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Azerbaijan

Demographic Change

Implications for Social Policy and Poverty

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Acknowledgement

Acronyms and Abbreviations

BEEPS	Business Environment and Enterprise Performance Survey
EBRD	European Bank for Reconstruction and Development
ILO	International Labour Organization
GDP	Gross Domestic Product
LSMS	Living Standards Measurement Survey
PAYG	Pay-as-you-go
PISA	Programme for International Student Assessment
PROST	Pension Reform Option Simulation Toolkit
OECD	Organization for Economic Co-operation and Development
UNICEF	United Nations Children's Fund

Regional Vice President:	Philippe H. Le Houerou
Country Director:	Asad Alam
Acting Sector Director:	Mamta Murthi
Sector Manager:	Jesko Hentschel
Task Team Leader:	Lire Ersado

South Caucasus
Programmatic Poverty Assessment

Note #4

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Executive Summary

1.   ***This note provides an overview of demographic changes in Azerbaijan and their policy implications.*** Azerbaijan's population is younger than the populations of most countries in the region. It is estimated that the population in Azerbaijan will increase from about 7.2 million in 1990 to 10.6 million by 2050. Nevertheless, Azerbaijan is beginning to experience the aging of its population, after having undergone a dramatic decline in fertility from about 5.5 children per woman in the 1950s, to just over two children per woman at present. This trend, combined with increasing life expectancy, underlies the growing rise in the percentage of elderly persons, and the eventual slowdown in the growth of the working-age population. This note provides an overview of key demographic changes unfolding in Azerbaijan, highlights their linkages with social spending, and draws policy implications for labor force participation, productivity, and ultimately for Azerbaijan's development and poverty reduction trajectory.

2.   ***The looming demographic changes in Azerbaijan have serious implications for growth, poverty reduction, and fiscal policies in the long-term.*** The rising share of elderly persons in the population will lead to increased fiscal obligations for pensions and other programs that are utilized primarily by older Azerbaijanis. This spending is necessary to prevent the impoverishment of the elderly population, who may not have any other sources of income. However, if the demographic transition is not well-managed, the rise in spending on the elderly could drain fiscal and administrative resources away from other generations, and thus damage the growth prospects for Azerbaijan's economy. The only sustainable strategy for durable poverty reduction lies in economic growth—therefore, finding the right balance between enhancing the productivity of the young and supporting the living standards of the elderly becomes an essential objective for Azerbaijan's long-term prosperity. The note provides a number of policy options that may help relax the constraint that will be imposed by demographic forces over the next several decades.

3.   ***The working-age population of Azerbaijan is growing, but at a slower rate than previously, and with projections showing that this growth may eventually turn negative.*** The labor force participation rate in Azerbaijan is 67% for men and 60% for women. These rates compare favorably with other countries in the region. The note presents simulations of the evolution of the total labor force in Azerbaijan. These simulations suggest that the total labor force is likely to increase from about 4.17 million to 4.75 million between 2008 and 2020. Given these favorable demographic conditions, Azerbaijan has more time than most other countries in the region to prepare for the future demographic shifts. It is advisable for the government to use that time to implement policies that can help alleviate the demographic pressures that will eventually arrive. This slowdown could be tempered or even reversed through proactive policies, such as raising the retirement age for women up to that of men, and providing outside dependent care options to enable current caregivers to enter the labor market. The persistently high unemployment rate in Azerbaijan indicates the need for faster job creation and investment in active labor market programs, such as job search assistance and training/re-training. Any impending decline in the share of the working-age population could be mitigated by proactive policies aimed at increasing formal labor market participation, linking the unemployed with jobs, and activating individuals who are out of the labor force. Another policy that could help promote
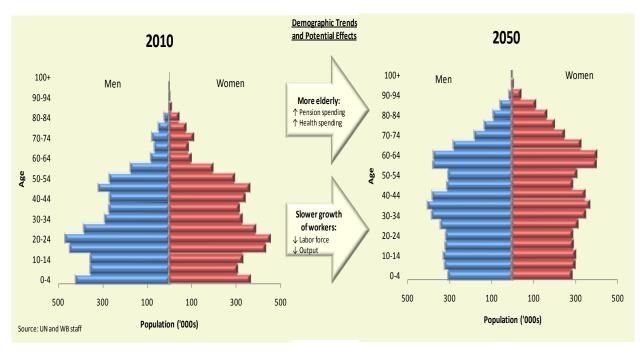
higher participation rates—and at the same time reduce the fiscal burden on the pension system—would be to equalize the pension age eligibility for men and women. As of 2009, the statutory retirement age was 62 for men and 57 for women—this despite the fact that the life expectancy for women is almost five years longer than for men. Another step that could help to increase female labor force participation would be the development of affordable quality child care and dependent care services.

4.   ***In addition to raising the participation rate, it could also be valuable to take proactive measures to improve labor productivity.*** Improvements in labor productivity can arise from a better educated and more flexible workforce, a more effective use of technology, and better matching between worker skills and jobs. Reforming the education system would play a major role in this effort. In Azerbaijan, working-age able-bodied adults with post-secondary education are less likely to be unemployed or inactive. Other measures that could increase labor productivity include adult education and life-long learning opportunities to maintain and enhance workers' skills. Growing international evidence indicates that successful early childhood development programs offer potentially the highest rates of return on human capital investments. In Azerbaijan, however, enrollment in any form of pre-school program appears to be quite low, at about 9%. This implies that Azerbaijan would be well-advised to target a larger amount of its social spending on its youngest citizens.

