REFORMING UKRAINE'S PENSION SYSTEM[1]

Ukraine's pension system is in urgent need of fundamental reform. The sustainability of the pension system's finances has reached critically low levels requiring major changes in its design. A large number of retirees results in a high level of pension expenditure, even as pensions are low. Demographic trends will put further pressures on the pension system and government finances. Further reducing pension levels is not a viable alternative, as this would increase old-age poverty. Reforms would therefore need to focus on reducing the inflow of new retirees and increasing the number of contributors. Raising the effective retirement age and years-of-service requirements, which are very low by international comparison, together with a further tightening of early retirement options would help reduce the pension system's financial imbalances over time. In addition, the efficiency and equity of the system could be improved by reducing or eliminating categorical supplements and special occupational pensions. There is significant scope to expand the base for social security contributions and strengthen payment compliance. Pension reform could also have important indirect effects on the sustainability of the pension system's finances through an increase in labor participation rates of older age cohorts, and hence in the number of contributors, and support economic growth more broadly.

A. Introduction

1. **On current trends, the pension system in Ukraine is financially unsustainable**. Without a major overhaul, the current contributory, earnings-related pension system will continue to remain in deficit and will fail to provide adequate and equitable pensions to all retirees. Even before the cuts in social security contributions, which became effective from January 2016, the Pension Fund of Ukraine (PFU) was facing large deficits. Following the major tax reform adopted at the end of 2015, which mainly involved reducing social security contributions from an average rate of 40 percent to a flat 22 percent, the PFU deficit jumped to 6¼ percent of GDP in 2016, one of the highest levels in the world.

2. **The pension system currently provides very modest old-age incomes to retirees**. The level of average pension in Ukraine currently stands at about US$65–70 per month, slightly above of the international poverty line of US$1.90 per day. While the average gross replacement rate of about 39 percent (2015 estimate) is not very low by international comparison, a high level of informality and under-reporting of taxable earnings is likely to result in a significant overestimation of the average pension value relative to average nationwide wages. Under current indexation rules, the replacement rate will decline further, reducing its level to even more socially unsustainable levels.[2]

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[1] Prepared by David Amaglobeli (FAD).

[2] Following the expected increase in the average wage due to the government's decision to double the minimum wage from 2017, the replacement rate could drop closer to 30 percent.

3. Unfavorable demographic trends will put additional pressure on the pension system's finances. Declining fertility rates and increasing longevity will result in a smaller and older population.[3] These demographic changes will have substantial implications for public finances, especially for the pension system. With the shrinking working age population, the number of contributors will decline, while spending on age-related programs, including pensions, will increase as the share of the elderly in the population grows. In emerging economies, spending on public pensions is expected to increase by 5 percent of GDP between 2015–2100 (Clements and others, 2015). Given the large uncertainties surrounding demographic projections, an even faster population aging cannot be ruled out. Thus, policymakers need to be cognizant of the urgency to reform entitlement programs, including pensions, to mitigate the effect of aging on public finances.

4. Pension reform would also support the government's growth objectives. It would help mitigate the adverse effect from the prospective demographic trends on labor markets. The share of the working age population (population between 15–64 years of age) in the total population in Ukraine is expected to decline from 70 percent in 2015 to less than 60 percent by 2060.[4] Moreover, the increasing share of older-age cohorts in the working-age population will lead to a significant drop in aggregate labor force participation rates. By international comparison, Ukraine has particularly low labor force participation rates for older-age cohorts. For example, the average labor force participation rate of the cohort between 50–59 in Ukraine was 63 percent in 2014, compared with about 75 percent on average in OECD countries.[5] The gap is even larger for older cohorts. The average labor force participation rate for the cohorts between 60–69 is 15½ percent in Ukraine compared with 37 percent on average in OECD countries. A major factor behind this large gap is a relatively low statutory retirement age that results in the early exit of workers from the labor market. For example, the average effective exit age is 58½ years for men and 55.9 years for women in Ukraine, compared with 63½ years and 62½ years, respectively, on average in the EU. Pension reform that includes raising the retirement age would provide additional incentives to workers to postpone retirement and therefore limit the prospective decline in the labor force.

5. Significant policy adjustment is needed to put the pension system on a sustainable footing. Notwithstanding past reforms, including gradually increasing the retirement age for women (2011) and tightening some early retirement options (2015–16), in the absence of further reforms, the pension system will face large and growing deficits. Therefore, pension reform needs to focus especially on limiting the inflow of new pensioners. This could also create space for bringing the average pension to more socially acceptable levels. Other reforms that help improve equity and efficiency of the pension system are also needed.

6. Creating a so-called second pillar in the pension system will do little to address the fundamental problems of the old-age security system. The discussion to introduce mandatory-

[3] Under the UN's medium-fertility scenario, Ukraine is expected to experience a continuous net outflow of migrants.

[4] Based on UN's population projections under the medium-fertility scenario.

[5] For OECD, labor force participation rate for the 50–59 age group is calculated as the simple average of rates for 50–54 and 55–59 age cohorts.

funded schemes risks only to divert attention from the problems facing the pay-as-you-go system. Moreover, many shortcomings still stand in the way of successfully introducing mandatory, defined contribution schemes in Ukraine. In the absence of political will to increase pension contributions, diverting existing contributions to a funded pillar would further increase the deficit of the pay-as-you-go system, or would require a further reduction in pension benefits in the first pillar. Therefore, the introduction of the funded pillar could only be considered once the structural deficit of the first pillar has been addressed in a sustainable manner, macroeconomic and fiscal sustainability have been secured, and all necessary elements of the legal and regulatory infrastructure are in place (a comprehensive companies law, a securities law in line with internationally accepted principles, collateralization and bankruptcy procedures, creditor and property rights, and accounting regulations payments system, custodian and depository functions).[6] Since these preconditions are not yet met in Ukraine, the introduction of a second pillar should be delayed (Andrews, 2015).

