Labor market challenges of an aging and shrinking population in Ukraine

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1. Introduction

During the past 20 years, Ukraine has been suffering from dramatic changes in population size and its age structure. The Ukrainian population decreased from 51.6 million in 1990 to 45.4 million in 2010 and is expected to decrease to 34 million in 2060.[1] Between 1990 and 2010, the working-age population declined at an average annual rate of 0.33 percent, while the elderly population aged 65 years and older grew at an average annual rate of 0.64 percent. In the next fifty years (until 2060), the working-age population is expected to decline further by about 0.97 percent annually. In the same period, the elderly population is expected to grow on average by 0.48 percent annually. As a result, the proportion of the elderly in the total population increased from 12.2 percent in 1990 to 15.5 percent in 2010 and will increase to 26.1 percent in 2060. If gender- and age-specific labor force participation rates are kept constant, the labor force in Ukraine is projected to shrink by more than 39 percent by 2060.

Population aging [2] is already seriously affecting many countries and regions, including Japan, Western and Eastern Europe, Australia, New Zealand, Uruguay, Argentina, etc., and it is expected to be a growing concern in a number of other countries in the near future. This study focuses on Ukraine which is more vulnerable to the negative impacts of an aging and shrinking population than many other regions in Europe or elsewhere. First, the country is still undergoing economic, political and social transformations triggered by the Soviet Union's collapse and sluggish reforms in transition to a new economic and political system. So, the multiple challenges faced by aging countries in terms of maintaining and improving living standards, productivity and social cohesion are especially formidable in countries like Ukraine where aging takes place against the backdrop of weak institutions, structural weaknesses and vulnerabilities of the economy, political instability and low level of trust among the population. The interaction of the demographic transition with economic, political and social transitions makes Ukraine's experience especially challenging and attractive for study.

Second, aging in Ukraine takes place from below and not from above, i.e. mainly due to a decline in fertility and continuous outmigration of the working-age population rather than due to a huge increase in life expectancy rates as in developed countries. Besides, there is a huge difference in life expectancy between men and women. This limits the possibility to tackle the challenge of Ukraine's aging population by significantly increasing the retirement age, especially for men, as it might shorten considerably the work-free time in old age and so is not the best option for policymakers.

Third, compared with higher-income aging countries, Ukraine has fewer financial resources for mitigating the negative impacts of population aging on the labor market, the social protection and health systems. At the same time, slow progress in the development of financial markets which are well needed to introduce mandatory funded second-pillar pension scheme in Ukraine aggravates the difficulties of dealing with population aging.

Fourth, the jobs challenge driven by shrinking and aging population in Ukraine is amplified by relatively low levels of labor force participation and labor mobility, poor productivity performance and the ineffective use of available human capital. As a result, Ukraine faces a vicious circle: the decreasing pool of available working-age individuals puts significant pressure on Ukrainian firms and potential foreign investors looking for skilled workers. Skills of the more abundant older cohorts who

[1] The source of data: United Nations, Department of Economic and Social Affairs, Population Division (2011): World Population Prospects: The 2010 Revision. New York.

[2] Population aging is defined as the process by which the balance of a country's population shifts such that the proportion of the population that is elderly constitutes a growing proportion when compared with younger ages (Chawla *et al*., 2007, p.47).

have completed their education before the transition are less appropriate and less well rewarded in the new market environment. At the same time, decreasing young cohorts and ineffective use of their skills reduce the innovative capacity of local firms. This seriously undermines Ukraine's competitiveness and investment attractiveness under conditions of the global move to a more knowledge-based and innovation-led economy.

Besides, the growing elderly population is placing enormous fiscal pressure that might be accommodated by ad hoc measures with an increase of contribution and tax rates among those who participate in the formal economy. If so, this will ultimately lead to higher labor costs and a double burden on formally employed working-age individuals and formal firms that could create incentives for more individuals and firms to exit into the shadow economy and be a source of social strain. In the end, the country may fall into a fiscal trap with a lack of socioeconomic opportunities for youth. Aging can also make the population less mobile, both professionally and geographically. Such negative developments may hinder further economic growth, worsen living standards and adversely impact intergenerational relations and social cohesion. This, in turn, can lead to a reversal of recent positive trends in fertility and life expectancy and, as a consequence, to more acute aging-related problems for the labor market and economic development of Ukraine.

On the other hand, Ukraine has more opportunities than many other aging societies to adjust to the challenges of an aging and shrinking population through increasing labor force participation and productivity levels by bringing hitherto idle youth and adults into the workplace, encouraging more internal migration and professional mobility of workers, improving and better utilizing their knowledge and skills. There is also some scope for increasing productivity through technological and organizational innovations and the reallocation of firms and workers from less to more productive activities.

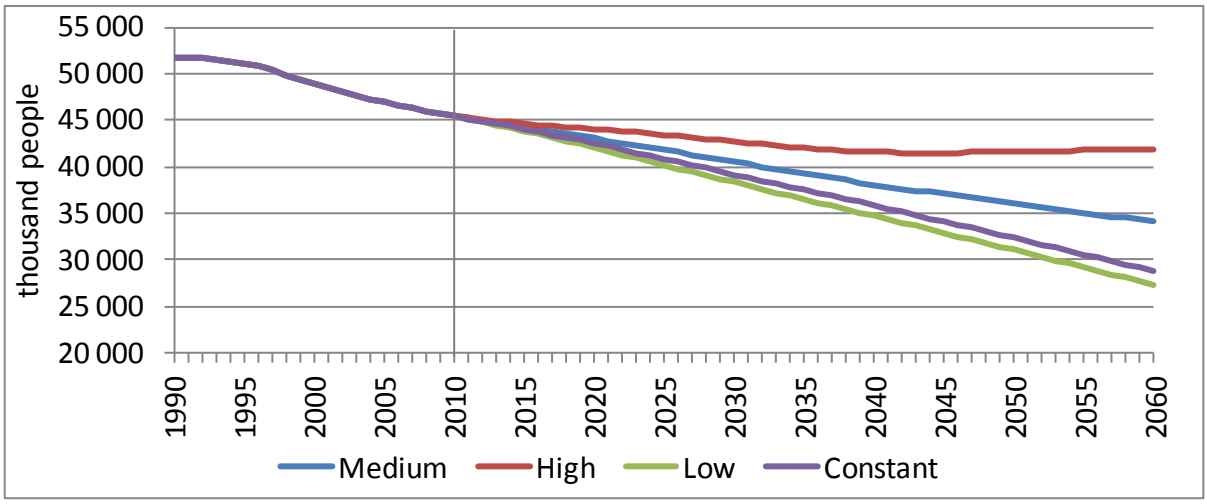
Yet this favorable scenario may come true only if Ukrainian policymakers manage to develop and effectively implement a multifaceted approach to the problems being created by the aging population. A prerequisite is to create a policy environment that is conducive to sustained job creation and productivity growth. The fundamentals including macroeconomic stability, an enabling business environment, human capital, the rule of law and modern infrastructure should be a solid foundation for Ukraine's job policy. Effective labor policies including the measures that improve skills matching, promote labor mobility and effectively protect the most vulnerable workers are important not only for supporting efficiently functioning labor markets but also for confronting the aging issue. Finally, it is necessary to support creation of more jobs for development, i.e. those that bring positive spillovers with respect to living standards, productivity gains and social cohesion, given the country context. In Ukraine, a country with a rapidly changing workforce, jobs that maximize the years of economic activity and healthy life of population are likely to have large development payoffs. Improving fairness in the Ukrainian labor market is another priority task for rebuilding social cohesion in Ukraine's society and increasing the development payoff of jobs.

The nest section presents an overview of the current and future demographic trends in Ukraine, whereas section 3 examines the labor market trends. Section 4 analyses implications of demographic changes for the labor market. It directly addresses the potential impact of population aging on labor supply and labor productivity leaving aside the implications on public finance and social protection of the elderly, health care and long-term care, savings and financial markets. The paper concludes with a discussion of policy options for addressing aging-related concerns in the Ukrainian labor market.

2. Demographic trends in Ukraine: basic facts

Ukraine has one of the highest population declines in the world. According to the UN World Population data,[3] it shared the second position with Bulgaria and Georgia in terms of an average annual rate of population decline in 2005-2010 (0.6 percent) among 196 countries with a population of 100,000 or more in 2009. The Ukraine's population decreased from 51.6 million in 1990 to 45.4 million in 2010, representing a loss of more than 12 percent. In the next 50 years, it is expected to decrease to 34 million under the medium-fertility variant and to 27.4 million under the low-fertility variant (Figure 1).

Figure 1. Total population by variant of projections, 1990-2060



Source: UN (2011).

Note: Data refer to total population, both sexes combined, as of 1 July of the corresponding year. In 1990-2010 these are UN estimates, in 2011-2050 they refer to population projections with four variants depending on the assumption about fertility trends.

Dramatic changes in the size of population have been accompanied with changes in its age structure. Between 1990 and 2010, the working-age population (aged 15 to 64 years) declined at an average annual rate of 0.33 percent, with an overall loss of 2.3 million people (Table 1). In the same period, the elderly population grew at an average annual rate of 0.64 percent and increased by 706 thousand people. In the next fifty years (until 2060), the working-age population is expected to decline further by about 0.97 percent annually, whereas the elderly population is expected to grow on average by 0.48 percent annually. As a result, the proportion of the elderly in the total population increased from 12.2 percent in 1990 to 15.5 percent in 2010 and will increase to about 26.1 percent in 2060 (under the medium-fertility variant). The natural consequence of aging is an increase in the old-age dependency ratio, i.e. the number of people older than 65 years relative to those of working age (15–64 years). By 2060, this ratio is expected to increase twofold to 45.3 percent (Table 1).

Ukraine can be classified as "already old" because it has surpassed the threshold of 10 percent of population in the 65 and older age group a long time ago (Chawla *et al.*, 2007). But the process of population aging speeded up considerably in the last years and it is expected to continue as fertility rates in Ukraine have been much below replacement levels since the early 1990-s. This shift toward the population structure dominated by older people rather than young is a sign of the third demographic transition. It is experienced by many countries in the world which have moved from a regime with high fertility and mortality to the one with lower levels of fertility and mortality.

[3] See United Nations, Department of Economic and Social Affairs, Population Division (2011): World Population Prospects: The 2010 Revision. New York.

Table 1. Population dynamics by age group and old-age dependency ratio, 1990–2060

Indicator	Period	Age group			Total
		0-14 years	15-64 years	65+ years	
Population (thousand)	1990	11065.8	34261.4	6317.7	51644.9
	2010	6452.8	31971.8	7023.7	45448.3
	2035	5784.6	25597.5	7863.7	39245.7
	2060	5567.5	19622.5	8896.0	34086.0
Average annual growth rate (%)	1990-2010	– 2.55	– 0.33	0.64	– 0.60
	2010-2060	– 0.29	– 0.97	0.48	– 0.57
Proportion of age group in total population (%)	1990	21.4	66.3	12.2	100
	2010	14.2	70.3	15.5	100
	2035	14.7	65.2	20.0	100
	2060	16.3	57.6	26.1	100
Old-age dependency ratio (%)	1990	18.4			
	2010	22.0			
	2035	30.7			
	2060	45.3			

Source: Author's calculations based on data from UN (2011).

