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RETIREMENT BEHAVIOUR IN POLAND AND THE POTENTIAL IMPACT OF PENSION SYSTEM CHANGES

AGNIESZKA CHLON-DOMINCZAK

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ENEPRI Research Report No. 61/January 2009

Agnieszka Chlon-Dominczak*

Abstract

This paper focuses on retirement behaviour in Poland, especially early withdrawal from the labour market. It shows that retirement ages are very low, which can be attributed to the current regulations of the old-age pension system, as well as other pre-retirement transfers. The age of retirement is closely related to the legal framework of the pension system and changes that can be observed follow changes in legal regulations. The logit model constructed to measure the impact of selected individual characteristics on retirement shows that gender and education level have the greatest influence on retirement age. Women and persons with lower educational attainment usually retire earlier. Also, employees in the industrial sector tend to retire at a younger age. Higher wage levels before retirement provide incentives to work longer.

Changes introduced in the new pension system, particularly the launch of the pension formula that links the old-age pension level to the contributions paid and life expectancy at retirement age, alters the incentives for future pensioners. Postponing retirement leads to significantly higher pension levels. As a result, it is expected that after 2008, the retirement age in Poland will rise sharply. Still, incentives will only work if society is provided with information about the pension system.

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Introduction

The aim of this paper is to analyse the flow of workers into old-age pensions in Poland in recent years and the factors that influence retirement decisions. It also provides an assessment of reforms introduced to the pension system in 1999 and their potential impact with regard to changes in retirement behaviour.

The labour market participation of persons aged 50 and older in Poland is one of the lowest in the EU. Among the reasons underlying this situation is first, the early retirement privileges that were granted in the course of the 1970s and 1980s in response to worker's protests. Second is the policy that was implemented to absorb the labour market mismatch after the economic transition with further early retirement privileges and relatively easy access to disability benefits. Third is the pressure that arose to maintain early retirement opportunities in the second half of the 1990s in order to assist the restructuring process, which mounted again at the time of rapidly rising unemployment and worsening labour market conditions.

As a result of these policies, the number of pension beneficiaries grew dramatically, leading to a rise in total pension expenditures. This in turn led to increases in social security contribution rates and the tax wedge. In 2006, with a tax wedge of 43.7% of the total wage cost, Poland ranked among those countries above the OECD average (see OECD, 2007). The weight of social security contributions in the tax wedge is also high. Out of the 43.7% total, 21.4% is for employee social security contributions, 17.0% is for employer social security contributions and the remaining 5.3% goes to personal income tax. The high tax wedge itself has an impact on the labour market, especially in the case of workers with lower qualifications.

By the same token, the employment rate of older workers has been gradually yet steadily falling over the past two decades. This experience has been contradictory to developments in the EU labour market, as the implementation of the Lisbon strategy has led to the introduction of policies aimed at improving the labour market participation of older workers.

Figures 1-6 show the changes in the employment rates of older workers in Poland in comparison with the average level of the EU-25 countries. As one can see, since the end of the 1990s the gap between the employment of older workers in Poland and the EU countries has been widening. While in 1997, there was little difference between the EU-25 countries and Poland, the gap has since expanded to more than 15 percentage points and the distance to the Lisbon target (of 50%) is almost 22 percentage points. While the employment rate of men aged 55-64 saw a recovery in 2005 and 2006, women's employment has continued to decline.

A slightly different picture emerges when we analyse the average exit age from the labour force. The gap in the exit age between Poland and the EU-25 has narrowed recently. In the case of men, we can see that the exit age in Poland is above that of the EU-25 countries. Yet, there is still a significant gap observed in the case of women.

