2013 Armenia Economic Report

Human Capital And Growth Perspectives

Economic Development and Research Center (EDRC)

ARMENIA ECONOMIC REPORT 2013

HUMAN CAPITAL AND GROWTH PERSPECTIVES

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RESEARCH TEAM

Director and lead author

MUSHEGH TUMASYAN

Research and statistics

KARINE HARUTYUNYAN, Ph.D.

YELENA MANUKYAN, Ph.D.

LILIT HAKOBYAN (research assistant)

ANNA HOVSEPYAN (research assistant)

Bela Gevorgyan and **Armen Grigorian** also contributed to the drafting of the Report.

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ARMENIA ECONOMIC REPORT 2013

For questions and suggestion please contact EDRC: +374 (0) 60 540 289, info@edrc.am, www.edrc.am

About AER

Armenia Economic Report (hereinafter, AER or the Report) is an annual analytical periodical which aims to support accountability and evidence-based decision making culture in Armenia. In particular, it is aimed at analyzing and interpreting economic policies and developments in Armenia, raising awareness, creating basis for enhanced discussions and drafting policies.

The Report consists of two sections. Section one refers to the economic developments of the past year. This among others includes international development trends, macroeconomic developments in Armenia, industrial production and foreign trade. In addition, projections of the main development indicators for the coming three years are presented in this section.

Section two of the Report is each year dedicated to a certain theme and addresses a specific urgent issue for Armenia. This part of the Report involves analyses of the chosen topic and/or discussions on the direction of economic policy regarding the touched upon theme.

Development of the AER involves partnerships and collaboration with various stakeholder groups and parties including governmental bodies and relevant academic and civic society organizations in Armenia.

The general theme of the AER 2013 is Human Capital and Growth Perspectives. The Report presents thought-provoking analyses of demographic developments in Armenia, addresses the distribution and allocation of workforce, productivity, human capital development and growth perspective of the country.

AER (2013) is drafted by the Economic Development and Research Center (EDRC) which is an independent analytical center based in Armenia. The Report is prepared with the support of Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ).

The electronic Armenian and English versions of AERs is available at www.edrc.am

Recent Armenia Economic Reports:

- **AER 2011/2012: Trade Policy and Growth Sustainability**
- **AER 2010: The Necessity in Economy Diversification and Export Expansion**
- **AER 2009: From Crisis to New Development**

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SECTION 1. ECONOMIC DEVELOPMENT TRENDS

- The global economy grew by 3.2% in 2012 and, so exceeded its pre-crisis level by 12.2%. The global economic recovery continues primarily due to Asian developing countries. Growth in developed countries tends to slow down and is relatively small.
- Global trade in 2012 increased by 2.5%. Export growth rates in developed countries continue to remain higher than import rates, while in developing countries the situation is the opposite.
- Prices for major metal commodities decreased in 2012. Prices for gold on the other hand continued to grow, although at lower rates. Oil prices went up by 1% in contrast to the drastic growth in 2010-2011. As a consequence, oil and gold prices in 2012 reached their peaks for the last 3 decades.
- Prices for consumer goods grew by 3.9% in 2012, following the 4.9% increase recorded in 2011. Slowdown in growth rate of prices is especially visible in CIS countries. Inflation in developed countries is slower. Average consumer price inflation in 2012 totaled to 2.6%: 3.2% - compared to the beginning of the year. Food prices after the crisis increased by 20.4% (December 2012 compared to January 2010), non-food prices – by 15.2%, while tariffs for services - by 9.8%.
- The economic growth average of southern Caucasus countries was 3.6% in 2012, notably, the highest growth rate was recorded in Armenia (7.2%), followed by Georgia (6.5%). Growth in Azerbaijan equaled to 2.2%.
- Economic growth in Armenia in 2012 is relatively high as compared to 4.7% in 2011. Agriculture had a significant contribution of 1.9 percentage points to the 7.2% growth. The next largest contributions came from finance and insurance sector (0.9 percentage points), trade (0.7 percentage points) and transport and communications sector (0.6 percentage points).
- As a result real GDP which grow continuously since the recent crisis, almost reached its prior maximum (2008) level. Nevertheless, GDP in dollar terms remained considerably below its 2008 level.
- The structural changes in the Armenian economy are considerable and are mainly due to the construction sector. Although some minor sectors grow fast, yet these did not have a very large impact. If construction was the largest sector of the economy several years ago (about one quarter), agriculture is currently the largest sector with 19% of the GDP, followed by trade (13% of the GDP). Construction currently is equivalent to 12% of GDP, yet, it is still larger than manufacturing (10%).
- After the sharp shrink in 2009, the decline in construction continues. During 2010-2012, this sector on average shrank by 2.1%. As a consequence, construction sector in 2012 is equivalent to 5% of its 2008 level.
- Manufacturing in 2012 grew by 3.1% which is lower than previous two years. Manufacturing takes about 60% of the total industrial output for its account. About 60% of manufacturing is produced by the 10 largest sub-sectors, with bread-making as the largest sub sector.
- The 65% growth of the tobacco industry served as the largest factor beyond the growth of the manufacturing sector in 2012, followed by cognac production (21% growth) and copper, aluminum, cast iron and steel production (8-6% growth).
- Unemployment rate in Armenia reached 17.3% in 2012 which records some improvement since previous year. Industrial employment increased by 0.3%, covering 83.4 thousand employees.
- As of end-2012, expenditures on final consumption exceeded the gross income generated in the domestic economy by 1.8%. Private consumption in real terms increased and reached 88.8% of GDP. Public/Government consumption decreased and totaled to 13.0% of GDP.

- Real volumes of investments in the economy continued to decline by 7.7% in 2012 and 4.7% - in 2011. Expenditure breakdown of GDP, in particular, declines of state intervention as well as fast drop of gross capital formation do not contribute to the sustainability of the economic growth.
- Total budget expenditures in 2012 increased at modest rate – about 2% compared to 2011. This implies that public expenditures declined in real terms in 2012 (if inflation impact is neutralized). In 2012, budget revenues exceeded their pre-crisis level by 20% which is mostly explained by increased tax revenues in almost the same amount.
- External public debt of Armenia reached 37.9% of GDP in 2012 or USD 3,738 mln. The main creditor of Armenia is the World Bank of which the provided liabilities form 40% Armenia's external debt. Liabilities to the International Monetary Fund constitute 21% of total external debt. Major bilateral creditors are Russia and Japan.
- External balance improved: net exports reduced by 17% in 2012. Current account balance improvement was also supported by increased transfers from abroad. The amount of remittances/transfers through banking sector in 2012 exceeded their pre-crisis level due to increased transfers from Russia.
- Majority of exports in 2012 went to EU member countries (37%), followed by CIS (24%), Asian countries (19%) and Americas (14%). Overall, Armenian products were exported to more than 100 countries. The largest partner is Russia where about one fifth of Armenian exports were sent. The second largest partner is Bulgaria, followed by Belgium, Iran, Germany and US.
- Similar to previous years, the export items with the largest share of total exports are copper ore and concentrate, followed by alcoholic beverages. Around 50% of exports to Russia involve alcoholic beverages and products followed by diamonds (8.6%), fresh fish (4.6%), apricots (4.5%), fresh and dried grapes (3.55).
- Imports in 2012 came from more than 150 countries: again, the largest partner is Russia. Russia provides for about a quarter of Armenian imports, mostly with natural gas (41.5%), wheat and maslin (11.3%). Imports of natural gas and oil products together constitute 21% of total imports.
- According to IMF, ADB, as well as Armenian Government's projections, economic growth in the coming years is expected to stabilize in Armenia with medium growth rates which will provide for the recovery of pre-crisis economic level, price stabilization, higher growth rates of exports over imports and improvement of current account of the external balance.
- The Government of Armenia anticipates higher growth rates in industry and service in 2013-2015, 9.3% and 6.1% respectively. 4.5% growth is anticipated in agriculture. External-debt-to-GDP ratio will continue to remain high, although with gradual declining trend.

SECTION 2. HUMAN CAPITAL AND ECONOMIC GROWTH

- During the 20th century, active demographic developments were recorded in the Southern Caucasus and Armenia, in particular. Population in all 3 southern Caucasian countries increased drastically. The highest population growth rate is recorded in Armenia, the lowest – in Georgia.
- Since Sovietization, population of Armenia grew by more than 3 times. In 1979, it exceeded 3 mln, while in 1991 it reached its maximum of 3.6 mln.
- Increase in population of Armenia took place largely due to increase in urban population: rural population grew by 48% during 1926-1991, while urban population – more than 12 times.
- Since independence, population in Armenian and Georgia decreased sharply; meanwhile population in Azerbaijan continues to grow with fast rates.
- As a consequence of emigration of Armenians and high population growth rate of Azeris, the role and share of ethnic Armenians decreases in the Southern Caucasus. 22.7% of the population in Southern Caucasus in 1926 was Armenian, while they constituted 26% in 1979. By 2001, their share was slightly below its 1926 level (22.4%).

- Population of Armenia reduced by 420 thousands during 1991-2001, followed by reduction of another 194 thousands during 2001-2011. As a consequence, population decreased in total by 614 thousands or 16.9%. 65% of total population decrease took place at the expense of population in towns and cities outside Yerevan.
- The reason for reduction in population is continuous emigration. Calculations based on the Census data show that 964 thousand people emigrated from Armenia during 1991-2012. Statistics on passenger turnover matches these data.
- Population numbers decreased in all Marzes as a consequence of emigration. The highest decline is recorded in Lori (38%), Shirak (27%) and Kotayq (18%). Population in Yerevan decreased by 15.5%. Urban population in Lori Marz decreased almost by half and by 39% in Shirak.
- Urban population of Armenia lives in 48 cities and towns that vary in terms of size. Population of the largest 10 cities constitutes more than half of total urban population (56%), while the largest 20 cities and towns – 78% (excluding Yerevan). Population in Gyumri accounts for 14-15% of urban population and equals the population in 23 small towns of Armenia. The next largest cities are Vanadzor and Vagharshapat.
- Rural population of Armenia is also distributed disproportionally. Population in 50 largest villages equals to the population in the smallest 500 villages.
- There are many small and very small villages in Armenia. In 493 villages or in more than half of rural communities of Armenia, population is below 1000 people. Notably, population of 194 communities is below 300 people and 70 households. The number of villages with more than 3000 population is 78 which is about one third of the rural population of Armenia.
- Population of Armenia currently is close to the level of late-1970s. I. e. currently the population of Armenia is approximately the same as it was 30-35 years ago. However, there are significant structural shifts and differences. Today, Yerevan is larger from 1979 level by 4.6%, meanwhile cities and towns in Marzes are smaller by 12.6%. Rural population in 2012 exceeds its 1979 level by 6.8%. Under the similar population numbers, birth rates are significantly lower today, while death rates are higher than in 1979.
- Thus, Armenia is facing a demographic retreat. During the past 30-35 years, the population has not grown, while the level of urbanization has increased. The capital city expanded, meanwhile the role of small and medium towns decreased. Population birth and death rates worsened.
- The largest sector providing employment is agriculture (37% of total employment). The largest non-agricultural sector providing employment is trade, followed by the education sector. Currently education employs more people than manufacturing.
- Labor productivity and average salaries are the highest in the financial sector. With respect to productivity, financial sector is followed by mining, construction and energy sectors.
- Salaries of 62% of employed are between AMD 32,500-97,500. Only for 11% of employed, salaries exceed AMD 195,000. The lowest salaries are recorded in education, social services, culture, trade and agriculture sectors. The longest working hours are recorded in trade sector: 52 hours per week.
- Thus, economic activity and employment levels are low in Armenia. Unemployment is among the highest in the world. Employees are mostly engaged in sectors with low productivity and low salaries. The role of agricultural employment is very high. Sectors with high productivity and high salaries are small (the role of competitive private business is small).
- Human capital is a concept that characterizes the level of ability of labor force in a society to participate in the process of generation of economic values, as well as development of a set of physical, mental, social and cultural skills and specifics of human beings. It is determined by efficient public and private investments which contribute to transformation of human resources into human capital generating values.

- For the assessment of human capital in a given country band cross-country comparisons, Human Development Index (HDI) calculated by the UN and Human Capital Index (HCI) calculated by the WEF can be used. Armenia is on the 87th place among 187 countries for HDI, while for HCI – it is the 73rd among 122 countries.
- In cross-country comparisons Armenia has a middling position; however it is significantly below Eastern European and some CIS countries. For both indicators, Armenia is considerably far from Russia. Meanwhile, Armenia, Georgia and Azerbaijan are very close.
- For Health pillar of HCI, Armenia is the 71st among 122 countries. In terms of healthcare quality and affordability Armenia is below the average global level. Life expectancy indicator is especially low: 82nd in the world, while for the survival gender gap, Armenia is the 113th among 122 countries.
- For workforce and employment pillar, Armenia's position is quite low: 113th among 122. Country capacity to retain talent, capacity for innovation, etc. is very low. Training services indicator is especially low.
- In terms of Enabling Environment, Armenia's position is relatively favorable namely the 64th global wide. This is also conditioned by the WB Doing business indicator which is an underlying component for respective evaluations.
- In terms of Education, Armenia has the 60th position globally. Access to education and size of gender gap in education in Armenia are quite favorable. Meanwhile, education quality and management indicators are much lower than in many other countries. In line with this, Armenia is positioned 103rd amongst 122 countries in terms of the quality of business and management universities.
- Interest towards higher (graduate) education in Armenia continues to remain high. As a consequence, the number of universities is very high, along with the very high numbers of graduates from these universities. However, the number of graduates does not effectively correspond to the current or perspective development needs of the economy.
- Vocational education system (primary and secondary professional education) is very small and is not capable of meeting the requirements of the economy and market. This type of educations continues to remain less desired or preferred by the society. Meanwhile, a significant share of the labor force active in various sectors of the economy does not have adequate formal education in the field of their employment.
- Consequently, one of the major factors constraining the development perspective of Armenia is human capital. Development of human capital is not only crucial from the perspective of developing a competitive, highly productive economy and welfare improvement, but also from the perspective of national security.
- Efficient formation of human capital and human development is the overarching task of socio-economic policies. It implies drafting and implementation of a number of policy programs and measures. Nevertheless, the most urgent issue is to restrain emigration to a certain extent for which simple and feasible measures exist. In particular as a preliminary measure a large-scale anti-migration advocacy campaign is necessary.

Section 1

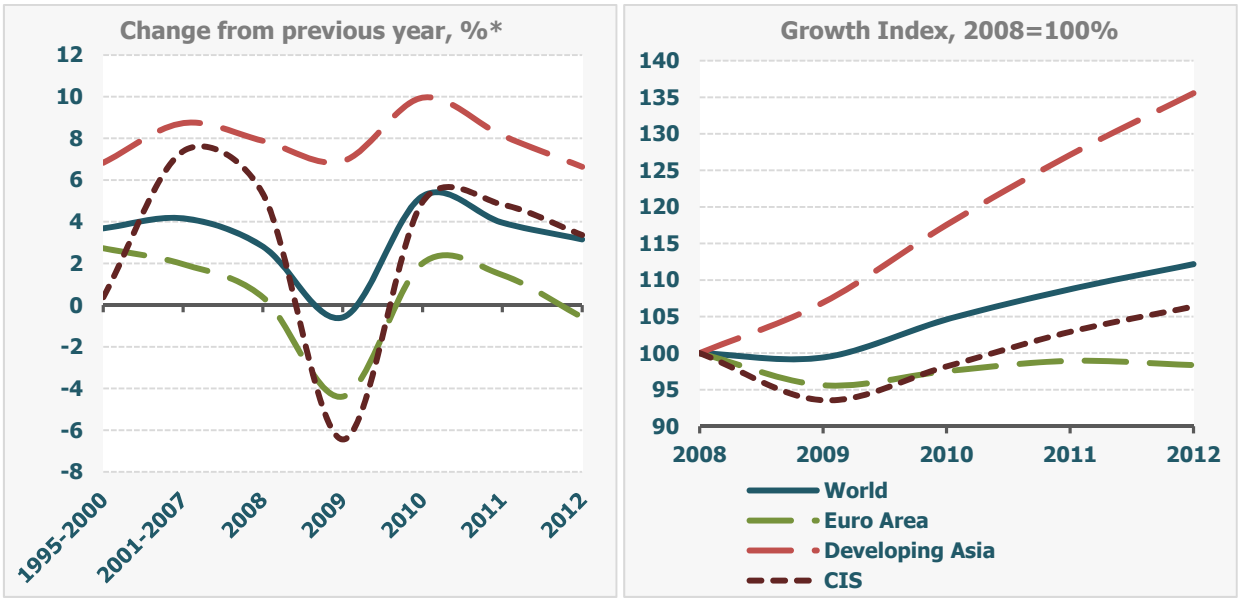
ECONOMIC DEVELOPMENT TRENDS

1.1. Global Economic Trends

The global economy continues to expand after 2009, however, at a slower pace. During 2010-2012, average annual growth rate reached 4%, against 3.2% growth in 2012. As a result, the global economy in 2012 exceeds its pre-crisis level by 12.2%.

Developing and emerging market economies grew by 5.1% and exceeded the 2008 level by almost a quarter. Again, the fastest growing economies were the Asian developing countries, of which the economy grew by 6.6% and contributed to about half (1.6 percentage points) of the global economic growth. Average growth in CIS countries reached 3.4%. The Russian economy grew by 3.4%, thus, slightly slowing down compared to 2010 and 2011.

Figure 1. Global economic growth in 1995-2012



*For 1995-2000 and 2001-2007, average annual growth indices are presented.

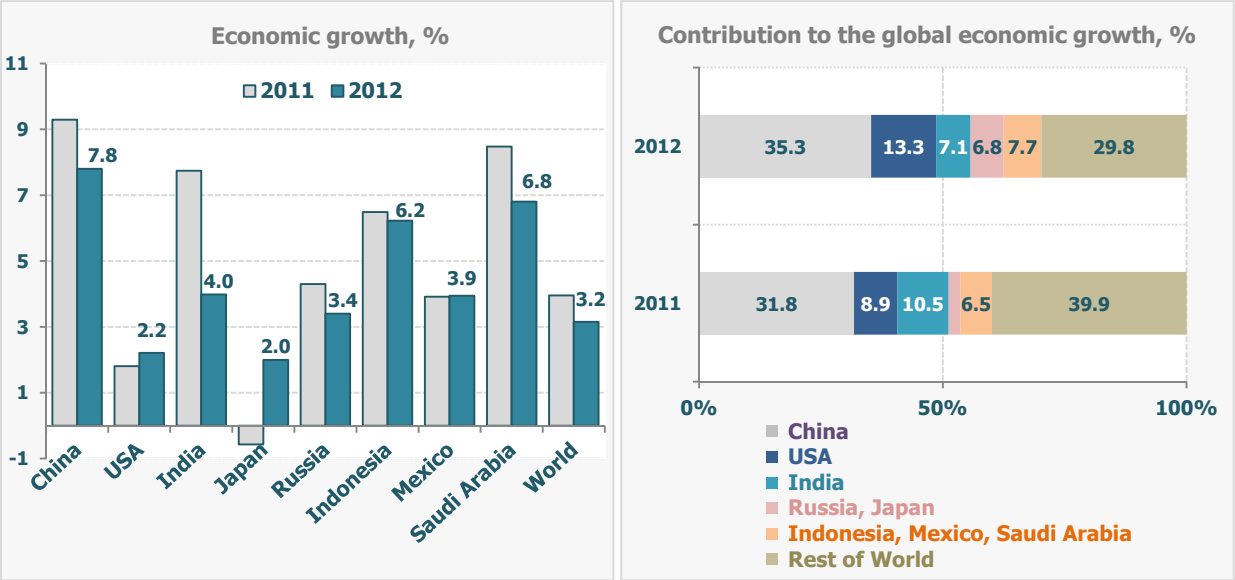
Source: WEO, IMF, April 2013 and EDRC calculations.

Growth in developed countries remains relatively small and continues to slow down. Growth rate in 2012 constituted 1.2%, as a result of which it exceeded the 2008 level by 2.3%. The growth was to a certain degree constrained by the Euro zone decline of 0.6%. European economy has not yet reached its pre-crisis output levels.

China, U.S and India had a much more significant contribution to the global economic growth as these countries altogether provided about half of the global growth (only China contributed by one third of the growth). The leading trio is followed by Russia and Japan. The Japanese economy, after the recent disaster and economic decline in 2011, grew by about 2%. Economic growth in the Euro zone is mostly restrained because of the economies of Italy, Spain and Greece. The Greek economy shrunk by more than 20% during the past five years.

In 2012, the average growth rate in the Southern Caucasus countries equaled 3.6%. The highest growth rate was recorded in Armenia – 7.2% and was followed by Georgia (6.5%) and Azerbaijan (2.2%). The growth rate of the Armenian economy was prominent not only in the region, but also globally, placing the country among the 25 countries with the highest economic growth rate (see Table 1).

Figure 2. Countries with highest contribution to the global economic growth



Source: WEO, IMF, April 2013 and EDRC calculations.

Table 1. List of Top 20 Countries with the Highest and Lowest Economic Growth Rates in 2012[1]

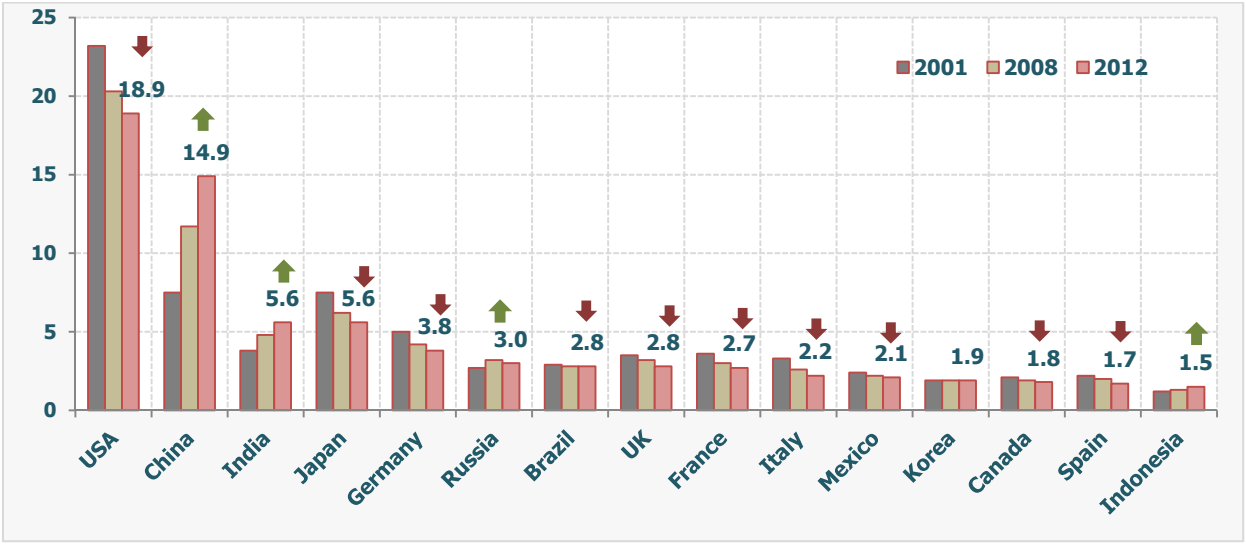
N	Countries with highest growth rates	Growth, %	Countries with highest decline	Growth, %
1	Libya	104.5	Southern Sudan	-53.0
2	Sierra Leone	19.8	Greece	-6.4
3	Mongolia	12.3	Sudan	-4.4
4	Niger	11.2	San Marino	-4.0
5	Turkmenistan	11.0	Portugal	-3.2
6	Panama	10.7	Cyprus	-2.4
7	Afghanistan	10.2	Italy	-2.4
8	East Timor	10.0	Slovenia	-2.3
9	Cote d'Ivoire	9.8	Croatia	-2.0
10	Bhutan	9.7	Iran	-1.9
11	Papua New Guinea	9.1	Serbia	-1.8
12	Iraq	8.4	Hungary	-1.7
13	Angola	8.4	Swaziland	-1.5
14	Liberia	8.3	Guinea Bissau	-1.5
15	Laos	8.3	Spain	-1.4
16	Burkina Faso	8.0	Czech Republic	-1.2
17	Uzbekistan	8.0	Paraguay	-1.2
18	China	7.8	Mali	-1.2
19	Rwanda	7.7	Kyrgyzstan	-0.9
20	Tajikistan	7.5	The Netherlands	-0.9
21	Mozambique	7.5	Saint Kitts and Nevis	-0.9
22	Zambia	7.3	Moldova	-0.8
23	**Armenia**	**7.2**	Grenada	-0.8
24	Democratic Republic of Congo	7.1	Bosnia Herzegovina	-0.7
25	Eritrea	7.0	Denmark	-0.6

Source: IMF, EDRC calculations.

70% of the global GDP is continued to be produced by 15 countries. The US economy is the largest despite the decline of its share in the global economy in 2012, however, US economy still provided for 19% of the global output. China is the second largest economy the share of which, reached 15% in 2012, due to fast growth rates. If such high growth rates continue, in one or two years China will most likely become the largest economy in the world in terms of output levels.

[1] Some data are estimates.

Figure 3. Shares of largest economies in the global GDP, %[2]

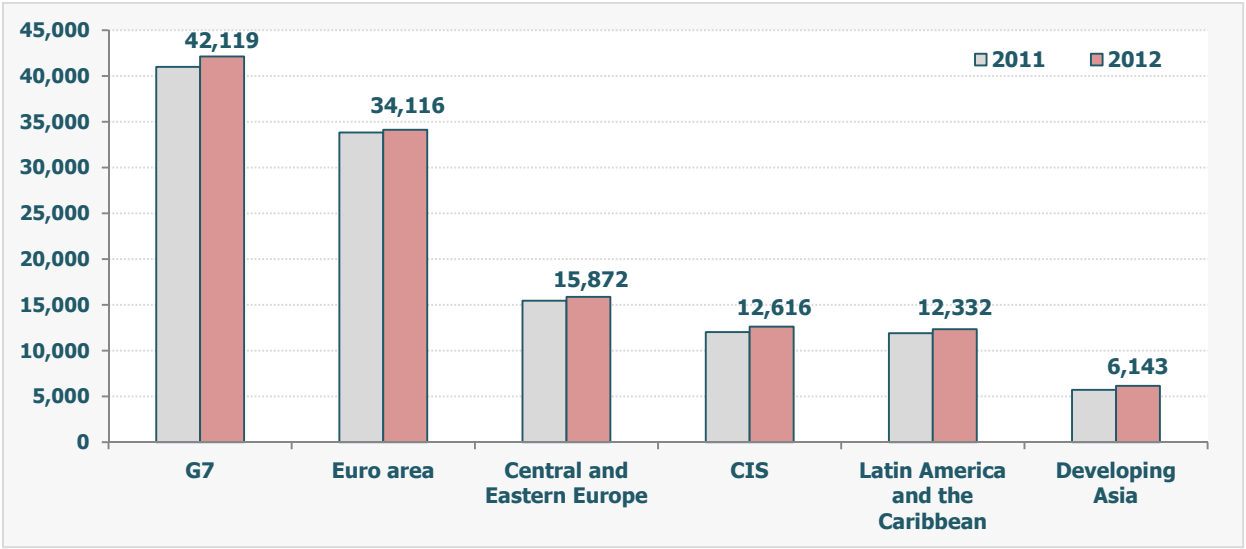


Source: IMF, EDRC calculations.

The role of the Indian economy in the global economy gradually grows in parallel to declining roles of Japanese and German economies. India was the third largest economy in 2012, while it was the 5th in 2001.

Growth in global output was accompanied with growth in global trade, however, at lower rates. International trade grew by 2.5% in 2012. Exports growth rates of developed countries is still higher than imports growth rates, while, the situation is directly the opposite in developing countries. Nevertheless, foreign trade of developing countries grows at much faster rates.

Figure 4. Per capita GDP for several groups of countries, international USD[3]



Source: IMF, EDRC calculations.

Per capita GDP in developed countries totaled USD 40.4 thousands (international USD) in 2012. Per capita GDP in G7 countries is above USD 42 thousands which is about 7 times higher than per capita GDP in Asian developing countries and 3 times the per capita GDP in CIS.

Prices for major metals fell in 2012. In particular, copper prices decreased by 9.8% as compared to 2011, while the prices for iron ore/fusion – by 23%. Prices for gold continued growing, however, at lower rates – by 6.4%. It took place in parallel to the decline in prices for platinum and silver.

