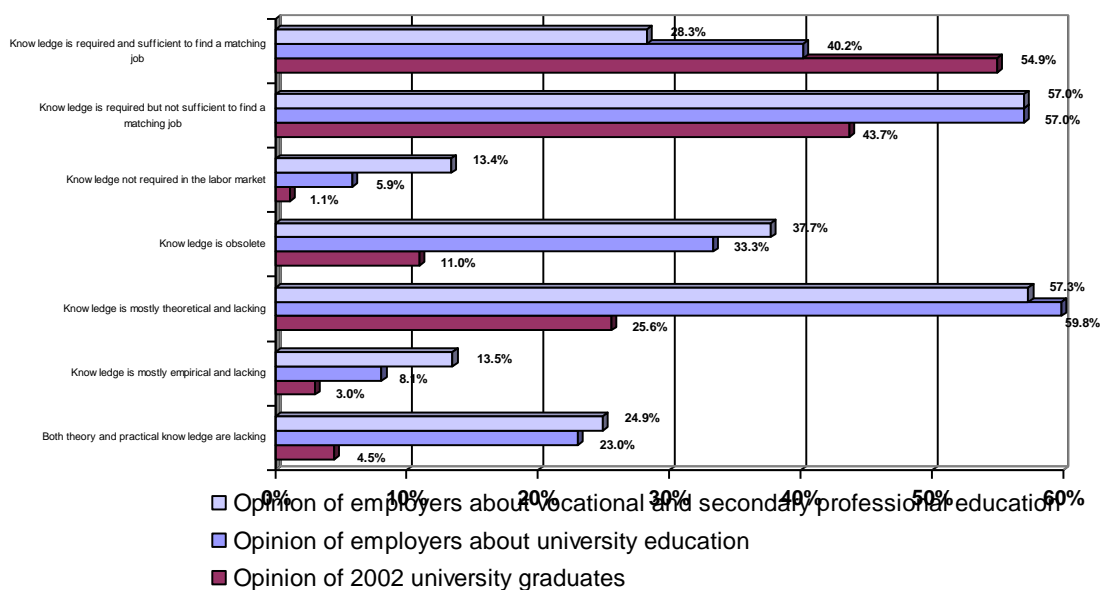
Overall, the rating assigned by employers to the level of professional knowledge and skills of young professionals is 1 point below the self-assessment rating done by 2002 university graduates (See Graduate 2002 survey findings).

While 54.9% of 2002 university graduates believe that the knowledge gained in the university is necessary and sufficient to find a matching job, this opinion is shared by only 40.2% of the employers. Employers are even more conservative in their assessment of knowledge offered by vocational and secondary professional education institutions. Only 28.3% believe that the knowledge gained in these institutions is necessary and sufficient to find a matching job. See Chart 4.

The rating difference between the employers and young professionals with respect to various aspects of professional training indicates that there is a certain mismatch between the quality and results of instruction at professional education institutions and expectations of the labor market.

This situation offers yet another argument in support of the need to ensure interested participation of employers in professional education process and formulate flexible education agenda responding to the demand of the labor market. This issue may be address by including representatives of business community in management councils of education institutions, creation of career development and labor market survey centers in education institutions, as well as by putting more emphasis on internship⁸.

Chart 4. Assessments by employers and university graduates of the knowledge and skills offered by professional education institutions

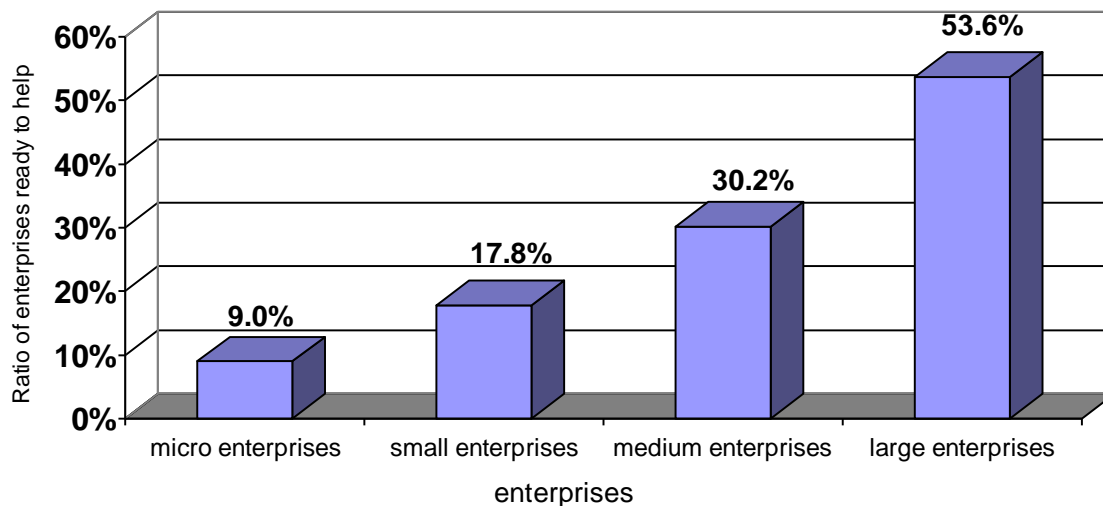


⁸ Core curriculum of universities should also be revised in view of modern market economy requirements like, for example, reducing the number of over 80 narrow specializations in medical education in favor of family medicine.

6.6. Willingness of employers to assist professional education institutions in ensuring adequate level of instruction and professional re-training of their staff

17.7% of surveyed employers are ready and willing to cooperate with and support professional education institutions. Readiness and capacity to help increases with enterprise size. *See Chart 5.*

Chart 5. *Level of readiness of employers to support professional education institutions in ensuring adequate level of instruction and professional retraining of their staff, by enterprise size*



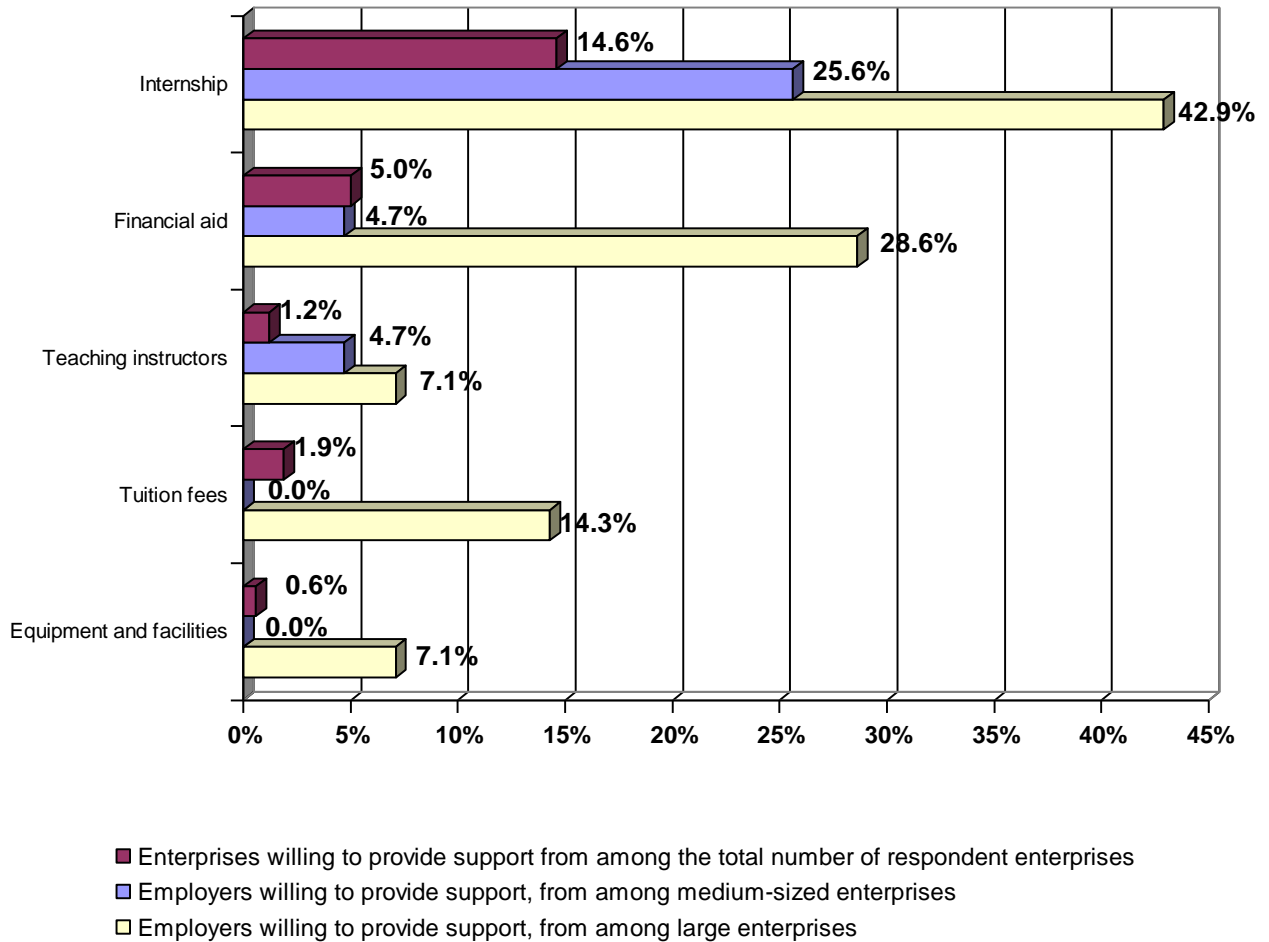
The preparedness of enterprises to cooperate with professional education institutions and offer them material and advisory support is a very promising trend that should be encouraged and institutionalized.

What are the forms of assistance that employers are ready to offer to professional education institutions? 14.6% of enterprise managers see this assistance primarily in facilitating internship of students. Larger enterprises demonstrate more willingness and capacity to offer such assistance – 42.9%. Another type of assistance, according to the employers, is financial support – 5%. 28.6% of large enterprises are ready to provide financial support and assistance to professional education institutions.

The third type of assistance is paying tuition fees of future professionals. 1.9% of all employers and 14.3% of large employers expressed willingness to provide this type of assistance.

1.2% of employers (7.1% of large employers) are ready to provide professional education institutions with visiting professional instructors. 7.1% of large enterprises or 0.6% of all respondents expressed willingness to provide equipment and facilities. *See Chart 6.*

Chart 6. *Level of willingness to help and forms of assistance to professional education institutions. For comparison purposes, general indicators are presented next to data on suggestions and capacities of medium and large enterprises*



It appears that under the present circumstances, the employers need to improve professional qualifications of their staff, while professional education institutions are in need of material and technical assistance. Some employers, especially from among large and medium enterprises, are ready and willing to support professional training institutions, while the latter are capable, to a degree, of meeting the employers' requirements. What remains to be done is to create workable mechanisms of cooperation that would contribute both to improved professional education and increased enterprise productivity. As a starting point, employers may be included in university and department councils, career development and labor market research centers could be established, internships could be arranged and made more effective.