Figure 1. Employment rate of workers aged 55-64, total (%)

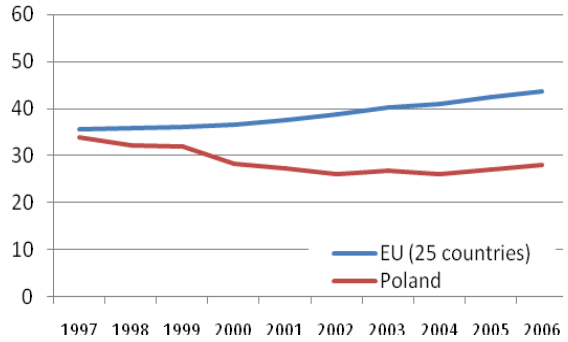


Figure 2. Average exit age from the labour market, total

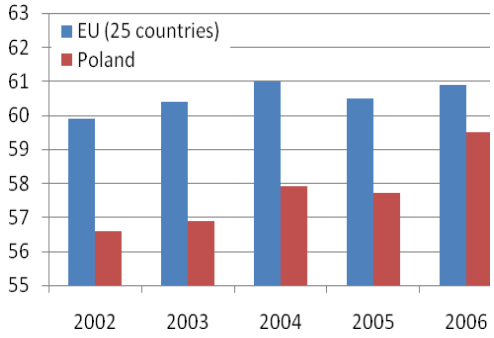


Figure 3. Employment rate of workers aged 55-64, men (%)

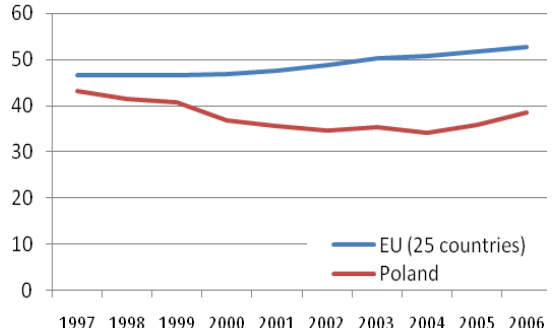


Figure 4. Average exit age from the labour market, men

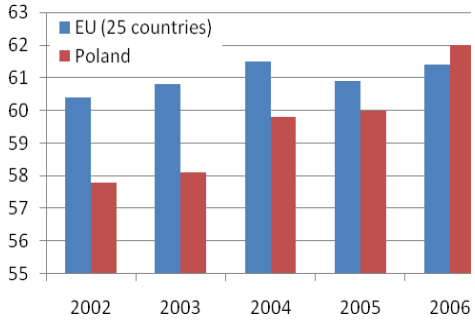


Figure 5. Employment rate of workers aged 55-64, women (%)

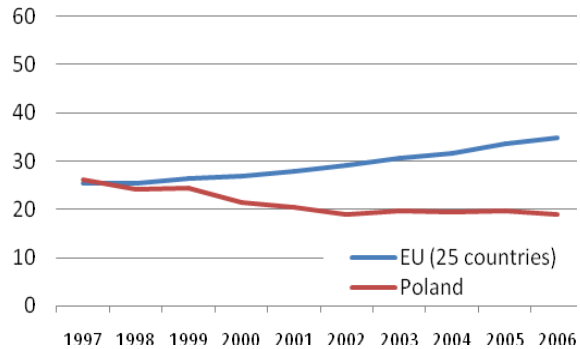
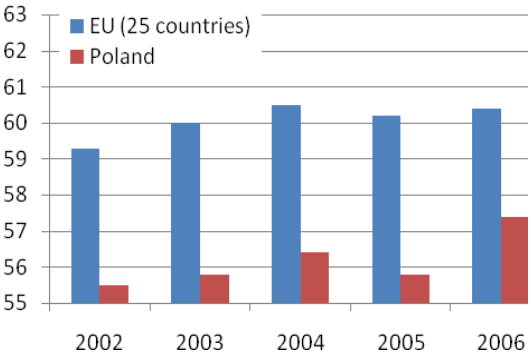


Figure 6. Average exit age from the labour market, women



Notes: The employment rate for the EU-25 in 2005 and 2006 is provisional; the average exit ages for the EU-25 in 2005 and 2006 are estimates.

Source: Eurostat, 14 November 2007 (retrieved from http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=STRIND_EMPLOI&depth=2).

Thus, Poland faces a big challenge with respect to improving the labour market participation of older workers. