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# The Labor Market in Azerbaijan<sup>1</sup>

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May 5, 2016

## Abstract

This paper analyzes the development of the labor market in Azerbaijan from the early 1990s until the early 2010s. The analysis shows that the labor market has a range of positive characteristics such as high labor force participation and employment, low youth and female unemployment, flexibility, and a low share of the “working poor”, all of which can beneficially influence future economic prospects. However, the Azerbaijani labor market also experiences certain undesirable developments, such as an increase in the share of labor with primary education, a shift towards elementary occupations, a high share of self-employment, and an excess of labor cost growth over productivity growth, all of which can threaten further economic development.

*JEL classification: J21, J63, J65, P23, P31*

*Keywords: labor market, labor market flexibility, employment, unemployment, labor force, Azerbaijan*

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## I. Introduction

After the political and economic collapse of the socialist block, in the early transition period, total output declined dramatically almost in all transition countries; in some countries, the decline exceeded 50% of their 1990 levels. The drop in output and high inflation provoked a decline in employment and real wages. Although many of the transition countries succeeded to return to and even exceed the 1990 output and employment levels, the labor market structures were not restored, instead, they embarked on new development paths. The way a labor market evolves is very important because it supplies an economy with one of production factors whose availability and quality predetermine economic development.

This paper aims to examine the development path of the Azerbaijani labor market and make diagnostics of its current state employing a wide array of aggregate and disaggregated indicators. Such analysis will allow us not only to mark the milestones which the labor market has passed but also to discuss the potential consequences of the current situation for the further economic development. Furthermore, the comparison of the Azerbaijani labor market indicators with those of CEE and CIS countries will enable us to assess the performance of the market and evaluate the relative attractiveness of the Azerbaijani labor vis-à-vis the labor of the other former socialist countries.

The dissolution of the Soviet Union caused significant structural adjustments in the Azerbaijani economy as well as in its labor market. The contraction in agricultural and industrial production instigated a decline in employment, while the rapid development of the services increased the demand for labor. Meanwhile, the employment growth in the services was not large enough to offset the decline in employment in the agriculture and industry. In the new environment, the status composition of employment also changed; the share of the self-employed increased across all sectors, especially in agriculture, where all labor is now self-employed.

At present, the labor market in Azerbaijan is characterized by a low unemployment rate, a high job turnover rate, a high job reallocation rate, and a high part-time employment rate, which all together indicate the flexibility of the labor market. The flexibility implies the ability of the labor market quickly accommodate external shocks as well as adapt to new economic conditions. At the same time, a flexible labor market creates conditions for the full utilization and effective allocation of labor resources, which at the end entail an effective employment structure.

Along with changes in the labor force participation rate, the composition of the labor force by educational attainment also went through certain transformations though these changes were not desirable. The recent statistics shows that the proportion of the labor with primary education increased, whereas the proportion of the workers with secondary and tertiary education decreased. Such a shift signals the decline of the human capital and can impose constraints on future economic growth. Furthermore, in such sectors as the agriculture and industry, real wages grow faster than labor productivity. The lead of the wage growth ahead of the labor productivity indicates the low competitiveness of these sectors and therefore can question their further development. Finally, in the occupation structure, the proportion of the elementary occupations

significantly rose. Such a change implies that the firms have switched to simple technologies, which can negatively affect their productivity and therefore reduce their competitiveness.

The rest of the paper is organized as follows. The next section provides an overview of the indicators which will be used to assess the development of the Azerbaijani labor market. In the third section, we analyze the dynamics of the labor market indicators and discuss the potential after-effects of the certain labor market developments on economic growth. The last section presents the brief summary of the conclusions derived from the analysis and provides some policy implications.

## **II. Labor market indicators**

In this section, we introduce some notation and define the labor market indicators which we will use later in the analysis. One of the most popular indicators is a labor force participation rate which indicates the proportion of country's working-age population working or looking for work (ILO, 2014). This indicator provides a measure of the labor supply which can be involved in market-related activities. Another popular indicator is an employment rate which measures the proportion of the employed working-age population (ILO, 2014). A high employment rate implies that a large proportion of country's working-age population is employed, while a low rate implies that a large share of the working-age population is not engaged in the production of goods and services because they are either unemployed or out of the labor force.

The State Statistical Committee considers a person to be employed if he is either hired or self-employed. The hired include those aged 15 and above who work in accordance with the labor contracts indicating duties and a payment. The self-employed include entrepreneurs, members of production cooperatives, and those who work at family enterprises for no pay. Hired employees, in turn, comprise of those who work full time and those who work part-time. The other popular indicator is an unemployment rate which shows the proportion of the labor force that is not employed but actively looking and available for work. (ILO, 2014)

Furthermore, we look at the dynamics of labor productivity and wages which together determine international competitiveness of the economy. Labor productivity measures output per employee, and wages represent payments which employees receive from employers for done work (ILO, 2014). Productivity and wages affect profitability because they reflect efficiency and a cost of labor; therefore, information on these indicators play a key role in the decision making process in investment affairs.

We also analyze occupational statistics which show the distribution of employees according to 10 major job groups defined by the International Standard Classification of Occupations (ILO, 2014). The main criteria for classification are a skill level and specialization required to fulfill duties of a particular occupation. Job groups include managers, professionals, technicians and associate professionals, clerks, service and sales workers, skilled agricultural, forestry, and fishery workers, craft workers, plant and machine operators/assemblers, and elementary workers. Such analysis is important because changes in the distribution reflect the development path of an economy. For example, when an economy embarks on industrialization,

the share of skilled agricultural, forestry, fishery, and elementary workers decreases, but the share of plant and machine operators, assemblers, service and sales workers increases. Along with occupational analysis, we also examine the distribution of employees by economic class. The purpose of such an exercise is to determine how the proportion of the employees whose household member lives below the international poverty line of 1.25 USD (the “working poor”) has changed over time (ILO, 2014).

Additionally, there is a group of indicators which reflect the dynamics of the labor market. This group includes such indicators as a job creation rate, a job destruction rate, an employment growth rate, and a job turnover rate (Micevska, 2008; Rutkowski, 2003). The job creation rate is the ratio of new jobs in a given year to total employment at the beginning of the year. The job destruction rate is the ratio of cut jobs in a given year to total employment at the beginning of the year. The employment growth rate is the difference between the job creation and job destruction rates. The job turnover rate is the sum of the absolute values of the job creation and destruction rates. Compared to the employment growth rate, the job turnover rate represents a comprehensive measure of the labor mobility and intensity of the reallocation because it reflects reallocation of employees within as well as across industries.

The job turnover rate is a good indicator of the flexibility of the labor market; however, it does not show whether the turnover takes place mostly due to employment shifts between sectors or employment shifts within sectors. For this reason, we also calculate such indicators as a job reallocation rate within sectors and a job reallocation rate between sectors (Davis and Haltiwanger, 1992). The former is the difference between the sum of employment growth rates of all economic sectors and employment growth rate of the whole economy. The latter is the sum of differences between the job turnover and absolute value of employment growth rates of all economic sectors. The magnitudes of these indicators will tell us whether the job turnover owes mostly to employment reshuffling within or between sectors.