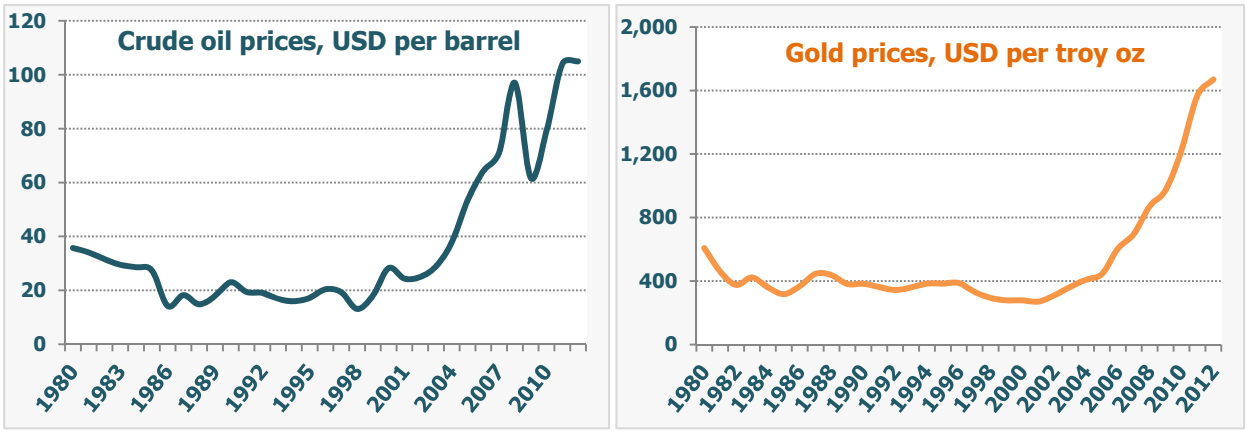
[2] Adjusted with Purchasing Power Parity (PPP). Some data are estimates.
[3] PPP-adjusted.

Table 2. International prices for selected major metals, fuel and wheat, annual average growth rates, %

	2008	2009	2010	2011	2012	2012/2001	2012/2008
Copper	-2.4	-25.8	45.9	17.0	-9.8	403.7	14.3
Aluminum	-2.3	-35.3	30.2	10.5	-15.7	39.8	-21.5
Iron ore	68.1	29.9	83.4	14.4	-23.4	889.4	108.8
Gold	25.1	11.6	25.9	28.1	6.4	516.1	91.5
Platinum	20.7	-23.6	33.8	6.8	-9.8	192.9	-1.5
Silver	12.0	-2.4	37.6	74.8	-11.6	611.5	107.6
Crude oil	36.4	-36.3	27.9	31.6	1.0	331.6	8.2
Russian gas (in Germany)	61.3	-32.6	-7.1	28.9	13.1	209.3	-8.8
Wheat	27.7	-31.5	0.1	41.4	-0.9	147.0	-3.9

Source: WB, EDRC calculations.

Figure 5. Oil and gold prices in international markets, 1980-2012

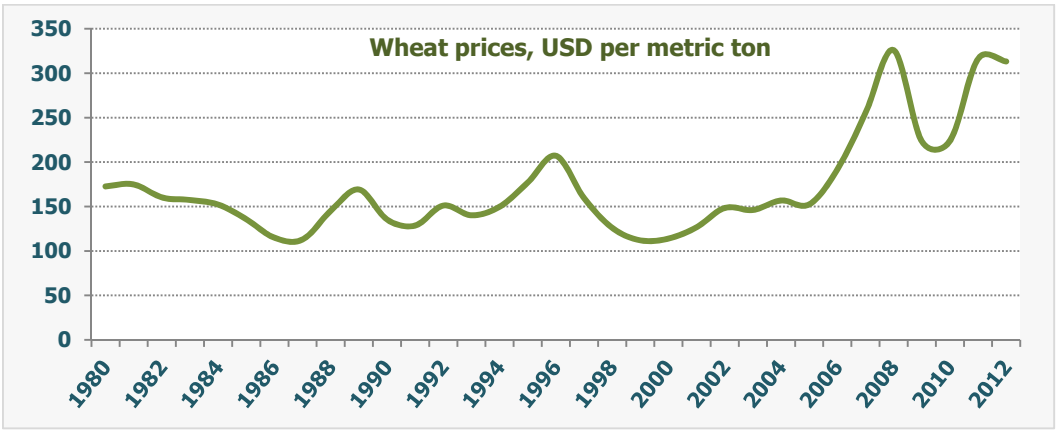


Source: WB, EDRC calculations.

After the sharp increase in 2010-2011, oil prices grew only by 1% in 2012. Meanwhile, prices for natural gas grew by 13%. Consequently, oil and gold prices in 2012 are at their peak of the last 3 decades (see Figure 5).

International wheat prices in 2012 on the other hand fell by 0.9% and stayed relatively stable after the 41.4% increase in 2011. The wheat price levels exceeded the prices recorded in 2008 by 3.9%, at the same time these were 1.5 times higher than the price levels in 2001 (see Figure 6).

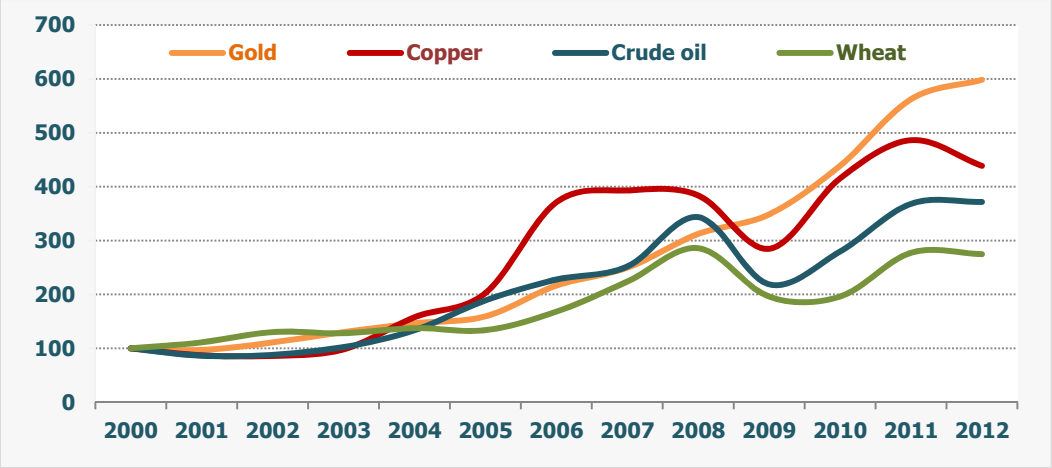
Figure 6. Annual average wheat price in international markets, 1980-2012



Source: WB, EDRC calculations.

High growth trend in major commodity prices during the past decade was especially pronounced for gold. As compared to 2000, increase in gold prices exceeds increases in prices for copper, oil and wheat (see Figure 7).

Figure 7. Price indices for major commodities compared to 2000, %

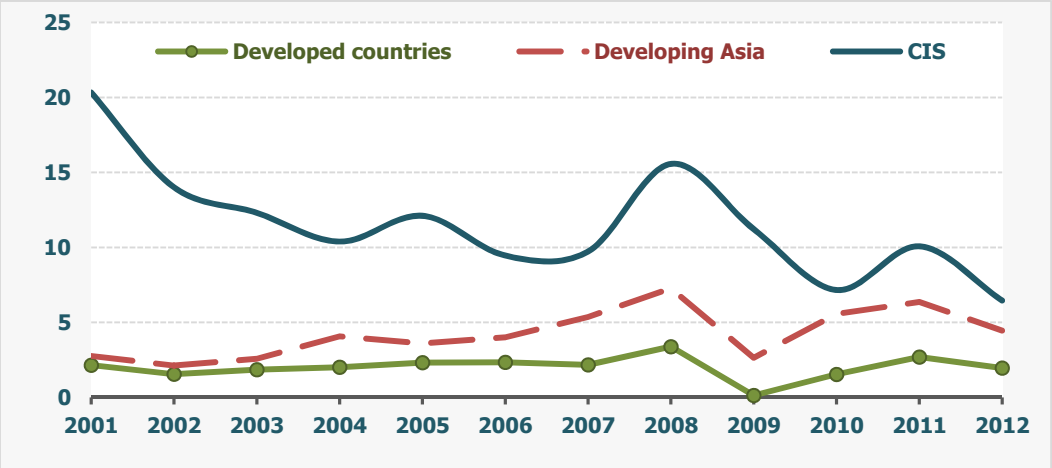


Source: WB, EDRC calculations.

After the 4.9% increase in 2011, consumer prices increased by 3.9% in 2012. Drop of inflation rate is especially significant in CIS countries as after the double-digit rates in 2011, prices increased by 6.5% in 2012. Nonetheless, the inflation situation remains tense. Since 2001, prices in CIS countries on average grew by 12%, as a consequence 2012 prices by almost 3 times exceeded the price level of 2001.

Inflation was more modest in developed countries including the Euro zone where annual inflation rates fluctuate around 2% (see Figure 8).

Figure 8. Consumer price inflation in several groups of countries, 2001-2012, % change from previous year



Source: IMF, EDRC calculations.

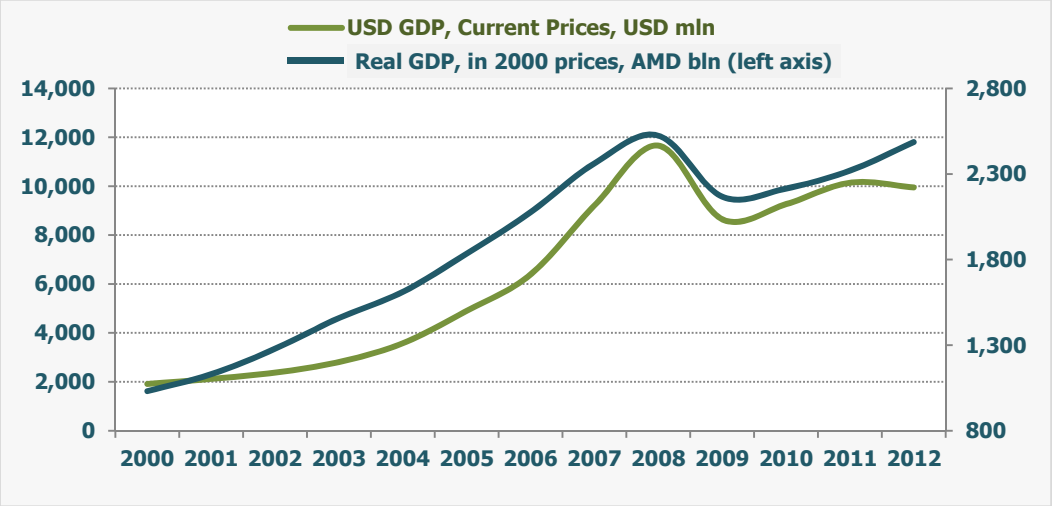
1.2. Armenia Economic Trends

Economic Growth and GDP

Real GDP in 2012 grew by 7.2% showing a relatively high growth rate as compared to 4.7% in 2011. As a result, real GDP, which continuously grew since the recent crisis, has almost reached the pre-crisis peak of 2008. With comparable prices, 2012 GDP is only 1.5% lower than the 2008 GDP meanwhile it exceeds the 2007 level by 5.3%.

On the other hand, GDP in dollar terms (PPP-adjusted) slightly decreased during 2012 (by 1.9%) and remains significantly below the 2008 level – by 14.7%. Nonetheless, it exceeds the 2007 level by 8.1%.

Figure 9. GDP, in real terms and in USD, 2000-2012



Source: NSS of RA, EDRC calculations.

After the decline in 2009, average annual economic growth rates in 2010-2012 equaled 4.7%, resulting in cumulative growth of 14.7%. The growth mainly took place due to growth in trade and services sectors. The GDP grew by 5.9% on average during the last 3 years, resulting in a cumulative growth of 18.8% and providing for 2.2 percentage points of average GDP growth rate of 4.7% (see Table 3).

Table 3. Growth indices in aggregate sectors of the economy, 2009-2012, %

	2009	2010	2011	2012	2010-2012			2012/2008**
					Average	Cumulative	Contribution*	
GDP	**-14.1**	**2.2**	**4.7**	**7.2**	**4.7**	**14.7**	**4.7**	**98.5**
Agriculture	6.0	-16.0	14.0	9.5	1.6	4.9	0.3	111.2
Industry	-8.0	8.7	13.3	5.3	9.0	29.6	1.5	119.3
Construction	-41.6	3.3	-12.2	3.3	-2.1	-6.3	-0.3	54.8
Trade and services	-4.5	5.8	4.3	7.6	5.9	18.8	2.2	113.5
Net taxes and FISIM	-24.0	15.6	3.6	10.4	9.8	32.3	0.9	100.5

*Contribution to economic growth, percentage points, ** 2012 GDP compared to 2008 GDP in comparable prices

Source: EDRC calculations based on NSS of RA data.

Large industrial sub-sectors altogether (including energy sector, water supply and mining) grew by about 30% during the last 3 years, thus, contributing by 1.5 percentage points to the average annual economic growth. The contribution of agriculture is small due to a large decline in 2010 (by 16%). Contribution of construction sector is again negative due to a sharp decline in 2011 by 12.2%. Except for construction, output levels in all major sectors of the economy exceed their 2008 levels. Construction sector at comparable prices is 54.8% of its 2008 output level. Overall, developments in construction sector, as well as vulnerability of agriculture, make the economic recovery process very unstable.

Agriculture had a significant contribution to growth in 2012 by delivering 1.9 percentage points of the 7.2% growth rate. The second largest contributing sectors were financial and insurance services (0.9 percentage points) which have grown at quite high rates since the crisis. This sector was followed by trade (0.7 percentage points) which grew slowly but steadily and the transport and communications sector which grew by 0.6 percentage points.

Table 4. Economic growth in main sectors, 2009-2012, %

	2009	2010	2011	2012	2012	2012/2008	2008	2012
	Growth rate				Contribution*	Index**	Share in GDP	
GDP	**-14.1**	**2.2**	**4.7**	**7.2**	**7.2**	**98.5**	**100.0**	**100.0**
Agriculture	6.0	-16.0	14.0	9.5	1.9	111.2	16.3	19.1
Manufacturing	-7.1	12.1	12.4	3.1	0.3	120.7	8.8	9.9
Mining	6.3	22.8	13.9	16.7	0.5	173.5	1.6	2.9
Power and water supply	-13.3	-6.3	16.8	10.6	0.4	104.9	2.9	4.3
Construction	-41.6	3.3	-12.2	3.3	0.4	54.8	25.3	12.2
Trade	-4.8	2.9	4.8	5.2	0.7	108.0	11.6	12.9
Transport and communications	-9.9	7.0	2.4	9.0	0.6	107.6	6.8	6.7
Financial services	-1.6	10.6	23.5	23.0	0.9	165.4	3.4	4.5
Public governance	-5.9	-0.7	7.6	-1.9	-0.1	98.6	2.7	3.8
Healthcare and social services	-4.0	-1.4	6.6	1.2	0.0	102.1	2.7	3.8
Education	2.2	4.6	3.4	-0.5	-0.0	110.0	2.7	3.0
Hotels and catering	23.5	19.6	5.3	31.4	0.2	204.3	0.4	0.9
Other sectors (including taxes and FISIM)	-15.5	13.3	0.5	8.1	1.2	103.9	14.8	15.8

*Contribution to economic growth, percentage points, ** 2012 GDP compared to 2008 GDP in comparable prices

Source: EDRC calculations based on NSS of RA data.

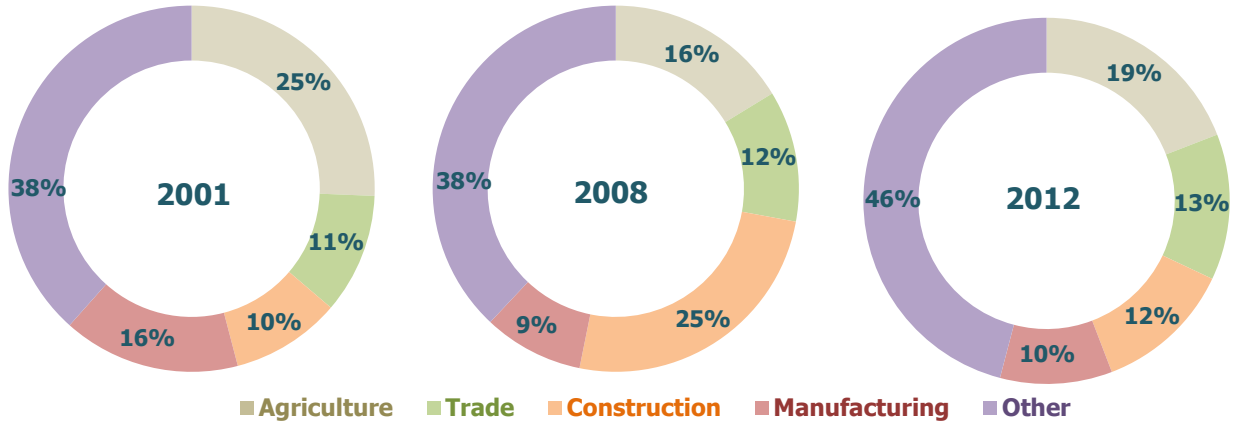
The hotel and catering sector is prominent for the high growth rates. The outputs of this sector in 2012 twice exceeded the level of 2008. Nevertheless, this sector is relatively small, constituting only 0.9% of the GDP. Continuous high growth rate is recorded in mining – 16.7%, due to which the output of this sector in 2012 exceeds the 2008 level by about 20%. It is worth noting that this sector ensures a large portion of Armenian exports, however, it is very small in terms of creation of added value, being less than the healthcare or education sectors (2.9% of GDP).

In 2012 a decline was recorded in the public governance and education sectors (see Table 4). This was also the case with regard to professional, scientific and technical activities.

Post-crisis developments in the economy, namely, the sharp decline in construction (which was the largest sector of the economy before the crisis) resulted in large shifts in the structure of the Armenian economy.

In 2001, agriculture was the largest sector of the economy providing about a quarter of the country's GDP. Drastic growth of construction in subsequent years resulted in construction taking a 25% share in the GDP in 2008. Meanwhile, its share dropped to 12.2% in 2012, which is less than the shares of agriculture and trade sectors. Yet, construction still exceeds the share of manufacturing which is 10% of GDP.

Figure 10. GDP structure per major sectors in 2001, 2008 and 2012, %



Source: EDRC estimates based on data from NSS of RA.

Shifts in the structure of the Armenian economy are significant. The effects of the construction boom during 2002-2007 gradually disappear. Specific small sectors grow fast, however without a large impact. Agriculture and manufacturing in 2012 have a much smaller role than they had in 2001. Services gain new importance (see Figure 10).

Table 5. GDP structure and growth rate, expenditure components, %

	2008	2010	2012	2009	2010	2011	2012	2012
	Nominal GDP breakdown, %			Real growth, %				Contribution to growth, percentage points
GDP	**100.0**	**100.0**	**100.0**	**-14.1**	**2.2**	**4.7**	**7.2**	**7.2**
Private consumption	71.6	82.0	88.8	-4.4	3.8	2.7	10.0	8.3
Public consumption	10.2	13.1	13.0	-1.2	3.9	7.7	-5.2	-0.7
Gross capital formation	40.9	32.9	23.9	-30.9	0.5	-4.7	-7.7	-2.1
Net exports (G/S)	-25.6	-24.5	-24.3	-24.3	5.1	-17.0	-17.3	4.1

Source: NSS of RA, EDRC calculations.

In 2012, expenditures for final consumption exceeded the gross income generated in the domestic economy by 1.8%. Private consumption totaled to 88.8%, while public consumption – to 13.0% of the GDP. Private consumption grew by 10%, thus, contributing to 8.3 percentage points of real GDP growth. Instead, public consumption fell by 5.3%. Real investments in the economy continued falling by 4.7% in 2011 and 7.7% - in 2012.

Expenditure breakdown of GDP, in particular, decline of state intervention as well as fast drop of gross capital formation do not contribute to the sustainability of the economic growth. On the other hand, external balance is improving as the negative balance of net exports improved by 17% in 2011 and 2012 (Table 5).

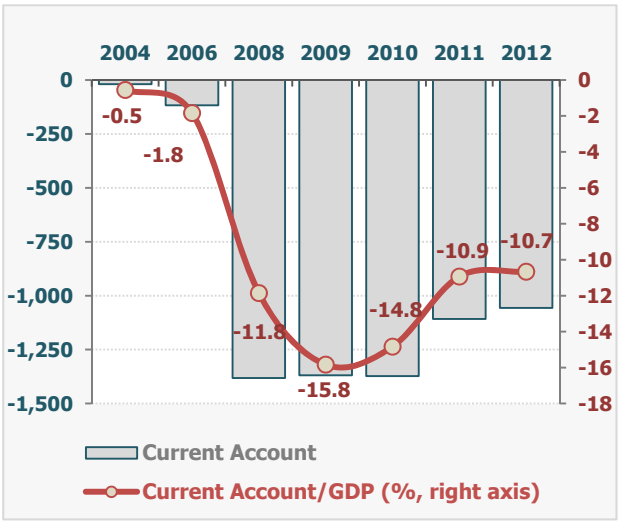
External Balance

It is interesting, that Armenian exports in post-crisis period grew at fast rates, exceeding the growth rates of imports. The exports/imports ratio decreased considerably. If imports in 2008 exceeded exports 4 times currently these exceed exports by 2.3 times (see Figure 11).

Nevertheless, growth rates of both exports and imports decline (see Figure 11). Exports (FOB) in 2012 grew by 5.5% against 32.8% in 2011, while imports – by 2.2% against 14.1% in 2011. Consequently, total foreign trade increased by only 3.1% (against 19.1% in 2011).

Figure 11. Exports and imports growth rates, 2004-2012, %

Figure 12. Current account balance, 2004-2012, USD mln



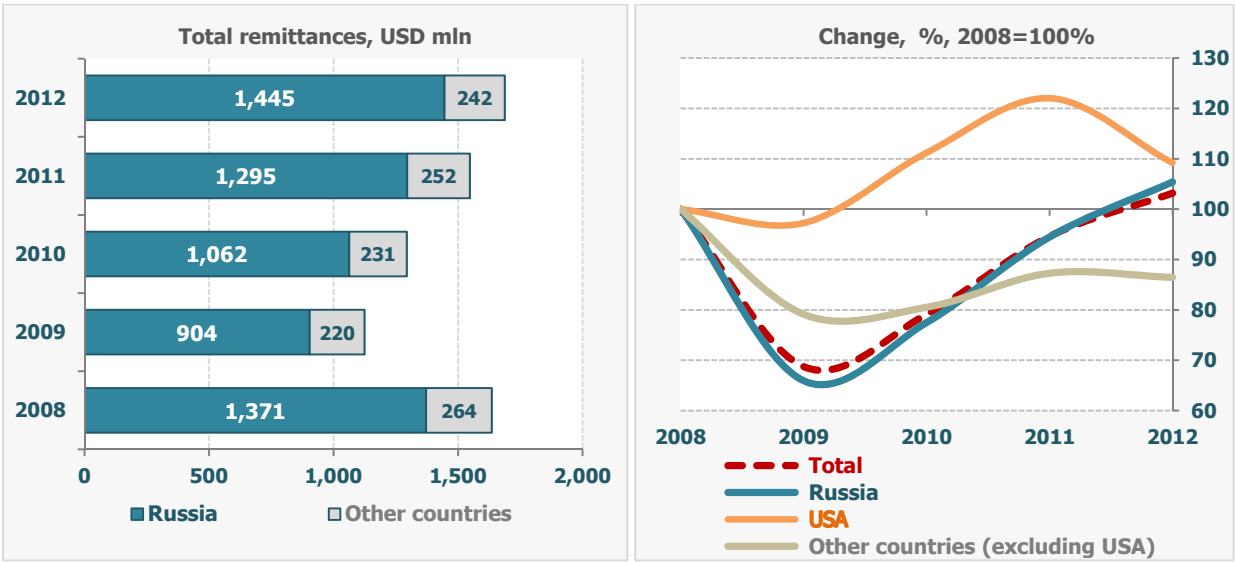
Source: NSS of RA and EDRC calculations.

Import/export differences win Armenia especially worsened in 2006-2009, when imports grew on average by 16% every year. As a result, current account balance significantly deteriorated and current account deficit reached 16% of the GDP in 2009, 11.8% in 2008, against 0.5% in 2004.

During post-crisis recovery period, current account deficit improved due to fast growth rates of exports and reached 10.7% of the GDP in 2012. Current account improvement is also determined by increased money transfers from abroad. In particular, inflow of non-trade remittances in 2012 totaled to about USD 1.7 mln, which is higher than the 2011 level by 9.1% (USD 140.3 mln) and 3.2% higher than the 2008 level.

In 2012 remittances mainly exceeded the pre-crisis levels due to increased remittances from Russia. Volumes of remittances from Russia grow every year, reaching 85% of total remittances to Armenia. In 2012, remittances from Russia grew by 11.6%, while those from the US and other countries – fell. In particular, remittances from the US decreased by more than 10%.

Figure 13. Non-trade remittances to Armenia, in 2008-2012



Source: NSS of RA, EDRC calculations.

Savings and Budget Deficit

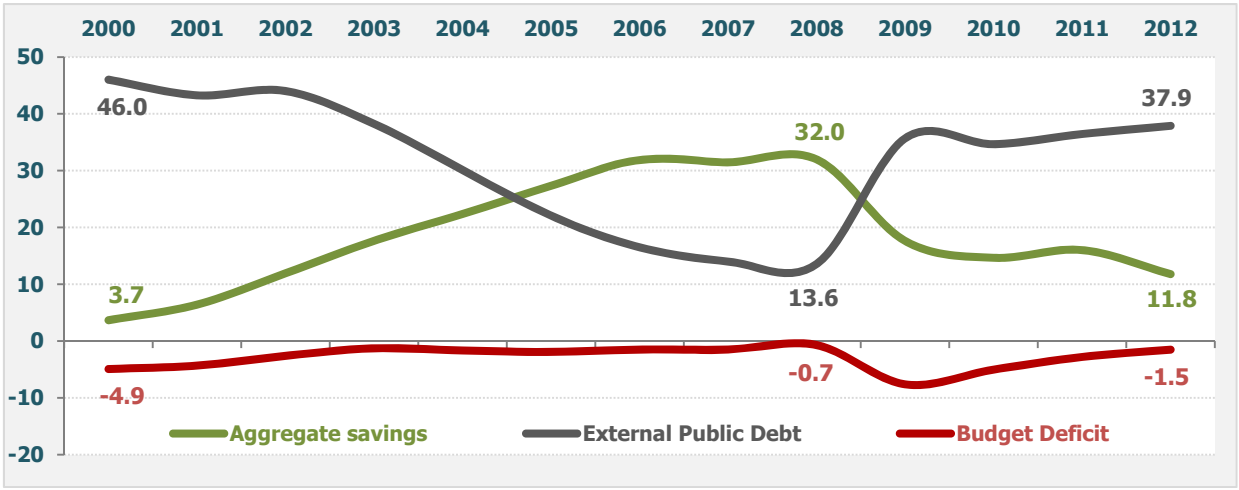
Faster growth rates of consumption over disposable income growth rates result in decrease in aggregate savings. Aggregate savings again fell in 2012 – by 11.8%, compared to 16% decrease in 2011 and 32% - in 2008 (see Figure 14).

Government budget deficit fell by 43.3% and decreased considerably compared to the previous year. Consequently, Budget deficit-to-GDP ratio equaled 1.5% against 2.8% in 2011.

Budget revenues grew by 7.4%, specifically tax revenues grew by 15% (AMD 94 bln) reaching more than 18% of the GDP. At the same time, official transfers (grants) decreased considerably – about 3 times, which constrained the growth of total budget revenues to 4.6 percentage points. As a consequence, budget revenues grew by about 20% which was mostly contributed to by the increase of the same scale of tax revenues.

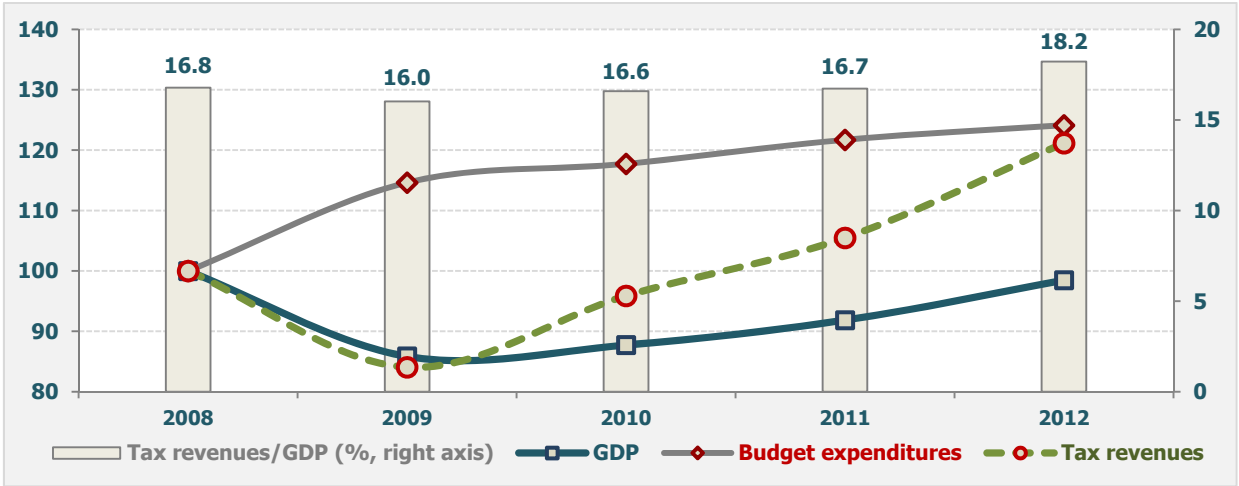
On the expenditure side of the budget, modest increase of 2% was recorded in 2012 compared to 2011. In other words, real growth in expenditures (after neutralizing inflation impact) was negative. About 48% of budget expenditures targeted social sectors, 16.6% general public administration services and 16.1% was targeted at defense. More than half of allocations to the social sector namely 65% were directed to social protection, 22% to education and 13% to healthcare.