7. **Countries in the region facing similar pension system problems have already started taking policy action**. In April 2016, the president of Belarus issued a decree mandating an increase in the retirement age by three years to 63 years for men and 58 years for women starting from January 1, 2017 (by six months every year). Also in April 2016, the Russian parliament adopted legislation to increase the retirement age for civil servants to 65 years for men and 63 years for women (from current 60 years and 55 years, respectively), effective from 2017 (by six months a year). Proposals for increases of other parts of the work force are under discussion. In December 2016, the Moldovan parliament adopted legislation increasing the statutory retirement age gradually to 63 years for men from 62 years and for women from 57 years (Table 1).[7]

B. Ukraine's Current Pension System

High pension spending

8. **Public pension spending in Ukraine is one of the highest in Europe**. Despite the decline from its high of 18 percent of GDP in 2010, public pension spending in Ukraine still remains among the highest levels in Europe (Figure 1). In 2016, pension spending accounted for about one quarter of total general government expenditures, which is also among the highest. The increase in pension spending from 2003 was mainly driven by discretionary pension increases (Figure 2). After 2013, pension spending in percent of GDP started to decline sharply, reflecting mainly the erosion in real value of pension benefits, resulting from the limited indexation of pensions against the background of high inflation. In addition to non-indexation, measures adopted in 2015 such as denial of pension benefits to working pensioners in the civil service and withholding 15 percent of the pension benefit for other working pensioners also contributed to lower pension spending.

[6] For more details on preconditions for the introduction of funded pillars of pension systems, see Rudolph and Rocha (2009).

[7] On the other end of the spectrum is Poland, whose parliament in November 2016 approved the ruling party's plan to roll back the previous retirement age increases introduced in 2012, from 67 years to 65 years for men and 60 years for women.

Table 1. Regional Comparison of Pension Systems

	Ukraine	Belarus	Russia	Moldova
Statutory retirement age (years) 1/				
Current (Men/Women)	60/58	60/55	60/55	62/57
Prospective (Men/Women)	60/60	63/58	60/55	63/63
Pension spending (percent of GDP), 2015	13.4	9.6	9.5	11.0
Government transfers to social security fund, 2015 (percent of GDP)	4.8	0.6	3.8	3.4
Number of pensioners				
In thousands 2/	12,147.2	2,559.7	42,729.0	679.9
In percent of population 60+	120.1	132.8	148.7	100.9
In percent of total population	27.1	27.0	29.8	16.7
In percent of working age population 3/	41.7	41.2	45.5	24.4
Average monthly pension, 2015				
In national currency units 2/	1,699.5	2,805,727.0	12,080.9	1,165.2
In US dollars 4/	70.8	151.1	165.7	59.3
Average gross replacement rate (percent) 5/	39.0	40.4	33.7	24.8
Life expectancy at birth, 2010-2015				
Men	65.7	65.3	64.2	67.2
Women	75.7	77.0	75.6	75.4
Life expectancy at 60, 2010-2015				
Men	15.2	14.5	15.2	14.8
Women	20.2	20.9	20.7	19.5
Old-age dependency ratio 6/				
In 2015	21.9	20.0	19.1	13.4
In 2060	42.1	40.6	37.4	52.9
Social Security Contribution Rate (percent) 7/	22.0	35.0	30.0	33.5
Memo items:				
Population, total (thousand)	44,823.8	9,495.8	143,456.9	4,068.9
GDP per capita, 2015 (US dollars)	2,125.4	5,749.1	9,243.3	1,821.9

Sources: National authorities; UN population projections; World Economic Outlook; IBFD; and IMF staff estimates.

1/ Current retirement age is the one prevailing on January 1, 2017. Prospective retirement age is the one that has been legislated and will be achieved at some future date.

2/ As of January 1, 2016.

3/ Working age population is defined as population between 20 and 64 years of age.

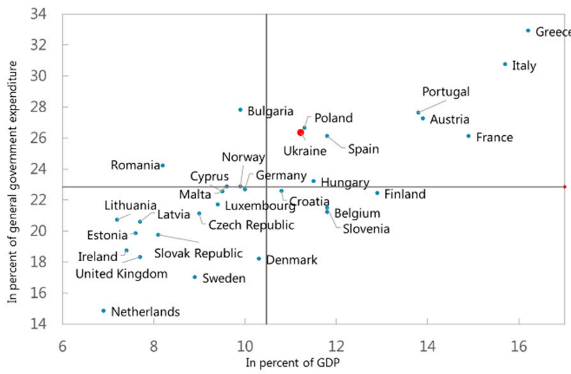
4/ Calculated as the average pension in national currency divided by the average exchange rate on January 1, 2016.

5/ Calculated as the average pension in 2015 divided by the average wage in the economy.

6/ Calculated as the ratio of population 65 years and above over the population between 15 and 64.

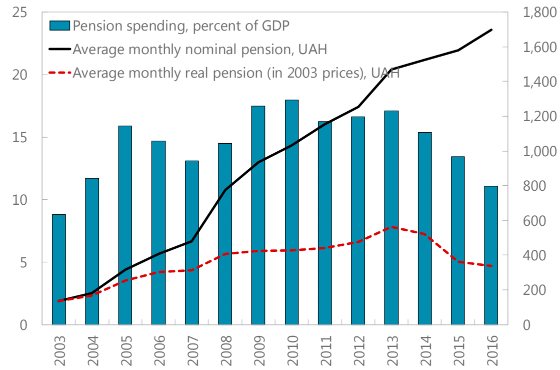
7/ Total social security contribution rate, including pension contributions.

Figure 1. Pension Spending, International Comparison (Pension expenditure, 2013)



Note: Data for Ukraine is from 2016.
Sources: Urkainian authorities, European Commission and IMF staff estimates.

Figure 2. Pension Spending and Average Pension, 2003–16

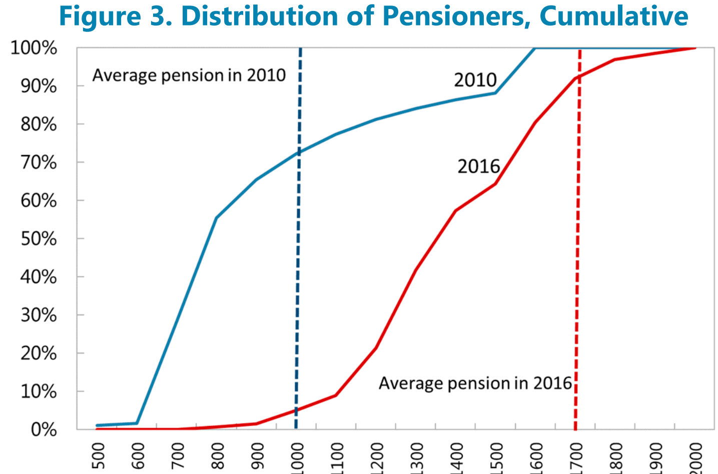


Sources: Ukrainian authorities; and IMF staff estimates.