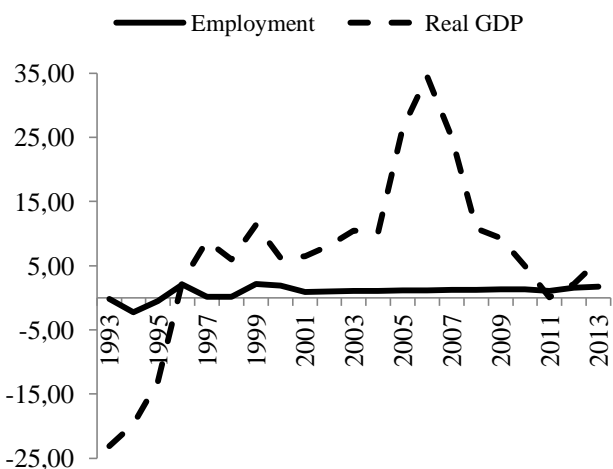
The aggregate labor indicators provide a general picture of the situation in the labor market, but they often fail to reflect the processes taking place. For example, an unemployment rate can increase among females but decrease among males leaving a general unemployment unchanged. Therefore, whenever possible, we downgrade statistics by age, gender, and education.

### **III. Analysis of the indicators**

The economic theory predicts that either negative or positive economic growth is accompanied by a symmetric change in employment because labor is one of the production factors, and if production declines, the demand for labor also decreases. However, in the post-Soviet history of Azerbaijan, we do not observe such a pattern (Figure 1). During the 1992-1995 period, on average annually, GDP was declining by 18.6%, but the employment was shrinking only by 1%. At the same time, during the 1996-2013 period, on average annually, GDP was growing by 10.5%, but the employment was expanding only by 1.3%. Certainly, the employment demonstrates such behavior for particular reasons. For example, in the early transition period, the

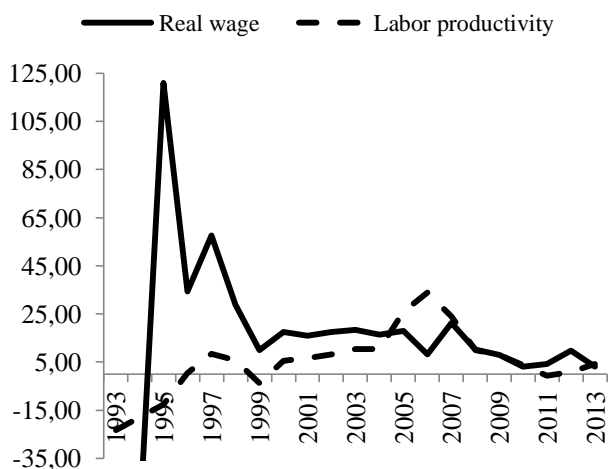
economic recession did not cause a large employment contraction because the enterprise managers did not lay off employees but forced them either to work less hours or to go on unpaid leave. In the subsequent years, economic growth did not generate significant employment growth because the high output growth rate was achieved through improvements in the labor productivity rather than greater utilization of the labor resources. Such phenomenon, called ‘jobless growth’ is not unique to Azerbaijan and widespread in the other CIS and CEE countries (Rutkowski, 2003).

**Figure 1. Growth rates I, %**



Source: Authors' calculations, State Statistical Committee, International Monetary Fund

**Figure 2. Growth rates II, %**



Source: Authors' calculations, State Statistical Committee, International Monetary Fund

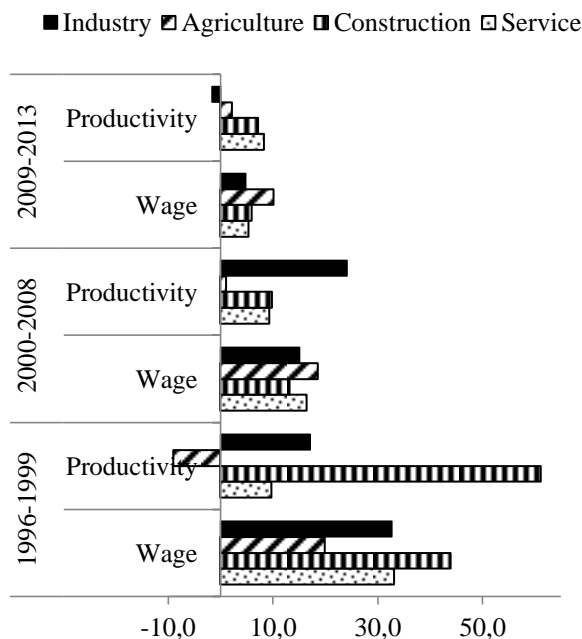
Theoretically, an increase in labor productivity reduces unit labor costs and therefore has a positive effect on labor demand. The main reason why this did not happen in Azerbaijan is the significant wage growth which hampered the labor demand. Figure 2 shows that during the 1996-2013 period, the real wage was increasing at the average annual rate of 16.7%, while the labor productivity was growing only at the rate of 8.1%.

The economic history of Azerbaijan can be conditionally divided into four periods: 1991-1995, 1996-1999, 2000-2008, and 2009-present. The 1991-1995 years characterizes the period when not yet privatized enterprises started making first steps toward adaptation to the market environment; the early period was accompanied by the significant decline in output and employment. The 1996-1999 period covers the years of privatization, structural reforms, and the first FDI inflows. The 2000-2008 period includes the oil boom and time when the enterprises learnt to effectively use production factors and made organizational improvements; in this period, the Azerbaijani economy recorded significant growth rates.

Finally, the 2009-present is the time of economic slowdown caused by exhaustion of growth sources which were available in the previous period. If we separately calculate the productivity and wage growth rates for each period, we obtain an interesting picture (Figure 3). During the privatization period, in all economic sectors but the construction the wages grew faster than the labor productivity. In the next period, the wage growth exceeded the productivity growth in all sectors except the industry which had the boom in oil production. In the last period, the productivity growth rate surpasses wage growth in the construction and services, whereas in the industry and agriculture, the wage growth leaves behind the productivity growth. The evidence of the last period suggests that at the time being, the industry and agriculture are the sectors which are not internationally competitive because the cost of the labor grows faster than the labor efficiency.