Figure 14. Aggregate savings, external public debt and budget deficit in 2000-2012, % of GDP



Source: NSS of RA and AER (2012) calculations.

Figure 15. Main Fiscal indicators and GDP growth dynamics in 2008-2012, 2008=100%



Source: NSS of RA, EDRC calculations.

External Debt

External public debt of Armenia reached USD 3,738 mln or AMD 1,500 bln in 2012, which exceeded the stock of public external debt at the end of 2011 by 4.8%. Overwhelming majority (84% of the total stock or USD 3,143 mln) of the total external public debt stock constituted the stock of external liabilities of the Government of Armenia, while the remaining 16% are the outstanding liabilities on borrowings of the Central bank. The outstanding stock of external debt of the Government of Armenia grew by 6.6% in 2012, while the CBA debt decreased by 3.7%, which slightly restrained the increase in total debt stock.

External debt as the share of GDP grew by 1.5 percentage points during 2012, reaching 37.9%. As a consequence, Armenia is far from the level of 2008, which equaled 13.6% of the GDP.

The largest creditor of Armenia is the World Bank: liabilities to the World Bank group constituted 40% of the total external public debt of the country. Stock of liabilities to the IMS constituted 21% of the total stock. Among multilateral donors, the Asian Development bank (ADB) is also an important creditor. Armenia started borrowing from the ADB since the financial crisis in 2009. Currently the stock of Armenian debt to ADB constitutes 4 -5% of the total debt.

Among bilateral creditors, the main donors are Russia and Japan, liabilities towards which constitute 13.4% and 9.5% of the total debt stock respectively. Over years, the outstanding stock of loans from the US gradually decreased; meanwhile, Armenia started borrowing from Austria (around USD 8.7 mln or 0.2% of total stock).

Table 6. External public debt of Armenia, breakdown per donors, 2008-2012

	2008		2011		2012		
	USD mln	Share, %	USD mln	Share, %	USD mln	Share, %	Change, %
TOTAL EXTERNAL DEBT STOCK	1,577.1	100.0	3,568.2	100.0	3,737.8	100.0	4.8
Multilateral creditors	1,234.7	78.3	2,475.4	69.4	2,638.8	70.6	6.6
WB	1,019.1	64.6	1,336.9	37.5	1,470.2	39.3	10.0
EBRD	-	-	13.7	0.4	14.3	0.4	4.5
IFAD	57.8	3.7	66.3	1.9	67.3	1.8	1.4
EU	-	-	33.6	0.9	85.7	2.3	155.0
IMF	134.8	8.5	827.5	23.2	776.1	20.8	-6.2
OPEC	15.0	1.0	28.3	0.8	30.7	0.8	8.3
ADB	8.1	0.5	165.3	4.6	187.9	5.0	13.7
EIB	-	-	3.9	0.1	6.6	0.2	70.0
Bilateral creditors	342.4	21.7	1,092.8	30.6	1,099.1	29.4	0.6
Russian Federation	-	-	500.0	14.0	500.0	13.4	0.0
Germany	125.3	7.9	155.0	4.3	193.1	5.2	24.6
France	5.0	0.3	4.1	0.1	4.0	0.1	-1.8
USA	37.2	2.4	31.1	0.9	29.3	0.8	-6.1
Japan	174.9	11.1	397.2	11.1	355.9	9.5	-10.4
Abu-Dhabi Foundation	-	-	3.1	0.1	3.9	0.1	26.7
SBC bank	-	-	2.2	0.1	4.2	0.1	87.8
Austria (Reiffeizen bank)	-	-	-	-	8.7	0.2	-

Source: NSS of RA, EDRC calculations.

Exchange rates and consumer prices

In the recent years the tendency of depreciation of the AMD against the main foreign currencies continued. Nevertheless, the AMD exchange rate is still quite appreciated in comparison to the first half of 2000s', which restrains export and reduces the incomes from the external remittances (see Table 7).

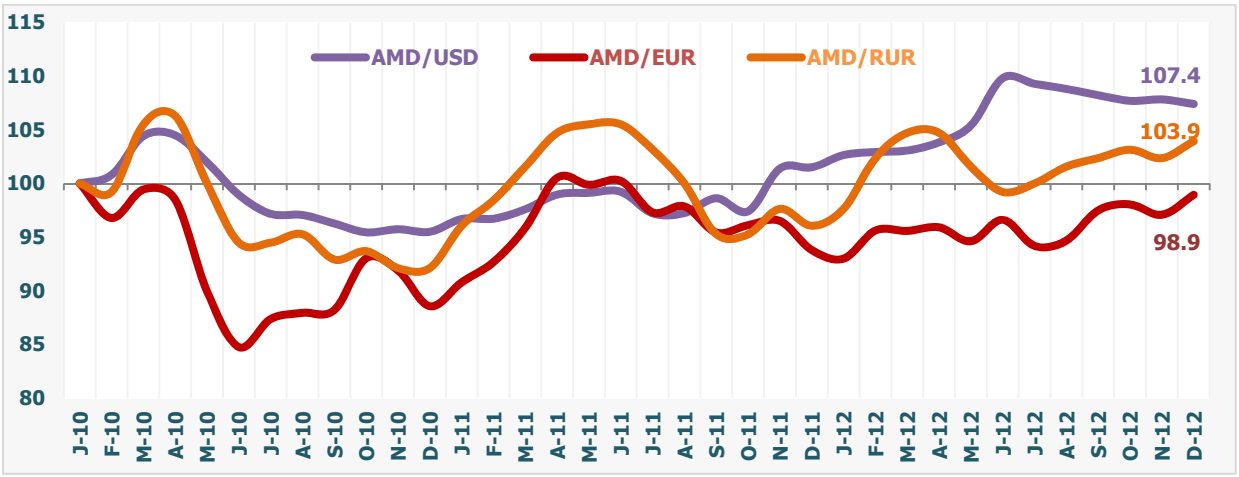
In 2012 the average exchange rate of AMD against USD was 401.8, against EUR- 516.4 and against RUB – 12.9. The average annual depreciation rate against USD was equal to 7.9%, against RUB-1.6% and as for EUR-the exchange rate was appreciated.

Table 7. Annual average and End of Period exchange rates, AMD

	1995	2000	2005	2008	2009	2010	2011	2012	2012 / 2011
US Dollar									
Average	405.9	539.5	457.7	306.0	363.3	373.7	372.5	401.8	7.9
End of period	402.0	552.2	450.2	306.7	377.9	363.4	385.8	392.2	1.7
Euro									
Average	-	498.5	570.4	450.2	507.4	496.0	518.7	516.4	-0.4
End of period	-	513.8	532.4	435.0	542.2	481.2	498.7	518.6	4.0
Russian Ruble									
Average	86.1	19.1	16.2	12.4	11.1	12.3	12.7	12.9	1.6
End of period	84.0	19.6	15.6	10.5	12.5	11.9	12	13.3	10.8

Source: NSS of RA, EDRC calculations.

Figure 16. Exchange rate dynamics in 2010-2012, Jan 2010=100%



Source: NSS of RA, EDRC calculations.

Inflation tensions in consumer markets which had emerged after the crisis weakened in 2012. CPI in 2012 grew by 2.6% from the previous year against 7.7% growth in 2011. Lower inflation rate was determined by a modest inflation in food prices of 2%. As compared to the beginning of the year, overall price level at end-2012 grew by 3.2% (see Table 8).

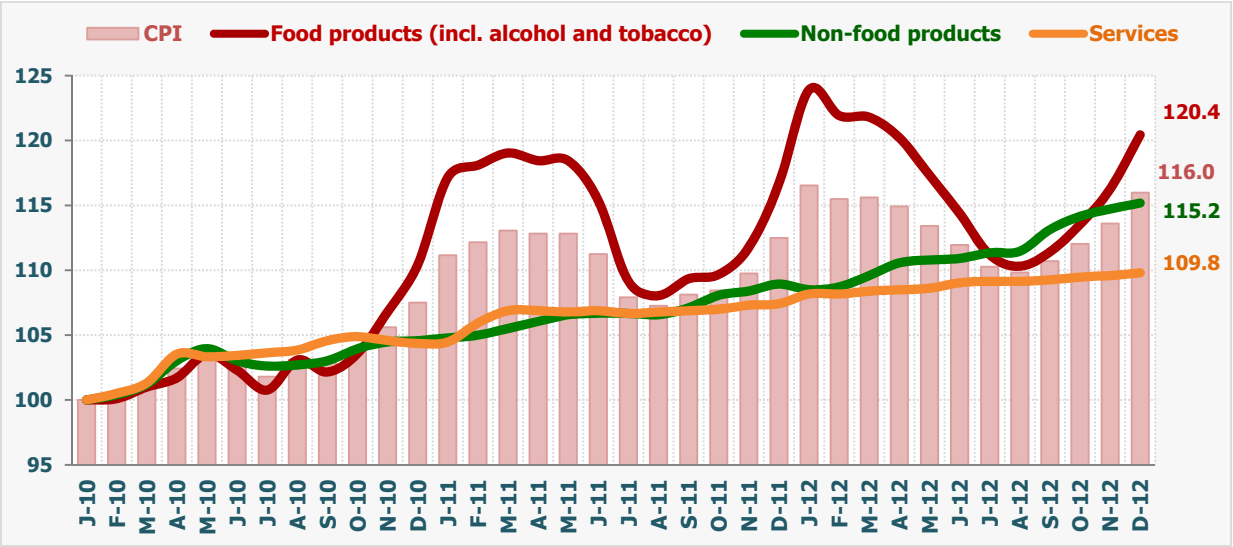
Table 8. Consumer price trends in 2008-2012, %

	2008	2009	2010	2011	2012
Consumer price index (year-average)	9.0	3.4	8.2	7.7	2.6
Food products	11.1	-0.9	9.4	12.3	2.0
Alcoholic beverages and tobacco	0.0	1.4	1.5	1.1	5.1
Non-food products	5.1	4.7	9.6	3.4	4.6
Services	9.0	10.4	6.8	3.6	2.1
Consumer price index (end-of-year)	5.2	6.5	9.4	4.7	3.2
Food products	3.6	2.3	15.2	6.1	3.0
Alcoholic beverages and tobacco	0.3	1.5	1.7	2.0	4.4
Non-food products	0.2	14.6	4.6	4.3	5.7
Services	11.4	10.3	4.2	2.9	2.1

Source: NSS of RA, EDRC calculations.

Monthly trends of consumer prices and prices for services showed that food prices continue to demonstrate seasonal patterns, while non-food and service prices had a stable growing trend. After the crisis, food prices in Armenia increased by 20.1% (December 2012 compared to January 2010), while non-food prices grew by 15.2% and tariffs for services – by 9.8%.

Figure 17. Consumer prices in 2010-2012, Jan 2010=100%



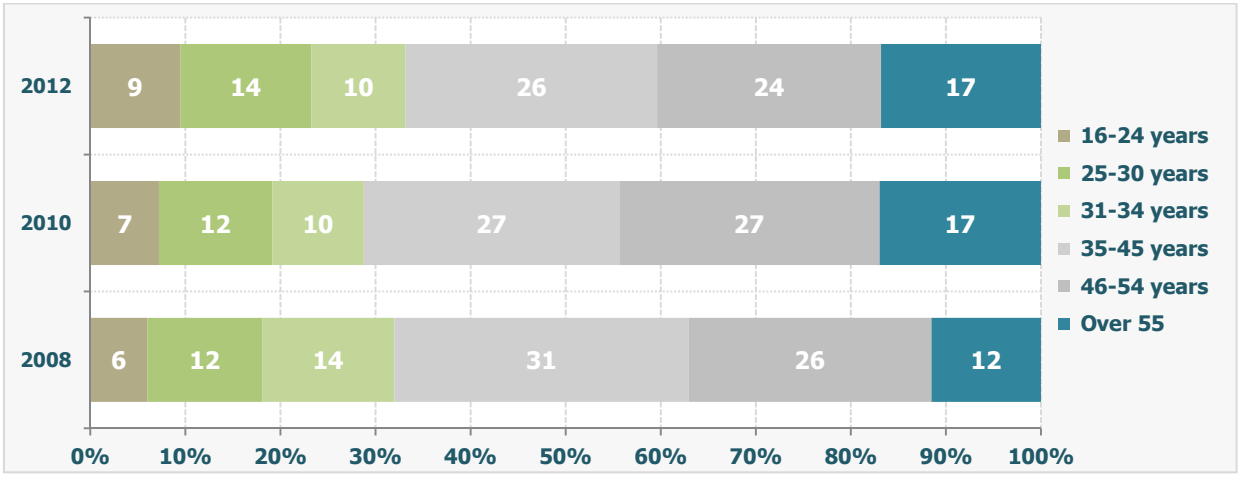
Source: NSS of RA, EDRC calculations.

Employment and average salaries

Unemployment level in Armenia (according to ILCS study of NSS of RA) in 2012 reached 17.3%, and so decreased by 1.1 percentage points in comparison to the previous year. The official unemployment level also decreased by 0.5 percentage points.

Majority of unemployed are women 70-75%. In terms of education, about half of the unemployed or 45% have secondary education, followed by those with secondary professional and higher education which counted for 22.8% and 16.3% respectively.

Figure 18. Age structure of unemployment in 2008, 2010 and 2012



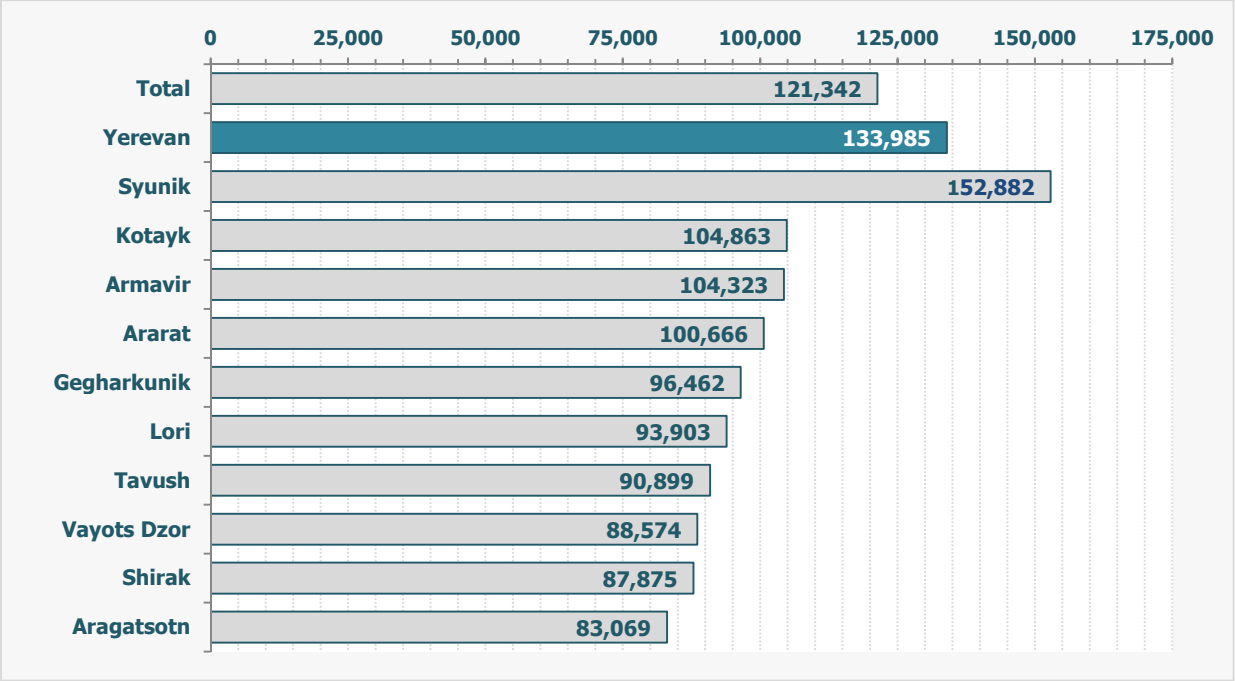
Source: NSS of RA, EDRC calculations.

Age breakdown of the unemployed changed during the past several years. In particular, the number of unemployed in the age group of 16-40, as well as over 55 slightly increased during the last 5 years. Meanwhile, unemployment in other age groups (31-54 years) has decreased. Nonetheless, unemployment continues to remain high among the age group of 35-54 years as this age group constituted about 50% of the unemployment in 2012. Unemployment is lower in the 16-24 and 31-34 age groups of as each of these groups constituted about one tenth of the total (see Figure 18).

Average monthly salaries in 2012 totaled to AMD 121,342, and therefore increased by about 5% from the previous year. As was the case before, salaries in Syuniq Marz are higher (AMD 152,882) than the country average meanwhile average salaries in Aragatsotn Marz only equaled to AMD 83,069.

Salary levels also vary considerably across various sectors of the economy. In particular, the highest average salaries namely AMD 320 thousands were paid in finance and insurance sectors. Salaries are also relatively high in communications and IT, as well as mining industries, equaling AMD 260-270 thousands. Meanwhile, salaries are considerably low in healthcare, education, agriculture, as well as hospitality and catering sectors (AMD 80-90 thousands). The lowest salaries in Armenia are paid in culture and leisure sectors: average salaries in these sectors are below AMD 68 thousands. Moreover, average salaries in the private sector continue to remain about 1.5 times higher than the salaries in public sector which equaled AMD 148,909.

Figure 19. Average monthly nominal salaries per Marzes, 2012, AMD



Source: NSS of RA, EDRC calculations.

1.3. Industrial Output

Industrial output of Armenia in 2012 totaled to AMD 1,100 bln which exceeded the comparable industrial output indicator for the previous year by 8.8%. Such growth (about 45%) was determined by the 5.9% expansion of the manufacturing industry. At the same time, mining grew by 14.7%, energy sector by 11.4% and water supply by 35.6%.

Consequently, industrial output has increased by about a quarter compared to 2008 and by about half compared to 2001. The growth rate was prominent in mining, which grew about 3 times larger during 2001-2012. As a result, contribution of this industry to the overall industrial output increased, reaching 17% in 2012 against 7% in 2001.

Figure 20. Change in real industrial output in 2001-2012, 2001=100%

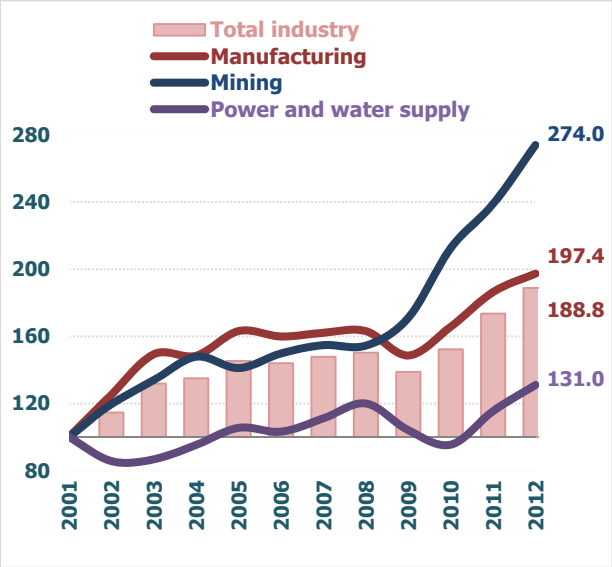
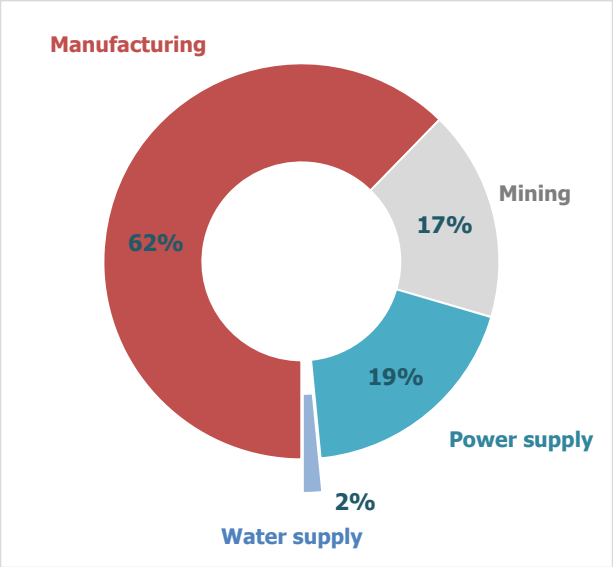


Figure 21. Structure of industrial output per main industries in 2012, %



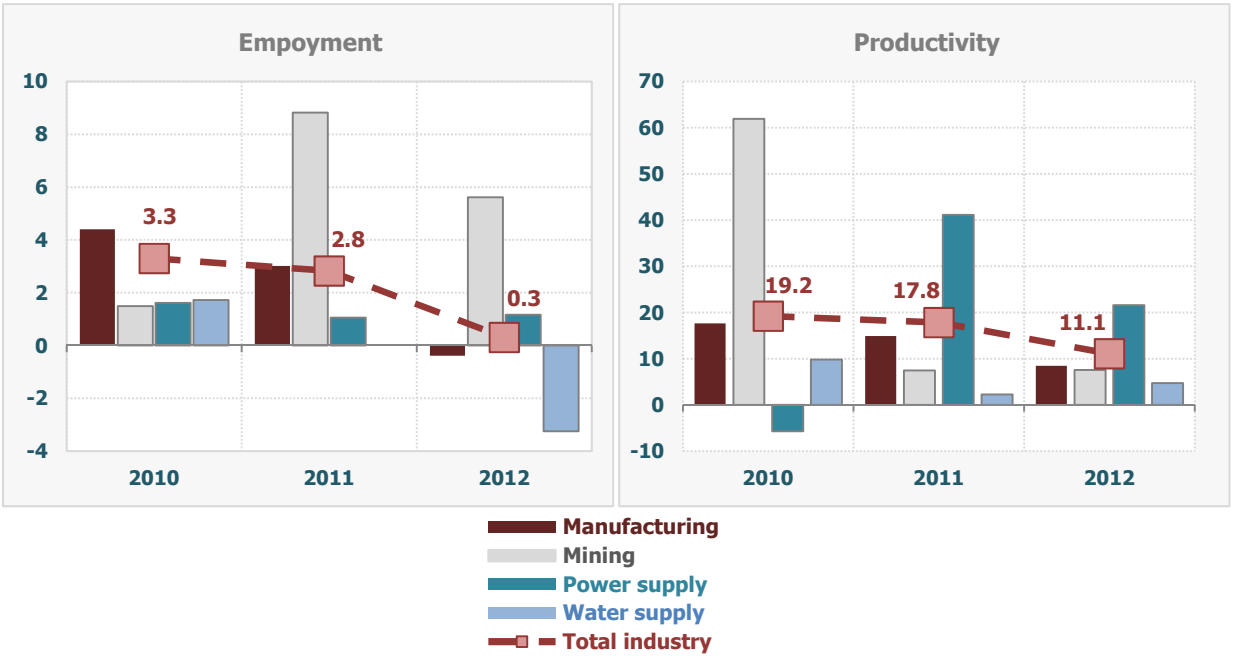
Source: NSS of RA, EDRC calculations.

Positive shifts are visible also in employment and labor productivity indices. Notably, employment did not increase in all industries, yet productivity grew everywhere. Nevertheless, growth rate slowed down in both indicators, as a result of which industrial output in 2012 grew by only 0.3%, involving 83.4 thousand people while labor productivity grew by about 11% (see Figure 22).

Manufacturing provides more than 60% of total industrial output, while its added value constitutes about 10% of the country's GDP.

About 60% of manufacturing are produced by 10 sub-industries, with bread-making being the leader (11.2%). Brandy production, as well as production of cast iron, steel and iron production are also among the top three industries with 9.7% and 7.2% respectively. Copper, flour and dairy production are also quite significant in Armenia: altogether, those three produce 18% of total manufacturing output.

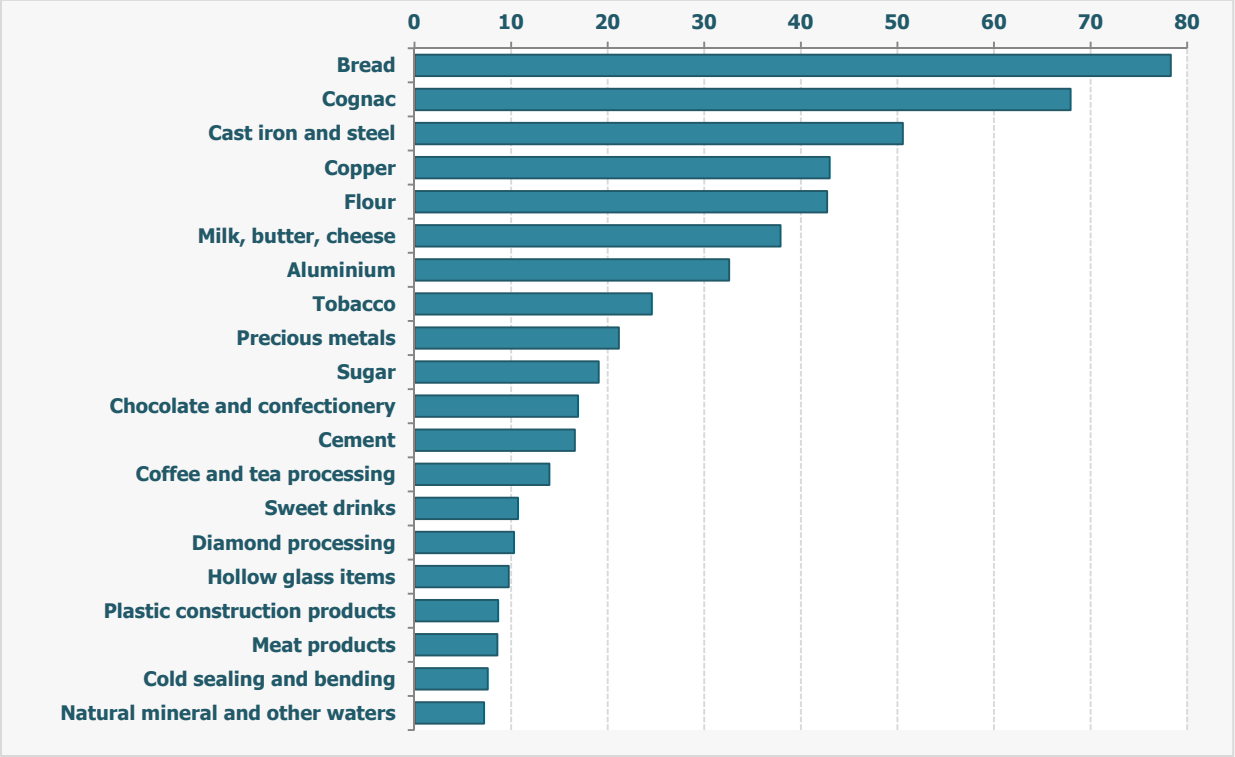
Figure 22. Employment and labor productivity indices in 2010-2012, % change from previous year



Source: NSS of RA, EDRC calculations.

At the same time, 20 largest sub-industries produce more than 75% of manufacturing output. Among these, in addition to those sectors mentioned above, tobacco and sugar productions are prominent and have significantly increased their output volumes (see Figure 23).

Figure 23. Output volumes of 20 major manufacturing sub-sectors in 2012, AMD bln



Source: NSS of RA, EDRC calculations.

20 largest sub-sectors provide for more than 40% of employment in manufacturing. Nevertheless, synthetic rubber production is the largest in terms of employment where, despite very modest production levels, (0.002% of manufacturing output) more than 5% of total employment of manufacturing sector is concentrated.