5.   ***Azerbaijan's social spending systems are not currently facing serious fiscal sustainability issues, but the projected demographic changes may eventually put a strain on the country's pension and healthcare systems.*** As of 2008, the pension system dependency rate (pensioners to contributors) was 83%, which is high compared to other countries in the ECA region. In the coming decades, the increase in the percentage of elderly persons and the slowdown in the growth of the working-age population will increase the burden on the pension system. The impact of an aging population on health costs does not appear to threaten the sustainability of the system. All the same, given the relatively low level of government spending on health in Azerbaijan, spending on this sector should probably be increased in the near-term.

I.   Introduction

1.   ***Although Azerbaijan is younger than many other countries in the region, it is already beginning to experience the "graying" of its population.*** Most of Azerbaijan's neighbors are already experiencing the consequences of demographic changes characterized by aging populations, and in some cases, falling populations. The demographic pressures in Azerbaijan are not yet as strong. However, an awareness of demographic trends and their ramifications is essential to inform decision-making and allow for proactive policies on a wide range of economic and social issues. This policy note provides an overview of key demographic trends in Azerbaijan, and explores the implications of those trends for the labor market, social spending, and poverty.

2.   ***The major driver of Azerbaijan's demographic shift is an aging population.*** The country has already undergone a dramatic decline in its fertility rate, which fell from about 5.5 children per woman in the 1950s to the present level of just over 2 children per woman. This trend, combined with increasing life expectancy, underlies the evolution in the age structure of Azerbaijan's population, which is depicted in Figure 1. The two main demographic changes evident from these trends are a rise in the percentage of elderly persons, and a slowdown and eventual shrinkage of the working-age population.

Figure 1: Demographic trends and key policy issues in Azerbaijan

3.   ***The population shifts depicted in Figure 1 raise important issues regarding Azerbaijan's growth prospects and poverty reduction policies.*** With fewer people of working age expected to support a growing percentage of elderly persons, policymakers should consider a number of policy questions. These include: (i) how to balance poverty-reduction policies aimed at different stages of the life cycle; (ii) how to ensure that future productivity gains compensate for the slowdown and eventual shrinkage of the working-age population; and (iii) how to maintain the fiscal sustainability of pension and health programs as the share of older people continues to rise.

4.   ***The demographic trends in Azerbaijan are favorable at present, but it would be prudent for policymakers to prepare for the impending demographic changes.*** Unlike many countries in the region, Azerbaijan has the time and significant policy space to mitigate the future impacts of these changes on Azerbaijan's development trajectory. Policy levers are available to promote labor market participation and productivity to counter rising dependency ratios; education systems—including early childhood education—can be strengthened to support these efforts; and measures can be taken to ensure that pension and health spending is sustainable. Moreover, targeting these proactive policies to the most vulnerable segments of the population is likely to deliver the greatest impact on both the current and future well-being of the nation. These issues are summarized in Table 1.

Table 1: Looking at Demographic Changes in Azerbaijan through a Poverty Lens

Demographic trend	Key policy challenges	Linkages with social policies
Shrinking working age population	Promoting labor force participation	• Dependent care options (e.g., long-term care and child care) • Linking the unemployed with jobs • Raising retirement ages
	Raising labor force productivity	• Early childhood education • Lifelong learning • Active labor market programs
Rising elderly population	Containing pension cost pressures	• Choosing benefit levels, retirement age • Adequate replacement rates, social pensions
	Containing health system cost pressures	• Enabling access to care by lowering out-of-pocket payments • Service delivery reforms

5.   ***The remainder of the note is structured as follows:*** Section II summarizes the key demographic trends underway in Azerbaijan; Section III analyzes the four policy issues as depicted in column 2 of Table 1. In each case, the poverty reduction angle is emphasized. The final section provides a summary of the key messages.

II.   Demographic Trends

6.   ***Azerbaijan is younger than most countries in the Europe and Central Asia region—and it has a growing population.*** In 1990, Azerbaijan's population was 7.2 million; by 2050, it is expected to grow to 10.6 million—which represents an increase of 47% (see Figure 2). This is in sharp contrast to Azerbaijan's two neighbors, Russia and Georgia, whose populations are expected to shrink by 15% and 22%, respectively, over the same period. In this respect Azerbaijan is more similar to its other neighbor, Turkey, where the population is also projected to grow (see Figure 3).

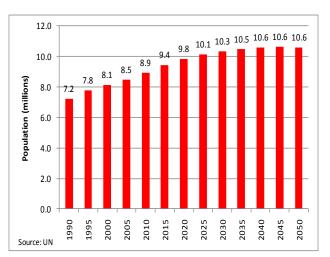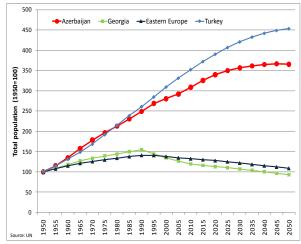**Figure 2: Total Population of Azerbaijan, 1990-2050**

Figure 3: Population size in Azerbaijan and the Region, 1950-2050

Note: "Eastern Europe" includes Belarus, Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania, Russia, Slovakia and Ukraine.