Note: In 2011-2060 population projections with medium-fertility variant are used. The old-age dependency ratio is the ratio of the number of elderly people at an age when they are generally economically inactive (i.e. aged 65 and over), compared to the number of people of working age (i.e. 15-64 years old).

However, Ukraine is aging in a way which is not similar to Western Europe or Japan. Life expectancies in developed countries have been gradually increasing since the 1950-s to 80 years and more (Table 2). In Ukraine, life expectancy slightly increased between 1950 and 1970 but after reaching a peak in 1965–1970 (71.3 years) it declined to 67.5 years in 2005–2010. According to the national statistical office – State Statistics Service of Ukraine – recent trends look more optimistic than those provided by the UN: life expectancy at birth increased from 67.96 years in 2004 to 71.15 years in 2012. Nevertheless, it is still much below than in developed countries. Furthermore, Ukrainians are not only dying younger than the nationals of higher income countries but also have fewer years lived in full health as documented by a fairly low level of health adjusted life expectancy (World Bank, 2009).

Table 2. Life expectancy and fertility trends in Ukraine and selected developed countries, 1950–2010

Country	Median age	Life expectancy at birth for both sexes combined (years)						Total fertility (children per woman)					
	2010	1950-1955	1970-1975	1990-1995	1995-2000	2000-2005	2005-2010	1950-1955	1970-1975	1990-1995	1995-2000	2000-2005	2005-2010
Japan	44.9	62.17	73.14	79.45	80.48	81.83	82.73	3.00	2.13	1.48	1.37	1.30	1.32
Germany	44.3	67.50	71.00	76.02	77.36	78.69	79.85	2.16	1.64	1.30	1.34	1.35	1.36
Italy	43.3	66.32	72.14	77.39	78.68	80.20	81.37	2.36	2.35	1.28	1.22	1.25	1.38
Finland	42.0	66.09	70.82	75.74	77.03	78.27	79.34	3.00	1.62	1.82	1.74	1.75	1.84
Austria	41.8	66.26	70.67	76.05	77.39	78.82	80.24	2.08	2.04	1.47	1.37	1.39	1.38
Greece	41.8	65.86	72.34	77.37	77.95	79.03	79.52	2.29	2.32	1.37	1.30	1.28	1.46
Switzerland	41.6	69.34	73.71	78.03	79.18	80.69	81.81	2.31	1.87	1.54	1.48	1.41	1.46
Belgium	41.1	68.37	71.63	76.39	77.49	78.18	79.77	2.34	2.02	1.61	1.60	1.69	1.79
Portugal	41.0	60.03	68.17	74.68	75.85	77.33	78.59	3.10	2.83	1.51	1.48	1.45	1.36
Netherlands	40.8	71.93	74.11	77.26	77.85	78.68	80.20	3.05	2.06	1.58	1.60	1.73	1.75
Ukraine	**39.4**	**65.94**	**70.13**	**68.74**	**67.36**	**67.59**	**67.54**	**2.81**	**2.16**	**1.64**	**1.23**	**1.15**	**1.39**

Source: UN (2011).

The second difference is that a decline in fertility rates to below replacement levels began in Ukraine much later (in the early 1990-s) than in Japan or Western European countries (mainly since the mid-1970-s), but it has been much more pronounced. In 2000–2005, Ukraine ranked third in the world after China Hong Kong SAR and China Macao SAR in terms of the lowest fertility rate over the five-year period.

Following the categorization of aging into four types, [4] populations in Japan and Western Europe are aging both from below and above with compensation. Aging in Ukraine occurs primarily from below and results in significant population losses due to low birth and fertility rates, relatively high mortality and morbidity among the working-age population (particularly men) and emigration of working-age adults and their families (ETF, 2009).

Another notable observation is that female-male differentials in life expectancies are much higher in Ukraine than in high-income countries. According to the estimates of the State Statistics Service of Ukraine in 2012, Ukrainian women are expected to live almost 10 years longer than men (76.02 years compared to 66.11 years). Excessively high and premature mortality of men compared to women results in a significant distortion in the gender structure of the population, particularly in older age groups (ETF, 2009). Hence, aging of population in Ukraine is accompanied with its feminization that calls on policymakers to consider the perspective of gender as well as age when developing and implementing effective interventions.

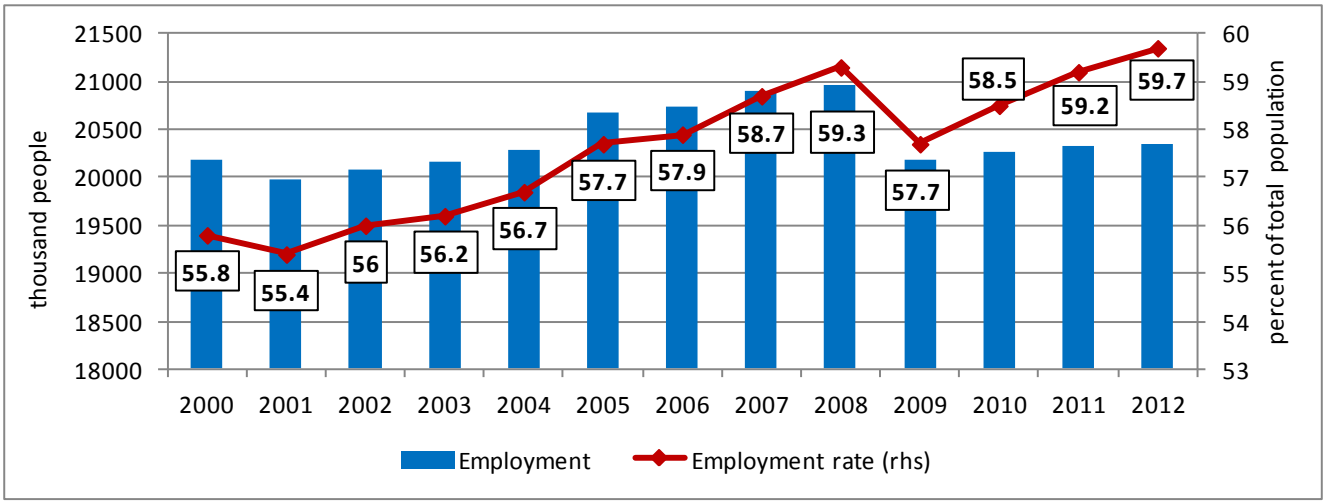
[4] Cieslak (2004) described four basic types of population aging: (i) aging from below without compensation (constant mortality and declining fertility); (ii) aging from below with losses (increasing mortality and declining fertility); (iii) aging from above with compensation (declining mortality and constant fertility); and (iv) aging from below and above with compensation (declining mortality and fertility).

3. Recent labor market developments in Ukraine

3.1. Employment trends

Total employment increased steadily during 2001–2008, and the share of employed persons in the adult population increased from 55.4 to 59.3 percent (Figure 2).[5] The economic and financial crisis which reached Ukraine in the late 2008 resulted in the significant employment losses, of about 780,800 jobs. While Ukraine stood out with a strong negative GDP growth rate in 2009 (-14.8 percent), its employment contraction (-3.7 percent) was in line with many countries that witnessed much milder economic declines. A significant share of employment adjustment, hence, took place through internal mechanisms within firms such as shortened working hours, increased use of wage arrears and administrative leaves. Despite a slight increase in total employment in 2010-2012, it has not yet recovered to the pre-crisis levels yet. At the same time, due to a rapidly shrinking working-age population, employment rate reached a historic high of 59.7 percent in 2012.

Figure 2. Employment of population aged 15–70 years, 2000–2012



Source: State Statistics Service of Ukraine (based on the LFS data).

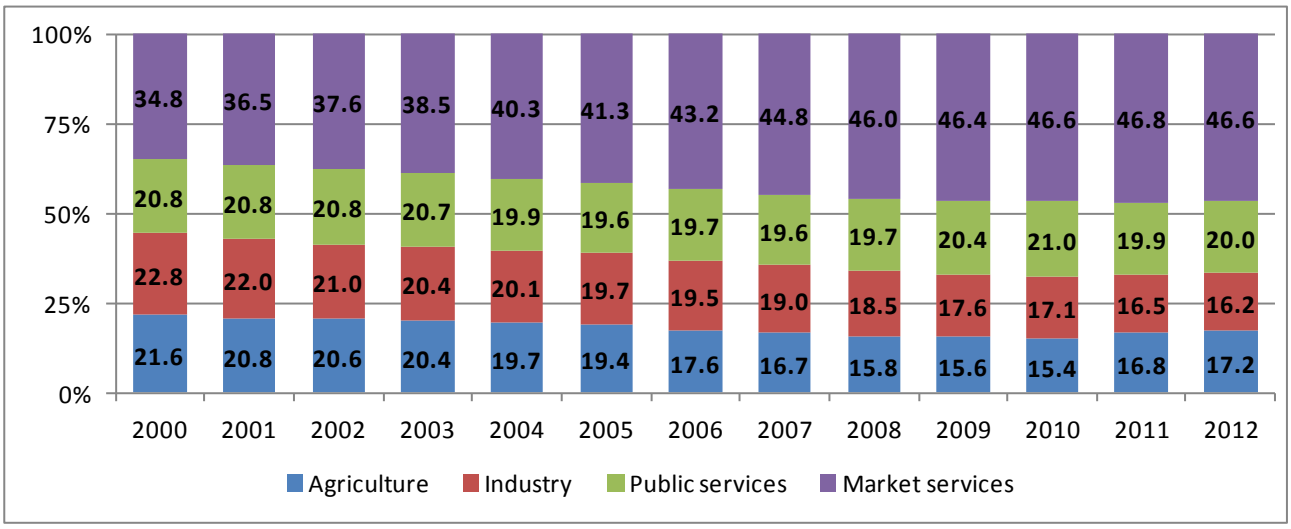
Ukraine experienced unprecedented structural changes not only in the age composition of the population, but also in employment. The agricultural and industrial sectors experienced reduced shares in total employment (Figure 3), as employment in these sectors has contracted by about 20 percent and 28 percent, respectively, since 2000. Significant employment losses in agriculture and industry were more than offset by substantial gains in financial intermediation (an increase of 95.2 percent between 2000 and 2012), trade, repair, hotels and restaurants (56.8 percent), and real estate, rental, and business activities (47.4 percent). As a result, the market services sector experienced a huge increase in its share before the crisis, followed by stabilization at about 46.6 percent (Figure 4). The largest sector in terms of employment is trade, repair, hotels and restaurants, which accounted for 24 percent of total employment in 2012. It is also one of two sectors (the second is real estate, rental and other business activities) that grew in 2010-2012 and recovered to the pre-crisis level in terms of employment.