Inconsistencies between output levels and employment numbers are also quite large in clothing, namely outerwear production, which is on the 10th place in terms of employment (1,265 employees) and 36th – in terms of production levels. Confectionery production is also another sub-sector with relatively low output levels and high employment numbers (1,093 employees and only AMD 3.7 bln).

In contrast, copper, aluminum, precious metal and sugar productions which are among the highest 10 sub-sectors in terms of output, have relatively small number of employees (see Table 9).

Table 9. 20 largest manufacturing sub-sectors in terms of production and employment in 2012

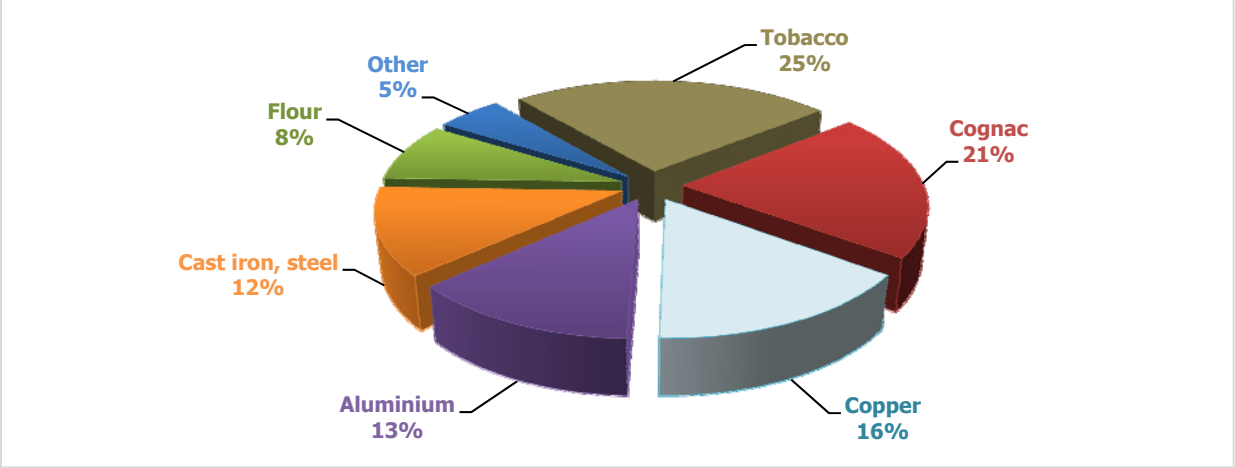
Output levels	AMD bln	Employ-ment	Position	Employment	AMD bln	Employ-ment
Bread	78.3	2,424	1	Synthetic rubber	0.01	2,685
Cognac (brandy)	67.9	1,770	2	Bread	78.3	2,424
Cast iron, steel and iron items	50.6	1,084	3	Cognac (brandy)	67.9	1,770
Copper	43.0	669	4	Chocolate and confectionery	16.9	1,742
Flour	42.7	1,363	5	Cement	16.6	1,646
Milk, butter, cheese	37.9	1,402	6	Tobacco	24.6	1,559
Aluminum	32.6	647	7	Milk, butter, cheese	37.9	1,402
Tobacco	24.6	1,559	8	Flour	42.7	1,363
Precious metals	21.2	384	9	Plastic construction products	8.7	1,272
Sugar	19.1	130	10	Clothing (outerwear)	2.2	1,262
Chocolate and confectionery	16.9	1,742	11	Meat products	8.6	1,184
Cement	16.6	1,646	12	Natural mineral and other waters	7.2	1,158
Coffee and tea processing	14.0	389	13	Flour sweets	3.7	1,093
Sweet drinks	10.7	566	14	Cast iron, steel and iron items	50.6	1,084
Diamond processing	10.3	401	15	Stone-sawing, stonework and decoration	3.8	1,057
Hollow glass items	9.8	916	16	Grape wine	5.5	956
Plastic construction products	8.7	1,272	17	Beer	5.2	926
Meat products	8.6	1,184	18	Hollow glass items	9.8	916
Cold sealing and bending	7.6	109	19	Poultry meat processing and preserves	6.1	783
Natural mineral and other waters	7.2	1,158	20	Steel-making	6.8	678
Total	**528**	**20,815**		**Total**	**403**	**26,960**

Source: NSS of RA, EDRC calculations.

6 manufacturing sub-sectors played important roles in the expansion of manufacturing industry in 2012 as these together provided for more than 95% of the recorded growth of this industry (5.6 percentage points).

The leader here is tobacco production where outputs grew by about 65% in 2012 alone (with comparable prices), thus, providing for about one fifth of growth in manufacturing industry (1.5 percentage points). Brandy production follows tobacco production with a 21% of contribution to the growth (1.2 percentage points).

Figure 24. Main contributors to the growth in manufacturing industry in 2012, % in total growth



Source: NSS of RA, EDRC calculations.

Copper, aluminum, cast iron, steel and iron production, as well as flour production ensured 8-16% contribution each. Instead, reduction in outputs of sugar, dairy, precious metal production, as well as coffee and tea processing restrained the growth.

Table 10. Output and growth indices of main 30 manufacturing sub-sectors in 2012

	Output, AMD bln	Real growth, %	Growth structure, percentage points
Total manufacturing	698.0	5.9	5.9
Bread	78.3	0.1	0.0
Cognac	67.9	14.5	1.2
Cast iron, steel and iron items	50.6	9.1	0.7
Copper	43.0	13.8	0.9
Flour	42.7	8.6	0.5
Milk processing, butter, cheese	37.9	-5.9	-0.4
Aluminum	32.6	15.0	0.8
Tobacco	24.6	64.6	1.5
Precious metals	21.2	-9.1	-0.3
Sugar	19.1	-19.0	-0.6
Chocolate and confectionery	16.9	15.4	0.3
Cement	16.6	6.1	0.1
Coffee and tea processing	14.0	-13.4	-0.3
Sweet drinks	10.7	10.9	0.2
Diamond processing	10.3	9.9	0.1
Hollow glass items	9.8	-7.1	-0.1
Plastic construction products	8.7	-4.3	-0.1
Meat products	8.6	7.0	0.1
Cold sealing and bending	7.6	10.3	0.1
Natural mineral and other waters	7.2	27.1	0.2
Steel-making	6.8	7.4	0.1
Fruit and vegetable juices	6.3	16.4	0.1
Poultry meat processing and preserving	6.1	40.3	0.3
Grape wine	5.5	14.8	0.1
Asphalt-concrete	5.5	5.8	0.0
Beer	5.2	7.6	0.1
Other cement (excluding asphalt-concrete)	4.9	-11.6	-0.1
Plastic tiles, pipes, sheets	4.8	21.2	0.1
Metal items and constructions thereof	4.5	6.4	0.0
Jewellery-making	4.4	-0.3	0.0

Source: NSS of RA, EDRC calculations.

1.4. Foreign Trade

Total Turnover

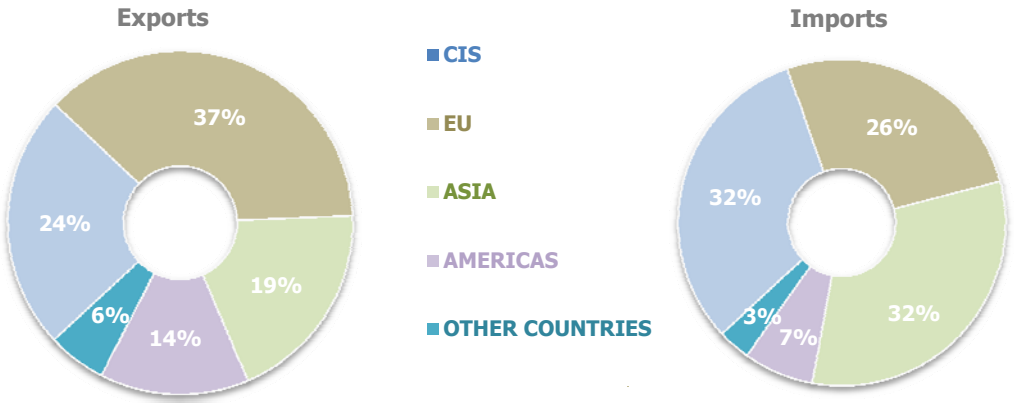
Foreign trade volumes of Armenia in 2012 grew by 2.8% compared to the previous year reaching USD 5.6 bln or 56.8% of the GDP. Notably, exports totaled to USD 1.4 bln, and so grew by 1.8% from previous year, while imports totaled to USD 4.3 bln growing by 3.1% from previous year. As a consequence, foreign trade deficit increased by 3.7% reaching USD 2.8 bln.

Figure 25. Foreign trade of Armenia in 2010-2012, USD mln

Source: Customs Service data and EDRC.

Large share of exports went to the EU countries (37%), followed by CIS countries (24%), Asian countries (19%) and countries of American continent (14%). Notably, significant increase in 2012 was recorded in exports to CIS (26.6%) and Asian (7.9%) countries.

Figure 26. Exports and Imports structure in 2012, %



Source: Customs Service data and EDRC.

In terms of imports, the breakdown per countries is as follows: Asian countries (32%), CIS (32%), EU (26%) and countries of American continent (7%). Again compared to 2011, imports to CIS countries grew significantly in 2012 and increased by 12.3%.

Imports

Armenian imports continue to be much more diversified as compared to exports. In 2012, imports came from more than 150 countries; however the largest partner is Russia which provides about one quarter of the Armenian imports. This is mainly due to natural gas (41.5%), wheat and muesli (11.3%). Imports from Russia are followed by imports from China (9.3%), Germany (6.2%), Iran (5.1%), Ukraine (5.0%) and Turkey (5.0%). Imports from the first 5 partner countries count for 50.6%, 10 countries account for

67.3%, and 15 countries for 76.7%. The table below presents the list of the largest 15 partner countries and import data from these countries.

Table 11. Imports to Armenia from 15 largest import partner countries in 2012

	2011, USD mln	2012, USD mln	Growth, %	Share, %
Russian Federation	881.7	1,071.6	21.5	25.0
China	409.9	399.8	-2.5	9.3
Germany	245.6	265.6	8.1	6.2
Iran	210.9	219.8	4.2	5.1
Ukraine	232.6	215.5	-7.3	5.0
Turkey	240.6	213.5	-11.3	5.0
Italy	170.9	169.0	-1.1	3.9
United States	148.6	143.3	-3.6	3.3
Japan	72.5	98.8	36.3	2.3
Brazil	87.1	93.1	7.0	2.2
Romania	105.2	87.9	-16.4	2.1
Switzerland	78.8	87.4	10.9	2.0
Bulgaria	102.2	86.5	-15.4	2.0
Belgium	64.6	73.8	14.2	1.7
France	85.4	69.7	-18.3	1.6
Total selected	**2,189.4**	**2,223.7**	**1.6**	**76.7**

Source: Customs Service data and EDRC.

According to the 4-digit classification of CNEEA, 1231 product items were imported to Armenia in 2012. The largest 5 items ensured 31.3% of total imports, the largest 10 – 40%, while the largest 15 – 45.5%.

For a large number of items namely 843 the total value of imports is below USD 1 mln and these altogether constitute 4.3% of total imports. 12 items had import values above USD 50 mln which are presented in Table 2. The latter constitutes 42% of import volumes.

The largest import item is natural gas and oil products that together count for 21% of all imports. Import volumes of cars, wheat and muesli, diamonds and medicine are also quite large.

Table 12. Items with imports value above USD 50 mln in 2012

Code	Product Label	Position in 2011	2011, USD mln	2012, USD mln	Growth, %	Share, %
2711	Natural and liquid gas	**1**	394.7	532.5	34.9	12.4
2710	Oil and oil products	**2**	371.5	362.1	-2.5	8.5
8703	Cars	**3**	223.6	219.3	-2.0	5.1
1001	Wheat and muesli	**6**	90.4	131.1	45.0	3.1
7102	Diamonds	**4**	126.7	96.8	-23.6	2.3
3004	Medicine (weighted and packed)	**5**	91.5	94.5	3.3	2.2
7108	Gold	**8**	78.4	74.0	-5.5	1.7
8704	Motor vehicles	**12**	52.7	70.1	32.8	1.6
8517	Telephones (cellular and other)	**7**	79.1	69.6	-12.0	1.6
7601	Aluminum	**9**	71.6	63.4	-11.5	1.5
2402	Cigars, cigarillos, cigarettes	**10**	57.3	53.5	-6.6	1.2
1701	Sugar	**11**	53.8	51.4	-4.5	1.2
Total selected		-	1,691.3	1,818.3	7.5	42.4
Total imports		**-**	**4,155.9**	**4,284.9**	**3.1**	**100**

Source: Customs Service data and EDRC.

Natural gas imports in 2012 totaled to USD 533 mln against USD 395 mln in 2011. 2.4 bln CM of natural gas was imported in 2012 against 2 bln CM in 2011. Notably, the increase in the value of natural gas imports took place both due to increased volumes and increased customs value (the price per CM grew by USD 22).

In contrast to gas, imports of oil products fell. In 2012, 346 thousand tons of oil products were imported with total value of USD 362 mln. In 2011, these indicators equaled to 358 thousand tons and USD 372 mln. Overall, oil and oil products in 2012 were imported from over 30 countries, however, 89% of it was imported from Russia, Romania, Bulgaria, Israel and Iraq.

Despite the fact that the number of imported cars increased in 2012, their customs value decreased. About 32 thousand cars were imported in 2012 with total value of USD 219 mln. In 2011, these indicators were respectively 26 thousands and USD 224 mln. Cars were mostly imported from Germany (59%), Japan (18%) and Russia (6%).

Total value of wheat and muesli imported to Armenia in 2012 increased from the previous year by USD 40.7 mln or 45%. It is mostly explained by increased imports from Russia by USD 72.3 mln or 49%. At the same time, imports of wheat from Kazakhstan significantly decreased (by 61%), along with decreased wheat imports from the Ukraine (87%), Hungary (100%) and Iran (100%). Consequently, wheat imports from Russia constituted 92% of total in contrast to 54% in 2011.

Despite that diamonds continues to remain in the list of top 5 import items, the volumes of diamond imports in 2012 declined by about 40%, while the customs value decreased by 24%. If in 2011 the largest share in diamond imports was from Russia (34%), in 2012, again, the share of Belgium recovered as source country of about 48% of the diamond imports.

Volumes of gold import decreased by 5.5% in 2012 and totaled to USD 74 mln. The main import country for gold is Switzerland from where 80% of the gold imports in 2012 came from against the 65% share of the country in 2011.

Imports of medicine in quantitative terms decreased by 3%, however the value of imports did not decrease and even grew by 3.3%. A quarter of the imported medicine was imported from France and Germany with 13% and 12% shares respectively.

Unlike medicine, tobacco imports grew in quantitative terms, while at the same time decreased in terms of value. Tobacco imports totaled to USD 53.5 mln in 2012, 48% of which came from the Ukraine, and 22% came from Russia.

Imports of sugar decreased from the previous year by 4.5% totaling to USD 51.4 mln. Despite the fact that sugar was imported from 22 countries, Brazil remains to be the major source country with 94% of total.

Import value of motor vehicles for cargo transportation reached USD 70.1 mln in 2012 and USD 52.7 mln in 2011. Notably, imports came from about 30 countries where the largest shares belonged to Germany, Japan and the US which together had a 56% share of total imports in this product line.

Imports of alcoholic beverage in 2012 grew by USD 10.5 mln and totaled to USD 39.5 mln. Imports originated from several dozen countries; however the largest partners are Russia (44%) and Spain (29%).

Table 13. Import items with highest growth in 2012

Code	Product Label	Position in 2012	2011, USD mln	2012, USD mln	Change, USD mln	Change, %	Share, %
2711	Natural and liquid gas	**1**	395	532.5	137.8	34.9	12.4
1001	Wheat and muesli	**4**	90.4	131.1	40.7	45.0	3.1
8401	Nuclear reactor; thermal extraction element, equipment for extraction of isotopes	**28**	0.0	22.2	22.2	100	0.5
8704	Motor transport for cargo	**8**	52.7	70.1	17.3	32.8	1.6
8429	Bulldozers, graders, excavators etc.	**13**	30.7	45.1	14.4	46.8	1.1
2208	Ethyl spirit, liqueur and other alcoholic beverage	**17**	29.0	39.5	10.5	36.3	0.9

Source: Customs Service data and EDRC.

Imports of telephones, communication devices for cellular and other networks declined in 2012. Telephones of USD 69.6 mln were imported in 2012 (in quantity of 1047 thousands) and of USD 79.1 mln – in 2011 (912 thousands).

Reduction in aluminum imports is determined by the drop in prices. 2012 aluminum imports decreased by USD 8.2 mln; however, in quantitative terms imports increased by 7 thousand tons. Almost all aluminum – 99.9% came from Russia.

Table 14. Import items with highest decline in 2012

Code	Product Label	Position in 2012	2011, USD mln	2012, USD mln	Decline, USD mln	Change, %	Share, %
8802	Other flying devices; space apparatus and boosters	**-**	34.5	0.0	-34.5	-100.0	0.0
7102	Diamonds	**5**	126.7	96.8	-29.9	-23.6	2.3
8517	Telephones for cellular or other networks; other devices for transferring and receiving sound, image or other data	**9**	79.1	69.6	-9.5	-12.0	1.6
2710	Oil and products thereof	**2**	371.5	362.1	-9.4	-2.5	8.5
8607	Parts for railway locomotives, tramways, motor wagon or else	**345**	9.9	1.2	-8.7	-87.7	0.0
7601	Aluminum	**10**	71.6	63.4	-8.2	-11.5	1.5

Source: Customs Service data and EDRC.

Exports

Armenia exports to more than 100 countries; however the largest partner is Russia as about one fifth of Armenian exports go to this country. The second largest export destination country is Bulgaria, followed by Belgium, Iran, Germany, US etc.

55% of Armenian exports in 2012 went to 5 partner countries, 83.8% went to 10 partner countries and 91.5% of all exports were destined to 15 partner countries. Data on major export partner countries and exports are summarized in the table below.

Table 15. Armenian exports to 15 major partner countries in 2012

	2011, USD mln	2012, USD mln	Change, %	Share, %
Russian Federation	223.9	280.0	25.1	20.6
Bulgaria	152.2	129.3	-15.1	9.5
Belgium	70.5	127.2	80.4	9.3
Iran	118.6	107.0	-9.7	7.9
Germany	157.9	104.4	-33.9	7.7
United States	100.9	87.5	-13.3	6.4
Canada	70.4	85.1	20.8	6.2
Netherlands	117.2	79.2	-32.4	5.8
Switzerland	33.7	71.4	112.1	5.2
Georgia	62.5	71.4	14.3	5.2
China	16.3	31.3	92.3	2.3
Spain	82.5	26.6	-67.7	2.0
Iraq	4.9	15.7	223.6	1.2
Singapore	0.2	14.5	7,914.0	1.1
Ukraine	11.1	14.5	30.1	1.1
Total for selected countries	**1,222.8**	**1,245.1**	**1.8**	**91.5**

Source: Customs Service data and EDRC.

According to the 4-digit classification of CNEEA, 731 product items were exported from Armenia in 2012. Notably, 134 new items were exported in 2012 that were not exported in the previous year. At the same time, 134 items that were exported in 2011 were of export products list in during 2012. As a result, generally it can be stated that the number of exported items in 2012 did not change compared to 2011. For comparison purposes it is worth noting that 645 items were exported in 2008.

The largest 5 export items counted for 51% of the total exports, the 10 largest export items for 73%, and the largest 15 for 79% of the total exports. Exports of 8 items exceeded USD 50 mln which are presented in the Table below. The latter provided for 68.5% of total exports.

Table 16. Items with exports exceeding USD 50 mln in 2012

Code	Product Label	Position in 2012	2011, USD mln	2012, USD mln	Change, %	Share, %
2603	Copper ore and concentrate	1	260.6	227.6	-12.7	16.7
2208	Ethyl spirit, spirit tincture, liqueur and other alcoholic drinks	2	132.4	166.0	25.4	12.2
7202	Iron	3	121.3	106.8	-11.9	7.8
7402	Non-refined copper, copper anode for electrolytic process	4	114.6	104.8	-8.6	7.7
2716	Electricity	5	95.3	90.4	-5.1	6.6
7607	Aluminum foil (excluding base)	6	87.0	81.1	-6.8	6.0
7102	Diamonds	7	113.7	79.1	-30.4	5.8
7108	Gold (Including with platinum galvanization); dust	8	67.3	77.5	15.2	5.7
Total for selected items		-	992.1	933.2	-5.9	68.5
Total exports		**-**	**1,337.1**	**1,361.4**	**1.8**	**100**

Source: Customs Service data and EDRC.

Like in previous years, the export item with the largest share of total exports is copper ore and concentrate. Copper exports totaled to 131.5 thousand tons in 2012 with total value of USD 227.6 mln. This was USD 33 mln less than in 2011 as in 2011 copper exports reached 118.3 thousand tons. Notably, customs value of copper concentrate per ton equaled to USD 1730 in 2012 in contrast to USD 2200 in 2011.

The second largest share in exports belongs to alcoholic drinks. 14.4 mln liters of alcohol was exported with total value of USD 166 mln. As compared to the previous year, exports of alcohol increased by 4.7 mln liters. Customs value of this item decreased to USD 11.5 in 2012 from USD 13.7 in 2011.

Export volumes of beer and grape wine increased in 2012 by 27% and 32% respectively. Exports growth mostly was related to Russia however these items also entered also new markets such as Australia, Poland, Lebanon and Sweden – for beer and Australia, Belarus, Belgium, Italy and Bulgaria – for wine. The main export markets for alcoholic drinks are Russia (84%), Ukraine (0.05%), Belarus (0.03%), Germany (0.01%) and the US (0.01%). Notably, increase was recorded in exports to all these countries. Drastic drop was recorded in exports of alcohol to China which was the second largest market in 2011. Overall, alcoholic drinks were exported to more than 30 countries.

In 2011, 5.6 thousand tons of iron was exported with total values of USD 121.3 mln. Compared 2011, physical volumes of iron exports slightly increased in 2012, although in terms of value, exports even fell due to continues drop in prices. In 2012, 5.8 thousand tons of iron was exported with a total value of USD 106.8 mln.

In 2012, tobacco exports continuously grew and increased by 2.5 times compared to the previous year, reaching USD 41.8 mln. The main export markets for these products are Iraq, Turkmenistan, Cyprus, Russia, Georgia, UAE and Sweden. Export volumes to almost all these countries increased: in particular, exports to Iraq and Cyprus increased more than 5 times. The new export markets for tobacco in 2012 are Italy, Moldova, Syria, France and Philippines. Overall, these products were exported to more than 30 countries.

Table 17. Export items with highest increase in 2012

Code	Product Label	Position in 2012	2011, USD mln	2012, USD mln	Change, USD mln	Change, %	Share, %
2208	Ethyl spirit, not altered, <80 vol.% concentration; spirit tincture, liqueur and alcoholic drinks	2	132.4	166.0	33.6	25.4	12.2
2402	Cigars, cigarillos, cigarettes	3	16.3	41.8	25.5	156.6	3.1
2616	Precious metal ore or concentrate	10	0.2	24.9	24.8	15,123.6	1.8
7108	Gold (Including with platinum galvanization); dust	8	67.3	77.5	10.2	15.2	5.7
8471	Computers and blocks thereof	20	0.3	9.4	9.0	2,604.2	0.7
0302	Fresh or frozen fish, excluding position 0304	15	5.6	13.0	7.4	131.8	1.0
9111	Watch cases, worn or taken with, parts thereof	21	3.4	9.2	5.7	166.2	0.7
0809	Fresh apricots, cherries, peaches, nectarine, plums, blackthorn	13	8.4	13.8	5.4	63.9	1.0
6203	Suits, jackets, blazers, trousers and clothes for men or boys	28	2.1	6.5	4.4	206.7	0.5
6201	Coats, ponchos, raincoats and clothes for men and boys, excluding position 6203	34	1.3	5.2	3.9	291.2	0.4
2608	Zinc ore or concentrate	12	13.9	17.7	3.8	27.5	1.3
8102	Molybdenum and items thereof, including scrap	11	15.4	18.9	3.5	22.8	1.4
2523	Cement	19	6.3	9.4	3.1	48.6	0.7
0806	Fresh or dried grapes	18	6.8	9.6	2.8	41.1	0.7
2204	Natural grape wine	36	2.5	4.1	1.7	67.9	0.3

Source: Customs Service data and EDRC.

Gold exports in 2012 reached USD 77.5 mln against USD 67.3 mln in the previous year. Notably, almost no increase was recorded in physical volumes of exports and so the increase was due to increased customs value from USD 28.5 to USD 33.3.

Fish exports continued to grow in 2012. In particular, exports of fresh fish more than doubled. Fresh fish of USD 13 mln customs value was exported in 2012 against USD 5.6 mln in 2011. The main market for fish exports is Russia (99.8%). Fish exports to Ukraine dropped by about three times. A new market for Armenian fish exports in 2012 was Georgia. Exports of frozen fish dropped by more than 3 times. 164 tons of frozen fish was exported in 2012 which had a customs value of USD 1.2 mln. In this case again, exports predominantly went to Russia which, however, fell more than 3.5 times. A new market for this product was the Ukraine. Exports of crayfish increased by 24.4% in 2012 reaching USD 6.8 mln. Export volumes to Belgium and Russia increased, while exports to other partners namely Ukraine, Germany and France decreased.

Fresh apricots, cherries, peaches and plums with total customs value of USD 13.8 mln (16.2 thousand tons) were exported in 2012 which is about two times more than in the previous year. It is worth noting that the customs value per 1kg of fruit fell reaching USD 0.85 against USD 1 of the previous year. The increase was ensured by increased exports to Russia, Georgia and the Ukraine. In 2011, a new market for this item was the Netherlands which was almost entirely lost in 2012, instead fruits were for the first time exported to Belarus in 2012.

Exports of ready-made clothing from Armenia almost tripled in 2012; this in particular involved exports of men's suits, jackets, blazer, trousers and other clothes, as well as coats, raincoats and other outerwear. The main export markets are Italy, Germany and Georgia.

Cement exports increased 1.5 times in 2012 against the 2.5 times increase recorded in 2011. Respectively, total exports of cement increased by USD 3.1 mln totaling to USD 9.4 mln. Georgia remains the main market for cement exports.

Exports of mineral water increased by 15.6% in 2012. Despite the fact that mineral water was exported to more than 20 countries, nevertheless, the major consumer of this item is Russia (91%). As a new market for mineral water in 2012, Tajikistan can be noticed.

Table 18. Export items with highest decline in 2012

Code	Product Label	Position in 2012	2011, USD mln	2012, USD mln	Change, USD mln	Change, %	Share, %
7102	Diamonds	7	113.7	79.1	-34.6	-30.4	5.8
2603	Copper ore and concentrate	1	260.6	227.6	-33.0	-12.7	16.7
8802	Other flying devices	-	19.7	0.0	-19.7	-100.0	0.0
7202	Iron fusion	3	121.3	106.8	-14.5	-11.9	7.8
7402	Unrefined copper, copper anode for electrolytic process	4	114.6	104.8	-9.8	-8.6	7.7
2711	Natural and liquid gas	40	12.4	3.4	-9.0	-72.8	0.2
7607	Aluminum foil	6	87.0	81.1	-5.9	-6.8	6.0
2716	Electricity	5	95.3	90.4	-4.8	-5.1	6.6
8407	Internal combustion engine with spark ignition	-	4.6	0.0	-4.6	-100.0	0.0
0104	Live sheep and goat	22	12.1	8.6	-3.5	-29.1	0.6

Source: Customs Service data and EDRC.

In 2012, large decline was recorded in exports of a number of items that leaders in exports during the last decade.

Diamond exports continued to decrease. It decreased by more than 215 thousand carats in 2015 reaching 135.9 thousand carats. For comparison, diamond exports in 2010 equaled to 476.6 thousand carats. However, the customs value of 1 carat continued to increase in 2012 reaching USD 582.3 from USD 323.7 in the previous year.

Despite the fact that export volumes of aluminum foil did not decrease (increased by about 5%) the customs value of exports fell due to the decrease in price per kg of aluminum from USD 3.5 to 3.1.

60.9 thousand sheep were exported from Armenia in 2012 which is less than the 2011 indicator by 54 thousands or by 47%. The average customs value of exported sheep increased since 2011 by USD 35 reaching USD 140.

Exports of natural honey from Armenia decreased during 2012 reaching 4.3 tons with customs value of USD 32.2 thousands against 18.1 tons and USD 110.7 thousands in the previous year. The customs value of exported honey grew reaching USD 7.5 in 2012 against USD 6.1 in 2011. If in 2011 honey was mostly exported to the US, exports to Russia prevailed in 2012. Notably, import volumes of honey also increased in 2012. Honey with total value of USD 63.3 thousands was imported against USD 22.9 thousands in 2011. In 2012, honey was imported at USD 3.8 per 1kg against USD 9.6 in the previous year. The main source country of imports was the Ukraine.