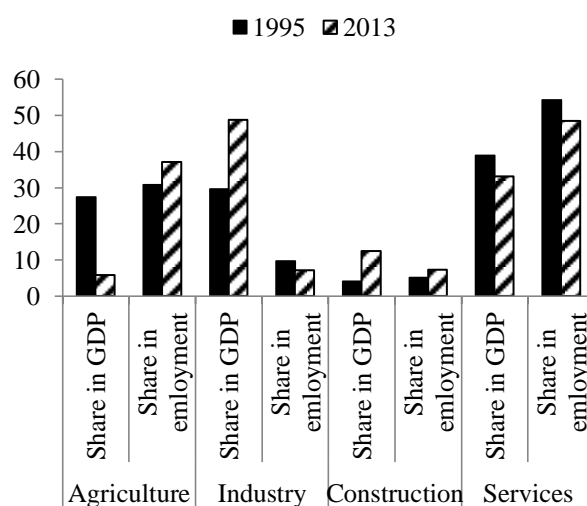
Another observation worthy of note is that within almost twenty years, the share of the employed working in the agriculture increased by more than 6%, while the contribution of the agriculture to GDP declined nearly by 22%

**Figure 3.** Labor productivity and wage growth, %



Source: Authors' calculations, State Statistical Committee

**Figure 4.** GDP and Employment structure, %

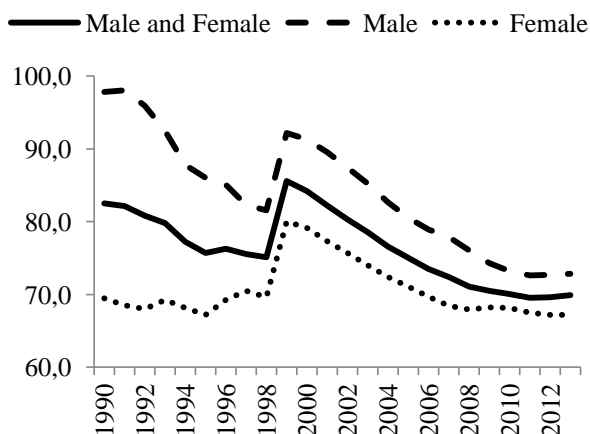


Source: State Statistical Committee

(Figure 4). At the same time, the share of the employed working in the industry declined, but the contribution of this sector to the total output significantly increased. The employment and GDP shares of the construction and services, on the contrary, changed in the same direction. The opposite movements in the employment and GDP shares of the industry ensued from the decline of the employment in manufacturing and increase in oil production. An increase in the already large share of labor engaged in the agriculture despite a significant decline of its role in the economy can be due to the limited employment opportunities in the other sectors.

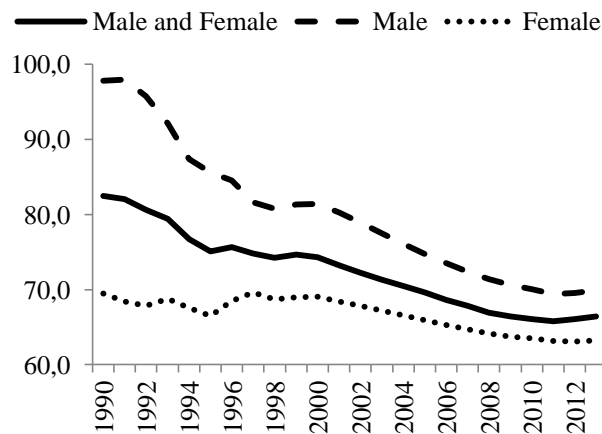
In the Soviet period, it was common that firms hired more employees than they actually needed because the objective of the government, the sole de-facto owner of these firms, was to keep unemployment at the null level. When the state firms started operating in the market economy environment, some of them were closed because their products were not competitive in both the national and international markets, while the managers of the others decided to optimize

**Figure 5.** Labor force participation rate, %



Source: Authors' calculations, State Statistical Committee, International Labor Organization

**Figure 6.** Employment rate, %



Source: Authors' calculations, State Statistical Committee, International Labor Organization

the personnel size to reduce labor costs. As a result, many people were laid off. Some of the dismissed employees managed to find new formal employment. The others found jobs only in the shadow economy or quitted searching for new jobs because they could not find any suitable position for a long time or moved to work in other countries and therefore left the labor force. Consequently, the labor force participation rate declined from 82.5% in 1990 to 69.9% in 2013, and the employment rate fell from 82.5% in 1990 to 66.4% in 2013 (Figure 5 and Figure 6). However, despite significant downward adjustments, the labor force participation and employment rates in Azerbaijan are one of the highest in CIS and CEE (Figure 7).

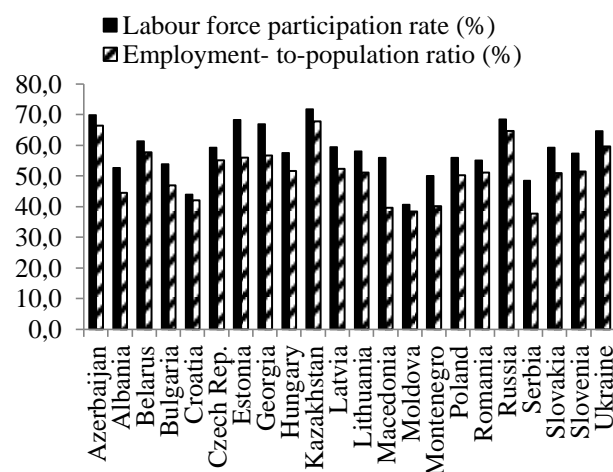


If we separately calculate the labor force participation and employment rates for males and females, we will see that the figures are in line with the stylized facts. The labor force participation and employment rates among women are lower than those among men (Figure 5 and Figure 6). However, when we look at the development of the labor force participation and employment rates of the males and females, we observe that in the first decade of the transition period, the labor force participation and employment rates among males fell to a considerable extent, whereas the labor force participation and employment rates among females remained relatively unchanged.

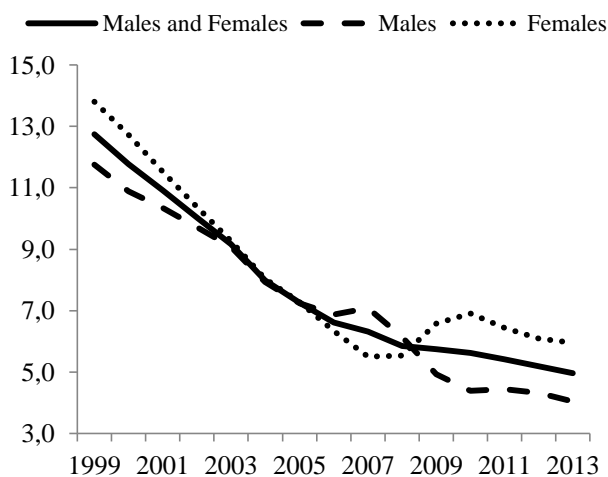
The explanation of this fact lies in the structure of the male and female employment. The males were mostly employed in the heavy industry which experienced a sharp decline in production. The females, per contra, worked mostly in the light industry and service sector, of which the light industry fell into decay, but the service sector instead expanded, and so the majority of the females who lost their jobs in the light industry got employed in the services.

The Statistical Committee started calculating an unemployment rate according to the ILO definition in 1999 and a youth unemployment rate in 2007 that is why we cannot discuss their development during the early transition period. From the late transition period on, the unemployment rate had a negative trend: the unemployment rate declined to 5% in 2007, from 12.7% in 1999 (Figure 8). The unemployment rate among men was lower than that among women in most years, and this is in accordance with the stylized fact.

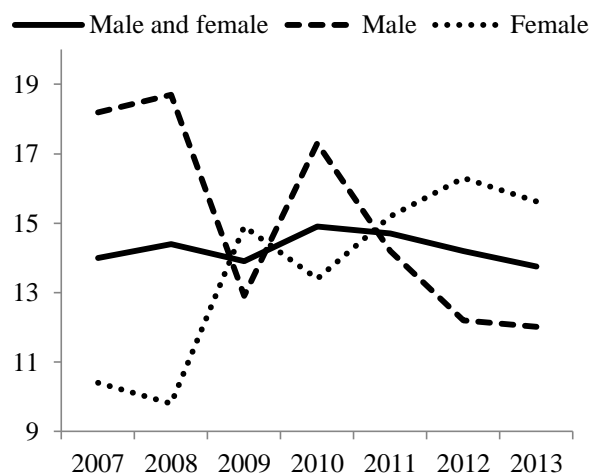
**Figure 7.** Labor markets in CIS and CEE, 2012-2013



Source: International Labor Organization, State

**Figure 8.** Unemployment rate, %

Source: Authors' calculations, State Statistical Committee, International Labor Organization

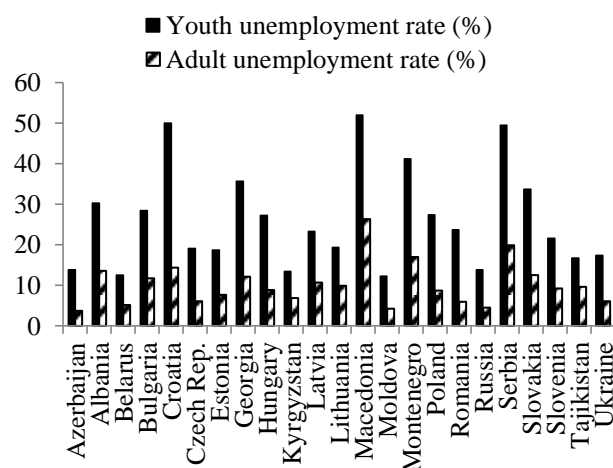
**Figure 9.** Youth unemployment rate, %

Source: International Labor Organization

During the last 7 years, the youth unemployment rate was stable around 14% (Figure 9). Youth unemployment among males as well as females demonstrated a mixed pattern, therefore we cannot explicitly state whether unemployment among young females exceeds unemployment among young men or not. The fact that total unemployment is higher than youth unemployment is not surprising and in line with the stylized fact. Furthermore, if we look at the evolution of the unemployment and labor force participation rates during the 1999-2013 period, we observe that both of them were declining. This fact suggests that one of the reasons behind the decline in the unemployment rate was the decrease in the labor force participation rate. The comparison with the other CIS and CEE countries shows that the total and youth unemployment rates in Azerbaijan are the lowest in the region (Figure 10).

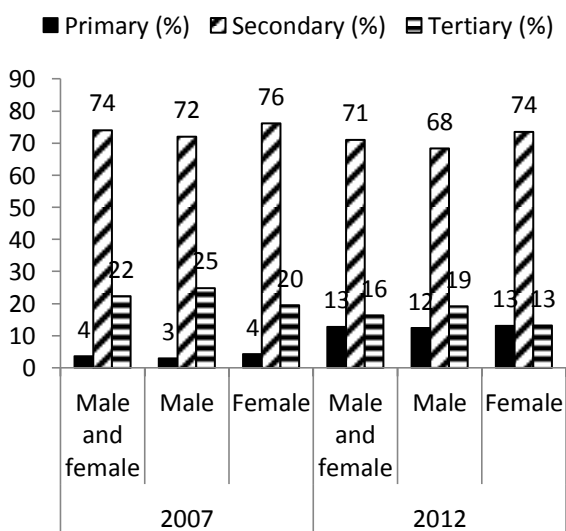
The analysis of the labor force structure by educational attainment shows that in the recent period, the labor force structure underwent certain changes (Figure 11). In particular, the proportion of the labor with primary education increased by 9%, whereas the proportion of the labor with secondary and tertiary education decreased by 3% and 6% respectively. Such a change takes place among males and females as well. However, this is not a desirable development because countries with a high share of labor with primary education are more likely to fall into a low growth trap (Eichengreen et al, 2013; Agenor and Caputo, 2012). The comparison across CIS and CEE countries shows that in Azerbaijan, the share of labor with primary education and share of labor with tertiary education are below regional averages, but the share of labor with secondary education is above regional average (Figure 12).

**Figure 10.** Unemployment in CIS and CEE, 2008-2013



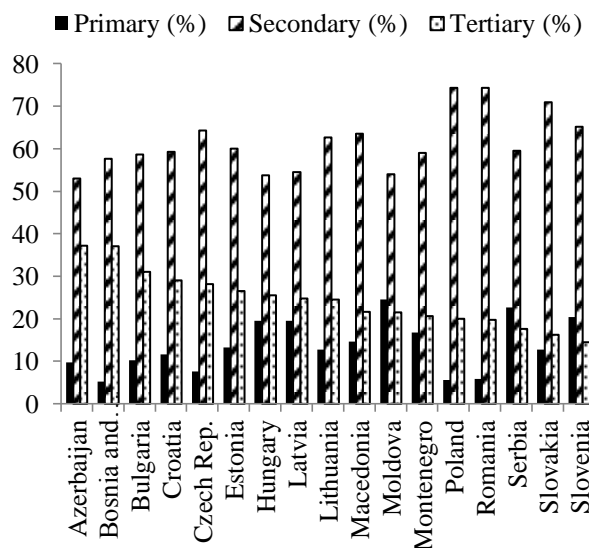
Source: International Labor Organization, State

**Figure 11.** Labor force by educational attainment, %



Source: International Labor Organization

**Figure 12.** Labor by educational attainment in CIS and CEE

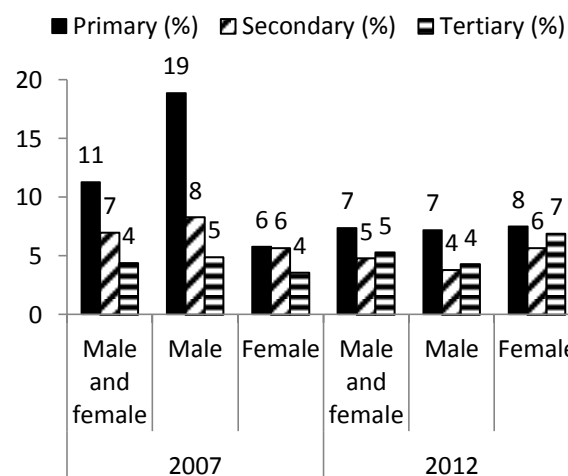


Source: International Labor Organization

During the 2007-2012 period, the unemployment rate among people with primary and secondary education declined by 4% and 2% respectively, but the unemployment among people with tertiary education increased by 1% (Figure 13). The disaggregated by gender data show that unemployment fell by 11% among men with primary education, 4% among men with secondary education, and 1% among men with tertiary education. The unemployment rate among women with primary and tertiary education went up by 2% and 3%. A large decline in the unemployment rate among men with primary education shows that the demand for unskilled labor increases, and this fact indirectly implies that in Azerbaijan, more firms choose simple technologies whose operation does not require skilled manpower.