Interestingly, the reforms initiated by the President V. Yanukovych and the Government in 2010 to cut expenditures in the public sector but improve the service delivery, including the administration reform aimed at reducing the number of public administration officials at all levels, rationalization of the school network system in view of decreasing population of school-age children, and the medical

[5] Employment is defined according to the ILO methodology on the basis of the Ukrainian Labor Force Survey (LFS) data and refers to individuals aged 15–70 years.

reform aimed at improving the quality of health care in an aging but shrinking society, have not resulted in significant employment losses. As a consequence, public services accounted for 20 percent of total employment in 2012 which is even higher than before the economic crisis.

Figure 3. Sectoral composition of employment in Ukraine, 2000–2012



Source: State Statistics Service of Ukraine (based on the LFS data), own calculations.

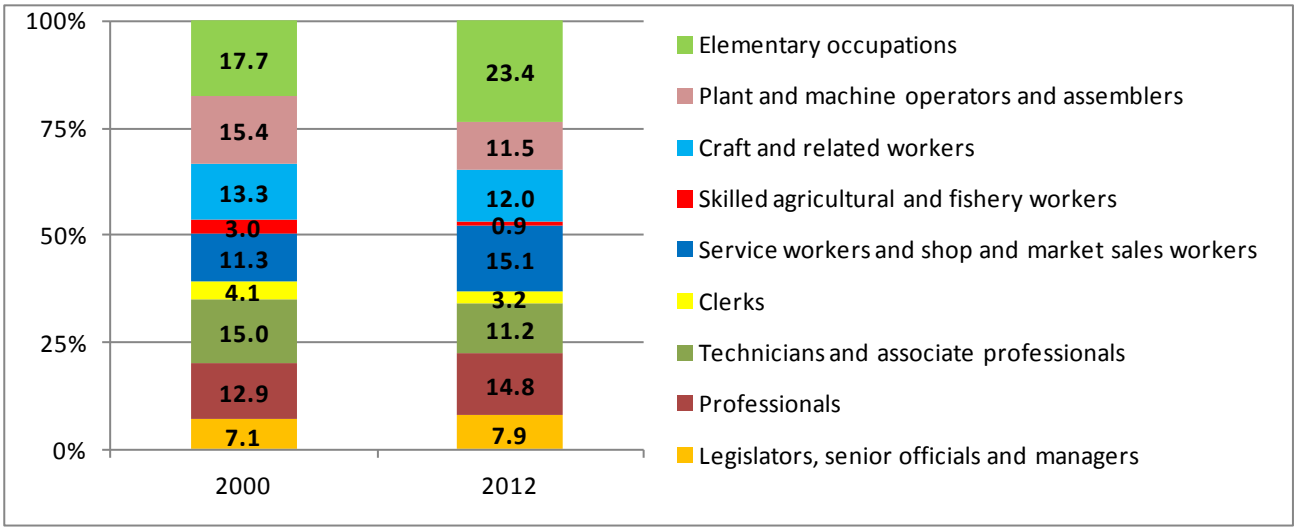
Note: Public services include education, health care and social work, and public administration.

Following employment cuts in industry and agriculture, the share of wage and salaried workers fell sharply, from around 90.1 percent in 2000 to 81.2 percent in 2012. These losses were counterbalanced by a double increase in the share of own-account workers (from 8.1 to 17.4 percent), but it mainly happened due to self-employment in subsistence agriculture, petty trade and some other low productivity, small-scale and usually unregistered activities. Most self-employed individuals were forced to create jobs for themselves due to a lack of formal wage employment and other alternatives rather than being attracted by opportunities, and therefore these are mainly "necessity entrepreneurs". According to EBRD (2011), they are less likely to innovate, generate knowledge spillovers and contribute to the economic growth than “opportunity entrepreneurs”.

The hypothesis about the widespread "necessity entrepreneurship" in Ukraine may be also supported by the negative trends in the occupational structure of employment. The share of unskilled jobs in total employment increased from 17.7 to 23.4 percent between 2000 and 2012 (Figure 4), and the number of unskilled jobs increased by 31.6 percent. Employment of service workers and shop and market sales workers increased by 33.3 percent. Other occupational groups that experienced employment gains but much smaller than in the above groups are professionals (14.3 percent) and senior officials/ managers (10.1 percent).

Overall, the share of white-collar and office jobs (the top four occupational groups) fell from 39.2 to 37.1 percent, mainly due to considerable reduction of jobs for technicians and clerks. The share of blue-collar jobs (groups 6-8) also decreased significantly, which is in line with observed employment losses in industry and agriculture. Skilled agricultural and fishery workers experienced the most severe reduction of employment opportunities: the number of employed persons in this occupational group has decreased from 617,000 to 183,000 since 2000. Most rural residents dismissed from bankrupt collective agricultural firms (*kolkhozes*) and having no other opportunities were forced to engage in subsistence farming cultivating small pieces of land near their houses and selling some part of grown products on markets to survive. As a result, the incidence of informal employment in rural areas increased to 89.1 percent in 2012.

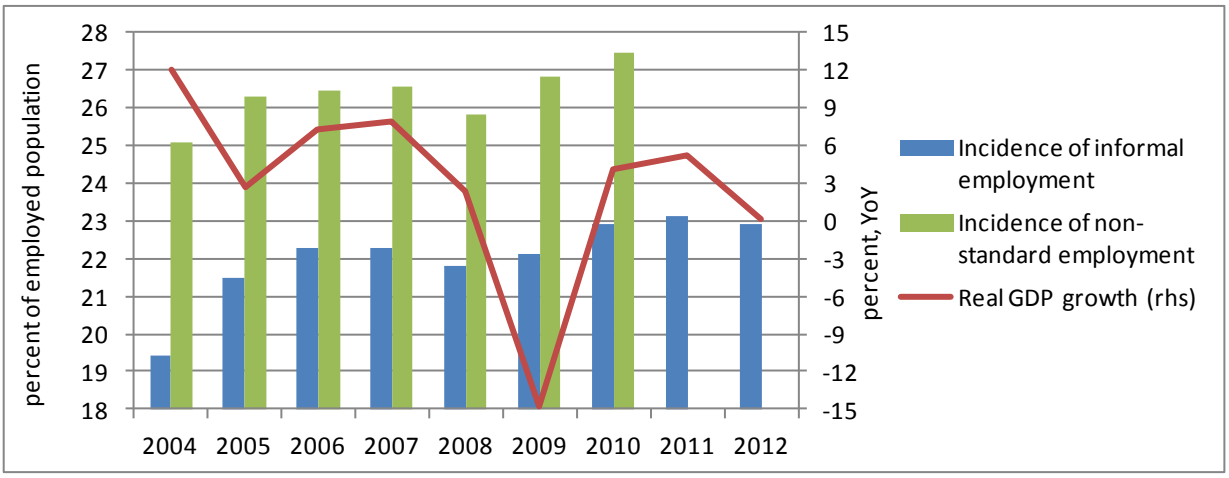
Figure 4. Changes in the occupational composition of employment in Ukraine, 2000 and 2012



Source: State Statistics Service of Ukraine (based on the LFS data).

Strikingly, informal employment grew also in urban areas and in Ukraine as a whole, despite a strong economic growth before 2009 (Figure 5). Analysis of informality rates by age groups reveals that the highest incidence of informal employment is typical of the oldest age group, i.e. persons aged from 60 to 70 years (56 percent in 2009). High incidence of informal employment among the elderly in urban areas can be attributed to a fairly low statutory retirement age in Ukraine (55 years for women and 60 years for men), low pension replacement rates and limited employment opportunities in the formal sector; a very high incidence of informal employment among older workers in rural areas is mainly explained by the lack of alternatives to subsistence farming and small-scale informal activities in rural areas (Kupets, 2011).

Figure 5. Incidence of informal and non-standard employment over the business-cycle, 2004-2012



Source: State Statistics Service of Ukraine (GDP growth and incidence of informal employment) and author's calculations based on the LFS data (incidence of non-standard employment).

Note: Non-standard employment includes informally employed workers (regardless their employment status) and wage employees engaged in at least one type of part-time work, temporary work, or multiple jobholding.

Widespread informal employment contributes to the violation of core workers' rights in such aspects as job security, timely and reasonable remuneration for work done, access to fringe benefits, age and gender equality, initial employment for young people, and employment of individuals according to their skills and qualifications. However, due to an extensive use by private employers of various

schemes to cheat workers and ignore their core rights formal employment does not always guarantee better working conditions either. Besides, wages are fairly low on average and unevenly differentiated across sectors, regions and individual characteristics. Specific adjustment mechanisms such as wage arrears and "envelope wages" (underdeclared income) which are frequently used by Ukrainian employers in relation to selected categories of workers accentuate these problems (Kupets et al., 2012).

As Figure 5 shows, non-standard or vulnerable employment which includes not only informally employed workers but also wage employees engaged in at least one type of part-time work, temporary work, or multiple jobholding, is also quite widespread in Ukraine. [6] The number of people in non-standard employment grew from 5.1 million to 5.6 million between 2004 and 2010. Over the same period, the number of people in standard employment decreased from 15.2 million to 14.7 million. As a result, the share of non-standard employment increased from 25.1 percent in 2004 to 27.5 percent in 2010. The observed shift into more non-standard forms of employment suggests that generally poor labor market prospects in Ukraine, particularly during the economic crisis, have obliged workers to take up any work they could find. Persistency of non-standard employment in the recovery phase reveals that the hypothesis about the cyclical nature of vulnerable employment in Ukraine may be rejected.

Men, youth (15-24 years), older workers (55+ years), rural residents living in the Western, Central, and Northern regions, and those holding unskilled jobs in agriculture or construction have a significantly higher probability of holding non-standard employment than their counterparts which is supported by the estimation results of the multivariate probit model based on the LFS data in 2004-2010 (Table A.1 in the Annex). The fact that men are more prone to vulnerable employment in Ukraine contradicts the findings of a similar analysis undertaken by the ILO for 19 European economies and Russia, according to which women, on average, have a higher probability of non-standard employment (ILO, 2012). This may be explained in the same way as a higher probability of men to be informally employed (Kupets, 2011; ETF, 2009): failure of the economy to create sufficient number of standard jobs with decent working conditions to absorb displaced workers from the downsized male-dominated sectors (push effect) and higher propensity of men to take up riskier but often better rewarded jobs available in the informal economy (pull effect).

Hence, despite an increase in the number of employed from 20.175 million people in 2000 to 20.354 million in 2012 (see Figure 2 above), the quality of jobs has deteriorated substantially.[7] Nevertheless, job satisfaction increased compared with the beginning of 2000 but it is still low (Table 3). It is higher among better-off individuals with higher or incomplete higher education. Unexpectedly, residents of poorer Western oblasts appear to be more satisfied with their jobs compared with their counterparts living in more prosperous parts of Ukraine. This regional difference in subjective assessments is attributed not so much to the differences in the type of jobs as to the differences in the socio-psychological climate in those regions and the general satisfaction of people with their life and situation in the country (UCEPS, 2010). Younger people (18-39) are much less satisfied with their jobs than people of retirement age.