Overall, one should state that 8 export items ensure 68.5% of Armenian exports with total value of USD 933 mln. Those are: copper ore and concentrate, alcoholic drinks, iron, unrefined copper, diamonds, electricity, aluminum foil and gold. The share of these items in the total exports in 2012 decreased from the previous year by 6.5 percentage points.

Exports to Specific Countries

Copper ore and concentrate, as well as iron alloys prevail in exports from Armenia to EU countries. Respectively 98.8 % and 97.7% of exports to Bulgaria and Spain represent copper ore and concentrate. In 2012, exports to Bulgaria increased 33% or by 19.8 thousand tons, despite the fact that the total

value decreased by about 16%. Exports from Armenia to Spain (USD 26 mln) fell nearly 3 times in 2012 in contrast to an unprecedented increase, more than 5 times, registered in the previous year.

Increase in exports to Switzerland continued in 2012 and more than doubled during the year. About 50% of the export growth to Switzerland took place due to nearly 70% increase in export of copper ore and concentrate.

Copper ore and concentrate constitute 87% of exports to Sweden.

Large share of exports to the Netherlands and Germany, respectively 75% and 45%, is iron alloy. In 2012, export levels shrank respectively by 16% and 5%, mainly due to the price reduction of about $3.5 per kg of the alloy.

Reduction in exports to Germany is mainly explained by reduction of export levels of crude copper almost three times (by 55 million AMD). Crude copper and iron alloy constitute 71% of total exports to Germany against 83% in the previous year.

Structure of exports to Belgium differs from previous years, when diamond was the main export item. In 2012, 53% of exports to Belgium ($67 million) was crude copper that was not exported in the previous year. Diamond exports decreased by 45% and totaled to USD 38.4 million, which is 30.2% of the total exports to Belgium against 98% in the previous year. Copper and zinc ore not exported in the previous year also were among export items to Belgium comprising 16% of the total exports to this country. The other main product is crawfish exports of which grew by 3%.

Exports to Iran decreased by about 5% in 2012 which is explained by the reduction of electricity export price by about USD 2. Electricity constituted 84.5% of exports from Armenia to this country. In terms of customs value, another main export item to Iran are scrap black metal and scrap aluminum, as well as sheep.

Sheep constitutes almost the entire export to Qatar and Kuwait.

Aluminum foil is the main product of export from Armenia to the USA, Columbia, Austria, Croatia, Gabon, Chile, and Serbia (see Table 9).

In 2012, exports to Iraq continued to grow: more than 3 times. Particularly, cigarettes with total customs value of USD 15.1 million (USD 4.1 million in 2011) and spirits with of USD 595 thousand were exported in 2012. Cigarettes constituted 96% of exports to Iraq.

In addition to Iraq, exports to Turkmenistan, Cyprus, Afghanistan, Abkhazia and Luxemburg also mainly comprise of cigarettes.

99% of the total exports to Canada comprise of two items: diamonds and gold. In 2012, gold exports grew by 20%, while diamond exports grew by 52% (in 2011, they grew respectively 2 times and 4 times). As a result, exports to Canada grew by 21%.

Exports of copper and molybdenum ore and concentrate constitute more than 96% of exports to China: USD 15.7 mln and USD 14.5 mln respectively. Notably, molybdenum exports resumed in 2012, after 0 exports in 2011. Export of spirits to China essentially fell (about 30 times) reaching USD 13.4 mln, against the unprecedented growth in 2011.

Spirits are the prevailing item in exports to Belarus, Estonia, and Mongolia respectively constituting respectively 73%, 91%, and 98% of exports from Armenia to these countries.

Table 19. Major export items and partner countries in 2012

Item	Share in total exports, %	Importing country	Share in total export to the given partner country
Copper ore and concentrate	56.1	Bulgaria	98.8
	20.1	Switzerland	87.2
	11.4	Spain	97.7
	3.5	Sweden	87.2
Ethyl spirit, spirits	82.9	Russia	49.1
	5.5	Ukraine	62.9
	3.0	Belarus	73.1
	0.05	Estonia	90.7
	0.06	Mongolia	98.0
Iron	55.4	Netherlands	74.7
	44.2	Germany	45.2
	0.36	Czech Republic	26.2
Electricity	100	Iran	84.5
Aluminum foil	92.9	USA	86.1
	1.3	Columbia	100
	2.1	Austria	91.9
	0.8	Croatia	72.4
	0.7	Gabon	100
	0.2	Chile	100
	0.08	Serbia	84.2
Cigars, Cigarillos, cigarettes	36.0	Iraq	95.9
	20.8	Turkmenistan	63.1
	19.3	Cyprus	99.1
	0.5	Afghanistan	100
	0.06	Abkhazia	82.0
	0.03	Luxembourg	77.1
Gold	99.9	Canada	91.1
Diamonds	48.6	Belgium	30.2
	30.5	Russia	8.7
	2.5	Israel	77.3
	1.2	India	76.0
Sheep and goats (live)	72.1	Iran	5.9
	4.3	Qatar	99.7
	3.6	Kuwait	99.2

Source: Customs Service data and EDRC.

Export volumes to the Ukraine grew by about 30%. More than 100 items are exported to the Ukraine. About 63% of the Armenian exports to the Ukraine were spirits. Physical volumes of exports of spirits increased 30%; however they are below the 2010 level by 200 thousand liters. In value terms, spirits export to the Ukraine grew by 41%.

Overall, exports of food and agricultural products to the Ukraine increased during the year. The increase is significant in export of apricots ($515 thousand), fresh and dried grapes ($101 thousand), canned vegetables ($89 thousand), fruits ($137 thousand), ready-made or canned seafood ($57.2 thousand),

and wine ($17.4 thousand). Export levels of tomato paste ($53.8 thousand), fresh fish ($22.5 thousand), and crawfish ($194.4 thousand) have declined.

Overall, amount of food and agricultural products exported to the Ukraine has increased during the year. Significant increase is recorded in export of apricots (USD 515 thousand), fresh and dried grapes (USD 101 thousand), canned vegetables (USD 89 thousand), fruits (USD 137 thousand), ready-made or canned crayfish and mollusks/invertebrates (USD 57.2 thousand), and wine (USD 17.4 thousand). Exports of tomato paste (USD 53.8 thousand), fresh fish (USD 22.5 thousand), and crayfish (USD 194.4 thousand) declined.

Exports of processed stones for memorials and construction purposes to the Ukraine decreased by about 30% and totaled to USD 174.9 thousand. Instead, exports of granite, porphyry, basalt and sandstone grew about 3 times and totaled to USD 47.3 thousand.

Iron alloy was not exported to the Ukraine in 2012; meanwhile on average iron alloy of USD 1.4 million was exported in 2009-2010.

In "Machines, equipment and transportation means" group increases are recorded both in export of volumes (USD 370 thousand), as well as in export items (18 new items) to the Ukraine.

More than 340 items are exported to Russia which represents an increase by 88 items as compared to the previous year. About 50% of exports are spirits, followed by diamonds (8.6%), fresh fish (4.65%), apricots (4.5%), and fresh and dried grapes (3.5%). Exports of these 5 items increased by about 42% compared to the previous year, thus ensuring 103% of the increase in exports to Russia.

1.5. Economic Development Projections

Global Economic Trends in 2013-2015

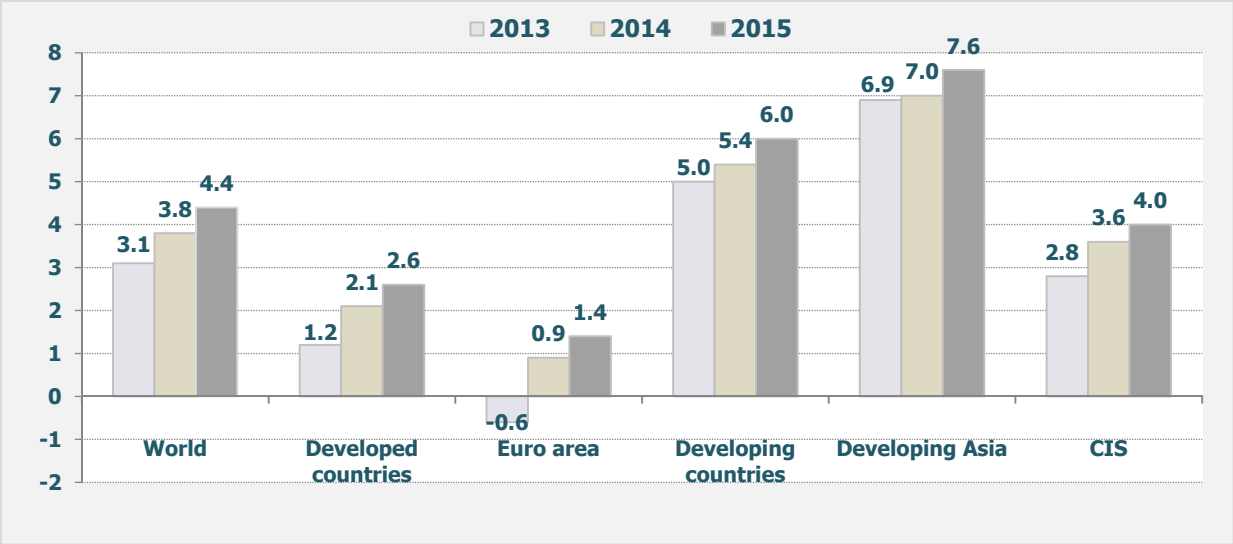
Expectations of global economic recovery continue. Although recent projections of international institutions tend to be more conservative, the global economic growth rates will gradually increase in the coming three years.

IMF and World Bank projections for 2013 and 2014 coincide: 3.1% global economic growth is expected in 2013 (exactly the same as in 2012) and 3.8% growth - in 2014. For 2015, the World Bank projects 4.1% growth, while the IMF anticipates 4.4% growth.

As a result, about 3.8% average annual growth rate is anticipated during 2013-2015 (IMF) that is slightly below the average for 2010-2012 (because of high post-crisis growth rate in 2010).

Thus, the trends for 2012 will generally continue in 2013. Low economic growth rates in leading developing countries and ongoing recession in some economies of Euro area will impede the global growth also in 2013. High growth in China and India will continue with accelerating growth rates.

Figure 27. Global Economic Growth in 2013-2015



Source: IMF (WEO, April 2013; WEO Update, July 2013) and EDRC.

In 2013, savings and investments are projected to grow and reach the pre-crisis level. Global trade is projected to grow by 3.1%, while growth rates will gradually accelerate (6.1% in 2015).

3.7% average annual inflation rate is projected in consumer markets in 2013-2015. In that, inflation rates will slightly grow in developed countries from 1.5% in 2013 to 1.9% in 2015, whereas a gradual decline is projected in developing countries, from 6% in 2013 to 5.3% in 2015.

3.3% deflation is projected in global food markets in 2013 (good weather and yield growth on one hand and increase in the supply of drinks are expected on the other hand).

In 2013, fuel prices are projected to fall by 2.6% due to the supply recovery and further expansion. Particularly, according to projections, crude oil prices are expected to fall by 4.7%, coal prices – by 9.8%, while natural gas prices – by 2.5%.

About 3.2% inflation is projected in global metal markets (the reason is the increase in metal demand, in particular, in China along with the global economic revival).

Table 20. Development Trends of the Global Economy in 2013-2015

	2013 (proj.)		2014 (proj.)		2015 (proj.)	
	IMF	**WB**	**IMF**	**WB**	**IMF**	**WB**
Global output (change, %)	3.1	3.1	3.8	3.8	4.4	4.1
Developed countries	1.2	1.2	2.1	2.0	2.6	1.2
Developing countries	5.0	5.1	5.4	5.6	6.0	4.9
Global turnover (change, %)	3.1	4.0	5.4	5.0	6.1	2.5
Imports	3.7	4.0	5.3	4.9	6.0	5.4
Developed countries	1.4	2.8	4.3	3.8	4.9	4.3
Developing countries	6.0	6.7	7.3	7.4	7.9	7.8
Exports	3.6	4.0	5.3	5.0	6.1	5.4
Developed countries	2.4	3.1	4.7	3.9	5.1	4.2
Developing countries	4.3	6.4	6.3	7.7	7.6	8.4
Investments (% of GDP)	24.2	22.3	24.7	22.7	25.2	23.1
Savings (% of GDP)	24.4	-	24.8	-	25.3	-
CPI (average, %)	3.8	-	3.7	-	3.7	-
Developed countries	1.5	-	1.9	-	1.9	-
Developing countries	6.0	-	5.5	-	5.3	-
Prices on Fuel and food items (%)						
Fuel (includes crude oil, natural gas and coal)	-2.6	-	-4.3	-	-	-
Crude Oil (includes U.K. Brent, Dubai Fateh and WTI in equal shares)	-4.7	-2.5	-4.7	-1.3	-	-0.1
Natural gas (including Russian, Indonesian and American gas)	-2.5	-	0.9	-	-	-
Metals (copper, aluminum, tin, iron ore, lead and uranium)	3.2	-	-4.3	-	-	-
Food (including beverage)	-3.3	-	-5.5	-	-	-

Source: IMF (WEO, April 2013; WEO Update, July 2013), WB (GEP, June 2013) and EDRC.

1.2% economic growth is expected in developed countries in 2013. Low growth rates projected for 2013-2015 are estimated to reach 2% on average. 0.6% economic decline is projected in 2013 in the countries of Euro zone. In 2014, growth recovery is feasible that may accelerate to 1.4% by 2015.

Among G7 economies, Japan has the most favorable growth perspectives (2%) followed by the US and Canada (1.7% each). In the following years a slowdown is expected in Japan, whereas economic growth rates will increase in the US and Canada. As a result, the US economy is projected to grow on average by 2.7% annually, thus becoming the most rapidly growing economy in G7, followed by Canada with 2.1% and Japan - with 1.4% growth rates.

In 2013, modest growth rates are projected in the UK (0.9%), and Germany (0.3%), economic decline is projected in France (0.2%) and in Italy (1.8%). Under favorable circumstance, the growth rates will increase and the decline will transform into growth in 2014.

Growth trends will continue in Developing Asia: 7.2% average annual growth is projected in 2013-2015. In 2013, 7.8% economic growth is projected in China and 5.6% - in India. High growth rates will continue in the following years. As a result, the Chinese economy will grow in average by 8% annually, while the Indian economy – on average by 6.2% annually in 2013-2015.

Economy of Russia will grow by 2.5% in 2013. The growth rates will accelerate and reach as high as 3.7% in 2015. Average annual growth rate will equal to 3.2% in 2013-2015.

Table 21. Economic Growth in Different Countries in 2012-2015, %

	2012		2013		2014		2015
	IMF	ADB	IMF	ADB	IMF	ADB	IMF
World	3.1	-	3.1	-	3.8	-	4.4
Developed countries	1.2	-	1.2	-	2.1	-	2.6
Developing countries	4.9	-	5.0	-	5.4	-	6.0
EU countries	-0.2	-	-0.1	-	1.2	-	1.7
Euro zone	-0.6	-0.6	-0.6	-0.5	0.9	1.2	1.4
Developing Asia	6.5	6.1	6.9	6.6	7.0	6.7	7.6
CIS	3.4		2.8		3.6		4.0
China	7.8	7.8	7.8	7.7	7.7	7.5	8.5
India	3.2	5.0	5.6	5.8	6.3	6.5	6.6
Japan	1.9	1.9	2.0	1.8	1.2	1.4	1.1
USA	2.2	2.2	1.7	2.0	2.7	2.6	3.6
Canada	1.7	-	1.7	-	2.2	-	2.5
UK	0.3	-	0.9	-	1.5	-	1.8
Germany	0.9	-	0.3	-	1.3	-	1.3
France	0.0	-	-0.2	-	0.8	-	1.5
Italy	-2.4	-	-1.8	-	0.7	-	1.2
Turkey	2.6	-	3.4	-	3.7	-	4.3
Russia	3.4	-	2.5	-	3.3	-	3.7
Ukraine	0.2	-	0.0	-	2.8	-	3.5
Azerbaijan	2.2	2.2	4.1	3.1	5.8	4.8	4.8
Georgia	6.5	6.1	6.0	5.5	6.0	6.0	6.0
Armenia	7.2	7.2	4.3	4.5	4.1	4.6	4.3

Source: IMF (WEO, April 2013; WEO Update, July 2013) and EDRC.

According to projections, no growth is expected in the Ukraine in 2013 and average annual growth rate is projected to be 2.1% for 2013-2015. These growth rates are not enough to ensure pre-crisis production levels in the Ukraine even in 2015.

High economic growth - 6% on average - is expected in Georgia in 2013-2015. During this period, 4.9% annual average growth is expected in Azerbaijan and 3.8% - in Turkey. In 2013-2015, 4% annual average economic growth rate is projected by the IMF for Armenia.

Projections for the Armenian Economy

Below the perspectives of the Armenian economy for 2013-2015are summarized based on the IMF[4], ADB[5] and the Armenian Government's[6] projections of main indicators. In addition, macroeconomic projections under Perspective Development Strategy Program for 2012-2025 (November 2012) are presented.

In 2013-2015, stabilization of economic growth rates is expected in Armenia. Recovery of economic growth rates in major partner countries, in particular in Russia, allows anticipating further recovery in inflows of remittances, labor migration income and investments from abroad. In addition, positive impact is projected from expected growth in international metal prices in 2013, as well as decline in prices for fuel and food items in 2013-2014. However, a potential factor restraining growth in 2014 can be the expected drop in metal prices in 2014.

[4] IMF, World Economic Outlook, April 2013
[5] Asian Development Outlook 2013, April 2013
[6] 2014-2016 Medium Term Expenditures Framework, July 2013 and the 2013 Budget Message of the Government of Armenia (October 2012)

Table 22. Main macroeconomic indicators, IMF, ADB and GoA projections, %

	2013			2014			2015	
	IMF	ADB	MTEF	IMF	ADB	MTEF	IMF	MTEF
Growth	4.3	4.5	6.3	4.1	4.6	6.3	4.3	6.3
Inflation (average)	4.2	3.6	4.9	4.0	3.2	3.5	4.0	4.0
Current account/GDP	-9.6	-9.8	-9.5	-8.2	-9.1	-8.0	-6.8	-6.3
Export growth	9.6	8.5	9.5	11.2	9.0	9.3	9.6	9.6
Import growth	5.3	6.5	6.5	4.5	5.0	2.9	5.0	2.8

Abbreviations: IMF– International Monetary Fund, **ADB**–Asian Development Bank, **MTEF-** 2014-2016 Medium-Term Expenditure Framework of the Government of Armenia (GoA).

Source: IMF, ADB, MoF RA and EDRC.

According to the IMF projections (April 2013), the Armenian economy will grow on average by 4.2% (4.3% - in 2013). As a result, per capita GDP in 2015 will total to USD 3,054 which is equivalent to PPP-adjusted international USD 6,786 (international USD 6,128 – in 2013). As a result of such developments, Armenian economy in 2013 will exceed the pre-crisis output level by 2.7%.

Projections released in April 2013 reveal economic growth of 4.5% in 2013 and, in contrast to the IMF, they expect growth acceleration in 2014 to 4.6%.

The GoA 2014-2016 MTEF projects even more optimistic growth scenario: 6.3% annual growth during the entire projection period.

No inflation pressure is projected: overall, the environment will remain without tensions, while inflation rates – low and stable. Average inflation in 2013 is projected to be in the range of 3.6% (ADB) to 4.9% (GoA). In 2014, consumer prices will tend to decline: IMF projected a larger decline (around 4%), while ADB – lower (3.2%). Thereafter, inflation rate is projected to stabilize around 4%, as a result of which average inflation during 2013-2015 is projected to equal to 4.1% (GoA, IMF).

Exports are projected to grow faster than imports. According to 2013-2015 IMF projections, average exports growth rates are expected to reach 10.1%, while imports are expected to grow by 4.9%. GoA projections are slightly more conservative both for exports and imports growth: according to them exports are expected to grow on average by 9.5% annually during 2013-2015, while imports – by 4.1%.

The current account of BoP will continue to improve. According to the IMF estimates, Current account-to-GDP ratio is expected to reach from 9.6% in 2013 to 6.8% in 2015. GoA projections anticipate that Current account-to-GDP ratio in 2013 will equal to 9.5%, while in 2015 – 6.3%.

Thus, main projections on economic development of Armenia converge. Stabilization in real growth is expected – with medium growth rates – that will ensure recovery of pre-crisis output levels of the economy, together with price stabilization and improvement of current account deficit through faster growth of exports of imports.

The GoA projects higher growth rates in industry during 2013-2015 – on average 9.3% annually, with 9.4% projected for 2015. Agriculture is projected to grow by 4.5% in 2013, while on average for 2013-2015 – by 4.3%. Services are projected to grow on average 6.1% annually during 2013-2015.

Projections for construction in 2013 assume 3.5% growth, which may accelerate to 5% by 2015. Thus, average growth rates in this sector for 2013-2015 is projected at 4.2% which, however, will allow reaching only 60% of pre-crisis period.

Table 23. Main macroeconomic projections according to the Government of Armenia

	BM	PDSP			MTEF		
	2013	2013	2014	2015	2013	2014	2015
Real sector							
GDP real growth (%)	6.2	6.3	6.3	6.3	6.3	6.3	6.3
GDP deflator (%)	3.2	-	-	-	4.5	3.2	4.0
Inflation (period average, %)	4.2	3.5	3.8	3.6	4.9	3.5	4.0
Inflation (end-of-period, %)	4.0	-	-	-	4.2	4.0	4.0
Unemployment (period average, %)	18.2	16.6	16.2	15.8	-	-	-
Main Economic Sectors (real growth rates, %)							
Agriculture (A+B)	4.5	5.0	4.7	4.0	4.5	4.5	4.0
Industry (C+D+E)	9.2	9.9	9.4	9.5	9.3	9.2	9.4
Construction (F)	3.5	4.5	5.0	5.5	3.5	4.2	5.0
Service (G-P)	6.2	6.0	6.1	6.2	6.0	6.1	6.2
Growth per expenditure components (real growth rates, %)							
Final consumption	5.0	-	-	-	3.6	3.7	3.9
Gross formation of capital	8.7	-	-	-	12.6	3.8	4.4
Export of goods and services	12.9	-	-	-	9.5	9.3	9.6
Import of goods and services	7.4	-	-	-	6.5	2.9	2.8
Government Budget (as share of GDP, %)							
Revenues and grants	22.8	23.3*	23.8*	23.8*	23.3	23.6	23.6
Taxes and duties	21.9	22.3*	23.0*	23.3*	22.4	22.8	23.0
Expenditures	25.4	26.0*	26.1*	25.8*	26.0	25.9	25.6
Deficit	2.6	2.7*	2.3*	2.0*	2.6	2.3	2.0
External sector (As share of GDP, %)							
Goods and services balance	-21.5	-	-	-	-22.2	-20.8	-19.1
Export of goods and services	27.5	27.6	29.9	32.8	26.8	28.4	30.2
Import of goods and services	49.0	49.1	49.3	49.3	48.9	49.2	49.3
Trade balance	-18.8	-	-	-	-19.7	-18.3	-16.7
Current account balance	-9.2	-9.4	-7.6	-5.8	-9.5	-8.0	-6.3
Current account balance (excl. official grants)	-9.5	-	-	-	-9.9	-8.3	-6.5
Exchange rate (AMD/USD, period average)	405.5	419**	439**	461**	422**	442**	464**
External debt	37.6	40.4	38.6	37.2	35.1	33.8	32.1

Abbreviations: Budget Message – 2013 Budget Message of the GoA, **PDSP -** 2012-2025 Perspective Development Strategic Program, **MTEF -** 2014-2016 Medium Term Expenditures Framework of the GoA.

Note: * Consolidated Budget indicators, ** EDRC calculations.

Source: MoF RA and EDRC.

On average, Budget revenues are projected to be equivalent to 23.5% of GDP during 2013-2015. Notable, Tax revenues (including duties and other mandatory payments) in 2013 are projected at 22.4% of GDP, while in 2015 – 23%. Budget deficit as share of GDP is projected to continue improving and reach 2% in 2015 from 2.6% in 2013.

External Debt/GDP ratio will continue to remain high despite the slow trend towards decreasing. External debt is estimated to be equivalent to 35.1% of GDP in 2013, further going down to 33.8% in 2014 and 32.1% - in 2015.

SECTION 2

HUMAN CAPITAL AND ECONOMIC GROWTH

2.1. General Demographic Situation

Developments during the past 100 years

During the 20th century, dynamic demographic developments took place in the Southern Caucasus, including the territory of Armenia as the population of all 3 countries in this region increased drastically.

Huge impact on the demographic developments in Armenia was made by the inflow of people during the First World War from the historic regions of Western Armenia (particularly, as a consequence of the Armenian Genocide), immigration from communities of Armenian Diaspora after the Second World War, and emigration to Russia after independence in early 1990s which continues currently and is the result of more complex and deep social and civic factors.

According to the 1897 Census carried out in the Russian empire, the population of Armenia equaled 798 thousand people. 1926 Census showed 881 thousand people living in Soviet Armenia. Overall, the population of Armenia increased by more than 3 times since Armenia was included into the Soviet Union and exceeded 3 million in 1979, reaching it maximum level of 3.6 million in 1991.

Table 24. De jure population of Armenia in 1897-2012, thousands (end of year)

	1897*	1920	1926*	1939*	1959*	1970*	1979*	1989*	1991	2001*	2011*	2012
Total	**798**	**720**	**881**	**1,282**	**1,763**	**2,492**	**3,031**	**3,288**	**3,633**	**3,213**	**3,019**	**3,027**
Urban	97	122	167	366	882	1,482	1,993	2,230	2,503	2,066	1,911	1,918
Rural	701	598	714	916	881	1,010	1,038	1,058	1,130	1,147	1,108	1,109
Male	na	na	449	649	842	1,217	1,475	1,626	1,762	1,542	1,448	1,452
Female	na	na	432	634	921	1,275	1,556	1,662	1,872	1,671	1,571	1,575
Yerevan	29	31	65	204	509	775	1,019	1,202	1,254	1,103	1,060	1,066

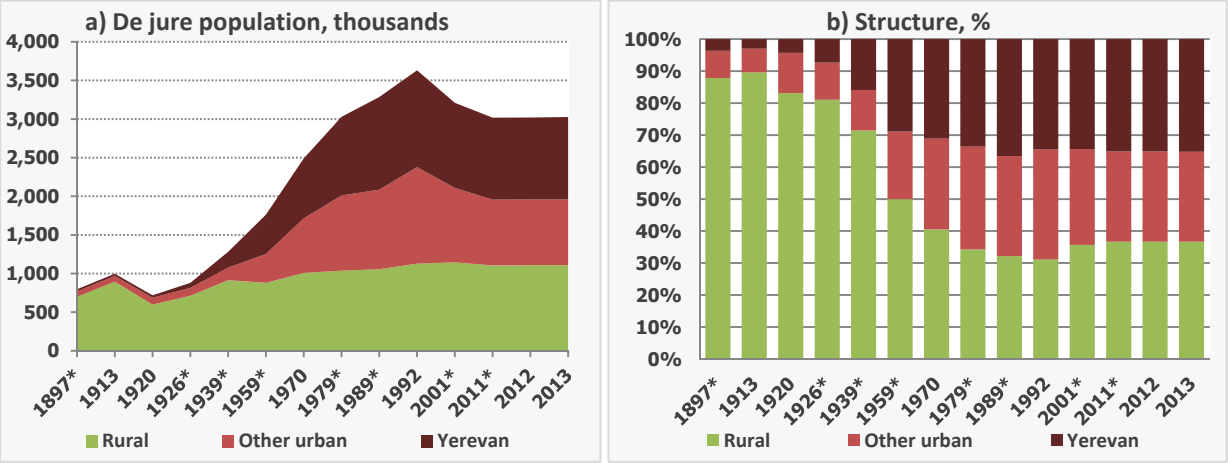
Note. (*) according to Censuses data: if not mentioned specifically, the data is as of the end of the year.

Source: NSS of RA, SCREC [7].

Population growth in Armenia mostly took place due to increase in urban population. At the beginning of the 20th century, more than 80% of population lived in rural areas. Intensive industrialization and urbanization in Soviet period resulted in a drastic growth in urban population. During 1926-1991, rural population grew by 48%, while urban population increased by more than 12 times. As a consequence, if urban and rural population numbers were in balance in 1960s, 69% of population in 1991 was urban.

The role of the capital city is very large and it has increased by 18 times. In the beginning of the last century 30 thousand people lived in Yerevan, while by end-1970s the population in Yerevan exceeded 1 million. In 1991, population in Yerevan totaled to 1 million 250 thousands.