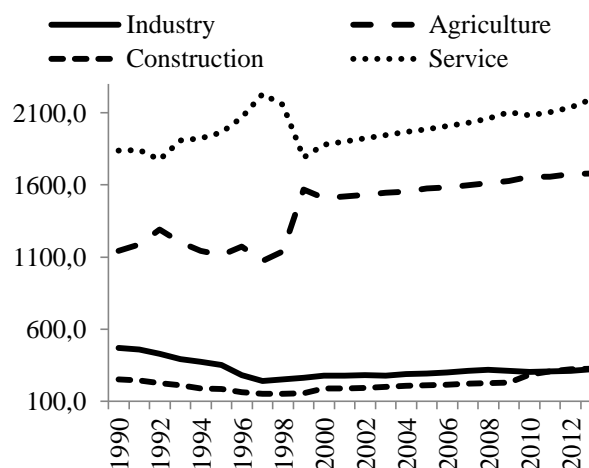
After the break-up of the command economic system, the structure of the Azerbaijani economy was transformed, and as a result, the employment structure also changed. Figure 14 shows that in the transition period, the industry, agriculture, and construction experienced a significant reduction in employment, whereas the service sector achieved a rise in employment. In 1999, we observe a change in the employment structure: employment in the services sharply declined, but at the same time, employment in the agriculture abruptly increased. Given that the change in employment in the industry and construction was very modest, we can conclude that there was a reallocation of labor from the services to agriculture. The reason for such a reallocation is the land reform which made 872 thousand families land owners and therefore encouraged many of them to get involved in agriculture. However, in the subsequent two years, employment in the agriculture experienced downward adjustments, after which it began again increasing. In the services, after the 1999 adjustment,

**Figure 13.** Unemployment rate of persons by educational attainment, %



Source: International Labor Organization

**Figure 14.** Employment by sectors (total), thsd



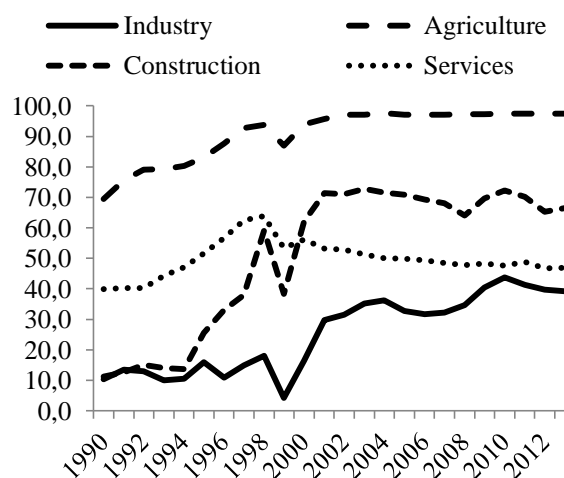
Source: Authors' calculations, State Statistical Committee

employment has showed growth. Regards to employment in the construction and industry, we see that from 1998 onwards, employment in the construction demonstrated growth, but in the industry, it showed a mixed trend: rising in some years but falling in the others.

The employed include those who are hired or self-employed. If we separate the hired and self-employed, we can see that after gaining the independence, the share of the self-employed increased across all sectors of the economy. In 2013, as compared with the 1990 shares, the share of the self employed increased 1.5 times in the agriculture, 3.8 times in the industry, 5.9 times in the construction, and 1.2 times in the services (Figure 15). At present, almost all labor in the agriculture and over half of labor in the construction are self-employed. The share of the self-employed in the economy, which reached 66.5 % in 2013, is the highest among CIS and CEE economies. For example, in the same year, the share of the self-employed was 30.6% in Kazakhstan, 31.2 % in Moldova, 21.8 % in Poland, 15.5% in Slovakia, and 19.1% in Ukraine (Figure 16). A high proportion of self-employment is not a desirable outcome because in contrast to the hired, the self-employed usually do not have stable income and an opportunity to use social amenities. As a result, a large share of households can be at the risk of social exclusion.

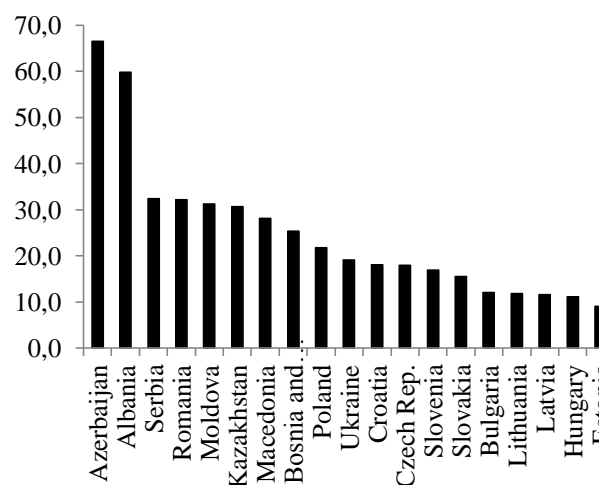
The hired people, in its turn, can be also divided on those who work full day and those who work less than a full day or in other words part-time. We have data on part-time employment only for one year, therefore we will not be able to analyze the evolution of this indicator. The data show that in 2003, around 18% of employees worked less than a full day (Figure 17). On the share of part-time employment, Azerbaijan ranks the 6<sup>th</sup> among 22 CIS and CEE countries (Figure 18). A disaggregation of the part-time employment data by age and gender leads

**Figure 15.** Share of self-employed by sectors, %



Source: Authors' calculations, State Statistical Committee

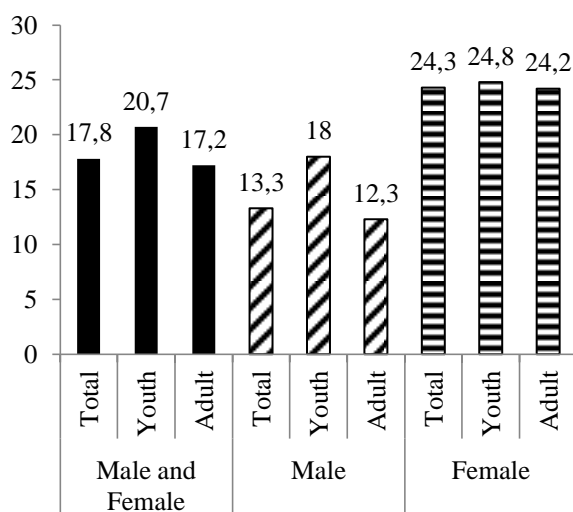
**Figure 16.** Self-employment in CIS and CEE, 2013



Source: International Labor Organization,

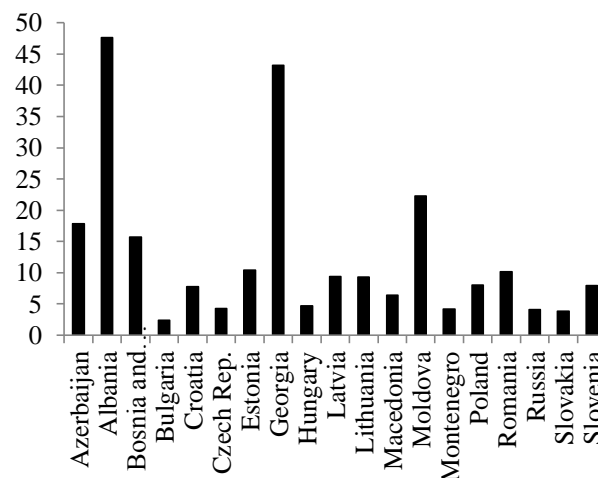
to the conclusions consistent with the stylized facts. First, part-time employment is more popular with young people than adults. Second, part-time employment is more widespread among women than men. Third, part-time employment among young females is as much common as among adult females, but part-time employment among young males is more common than among adult males.