6.7. Employers' projections and expectations in terms of economic development, labor market size and demand for the next 5 – 10 years

Analysis of economic and labor market development dynamics and medium and long term projections are important for ensuring labor market orientation of professional education institutions and efficient functioning of the respective infrastructure.

Such analysis may be informed by the current indicators of economic growth and labor market dynamics, recent trends, national policy for various industry sectors, as well as expert assessments and analyses, including expectations and development plans of enterprises.

The present survey analyzed projections and assessments of surveyed enterprises in terms of economic growth trends and perspectives.

According to the findings, in the last three years (2003-2005) 52.1% of surveyed enterprises registered 46.3% growth of their operations. In 16.3% of the enterprises, operations decreased by 34.8% on the average and in 31.7% remained unchanged.

Overall, the average statistical growth across all surveyed enterprises was 18.5%. The number of those employed in the industry increased by 24.1%. *See Annex 2.*

The above indicators vary across enterprises working in the 4 industry sectors covered by the survey. *See Table 6.*

Table 6. *Growth of operations and number of employees in surveyed enterprises in the last 3 years (2003-2005)*

	Sector	Average statistical growth of operations in 2003-2005	Average statistical growth of the number of employees
1.	Hi Tech	26.3%	22.7%
2.	Agriculture	0.8%	0%
3.	Food processing and manufacturing	24.9%	31.2%
4.	Tourism and recreation	10.2%	4.8%
	Total for all surveyed enterprises	18.5%	24.1%

According to the table, the growth registered in surveyed enterprises is presently characterized by its extensive nature, whereby the number of employees grows faster than the size of operations.

In terms of industry sectors, in the last 3 years higher indicators of operations growth were registered in hi-tech and computer technology related enterprises, while the growth of the number of employees was more marked in food processing and manufacturing sector.

What are the employers' projections in terms of the size and operations of their respective enterprises in 5 – 10 year perspective?

A considerable number of respondents found it difficult to make projections about their enterprise growth rate for the coming five (49,7%) and ten (58,6%) years.

There is even more uncertainty in terms of the projected number of employees in 5 (56,1%) and ten (63,6%) years' time.

Indeed, it is difficult to make projections in a dynamic and sometimes volatile economy and society. Considering the fact that Armenia's economy is extremely sensitive to internal and external factors and shocks (domestic and foreign political developments, energy prices, neither war nor peace situation in the region), the caution on the part of some employers is quite justified.

36% of respondent enterprises are optimistic about their growth prospects and expect that their operations will increase by up to 60.5% in the coming 5 years. 3.1% are pessimistic and expect that their operations will shrink by up to 4.8%. Another 11.2% stated that according to their projections and plans, the size of their operations will remain unchanged.

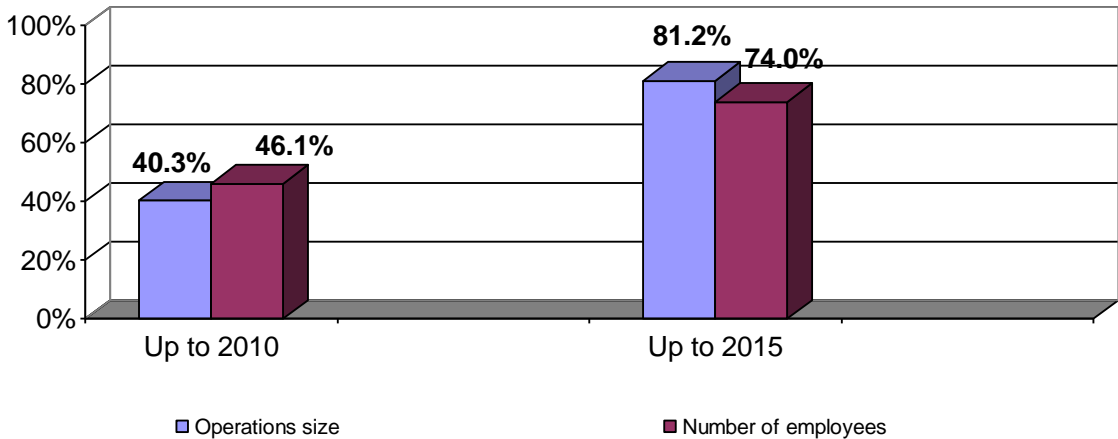
Positive expectations and confidence subside, however, in a 10-year perspective; while 28% of the respondents expect a 124.6% growth compared to 2005 levels, 58.5% of entrepreneurs refrain from making any realistic projections in terms of the outlook for 2015. *See Table 7.*

Table 7. Projections and expectations of employers in 5 and 10 year perspective

Projections concerning growth of operations				Projections concerning the estimated size of enterprises			
		In 5 years	In 10 years			In 5 years	In 10 years
1.	Will increase	36%	28%	1.	Operations will increase	27.4%	20.9%
2.	Will decrease	3.1%	3.1%	2.	Operations will decrease	3.1%	3.1%
3.	Will not change	11.2%	10.3%	3.	Operations will remain unchanged	13.4%	12.5%
4.	Don't know	49.7%	58.6%	4.	Don't know	56.1%	63.6%

The analysis of positive, negative and conservative projections informed growth indicators. In 5 years, the operations will grow by 40.3% on the average, while the growth outlook for 2015 will be 81.2% compared to 2005 levels. As for projections concerning the number of employees, according to the findings, this numbers will increase by 46.1% by 2010 and by 74% by 2015⁹. *See Chart 7.*

Chart 7. Projected growth of enterprise operations and size up to 2010 and 2015 compared to 2005 levels



According to Chart 7, intensive growth projections begin to prevail over extensive growth ones. Projections concerning the change of the operations size and the number of staff vary across the 4 sectors included in the survey. See Charts 8a, b, c and d.

⁹ The average statistical indicators of operations growth and enterprise size were calculated based on estimates of those employers who provided specific, i.e. positive, negative or 0-rate growth estimates.

Chart 8a. Projections concerning the size of operations and the number of staff in 5 – 10 year perspective for hi-tech sector enterprises (as provided by enterprise managers)

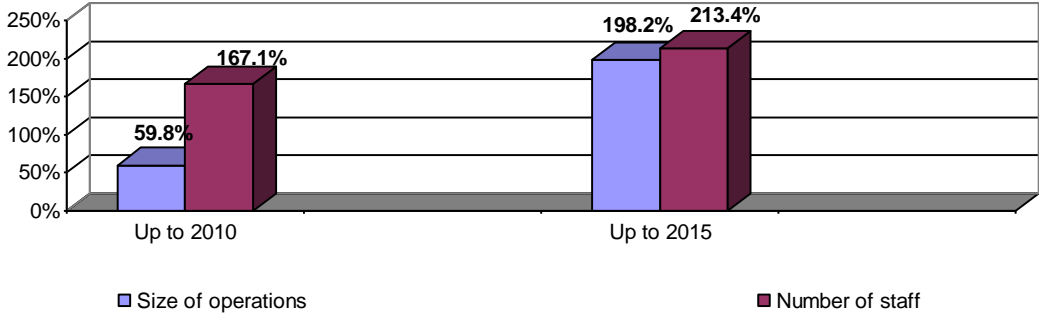


Chart 8b. Projections concerning the size of operations and number of staff in 5-10 year perspective for agriculture sector enterprises (as provided by enterprise managers)

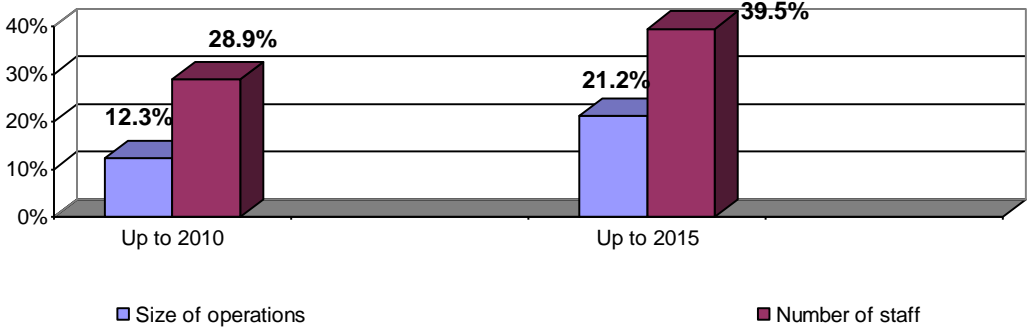


Chart 8c. Projections concerning the size of operations and the number of staff in 5-10 year perspective for food processing and manufacturing enterprises (as provided by enterprise managers)

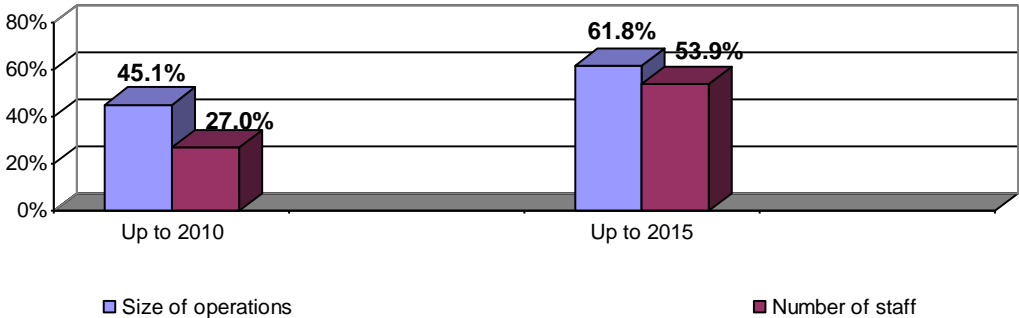
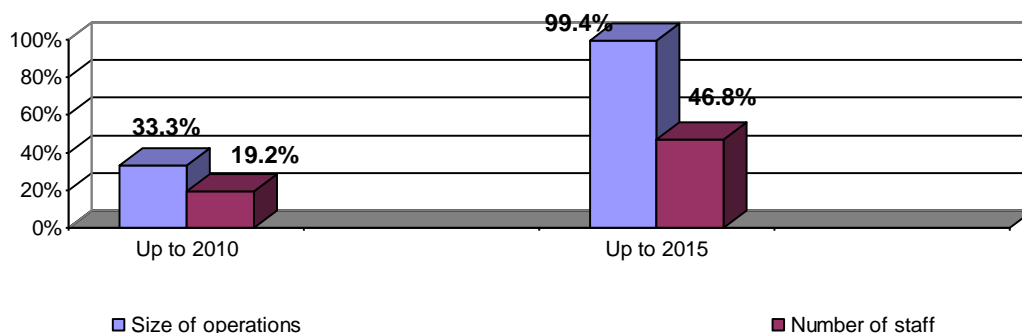


Chart 8d. Projections concerning the size of operations and the number of staff in 5-10 year perspective for tourism and recreation sector enterprises (as provided by enterprise managers)



Some of the output data requires further clarification. While tourism and recreation and food processing and manufacturing enterprise managers seem realistic and in line with economic development trends and logic, projections offered by agricultural sector enterprise managers are rather questionable. According to 2003 data, the agriculture sector employed 45.8% of the labor force. *See Annex 1.*

Shortly before the demise of the Soviet Union, the number of the employed in the agriculture sector did not exceed 20% of the total employment. In developed economies, this indicator does not exceed 10% or even 2-3%.