Figure 28. De jure population of Armenia, 1897-2012



*** Population Censuses, Source: NSS of RA, SCREC.**

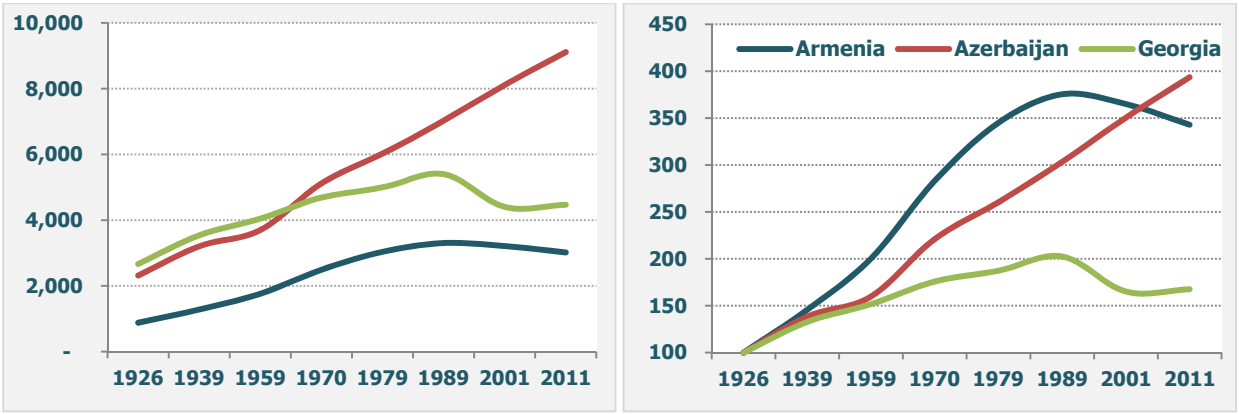
[7] State Committee of Real Estate Cadastre under the Government of the RA, Geodesy and Mapping Center SNCO, "Dictionary of settlements in Armenia"

Although the Soviet period left significant impact on all three countries of the Southern Caucasus, nonetheless, the largest population growth rate was recorded in Armenia (see Figure 2b), while the smallest in Georgia.

In post-Soviet period, population in Armenia and Georgia decreased, while population in Azerbaijan continues growing at a rather high pace. In 1989, the population of Armenia exceeded its 1926 level by 3.75 times, in Azerbaijan by 3 times, while in Georgia by 2 times. When comparing 2011 figures to 1926 level, the population in Armenia increased by 3.4 times, Georgia by 1.7 times, while Azerbaijan by about 4 times.

Prior to 1959, the population of Azerbaijan was lower than in Georgia (2.3 million in 1926 and 3.7 million in 1959). Due to continuous high birth rates in Azerbaijan, the population of this country reached 7 million by 1989 and 9 million in 2011.

Figure 29. Dynamics of de jure population in the Southern Caucasus, 1926-2011



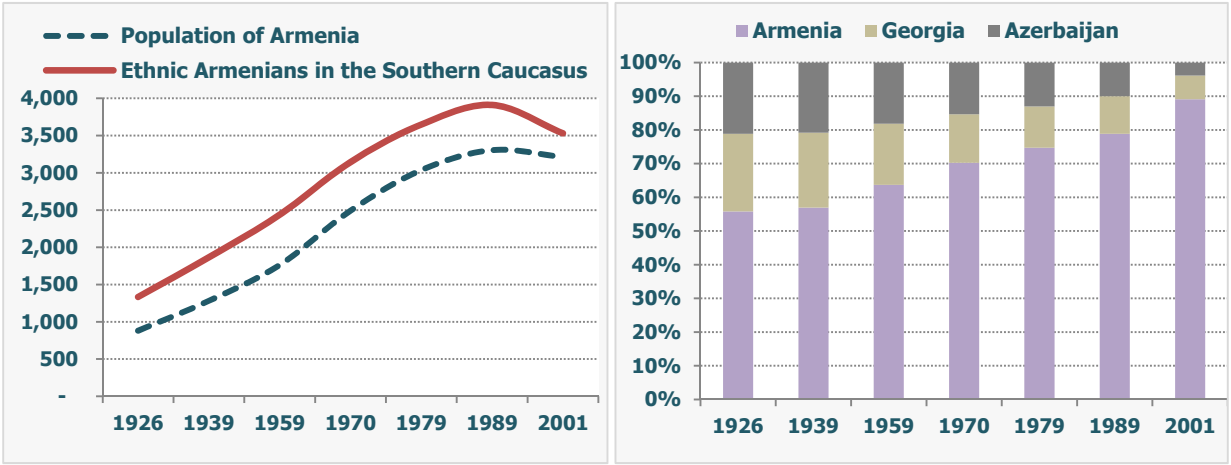
Source: USSR Censuses, national statistical services of respective countries, EDRC calculations.

Armenian population in all three Southern Caucasus countries in 1926 reached 1.3 million, while the total population of Armenia equaled 0.88 million. In 1926, 589 thousand Armenians lived in Georgia and Azerbaijan and 744 thousands – in Armenia. Armenian population in Georgia and Azerbaijan grew until 1970s and decreased thereafter. In 1979, 923 thousand Armenian permanently lived in Azerbaijan and Georgia, while in 1989 this number was 828 thousand (437 thousand in Georgia and 391 thousand in Azerbaijan). Already in 2001, only 249 thousand Armenians lived in Georgia, while there are no Armenians living in Azerbaijan. Around 136 thousand Armenians live in Nagorno-Karabakh Republic.

Figure 30. Numbers of Armenian population in the Southern Caucasus in 1926-2001

a) Population, thousands

b) Distribution of ethnic Armenians in the Southern Caucasus, %

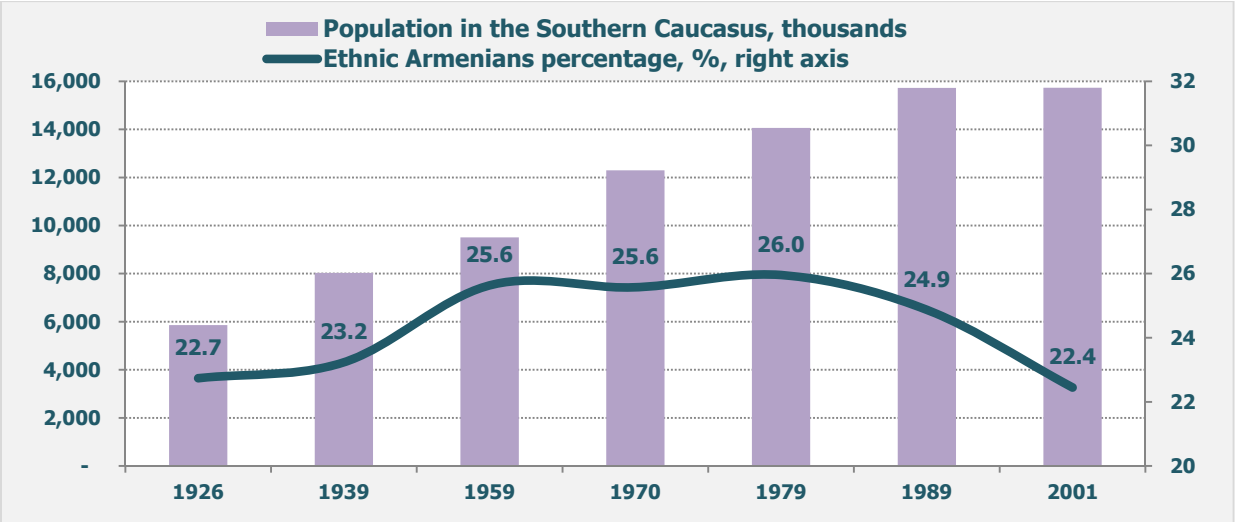


Source: USSR Censuses, national statistical services of respective countries, EDRC calculations.

Therefore the population in the Southern Caucasus grew considerably during Soviet period and remains stable thereafter. That is explained by the high rates of emigration from Armenia and Georgia which are contrasted by the increasing population of Azerbaijan.

As a result of emigration of Armenians and high growth rates of Azeris, the role of ethnic Armenians in the Southern Caucasus decreases. In 1926, 22.7% of total population in the Caucasus (in all 3 republics together) was ethnic Armenians, while their share reached 26% by 1979. Unfortunately, as of 2001 data, Armenians constitute 22.4% of population in the Southern Caucasus which is below the 1926 indicator (see Figure 31).

Figure 31. De jure population in the Southern Caucasus and the share of ethnic Armenian



Source: USSR Censuses, National Statistical Services of respective countries, EDRC calculations.

Emigration from the Republic of Armenia

Census in the Republic of Armenia was carried out two times: in 2001 and 2011. They both recorded extensive emigration of population. During 1991-2001, population of Armenia decreased by 420 thousands, while during 2001-2011 by 194 thousands. Consequently, the population of Armenia decreased by 614 thousands or by 16.9%.

Table 25. Change in the population of Armenia, 1992-2011

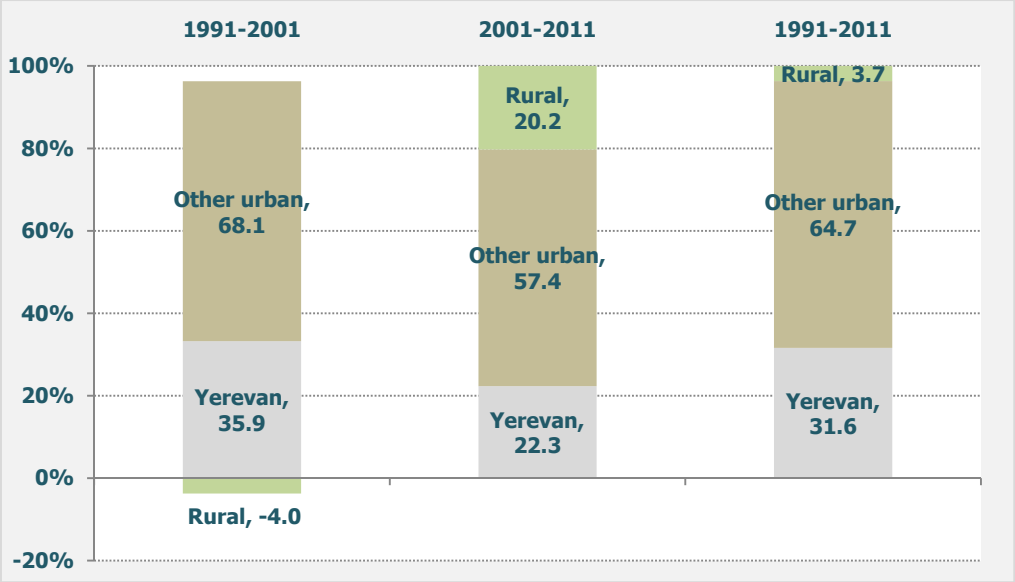
	1991	2001	2011	2001/ 1991	2011/ 2001	2011/ 1991	2001/ 1991	2011/ 2001	2011/ 1991
	Population, thousands			Change, thousands			Change, %		
Armenia	3,633	3,213	3,019	-420	-194	-614	-11.6	-6.0	-16.9
Urban	2,503	2,066	1,911	-437	-155	-592	-17.5	-7.5	-23.6
Yerevan	1,254	1,103	1,060	-151	-43	-194	-12.0	-3.9	-15.5
Other urban	1,249	963	851	-286	-112	-398	-22.9	-11.6	-31.9
Rural	1,130	1,147	1,108	17	-39	-22	1.5	-3.4	-2.0

Source: NSS of RA and EDRC calculations.

Emigration is especially high in urban areas, namely from small and medium towns. During 1991-2011, urban population of Armenia decreased by about 24%, including the population in urban areas of Marzes decreased by about one third. It is interesting, that rural population not only did not decreased during 1991-2001, but even grew by 1.5%. Thereafter, emigration resulted in the decrease in rural population, likewise.

As a result, about 64.7% of the total population reduction took place due to the reduction in urban areas of Marzes, while 31.6% due to the reduction of population of Yerevan. Decrease in the rural population explains only 3.7% of the reduction in the total population (see Figure 32).

Figure 32. Shares of urban and rural population in the total decrease in population, %



Source: NSS of RA and EDRC calculations.

Population decreased in all Marzes. The highest decline is recorded in Lori Marz which fell by 37.5% (142 thousands), Shirak by 26.5% (91 thousands) and Kotayq by 18% (56 thousands). Population of Yerevan decreased by 15.5% (194 thousand), which explains the 31.6% of the decline in the total population of Armenia.

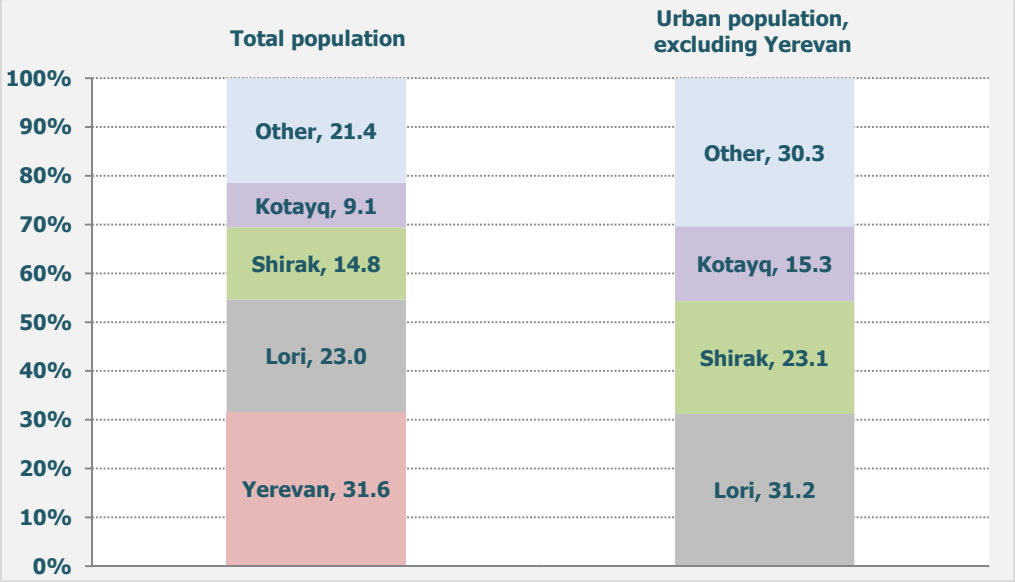
Table 26. Changes in the population of Armenia, 1991-2011, per Marzes

	Armenia	Urban	Rural	Armenia	Urban	Rural
	Change, thousands			Change, %		
Total	**-614**	**-592**	**-22**	**-16.9**	**-23.6**	**-2.0**
Yerevan	-194	-194	-	-15.5	-15.5	-
Aragatsotn	-16	-13	-3	-10.6	-29.2	-3.0
Ararat	-26	-21	-5	-9.1	-22.5	-2.4
Armavir	-27	-32	5	-9.2	-27.1	2.7
Gegharkuniq	-20	-26	7	-7.7	-26.8	4.2
Lori	-142	-124	-17	-37.5	-47.4	-15.1
Kotayq	-56	-61	5	-18.1	-30.7	4.3
Shirak	-91	-92	1	-26.5	-38.5	1.1
Syuniq	-14	-15	2	-8.8	-13.8	3.3
Vayots Dzor	-10	-7	-3	-16.4	-27.9	-8.4
Tavush	-19	-6	-13	-13.0	-10.6	-14.7

Source: NSS of RA and EDRC calculations.

Urban population in Lori Marz declined almost by half (47.4%), while in Shirak – by 38.5%. As a result, 31.2% of the decline in urban population in Marzes occurred due to the decrease in urban population of Lori, while 23.1% - due to the decline in Shirak and 15.3% - in Kotayq Marz. Other 7 Marzes altogether contributed to the 30% of the decline in urban population (slightly less than the contribution of Lori Marz) (see Figure 33).

Figure 33. Marzes with major contribution to the decrease in population, 1991-2001



Source: NSS of RA and EDRC calculations.

Decline in the population is large in the cities of Gyumri, Vanadzor, Hrazdan, Ejmiatsin, Gavar and Charentsavan. Only during 2001-2011, the population in these 6 cities decreased by about 80 thousand which explains more than 70% of the decline in urban population of towns and cities in Marzes of Armenia.

Comparison of data from 2001 and 2011 Censuses shows that the population in the following 7 urban communities – Artik, Dilijan, Byureghavan, Martuni, Ijevan, Yeghvard and Dastakert – grew (by 6.9 thousands).Table 27 presents the overall dynamics of the urban population during 2001-2011.

Table 27. Change in the urban population of Armenia during 2001-2011

	Number of communities	Change in the Population, thousands
Total cities and towns in Marzes	**48**	**-114.4**
Population decreased	41	-121.3
Population increased	7	6.9

Source: NSS of RA and EDRC calculations.

The largest decline in rural population again was recorded in Lori Marz by 15% and in Tavush Marz – by 14.7%. Interestingly, according to the official statistics, rural population in 5 Marzes increased during 1991-2011. Notably, increase is recorded in Marzes where civic observations speak about high rates of emigration, e.g. Gegharkuniq and Shirak Marzes (see Table 26). Population decreased in 615 rural communities during 2001-2011, while it increased in 252 communities.

Table 28. Changes in the rural communities of Armenia during 2001-2011 broken down per their altitude from the sea level

	Population decreased		Population increased*		Total	
	Number of communities	Change in population, thousands	Number of communities	Change in population, thousands	Number of communities	Change in population, thousands
Rural communities	**615**	**-79**	**252**	**42.6**	**867**	**-36.5**
Valleys	206	-31.7	101	19.8	307	-11.9
Pre-mountainous	177	-26.1	54	6.1	231	-20
Mountainous	130	-13.1	37	4.1	167	-8.9
High-mountainous	102	-8.1	60	12.5	162	4.4

* includes 6 rural communities where population did not change

Source: 2001 and 2011 Censuses data of NSS of RA, EDRC calculations.

Table 28 presents rural communities broken down based on based on altitude. Altitude indirectly reflects the climate of the communities and helps develop a perspective on the main agriculture sub-sectors in each community. Presented data allow to conclude that the decrease in population during 2001-2011 does not strictly depend on the altitude. Table 28 shows that population decreased in all groups of communities. On average, population decline was recorded in 71% of communities. Nevertheless, population decreased in 78% of Mountainous communities and 67% of communities in Valleys. Population decline was recorded in relatively small number of High-mountainous communities namely 63%. These communities are usually very small and, overall, significantly isolated from the external world and markets. Communication constraints limit the opportunities for employment abroad and, thus, emigration which is the major reason for the population decline.

Although population decline was recorded in 78% of Mountainous communities and 67% of communities located in Valleys, the first group has relatively low share in the total decline in the rural population of Armenia namely 17%, while communities in Valleys have a larger share of 40%. Also, the share of Pre-mountainous communities in the total decline of rural population is quite high and reaches 33%. This is explained by the fact that the villages and population in communities on Valleys and Pre-mountainous communities are large, while the Mountainous and, especially, High-Mountainous villages are small.

Table 29. Communities with population decrease and impact of population decline therein on the total rural population decline in 2001-2011, broken down per altitude from the sea level

	Number of communities with population decline, % in each group	The share of the population decline in each group in the total, %
Rural communities	**70.9**	**100.0**
Valleys	67.1	40.1
Pre-mountainous	76.6	33.0
Mountainous	77.8	16.6
High-mountainous	63.0	10.3

Source: 2001 and 2011 Censuses data of NSS of RA, EDRC calculations.

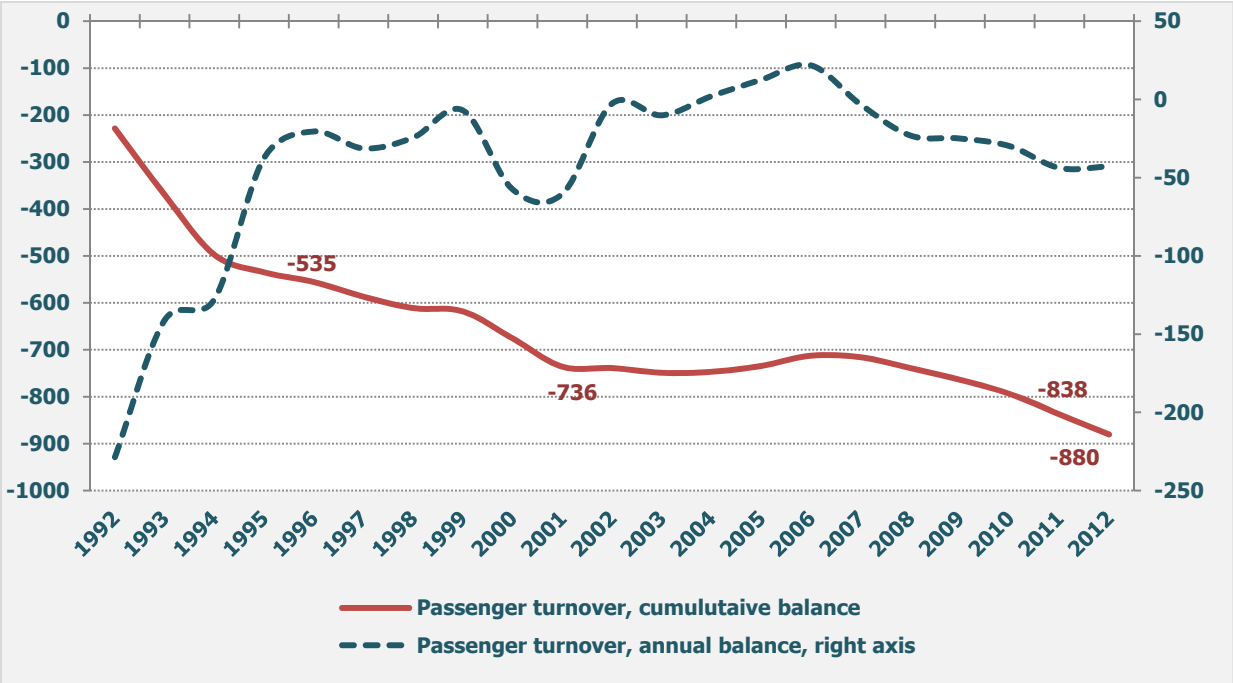
Accuracy and Reliability of Statistics

There are a number of reasons that make it difficult to ensure the accuracy of demographic data and, in particular, population numbers. These factors may have political, technical and administrative grounds. It is apparent that a large group of population actually permanently lives in other countries; however formally remain to be citizens/inhabitants of Armenia (did not refuse or did not apply for refusing). As a result, the administrative registry experiences difficulties in recording the dynamics of de jure population. On the other hand, the Census, as a large nationwide and very complex measure also regarding data quality and administration.

Data from 2011 Census, especially on various specific villages and towns, does not correspond to the public observations and widespread opinion in the society, which results in reduced confidence towards these data. Deviations are also large in comparisons between Marzes which is difficult to explain. For example, rural population in Lori Marz declined by 17%, while in Gegharkuniq and Shirak it grew by 7% and 1% respectively.

Data on passenger turnover is used to indirectly describe emigration. In particular, the annual balance between the passengers arrived to and left Armenia by various means of transportation gives certain idea on the trends of the changes in the population of Armenia and emigration. Figure 7 depicts these data for 1992-2012, both the annual values and cumulatively. The figure shows that the negative balance between the numbers of arrived and left passengers during 1992-95 totaled to about 535 thousands. During 2004-2006, a positive balance was recorded in total of 36 thousands, the cumulative balance after which is still negative with some acceleration. Thus, the difference between passengers arrived to and left from Armenia during 1992-2012 equals 880 thousands.

Figure 34. Passenger turnover balance, difference between arriving and leaving passengers during 1992-2012, thousands *



*1992-1999 contain only air transportation data.

Source: Ministry of Transport and Communications of RA, NSS of RA and EDRC calculations.

Emigration indices are calculated in the Table below based on the official data. According to that data, the net emigration from Armenia from 1991 to 2012 totaled to 964 thousands.

Table 30. Indices of population movements and emigration in 1991-2012, thousands

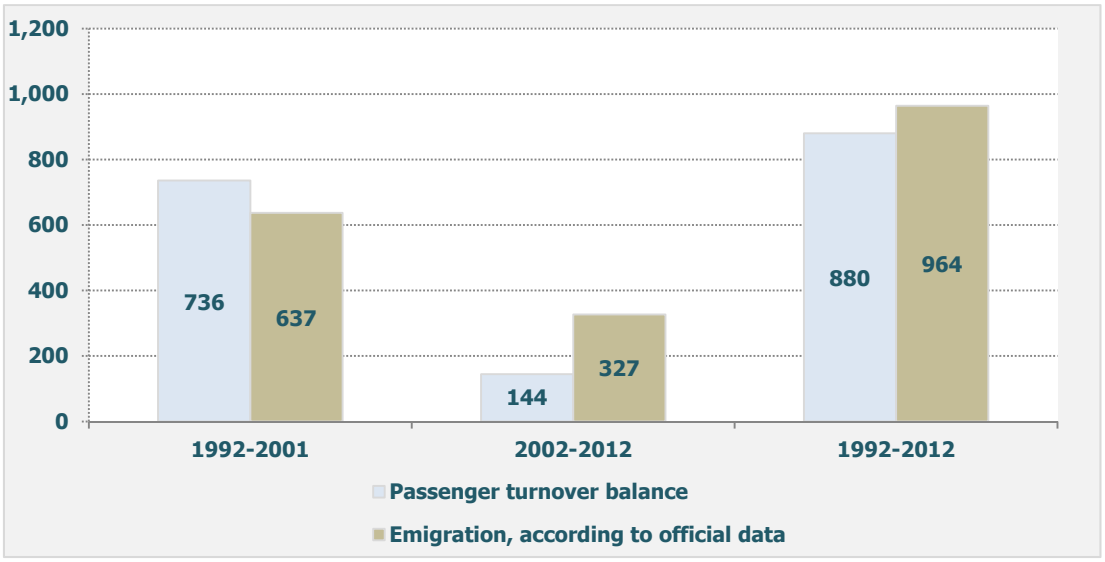
Population as of end-1991	3,633.3
Population as of end-2012	3,026.9
Births during 1992-2012	901.0
Deaths during 1992-2012	543.2
Natural growth during 1992-2012	357.9
Emigration during 1992-2012	**964.3**

Source: NSS of RA and EDRC calculations.

Figure 35 compares passenger turnover and emigration indicators. As presented, the negative balance of passenger turnover in 1992-2001 exceeds the emigration figures calculated according to the official statistics. Yet, the passenger turnover balance in 2002-2012 is lower than the emigration figures. These differences can be mainly explained by the time lag that exists between the actual emigration of population and its formal registration or change in citizenship.

Consequently, official statistics recorded an emigration of 964 thousands during 1992-2012. Passenger turnover data which, however do not include data on passenger turnover data for railway and cars/buses during 1992-1999 (these data do not exist), is lower by 84 thousands.

Figure 35. Indicators describing emigration, thousands



Source: NSS of RA and EDRC calculations.

Passenger turnover statistics may be more accurate, since it is based on the actual border crossings. Therefore, by comparing these data with the data obtained through the Census, one can conclude that official data do not considerably deviate or largely represent the real picture. In other words, the comparison shows that emigration from Armenia could be more than 964 thousands (that implies that actual population in 2012 is below 3,027 thousands), if the negative balance of passenger turnover via railway and cars/buses during 1992-99 exceeds 84 thousands.

Urban and Rural Population in Marzes

According to official data, de jure population in Armenia in 2012 totaled to 3 million 27 thousands, 35.1% of which lives in Yerevan, 28.2% - in other urban and 36.7% - in rural areas.

Urban population lives in 48 towns and cities that vary in terms of their sizes. More than half of total urban population namely 56% lives in the first 10 largest cities, while 22% lives in the second 10. The largest 20 cities and towns altogether count for about 78% of total urban population of Marzes. Total average population in the remaining 28 towns equals 6,800 which constitutes 22.3% of urban population in Marzes. The population decline of the recent years resulted in a declining share of large cities.

Table 31. Distribution of urban population depending on the size of cities and towns, excluding Yerevan

	2001		2011	
	Share in total, %	Cumulative share, %	Share in total, %	Cumulative share, %
First 10 largest cities	58.4	-	55.7	-
Second 10 largest cities	20.4	78.9	21.9	77.6
Remaining 28 cities and towns	21.1	100.0	22.3	100.0

Source: NSS of RA and EDRC calculations.

Despite high rates of population decline, Gyumri remains the largest city in the Marzes as it contains 14-15% of all urban population. Only during 2001-2012, population of Gyumri decreased by 29 thousands or by 19%. Currently, the population of Gyumri is equivalent to the population of 23 small towns of Armenia.

The second largest city in the Marzes is Vanadzor which constitutes 10% of all urban population. Gyumri and Vanadzor together have one quarter of all urban population which is equivalent to the population of 30 small towns of Armenia.