[6] The typology refers to the characteristics of a person's main or only job. A wage employee is classified as a part-time employee if he/she usually works less than 30 hours per week in the main job. Workers who were temporarily absent from their job and were not sure about the possibility of returning to their employer in the next 6 months, are also classified as part-time/temporary workers. As there is no information about the type of employment contract and its duration in the LFS, temporary workers were defined according to their answer about involvement in temporary or casual jobs during the reference week.

[7] When discussing the quality of jobs based on the LFS data, we omit important information on wages and wage arrears, which is missing in the LFS. There is no alternative data source in Ukraine except for the ULMS (Ukrainian Longitudinal Monitoring Survey) that would provide micro-level data on important job characteristics and wages simultaneously.

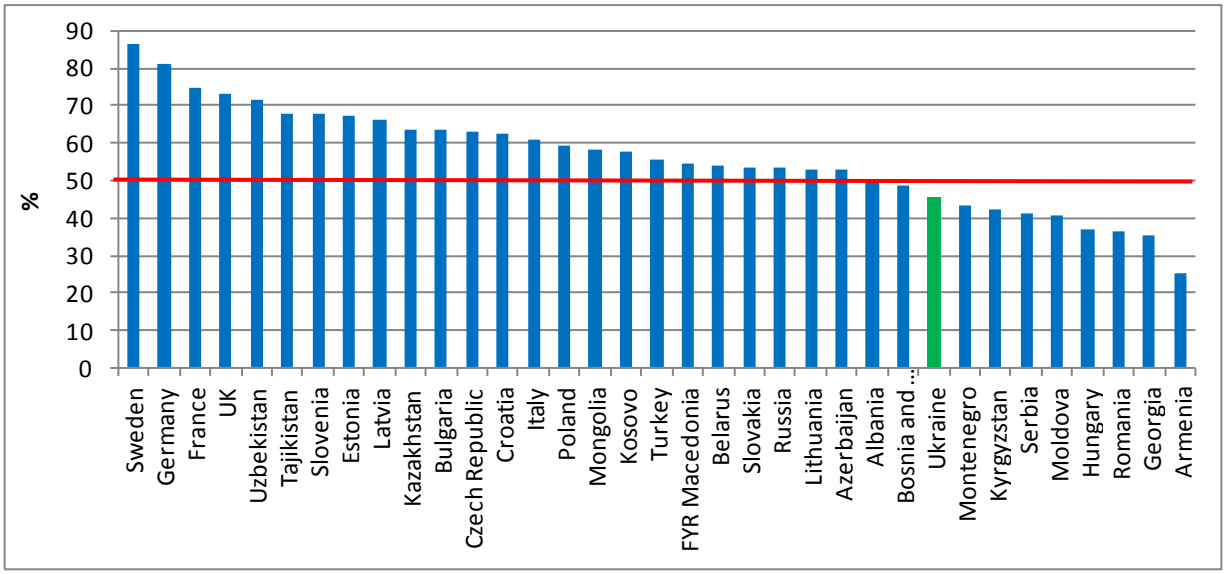
Table 3. Job satisfaction in Ukraine, 2000 vs. 2003 vs. 2010

	Category	Score
UKRAINE	February 2000	5.18
	November 2003	5.53
	April 2010	5.65
REGIONS (2010)	West	6
	Center	5.59
	South	5.19
	East	5.8
AGE (2010)	18-29	5.62
	30-39	5.62
	40-49	5.72
	50-59	5.65
	60+	6
EDUCATION (2010)	Secondary and secondary vocational	5.44
	Higher and incomplete higher	6.02
FINANCIAL STATUS (2010)	Hardly make ends meet	5.09
	Enough for buying food	5.63
	Enough for life but the purchase of durables is difficult	5.55
	Better off but not able to make some purchases	7.05
SOCIAL CLASS (2010)	Middle	5.9
	Lower	5.08

Source: Public opinion poll performed by the Razumkov Centre Sociological Service in April 2010 (UCEPS, 2010).

Note: Mean score based on a 10-point scale from 1 (dissatisfied) to 10 (satisfied). Of all respondents over 18 years old, 50.4 percent had a job at the time of the interview.

Figure 6. Job satisfaction in Ukraine and selected countries, 2010



Source: Author's calculations based on the EBRD-World Bank Life in Transition Survey in 2010.

Note: The proportion of employed respondents with definite answers who answered "Agree" and "Strongly agree" on the question "All things considered, I am satisfied with my job as a whole".

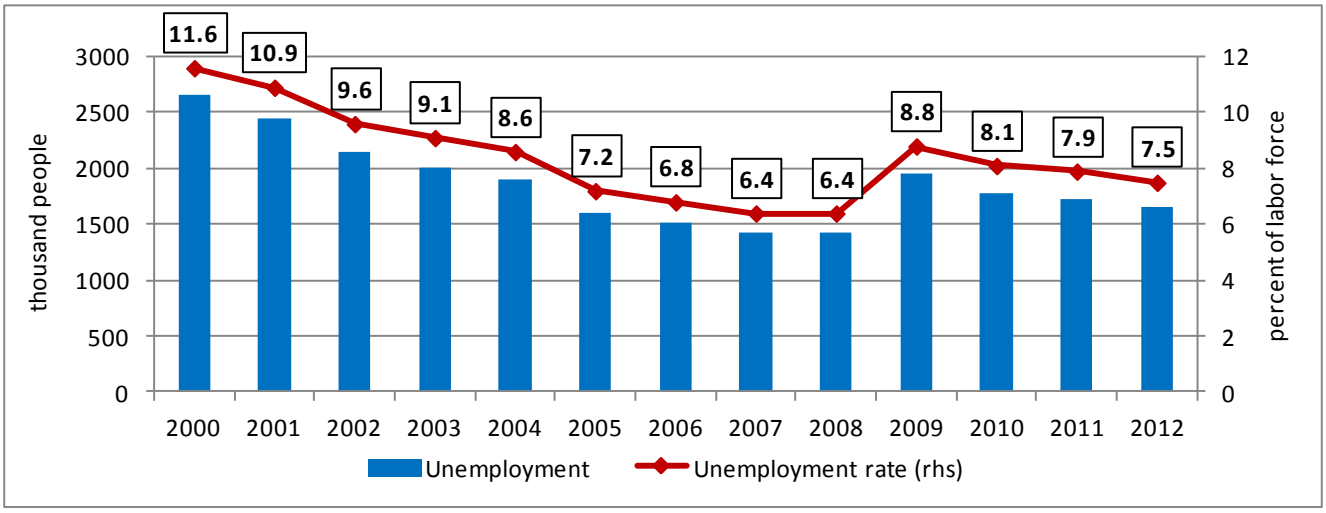
According to the EBRD-World Bank Life in Transition Survey in 2010, Ukraine is among ten countries at the bottom of the distribution in terms of the share of employees satisfied with their job (Figure 6). Only 45.3 percent of the employed respondents were satisfied with their job as a whole. Furthermore, less than 30 percent of Ukrainians who were generally satisfied with their jobs were satisfied with their financial situation. By comparison, in Sweden the share of workers satisfied with their job and financial situation was about 79 percent. Many Ukrainians are not satisfied with their

jobs and financial situation not only because of low wages per se, but also because the pay for job is unjust given the workers' skills and spent efforts and because job security is rather low (at least according to working perceptions).

3.2. Unemployment and labor underutilization

Responding to a favorable economic environment, unemployment rates fell from over 10 percent in the early 2000-s to 6.4 percent in 2008 (Figure 7). Decrease in labor demand in the wake of the economic crisis induced job destruction and layoffs. But not all layoffs resulted in open unemployment. On a net basis, about one third of those employees facing job-loss did not join the ranks of those looking for employment but withdrew into inactivity, and the unemployment level increased by about 533,700 people instead of over 700,000 between 2008 and 2009. This was especially the case for males whose overall participation rate declined in 2009 (from 69.8 to 69.2 percent). On the contrary, female participation rate increased from 57.5 percent in 2008 to 58.1 percent in 2009 that might be partly explained by the added worker effect.

Figure 7. Unemployment of population aged 15–70 years, 2000–2012



Source: State Statistics Service of Ukraine (based on the LFS data).

Some groups are more vulnerable to unemployment than others. These are youth, males and urban workers (Table 4). Although young people have usually acquired more education and skills tailored to the new economic environment than their older counterparts, they are facing particular difficulties in entering the labor market and in finding a first significant job in their field because employers are not willing to recruit workers without any relevant experience and there are significant obstacles to self-employment of youth (ETF, 2008; IDSS, 2010). Besides, actual qualifications of young people often do not correspond to those according to diploma because of the low quality of post-secondary and tertiary education in Ukraine and slow responsiveness of the education and training system to the changing labor market needs. The lack of part-time jobs available to students and poor career guidance may also be an explanation. In 2012, on average 17.3 percent of economically active people aged 15–24 years were unemployed, which is significantly higher than in the other age groups (Table 3). Furthermore, about half of young college and university graduates holding their first significant job after leaving education are overqualified for their job (ETF, 2008). Because so many college and university graduates are not finding jobs in their fields of study, the value of tertiary education has come into question as the return on investment is not as high as it should be.

Despite the level of education, many young people appear to be trapped into the lower end of the labor market, with less secure workplaces, lower wage levels, less on-the-job training, and weaker

long-term career prospects. This increases the risk of exclusion and poverty among young people and negatively affects social cohesiveness of the society as political upheavals in the MENA region have recently shown. Poor labor outcomes for youth are particularly serious in the aging context because of the importance of scarce young cohorts in eventually driving the productivity growth needed to compensate for the lack of labor supply.

Table 4. Labor market indicators by sex, place of residence and age group, 2012

Indicator	Category	Total	By age group					
			15–24	25–29	30–39	40–49	50–59	60–70
Labor force participate rate	Total	64.6	40.7	81.5	84.4	85.3	65.7	24
	Female	58.6	35	71	78.3	83.9	59	21.7
	Male	71.3	46.3	91.7	90.7	86.9	74.1	27.4
	Urban	63.3	37.6	82.1	85.1	85.3	63.8	17
	Rural	67.7	47.2	80	82.8	85.3	70.3	39.8
Employment rate	Total	59.7	33.7	73.8	78.8	80	62.2	24
	Female	54.8	29.3	65.3	73.6	79	56.5	21.7
	Male	65.2	37.9	82	84	81.1	69.3	27.4
	Urban	58.5	30.5	74.3	79.5	80.3	60.5	17
	Rural	62.7	40.3	72.5	76.9	79.5	66.4	39.8
Unemployment rate	Total	7.5	17.3	9.5	6.7	6.2	5.3	0.1
	Female	6.4	16.1	8	6	5.8	4.1	0.1
	Male	8.5	18.1	10.6	7.4	6.7	6.5	0
	Urban	7.6	18.9	9.5	6.6	6	5.2	0.1
	Rural	7.4	14.6	9.4	7.1	6.8	5.5	0

Source: State Statistics Service of Ukraine (based on the LFS data).

Labor force participation rates of older workers (50 years and over) have slightly increased in recent years as people of pre-retirement and retirement age have become more active, probably due to decreasing pensions in real terms and increasing pressure to support the younger generations (children and grandchildren). However, older people experience significant difficulties in finding any other job once they lose their jobs. A specific feature of the Ukrainian labor market is that the probability of re-employment is low not only for older cohorts, those skills were largely built for a different kind of economic system and those productivity might be low, but also for the people aged 40-45 years who have lived most of their work life in the new economic environment. This phenomenon may be partly explained by to the widespread age discrimination in hiring and insufficient number of decent jobs. Under such circumstances, the major motivation for older workers is to keep their current jobs at whatever cost, rather than to invest in human capital and personal development with subsequent movement to more productive jobs. These behavioral patterns clearly restrain productivity growth and effective labor reallocation between the sectors. In addition, they provide less room for prospering of workers and moving up the career ladder. Those who did not manage to keep their jobs are confined to low productivity work or discouragement and inactivity.

Overall, about 4.4 million working-age people who would be most likely able and ready to work under favorable conditions did not work in 2012 because of unsuccessful job search (unemployment and discouragement) or because of engagement in household work and dependency (Table 5). In addition, according to the official employment statistics based on the survey of enterprises and organizations with at least 10 employees, on average 137,900 employees were on unpaid administrative leave in 2012 and 736,800 workers were employed part-time for economic reasons.

Huge labor underutilization seriously affects the growth and development potential of the Ukrainian economy. On the other hand, this labor reserve could help meet the aging challenge through an increase in employment and productivity levels by bringing hitherto idle youth and adults into the workplace and better utilizing their knowledge and skills.

Table 5. The labor force and its underutilization (in thousands of people aged 15–70 years), 2000–2012

Year	Labor force	Employed	Unemployed (1)	Discouraged (2)	Engaged in household work and dependents (3)	Labor underutilization		Actual labor force participation rate (% of total population)
						Number, (1)+(2)+(3)	As % of [labor force+ +(2) +(3)]	
2000	22830.8	20175.0	2655.8	719.2	1544.9	4919.9	19.6	63.2
2001	22426.5	19971.5	2455.0	856.5	1481.9	4793.4	19.4	62.3
2002	22231.9	20091.2	2140.7	820.1	1476.1	4436.8	18.1	61.9
2003	22171.3	20163.3	2008.0	766.5	1450.9	4225.4	17.3	61.8
2004	22202.4	20295.7	1906.7	776.5	1702.9	4386.1	17.8	62
2005	22280.8	20680.0	1600.8	650.9	2006.8	4258.5	17.1	62.2
2006	22245.4	20730.4	1515.0	460.4	2220.9	4196.3	16.8	62.2
2007	22322.3	20904.7	1417.6	372.7	2263.0	4053.4	16.2	62.6
2008	22397.4	20972.3	1425.1	324.3	2295.9	4045.3	16.2	63.3
2009	22150.3	20191.5	1958.8	436.0	2385.1	4779.9	19.1	63.3
2010	22051.6	20266.0	1785.6	364.7	2452.2	4602.5	18.5	63.7
2011	22056.9	20324.2	1732.7	269.8	2551.2	4553.8	18.3	64.3
2012	22011.5	20354.3	1657.2	253.2	2483.4	4393.8	17.8	64.6

Source: State Statistics Service of Ukraine (based on LFS), own calculations.

Note: "Discouraged" includes workers who searched for a job and despaired of success as well as those who did not know how or where to look for a job, believed that there were no suitable jobs, or those who hoped to come back to previous work, including seasonal workers.

But the mobility of working-age Ukrainians between labor market statuses is fairly low. According to our estimations, 95.6 percent of people who were employed in 2009 were also employed in 2010, and 90.8 percent of inactive people in 2009 were also inactive in 2010.[8] Much fewer people remained in the status of unemployment over a year but their share increased significantly in 2009-2010 compared with earlier years (Table 6). The probabilities of transition from employment to unemployment and from unemployment into employment also reversed their positive trends in 2009-2010, suggesting that labor market prospects for Ukrainians worsened in the aftermath of the economic crisis. Inactivity is frequently used as an alternative status to unemployment during job losses and voluntary periods out of work: more than 3.5 percent of those employed in 2009 moved to inactivity in 2010, compared with 0.8 percent of those who moved to unemployment, and 21.5

[8] For this analysis, we used micro data from the Labor Force Survey (LFS) with a rotating panel. In the Ukrainian LFS, each sampled person was interviewed a maximum of six times: in three consecutive months of the year *t* and then in the same months of the year *t+1*. It is therefore possible to compute year-to-year flow statistics comparing the labor market situation of the sample people in years *t* and *t+1*. Selecting one observation per one person (first observation with a complete pair of year-to-year flows) and applying monthly weights for the base period, we calculated transition probabilities in the same manner as for the panel data utilizing Markovian flow analysis (Bellmann et al., 1995). The transition probability from labor market status *i* in year *t* to labor market status *j* in year *t+1* is equal to $P_{ij}=F_{ij}/S_i$, where F_{ij} stands for the number of individuals observed in status *i* in year *t* and in status *j* in year *t+1*, and S_i is the stock of individuals in status *i* in the initial period. The estimates are not corrected for the potential problems of attrition, misclassification, and round-tripping.

percent of those previously unemployed who moved to inactivity. During 2004-2006, inactivity played an even more important role in absorbing both previously employed and unemployed individuals.

Table 6. Transitions between three labor market statuses (percent), 2004-2010

Period	P_{EE}	P_{EU}	P_{EN}	P_{UE}	P_{UU}	P_{UN}	P_{NE}	P_{NU}	P_{NN}
2004-2005	92.5	1.0	6.6	45.4	25.6	29.1	12.4	1.3	86.3
2005-2006	94.8	0.7	4.5	46.9	27.6	25.5	11.4	1.0	87.6
2006-2007	95.9	0.6	3.5	49.5	25.5	25.1	10.1	0.8	89.2
2007-2008	96.5	0.5	3.0	50.1	24.5	25.4	7.1	0.7	92.3
2009-2010	95.6	0.8	3.5	48.1	30.4	21.5	8.5	0.8	90.8

Source: Own calculations based on LFS data.

Note: Period 2008-2009 is skipped here because of significant changes in the sample design in May 2008. P_{ij} is the probability of transition from status *i* in year *t* to status *j* in year *t+1* multiplied by 100, where *E* stands for employment, *U* for unemployment, and *N* for inactivity. See footnote 6 for definitions of transition probabilities.

3.3. Policy implications

Development of the Ukrainian labor market that seems beneficial at first glance – with a slight rise in the employment rate and a relatively low unemployment rate – might actually be quite worrisome as some quantitative achievements mask negative qualitative changes. Formal full-time jobs which have been continuously destroyed in many economic sectors are being replaced by temporary jobs created in less knowledge-intensive services and medium or low-technology manufacturing sectors with high pollution externalities. Employment growth in high-productivity activities remains very limited and mainly confined to the capital city and several agglomerations where large firms with foreign investment are concentrated. So, the expected transformation of the labor market in favor of higher skilled jobs is very slow. Moreover, new jobs do not always provide income opportunities that are sufficient to measurably increase living standards. As a consequence, employment does not always provide a solid pathway out of poverty, and households with a working member could face even more severe economic hardship and social deprivation than households relying on social assistance, pension, remittances and other income sources. This may discourage many able-bodied individuals from participating in the labor force and finding work, at least in Ukraine, what is not a healthy sign for the economy with shrinking and aging population.

Focus groups discussions and sociological surveys show that limited and unfair access to better jobs remains a key problem for many groups, especially for youth and older workers, lower-skilled workers, and residents of rural areas, small towns and regions with limited employment opportunities (Kupets *et al*., 2012). Education, skills, and personal attributes – which are considered the individual's "employability assets" in developed countries – appear to be less important for gaining and maintaining employment in Ukraine than personal connections and social status (often defined by family background). Bribery and other forms of corruption are quite widespread phenomena in the employment sphere: in order to get a job in the public sector (local authorities, tax administration, internal affairs, railway, education, health care, etc.) a worker must pay a sizeable bribe or trade in favors, with no guarantees that he/she will be able to keep this job for a relatively long time. Existing unfairness in the labor market, which is amplified by widespread corruption and informal schemes, is one of the biggest threats to trust, civic engagement, subjective well-being, and social cohesion in Ukraine.

Hence, the Ukrainian labor market seems to be in a bad equilibrium, which is suboptimal from a social point of view: private firms create jobs that are not as good as they should be, many people are

forced to take up these jobs whereas others prefer not to work at all, and existing jobs connect people less than would be socially desirable.

Such situation calls for urgent changes in the jobs policy approach – away from free-hand adjustment of the population to the transformation shocks to concerted actions of the state aimed at boosting labor demand and job quality, supporting inclusion and fairness in the labor market through a merit system and assisting vulnerable groups, and rebuilding trust of workers in public and private institutions. Otherwise, Ukrainians will continue to give high preference to a close social network (relatives, friends, colleagues, and neighbors) and to the exit option by evading taxes, social security contributions and regulations, moving abroad, or withdrawing from the labor force. Alternatively, they will search for new forms of voice to influence the formal institutions in the right direction but this might eventually end up in more instability of the system, with important implications for the business and investment climate. Improvements in job quality will reward Ukraine with a more solid basis for growth and development, higher living standards, better productivity performance, and declining risk of social unrest. This is particularly important for counterbalancing the negative impacts of aging on the labor market and the economy.

4. Implications of demographic changes for the Ukrainian labor market

Demographic changes can have direct implications for labor markets through three primary channels: labor supply, labor productivity, and labor demand (Chawla *et al.*, 2007, p.73). Population aging is expected to increase the share of older workers, who have lower rates of labor force participation, and therefore it can lead to a decrease in labor supply and contribute to larger labor shortages. Average labor productivity can decline as older workers are usually less productive and less responsive to economic opportunities than their younger colleagues because of lower professional and geographical mobility. Labor demand can change because of shifts in the structure of aggregate demand. For example, due to an aging population and increasing demand for long-term and formal care in the EU, health and social care sectors are seen as key sectors with high employment potential (EC, 2012).

4.1. Labor supply changes

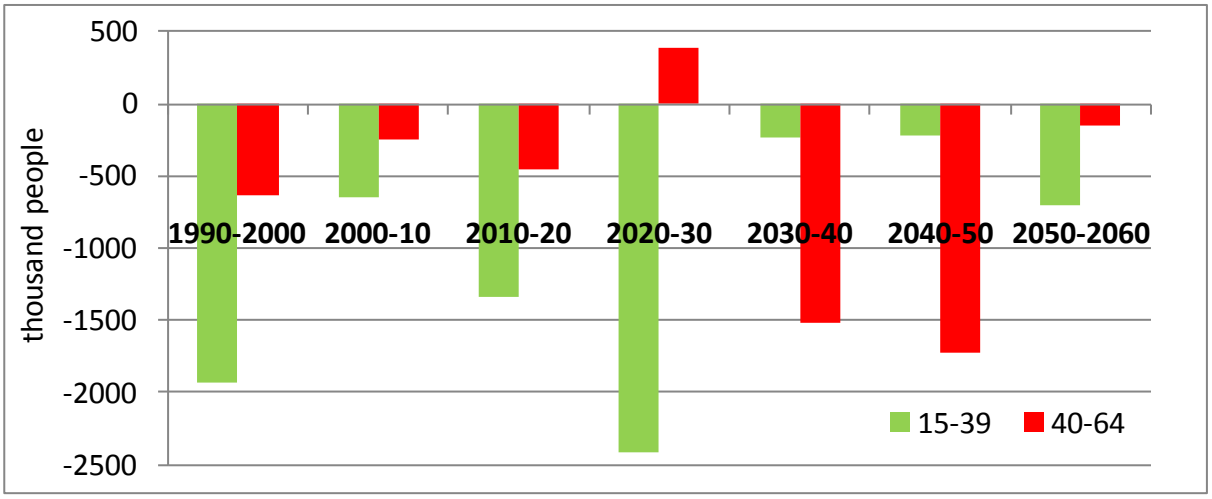
In order to assess whether demographic trends will imply serious problems for the future labor supply in Ukraine we examine labor force projections for 2010-2060, starting from the base scenario with constant age-specific labor force participation rates at 2010 levels. According to our projection exercise, Ukraine is expected to lose 8.4 million workers aged 15 to 64 years between 2010 and 2060, or over 39 percent of its 2010 level (see Figure 8 below). Younger cohorts (15-39 years) will shrink substantially during the 2020-s as the “baby boom” generation born in the 1980-s reach 40 years and move to an older age group. Later, the decline of the labor force will be larger in the age group from 40 to 64 years as more and more workers from populous cohorts born before the 1990-s demographic crisis will retire or die.

Following the methodology suggested by J. Koettl and applied in the World Bank Golden Growth Report (2012a)[9], we also ran labor force projections with alternative scenarios which modify labor force participations rates in various ways to assess the potential to reverse the shrinking of the labor force in Ukraine through policy levers. In addition to the base scenario described above, there are five different scenarios:

[9] See Chapter 6 on Labor in World Bank (2012a).

- **ILO and constant-participation-rate scenario (Scenario 1)**: as all other scenarios it uses the ILO projections of age- and gender-specific labor force participation rates in 2011-2020 (ILO, 2011)[10]; then it assumes that these participation rates stay constant from 2020 onwards, and combines the 2020 participation rates with the UN demographic projections until 2060;
- **convergence to the best performers in Europe (Scenario 2)**: this scenario assumes that participation rates for all age-gender groups in Ukraine will converge by 2060 to the average participation rates of European countries with the highest current participation rate for those aged 50-74 years (Iceland, Norway, Switzerland and Sweden). For the years between 2021 and 2060, this scenario as well as the next three scenarios assumes a linear adjustment over time;
- **female-to-male convergence (Scenario 3)**: this scenario assumes that age-specific participation rates of Ukrainian women converge to those of men by 2060;
- **increased participation rates in older age groups (Scenario 4)**: this scenario simulates an increase in the labor force participation rate in two oldest age groups (55-59 and 60-64 years) until 2060;
- **the maximum variant (Scenario 5**): it combines the effects of the latter three variants.

Figure 8. Changes in the labor supply by age group (base scenario), 1990–2060



Source: Author's calculations based on population projections from UN (2011) – medium variant – and labor force participation rates from ILO (2011) for ten five-year age groups.

Note: The simulation for 2011-2060 assesses changes in the labor force aged 15-39 and 40-64 years assuming that age-specific labor force participation rates remain constant in 2011-2060 (at the 2010 level). The size of the labor force is estimated by multiplying the labor force participation rate data from the ILO with the population data from the UN by five-year age groups and then summing up data for two broad age groups.

Projected age-specific labor force participation rates for both sexes under alternative scenarios are provided in Table A.2 in the Annex. Table 7 below summarizes the projection results by presenting changes in the labor force in two broad age groups – 15-39 years and 40-64 years – between 2010 and 2060. It shows that even under very optimistic conditions with a maximum variant (Scenario 5) when labor force participation rates would exceed 90 percent in all adult age groups (25 to 64 years), Ukraine is not likely to counter the shrinking and aging labor force. Under all scenarios the labor force will shrink considerably in both age groups.

Yet the projected losses of the labor force as a percentage of its 2010 level are the lowest in the case of convergence to the best performing European countries (Scenarios 2 and 5). From the comparison of the labor force participation rates under these two scenarios to those under the base scenario

[10] Data and the methodological notes are available at: http://laborsta.ilo.org/applv8/data/EAPEP/eapep_E.html.

(Table A.2 in the Annex) follows that the largest adjustments will need to be made among older workers (50 years and older).

Table 7. Projected changes in the Ukrainian labor force between 2010 and 2060 by scenario and age group

Age group	Indicator	Projected changes in the Ukrainian labor force between 2010 and 2060					
		Base scenario	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
15-39	Absolute change (thousand)	-4931.4	-4649.7	-3582.2	-4183.7	-4649.7	-3376.6
	Percentage change (%)	-44.1	-41.6	-32.0	-37.4	-41.6	-30.2
40-64	Absolute change (thousand)	-3463.3	-3106.5	-1601.3	-2747.1	-2354.9	-893.2
	Percentage change (%)	-33.7	-30.2	-15.6	-26.7	-22.9	-8.7

Source: Author's calculations based on population projections from UN (2011) – medium variant – and labor force participation rates from ILO (2011) for ten five-year age groups.

Note: Bars correspond to absolute changes in the labor force (left axis) and lines correspond to percentage changes (right axis).

To increase labor force participation in these age groups, it is important that older Ukrainians who want to work are not confronted with institutional and financial obstacles, in particular those related to a mandatory retirement age and the pension system design. Employers need to create more decent jobs for such workers, and the government needs to support creation of more of these jobs. At the same time, it is necessary to implement measures to ensure that older workers are able to work longer and that their skills match the changing needs of the labor market.

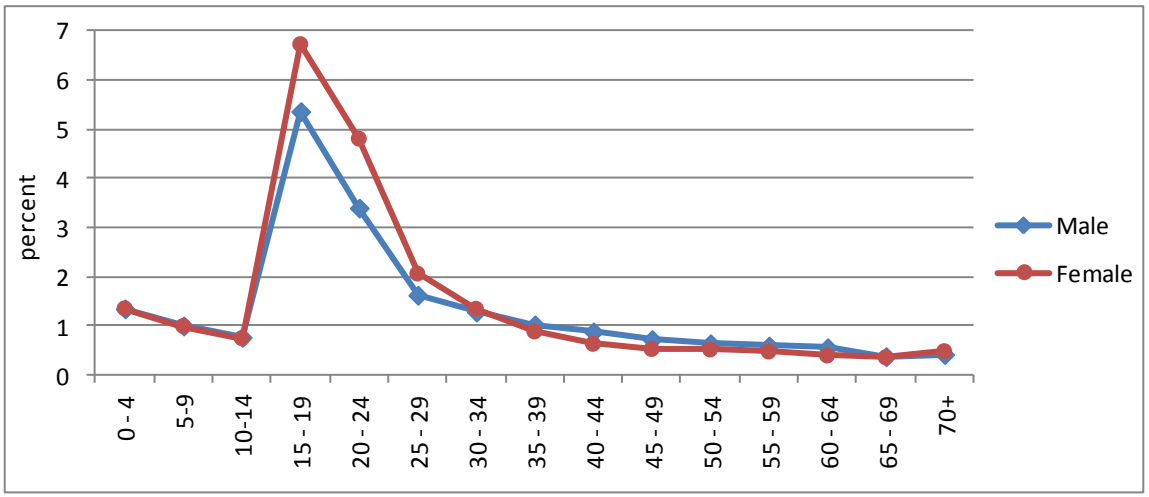
The labor force projections show that the impact of aging on the labor supply is so stark in Ukraine that even considerable increase in labor force participation rates will not help limit the absolute decline in the labor force. Increasing immigration from younger countries could augment the labor force of the aging country (Chawla *et al.*, 2007). But it is quite unlikely that Ukraine will be able to attract skilled immigrant workers in large numbers as long as its richer neighbors such as Russia, Belarus, Poland or Hungary provide better employment and income opportunities for immigrant workers along with simpler rules of stay and work in these countries and more effective system of foreigners' integration.[11] At the same time, due to existing wage differentials and demand for foreign labor, particularly in the aging European countries and Russia, Ukraine loses thousands of its able-bodied workers annually as they head abroad in search of better jobs and better lives.[12] Although international labor migration is likely to have positive effects on Ukraine's development through remittances, return migration, and Diaspora involvement, recent studies show that these effects have not been fully utilized in Ukraine so far (Malynovska, 2011; Kupets, 2012b; Poznyak, 2012).

[11] According to the recently adopted State Programme of the Russian Federation On Employment Promotion (as of November 22, 2012), due to the main measures envisaged in the Programme's subcomponent on International Labor Migration and allocation of about RUR 140 billion from the Federal budget during 2013-2020, Russia expects to increase substantially the inflow of highly skilled professionals from abroad and the total number of foreigners with work permits and patents to meet the needs of the Russian economy and to ensure positive net migration (see more at http://www.rosmintrud.ru/docs/government/90).

[12] 1.2 million, or 3.4 percent of the Ukrainian population aged 15-70, were identified as labor migrants from January 2010 until June 2012, according to the recent Labor Migration Survey 2012, carried out by the State Statistics Service of Ukraine in the framework of the ILO-EU Project "Effective Governance of Labor Migration and its Skills Dimensions", (http://eeas.europa.eu/delegations/ukraine/press_corner/all_news/news/2013/2013_05_31_2_en.htm).

Scarce resources could be more efficiently used via internal migration of the labor force within the country. But aging changes the age composition of population and makes the labor force less mobile, both professionally and geographically. This creates a barrier to achieving the needed employment and productivity levels. According to the recent study of internal labor mobility in Ukraine (Kupets, 2012a), teens and young adults (15-24 years) who predominantly migrate to pursue professional education and/or start families have the highest propensity to migrate within the country (Figure 9). Young people made up almost a half of all internal residential migration flows in 2010, as opposed to 41.7 percent in 2002. For comparison, the share of prime-age adults (25-59 years) who more often move for labor market reasons was 34.6 percent in 2010, down from to 35.9 percent in 2002. Besides, younger workers have much higher commuting rates, both within their region of residence and outside it, than their older counterparts.

Figure 9. Gross internal migration rates by age and sex, 2010



Source: Figure 3.2 in Kupets (2012, a) based on population migration data of the State Statistics Service of Ukraine.

Note: The gross migration rate shows the number of all documented migration flows within Ukraine in 2010 relative to the average annual *de jure* population for each sex and five-year age group.

The spatial mobility of Ukrainians within the country is already low, inefficient, and constrained by many factors. From the comparison of internal migration rates in Ukraine and other European countries done with controlling for the average size and number of geographical units follows that actual registered internal migration rates in Ukraine are about half of those that would be expected (World Bank, 2012b). Not only actual migration rates are low when compared to other countries, but also intentions to migrate within the country. According to the Life in Transition Survey in 2010, only 0.9 percent of Ukrainians answered positively when asked about intentions to migrate internally in the next 12 months. In view of high migration costs and other barriers to permanent residential migration, temporary labor migration and commuting becomes an increasingly important substitute to residential migration but these flows are often undocumented and biased to the capital city and the nearby region.[13] Evidence also shows that some Ukrainians living in bordering regions are more inclined to find temporary employment abroad than within Ukraine as there is no sense in "trading bad for worse" by moving to some other part of Ukraine (Kupets, 2012a).

Taking into account that an older population is even less likely to migrate to find work and a better place to live in, Ukraine needs urgent solutions aimed at removing existing barriers to internal mobility to foster mobility of an aging population and to cushion the impact of demographic change

[13] Despite an increase in the commuting rate in Ukraine from 10.5 percent of total employment in 2005 to 13.2 percent in 2010, it is still significantly lower than in the developed EU countries (Kupets, 2012a).

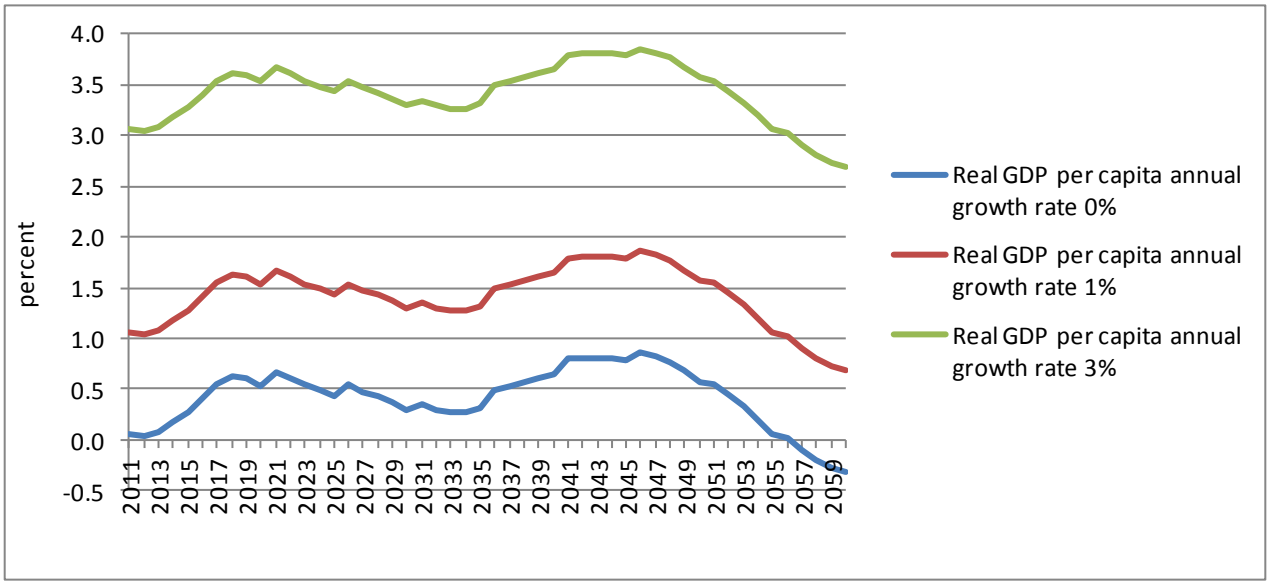
on the labor market at least partially. Addressing major bureaucratic and practical obstacles to efficient internal migration – cumbersome administrative procedures of registration at the place of residence (legacy of the old system of *propiska*), underdeveloped housing and credit markets, strong ties to home community and family, lack of appropriate skills and weak formal labor market institutions – will allow people to access more and better jobs in leading regions (World Bank, 2012b). Establishing and maintaining an efficient road sector, especially by improving bad roads and infrastructure, shifting of transport services to more environmentally friendly and safe modes and systems, ensuring access of the poor and vulnerable adults to affordable transport, considering age-specific transport needs in the planning and implementation of transport systems and urban development will necessarily entail an improvement in mobility and foster equitable development (BMZ, 2003).

4.2. Necessary productivity improvements

Analysis in the previous section shows that demographic changes make it increasingly difficult to continue improving the standard of living of Ukrainians through the labor supply side measures. Improvement in the living standards of Ukrainians will increasingly have to come from productivity growth. Productivity improvements are essential for offsetting the quantity effects of smaller labor force and at least for maintaining living standards at the current level.

To assess the adjustments in labor productivity measured here as real GDP per person in the labor force necessary to cushion the impact of aging on average income, several simple simulations with three scenarios for GDP per capita changes and the assumption of constant age-specific labor force participation rates have been done (Figure 10). In order to keep real GDP per capita constant (zero growth), labor productivity should grow on average by 0.5 percent annually during the next forty years, with a particularly pronounced growth needed in 2017-2023 and 2037-2051. If the goal is to reach a GDP per capita annual growth rate of 3 percent, the required productivity gain will be much more substantial (average annual growth of 3.5 percent in 2011-2050).

Figure 10. Projected annual changes in labor productivity necessary to cushion the negative impact of aging on average income, 2011–2060



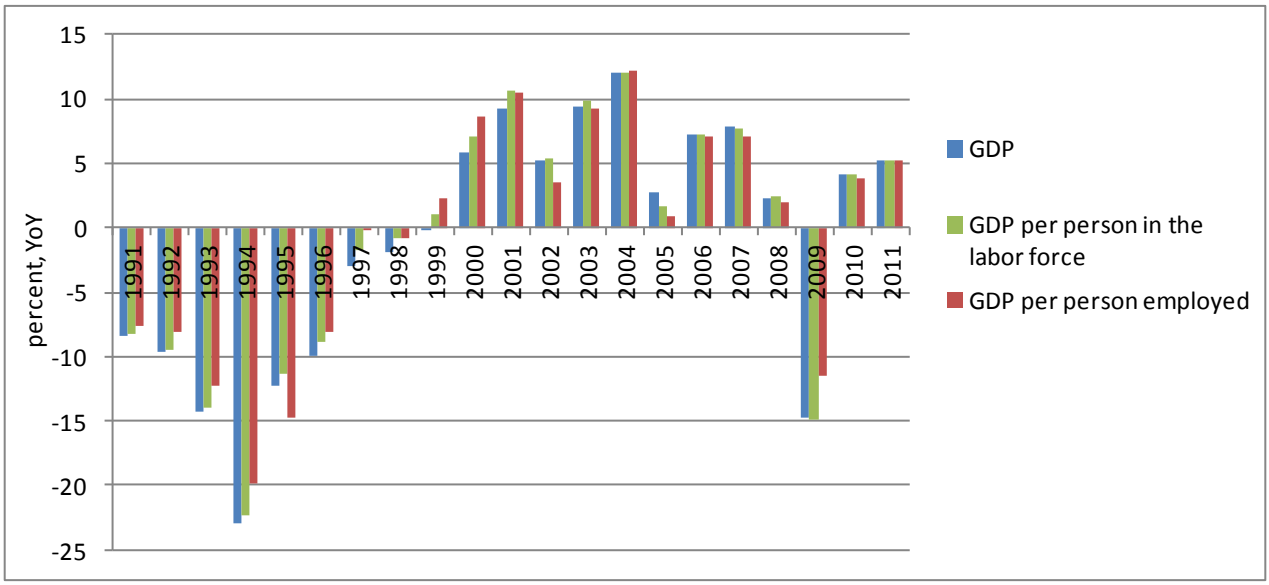
Source: Author's calculations based on population projections from UN (2011) – medium variant – and age-specific labor force participation rates in 2010 from ILO (2011).

Note: The simulation assesses changes in the labor productivity measured here as real GDP per person in the labor force necessary to maintain constant or increasing GDP per capita between 2011 and 2060, given the expected decline in the labor force due to aging. Age-specific labor force participation rates are assumed to be constant in 2011-2060 at the 2010

level. The basic equation for simulation is the following: annual percentage change in GDP per person in the labor force is equal to the sum of annual percentage changes in GDP per capita and in the ratio of total population to the labor force. Labor force is limited to the population aged 15-64 years.

Hence, Ukraine needs to boost productivity growth significantly so that fewer workers could produce more goods and services and be better paid. Although Ukraine had strong economic performance in terms of GDP and productivity growth in 2000-2008 (Figure 11), it was driven mainly by external and temporary factors such as a number of positive reforms, financial stabilization efforts and privatization of loss-making state-owned enterprises, positive terms of trade developments and fast-growing export prices, idle industrial capacity utilization without significant investments and innovation, a surge of capital inflows and credit growth fuelled by commercial banks' external borrowing (World Bank, 2010). However, these main drivers of growth in the pre-crisis period are not likely to persist in the same order of magnitude over the longer term, the channel of increasing output through increased capacity utilization is almost exhausted, and therefore other opportunities to sustain productivity growth should be extensively used.

Figure 11. Real GDP and labor productivity growth rate, 1991–2011



Source: Author's calculations based on World Development Indicators data on GDP at PPP (in constant 2005 international $), GDP per person employed (in constant 1990 PPP $) and total labor force.

First of all, considerable changes in the government policies and institutions are needed to (i) remove obstacles to the free business entry/ exit, increase competition and favor production over diversionary activities, (ii) foster greater sophistication and diversification of Ukraine's export basket, (iii) increase foreign and domestic investment to foster technology absorption, innovation and modernization, (iv) improve the quality of infrastructure and public services, particularly education and health care (World Bank, 2010). At micro level, workplace productivity could be increased through building leadership and management capability, fostering a healthy workplace culture, encouraging innovation and exploiting technology, investing in people and skills, organizing productive workplaces, exchanging ideas and information with others in the industry and collaborating with them.[14]

If the expected productivity gains do not materialize in Ukraine, the country will not be able to cushion the negative impact of aging on output and income, living standards of many Ukrainians will inevitably fall whereas public retirement schemes and the social welfare system will become

[14] See seven keys to workplace productivity identified by the New Zealand Department of Labor at http://www.dol.govt.nz/er/bestpractice/productivity/7drivers.asp.

unsustainable. The inability of the state to provide pension and other benefits to an aging population can be a source of social tension stretching social cohesion to the limit (WDR, 2012c).