It may be assumed that Armenian agriculture entrepreneurs (88.8% of the respondents from this sector are micro and small enterprises) base their projections on the extensive growth model, while intensive and qualitative development implies increased use of new equipment and technologies which put a question mark on the projections concerning the growth of the number of staff commensurate with increased size of operations.

Which are the occupations that the employers consider in increasing the number of their staff?

The structure of projected demand by occupations is presented in Table 8.

Table 8.

	Occupations	Number of vacancies in 322 surveyed enterprises	
		In 5 years	In 10 years
1.	Programmers, computer designers and engineers, computer maintenance specialists	552	68
2.	Economists, finance experts, accountants	34	29
3.	Marketing specialists, sales managers, brokers	20	32
4.	Managers and business administration specialists	18	10
5.	Bakers and cooks	16	4
6.	Tourism experts (guides, event organizers)	11	15
7.	Food processing and manufacturing experts, market specialists, lab technicians	151	105
8.	Support staff (with vocational and secondary professional education background, technicians, electricians, etc.)	7	10
9.	Office staff (secretaries, assistants, computer operators)	6	3
10.	Translators	17	13
11.	Lawyers	1	1

12.	Doctors	2	2
13.	Distributors	31	19
14.	Quality experts in agriculture and farming incl. veterinarians, agronomist, zoo technicians, botanists	18	18
15.	Mechanics, drivers	15	21
16.	Workers	112	71

6.8. To what extent is it possible to project and meet the short and medium term labor market demand?

Survey of the economy and labor market and identification of current trends may become important factors in determining the size and allocation of public funding for professional education institutions and defining development priorities. According to recent estimates, Armenia's hi-tech and IT sectors employ 5,000 people. According to the findings of a survey of 105 enterprises in the hi-tech sector, the number of the people this sector employs will grow by 213.4% by 2015 and will total 15,715 people.

The estimates of employers concerning the future size and operations of their enterprises appear rather conservative and modest. Presently, only a small part of Armenia has access to the Internet and information technology services, a considerable number of education institutions and enterprises in the regions of the country have not yet developed an IT culture. Should these considerations be factored into the employers' projections, the projected demand for respective staff in 10-year perspective will increase even further.

Nonetheless, analysis of the professional education system's capacity to produce software developers and IT professionals demonstrates that in the next 5 years, 6 public and 2 international education institutions (Yerevan State University, Yerevan State Engineering University, Yerevan State Pedagogical University, Agricultural Academy) and their branches will produce 600-700 professionals in the area annually. The secondary professional education system is planned to train 500 computer maintenance and repair technicians annually. Computer science departments of private higher education institutions are estimated, according to the National Statistical Service, to produce from 170 to 200 IT sector professionals annually.

It appears that Armenia's professional education system is capable of meeting the hi-tech sector demand for at least 1000 hi-tech and IT experts annually in the coming 10 years. The quality of these young professionals is another issue. Therefore, structural reforms in Armenia's professional education sector should be accompanied by significant improvement of the quality of instruction and training programmes based on modernization of curricula and improvement of professional qualifications of instructors.

Involving employers and their representatives in the management of professional training institutions, will make sure that their needs are duly taken into account and their capacities are duly taken advantage of. Cooperation between Synopsis and Yerevan State Engineering University and IT and applied math, radio physics and physics departments of Yerevan State University in the framework of agreements signed in November 2005 offer best practice examples. This cooperation is beneficial for the employers and for the universities both in financial and in substantive terms.

Some estimates and projections may be made for agriculture and farming sectors. Nine secondary professional education institutions produce 250 various professionals in these sectors annually. The Armenian Agricultural Academy produces 900 graduates annually.

The system of professional education for food processing and manufacturing sectors is still rather weak, although the demand for such professionals is high and growing by 5 – 5.5% annually, according to the employers.

As for tourism and recreation sectors, professional education in this area started only 4-5 years ago in European Regional Academy, Armenian-Russian Slavic University, some branches of Russian universities and one private university¹⁰. Three public secondary professional education institutions also train tourism sector professionals. All these institutions together annually produce 80 professionals in tourism and recreation area. The considerable growth trends of this sector and its still weak linkages with respective professional education institutions call for establishment of new workable mechanisms of such interaction¹¹.

There is no doubt that analysis of economic growth rates and labor market dynamics may offer essential background for adjusting priorities of the professional education system and structuring national policies. This alone, however, would not be enough for implementation of an efficient and flexible government policies in the context of the growing and changing labor market.

¹⁰ Data of the National Statistical Service

¹¹ Projections for labor market development for tourism and food processing sectors and analysis of the adequacy of professional education in these areas is further complicated due to the lack of reliable data on the employment level in these sectors with the National Statistical Service.

7. THE CURRENT STATE, PROBLEMS AND PROSPECTS OF ARMENIA'S VOCATIONAL EDUCATION SYSTEM

Contents

7.1. Introductory remarks

7.2. The state of the labor market

7.3. Current system of vocational training

7.1. Introductory remarks

Before independence and fundamental socio-economic reforms, Armenia had a vocational training system that included the main industry sectors and was accessible for the part of the youth who could not or did not want to receive a higher secondary or tertiary education. The basis of the vocational education system was formed by Professional Technical Colleges (PTCs). The main indicators of the system are presented below.

Table 1.¹² *Main indicators of vocational training system*

	Number of institutions	Number of students, thousands
1975	80	36.0
1980	100	53.1
1985	101	47.0
1990	91	23.1
1995	83	11.0
2000	56	5.1

About one third of PTCs functioned in Yerevan, and the rest were located across the country.

Besides, young people were also trained on the job, in training and production facilities and through apprenticeship.

In independent Armenia, the vocational training system, after over a decade of uncertainty and neglect, was liquidated in 2001. The former vocational training institutions converted into high schools, which, however, did not manage to meaningfully reform their training programmes. Following the adoption of an amended Education law in 2003, the last two years saw some revival of the vocational training system. There were three contributing factors:

First, the economic growth and enlargement of the labor market generated demand for qualified builders, miners, professionals of light industry, trade and services, as well as other sectors.

Second, tertiary education is not accessible (and neither it was as in the Soviet period) to all secondary school graduates and more than 40% of school graduates, especially in villages and small towns of Armenia, enter adulthood without any profession.

Finally, foreign donor organizations, primarily TACIS, are now offering serious assistance and

¹² Data of the National Statistical Service and Armenia's National Baseline Assessment on Secondary Professional Education in Armenia: Legal and Administrative Issues, Occupation Levels, Financial Challenges. Yerevan 2002.

resources for the development of the vocational training system.

Of course, the former Soviet vocational training system cannot be re-established in its previous form. The socio-economic conditions have changed considerably and the vocational training system should be structured in line with market economy laws. Large, even gigantic industrial enterprises gave way to tens of thousands of small and medium enterprises which, in general, are not ready to pay for institutionalized training of their future employees.

Besides, a huge army of self-employed individuals has emerged, especially in the agriculture sector; this group does not have employers as such and sole entrepreneurs should take care of acquiring professional knowledge and skills on their own. Finally, there has been a drastic decrease in public spending, and the state budget is not longer capable of financing the development of the vocational training system.

7.2. Current state of the labor market

The current state of Armenia's labor market is primarily characterized by real distribution of workers and employees by industry sectors. This distribution is presented in Table 2.

Table 2.¹³ *Number of workers and employees in various industry sectors, 2003*

Sectors	Th. people	%
1	2	3
Total in all sectors	1107.6	100.0
Including		
Manufacturing	138.8	12.5
Agriculture and forestry	509.0	46.0
Construction	37.2	3.4
Transport and communication	41.8	3.8
Trade and public catering	105.0	9.5
Utilities	32.6	2.9
Healthcare, sports, social security	60.3	5.4
Education, culture, arts	132.2	11.9
Science	12.3	1.1
Credit and insurance	5.0	0.5
Management and Administration	25.0	2.3
Other sectors	8.4	0.7

According to the table, the workforce is concentrated in the following sectors:

agriculture -	46.0%
manufacturing -	12.5%
trade and public catering -	9.5%
construction and transport -	7.2%
Total	75.2%

In absolute terms, these sectors employ 800 thousand people.

¹³ Armenia's Statistical Yearbook, 2004, RA NSS, Yerevan, 2004.

N.B. It is important to note that according to expert assessments, owing to hidden employment in trade and public catering sectors, the real employment levels are considerably higher than those quoted by the official statistics.

Industrial enterprises (and especially private ones) should be in a position to address their human resource issues, including by signing contracts with vocational training institutions. This also applies to construction enterprises, as well as trade and service sector industries.

Provision of quality cadre for 340 private farms merits serious discussions and a respective national policy.

The following sources are rather informative in terms of the demand for industrial workers: a) National Employment Agency, b) findings of a survey among employers in Tavush and Lori regions¹⁴, c) content analysis of vacancy announcements posted in GIND advertising weekly during January – August 2005.

A) Data on the demand for industrial workers provided by the National Employment Agency based on employer requests is presented in Table 3.

Table 3. *Structure of demand for industrial workers as of 01.09.2005¹⁵*

<i>Industry Sector</i>	<i>Yerevan</i>	<i>Regions</i>	<i>Total</i>
Services	135	13	148
Manufacturing	290	42	332
Seamstresses	47	120	167
Transport (drivers)	27	2	29
Guards, cleaners	167	2	169
Other	84	36	120
Total	750	215	965

B) According to the findings of a survey of 444 employers in Vanadzor (i.e. of one third of all employers in the city) the city presently needs 2,000 workers, including

– Turners -	373
– Builders -	454
– Welders -	219
– Seamstresses -	154
– Computer operators -	126
– Handymen -	675
Total	2001

A similar survey among all Ijevan employers identified the need for more than 150 workers.

In rural areas (in 16 villages in Lori and 20 in Tavush) there is a demand for 125 workers, mostly

¹⁴ Report on a survey in Ijevan and Ijevan subregion, Vanadzor and Vanadzor subregion. Yerevan, EU TACIS 2004

¹⁵ Compiled by A. Melkumyan based on data of National Employment Agency

mechanics, builders and utility specialists.

C) According to the content analysis of vacancy announcements posted in GIND weekly, the demand for industrial workers during January – August 2005 totaled 1,025 people, and amounted 67.9% of all vacancies. Data by sectors is presented in Table 4.

Table 4. Demand for industrial workers according to vacancy announcements posted in GIND weekly during January – August 2005¹⁶

<i>Industry Sectors</i>	<i>Total</i>	<i>%</i>
Trade and services (salesmen, waiters, cooks, barmen, etc.)	338	46.6
Transport and communications (drivers, mechanics, etc.)	196	27.0
Construction	60	8.3
Machinery and metallurgy, chemical industry, electronics	54	7.4
Light industry	29	4.0
Clerical staff	31	4.3
Agriculture	11	1.5
Goldsmiths	6	0.8
Total	726	100

According to the table, the labor market in Yerevan has a high demand for workers in trade, service and transport sectors. Besides, there were 285 vacancies for unskilled labor.

7.3. Current system of vocational training

In industrialized countries and in the former Soviet Union, there were two major stakeholders in vocational training: a) the state, in view of the need to address the social issues of the youth, and b) large and medium-sized employers, in view of their business growth considerations.

It turns out that at present, the whole burden of vocational training lies on the shoulders of the state, while the capacity of the state to carry this burden have decreased considerably.

After the adoption of an amended Education law, vocational training institutions provided a basis for a new professional technical education system.

Besides, the law (Article 22, para 4) contemplates provision of vocational training in enterprise training centers where the traditional apprenticeship system is planned to be recovered.

As of 2005, there are 28 vocational training schools (VTS), including 11 in Yerevan, 3 in Gyumri, 2 in Abovian and one in Echmiadzin, Maralik, Ashtarak, Talin, Tzaghkahovit, Yeghvard, Byureghavan, Hrazdan, Sevan, Martuni, Berd and Kajaran. The total number of students who enrolled after graduating the 8th or the 10th class of the secondary school, is 1,980. Another 700 young people acquire worker's qualifications in secondary professional education institutions (colleges).

The training in these institutions is structured along the following 8 occupational groups:

1. machinery and metallurgy,
2. chemical industry,
3. electricity generation stations and networks,
4. construction,

¹⁶ Vacancies for industrial workers accounted for 48.26% of all announcements posted in GIND weekly

5. transport and communications,
6. production of consumer goods,
7. trade and services,
8. agriculture.

The distribution of colleges across Armenia is uneven. While Yerevan has 11 such institutions, Shirak 5 and Kotayk 3, Lori, Vayotz Dzor, Armavir and Ararat do not have any. On the other hand, 11 colleges function under the auspices of the Ministry of Education and Science, 6 under the auspices of Yerevan municipality, while the rest are within jurisdiction of regional authorities, which creates big problems with uniform methodologies and complicates funding of these institutions.

The state budget allocations for professional technical education in 2005 amounted mere AMD 669,612.3, or only USD300 per student per year, including a stipend of AMD 149,432.4.

This funding is enough to cover the subsistence of the system (salaries, stipends, utility costs, etc.), while development funding for purchasing modern equipment, development of new curricula, improving professional qualifications of the faculty, etc., should be procured by the colleges themselves.

At the same time, **the status of vocational training institutions as non-commercial public enterprises enables them, under the law on non-commercial public enterprises enacted in 2002, to generate additional revenues from various entrepreneurial activities like training and re-training, manufacturing, services, etc.**¹⁷

In theory, this should enable the colleges to replenish their finances, while in practice this mechanism does not work at all, due to the general limitations of commodity and service markets. This was confirmed during a round table with participation of 10 focus group vocational training institutions held in Yerevan in October 2005.

The stipends paid to the college students from the state budget amount AMD10 per month. It is worth mentioning that small stipends and lack of housing do not allow thousands of school graduates from rural areas and especially from poor households, to attend vocational training institutions.

Human Resources

The faculty of VTSs is underpaid and underqualified due to the lack of opportunities to improve their professional qualifications.

Curricula and quality of instruction

The colleges have considerable discretion in designing their own curricula since pursuant to the Education law, they follow general standards established by the Ministry of Education and Science and independently design and approve their own curricula and the list of subjects taught. As for the quality of instruction, according to the survey findings¹⁸, only 40% of the knowledge and skills gained by the students are really useful and applicable, while the remaining required 60% are gained on the job. This problem is particularly serious for VTS graduates since the technical base, lab facilities, training technologies and manuals are obsolete and do not meet modern requirements.

¹⁷ The experience of other countries is quite relevant in this respect. See, for example, Vocational Training in Germany. BYBB, 2002.

¹⁸ Education, Poverty and Economic Activity, UNDP, Yerevan, 2002, p. 63

In conclusion, the Ministry of Education and Science, with EU TACIS support, has formulated a national strategy for the development of vocational and secondary professional education system which pursues the following 12 objectives:¹⁹

- creation of an open and democratic system,
- ensuring mobility and continuity of education,
- ensuring high quality of education services,
- development of skills based on individual capacities,
- development of skills according to the needs of the economy and the labour market,
- cost-efficiency,
- integration of various types of VTIs within a consolidated legal framework,
- rationalisation of management and leadership of professional education institutions,
- ensuring social partnerships,
- ensuring transparency and credibility,
- integration in global education processes,
- life-long education.

7.4. Conclusions and recommendations

7.4.1. Low employment rate is one of the main causes of poverty in Armenia.

This is traditionally explained by the lack of demand for industrial labour force. However, both experts and employers and analysis of statistical indicators (derived from the data provided, for example, by the National Employment Agency or content analysis of public vacancy announcements) demonstrate that both urban and rural areas have a certain demand for industrial labour force. This demand is primarily for skilled labour, i.e. qualified professionals with an adequate level of skills and knowledge.

Analysis of statistical data and empirical research indicates that both Yerevan and the regions (including rural areas) require skilled labour force, including of the following profiles:

- salesmen, waiters, cooks, bakers, barmen,
- drivers and mechanics,
- builders,
- turners and welders,
- professionals in the light industry sector, etc.

7.4.2. Besides, it would be appropriate to note that the limited scope of social surveys and analysis of the data of the National Employment Agency do not provide for objective assessment of the current market demand for skilled labour force in the two key employment sectors (*see Table 1*), i.e. a) agriculture and farming and b) trade and services.

The both sectors do not require industrial labour force in general, without theoretical knowledge

¹⁹Strategy: Armenia's vocational training and secondary professional education. Yerevan, Arcadis BMB, 2004

and professional qualifications; obviously, there is no shortage of this kind of labour force; the demand is for such professionals who received at least minimum institutional professional education. There is a manpower surplus in rural areas, which causes real unemployment and considerable seasonal labour migration. But the youth who replace their in agriculture and livestock breeding sectors lack knowledge of modern production and management technologies and skills and thus perpetuate the working style and technological experience of their parents since neither in their schooling years and nor thereafter they received any exposure to modern agricultural development knowledge and skills.

There is a similar situation in the trade and services sectors, which employ, according to the official statistics, 105 thousand salespersons, barmen and waiters, agents and hotel staff (the unofficial figures are 150 – 200 thousand), the overwhelming majority of which do not have any theoretical or practical professional background. *See Table 2 and comments.*

7.4.3. The revival of the vocational training system currently represented by only 28 training institutions, has just begun. A national strategy for the development of the sector was formulated with TACIS support. This process is competently managed. However, there is a very complex issue of funding that would be sufficient to cover both the maintenance and the development needs of the system. **Obviously, provision of such funding is only possible through close cooperation with the employers and subject to ensuring required quantity and quality of trained professionals for whom the employers would be willing to pay.** Little would be possible without bold steps in this direction, including those related to revision of the legal framework. On the other hand, as it turned out in the focus group discussions, with minimal but still consistent state budget funding, VTIs do not show sufficient interest towards employing other means of income generation in line with market economy principles.

7.4.4. Recommendations

In the current demographic, social and economic conditions, the vocational professional education system should address the following two sets of issues:

- social, including poverty reduction, and
- economic, i.e. meeting the market demand for qualified labour force.

The key social issue is providing a broad range of vocational training opportunities to the youth of rural communities and small towns owing to the fact that their chances to receive a higher level of professional education are considerably limited (especially beyond the Ararat valley borders).

Currently, once their military service is over, the youth living in villages and small towns where the majority of the young population is concentrated, do not have any access to vocational training in their native communities, which greatly precludes their chances of engaging in any lucrative activity and starting a family.

The state should be able to offer to its young citizens a starting capital, i.e. a profession.

The solutions require serious discussions in the framework of TACIS professional education development programme, including on decisions taken in respect of the development strategy for the

system. The principles of agriculture-related vocational training should be established along with duration and content of the education, selection of teachers, textbooks, etc. An initial discussion of the issue in the focus group did not produce any results in terms of defining a strategy framework for the sector.

In a market economy, the most promising, in terms of vocational education and cooperation with the private sector, is the trade and services sector, for the following reasons:

a) As mentioned earlier, these sectors employ a considerable number of youth the majority of which do not have a corresponding education background.

b) On the other hand, in view of the priority attached to tourism development, it is obvious that the professional qualifications of people working in this sector should be brought in line with international standards (the same applies to the trade sector as tourists are buyers). However, dozens of thousands of employees in this sector do not have even basic idea about modern service rules.

c) High competition in this sector already motivates the employers to seek a competitive advantage in the human resources they employ. A considerable number of employers, however, have not yet relinquished the notorious approach where only “young good-looking girls are needed”. Owners of big shopping malls and restaurants will soon realise that good looks is not enough and salespersons and waiters need to be trained to be professional, like they do in civilised countries, and this training costs.

d) Finally, high rate of return in this sector inspires hope that many employers will not find it too difficult to pay USD300 – 500 to get a well-trained employee.

In other words, there are reasons to believe that the trade and services sector offers a considerable market for rewarding vocational training services. Once several big players step in, competition will drive in the others.

The main issue is to ensure highly skilled and enterprising labour force, as it was mentioned by VTI heads that participated in the focus group discussions.

The importance of addressing this issue is also highlighted in the documents of Armenia’s professional education development strategy and as such, should become one of the key components of the sector reform.

PART TWO

CONCLUSIONS AND POLICY RECOMMENDATIONS

1. Forms and modalities of the state's financial support to the development of professional education system. Government Education loans

1.1 Pros and cons of public funding and transition to the rating system

The state's general management and oversight functions in the professional education system imply formulation of a respective legal framework, formulation and implementation of national development plans, establishment of education criteria, curricula design and accreditation, as well as funding and other forms of support.