The third largest city is Ejmiatsin which, however, it is 2.6 times smaller than Gyumri and 1.9 times smaller than Vanadzor in terms of population numbers. Between 2001 and 2011, Hrazdan and Gavar moved downwards in the list of the first 10 cities, while Charentsavan is no longer among the largest 10 cities (see Table 32).

Table 32. 10 largest cities and shares thereof in the total urban population, excluding Yerevan

10 largest cities in 2001			10 largest cities in 2011		
City	Share in the total, %	Cumulative shares, %	City	Share in the total, %	Cumulative shares, %
1. Gyumri	15.6	15.6	1. Gyumri	14.3	14.3
2. Vanadzor	11.1	26.6	2. Vanadzor	10.1	24.3
3. Ejmiatsin	5.8	32.5	3. Ejmiatsin	5.4	29.8
4. Hrazdan	5.4	37.9	4. Abovyan	5.1	34.9
5. Kapan	4.7	42.6	5. Kapan	5.0	39.9
6. Abovyan	4.6	47.2	6. Hrazdan	4.9	44.8
7. Armavir	3.3	50.5	7. Armavir	3.4	48.2
8. Gavar	2.7	53.3	8. Artashat	2.6	50.8
9. Artashat	2.6	55.8	9. Ijevan	2.5	53.3
10. Charentsavan	2.6	58.4	10. Gavar	2.4	55.7

Source: NSS of RA and EDRC calculations.

The rural population of Armenia is distributed extremely disproportionally. Table 10 presents the distribution of rural communities per size groups and distribution of population therein.

Obviously, the number of small and super-small villages is very high in Armenia. 493 rural communities which is more than half of all rural communities of Armenia (56.9%) have a population that is below 1000. Notably, population of 194 of these communities (22.4%) is below 300 or less than 70 households. Logically, provision of education, healthcare, and various social and business services is limited in these communities, along with the efficiency of potential investments in infrastructure.

Table 33. Distribution of Armenian villages and population therein per size

	Number of communities		Population, 2011	
	Communities	Share, %	Population, thousands	Share, %
Population size of 0-1000	**493**	**56.9**	**211.2**	**19.1**
0-300	194	22.4	32.0	2.9
300-500	118	13.6	46.2	4.2
500-1000	181	20.9	133.1	12.1
Population size of 1000-3000	**296**	**34.1**	**522.7**	**47.4**
1000-1500	115	13.3	140.6	12.7
1500-2000	83	9.6	143.7	13.0
2000-3000	98	11.3	238.5	21.6
Population size above 3000	**78**	**9.0**	**369.5**	**33.5**
3000-4000	29	3.3	99.3	9.0
4000-5000	25	2.9	113.1	10.3
Above 5000	24	2.8	157.1	14.2
Total villages	**867**	**100.0**	**1,103.4**	**100.0**

Source: NSS of RA and EDRC calculations.

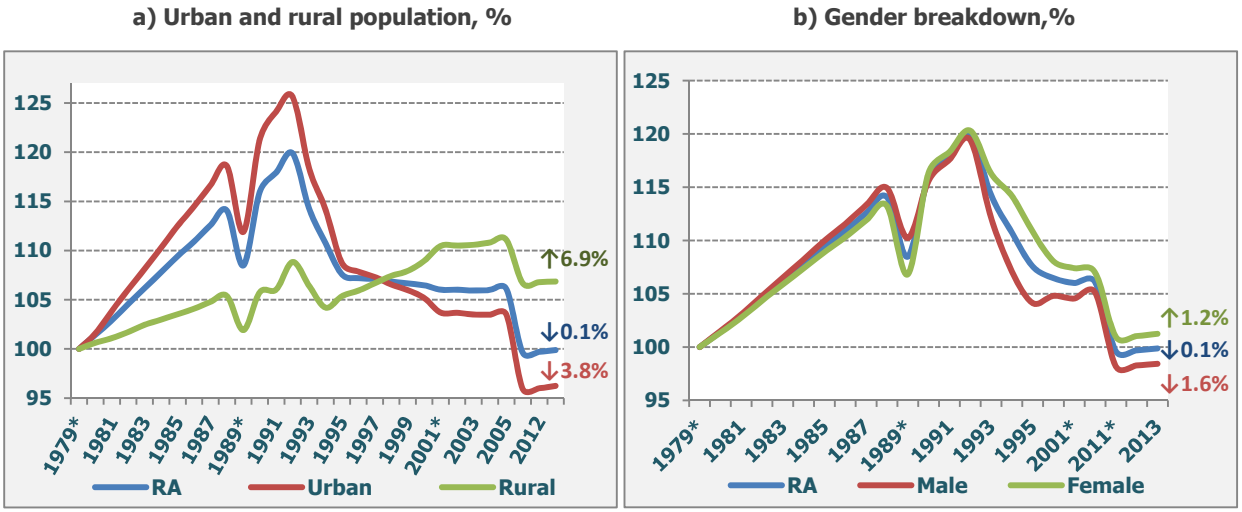
The population living in the smallest 500 villages of Armenia is generally equal to the population living in the 50 largest villages. Consequently, according to the latest Census, there are 78 villages that have a population above 3000. The population of the latter is 370 thousands or about one third of total rural

population of Armenia. There are 24 villages with over 5000 population in each and the total population of these villages reaches 157 thousand people.

Demographic Retreat

The current population according to official statistics is close to its level of late-1970s. In other words, currently, the population of Armenia is close its level of 30-35 years ago. Demographic developments that occurred during the final 10 years of Soviet Union were drawn back during the 20 years of independence and large structural shifts have occurred since then. By 2012, the population of Armenia is by only 0.1% smaller compared to the census data of 1979. The gender distribution of population did not change significantly as the share of females increased by 1.2%, while the share of males – decreased by 1.6%.

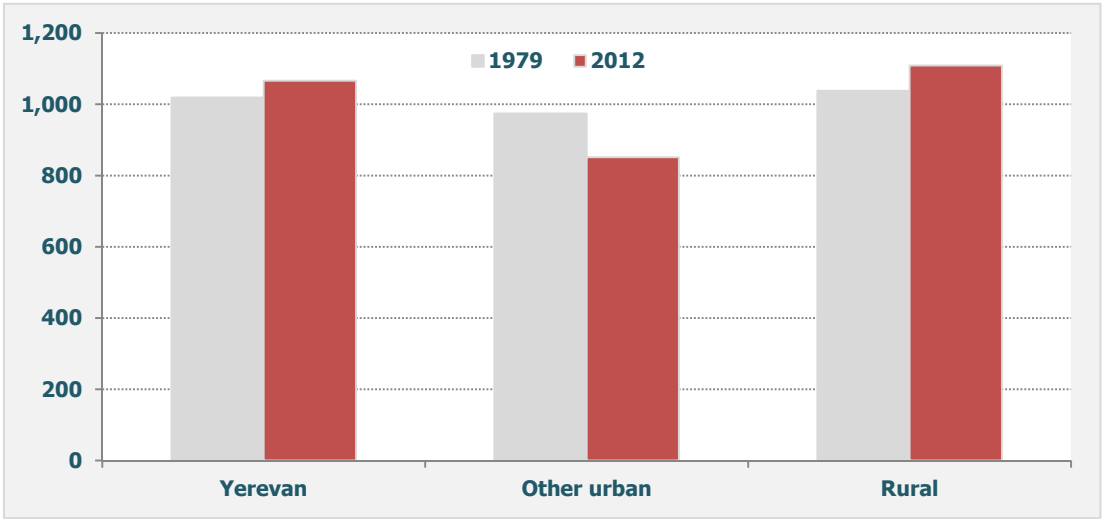
Figure 36. Regional and gender distribution index of population in 1979-2012, 1979=100%



* Data as per Censuses. Source: NSS of RA and EDRC calculations

Territorial and regional shifts are much more significant. The current Yerevan is larger by 4.6% compared to 1979, meanwhile the share of cities and towns in Marzes decreased by 12.6%. Rural population in 2012 exceeds the 1979 level by 6.8%.

Figure 37. Comparison of population structure between 1979 and 2012, thousands

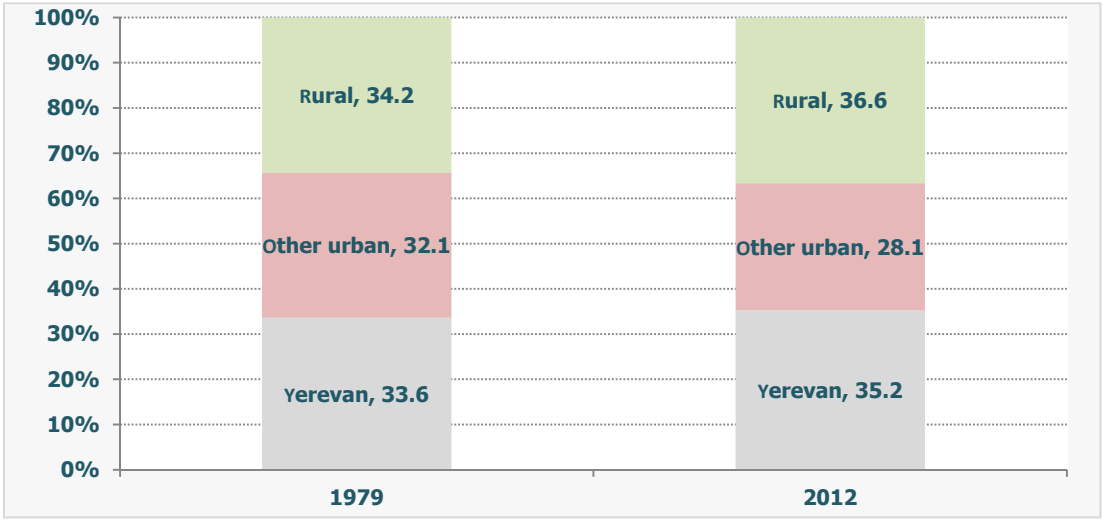


Source: NSS of RA and EDRC calculations

Hence, although the total population in 2012 is close its 1979 level, there is a certain regress in terms of territorial distribution. On the other hand urbanization level has decreased which predominantly was the result of decreased urban population of the Marzes by 4 percentage points.

Under the circumstances of equal population numbers, the birth rate currently is considerably lower, while death rate is considerably higher as compared to 1979 (see Figure 39). Despite some improvements during recent years, the birth rate in 2012 equaled 14 per 1000 people, while in the 1970s this number exceeded 22. Death rate has demonstrated a stable growing trend and reached 9.1 in 2012, while it was 5.1-5.5 per 1000 in the 1970s.

Figure 38. Comparison of population structures in 1979 and 2012, %

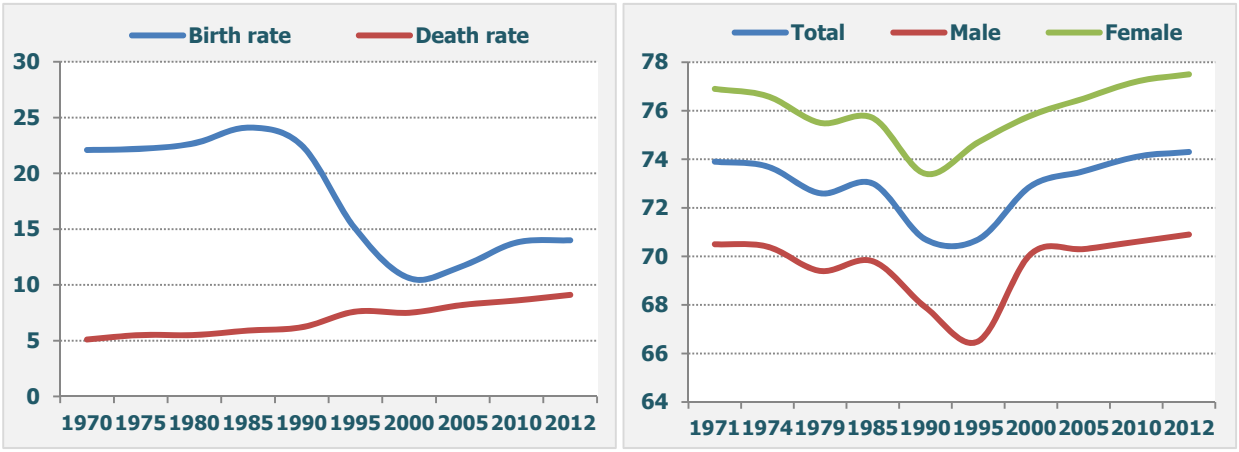


Source: NSS of RA and EDRC calculations.

Life expectancy has recovered after a drastic drop in 1990s. Male life expectancy in 2012 equaled 70.9 years, while for females this was 77.5 years. These are higher than the indices in 1970s.

Figure 39. Birth rate, death rate and life expectancy in Armenia in 1970-2012

a) Birth and death rates per 1000 people **b) Life expectancy at birth, years**



Source: NSS of RA and EDRC calculations.

Consequently, population of Armenia experiences a serious demographic regress. The population number is close to its level of 30 to 35 years ago, while, there is increased rural population, reduced population in small and medium urban communities, lower birth rates and relatively high death rates.

2.2. Sector Distribution of Labor Force and Productivity

About 75% of Armenia's population constitutes labor force, of which 63% (46.9% of the total population) is economically active and 37% (or 27.9% of total population) is economically inactive. Dynamics of population and labor resources suggests that, during the recent years, employment indicators in Armenia improved as unemployment declined and non-agricultural employment increased. Nevertheless, there are some limitations related to data consistency and accuracy that create certain difficulties for comprehensive evaluation of employment trends.

Employment indicators are derived from unemployment indicators which are calculated using two methods involving: formal registration (in fact, self-declaration) and based on the results of Integrated Survey on Living Standards (ILCS) of HHs of the RA NSS. According to the mentioned studies, the level of unemployment in RA was 17.3% in 2012 (calculated as share of total economically active population) or 8.1% of total population was considered unemployed. Unemployment rate calculated on the basis of formally registered unemployed people is obviously far from the reality: it was only 4.6% in 2012.

Statistics on employment in agriculture is based upon the number of people registered in agricultural farms and not on the actual number of employed individuals. As a result, employment rate in this sector is certainly overestimated.

On the other hand, certain legal and administrative changes that occurred during the last decade, affected employment and salary data that are declared by business entities, leading to certain statistical inconsistencies. Nevertheless, the quality of administrative statistics coming from business entities improved in recent years, although it is difficult to estimate the shifts in the shadow economy. Official estimates of informal employment are rather high. Informal non-agricultural employment was estimated to be 19.3% in 2012 (relative to the employed) [8].

Table 34. Structure of labor force in Armenia, % of population

	1995	2000	2005	2010	2012
Population	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Labor force	65.4	73.1	64.4	73.5	74.8
Economically active population	48.5	44.8	37.2	45.0	46.9
Unemployed	-	-	-	8.6	8.1
Employed	45.3	39.6	34.1	36.5	38.8
Employment in agriculture	16.4	17.1	15.6	15.3	14.1
Non-agricultural employment	28.9	22.5	18.5	21.2	24.7
Economically inactive population	16.9	28.2	27.3	28.5	27.9

Source: NSS of RA and EDRC calculations.

Despite the abovementioned limitations, official statistics remain the best available data source. According to official statistics 38.8% of the population, or 82% of economically active population, was employed in 2012. Notably, a large part of the population - about 14% - was employed in agriculture, and only 25% of population was employed in non-agricultural sectors (about 53% of labor force).

The overall employment level in the economy is rather low. The burden to support the unemployed is high enough for those who are employed. Figuratively speaking, an employed individual has to earn enough for him or herself and for additional 1.6 people (directly or indirectly). In the meantime, this takes place when the average salary levels are relatively low, especially in some sectors of economy.

Sector distribution of employment has the following breakdown. As it was mentioned, agricultural employment is the largest, providing about 37% of the overall employment in the country, although this sector makes up for 19% of the GDP. About 12% of the employed are distributed in 3 main industrial subsectors which together provide for 17% of the GDP.

[8] *Labor Market in the Republic of Armenia, 2008-2012*, NSS of RA

Education and trade sectors are large sectors in terms of employment, respectively with 9.7% and 9% employment. Construction with 12.2% of GDP accounts for only 5.9% of employment.

Table 35. Structure of nominal GDP and employment in 2012

	Nominal GDP		Employed	
	AMD bln	%	Thousands	%
Agriculture	764.0	19.1	437.2	37.3
Industry	687.5	17.2	138.4	11.8
Manufacturing	396.8	9.9	93.7	8.0
Mining	116.9	2.9	10.0	0.9
Power and water supply	173.7	4.3	34.7	3.0
Construction	489.0	12.2	69.2	5.9
Trade	517.0	12.9	113.7	9.7
Transportation and communication	269.3	6.7	73.9	6.3
Financial activities	181.1	4.5	10.1	0.9
Public administration	150.7	3.8	78.0	6.7
Healthcare, social services	151.3	3.8	54.7	4.7
Education	119.8	3.0	105.3	9.0
Other	667.9	16.7	92.6	7.9
GDP	**3,997.6**	**100.0**	**1,172.8**	**100.0**

Source: NSS of RA and EDRC calculations.

Consequently, sectoral distribution of employment differs significantly from the picture of contribution of those sectors in generation of gross added value for the economy. This fact suggests that there are significant intersectoral variations in labor productivity and salaries.

Trade is the largest non-agricultural sector of the Armenian economy, both in terms of employment and added value. The second largest sector in terms of employment is education. Number of employed people here is higher than in manufacturing. Public administration follows manufacturing which is, then, followed by transport and communication (see Table 36).

Table 36. 5 Major non-agricultural sectors of Armenian economy

Position	By added value	By employment
1	Trade	Trade
2	Construction	Education
3	Manufacturing	Manufacturing
4	Transport and communication	Public administration
5	Financial activities	Transport and communication

Source: NSS of RA and EDRC estimates.

Despite being the largest exporting sector, mining industry has small contribution in terms of added value generation and employment. It concedes trade by 4.4 times in terms of added value generation and more than 11 times in terms of employment. Financial activities sector exceeds education about 1.5 times in terms of added value despite that its employment is 10 times less than in education. Nevertheless, labor productivity (or added value per employee) as well as average salaries are the highest in the financial activities sector in comparison to all other sectors of economy.

In terms of productivity, financial activities sector is followed by mining industry, construction and power and water supply. Trade sector is the fifth (see Table 38 and Figure 40).

Table 37. Labor productivity and average monthly salaries by sectors in 2012

	Productivity, AMD monthly*	Average nominal monthly salaries, AMD
Agriculture	145,630	83,636
Industry	413,928	129,961
Manufacturing	352,932	110,977
Mining	974,503	258,127
Power and water supply	417,086	144,287
Construction	588,896	135,181
Trade	378,936	81,867
Transportation & communication	303,654	148,200
Financial activities	1,494,198	294,502
Public administration	160,973	127,695
Healthcare, social services	230,513	86,979
Education	94,843	80,177
Other	601,070	-
Total	**284,052**	**113,163**

*** Calculated as added value per 1 employee. Source: NSS of RA and EDRC estimates.**

A sustainable growth was recorded in the sector of financial activities since 1993 (with the exception of the years of financial crises in 1999-2000 and 2009). In construction, productivity sharply fell since 2009.

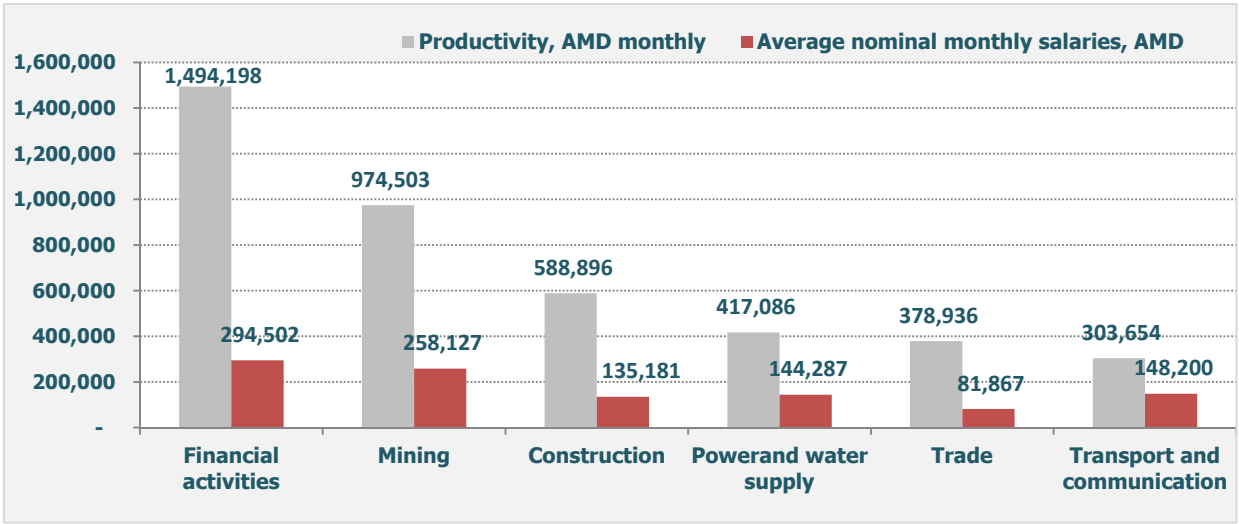
Table 38. Top 5 sectors with highest productivity and salary indices

Position	By productivity	By average salaries
1	Financial activities	Financial activities
2	Mining industry	Mining industry
3	Construction	Transport and communication
4	Power and water supply	Power and water supply
5	Trade	Construction

Source: NSS of RA and EDRC estimates.

As presented in Table 38, average salaries are high in sectors with high productivity indicators. Exceptions are trade sector and, to a certain extent, construction. Average salaries are also relatively high in transport and communication, especially due to communication and telecommunication sub-sector. Transport and communication sector follows the financial activities and mining industry. However, in terms of productivity, this sector follows trade sector, as well as manufacturing industry.

Figure 40. Sectors with highest productivity and salary levels in 2012

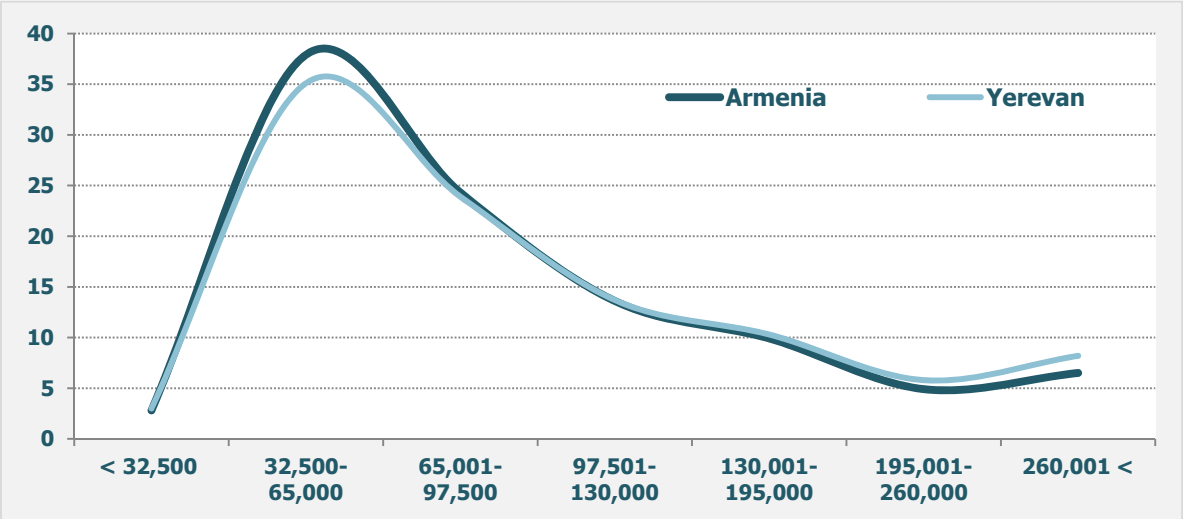


Source: NSS of RA and EDRC estimates.

Salaries are the lowest in education, healthcare, social services, culture, trade and agriculture (see also Table 37). In addition, the longest working hours are in the trade sector and involve about 52 hours per week[9].

Salaries of 41% of the employed in Armenia do not exceed AMD 65,000 and those of 65% do not exceed AMD 97,000. Salaries of only 11.4% of the employed exceed AMD 195,000. The situation is relatively better in Yerevan: the mentioned indicators are respectively 38%, 62%, and 14%. Average salary is the highest in Syuniq Marz due to the large share of mining.

Figure 41. Distribution of employment by salary level, %



Source: NSS of RA and EDRC calculations.

Consequently, the level of economic activity and employment is low in Armenia. Unemployment rate is among the highest in the world[10]. Population is mainly employed in industries with low productivity and low salaries. Agriculture plays a significant role. Industries providing high productivity and high salaries are small.

In non-agricultural sector, retail trade, education and public administration sectors play a significant role. Taking into account that education sector in Armenia is mostly public in its nature, the role of the government gains significance in ensuring employment. Thus, employment in Armenia is provided by agriculture, public sector and non-competitive industries under circumstances of highly productive and competitive private sector playing a small role.

[9] NSS of RA, *Labour market in RA, 2008-2012*.
[10] See *The Human Capital Report*, page 23, WEF.

2.3. Indirect Assessment of Human Capital

Human Capital and Economic Growth

Human capital is characterized as a set of skills, knowledge, social and personal capacities, including creative and cognitive capacities that allow an individual to apply his or her labor for the generation of economic values. This is an aggregate approach to the economic activity and behavior of an individual by attempting the complex physical, mental, social and cultural features of an individual. The set of such features or capabilities is viewed as capital (human capital) and investments therein and development thereof results in economic development, productivity growth and innovation. In this regard, literacy, education, healthcare levels, as well as moral values are very important. The process of human capital formation and development assumes efficient public and private investments in the abovementioned areas which will allow transforming human resources into human capital.

There are a number of theories defending and elaborating this approach. Material capital is necessary to promote economic growth. Meanwhile, non-material or human capital is necessary to ensure comprehensive development since it is directly linked to the human development, thus, bringing in quantitative and qualitative progress of the society.

Based on this concept, the UN carries out comparative assessment of economic development of various countries in the world. The UN Human Development Report (HDR), in essence, describes the process of human capital formation in various countries for which Human Development Index (HDI) is used as a statistical indicator.

Three indices are used for calculation of HDI: Income indicator (per capita GDP adjusted for purchasing power parity), Healthcare and Education indicators. It is worth noting that a version of HDI, adjusted for inequality, is calculated since 2012.

The World Economic Forum (WEF), in its turn, calculates the Human Capital Index (HCI). It consists of 4 main components. Those components are: education, healthcare and welfare, labor and employment, enabling environment.

Increase in values of HDI or HCI suggests high rates of human capital formation in a country. Income and non-income components of HDI and HCI are interrelated: growth in one of them becomes both an opportunity and a reason for the other.

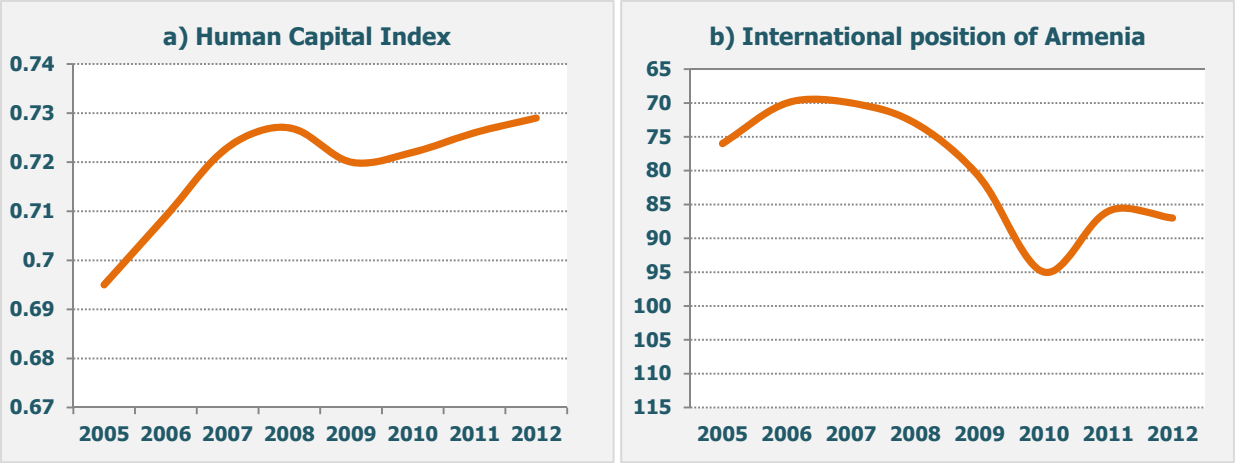
Efficient formation of human capital and human development serve as a serious basis for the sustainability of economic growth. Today, it is impossible to ignore the significance of human capital from the perspective of long-term economic development. Therefore, economic policies should specifically target promotion and stimulation of human development.