7.   ***Azerbaijan's growing population is largely a result of its fertility rate, which is relatively high compared to most countries in the region.*** Figure 4 shows that in 1950 Azerbaijan's fertility rate—at 5.5 children per woman—was much higher than the fertility rate in Georgia or other Eastern European countries. Albeit, it was still lower than the fertility rate in Turkey. The fertility rate in Azerbaijan has experienced a dramatic decline since 1960. It is currently somewhat higher than the regional average, but it is expected to stabilize at about 2 children per woman over the next few decades. An additional, but more recent trend in Azerbaijan is the emergence of skewed sex ratios (the number of male per female births); this currently stands at 1.16 in Azerbaijan, as compared to 1.06 in Eastern Europe, and 1.05 in the west. The long-term implications of this trend are unclear.[1]

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[1] See Mesléet al. (2007), who attribute this to sex-selective abortions which are prevalent among third births.   A skewed sex ratio has been proposed as a cause of China's high savings rate (Wei and Zhang 2009).
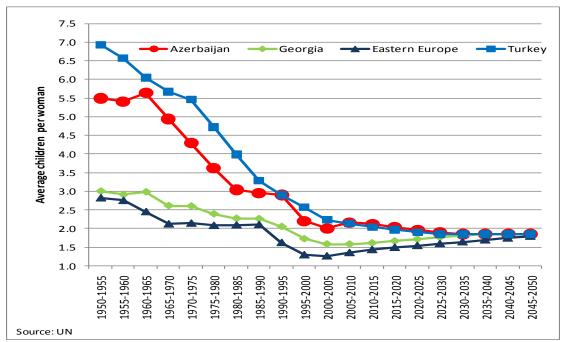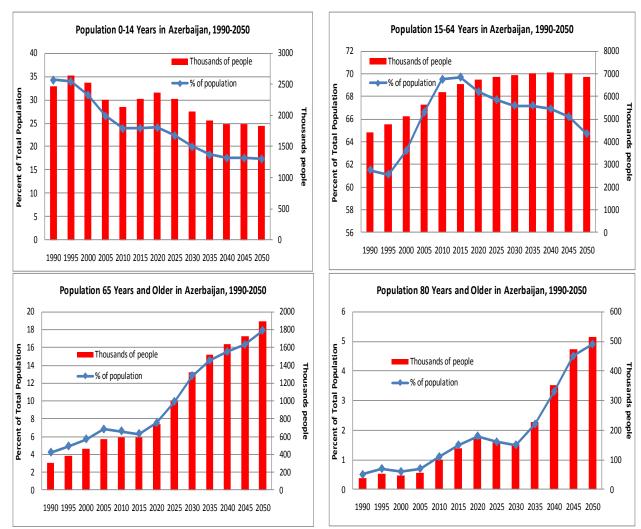
Figure 4: Total Fertility in Azerbaijan and the Region, 1950-2050

Note: "Eastern Europe" includes Belarus, Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania, Russia, Slovakia and Ukraine.

8.   ***Moderate increases in longevity have also contributed to Azerbaijan's growing population.*** Life expectancy in Azerbaijan has increased by about 5 years (or 7%) since the 1970s— with higher gains for men than for women. This increase is to that of Azerbaijan's neighbors, but it is much lower than the increase in most countries in East Asia or Latin America.[2] The future trend in life expectancy in Azerbaijan is quite uncertain—it will depend on investments by government and households both inside and outside the health sector.

9.   ***Low fertility rates and gradual increases in longevity are the main factors underlying Azerbaijan's most important demographic trend: an aging population.*** The median age in Azerbaijan has risen only modestly in the last 60 years: from 22.8 in 1950, to 28.4 in 2010. However, the pace of aging is projected to accelerate, with the median age reaching 40.6 by 2050. Figure 5 shows the predicted evolution of four age groups between 1990 and 2050, with respect to both population count and share of the population. During this span, the population share of the 0-14 age group is expected to fall from 34% to 17%. Although the working-age population of Azerbaijan is still growing in absolute size, and stabilizes by 2050, this group's share in the population is currently at its peak of 70%, and it will fall to 65% by the end of the projection period. By contrast, the population shares of the 65+ and particularly the 80+ age groups will rise significantly.

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[2] Rajaratnam et al. (2010), "Worldwide mortality in men and women aged 15-59 years from 1970 to 2010: A systematic analysis". *Lancet 375*: 1704-1720.

Figure 5: Evolution of population age groups in Azerbaijan, 1990-2050
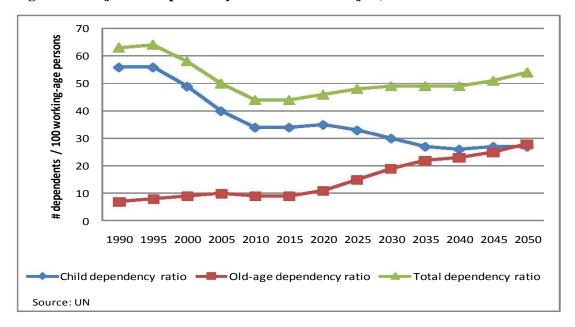

Source: UN

10.   *The trends of shrinking younger age groups and expanding older age groups will result in higher dependency ratios, which have significant policy implications.* After some years of a declining dependency ratio,[3] Azerbaijan is currently at a turning point—with the total dependency ratio expected to increase from 44 dependents per 100 persons of working age in 2010 to 54 dependents per 100 persons of working age by 2050. The observed fall in the total dependency ratio reflected the dynamics of falling fertility. The projected rise will be entirely due to the rising old-age dependency ratio, because the child dependency ratio is forecasted to continue its decline (see Figure 6).

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[3] The total dependency ratio is the ratio of the sum of the population aged 0-14 and that aged 65+ to the population aged 15-64. The child dependency ratio is the ratio of the population aged 0-14 to the population aged 15-64. The old-age dependency ratio is the ratio of the population aged 65 years or over to the population aged 15-64. All ratios are presented as number of dependents per 100 persons of working age (15-64).