In the Soviet Armenia, higher professional education was highly centralized and planned, and was provided free of charge.

Since the 1990's, after regaining independence, Armenia started introducing a paid higher education system. First non-public institutions of higher learning were established (*See Annex 1*). Introduction of paid education considerably contributed to the preservation of the system in the conditions of political and economic crisis and helped expand the system of higher education.

Between 1991– 2004/2005 academic years, the number of students of public higher education students who paid for their tuition increased to 68.5% of the total number of students. *See Table 1.*

Table 1. *Number of public universities and their students, by years¹*

	1990/91	1999/ 00	2000/ 01	2001/ 02	2002/ 03	2003/ 04	2004/05
Number of public universities	14	16	19	20	20	20	20
Total number of students (thousand)	48.9	39.8	43.6	47.4	54.1	55.9	62.5
Number of students who study free of charge (thousands)	47.1	15.8	16.1	16.6	16.0	19.2	19.7
	96.3%	42.9%	36.9%	35.0%	29.6%	34.3%	31.5%
Number of students who pay tuition fees (thousands)	1.8	24.0	27.5	30.8	38.1	36.7	42.8
	3.7%	57,1%	63,1%	65,0%	70,4%	65,7%	68,5%

The government funding of graduate and post-graduate professional education has been increasing parallel to the expansion of the paid education system and improved economic performance. *See Table 2.*

Table 2. *Budget appropriations to professional education system, 2002-2006 (AMD thousand)²*

	2002	2003	2004	2005	2006
Graduate and post graduate professional education	3 637 446, 1	4 004 306, 0	3 886 319, 5	4 305 532, 3	5 302 409, 3
Secondary professional education	1 140 968, 5	1 165 996, 9	1 213 269, 2	1 454 468, 4	1 827 555, 9

¹ Source: RA NSS

² Source: Ministry of Finance and Economy, <http://www.mfe.gov.am/>

Vocational training	391 150, 4	309 623, 4	359 907, 3	669 612, 3	1 014 485,6
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About three quarters of budget appropriations to the higher education sector are used to compensate for free-of-charge education and payment of stipends. The total spending on student stipends in 2004/2005 academic year was AMD 85 129 000 per month or AMD1 021 548 000 annually³:

According to RA NSS data for 2005, 19 708 university students studied free of charge⁴. According to the Ministry of Education and Science, public spending per such student amounts AMD 166.5 thousand (AMD243.5 thousand according to the rate established for state universities)⁵. This means that in 2005, budget appropriations to compensate for student tuition fees and stipends in graduate and postgraduate systems totalled, on the average, AMD 3 281 382, which accounts for 76.2% of the total budget appropriations for graduate and post-graduate education.

The free-of-charge student quota for public professional education institutions, including universities (previously government-financed quotas, presently – student stipends) is established by the government on an annual basis, in view of the demand for respective professions and the size of budget appropriations for the year. The quota for paid education is established based on the requests and capacities of education institutions in terms of space, faculty, curricula, etc.

Eligibility for government funding depends on the results of entrance examinations, on a competitive basis. Prior to 2005/2006 academic year, eligibility for government funding was maintained throughout the period of study, regardless of academic performance.

The government funding provided throughout the period of study was meant to address two issues : a) meet the demand of the economic and the society for respective professions and b) encourage academic achievement.

The system, however, turned out to be deficient and failed to effectively address these issues.

First, in a transition and volatile economy, it was impossible to make realistic projections about the development of various economic sectors and correspondent the labor market demand structure in 5-10 year time-span. In this context, the size of government funding to finance the quotas for free education were based on hypothetical assumptions.

The government authorities and analytical centres cannot and should not, according to international practice, determine how many professionals in a given field will be required in a certain number of years⁶ ; according to the findings of a survey conducted in the framework of this project, even employers find it difficult to make such projections, and often come up with unrealistic and informed assumptions⁷.

Second : Guaranteed government funding cannot sustainably ensure academic excellence. It follows from the experience that numerous students who got admitted with excellent grades subsequently

³ This accounts for 23.7% of the total government funding provided to graduate and post-graduate education system in 2005.

⁴ Source: RA NSS

⁵ National Institute of Education of the Ministry of Education and Science. Higher Education. Volume 1, Yerevan, 2005, p. 111

⁶ Higher Education Reform Strategy: Higher Education. National Institute of Education of the Ministry of Education and Science, Yerevan, 2005, p. 113

⁷ See Part 1, on findings of employers' survey, section 7 and 8.

demonstrate poor performance, while many students who pay their tuition fees consistently improve their academic performance and get ahead their peers who study free of charge.

Third, this system is characterised by high corruption risks during admission examinations. There is a natural temptation to spend some money or involve some useful connections to get away with regularly paying tuition fees.

Forth, the former system of public funding was not economically viable either; it was impossible to make any realistic estimates about social gains and losses. Recently, the government-financed quotas transformed from procurement of specific services for the government and the society into a government subsidy to the sector, aimed to provide general support for the maintenance of the public education system. Also, the efficiency of social protection and support is also very low compared to the size of the funding.

Education is not an end in itself, but rather a means to address numerous and various economic and social issues.

Government decrees No. 1986 and 2114 issued on 8 and 15 September of 2005 considerably changed the mechanism of public funding of the higher education system⁸. The system of government-financed quotas were eliminated and replaced with a more flexible system of ***government stipends on rotational and rating basis***.

This system contains some elements of the previous one. « The number of government stipends by professions is established based on requests submitted by higher education institutions and in line with economic development priorities»⁹.

Eligibility of first-year students to free-of-charge study (with government stipend) is established by the government, based on the number of available places and outcomes of admission examinations¹⁰.

However, eligibility of the students to study with government support is reviewed at the end of each academic year and depends on their level of performance.

The new approach to eligibility to study free of charge has some considerable advantages over the previous one in terms of providing incentives for academic excellence and reducing corruption risks during admission examinations. ***The system, however, still has some drawbacks and elements reducing the efficiency of the government's financial support to the professional education system.***

First: Corruption risks during admission examinations are transferred to the semester and term examinations phase. **Second**, the system continues to be characterised by low and even hypothetical economic efficiency. The subsidy nature of the government funding is maintained.

The problems may be addressed by introducing written examinations and tests in the semester and term examinations phase and application of heavy sanctions. This experience yields positive results in the French University. Three quarters of term exams are written. The exam papers are anonymous and coded in a way similar to the system used during admission examinations, when the name of the student is disclosed

⁸ See Government decrees no. 1986 and 2114 of 8 and 15 September 2005 on the procedure of allocation of student stipends in Armenia's higher education institutions and on the procedure for allocation of student allowances in Armenia's higher education system.

⁹ RA Government decree no 1986 of 8 September 2005, para. 4

¹⁰ *Ibid*, para. 10

after the paper is graded. There is also tight control and system of sanctions applied both to the violating teachers and students.

However, even with introduction of this method and complete elimination of corruption risks, the rotational-rating system of provision of government stipends in the framework of government funding of higher education will still be only partially efficient and full of missed opportunities.

One should not forget that education is a guarantee of a certain social and employment status and a powerful means for reducing poverty, improving social situation, easing the social tension and, finally, ensuring economic growth and development of the society.

Government financing and policy in the professional education sector should be viewed within the context of poverty reduction, access to education, vertical social mobility and open society, elimination of nepotism and corruption, improvement of social situation, and, of course, meeting the changing and growing demand of the economy.

In the context of scarcity of financial resources and existence of various economic risks, the government education loans may prove as a much more efficient, targeted, focussed and promising way of government support.

This system has several significant advantages over the old system of government financing of free-of-charge education and the new rotational-rating system. Introduction of the government loans in Armenia's professional (first of all higher) education system should become the next stage of reforms.

1.2 Advantages of Government education loans

A) Introduction of government education loans in Armenia with its scarce government resources is profitable and prevents inefficient use of finances allocated to the professional education system¹¹. Under this system, according to the practice established in developed countries) poor students with good academic record will receive 0-interest rate 8-10 year loans to be repaid in 4-5 or even 10 years¹²

Introduction of government education loans will allow to complement annual budget appropriations for education financing with repayments from graduates who already found their place in the labor market. Regardless of depreciation of these loans due to inflation, they would create additional opportunities for students to benefit from government assistance.

B) Government education loans will minimize corruption risks, since students from well-off families will rather pay tuition fees than obtain a government loan which will still be subject to repayment.

C) The system of government education loans preserves the valuable elements of the rotational-rating system in terms of encouraging academic excellence. Loans are provided to applicants with good academic record and may be revoked in cases of consistent unsatisfactory performance.

¹¹ Many growing economies also adopt cost-efficient and revolving public funding mechanisms for education and research. See Annex 2.

¹² Loan repayment terms should be fixed but flexible and should take into account such circumstances like serving in the army, lack of employment opportunities, etc.

D) Government education loans make higher (and generally professional) education accessible to all social groups which is extremely important for sustainable human development¹³:

E) The system of government education loans is very much in line with poverty reduction strategy. It enables poor students with excellent academic record to continue their education and improve their financial conditions.

F) The government education loans facilitate vertical social mobility and mitigate stratification and polarisation of the society. Expensive and prestigious professions of a lawyer, doctor and diplomat may become the privilege of a closed social elite thus deepening social stratification and polarisation.

G) Finally, funding of education through government education loans is a much more targeted, flexible and market-sensitive approach.

Management of public systems becomes much more efficient and rational when it is based on self-regulation and self-management.

Of course, huge resources could be allocated for 5-10-15 and even 20-year projections for the growth of various economy sectors and demand for 437 professions in 33 occupational groups¹⁴ - all this to determine the size and the number of government stipends for various fields of study. However, this system is not viable and efficient.

The role of market studies in terms of ensuring awareness and offering guidance to national education authorities and future students cannot be underestimated. However, **the government education loans offer a much more efficient and flexible way to respond to the market demand, as every student, parallel to information and orientation support, receives financial assistance enabling him/her to receive professional education.**

1.3 Risks associated with introduction of government education loans

Analysis of international experience and discussions in focus groups indicate that the main risk is connected with **loan repayment**. This is an issue that does not arise at all in the case of free-of-charge education or rating system of allocation of government stipends.

Repayment of government education loans depends on a set of objective (economy growth rate, number of available jobs, salary size, etc.), and subjective (borrower's professional qualifications and skills, successful or failed career, sense of responsibility, etc.) factors.

There are also other mechanisms and approaches that may guarantee successful resolution of the problem. The experience of other countries where the government provides education loans may be fairly illustrative.

At the end of 1908's and beginning of the 1990's, the educational loan non-repayment rate in the US reached a troubling rate of 22% rate. Federal government started caring about employment of young graduates, involved them in various important national projects, introduced deferral and discounting systems. As a result, as of 2004, the non-repayment rate dropped down to 5.2%¹⁵.

¹³ About unequal access of various social groups to professional education and the need to address this inequality, see Armenian Higher Education Reform Strategy, para. 1.1. and 1.3. Higher Education, Vol. 1, Yerevan, 2005, pp. 84-92.

¹⁴ The occupational groups and titles were established by a government decree no. 154 enacted on 29 May 1997.

¹⁵ http://www.ng.ru/education/2005-02-04/8_almamater.html :

There are other methods to deal with non-repayment, like transfer of obligation to repay to the employer. This method is used in Australia and New Zealand. In some countries, including Great Britain, loan repayment issues are within jurisdiction of tax authorities. Non repayment rate in GB is 4%.

There are also extremely troubling examples and statistical data. In 1980's, in Brazil, Mexico and Kenya non-repayment rate was as high as 80%¹⁶.

However, there is a way to establish conditions and principles that would considerably reduce the risk of non-repayment of government education loans.

1.4 Application for and provision of government education loans

Private banks have long been providing commercial education loans in many countries and consistently increase their presence in the sector in CIS member states.

The banks establish certain requirements to potential borrowers and provide loans at rates that justify their risks and ensure their profit margin.

Some of Russia's large banks consider the following factors :

- social conditions of the applicant or his/her family
- employment, income level and solvency of the borrower or his/her family
- collateral
- the bank provides 70-80% of the required amount against contribution of the remaining 20-30% by the borrower.
- The annual interest rate amounts
 - 12-15% in US\$ or in Euros
 - 21-25% in national currency¹⁷.

By establishing such conditions for provision of education loans, private banks primarily target reasonably well-off population groups. In spite of the growing number of borrowers, such conditions cannot cause a boom in the education loans market.

In Armenia, the leading bank in terms of provision of education loans is ACBA bank. The maximum size of the loan is US\$800. The loan term is 3-12 months, with annual interest rate of 14.2%.

Entry of the private banks into the education loans market is a positive development, especially in terms of offering some type of financial support to the education sector. It cannot, however, solve serious and socially significant issues. This mission should be accomplished by the government through and in the framework of economic and social development plans.

Government education loans are not commercial instruments. The government provides these loans at zero interest rate. The loan is provided irrespective of the current social conditions of the borrower, and is primarily addressed to socially vulnerable groups (this conditionality may be revised or removed as resources available for government education loans increase). ***The key criteria or or the guarantee subject to which the loans will be provided is the intellectual capital*** , i.e. academic excellence of the applicant (according to secondary school or secondary professional education institution graduation diploma and admission examination grades).

¹⁶ See http://www.ng.ru/education/2005-02-04/8_almamater.html :

¹⁷ See http://www.prokredo.ru/ru/about_us/press/index.php?from13=4&id13=18;
<http://test.educred.rbc.ru/ru/credits/us/>

This criteria will provide an adequate guarantee for loan repayment. This assumption is confirmed by findings of social survey conducted in the framework of the project and analysis of statistical data.

According to the findings of a social survey among 2002 graduates, in an emerging market economy, traditional recruitment through relatives and friends is increasingly replaced by merit and achievement-based recruitment. While only 26% of students with weak academic performance managed to find a job in 3 years after graduation, 35.5% of students with good academic record managed to find a matching job. **Of those who graduated with honors, 52.3% found a stable and a matching job¹⁸. The general employment level of graduates with excellent academic record is as high as 67.1%.** Considering that 17.6% of graduates are not economically active¹⁹, these results are extremely encouraging.

The findings also demonstrate that the average monthly salary of young professionals who graduated 3 years ago and found a job is AMD **63.7 thousand** (or 142 \$ according to the exchange rate at the time of the survey)²⁰.

According to the data of the Ministry of Education and Science, per student expenditures in government-financed institutions total AMD 166.5 thousand (370\$) and AMD112.4 thousand without the stipend. The tuition fee is AMD 243.5 thousand (541\$) in public education institutions and AMD 188.9 thousand (420\$) in private ones. *See Annex 3.*

According to prudential requirements, 4 years of study in bachelor programme will cost the government AMD 666 thousand (1 480 \$) per student, while tuition fees paid during that period in public universities will amount AMD 974 thousand (2 165 \$).

A graduate who gets a job with an average salary equivalent to US\$150 will be able to repay the loan to the national fund for government education loans in 4-5 years, in monthly installments of 35-50\$.

The situation will be somewhat different for the graduates who will fail to find a job. In such cases, the government may offer them employment in various national and public projects, or send them to work in remote and border regions where their professional skills are in extremely high demand²¹. In return, the government may make concessions and reschedule the loan or discount it in view of the housing, transport and other costs of the borrower.

The government of Armenia, through respective authorities and based on marketing data and economic growth projections, is in a position to establish certain coefficients for allocation of education loans and targeted allocation of stipends for students of various professions. This will allow, for example, to allocate less stipends to fields of study where there is a surplus of professionals that exceeds the market demand and, respectively, stimulate training of professionals much needed in the economy.

1.5 Importance of student allowances and possible improvements of their allocation system

¹⁸ See the analysis of findings of Graduate 2002 survey, section 6

¹⁹ Ibid, section 3

²⁰ Ibid, section 7

²¹ Findings of a survey among university graduates demonstrated that the unemployment rate among veterinary doctors and livestock breeding professionals is fairly high. The majority of young professionals in this area live in Yerevan, while the demand for their services is much higher in rural areas.

Full compensation by the state of education expenses of children with 1st and 2nd disability degree, orphans, youth with disability acquired during military service, children of soldiers and military officers killed in combat is fully justified.²²

However, it is an unnecessary luxury to provide full or partial compensation of tuition fees against requests submitted to regional administrations by local self-governance bodies, as stipulated under point d of para. 4 of the government decree No. 2114 of 15 September 2005.

It would be more appropriate to offer preferential treatment (waiver on competitive admission, etc.) and education loans to selected applicants and transfer the responsibility for the repayment of their loans to regional and local authorities that sponsored such applicants.

A system of discounts through provision of student allowances established by the government decree No. 2114 whereby tuition fees of students from certain social groups are discounted subject to their academic performance, is fully justified and is in line with social protection policies of the state ; besides, combined with government education loans, it may serve as an important contributing factor to encourage academic excellence.

* *

Conclusions :

In the present social and economic conditions and in view of raising the efficiency of public funding of graduate and post graduate (as well as vocational and secondary professional) education, encouraging academic excellence, reducing corruption risks, increasing the accessibility of higher education, reducing levels of poverty, increasing social mobilisation and reducing social polarization and tension, **it is deemed feasible to combine the rotational-rating system of allocation of student stipends with introduction of government education loans.**

In the initial stage, the government education loans may be piloted in a couple of selected universities and once their effectiveness is confirmed, appropriate funding and scope of application of this new mechanism may be increased.

A national fund for government education loans should be established within the system of the Ministry of Education and Science, financed from the state budget appropriations for professional education system, loan repayments, donations, grants and other sources not prohibited by the legislation of the Republic of Armenia (*Graph 1*).

Students from socially vulnerable groups, demonstrating high levels of academic achievement, may apply for government education loans within a certain period after admission examinations.

In providing loans, the national fund should consider the poverty level of the applicant (with increased size of the funding available for loans, this conditionality may be eliminated) and high level of academic performance (formally established).

The loan may be provided for a period of up to 8 or 10 years. The years of study of the borrower will be considered as a grace period, and the loan will have to be repaid in 4 or 5 years after graduation.

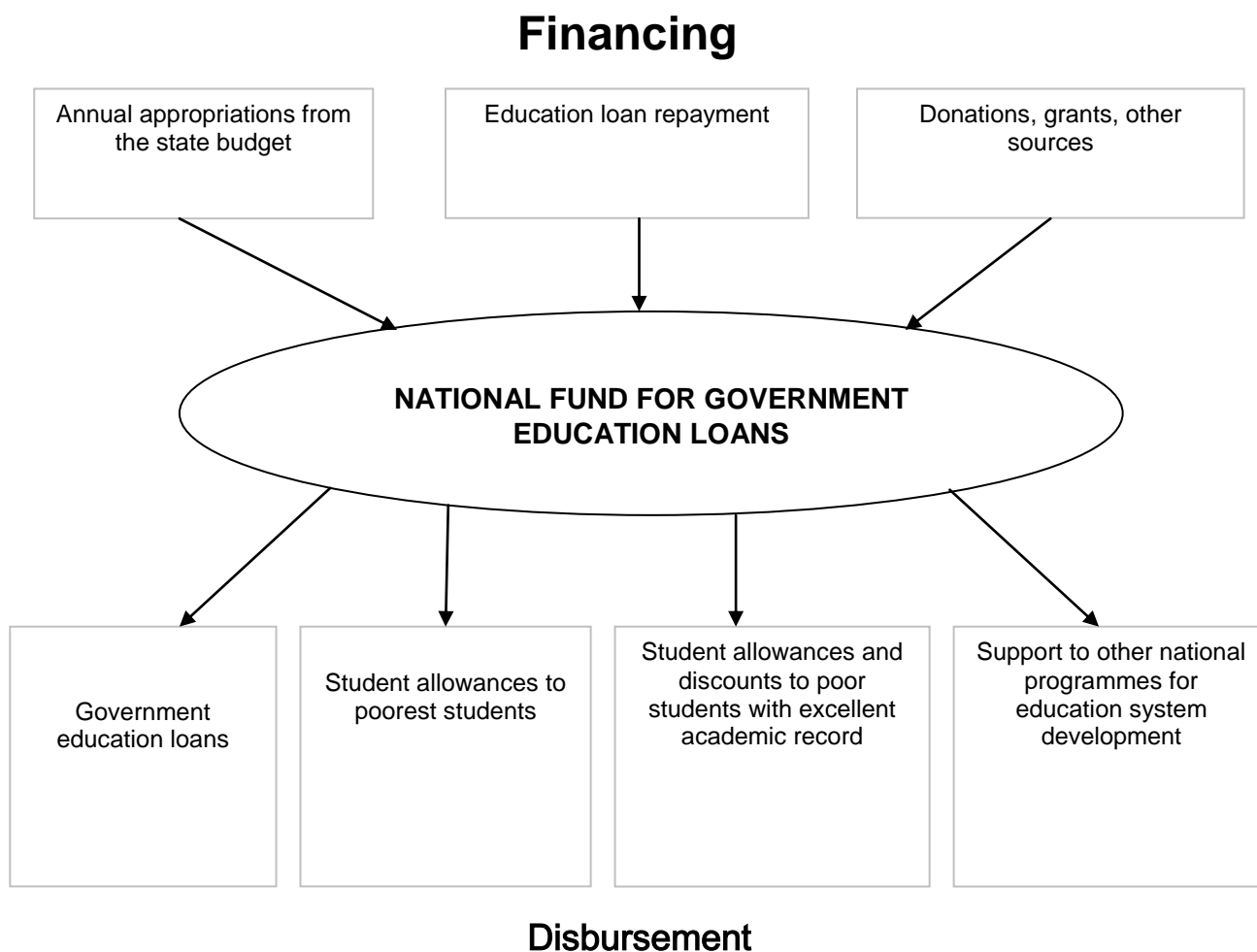
²² See government decree no. 2114 of 15 September 2005 on the procedure of allocation of student allowances in higher education institutions

Based on annual reports on academic achievement of the borrower, the fund may decide to continue disbursing the loan until the end of study, or terminate disbursement subject to consistent or recurrent poor performance.

The fund should cooperate with career development centres established in universities, employment and recruitment public and private agencies for the purposes of providing information support and ensuring loan repayment by students who fail to find a job after graduation.

Other details of establishing a government education loan fund may be further clarified and reflected in legal and normative documents in the course of discussions between stakeholders.

Graph 1. *Suggestions for government education loan fund financing and disbursement mechanism*



2. Involvement of employers in professional education administration bodies and improvement of internship system

We often hear that the quality of instruction in professional education institutions and the level of knowledge they provide do not always correspond to the labor market requirements.

Some of the findings of a survey conducted in the framework of this project confirm this view.

45.2% of 2002 university graduates stated that the knowledge gained in the university is only partially (26.8%) adequate or completely inadequate (16.6%) for becoming a qualified professional and

finding a matching job²³. While the student give, on the average, a 4 rating to the quality of instruction in their departments and universities, the employers believe that the level of knowledge and skills of young university graduates deserves a 3.2 rating, and that of vocational and secondary professional education institution graduates – 3.1 according to a 5-point scale.

36.8% of the employers believe that the knowledge provided in the universities is necessary but not sufficient for successful integration in the labor market. Another 40,5% believes that this knowledge is obsolete and does not correspond to modern requirements. The employers have a similar opinion about the quality of education offered in vocational and secondary professional education institutions.²⁴

Naturally, the success of a professional education institution is directly related to meeting the requirements of the economy and the labor market. Market research, social surveys and analysis of statistics may offer extremely useful reference. **However, in the context of developing market economy and increased independence of professional education at all levels, it is important to establish such bodies and mechanisms for administration of professional education that would ensure direct interaction with enterprises and employers.** This would create excellent opportunities for proper organization of professional training, involvement of employers and their representatives in the design of training plans and curricula, taking into account their views and providing certain employment guarantees to young professionals.

In this context, a new management structure of universities established by a law on graduate and post graduate education, enacted by a government decree no. 975 of 23 June 2005 on the establishment of management boards of public higher education institutions, is an extremely positive development.

The new procedure enables the respective authorities to include in the management boards prominent representatives of business community (para.7).

It would have been more appropriate, however, to establish a legal framework (perhaps through implementation of other mechanisms in addition to establishing a 4-tier management structure) to ensure that employers constitute at least 10% of the management board membership and enable structural units of higher education institutions to make nominations to the board.

By the same token, it is necessary to encourage the structural units of higher education institutions (departments, schools) to nominate representatives of the business community which come up as ‘clients’ of these departments in terms of future employment of their graduates.

Such interaction would enable to both adjust and streamline the work of universities and their structural units, and involve the employers in addressing various challenges faced by higher education institutions. One of such issues is the internship of students.

The traditional channels and opportunities of internship of students were lost in the conditions of economic recession. **The internship is now the most formal and least functional element of professional education.** This in spite of the fact, that this element of professional training should play an

²³ See Findings of Graduate 2002 Survey, section 8

²⁴ See Findings of Employers’ Survey, section 5 and *ibid*, annex 2.

important role both in terms of developing practical knowledge and skills and subsequent integration of graduates in the labor market.

Findings of social surveys conducted in the framework of this project indicate that only 25.1% of employed university graduates (and 12.9% of all respondents) used connections established during internship for finding a job²⁵. This indicator could have been much higher, like it is in developed economies with well-established traditions of higher professional education.

Interestingly, 17.7% of the respondent employers are ready to cooperate and provide various types of support to professional education institutions. 53.6% of large enterprise managers expressed such willingness.

The employers see their contribution in a form of financial assistance - 5% (28.6% for large enterprises), covering a part of tuition costs - 1,9% (14.5% of large enterprises), providing instructors and equipment - 1,2% (7.1% of large enterprises) and, most importantly, **organizing internships - 14,6%** (42.9% of large enterprises)²⁶

Direct interaction and cooperation with employers will enable universities and other professional education institutions to take into account the labor market requirements and needs and take care of internship of their students²⁷.

* *

Conclusions

For the purposes of harmonizing the content of professional education with labor market requirements, it is important ***to design and implement workable mechanisms for involvement of employers in the management of education institutions***. Specifically, the government decree no. 975 of 23 June 2005 should be amended to enable at least 10% participation of employers in the management boards of professional education institutions and empower structural units of universities to make nominations to these boards.

The employers should also participate in the management of structural units of universities (departments, schools).

The scope and planning of internship – an important element of professional training, should be thoroughly reviewed, to ensure involvement of an advisor appointed by the university and immediate supervisor appointed by the employer in the management of internship and evaluation of post-internship reports of the students (reports, term papers, graduation thesis or diploma theses, etc).

It is important to ensure the involvement of employers sitting on the department and university management boards in organizing the internships and ensuring adequate funding for its successful implementation.

²⁵ See Analysis of Graduate 2002 Survey findings, section 6

²⁶ See Analysis of Employer Survey Findings, section 6

²⁷ Cooperation of Synopsis with Yerevan State Engineering University and Applied Math, Radio Engineering and Physics Departments of State University offer best practice examples of such cooperation.

3. Coordination of interaction between employers and professional education institutions and creation of career development centers

The system of job placement of professional education institution graduates stopped functioning after the collapse of the Soviet Union and transition to a market economy.

The professional education system responded to the economic transition only in quantitative and financial terms (introduction of tuition fees, creation of private education institutions, etc.). As a relatively conservative system, professional education still needs structural, functional and substantive reforms.

Findings of social surveys and discussions in focus groups of heads of professional education institutions confirm the lack of more or less regular and stable links with the labor market. The existent relations are irregular and spontaneous and are based on the initiative of individuals (deans, chair heads, internship coordinators or enterprise managers). At the same time, the main mission and competitive edge of professional education institutions is about timely response to labor market requirements.

Isolation of universities and other professional education institutions results in decreased productivity and substandard training of future professionals.

Besides, according to an established tradition of centralized admission examinations, the heads of public education institutions request the National Admission Board to increase the number of slots not subject to academic deferral and allow admission of some applicants who received satisfactory but not sufficient grades for the purposes of improving the financial position of their institutions. Often these requests refer to high market demand for specific occupations.

However, according to the results of focus group discussions with heads of education institutions, the latter are inclined to leaving the issue of job placement at the discretion of the state and respective authorities.

Increased autonomy of higher education institutions implies increased scope of responsibility. Inasmuch the government and universities jointly engage in training of professional cadre, the higher education institutions should be able to share the burden and responsibility of labor market integration of their graduates.

In terms of strengthening ties of the higher education systems with the labor market, adjustment and streamlining of respective functions and facilitation of labor market integration of graduates, the time has come to establish career development centers in universities and other higher education institutions. Such centers should be established within the units dealing with external relations of universities or under the auspices of faculty administration, to take over their internship coordination function.

Career development centers are important units tasked with.

- Assisting university graduates with employment and career development issues.
- Establishment and development of relations between universities and the business community.
- Counseling the university management on formulation of policies and training programmes matching the labor market requirements and trends.

- Ensuring feedback and creating supportive environment for the graduates.

In view of these objectives, the functions of career development centers should include:

- Analysis of labor market supply and demand, advisory support to university management, providing information to graduates, students and applicants.
- Regular monitoring of labor market supply and demand for knowledge and skills taught at the university.
- Creation and management of a roster of university graduates, statistical analysis of their professional and career development.
- Regular provision of updated information on labor market demand and available vacancies.
- Planning and coordination of students' internship.
- Organization of professional training of graduates.
- Organization of alumni meetings, symposia and other events.
- Support to creation of alumni associations.

In multi-profile universities, career development centers may have their profile branches, while in institutions with large number of students they may be structured according to the type of learning (in situ and distance learning, sabbaticals, etc.).

The rich and positive experience of a career development center (Alumni Center) of the American University of Armenia and, to a certain extent, that of the career development center of State Engineering University, offer excellent examples for creation of such centers in other universities of Armenia²⁸.

4. Mechanisms for improving professional qualifications of faculty

One of the main ways to increase the quality and modernize the content of professional education is the establishment of a sustainable system for improving professional qualifications and training of faculty.

The law on graduate and postgraduate education stipulates, that “the faculty of graduate and postgraduate education institutions shall... undergo re-training or improvement of professional qualifications no less than once every five years, pursuant to the established procedure“ (Article 19, para. 6, point 5). However, structures and institutional leverages for implementation of this legal provision are still missing.

The current process of professional re-training and improvement of professional qualifications of the faculty of higher education institutions is spontaneous and, as a rule, driven by its beneficiaries. International organizations and academic exchange programmes (TACIS, IREX, Eurasia Foundation, Open Society Institute, UNDP, DAAD, OAAD and others) are main contributors. However, beneficiaries of training and academic exchange opportunities offered by these organizations seldom share their experience and knowledge gained with their colleagues in a regular and institutional manner. Most often, such training has individual and extremely limited impact.

²⁸ <http://www.aua.am>

For the purposes of enabling professional retraining and improvement of professional qualifications of the faculty of Armenian higher education institutions, institutionalizing the training process and improving its efficiency, transfer of best practices and modernization of content and methodology of education, it is necessary to create and develop a sustainable structure for professional training of academic faculty. The importance of such structure is emphasized in the context of Armenia's joining the Bologna process and European integration of the national higher education system.

In terms of the creation and development of professional training of faculty and improvement of their professional qualifications, it is worth mentioning the activities of the national institute for the training of school teachers functioning under the auspices of the Ministry of Education and Science, as well as a programme of ongoing professional training of YSU faculty implemented since 2002 by the post-graduate education desk.²⁹

The department of professional training of university faculty functioned in YSU since 1968. The students of the faculty included university lecturers both from Armenian and other USSR higher education institutions. Between 1968-2002, the department offered training to 4,250 professionals, of which 251 came from other republics of the Soviet Union.

The number of students of this department sharply decreased in the 1990's owing to the general crisis of the professional education system. Between 1997 and 2002, the total number of students who attended the department of professional re-training was only 149. See Annex 4.

In view of the importance of professional re-training and improvement of professional qualifications of the faculty and the demand for additional professional education, in 2002 the Yerevan State University established a post-graduate education department with its two units – those of post-graduate education and additional professional training. The scope of the latter's activities includes:

- Ongoing professional training of YSU faculty and staff,
- Organization of training courses for improving the professional qualifications of YSU faculty
- Organization of professional re-training, improvement of professional qualifications and internship for the faculty of other higher education institutions and civil servants
- Analysis of demand for additional post-graduate training, design of correspondent curricula and training plans
- Preparation of methodological guides and other documentation required for the implementation of professional retraining and improvement of professional qualifications.

After updating and amending its curricula, the additional education department of the YSU trained, between 2002 and 2005, 630 members of YSU faculty and 53 staff, 228 faculty members of other public universities (including Karabagh State University) and 15 faculty members of private universities.

In addition, during the same period the department, in cooperation with the Civil Service Council, organized and conducted professional training for 1,220 civil servants.

²⁹ The provisional bylaws and rules of procedure of the post-graduate professional training department of the Yerevan State University were approved in 2002 by the rector's decree.

Following the positive experience of the YSU, as of 2005 professional re-training departments opened in the State Pedagogical University, State Engineering University and Yerevan State Medical University.

While it appears that the faculty of all education institutions needs to improve its professional qualifications, limited capacities of several education institutions cannot meet the demand for such services.

The government and the authorities of Armenia should enact decrees and procedures pursuant to the provisions of the graduate and post graduate education law and aimed to coordinate and regulate the process of professional retraining and improvement of professional qualifications of university faculties.

The professional training department of the Ministry of Education and Science should set up a task force or a unit to create a list of the fields where improvement of faculty professional qualifications is required, establish the scope of responsibility for such training for various levels of authority (deans, chair heads, faculty administration, etc.), invite prominent international experts, establish the methodology for professional training of the faculty, and to produce an inventory of capacities and needs of higher education institutions in terms of providing and receiving professional training for their faculty and staff.

At the initial stage, the training offered to the faculty and staff of higher education institutions could include such issues as the main characteristics of the European system of higher education, credit transfers, European network for quality and knowledge assessment, the rationale and the challenges of Armenia's higher education system reform. Focus group discussions with participation of heads of higher education institutions and their representatives demonstrated that the faculty and staff need training on computer and IT literacy, modern methods of teaching, modern humanities, history and philosophy of science, research methodology, science administration and innovation and, of course, achievements and current developments in their specialized fields.³⁰

There should be an appropriate distribution of roles and functions among leading universities. For example, training of IT faculty could be organized at the State Engineering University, the faculty of pedagogical departments could receive their training at the State Pedagogical University, social science professionals – at the Yerevan State University. Such training could be conducted with participation of prominent experts from other universities and countries invited with support of international donor organizations.

The Ministry of Education and Science should assume the general and ultimate responsibility, financing and coordination of the professional training of university faculty³¹.

5. Two-tier university education and labor market demand mismatch

³⁰ For priorities of improving professional qualifications and retraining of faculty of Russia's public higher education institutions, see http://www.gain.ru/documents/Minobr/Prik_m/prink379_04.htm

³¹ For example, for the purposes of professional re-training and improving professional qualifications of public higher education institutions of Russia, additional US\$3.120 mln were allocated against respective instructions issued to higher education institutions and authorized bodies of the Ministry of Education and Science. Ibid

The complications of transition of Armenia's higher education to a two-tier system were informed by factors beyond the scope of education and science sectors. The labor market does not, as of yet, differentiate between the bachelor's and master's degrees. It turns out that the Master Program graduates do not have any advantage in the labor market. The only advantage they gain has to do with post-graduate admission, i.e. the issue is addressed only within the education and science sector. Naturally, such situation does not offer any incentives for young professionals to continue their studies in the master programme; if they do, the main motives are to defer the military service in the case of men and to just keep busy in the case of unmarried women who did not find a suitable job.

This issue has another side to it as well: it appears that no field or area of national life (with the exception of the education system) needs master's programme, and the knowledge and skills gained in the bachelor's programme are more than enough for meeting the society's all development needs. As if the two-tier higher education system was established solely for the purposes of joining the Bologna convention and European integration.

Therefore, the approach should be consistent and first of all, a list of positions (especially in government-financed institutions) should be established for which a master's degree is a main condition of employment. According to the international best practice, several laws will have to be amended, first of all the laws on graduate and post-graduate education and on civil service. More specifically, *the master's degree should become a key prerequisite for holding top and managerial positions in the civil service system* (in addition, the years of study in the master's programme could be added to the total length of working experience).

6. Earmarked Education Schemes for Employers

For the purposes of establishing workable and close cooperation between the employers and professional education institutions, *it is important to create mechanisms enabling the large and medium-sized employers to benefit from earmarked education schemes (similar to the schemes functioning for regional administration, but without participation of local administrations).*

The employers should bear the cost of such earmarked education. During admission examinations, the applicants covered by the earmarked education scheme should enjoy certain privileges like limited competition.³²

This scheme should not have a universal coverage for all universities or employers because this would unnecessarily burden the admission system with a new set of privileges.

The government of Armenia, in view of economic development needs and for the purposes of supporting the development of priority sectors should establish earmarked admission quotas to apply to a certain number of scope of universities and faculties.

³² According to the current admission procedures (section 3, para. 24), 50% of government-sponsored slots in Yerevan Medical University, Yerevan State Linguistic University, Gyumri and Vanadzor Universities and Goris Branch of State Engineering University are earmarked for applicants sponsored by regional administrations to receive pedagogical training, in Agricultural Academy – for veterinary training; local physical education and sports committees refer applicants to fill in 30% of government-sponsored slots in the institute of sports and physical culture. See Graduate 2005. *Admission procedures for public higher education institutions, Yerevan, 2005, pp. 9-10.*

Such earmarked education schemes could be established for enterprises functioning, for example, in border, mountainous and remote regions, food processing, agricultural, mining and metallurgy enterprises, in corresponding areas and departments of veterinary care and livestock breeding, extraction and processing of minerals, mining and processing of base metals.

The establishment of earmarked education schemes for employers operating in strategically important and priority economic sectors would

- Support the enterprise development in these sectors,
- Provide additional support to university departments with decreased admission,
- Foster and promote market orientation of universities and other professional education institutions,
- Contribute to the creation of sustainable cooperation between professional education institutions and employers.

7. Tuition Fees in Higher Education Institutions

Discussions and surveys conducted in the framework of the project demonstrated that one of the current problems of Armenia's higher education system has to do with the principles of establishing tuition fees.

The current tuition fees are informed by the demand and supply mix and are based on the size of competition during admissions.

The government of Armenia and respective authorities do not have any powerful leverages and mechanisms for regulation of this issue.

It is necessary to develop mechanisms and a legal framework to make higher education institutions justify and substantiate the size of tuition fees in terms of the costs of education and reduce the discrepancy between prudential regulations for per student spending and the size of tuition fees.

These steps are required in view of the social role and significance of education, duties of the social state and policies aimed at increasing access to education of all social groups.

8. European integration as a key prerequisite for the development of Armenia's higher education system

The strategy for European integration of Armenia's higher education system is one of the priorities of the national education policy.

For the purposes of the development of a national strategy for professional education, the recommendations formulated in the framework of this project are geared towards implementation of European integration policy components, in the interests for the development of Armenian society and education system. The strategic framework of this policy is clearly defined in the national strategy for higher education reform whose consistent implementation is one of the key prerequisites for the development of higher education, the national economy and the Armenian society.

9. Recommendations for vocational and secondary education system

The rehabilitation and modernization of the vocational training and secondary professional education system is important in terms of ensuring the completeness of the national education system, increasing the general education level of the population, raising the employment level and reducing unemployment, reducing poverty and easing social tension.

Several important steps were taken towards the rehabilitation and development of vocational training system; the legal framework was established with the adoption of the Education Law in 1999 and Vocational Training and Secondary Professional Education Law in 2005, a vocational training and secondary professional education strategy in 2004. Various surveys of the sector were conducted.

Efficient and proper development of the sector, however, requires additional measures and analyses.

While the present project did not make claims for proposing comprehensive solutions to all challenges facing the sector, the team of authors found it appropriate to provide several conclusions and recommendations for consideration in the national strategy formulation framework.

9.1. In view of predominantly regional role and significance of vocational and secondary professional education institutions, their curricula should be designed in the context of regional social and economic development and in cooperation with regional authorities and line ministries.

9.2. An appropriate legal and institutional framework and incentives (including tax holidays and privileges) should be established to encourage the involvement and participation of employers in the education process, design of curricula, improving material and technical base, organizing internships and subsequent employment of graduates. Such involvement and participation would also ensure market orientation of the professional education and create some guarantees for employment of the graduates.

9.3. Career development centers similar to those to be created at the university level should be established to engage in market supply and demand analysis, facilitate the employment of the graduates, coordinate internships, monitor career development of the graduates and provide information and counseling to the management of professional education institutions. In view of the limited financial resources of the vocational and secondary professional education institutions, it would be appropriate to place these centers within education administration units of regional administrations and establish communication channels and levels of interaction with the local education institutions and the department of professional education of the Ministry of Education and Science.

9.4. The ministries of labor and social issues and education and science should jointly design, finance and implement short-term professional training and re-training for the unemployed registered with the regional employment agencies. Such training should be provided at vocational and secondary professional education institutions in these regions. Procedures should be put in place to enable efficient cooperation between organizations with professional training and retraining needs and secondary professional education institutions.

9.5. The ministry of education and science should initiate and lead the professional retraining and improvement of professional qualifications of the faculty and staff of vocational and secondary professional education institutions, in close cooperation and coordination with international donor organizations and NGOs working in this area.

9.6. For the purposes of increasing employment, reducing poverty and raising the efficiency of the education process, **it is necessary to enable the vocational and secondary professional training institutions to engage in ‘non-education’ activities.** For example, these institutions may establish production units and services (vehicle maintenance and repair, repair of electric appliances, arts and crafts, etc.). This would help enlarge practical training opportunities and generate additional financial resources to raise salaries and repair the premises. Besides, the students will have at least part-time employment which would somewhat stimulate the development of the respective sectors.

It is important to follow the principle whereby professionals, as the main driving force of economic development, are also capable of reforming their respective sectors, while vocational and secondary professional education institutions, along with catering the needs of the labor market, are well positioned to adjust and modernize these sectors.

9.7. In view of the social and economic significance of the vocational and secondary professional education system, and the fact that *the students of these institutions* mostly represent socially vulnerable population groups, the government should subsidize the secondary professional education in the coming 5-10 years to enable more access for the poor.

9.8. The list of the departments and fields of study in vocational and secondary professional education institutions should be revised in line with the labor market requirements.