Human Capital Index in Armenia

According to the UN classification, Armenia is considered a country with relatively high human development level. In comparison to the world average, HDI for Armenia is quite high. In 2012, Armenian HDI was 0.729, according to which Armenia is the 87th country among 187 countries in the world.

As presented in Figure 42, HDI for Armenia grew considerably during 2005-2008, dropped dramatically in 2009 and continued growing at modest rates thereafter. Nevertheless, the international position of Armenia in comparison to other countries worsened during this period. I.e. HDI in other countries grew faster than in Armenia (Figure 42b).

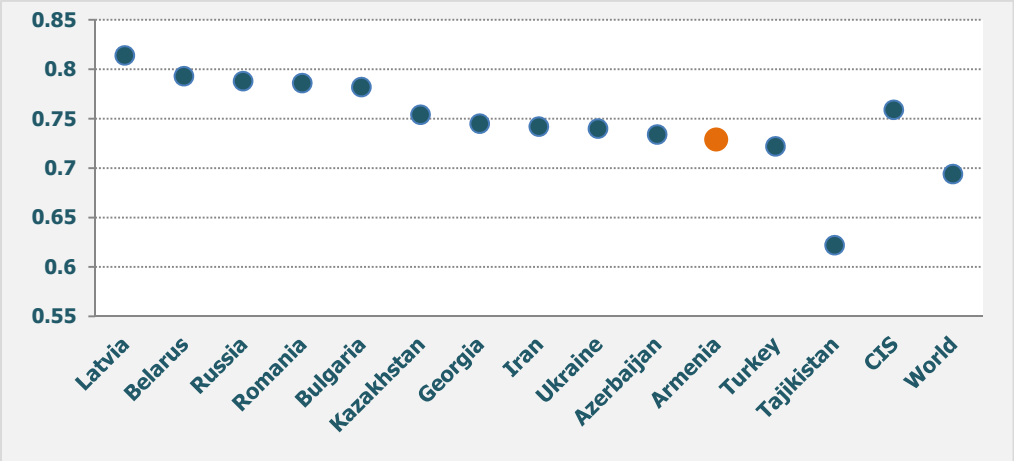
Figure 42. Human Development Index and international position of Armenia



Source: UN Human Development Report and EDRC calculations.

Figure 43 depicts the HDI values for selected countries. Armenia is behind not only Eastern European countries, but also CIS countries, including its neighbors Georgia and Azerbaijan. This picture is mostly explained by the low level of income in Armenia as Armenia has the 103th place among 187 countries in the world. Interestingly, income component of Georgia is lower than of Armenia, however, higher education component ensures higher HDI for Georgia.

Figure 43. Human Development Index and comparative position of Armenia, 2012



Source: UN Human Development Report and EDRC calculations.

Table 39. HDI Armenia components, 2000-2012

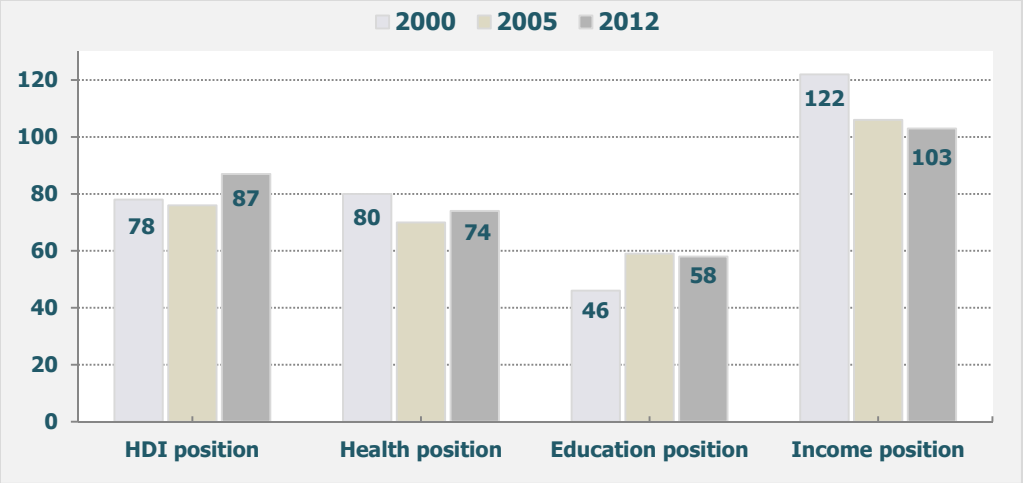
	HDI	HD position	Health index (HI)	HI position	Education index (EI)	EI position	Income index (II)	II position
2000	0.648	**78**	0.807	**80**	0.726	**46**	0.466	**122**
2005	0.695	**76**	0.839	**70**	0.727	**59**	0.552	**106**
2010	0.722	**95**	0.853	**73**	0.763	**58**	0.580	**107**
2011	0.726	**86**	0.856	**73**	0.763	**58**	0.588	**105**
2012	0.729	**87**	0.858	**74**	0.763	**58**	0.593	**103**

Source: UN Human Development Reports 2002-2013 and EDRC calculations.

Table 39 summarizes values of HDI components in Armenia and its respective position in the world. The position of Armenia improved as compared to other countries specifically due to improvement in income component of HDI. Health and education indices increased since 2000. As a consequence, the position of Armenia for Health index improved after 2000, however worsened since 2005. As for the Education

index, Armenia had the 46th position in 2000 which is quite favorable, however it fell again by 12 lines and has the 58th position in 2012. This suggests that developments in comparative countries are faster. Shifts in the positions of Armenia per HDI components are presented in Figure 44.

Figure 44. International positions of Armenia for HDI components, 2000-2012 (positions among selected countries)

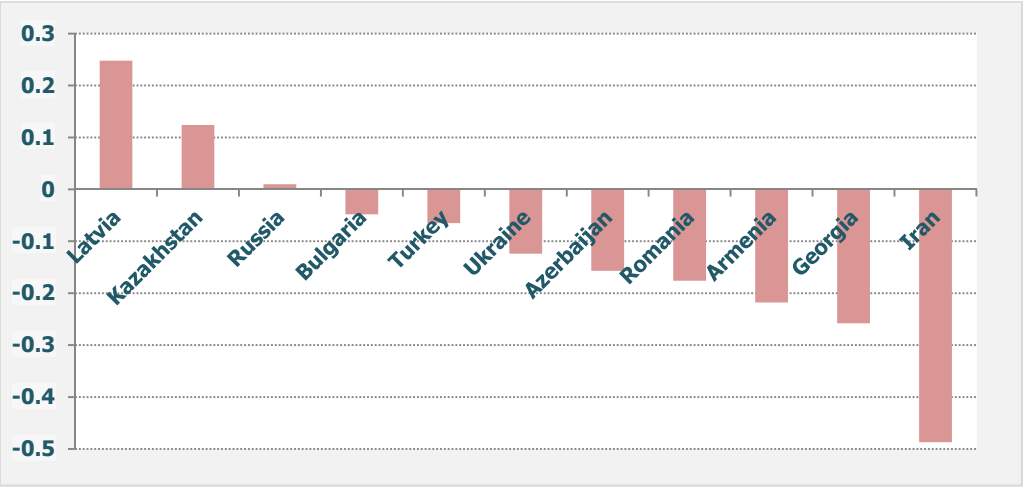


Source: UN Human Development Reports 2002-2013 and EDRC calculations.

Let us also refer to the Human Capital Index[11] calculated by the WEF. As already noted, it is more comprehensive with regard to non-income components. According to the WEF, Armenia's HCI is -0,218[12], which is the 73th among 122 countries in the world.

In comparison with HDI, the status of Armenia is almost the same, however with minor variations. If Armenia is slightly ahead of Turkey according to the HDI, Turkey is ahead of Armenia according to HCI. The opposite is true in comparisons with Georgia as Georgia is behind Armenia according to MCI (see Figure 45).

Figure 45. Human Capital Index

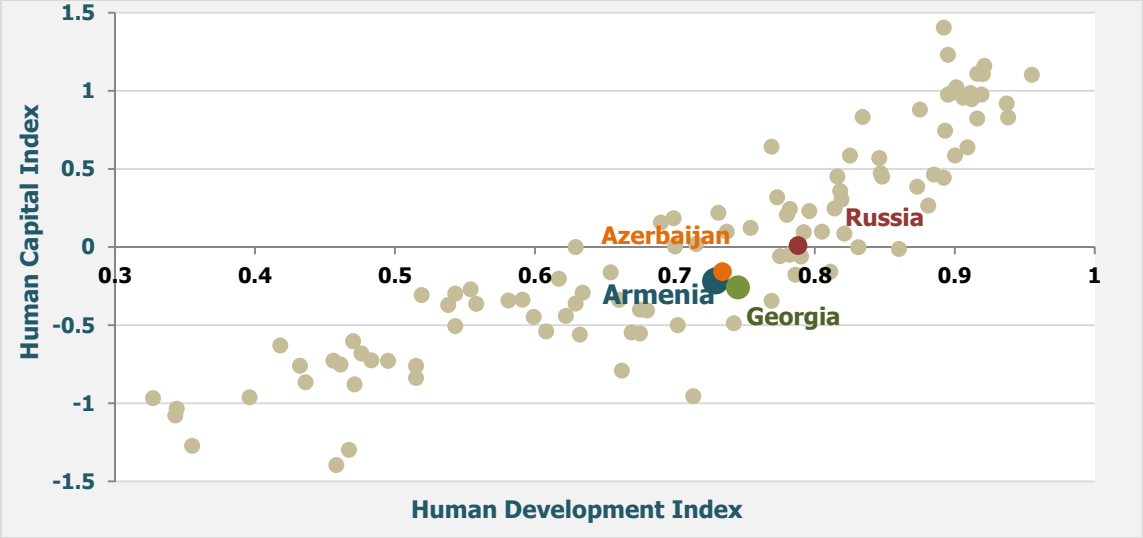


Source: The Human Capital Report, World Economic Forum, 2013.

Direct links exists between HDI and HCI. Figure 46 describes that link. Armenia is significantly below Russia for these two indices. Armenia, Georgia and Azerbaijan are quite close to each other. In terms of HDI, Armenia is below Georgia and Azerbaijan. In terms of human capital, Armenia is below Azerbaijan and ahead of Georgia. Table 40 presents the comparative positions of all covered 122 countries per HCI components.

[11] HCI calculation bases on the standardization of respective indicators.
[12] HCI is a standardized indicator, the mean value of which is 0.

Figure 46. Interrelation between Human Development Index and Human Capital Index



Source: The Human Capital Report, WEF, 2013 and Human Development Report, UN, 2013.

In terms of Education pillar, Russia has the best position among the selected countries, followed by Armenia. The worst indicator is that of Turkey. In contrast, Turkey has the best position with regard to health, while Azerbaijan has the worst position in this regard. In terms of labor and employment, Azerbaijan is in a better position, while Armenia has the worst. Turkey is in best the position in terms of Enabling Environment, while Georgia has the worst position in this regard. The latter is explained by low levels of collaboration between businesses and universities, social safety nets and protection of intellectual property and property rights.

Table 40. HCI pillars in Armenia and neighboring countries (comparative positions among 122 countries)

	Georgia	Azerbaijan	Turkey	Russia	Armenia
HCI	77	64	60	51	73
Education	74	71	77	41	60
Health	66	94	51	62	71
Labor and employment	102	55	83	66	113
Enabling environment	76	55	45	63	64

Source: The Human Capital Report, WEF, 2013.

For the case of Armenia, as it was the case for HDI, education pillar has the best score compared to the other components (Armenia is the 60th). Access to education and gender gap in education in Armenia are quite favorable as Armenia has either medium or higher positions in the world. Meanwhile, education quality and management indicators are much lower than in many countries. Armenia is the 68th in terms of access to Internet at school. Armenia is the 103rd among 122 countries in terms of the quality of business and management universities.

Table 41. HCI Education pillar, selected indicators for Armenia

	Position of Armenia	Indicator value for Armenia	Average value
Primary enrolment rate	60	96	93.21
Internet access in schools	68	4.06	4.32
Quality of the education system	57	3.66	3.80
Quality of math and science education	59	4.17	4.04
Quality of management schools	103	3.43	4.3

Source: The Human Capital Report, WEF, 2013.

In terms of health component, Armenia is the 71st country. Namely, Armenia is below the average global level of healthcare quality and affordability indicators. However, life expectancy is especially low: Armenia has 82nd position in the world, as well as survival gender gap: Armenia has the 113th position among 122 countries.

Table 42. HCI Health pillar, selected indicators for Armenia

	Position of Armenia	Indicator value for Armenia	Average value
Life expectancy	82	71	72.21
Survival gender gap	113	0.944	0.97
Unhealthy life years	69	14	14.65
Healthcare quality	64	3.71	4.11
Healthcare affordability	78	3.96	4.64

Source: The Human Capital Report, WEF, 2013.

Armenia is has a very low position with regard to the Workforce and Employment pillar as it has the 113th position among 122 countries. The main reason for that is the unemployment rate which as indicated already is one of the highest in the world. The country's capacity to retain talent, ease of finding skilled employees, and its capacity for innovation are very low. The indicator describing access to trainings and training services is especially low.

Table 43. HCI Workforce and Employment pillar, selected sub-pillars for Armenia

	Position of Armenia	Indicator value for Armenia	Average value
Workforce participation rate, age 15-64	96	63.7	69.19
Workforce participation rate, age 65+	47	24.3	23.71
Unemployment rate	103	19	8.58
Youth unemployment rate	103	45.5	18.61
Country capacity to retain talent	103	2.62	3.52
Ease of finding skilled employees	88	3.56	3.97
Capacity for innovation	66	3.44	3.70
Training services	106	3.47	4.28

Source: The Human Capital Report, WEF, 2013.

In terms of enabling environment, Armenia is has the 64th position. This is supported by the WB Ease of Doing Business index, which is also a sub-pillar here. The score on internet users indicator is low, so is the social mobility indicator (76th position). The latter indicates an individual's capacity to improve its own economic situation without the family's intervention. All the same, the indicators describing social safety net protection (89th position), as well as business and university R&D collaboration are serious constraints in this pillar.

Table 44. HCI Enabling environment, selected indicators for Armenia

	Position of Armenia	Indicator value for Armenia	Average value
Internet users	76	32	44.30
Quality of domestic transport	59	4.52	4.46
Business and university R&D collaboration	93	3.16	3.76
Social Safety net protection	89	2.99	3.75
Intellectual property protection and property rights	52	4.08	4.06
Social mobility	76	3.97	4.39

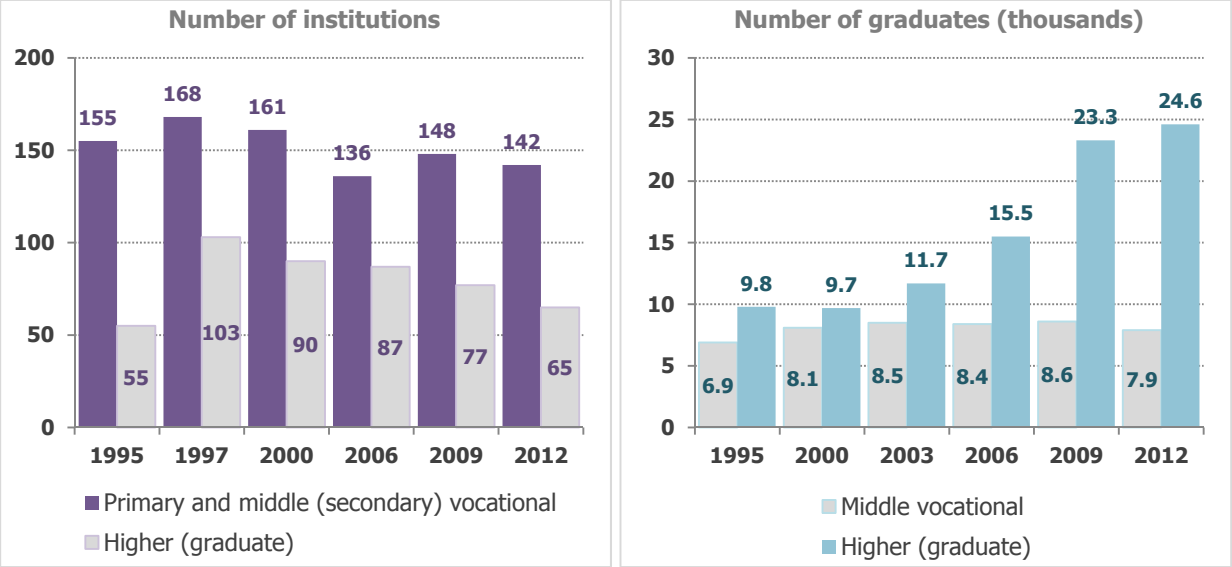
Source: The Human Capital Report, WEF, 2013.

Education and Training

High level of interest in education in Armenia continues to exist. It is especially high towards higher (graduate) education. The number of graduates from universities each year is 2.5 times more than graduates from vocational education institutions[13]. During the past 15 years, the numbers of preliminary and middle vocational education graduates was quite stable, meanwhile the number of graduates from universities increased rapidly.

In 2012/2013 school year, 24 thousand 597 students graduated from universities (graduate education). This is 37% higher than 5 years ago, 2.3 times higher than 10 years ago and 2.5 times higher than 15 years ago.

Figure 47. Number of education institutions and graduates thereof in Armenia, 1995-2012



Source: NSS of RA and EDRC calculations.

The number of higher education institutions decreased recently. In 1997/98, the highest number of universities in Armenia was 103. This number gradually decreased and reached 65 universities in 2012/2013. The annual number of graduates per one university in 2012/2013 equaled 378, in 2007/2008 it equaled 211 and 115 in 2002/2003. Public universities are large and continue to play a decisive role in the higher education system. Nevertheless, several (few) non-public universities which are gradually developing become serious competitors to the public universities. Also interesting developments take place in terms of specializations proposed by the universities. Overall, the number of specializations is very large.

Table 45 presents the distribution of graduates from public and private universities per specialization publicized by the NSS. The proposed classification allows determining the number of specialists prepared for a certain specializations. As presented in the table, in 2012/2013, 35.9% of students graduated with a social science specialization. In addition 18% of graduates received an Economics and Management degree (4,277 graduates). The next large specialization is Education and Pedagogy which counted for 9.8% or 2306 graduates.

The numbers of graduates with other specializations are very small. For comparison, the number of graduates of agricultural specializations, which decreased drastically equaled to 461 (1.9% of total graduates number) despite the fact that agriculture is the largest sector of the economy, especially in terms of employment.

[13] Primary and secondary professional education

Table 45. Graduates of public and private universities in Armenia, breakdown per specializations

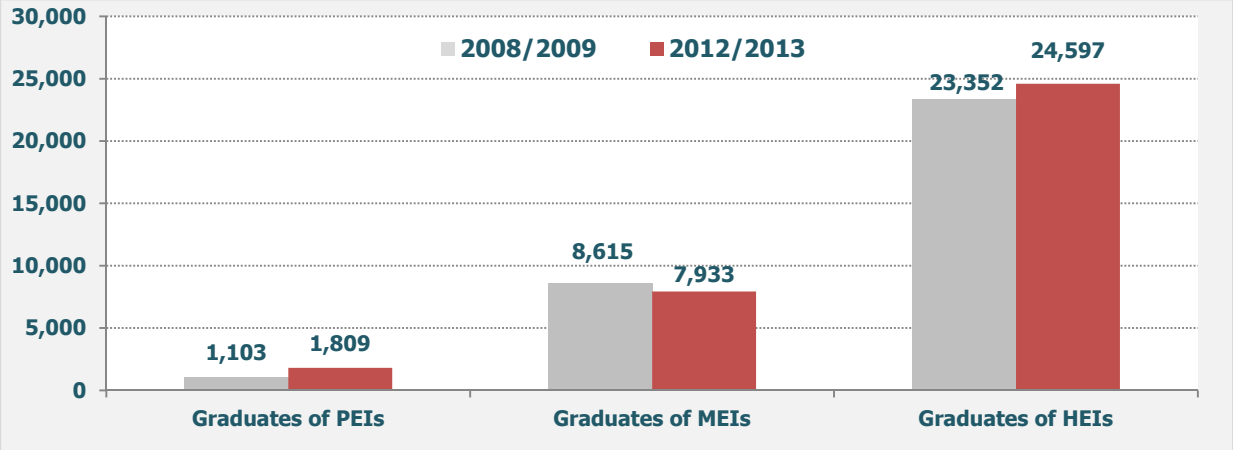
	2010/11, graduates	2011/12, graduates	2012/13, graduates	Share in total, 2012/13 %
Total	**23,935**	**24,930**	**24,597**	**100**
Humanitarian studies	8,512	8,503	8,482	35.9
Economics and Management	3,462	3,792	4,277	18.1
Education and Pedagogy	2,495	3,138	2,306	9.8
Culture and Arts	1,118	1,030	1,299	5.5
Natural sciences	1,321	1,325	1,288	5.5
Physics and math sciences	959	971	1,089	4.6
Healthcare	1,128	1,339	1,061	4.5
Agricultural specializations	1,578	1,536	461	1.9
Military education	231	366	420	1.8
Construction and Architecture	398	382	364	1.5
Transport systems	216	237	355	1.5
Information Technology	435	462	329	1.4
Power, power machinery and electrotechnics	231	246	275	1.2
IT and information safety	121	83	256	1.1
Electrotechnics, radiotechnics and communication	416	326	252	1.1
Other	1,314	1,194	1,083	4.6

Source: NSS of RA and EDRC calculations.

The most popular specializations in the recent decades were economics and law. During 1995-2006, the number of graduates of these specializations increased by about 4 times[14], while the growth continued thereafter at a slower pace.

Among vocational education institutions, the most popular specializations are healthcare and sports. The number of graduates in economic specializations has been growing here as well. Despite the fact that the number of vocational education institutions increased during the recent years, the number of graduates totaled to 1809 in 2012/2013. The largest share here belongs to graduates in art and design (17.5%), transportation (14.3%) and services (13.9%).

Figure 48. Number of specialists prepared by education institutions



Source: NSS of RA and EDRC calculations.

Consequently, the number of higher education (graduate) institutions in Armenia is quite large. The number of specialists prepared by them is also large. The number of specialists or graduates prepared for a certain specialism mainly depends on the popularity of the specialism and does not effectively reflect current demands or economic development perspective of Armenia.

[14] Refers to graduates of only public institutions.

Vocational education continues to be of limited preference in the society and the vocational educational system (preliminary and middle) system remains very small, therefore it cannot serve the requirements of the economy and markets. Meanwhile, there are many employees across the sectors of the economy which do not have adequate formal education in the field their current occupation.

As a consequence, there is a deep gap between the education system and need of the business sector. The education and training systems can hardly meet the demand in the labor market for respectively qualified and trained specialists. In many instances, the process of acquiring knowledge, developing skills and specializing is performed through non-formal education and trainings. The role of "learning by doing" practice is extremely large. Gradually, the transfer of knowledge and skills from abroad grows which is mainly implemented through workforce migration. Although the latter is quite efficient, nevertheless, the process is still limited and small.

2.4. Development of Policy Agenda

Armenia is a country with limited resources. The current trends of economic growth and development are the reflection of these realities. Human resources and, human capital in a larger and comprehensive sense have special importance for Armenia.

The circumstances that existed in the 20th century were favorable for the development of human resource in Armenia and for its efficient transformation into human capital. Armenia, despite its small size and limited resources, successfully managed to become an important and efficient link in the Soviet scientific, technical and industrial system. A new reality emerged during the last 2-3 decades and currently, the development level and efficiency of social and educational infrastructure in particular are not favorable for continuous development of human capital.

Although the previous potential is retained to a certain degree and there is some inertia, nevertheless Armenian human capital depreciates and decreases. The main reasons for that are summarized below:

- First, human resources apparently decrease due to emigration from Armenia;
- Second, emigration is absolutely not an accidental process. It first of all mainly refers to qualified and potent workforce, therefore it results in decline of human capital quality in the country;
- Third, in a poor country it is very difficult to ensure high level of efficiency of investments in education, healthcare and social institutions without very special efforts. Therefore these investments normally are not derived from the needs of current or future economic development and so the efficiency of transformation from human resource to human capital is low.
- Fourth, overall environment and the economic system do not contribute to full and efficient realization of workforce, which results in the depreciation of human capital or restraining its formation.

The link between human capital and economic development is apparent. The role of the human capital for the overall perspective development of Armenia is indisputable. Economic growth and development in Armenia require expansion of the tradable sector, as well as development of highly productive agriculture and agro-processing sectors. This process requires testing and development of new initiatives and technologies. These tasks are not feasible to implement without adequate level of human capital. Moreover, human capital development is not only crucial for development of a competitive, highly-productive economy and increase of welfare, but also for ensuring national security.

The task of human capital formation and development should be considered the overarching aim of economic and social policies. Being very comprehensive, this has various aspects and manifestations. Policy programs and reforms in a number of sectors can be directed towards these tasks, which is very expensive and difficult to implement. Adopted approaches and alternative choices are crucial, therefore

relevant policy agenda needs to be drafted made subject to continuous discussions. A package of relatively feasible social and economic policies can have the following elements and target directions:

Policy	Main target
Anti-migration policy	• Restrain spontaneous migration
Education policy	• Development of a small education system compliant to the nest international standards, • Development of vocation education institutions and improvement of their image in the society,
Healthcare policy	• Creation of best quality healthcare centers and support to the development of the medicine and science, • Targeting only poor by public healthcare, improvement of access to healthcare services
Social policy	• Supporting having many children
Tax policy	• Reduction in personal income tax • Provision of tax holidays for investments of large international companies
Regional management and urban development policy	• Establishment of regional development centers (development of 3-4 large and medium Marz towns and cities) • Establishment of 10 modern exemplary villages
Agriculture policy	• Support to the agricultural production with high productivity potential, establishment of clusters

Drafting and implementation of anti-migration policy is, probably, the most urgent. It is understandable that anti-migration policy is very expensive. However, minimum efforts are possible that can deliver efficient outputs and considerably reduce emigration.

It is worth noting that emigration in the country does not have solely economic reasons. Although large portion of emigration is determined by problems with employment and income, nevertheless, it is apparent that emigration also has a number of important non-financial reasons. In many instances, emigration is determined by the social status and societal culture, as well as psychological factors such as lack of trust and confidence towards perspectives, sense of being useless, incapable and insecure, disappointment. Emigration is viewed as a usual contemporary process to which everybody can participate.

Emigration has a strong captivating impact and each case of emigration supports and motivates others to participate. At the same time, immigration has a strong restraining impact.

Therefore, anti-migration policy needs to address averting spontaneous emigration. The Government will need to clearly declare its willingness and commitment to avert emigration. A number of large-scale anti-migration campaigns need to be launched, presenting the importance and comparative advantages of living in the motherland, possibilities and ways of solving current and long-term problems in the country, the role of each and every one in that process. These measures will need to contain various informational and cultural tools. These should be implemented not only by public bodies, but also various societal institutions.

To this end, one of the major factors restraining development perspectives of Armenia is human capital. Efficient formation of human capital and human development is the overarching goal of social and economic policies. It implies drafting and implementation of a number of policy programs and measures. Nevertheless, the most urgent problem is how to restrain emigration for which rather simple and feasible preliminary measures exist.

LIST OF FIGURES

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ABBREVIATIONS

AER	Armenia economic report
ADB	Asian Development Bank
AMD	Armenian Dram
bln	Billion
BM	2013 Budget Message of the GoA
CIS	Commonwealth of Independent States
CM	Cubic meters
CNEEA	Goods Nomenclature of the external-economical activity
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EU	European Union
EUR	Euro
FISIM	Financial Intermediation Services Indirectly Measured
FOB	Free on Board
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoA	Government of Armenia
HCI	Human Capital Index
HDI	Human Development Index
HDR	Human Development Report
HEI	High education institution
IFAD	International Fund of Agricultural Fund
IMF	International Monetary Fund
ILCS of HHs	Integrated Living Conditions Survey of Households
MEI	Vocational (middle or secondary) education institution
mln	Million
MoF	Ministry of Finance of the RA
MTEF	Medium Term Expenditures Framework of the GoA
NSS	National Statistical Service of the RA
OPEC	Organization of the Petroleum Exporting Countries
PDSP	2012-2025 Perspective Development Strategic Program
PEI	Vocational (primary) education institution
RA	Republic of Armenia
RUB	Russian Rouble
R&D	Research and Development
SCREC	State Committee of Real Estate Cadastre
UK	United Kingdom
UN	United Nations
USA	United States of America
USD	US Dollar
USSR	Union of Soviet Socialist Republics
WB	World Bank
WEO	World Economic Outlook

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+374 (0) 60 540 289
+374 (0) 55 540 289
info@edrc.am
www.edrc.am