Low average pensions, but high pensions for some privileged groups

9. **However, the pension system provides relatively low old-age incomes**. Currently, at about US$65–70 per month, the average pension is among the lowest in Europe. While the 39 percent gross average replacement rate (2015) is not the lowest, large underreporting of wages probably results in overestimation. The average benefit size of special pension recipients is significantly higher than the average regular pension, but special pensions account for less than 10 percent of the total pension population. Moreover, as under the current indexation rules only the portion of the benefit corresponding to the minimum subsistence level is adjusted every year, the benefit distribution is gradually becoming more compressed. For example, in 2010 about three-quarters of pensioners had benefits lower than the average pension, but by 2016 this share has increased to over 90 percent (Figure 3). Individuals with higher earned benefits experience a larger erosion of the real value of their benefits.

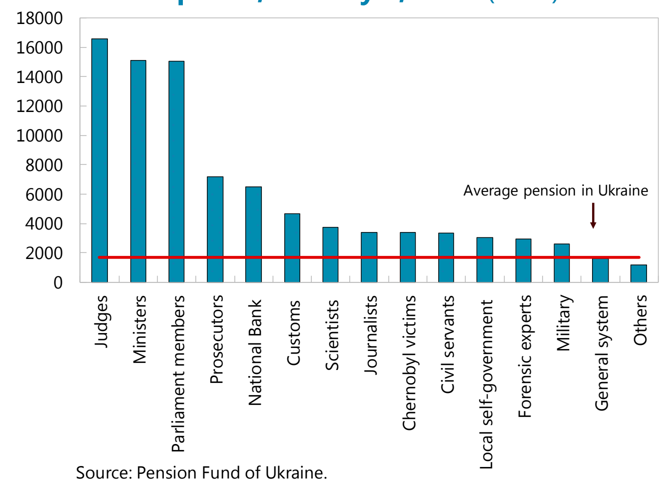
Figure 3. Distribution of Pensioners, Cumulative



Sources: Ukrainian authorities; and IMF staff calculations.

10. Retirees in about a dozen occupations enjoy a privileged treatment. These retirees receive special pensions, the size of which could exceed the average regular pension by a factor of 1½–10. These larger benefits do not necessarily reflect the relative contributions, but rather their privileged status (Figure 4).[8] Special pension recipients, about 850,000 in total, include former civil servants, ministers, judges, members of parliament, prosecutors, scientists and others and are regulated by pension-related norms in about a dozen special laws. Since 2015, no new special pensions have been granted following legislation that stated that unless a new pension law is adopted all pension-related provisions in special occupational laws became void. More recently, however, there have been renewed attempts to restore some of the special pension provisions. For example, the law on judiciary adopted in June 2016 provides a very generous pension upon retirement, relative to the general regime.[9] Therefore, it is important to consolidate all pension legislation currently spread across various laws, and to ensure a single principle for providing pensions, without privileges for any occupation (with the exception of the military).

Figure 4. Average Pension of Special Occupational Pension Recipients, January 1, 2016 (UAH)



Source: Pension Fund of Ukraine.

Very early retirement ages by international standards

11. A large number of pensioners is the main reason behind relatively high pension expenditure. In addition to various early retirement options, general statutory retirement ages, which are set at 60 years for men and 58 years for women are among the lowest in Europe (Figure 5). The statutory retirement age is set to gradually increase further in many European countries, while in Ukraine the retirement age for women will only rise until it reaches 60 in 2021. As a result, the number of pensioners in Ukraine is large, particularly when compared with the size of the total population and the population above 65 years (Figure 6).[10] Of the total number of 12.3 million pensioners in the beginning of 2016, about ¾ were old-age pensioners, about

[8] Preferential treatment of special pension recipients results from the fact that benefits are calculated under a different formula. Specifically, benefits under special pensions are assessed according to the last or best few years of new retirees' careers, while under the general regime they are based on full-career average earnings.

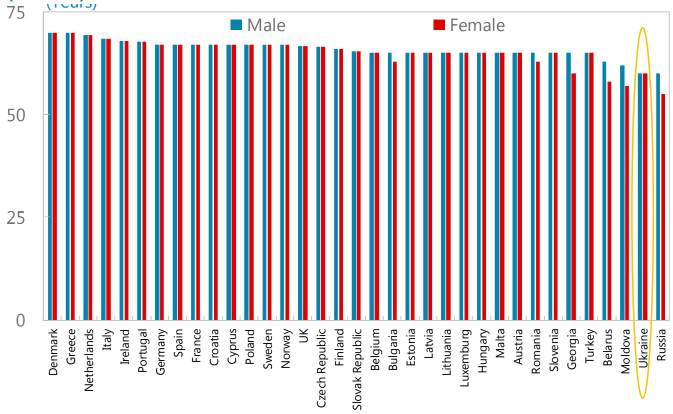
[9] According to the law, base salaries of judges are set in multiples of 30 to 50 of the minimum wage, depending on the level of the court. In addition, the total remuneration of judges includes various supplements. The amount of pension benefit is calculated as 50 percent of the total remuneration plus 2 percent for each year of service in excess of 20 years.

[10] According to anecdotal evidence, the large number of pensioners could also be related to poor administration as, for example, weak flow of information regarding a pensioner's death reaches the PFU with delays, causing pension payments to continue.

10 percent were disability pensioners, and the rest were pensioners receiving survivor and early retirement pensions.

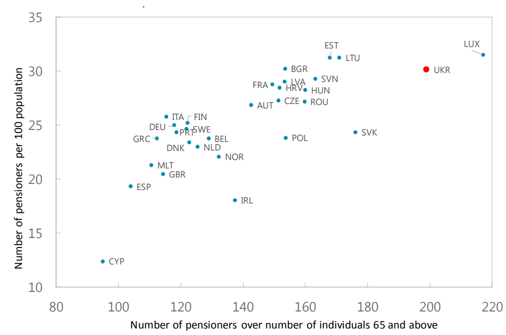
Figure 5. Statutory (Prospective) Retirement Age*

(Years)



* Prospective age is the age that will be in effect in 2040

Figure 6. Number of Pensioners



Sources: Ukrainian authorities, European Commission and IMF staff estimates

12. **Widespread occupational early retirement options also contribute to the large size of the pensioner population**. Reflecting in part the Soviet legacy, employees of various occupations are eligible to retire on more preferential terms than those retiring under the general regime. During the last couple of years, the government has taken some steps to tighten early retirement options, but there is room to further limit the inflow of early retirees, while improving the equity of the pension system. Individuals who earn the right to an early retirement can be grouped into two broad categories: employees in hazardous and in privileged occupations:

- *Employees in hazardous occupations*. Occupations considered hazardous are established by Cabinet resolution, and are commonly known as lists 1 and 2.[11] About 1.3 million people were early retirees under the two lists on January 1, 2016. The minimum prospective retirement age is set at 50 years and 55 years for those working in jobs under the lists 1 and 2, respectively.[12] In addition, these individuals need to satisfy the overall and the hazardous occupation-specific length-of-service criteria (Table 1). For example, men employed in occupations on the list 1 need at least 25 years of service of which at least 10 years in a hazardous occupation. The government made two important changes to the early retirement system for employees in hazardous jobs. First, in March 2015 the retirement age for women in occupations from both lists has begun increasing gradually by five years and the length-of-service requirement for men and women was also increased by 5 years. Second, the two lists, which were significantly outdated, have been revised in June 2016 in order to better align them with the modern job nomenclature and to remove those occupations that can no longer be considered as hazardous. This change

[11] The regulatory base for lists 1 and 2 include the law on pensions (#1788), cabinet resolutions on approval of the lists of industries, occupations, positions and indicators giving right to retirement on preferential terms (#36) and on approval of procedure for workplace certification in terms of safety conditions (#442).

[12] For women, the minimum retirement age of 50 years will be achieved by 2024.

should reduce the number of people eligible for early retirement on lists 1 and 2 by about 40 percent over time.

- *Employees in privileged occupations*. Individuals in various early occupational groups, which include teachers, doctors, artists, public transportation and tractor drivers and a few others, are eligible to retire early assuming they meet either only the minimum years of service or the minimum years of service and the retirement age criteria, which are established separately for each occupation (Table 2). Flight attendants and aviation dispatchers are allowed to retire at the age of 50, while for others, where the retirement age is applicable, the minimum is 55 years. However, the largest group of all are employees in healthcare and education, accounting for about 1/3rd of the annual inflow of early retirees. In order to take advantage of the early retirement option, at present teachers and doctors need to have at least 26 years of service and be 50.5 years of age.[13] The law also requires resignation from their current job in order to qualify for early retirement.

Table 2. Early Retirement Eligibility Criteria

	Men		Women	
	Retirement age	Length of Service *	Retirement age	Length of Service *
Those eligible to retire early based on the age and length of service				
List 1 occupations 1/	50	25 (10)	50	20 (7.5)
List 2 occupations 2/	55	30 (12.5)	55	25 (10)
Tractor drivers 1/	55	30 (20)	55	25 (15)
Public transportation drivers 1/	55	30 (12.5)	55	25 (10)
Women employed in the textile industry 2/			55	20
Milkmaids 2/			55	20
Tobacco growing women 2/			55	20
Women employed in agriculture and				
Those eligible to retire based on the length of service				
Employees of education 3/	55	30	55	30
Employees of healthcare 3/	55	30	55	30
Employees of social security services 3/	55	30	55	30
Athletes		25		25
Artists 5/	55	20-35	55	20-35
Pilots and test-pilots 3/	50	30	50	25
Aviation dispatchers 4/	50	25 (12.5)	50	22.5 (10)
Flight attendents 1/	55	30 (15)	50	25 (10)
Railway workers 1/	55	30 (12.5)	55	25 (10)
Field workers (in geology, hydrology, and other) 1/	55	30 (12.5)	55	25 (10)
Lumberjecks 1/	55	30 (12.5)	55	25 (10)
Docker engineers 1/	55	30 (20)	55	25 (15)
Fishing industry workers 1/	55	30 (12.5)	55	25 (10)

Source: Ukrainian pension legislation.
* In brackets: the minimum number of years to be spent in the job that entitles to an early retirement.
1/ The minimum years of service for men and the minimum age requirement for women will become effective from 2024.
2/ The minimum retirement age will become effective from 2024.
3/ The minimum years of service will become effective from 2024 and the minimum retirement age from 2026.
4/ The minimum years of service and the minimum retirement age for women will become effective from 2024.
5/ The minimum retirement age will be effective from 2026.

13 The minimum years of service and the minimum retirement age will go up to 30 years and 55 years by 2024 and 2026, respectively.

Large structural deficits in the pension fund

13. The current PFU revenues cover only about 2/5th of its total expenditure (Table 3). The revenues consist of social security contributions, of which about 80 percent, by Cabinet resolution, are directed to the PFU and the rest to the other social security funds. Following the 2015 tax reform, the average effective rate of social security contributions of about 40 percent was reduced to a new level of a flat 22 percent from January 1, 2016.[14] As a result, the revenue from social security contributions dropped by nearly 4 percent of GDP in 2016, of which the PFU lost about 3½ percent of GDP. This revenue shortfall is fully financed by transfers from the state budget.

Table 3. Pension Fund of Ukraine Operations, 2012–16

	2012	2013	2014	2015	2016
	Act.	Act.	Act.	Act.	Prel.
	(in UAH billions)				
Revenue	**158.0**	**166.9**	**165.9**	**169.9**	**112.1**
Expenditure	**233.7**	**250.4**	**243.5**	**265.7**	**254.8**
Overall balance	**-75.7**	**-83.5**	**-77.6**	**-95.8**	**-142.7**
Financing	**75.7**	**83.5**	**77.6**	**95.8**	**142.7**
State budget transfer	64.5	83.2	75.8	94.8	143.8
Treasury loan	11.9	0.3	1.0	0.0	0.0
Other	-0.7	0.0	0.8	1.0	-1.1
	(in percent of GDP)				
Revenue	**11.2**	**11.4**	**10.5**	**8.6**	**4.9**
Expenditure	**16.6**	**17.1**	**15.3**	**13.4**	**11.2**
Overall balance	**-5.4**	**-5.7**	**-4.9**	**-4.8**	**-6.3**
Financing	**5.4**	**5.7**	**4.9**	**4.8**	**6.3**
State budget transfer	4.6	5.7	4.8	4.8	6.3
Treasury loan	0.8	0.0	0.1	0.0	0.0
Other	0.0	0.0	0.1	0.1	0.0
Memorandum item:					
GDP (UAH billions)	1,405	1,465	1,587	1,979	2,280

Sources: Ukrainian authorities; and IMF staff estimates.

A weak link between benefits and contributions

14. The government provides universal support to those pensioners whose earned pension is below the subsistence minimum. Since many people report low incomes, they are all likely to be eligible for an earned pension below the minimum statutory subsistence level established every year by the law on state budget. A minimum contribution period of 35 and 30 years for men and women, respectively, guarantees that a person will receive at least the minimum pension. This implies a large number of pensioners receive a top-up in addition to their calculated earned pension benefits. If the

[14] Prior to the reform, there were 67 different social security contribution rates in the range of 36.76–49.70 percent depending on the degree of hazardousness of a job. The effective rate was about 40 percent, of which 3.5 percent paid by the employee and the rest by the employer. Following the reform, a single rate of 22 percent payable only by the employer replaced the multiple rates.

contributory period is less than 35/30 years, but more than 15 years, a person can receive a top-up if the calculated earned pension benefit falls below the minimum pension, but the top-up will be reduced proportional to the shortfall from the minimum contributory period. These top-ups are not means tested and effectively reduce incentives to contribute to the pension system. Currently, there are more than seven million pensioners, out of the total of 12 million pensioners, who receive the minimum pension.

15. **The constitution of Ukraine guarantees the right for all pensioners to receive a pension at the level of the subsistence minimum**. The minimum subsistence level is defined as the combined value of all goods and services that are necessary for normal functioning of a human body and for satisfying an individual's cultural and social needs. The basket includes food items, and basic nonfood items and services. The minimum subsistence is determined separately for kids up to age 6 and between 6 and 18, for able-bodied individuals, and for the elderly. Minimum subsistence had been used, among other things, to determine minimum wages, minimum pensions, and various social assistance benefits. However, starting from January 1, 2017 the minimum wage will no longer equal the subsistence minimum, while the amount of minimum pension will still be determined by the size of subsistence minimum for the elderly. This will likely increase pressure to de-link the minimum pension from the subsistence level as well.

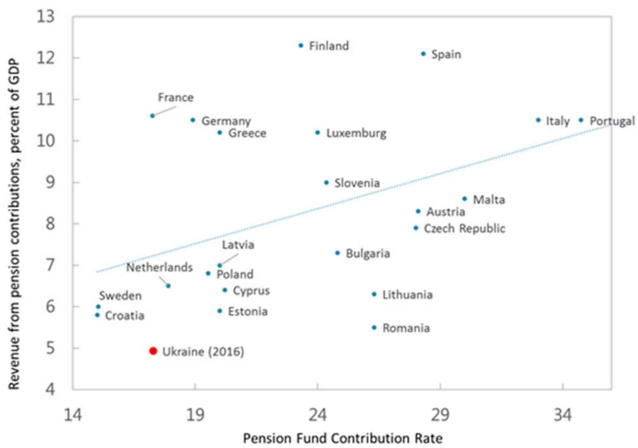
Low social security contribution revenue and taxes

16. **A low contribution rate, a small number of contributors and a significant underreporting of wages are key reasons behind insufficient PFU revenues**.

- *Low pension contributions*. Following the near halving of social security contributions from January 2016, the pension contribution rate has turned from one of the highest to one of the lowest in Europe (Figure 7). The key motivation behind cutting social security contributions was to reduce informality, as the high social security contribution rate was believed to encourage tax evasion. Moreover, it imposed a proportionally high burden on lower income earners as the contributions are capped. However, informality is a multivariate problem and there is little evidence that just lowering the contributions rate alone could discourage participation in the underground economy. Based on data for 2016, there appears to be only a very modest effect on improved payment compliance from lower social security contributions (Figure 8). Therefore, the revenue administration needs to increase its efforts in dealing with low compliance. Apart from lower general contribution rate, sole proprietors registered under the simplified regime for small taxpayers enjoy a privileged treatment as they pay 22 percent of one minimum wage, irrespective of the income earned, resulting in lower effective contribution rate.[15]

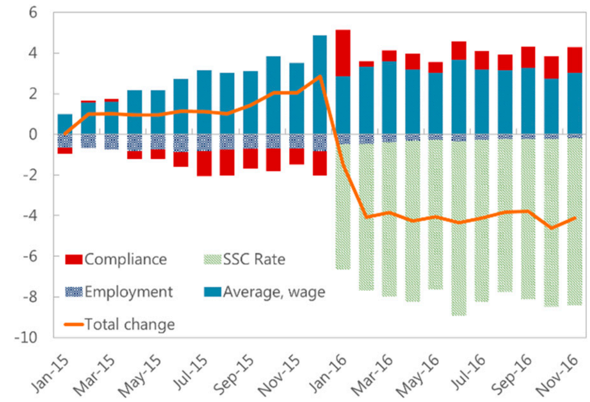
[15] This regime creates an opportunity for arbitrage as it encourages hiring workers as sole proprietors.

Figure 7. Pension Fund Contributions, 2013



Sources: Ukrainian authorities; and European Commission.

Figure 8. Contributions to Year-on-Year SSC Revenue Growth (UAH billion)



Sources: Ukrianian authorities; and IMF staff calculations.

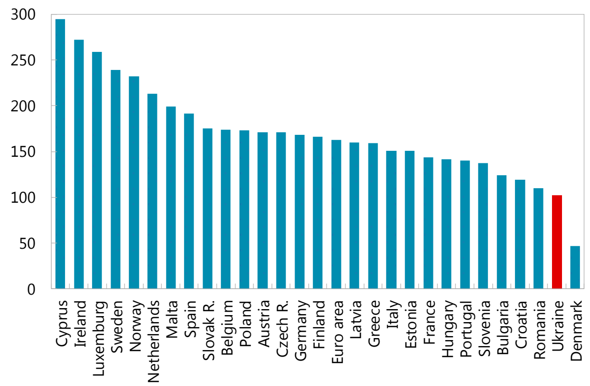
- *Low number of contributors.* Ukraine's pension system provides little incentive to contribute, leading to one of the lowest pension support ratios in Europe, with a ratio of beneficiaries to contributors of 1:1 (Figure 9). This, in part, is explained by the Soviet legacy as prior to independence almost all workers were employed and therefore have managed to accumulate sufficient number of service years to make them eligible for pensions. At the same time, Ukraine has a very small share of contributors in the working-age population. Of about 18 million people in the labor force in 2015 of which 16.4 million are estimated to be employed, only 12.3 million were paying social security contributions. The key reason behind the low number of contributors is a high degree of unofficial employment.[16]

- *Under-reporting of wages.* The informality affects not only employment, but also the size of reported salaries. Anecdotal evidence suggests the prevalence of salary payments in envelopes, which is corroborated by the reported data pointing to high concentration of salaries below two minimum wages. The share of employees reporting salaries below 1 and 2 minimum wages was about 30 percent and 60 percent in 2013, respectively (Figure 10). The doubling of the minimum wage effective January 1, 2017 was motivated by the need to legalize some of these informal salaries. Large underreporting of wages is also a symptom of the weak incentives to contribute.[17]

[16] In small part, this is also explained by legal exemption from mandatory contribution payments of certain groups.

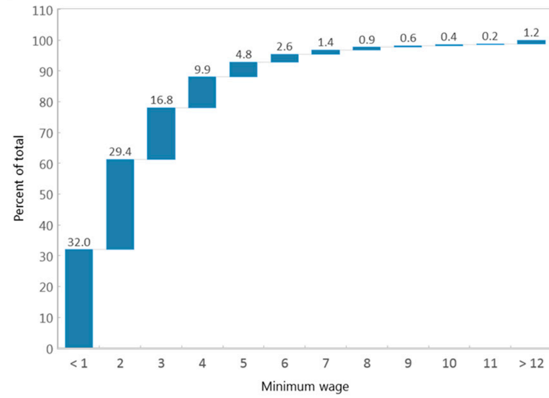
[17] For example, for someone with sufficient years of service to qualify for minimum pension, the marginal benefit of reporting salaries above one minimum wage but less than two minimum wages is nearly zero because of the existing policy that requires the government to top up the earned pension to the minimum subsistence level.

Figure 9. Support Ratio, 2013



Note: Support ratio is equal to contributors / 100 pensioners, public pensions.
Sources: Ukrainian authorities; and European Commission.

Figure 10. Distribution of Employees by Income, 2013



Sources: Ukrainian authorities and IMF staff estimates.

17. Only about 0.1 percent of all pensioners are currently subject to income taxation. According to the common practice, pension benefits are considered deferred income and are taxed at least once, either when contributions are paid or when the benefits are collected. In unfunded systems, contributions are typically exempt, while benefits are fully taxed. Most countries follow this model. In Ukraine, social security contributions are tax exempt. From January 1, 2015 the government lowered the threshold above which pension income is taxed from 10 to 3 times the minimum subsistence level established for retirees. While it still left the majority of pensioners exempt from taxation, it was a step in the right direction. However, in June 2016 parliament amended the tax code and reversed the pension taxation by reinstituting the threshold at 10 times the minimum subsistence level.

Special supplements

18. Retirees possessing special status related to their civil contribution to the state or those who have endured sufferings are eligible to receive supplements to their regular pensions. These supplements are established by about half a dozen laws, and the largest groups that they are assigned to include war veterans (about 1.1 million individuals as of January 1, 2015), and the so-called children of war (about 3.3 million individuals).[18] Other groups include veterans of labor, blood donors, victims of Nazi persecution, Chernobyl catastrophe victims, and people residing in mountainous locations. These supplements are established in proportion to the minimum pension or in hryvnia. For example, veterans of war receive a supplement between 25 and 50 percent of the minimum pension. These pension supplements are unrelated to contribution performance and are provided universally to all recipients who meet the eligibility criteria set out by respective laws that define the status and the related benefits. All these supplements in essence function as poorly targeted welfare transfers. Instead, if categorical pension supplements would be means tested, this would make the system more equitable and free up resources for more efficient poverty alleviation.

[18] Children of war are defined as individuals who by the time the World War II ended (September 2, 1945), were 18 years of age or younger.

C. Additional Pressures from Demographic Changes

19. Unlike elsewhere in Europe, where the population decline is expected to start from the 2020s, Ukraine is already seeing a decline in its population (Figure 11). After peaking in the early nineties, the population of Ukraine has been steadily shrinking. A key factor has been the sharp drop in fertility rates, which at an average of 1.2 children per woman reached extremely low levels during 2000–05. Although fertility rates have recovered since then, the current average fertility rate of 1½ children per woman is well below the world average of 2½. Meanwhile, life expectancy at birth has been improving, but it still remains quite low (the second lowest in Europe). As a result, the old-age dependency ratio has doubled between 1960 and 2015.

20. Ukraine's population will continue shrinking and aging further, resulting in significant changes in its demographic structure in the coming decades. Under most scenarios, Ukraine's population will shrink and age rapidly. If both fertility and mortality rates would remain unchanged from their current levels, the population would decline further by about 30 percent by 2050. However, the UN's medium-fertility scenario assumes a continued gradual improvement in the fertility rates over the coming decades, limiting the decline in population to about 20 percent by 2050. At the same time, the population will age rapidly and the distribution of the population by age groups will become much more even. The old-age dependency ratio is expected to nearly double by 2050, which is broadly in line with other countries in the region, but much above the rest of the world.

21. Pension spending as a percent of GDP can be projected using an identity that decomposes public pension expenditures into four key elements (following Clements and others, 2014).[19] These components are: (i) the replacement rate (RR), which is calculated as the average pension over average output per worker; (ii) the coverage ratio (CR), which measures the share of pensioners in the total population above the retirement age (above 65); (iii) the old age dependency ratio (ODR), which is measured as the ratio of population above 65 to the working age population (15–64); and (iv) the inverse of labor participation (LP), defined here as the share of workers in the total working age population.

$$PE = RR \times CR \times ODR \times \frac{1}{LP} \qquad (1)$$

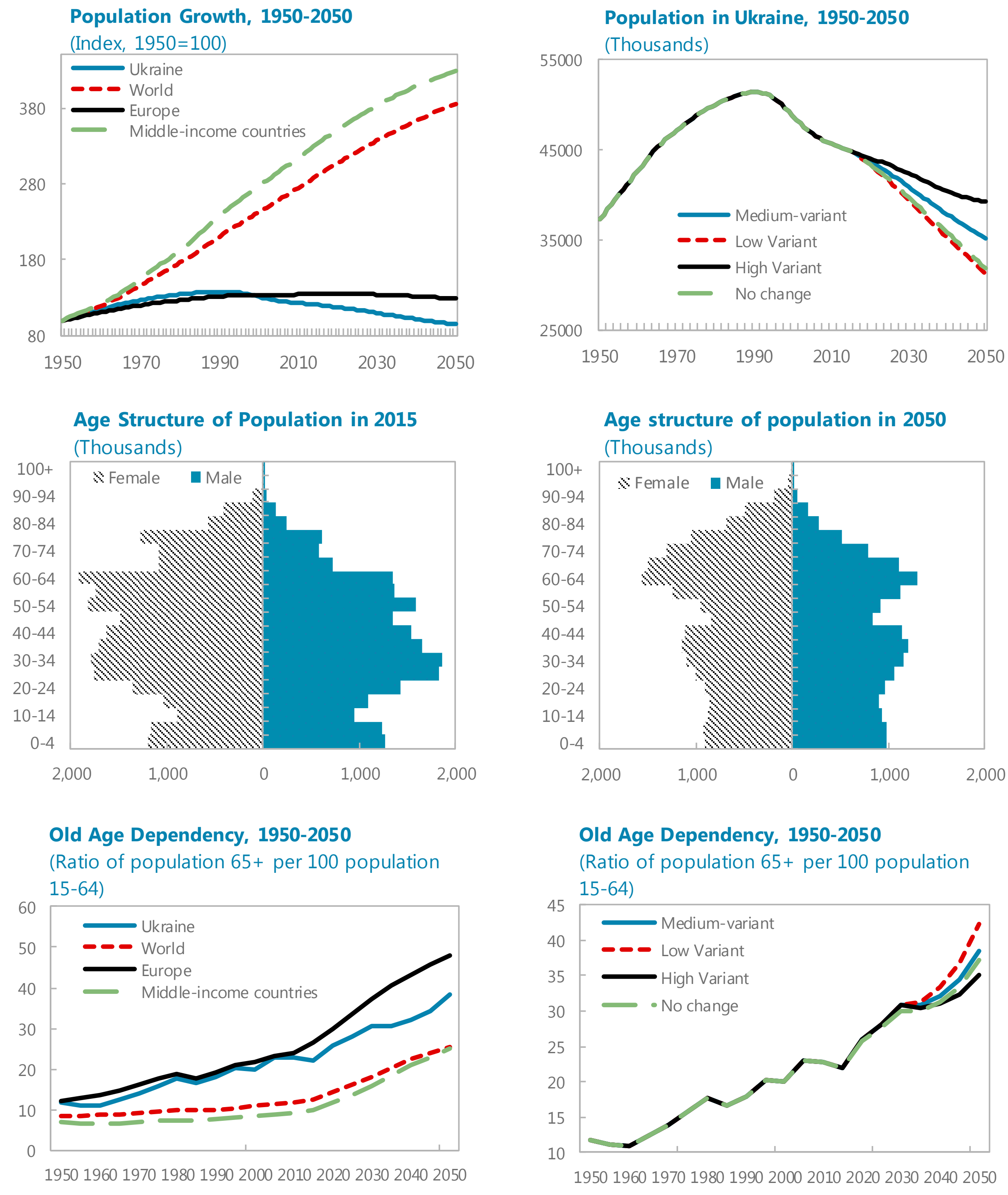
Where,

$$PE = \frac{Pension\ expenditure}{GDP}; RR = \frac{PE/pensioners}{GDP/workers}; CR = \frac{Pensioners}{Popul\ 65+}; ODR = \frac{Popul\ 65+}{Popul\ 15-64}$$

$$LP = \frac{Workers}{Popul\ 15\text{–}64}$$

[19] For more detailed information about the methodology, see Amaglobeli and Shi (2016).

Figure 11. Demographic Trends

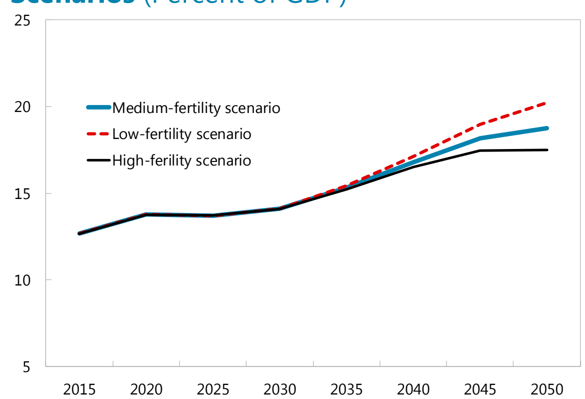


Source: UN World Population Prospects (2015).

22. **Under all demographic scenarios, long-term pension spending in percent of GDP is expected to rise significantly** (Figure 12). In the long term, pension spending is expected to increase by about 6 percent of GDP under the UN's central, medium-fertility scenario. However, it

could be significantly lower or higher should the population projections follow high-fertility or low-fertility scenarios, respectively. These projections are entirely driven by demographics and assume that the existing policies remain unchanged. They also abstract from potential behavioral responses, which could result, for example, from the ongoing increase in the retirement age for women. The replacement rate is assumed to remain constant at the level of 2015.[20] This means higher inflation indexation than what is implied under the current rules, and that there are offsetting increases in average pensions as a result of natural attrition of pensioners receiving categorical supplements. The aggregate coverage ratio is expected to follow the respective population scenario and assumes that age- and gender-specific pension system participation rates are unchanged from their 2015 levels.[21] The labor participation rate will be largely determined by the population dynamics and assumes that the age and gender-specific labor force participation and employment rates will be the average observed during the last five years (2010–15). As the old-age dependency ratio increases rapidly following the current population projections, it is a key factor driving the pension spending up.

Figure 12. Long-Term Pension Spending Projections Under Different Population Scenarios (Percent of GDP)



Sources: Ukrainian authorities; and IMF staff calculations.

D. Reform Options

The dire state of Ukraine's pension system requires a comprehensive reform effort. No single measure or marginal changes will help close the large and growing deficit of the pension system, while being able to provide adequate pensions. Therefore, the reform should combine various measures, focusing on a gradual reduction in pension expenditure to more sustainable levels mainly by limiting the inflow of new retirees. Given that the average pension is low, further reducing its level is not a viable option.

[20] The replacement rate used for calculations is 39 percent, which is calculated as the ratio of average pension to average economy-wide wage in 2015.

[21] This assumption also implies that there is no effect from the decline in the number of pensioners resulting from the gradual increase in the number of individuals without sufficient number of contribution histories.

23. Since little can be done at the policy level to alter the prevailing path for demographics, Ukraine's main option is to reform its pension system. Two main alternatives could be considered in this respect: reducing the level of pension benefits and reducing its coverage. In addition, the authorities could consider increasing pension taxation for upper income groups and raising social security contributions. However, given the government's continued policy inclination toward reducing the overall tax burden on the economy, the options to increase taxes would be considered much less favorably. On social security contributions, there is significant room to improve payment compliance by addressing the problem of underreporting of wages and by reforming the simplified tax regime.

Reducing replacement rate

24. While reducing the replacement rate is an option, this policy risks a further increase in old-age poverty levels. As discussed above, the current pension system could hardly be considered generous, and reducing the replacement rate would entail further reductions in old-age incomes. On current policies, however, the decline in the average replacement rate would become unavoidable. First, the inflation-indexation rules imply that only a portion of the pension benefit will continue to be indexed, resulting in further benefit compression. Second, with the continuing decline of the share of pensioners that receive various categorical supplements, the average pension will decline faster than what is implied by the current indexation rule. Third, discontinuation of assignment of special pensions to new retirees from June 2015 and assuming no further proliferation of new special regimes will also contribute to the decline in the average benefit size. Hence, while cuts in the replacement rate could help generate fiscal savings, this option might not be socially sustainable. To avoid the natural decline in the current replacement rates, the government would need to modify the current inflation indexation rules. For illustrative purposes, a replacement rate that would stabilize pension fund spending can be calculated. Maintaining the pension fund spending at its current level without altering other policies under the current demographic trends, would require a drop in the replacement rate to around 28 percent in the long term.

Reducing the inflow of new retirees

25. To limit the inflow of new retirees into the pension system, reforms will need to be geared toward increasing the effective retirement age for men and women:

- **Raising the retirement age is the most effective option to limit the inflow of new retirees into the pension system** (see for example Swiecicki and others, 2010). Given that in terms of statutory retirement ages Ukraine is an outlier in the region, increasing these would be an obvious policy choice. Gradually raising the retirement age would help to better align retirement ages with the improvements in life expectancy and help improve the support ratio by increasing the number of contributors and reducing the number of retirees. It would help to achieve higher labor force participation of older age cohorts, counteracting the demographically-driven contraction of the labor force, and hence avoid a decline in potential growth. Higher retirement ages would not only reduce the number of beneficiaries, but would also contribute to higher replacement rates for people who are extending their working career. If the statutory retirement age would be gradually raised to 65, which could be achieved by 2026 for men and 2031 for women (Figure 13), while raising other relevant retirement ages consistent with the increase in the general retirement age, this could help generate savings of about 3½ percent of GDP by 2050 relative to the baseline projections. Increasing the retirement age gradually to 63 could generate savings of about 2 percent of GDP by 2050 (Figure 14).

- **Further tightening early retirement options could complement efforts to reduce the inflow of new pensioners**. As discussed above, various early retirement options contribute to the large number of pensioners. Continued efforts to tighten early retirement eligibility would be effective in providing additional fiscal savings. This could be achieved primarily by bringing health and education workers under the general retirement regime. In addition, the pension reform for hazardous occupations could aim at introducing a surcharge on social security contributions for these occupations, payable by employers, and accumulating them on personified accounts that will be used as bridge financing between the early retirement and general retirement.

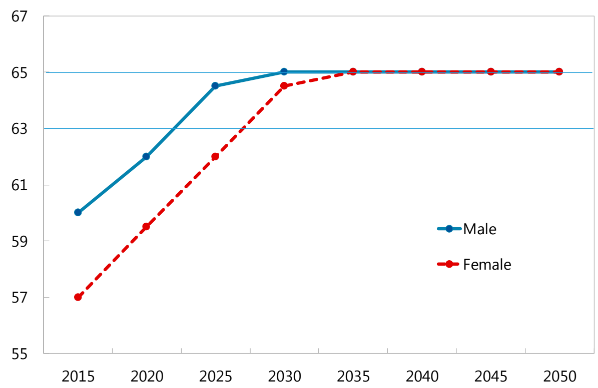
- **Later retirement can also be achieved by increasing the minimum years of service requirements, and by providing incentives for later retirement and disincentives for early retirement.** Individuals retiring early could be provided with reduced pension benefits (e.g., by not being eligible for a top-up to the minimum pension and by applying lower accrual rates). To encourage later retirement, individuals who meet retirement eligibility criteria but decide to continue working could for example be eligible for a higher marginal accrual rate.

26. Means-testing of categorical pension supplements and ensuring a single principle for providing pensions without privileges for any occupation. Means-testing by using, for example, income and asset criteria, would help make the system more equitable, increase the link between contributions and benefits and free up resources for more efficient poverty alleviation. In addition, the authorities should consolidate all pension legislation spread across various laws, and ensure a single principle for providing pensions without privileges for any occupation.

Additional reform options

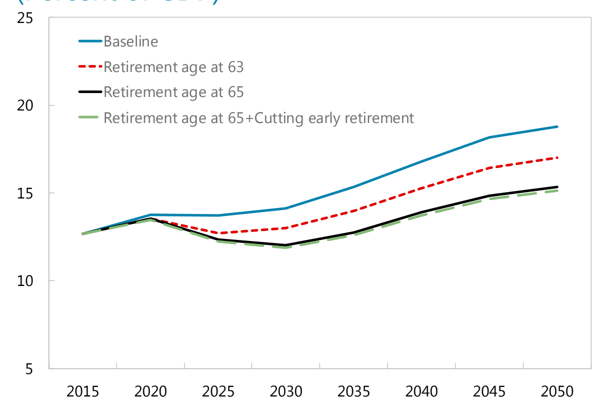
27. Broadening the social security contribution base could boost PFU revenues. Following the sharp reduction in the effective rate, broadening the base would be a natural next step. This would be less difficult to implement, given the implicit social contract with the business community to begin "de-shadowing" wages in return for the reduction in tax burden. The scale of underreporting of wages and employment suggests that there is significant scope to strengthen compliance through improvements in revenue administration. Moreover, increasing the base for taxpayers under the simplified regime, who enjoy preferential treatment and pay social security contributions not proportional to their income but based on the minimum wage, could further aid with expanding the base for social security contributions.

Figure 13. Retirement Age
(Years)



Source: IMF staff calculations.

Figure 14. Pension Expenditure Projections Under Different Reform Scenarios
(Percent of GDP)



Sources: Ukrainian authorities and IMF staff calculations.

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