**Figure 17.** Part-time employment, 2003, %



Source: International Labor Organization

**Figure 18.** Part-time employment in CIS and CEE

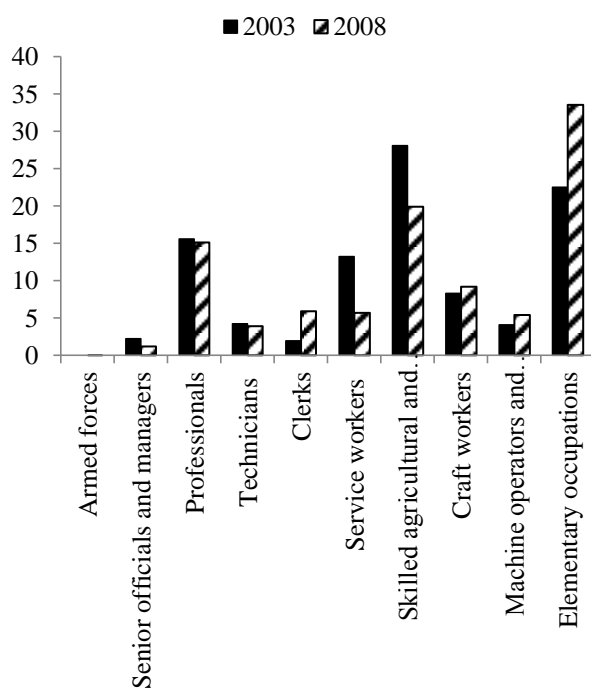


Source: International Labor Organization,

The attitude towards part-time employment can be of two kinds. First, we can think of a high part-time employment rate as an indicator of the flexibility of the labor market because it allows people who cannot work full time for some reasons, e.g. child care or nursing, to get employed. Second, we can think of part-time employment as an indicator of underemployment, which means that part-time employment is an involuntary choice of employees (Cazes and Nesporova, 2004). The latter situation usually occurs when firms cannot shed redundant labor for legislative or other reasons and therefore force employees to work less than a full day. Regards to our case, we can say that a high share of part-time employment indicates flexibility of the labor market because Azerbaijan has a rather liberal labor code which allows firms easily adjust labor.

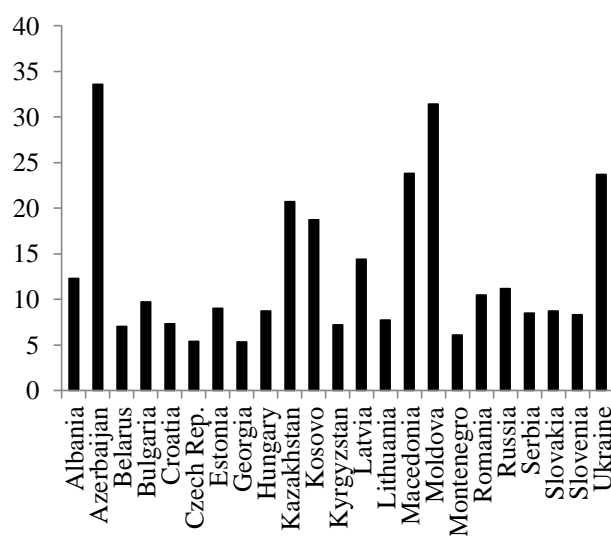
The analysis of the occupational data shows that during the 2003-2008 period, the occupational structure of the employed changed to a large extent. In particular, the share of the employees with elementary occupations and the share of clerks increased by 11.1% and 4% respectively, whereas the share of service workers and the share of craft workers decreased by 7.5% and 8.2% respectively (Figure 19). An increase in the share of elementary occupations, or in other words, low productivity jobs can presage a slowdown in the Azerbaijani economy. Besides, in comparison with the other CIS and CEE countries, Azerbaijan has the largest share of elementary occupations; this, in turn, implies that the competitiveness of the Azerbaijani economy in the region can be weakened (Figure 20).

**Figure 19.** Employment by occupation, males and females, %



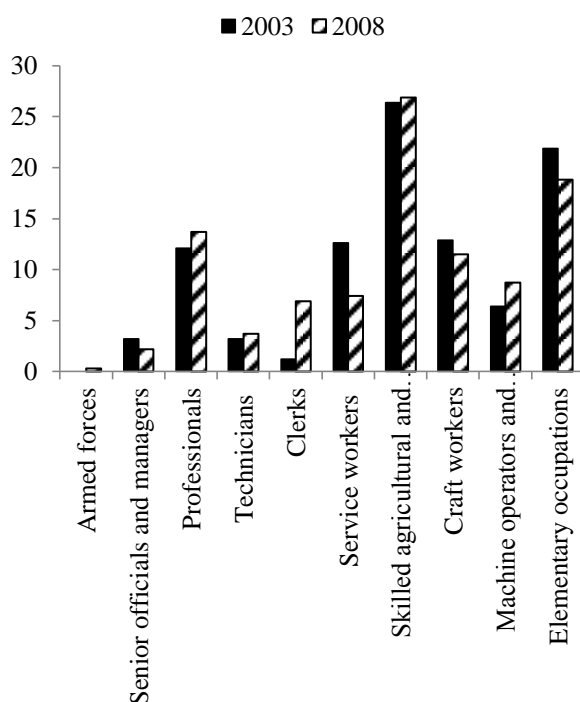
Source: International Labor Organization

**Figure 20.** Elementary occupations in CIS and CEE

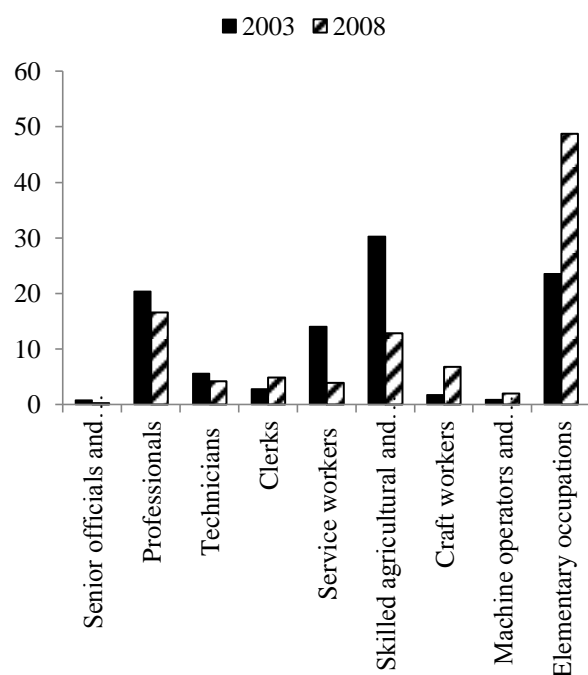


Source: International Labor Organization

If we downgrade the data by gender, we observe that changes occurred mostly in the occupational structure of women rather than men (Figure 21 and Figure 22). For example, the share of elementary occupations rose by 25.2% among women, but fell by 3.1% among men. Furthermore, we can see that the share of female service and the share of female skilled agricultural workers declined by 10.1% and 17.5% respectively, while the share of male service workers declined only by 5.2% and the share of male skilled agricultural workers increased by 0.5%.