5. Conclusions

Faced with a rapidly aging population, Ukraine must act immediately to address the existing jobs challenges by putting in place policies to boost productivity, support the participation of more working-able Ukrainians in the workforce, strengthen the economy and ensure long-term sustainability of public finances and social programs. With an early intervention, the need to take drastic actions in the future such as significant tax increases or reductions in public spending may be avoided. Furthermore, these policies may reinforce each other over time, and therefore the payoff from an early intervention is potentially very large.

A prerequisite for Ukraine's job policy is to create an environment conducive to higher productivity growth, job creation and reallocation starting from the fundamentals: ensuring macroeconomic and political stability, promoting the rule of law and protection of rights through an effective and de-politicized judicial system, improving the efficiency of the business tax system and functioning of capital markets, removing direct barriers to international trade and foreign investment, investing in a modern world-class infrastructure, and removing the other structural obstacles to doing business, investing, innovating, and creating more jobs in the formal sector. Implementation of smaller-scale but well-targeted investment programs in the areas, activities and sectors that have the clear potential to expand the range of export capabilities of the Ukrainian economy, provide productivity spillovers, improve living standards, and enhance social cohesion may be warranted. The risk of capture by private interests should be minimized through mechanisms of accountability, transparency, and clear eligibility criteria.

The current context of an aging society also calls for modernization of the education and training systems to equip people with broad, flexible, and transferable skills that would enable them to progress in their working lives and to adapt quickly to a rapidly changing economic environment. Sound public policies aimed at improving health and nutrition of population in a cost-effective manner and providing additional resources to support basic research and education are also of critical importance for building up the human capital, increasing activity rates and improving productivity performance.

In order to avoid the skills mismatches and labor underutilization that are especially unwelcome in an economy with a rapidly shrinking and aging population, effective labor policies and institutions should be set on a plateau, with addressing the labor market imperfections but without reducing efficiency. It is important to improve labor market information and provide career guidance; remove excessive labor market rigidity supported by the outdated Labor Code 1971; encourage flexible work arrangements in the formal sector, including part-time work and telework; promote the geographical and occupational mobility of the workforce by addressing the institutional bottlenecks that affect mobility; strengthen the capacity of Public Employment Service and private employment agencies to better match workers to jobs that require the skills they actually possess; assist vulnerable people in finding a suitable job and fight discriminatory practices in hiring and pay; protect workers against the power of employers and intermediaries and provide more opportunities for voice.

Finally, policymakers should remove the observed obstacles to creation of good jobs, given the country context. In particular, it is necessary to develop a comprehensive approach to promoting active aging and extending working life careers as it has been recently done in many developed

countries facing the aging challenge.[15] Three broad areas where policy actions are necessary to encourage labor force participation among older workers include the following:

- *tackling employment barriers on the side of employers.* Labor-demand-side measures which are of critical importance in Ukraine may include reduced or reimbursed social security contributions for older workers, subsidized employment targeted specifically at the older age groups, reduced payment of sickness benefits by employers or other policy measures to decrease labor costs for them. Reforms of employment protection legislation which would liberalize hiring and dismissal of employees and would promote an age-neutral approach to collective dismissals; effective enforcement of labor legislation regarding the ban to put age limits in job offers and discriminate potential workers on the grounds of age; and the implementation of the age-awareness projects aimed at changing attitudes towards older workers and at decreasing existing prejudices among managers may be also useful to encourage an age-neutral approach in employers' practices. In addition, an institutional obstacle that prevents many people from working after reaching a statutory retirement age should be revised to provide such workers with a variety of retirement transition options;
- *improving the employability of older workers.* First of all, it is necessary to strengthen the Public Employment Service and better align its information, occupational guidance and job placement services to the needs of older workers using the best practices of developed countries. Older workers also need help in upgrading their skills to match the changing needs of the labor market, so the policy responses may include programs that offer training for older unemployed workers in market relevant skills. An education and training benefit (voucher) which is introduced in Ukraine since January 1, 2013 according to the new Law On Employment is one of such programs. It is designed to be provided to individuals aged 45 years and more who have a social insurance period of at least 15 years. Unlike standard labor market training provided by the Public Employment Service, it subsidizes training efforts while giving participants some freedom to choose the type of training that they want. Alternative policy measures may include programs that encourage employers to invest continuously in skills of their workers, including the elderly (lifelong learning schemes), and that provide effective instruments to validate skills acquired on the job. Identifying sectors and firms where the skills and qualifications of older workers are very valuable and do not need significant upgrading (e.g. in health care, education, research and development, retail trade, transport and manufacturing) and matching jobseekers to such jobs may be also a right approach in the short term. Taking into account poor health and premature mortality of Ukrainians that are often linked to poor working conditions and significant stress at work, it is important to implement effective policy measures aimed at improving the health status of individuals through positive changes in their life styles, reforms in the health care system and significant improvement of the quality of jobs in the Ukrainian labor market;
- *encouraging older workers to keep working longer.* Despite political speculations about the issue and strong opposition of population, Ukraine needs to adjust the age of retirement in accordance with changes in life expectancy and demographic trends, remove early retirement privileges for large groups of workers and tighten the conditions for unemployment pathways into retirement. These changes may be effectively combined with financial incentives to undertake additional years of work which generally take the form of a percentage enhancing the pension of the older worker.

[15] See the OECD review of ageing and employment policies, recent reforms and measures to stimulate employment of older workers in 21 countries-members of the OECD at http://www.oecd.org/els/emp/ageingandemploymentpolicies.htm or the European Employment Observatory Review in 2012 devoted to Employment policies to promote active aging in 33 European countries at http://www.eu-employment-observatory.net/explore.aspx?years=2012&keyword=Employment%20policies%20to%20promote%20active%20ageing.

Many older workers would like to remain active longer but not necessarily in the form of traditional full-time employment, so age management policies adapting working conditions to changing needs and increasing part-time or distance work are of increasing importance. At the same time, the government should ensure fair treatment between full-time and part-time workers and improve the working conditions of those taking non-standard employment in the formal sector.

It is important to ensure that all these measures of active aging that often require significant financing from the public and private funds do not crowd out the measures fostering employment of youth and other vulnerable categories of workers those effective implementation would also provide important gains in labor force participation needed to increase the labor supply. As has been repeatedly stressed in this paper, the ultimate priority has to be placed on increases in labor productivity, professional and geographical labor mobility. Since the option of offsetting some of the decline in the labor force and its aging through increased immigration of the skilled young workers is less feasible in Ukraine than in richer countries, more efforts should be spent on retaining Ukrainians at home and on increasing positive development effects from emigration of Ukrainian workers through remittances, return migration, and Diaspora involvement.

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Annex

Table A.1. Marginal effects of the determinants of non-standard employment: Probit model

	2010		2004-2010	
	dy/dx	Std. Err.	dy/dx	Std. Err.
Women (Men)	-0.048***	0.002	-0.046***	0.001
Marital status (single)				
Married	0.024***	0.003	0.017***	0.001
Divorced	0.013***	0.003	0.015***	0.001
Age group (15–24)				
25–34	-0.034***	0.004	-0.034***	0.002
35–44	-0.037***	0.004	-0.044***	0.002
45–54	-0.055***	0.004	-0.063***	0.002
55+	0.002	0.004	0.010***	0.002
Education (basic secondary and lower)				
General secondary	-0.038***	0.003	-0.033***	0.001
Post-secondary	-0.045***	0.004	-0.032***	0.001
Tertiary	0.009**	0.004	0.016***	0.001
Sector (agriculture)				
Industry	-0.384***	0.004	-0.345***	0.002
Construction	-0.022***	0.006	-0.053***	0.002
Market services	-0.277***	0.005	-0.226***	0.002
Public services	-0.272***	0.004	-0.229***	0.002
Occupation (unskilled)				
Skilled blue-collar	-0.262***	0.004	-0.276***	0.001
White-collar	-0.351***	0.004	-0.346***	0.002
Urban (rural)	-0.054***	0.002	-0.064***	0.001
Macro-region (Kyiv City)				
North and Center	0.069***	0.005	0.065***	0.002
East	0.033***	0.005	0.032***	0.002
South	0.055***	0.005	0.064***	0.002
West	0.109***	0.005	0.093***	0.002
Year (2004)				
2005			-0.002	0.001
2006			-0.002	0.001
2007			0.002	0.001
2008			0.004***	0.001
2009			0.011***	0.001
2010			0.017***	0.001
N	210,470		1,562,587	
Pseudo R^2	0.357		0.356	

Source: Own calculations based on LFS data.

Note: Marginal effects (dy/dx for factor levels is the discrete change from the base level). Robust standard errors. Significance levels: *** significant at 1 percent; ** significant at 5 percent. All variables are dummies; the base categories are in brackets.

Table A.2. Projected age-specific labor force participation rates (both sexes) under alternative scenarios

Age group	Year	Labor force participation rate (%)					
		Base scenario	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
15-19	2010	33.4	33.4	33.4	33.4	33.4	33.4
	2020	33.4	31.1	31.1	31.1	31.1	31.1
	2060	33.4	31.1	51.0	35.0	31.1	49.5
20-24	2010	46.1	46.1	46.1	46.1	46.1	46.1
	2020	46.1	56.7	56.7	56.7	56.7	56.7
	2060	46.1	56.7	77.5	64.0	56.7	78.6
25-29	2010	79.9	79.9	79.9	79.9	79.9	79.9
	2020	79.9	81.5	81.5	81.5	81.5	81.5
	2060	79.9	81.6	87.8	89.2	81.6	90.7
30-34	2010	84.5	84.5	84.5	84.5	84.5	84.5
	2020	84.5	86.5	86.5	86.5	86.5	86.5
	2060	84.5	86.6	90.8	90.0	86.6	95.1
35-39	2010	84.9	84.9	84.9	84.9	84.9	84.9
	2020	84.9	87.5	87.5	87.5	87.5	87.5
	2060	84.9	87.6	91.9	90.0	87.6	95.9
40-44	2010	85.6	85.6	85.6	85.6	85.6	85.6
	2020	85.6	87.2	87.2	87.2	87.2	87.2
	2060	85.6	87.3	91.7	89.0	87.3	95.3
45-49	2010	83.7	83.7	83.7	83.7	83.7	83.7
	2020	83.7	86.2	86.2	86.2	86.2	86.2
	2060	83.7	86.3	91.5	87.0	86.3	94.4
50-54	2010	77.2	77.2	77.2	77.2	77.2	77.2
	2020	77.2	79.9	79.9	79.9	79.9	79.9
	2060	77.2	80.1	89.8	82.0	80.1	92.5
55-59	2010	50.4	50.4	50.4	50.4	50.4	50.4
	2020	50.4	55.7	55.7	55.7	55.7	55.7
	2060	50.4	56.9	86.5	68.3	71.6	92.4
60-64	2010	29.9	29.9	29.9	29.9	29.9	29.9
	2020	29.9	34.5	34.5	34.5	34.5	34.5
	2060	29.9	35.0	68.1	38.9	64.0	91.4

Source: Author's calculations based on population projections from UN (2011) – medium variant – and labor force participation rates from ILO (2011).