Figure 6: Projected Dependency Ratios in Azerbaijan, 1990-2050

III.   Policy Issues

3.1.   Increasing labor force participation, reducing unemployment, and raising labor productivity

11.   ***Unlike most other countries in the region, Azerbaijan is fortunate in having a growing working-age population.*** However, this growth is slowing down and will eventually turn negative. Proactive policy options should be considered to compensate for this impending demographic change. These policies would be aimed at: (i) raising labor force participation rates; (ii) stimulating stronger attachments to the formal labor market; (iii) linking the unemployed with jobs; and (iv) boosting worker productivity through an improved education system and opportunities for life-long learning.

12.   ***Overall, the labor force participation rate in Azerbaijan compares quite favorably with other countries in the region.*** Among persons in the 15-64 age group, it is currently about 67% for men and 60% for women—about 63% overall (see Table 2). These rates are higher than the rates in Europe and Turkey, and slightly lower than those in Georgia and Russia, primarily due to lower participation rates by men. Figure 7 shows labor force participation by age group—with the familiar inverted U-shape: the youngest and oldest groups are least likely to be in the labor market. The ILO projects fairly stable labor force participation rates over the next ten years.
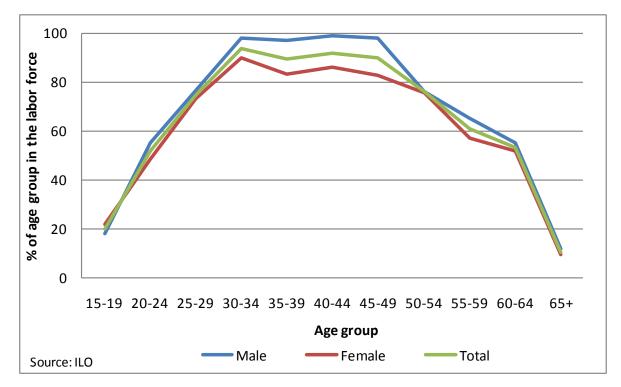
Table 2: Labor Force Participation Rates in Azerbaijan and the Region

Azerbaijan: Labor force participation rates, 1990-2020	Men	Women	Total
1990	74.0	59.4	66.4
1995	70.0	53.9	61.6
2000	71.3	57.2	63.9
2005	68.4	59.4	63.6
2010	**66.7**	**59.7**	**63.0**
2015	63.8	67.5	60.5
2020	63.6	67.5	60.0

ECA: Labor force participation rates, 2009	Men	Women	Total
Azerbaijan	**66.8**	**59.5**	**63.0**
EU-27	66.4	51.8	58.9
EU-10	64.4	50.1	56.9
Russia	73.6	62.9	67.8
Turkey	69.3	23.7	46.5
Georgia	73.8	55.1	63.7

Source: ILO

Figure 7: Age Profile of Labor Force Participation Rates in Azerbaijan, 2008

Source: ILO

13.   *Some basic simulations provide an indication of the potential evolution of the labor force in Azerbaijan under alternative scenarios.* Figure 8 shows a baseline ILO scenario for labor force participation, under which the total number of workers rises from about 4.17 million to 4.75 million between 2008 and 2020. This increase could be even larger—with the labor force reaching 4.97 million workers—if the government could achieve even a slight and gradual increase (2% by 2020) in labor force participation of all age-gender groups of 15+ years. This

could be achieved either by activating individuals who are out of the labor force altogether, or by encouraging movement of individuals from the informal to the formal sector. One potential policy lever in this regard would be to adjust the level of labor taxation, because higher labor taxes can discourage both inactive and informally-employed individuals from joining the formal sector.
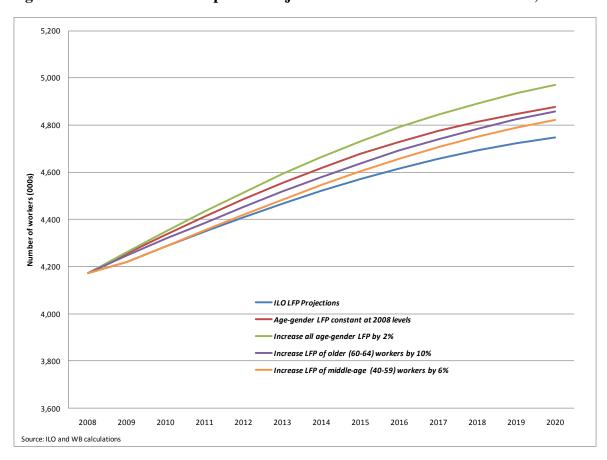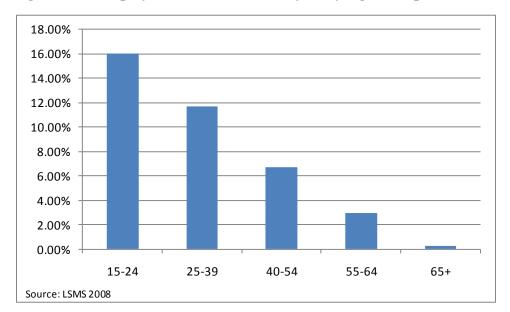
Figure 8: Labor Force Participation Projections under Alternative Scenarios, 2008-2020

Source: ILO and WB calculations

14.   *Another option for sustaining higher participation rates would be to equalizing the pension age eligibility for men and women.* As of 2009, the statutory retirement age was 62 for men and 57 for women, despite the fact that life expectancy for women is almost five years longer. Living Standards Measurement Survey (LSMS) data from 2008 indicate that about 67% of women aged 52 to 56 were economically active, while only 55% of women aged 57 to 61 remain so. This drop-off in labor force participation could be reduced by raising the mandated retirement age for women. Currently, early pensions are provided to men aged 57 with 12.6 years of work in unhealthy conditions, and to women aged 52 with 10 years of work in unhealthy conditions as well as mothers with three children or one disabled child. If the government is willing to consider raising the ages for early pensions or revising the list of qualifying occupations, this could also expand the labor force.