**Figure 21.** Employment by occupation, males, %

Source: International Labor Organization

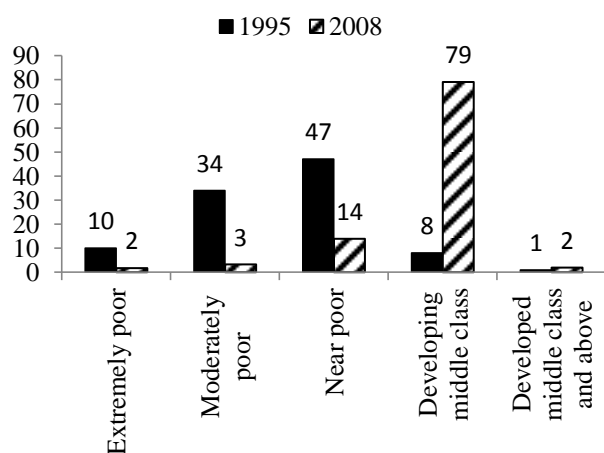
**Figure 22.** Employment by occupation, females, %

Source: International Labor Organization

In the early transition period, the overwhelming majority of employees were the “working poor”; at the end of the transition period, the distribution of employees by economic class changed to the better. In 2008, the share of the ‘working poor’ declined to 19% from 91% in 1995 (Figure 23). Such a change implies that at present, most of the employees in Azerbaijan receive satisfactory salaries. When the data are disaggregated by gender and age, the figures change only marginally, which means that reasonably paid jobs are equally widespread among males and females, young and adult. In the former Soviet Union space, the share of developing and developed middle class in total employment in Azerbaijan is above regional average (Figure 24).

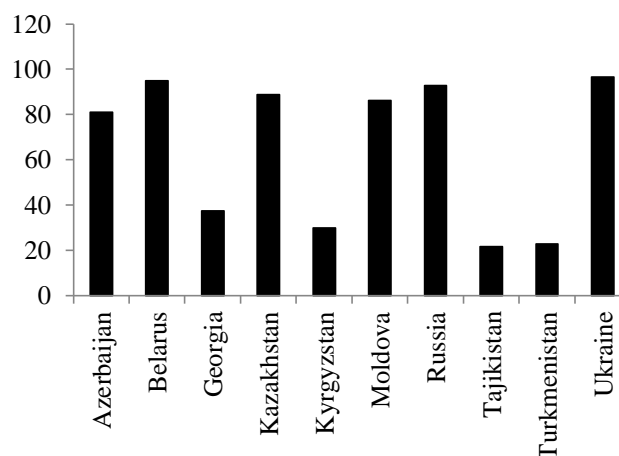


**Figure 23.** Employment by economic class, share, %



Source: International Labor Organization

**Figure 24.** Middle class employment in CIS, 2008

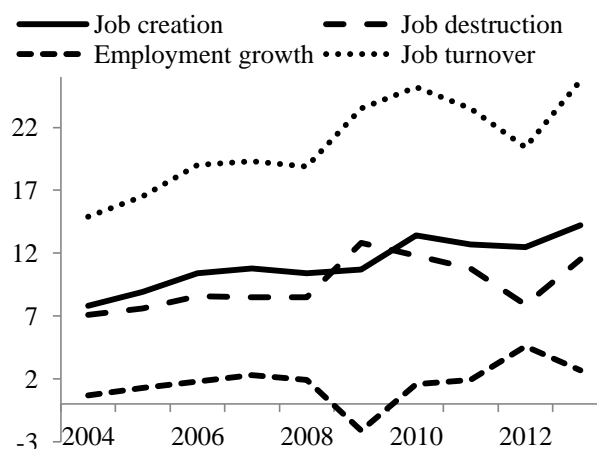


Source: International Labor Organization,

During the 2004-2013 period, the average job creation and destruction rates in Azerbaijan, which made 11.18% and 9.51% respectively, were higher than those rates in CEE and other CIS countries in the transition period. Such a high job turnover rate implies two things. First, the Azerbaijani labor market is flexible: employers can easily hire and dismiss employees. Second, the process of economic restructuring in Azerbaijan has not been completed because the firms have not determined the optimal number of workers and therefore frequently take on and discharge employees. Furthermore, we can see that the employment growth rate is positive in the whole period except the year of 2009 when more jobs were reduced than created (Figure 25). The positive employment growth rate implies that the on-going economic restructuring is pro-job growth.

Figure 26 shows that by magnitude, we can divide sectors into two pairs: one pair, the construction and industry, which have high job turnover rates, and the other pair, the agriculture and services, which have low job turnover rates. These statistics suggests that in contrast to the agriculture and services, the construction and industry are the sectors which still go through deep restructuring. However, some authors argue that high job flows actually indicate heterogeneity in firm behavior and reflect processes inherent to a given sector (Konings et al, 2002 and Masso et al, 2005). We think that in fact,

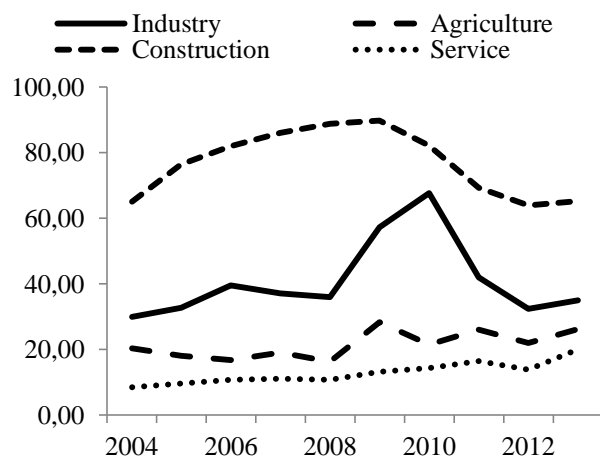
**Figure 25.** Labor market indicators (rates), %



Source: Authors' calculations, State Statistical Committee

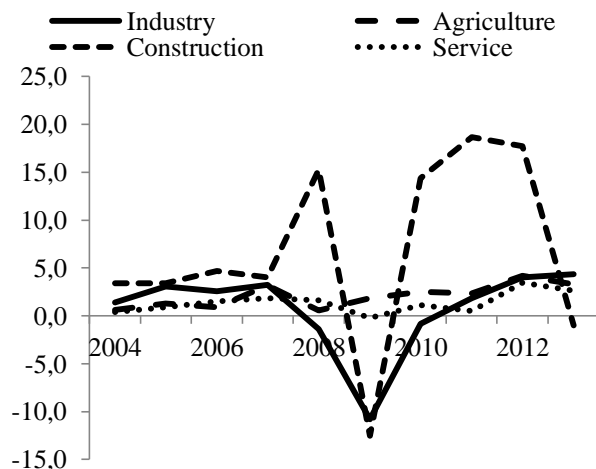
heterogeneous firm behavior is the consequence of restructuring because if restructuring is completed, which means that firms hold optimal personnel sizes, it is unlikely that in the case of an external shock, firms will adjust employment in the different directions. Furthermore, if we assume that high job flows are natural for particular sectors, then we should observe high job flows in given sectors across the majority of countries. But the data reported for transition countries show that the same industries can have significantly different job turnover rates in different countries (Faggio and Konings, 2003).