15.   ***There is some evidence that the presence of a pensioner or a young child in the household is associated with a lower probability of labor force participation for working-age able-bodied family members—even after controlling for other factors.*** This pattern may be due to a perceived need to stay at home to take care of children and the elderly. Therefore, greater access and availability of health and long-term care services could have a positive impact on labor force participation by younger family members who would otherwise be preoccupied with care-giving roles. In addition, the development of improved access to child care services may help to increase female labor force participation. A regression analysis based on LSMS 2008 data revealed that women with young children (0-5) are 19% less likely to be economically active, as compared to women of similar age, education, and household composition. While this may be partly explained by a woman's choice to stay at home and raise children, another potential cause may be a lack of quality and affordable child care options. Indeed, about one-third of working-age able-bodied women not currently in employment reported child care as the reason for not engaging in a job search. Therefore, improving the quality and accessibility of child care programs can serve both the current and the future needs of Azerbaijan's economy: in the short-term, it could enable more Azerbaijani women to enter the labor force; in the longer-term the investment in early childhood development could result in more productive workers—and thus, faster growth.

16.   ***Unemployment—in particular, youth unemployment—wastes the human capital resources of Azerbaijan.*** As of 2008, the overall unemployment rate (using the ILO definition of unemployment) was manageable at 5.6% for those in the labor force aged 15 and over. At the same time, the unemployment rate of 15-24 year olds stood at 16% (see Figure 10). This magnitude of youth unemployment is not out of the ordinary, but it does suggest that young Azerbaijanis have a difficult time transitioning from school to work. Therefore, support and funding for active labor market policies that assist the young unemployed with training and job searching, could improve utilization of human resources in Azerbaijan's economy. In addition, measures to improve Azerbaijan's investment climate could also have positive long-term impacts on labor productivity. The 2008 EBRD-World Bank Business Environment and Enterprise Performance Survey (BEEPS) revealed that the three biggest obstacles perceived by Azerbaijani firms are: (i) corruption; (ii) access to land; and (iii) high tax rates (World Bank and EBRD 2010). Reducing corruption, improving access to land, and lowering the tax burden should encourage firms to create more jobs for unemployed Azerbaijanis.

Figure 9: Unemployment Rate in Azerbaijan, by Age Group

Source: LSMS 2008

17.   ***In addition to raising the sheer number of employed Azerbaijanis, proactive measures could also be adopted to improve the productivity of these workers.*** Indeed, accelerating growth in labor productivity can substitute for the slowing labor supply growth. Improvements in labor productivity can arise from a better educated and more flexible workforce, more effective uses of technology by individual workers, and better matching between worker skills and jobs. A key step for improving worker productivity would be reform of the education system. Figure 11 reveals that working-age able-bodied adults with post-secondary education are much less likely to be unemployed or inactive.
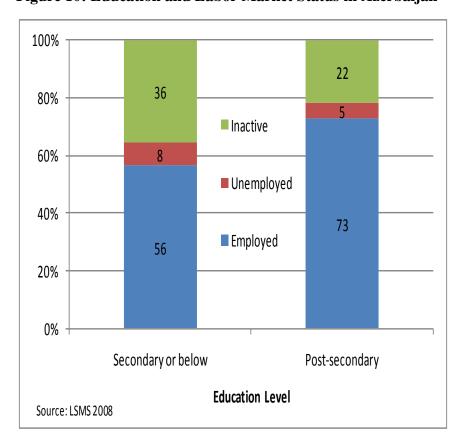
Figure 10: Education and Labor Market Status in Azerbaijan

Source: LSMS 2008

18.   *Given the upcoming changes in the age structure, equity issues, and Azerbaijan's future growth and development considerations, investments in the youngest members of the society become critical.* An emerging body of literature has identified the strong linkages between early-childhood experiences and later life outcomes, including educational achievement, employment, and health outcomes.[4] Indeed, as a general rule, "the earlier the better" appears to hold true with regard to the impact of programs aimed at skills development. Rates of return for the early-childhood period are estimated to be significantly higher than for the primary-school-age period, which in turn is better than for programs aimed at youth or young adults. In 2008, Azerbaijan spent only about 6.4% of its education budget on both pre-school and primary education. Enrollment in any form of pre-school program appears to be quite low, at about 9% (UNICEF).[5]
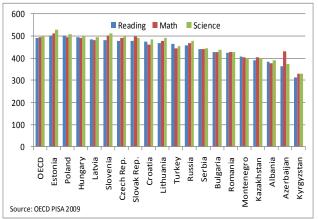
19.   The quality of the basic education system in Azerbaijan should also attract the attention of policymakers. In the latest round of the OECD Programme for International Student Assessment (PISA 2009), Azerbaijani students scored significantly below the OECD average on all three assessed subjects: mathematics, reading, and science. Moreover, as shown in the left panel of Figure 11, Azerbaijani students performed worse than all other ECA countries except
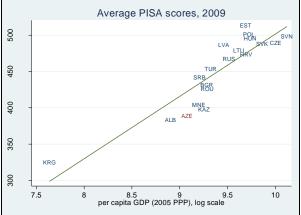
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[4] See, for example, Almond and Currie (2010), "Human Capital Development before Age 5". NBER.
[5] Pre-school programs include public nursery schools for children aged 0-3, and public kindergartens for children aged 3-5.

for Kyrgyzstan on reading and science. Most ECA countries in the sample are at a higher level of economic development than Azerbaijan. However, the right panel of Figure 11 indicates that Azerbaijan's results were lower than predicted by its level of economic development. Therefore, in order to improve the productivity of its workforce, Azerbaijan needs to raise the quality of the education that will be obtained by its next generation.

Figure 11: Results from the 2009 Programme for International Student Assessment (PISA)

Source: OECD PISA 2009

20.   ***Besides their growth-enhancing potential, social programs targeting the youngest Azerbaijanis can make a key contribution towards achieving "equality of opportunity."*** In Azerbaijan, as elsewhere, life chances are often strongly influenced by circumstances beyond the control of the individual. For example, there is a spatial dimension: poverty rates are significantly higher in rural areas and in particular regions (e.g., Daghlyg Shirvan). There is also a strong inter-generational channel: poverty headcounts are about two-thirds higher in households in which the highest education level achieved is secondary or below (as opposed to those with members holding either vocational or higher education degrees)—a factor beyond the control of the children in the household. The notion that poverty is caused by much more than just individual effort is well-supported by the Azerbaijani population: only 11% attributed the existence of poverty to "laziness and lack of willpower", whereas 61% pointed to "injustice in society" or being "an absence of luck".[6]

21.   ***While investments in the young have the highest returns, other productivity-enhancing measures include adult education and so-called "life-long learning" opportunities for those who have already graduated from formal education, but need to maintain and enhance their skills.*** These programs are best targeted toward the poor, who have a lower educational attainment (see Figure 12).

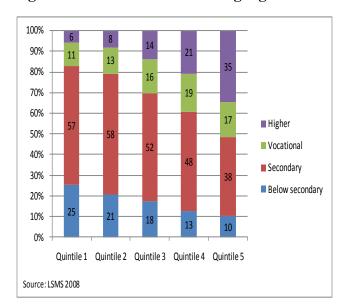[6] World Bank-EBRD Life in Transition Survey, 2007.

Figure 12: Education of Working-Age Able-Bodied Adults by Consumption Quintile

Source: LSMS 2008

22.   *Azerbaijan has more time than most other countries in the region to prepare for the forthcoming changes in its labor force.* It is advisable for the government to use that time to implement proactive policies that can help alleviate demographic pressures when they do arise. Policies that should be considered in this regard include: (i) investments in early childhood development; (ii) life-long learning; and (iii) active labor market programs. Participation in the formal labor force can be encouraged through adjusting labor taxes and equalizing the statutory retirement ages for men and women. Finally, the design of social transfer programs should be examined for the presence of labor disincentives.

3.2.   Fiscal sustainability of pensions and health care

23.   *In the next few decades, Azerbaijan will start experiencing an increase in its dependency ratio, which was at its historically lowest point in 2010.* More elderly individuals per worker could have significant implications for the fiscal sustainability of social spending in Azerbaijan in the years ahead. The two major programs from a budgetary perspective are old-age pensions and health care. The following section presents a brief analysis of the potential costs and benefits of these programs under alternative scenarios.

24.   *The aging of Azerbaijan's population is already putting a strain on the country's pension system.* The pension system dependency rate is defined as the ratio of pensioners to contributors. As of 2008, the pension system dependency rate in Azerbaijan was 83%, which is high compared to most countries in the ECA region.[7] The main demographic trends shown in Figure 1—in particular, the expected decrease in the working-age population and increase in the elderly population—will add to the burden on the pension system. The World Bank's Pension

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[7] The average reported in the World Bank's *From Red to Gray* report was 64% (Figure 4.1).

Reform Options Simulation Toolkit (PROST) was used to analyze the sustainability of Azerbaijan's pay-as-you-go (PAYG) pension system.[8] The PROST analysis used: (i) administrative data from the State Statistical Committee for demographic, labor market, and macroeconomic projections; and (ii) data on pension system indicators and parameters from the Social Protection Fund. The simulation assumed a stable coverage rate of pensions and no change in the retirement behavior (e.g., length of service at retirement). Given these assumptions, the simulation predicted a rising system dependency rate, which would surpass 100% by 2020 (see Figure 133).
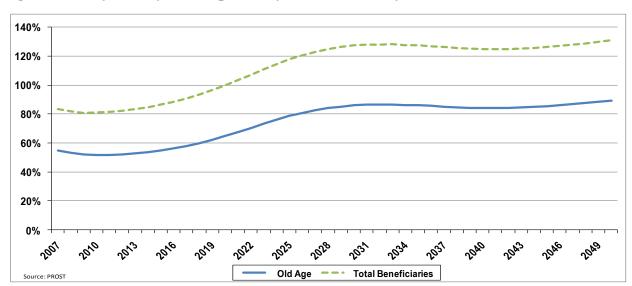
Figure 13: Projected System Dependency Rate in Azerbaijan, 2007-2050

Source: PROST

In Azerbaijan, it is evident that there is a tradeoff between the financial sustainability of the pension system and provision of an adequate standard of living for pensioners. Currently, pensions are raised on an ad hoc basis, but rise at a rate higher than inflation. The PROST simulated four variants of indexation for the basic pension: (i) 100% indexation to inflation; (ii) 100% indexation to the growth of the average wage; (iii) 50% indexation to inflation; and (iv) 50% indexation to the average wage growth. The method of basic pension indexation has a dramatic effect on two major outcomes of Azerbaijan's pension system. These are: (i) the projected average replacement rate of pensions, defined as the ratio of average pension to average contributor wage; and (ii) the projected current balance of the pension system as a percentage of GDP. Indexation to inflation allows Azerbaijan's government to attain a current surplus by 2015, but it implies a rapidly decreasing replacement rate, which approaches 10% by 2050. On the other hand, indexation to average wage growth provides for more generous pension payments of about 30%-40% of the average wage—which are still modest by international

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[8] The World Bank's Pension Reform Options Simulation Toolkit (PROST) is a computer-based toolkit used to simulate pension systems over the course of time. It has been used in over 90 countries. It is flexible enough to evaluate and compare different reform options in terms of their effects on system sustainability, levels of retirement income, and government liabilities.
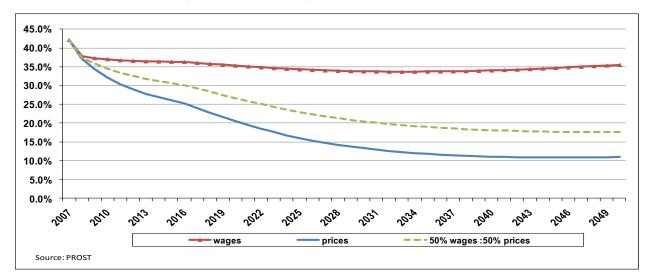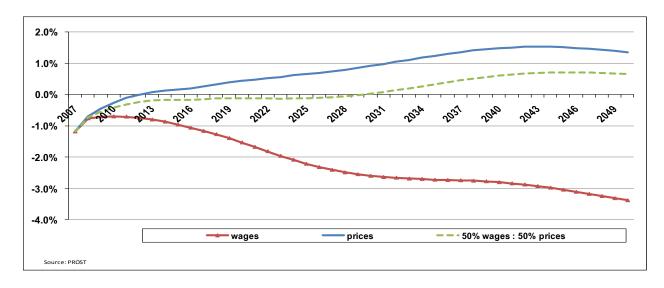
standards[9]. However, this comes at a high cost of a deteriorating current deficit in the pension system, which nears 4% of GDP by the end of the projection period (see Figure 14).

Figure 14: Pension Indicators in Azerbaijan, by Indexation Method

a)   *Average Replacement Rate (average pension as % of average contributor wage) of Combined Pension (Basic + Insurance)*

Source: PROST

b)   *Current balance (% of GDP) of Combined Pension (Basic + Insurance)*

Source: PROST

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[9] The lowest gross replacement rate among OECD countries was 35% (for Ireland), whereas OECD countries in the ECA region—The Czech Republic, Hungary, Poland, and the Slovak Republic—had replacement rates of 50%-76% (OECD 2011).

25.   ***Pensions are an important source of income for many households in Azerbaijan—and a significant buffer against poverty. Policies that lower the real value of pensions run the risk of resulting in a substantial increase in the overall poverty rate.*** Pensioners account for about one out of every eight Azerbaijanis, but—due to a high level of multi-generational living—about 43% of all households in the country include at least one pensioner. In 2008, pensions made up about 19% of household expenditures in households with a pensioner. Based on 2008 data, it has been estimated that the overall poverty rate would increase by 7.5 percentage points (or 40%), to 26.4%, in the absence of old-age pension transfers. Figure 15 shows that, indeed, the poverty rate of the elderly rises the most in the absence of pensions, but the poverty rate of children also increases substantially (by 6 percentage points).

Figure 15: Poverty Impact of Pensions in Azerbaijan

26.   ***Another potential policy lever to maintain the sustainability of the pension system is the contribution rate—however, this lever might not be very effective in Azerbaijan, because the pension contribution rate is already fairly high at 25%.*** Covered employees pay 3% of their gross earnings as a contribution to the pension system; employers pay 22% of their payroll. The total contribution rate puts Azerbaijan in the middle of the pack with respect to other ECA countries. However, it is still high by OECD standards, where the average pension contribution rate in 2009 was 20% (OECD 2011). Thus, although raising labor taxes might bring in additional revenues in the short-term, it could also discourage participation in the formal labor market in the medium-term, thus exacerbating future pension deficits.

27.   ***In sum, Azerbaijan's pension system is already in deficit, and any future reforms would need to strike a difficult balance between providing retirees with an adequate standard of living and maintaining fiscal sustainability of the pension system.***

28.   ***Concerns about cost pressures in the health sector also arise frequently in the context of aging populations.*** Older people are typically in worse health, and therefore require more

medical care. In Azerbaijan, the 50+ age group spends on average 80% more on health than the 18-49 age group.[10] As the population ages, overall health spending should rise.

29.   ***However, international literature suggests that population aging is typically not the major driver of health spending increases over the course of time.*** While an aging population does contribute to rising health costs, it happens only gradually. Thus, it cannot explain the significant increases in health expenditures over the course of time that are common around the world. There are more significant factors—in particular, the adoption of new technologies and the expansion of insurance coverage. These can be viewed as "age-specific" costs—in other words, these factors can drive up the amount that will be spent on a 65-year old in five years compared to the amount that is spent on a 65-year old today. These factors may be particularly important in Azerbaijan during the years ahead, because at present not all persons have full coverage, and the availability of technologies (e.g., to treat cardiovascular disease and cancer) is well behind Europe and the U.S. However, unlike aging-related costs, age-specific expenditures are very much amenable to policy influence: judicious expansions of insurance programs and benefit packages can help ensure that cost increases are manageable within the available budget.

30.   ***Several simple projections are laid out in Figure 16 that illustrate the potential impact of aging and other factors on future health care costs in Azerbaijan*** In 2010, government spending on health in Azerbaijan was 2.8% of (non-oil) GDP. If medical spending per person rises at the same rate as GDP until 2030, health spending will increase to 3.5% of GDP—due to the impact of population aging. If, however, age-specific factors such as technology and insurance cause medical spending per person to increase at a rate of 1 or 2 percentage points faster than GDP, government health spending would increase to 4.3% or 5.2% of GDP, respectively. Therefore, age-specific factors are likely to be more important drivers of health spending increases in Azerbaijan going forward than the aging population per se.

31.   ***In sum, the impact of an aging population on health costs in Azerbaijan does not appear to threaten the system's sustainability.*** Age-specific drivers, such as insurance and technology, are more likely to be the cause of spending increases—but these factors can be managed through careful policy design. Moreover, government spending in Azerbaijan is among the lowest in the region—and in all of the scenarios presented above, health expenditures would remain below regional averages.

32.   ***Utilization rates of out-patient and in-patient care are lower among the poor.*** Figure 17 indicates that individuals in the richest quintile are more than three times as likely to visit out-patient health care facilities than those in the poorest quintile—and nearly twice as likely to seek inpatient care. The poor are also significantly more likely to cite affordability as the reason for not seeking care. At present there are no health programs specifically targeted to the poor in Azerbaijan. In addition to improving access, a stronger targeting effort would also help lower out-of-pocket payments for the poor, without imposing the same fiscal burden as universal coverage.

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[10] These estimates are based on survey data that capture out-of-pocket spending, which represents about two-thirds of total health spending in Azerbaijan. It is assumed that a similar spending-by-age differential applies to that portion of expenditures covered by the government.

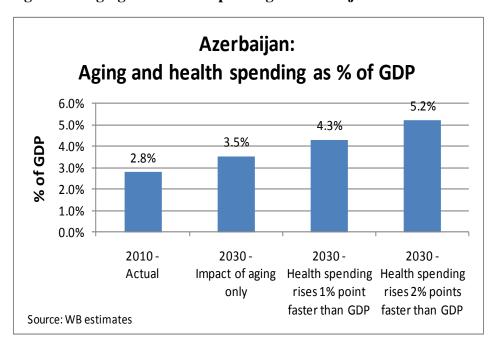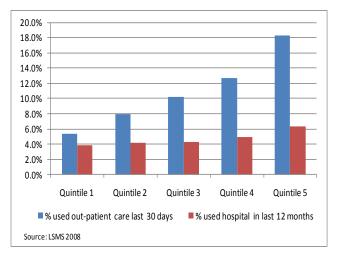**Figure 16: Aging and Health Spending in Azerbaijan as % of GDP**

**Azerbaijan:
Aging and health spending as % of GDP**

% of GDP

- 2010 - Actual: 2.8%
- 2030 - Impact of aging only: 3.5%
- 2030 - Health spending rises 1% point faster than GDP: 4.3%
- 2030 - Health spending rises 2% points faster than GDP: 5.2%

Source: WB estimates

Figure 17: Health Utilization in Azerbaijan, by Quintile

■ % used out-patient care last 30 days   ■ % used hospital in last 12 months

Source: LSMS 2008

■ among those with sickness who didn't seek care, % who did not because couldn't afford

Source: LSMS 2008

IV. Summary

Currently, Armenia's social spending is skewed towards the elderly. This helps to alleviate old-age poverty, but may give insufficient attention to the needs of the young, who will need to be increasingly more productive in order to sustain the growing ranks of the elderly in the future.

33. ***This note aimed to provide an overview of demographic changes in Azerbaijan and their policy implications for poverty reduction and social spending.*** The growth of Azerbaijan's population is expected to slow down and eventually come to a standstill between 2010 and 2050. This trend will be accompanied by a growing percentage of elderly persons and a rising total dependency ratio. The major cause of these changes is the continually decrease in the fertility rate.

34. ***The note presented a number of policy issues associated with these demographic changes.*** Labor force participation in Azerbaijan is relatively high by international standards—although somewhat lower among men as compared to some of its neighbors. Over the next decade, the total number of workers is expected to continue to rise, albeit at an ever-slower pace. This slowdown could be tempered or even reversed through proactive policies, such as raising the retirement age for women up to that of men, and providing outside dependent care options to enable current caregivers to enter the labor market. The persistently high unemployment rate in Azerbaijan indicates the need for faster job creation and investment in active labor market programs, such as job search assistance and training/re-training. Worker productivity could be enhanced through better quality education for the young, and opportunities for life-long learning for adults. The pension system is already suffering from a high dependency ratio—which brings into sharp focus the tradeoff between benefit size and the fiscal sustainability of the pension system. On the other hand, the fiscal sustainability of the health system in its current form does not appear to be under threat from demographic changes: indeed, more resources should be directed toward expanding access to care and reducing the out-of-pocket expenditures of the poor.

35. ***Potential topics for further analytical work that emerge from the foregoing discussions may include:*** (i) early childhood development and life-long learning programs for enhancing labor force participation and labor productivity; (ii) the labor market impacts of targeted social assistance (TSA) as well as pensions—given their relatively high generosity; (iii) the labor productivity and poverty reduction impacts of rural infrastructure investments; and (iv) the linkages between health status and labor force participation.

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