**Figure 26.** Job turnover rates, %



Source: Authors' calculations, State Statistical Committee

**Figure 27.** Employment growth rates, %



Source: Authors' calculations, State Statistical Committee

The agriculture and services, which more or less have completed restructuring, had mostly positive but modest employment growth rates in the course of 2004-2013 (Figure 27). Only in 2009, the services registered small negative growth. The construction demonstrated positive employment growth rates in all years except 2009 and 2013. The employment growth in industry was positive during the whole period but 2008-2010. The observed large decline in employment in the construction and industry during the crisis period is typical for these sectors which grow fast in boom and shrink quickly in recession. Although both the industry and construction are under restructuring, the employment growth rates in construction are higher than those in industry. This difference can be due to the difference in the sources of output growth. In the construction, growth is powered by greater utilization of labor, while, in the industry, growth is fueled by an increase in the use of capital.

The restructuring taking place in the Azerbaijani economy, particularly in the construction and industry, can affect the distribution of labor in different ways. It can either accelerate the redistribution of labor within economic sectors or stimulate the redistribution of labor between economic sectors. To determine in which way the restructuring leads the development of the labor market, we calculate the labor reallocation rates within and between sectors. Figure 28 obviously shows that the reallocation rates within a sector are greater than the

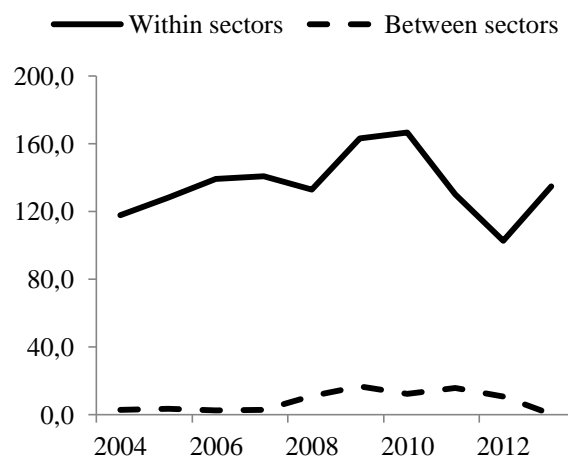
reallocation rates between sectors. This finding implies that the restructuring of the economy is mostly accompanied with the reallocation of labor within rather than between economic sectors. The other studies, e.g. Faggio and Konnings (1999) and Haltiwanger and Vodopivec (2002), also find that in transition countries, job reallocation occurs mainly within sectors.

#### IV. Conclusions and policy implications

In this paper, we examine the development of the labor market in Azerbaijan from the early 1990s until the early 2010s. The analysis of the labor market indicators allows us to make

certain conclusions. First, economic growth in Azerbaijan was mainly jobless because the magnitude of employment growth was much lower than that of GDP growth. Second, at the aggregate level, wages generally grew faster than labor productivity. However, if we look at the evolution of the wages and productivity at the sectorial level, we can see that in the recent period, labor productivity in the industry and agriculture rose slower than wages, whereas in the services and construction, the situation is opposite. Third, after the collapse of the Soviet Union, the labor force participation and employment rates declined significantly; however, they are higher relative to the other CIS and CEE countries. Azerbaijan also has one of the lowest adult and youth unemployment rates among the former social countries. Fourth, if we examine changes in employment by sectors in the early transition period, we can see that in fact, employment decreased in such sectors as the agriculture, industry, and construction but increased in the services. At present, the major employers are services and agriculture. Fifth, the decomposition of the labor force by educational attainment shows that the proportion of labor with primary education increased among men as well as women. Sixth, we find that the share of the self-employed significantly increased across all economic sectors. On the share of the self-employed in total employment, Azerbaijan is one of the leaders in CIS and CEE. In some sectors, increases are striking. For example, today all labor involved in the agriculture is self-employed; in the construction, 50% of labor is self-employed. Seventh, the share of the part-time employed in Azerbaijan is also one of the largest in the region. Part-time employment prevails among youth and females. Eighth, the occupation data show that recently, the occupational distribution underwent significant changes. In particular, the demand for elementary workers significantly increased, while the demand for service workers and the share of craft workers decreased. Such a shift indicates declining skill requirements in the labor market. Ninth,

**Figure 28.** Job reallocation, %



Source: Authors' calculations, State Statistical Committee

Azerbaijan managed to almost nullify the share of the “working poor” and achieve a high share of the jobs with satisfactory pays. Tenth, the high job turnover rate indicates that the Azerbaijani labor market is flexible, and the economic restructuring has yet to be completed. The moderate job turnover rates in the agriculture and services imply the completion of restructuring, while the high job turnover rates in the industry and construction indicate the incompleteness of restructuring. Finally, similar to the other CIS and CEE countries, the labor reallocation in Azerbaijan takes place mostly within sectors.

The aforementioned conclusions show the Azerbaijani labor market has a few positive characteristics, but it also goes through a few negative developments. The positive characteristics comprise of a high labor force participation rate, a low unemployment rate, high flexibility, a large share of the part-time employed, and an extremely low share of the “working poor”. The negative developments include an increase in the share of labor with primary education, a large shift towards low skilled occupations, a large share of the self-employed, and higher wage growth relative to labor productivity growth. These negative developments can impose certain challenges on the future prospects of the Azerbaijani economy and demands urgent policy responses. For example, a large share of labor with primary education can signal companies and investors on low human capital and therefore prevent them from investing in sophisticated technology whose operation requires highly educated labor. A large increase in the share of elementary workers shows that more firms prefer to use simple technologies which need low-skilled manual labor. Furthermore, higher wage growth relative to labor productivity growth implies that the cost of labor grows faster than the efficiency of labor, particularly in the agriculture and industry. Such a state of affairs indicates low competitiveness of these sectors and thereby makes them unattractive to investors. A large share of the self-employed is usually associated with unstable income, a lack of social protection, and few opportunities for personal development, which together by negatively affecting life prospects discourage investment in human capital.

A low proportion of the labor with tertiary education is the consequence of fewer higher educational opportunities. The solution of this shortcoming demands an increase in spending on higher education either on the side of government or business or both. The subsequent positive effect of an increase in the share of the labor with tertiary education on economic growth will be larger if along with an increase in the number of higher education opportunities, the quality of education improves. The last three developments, an increase in the share of elementary occupations, a disproportion between wage and labor productivity growth rates, and a large share of the self-employed, bear a structural character; therefore, their correction will require the implementation of structural reforms. The determination of the necessary kind of the structural reforms calls for the serious study which is beyond this paper.

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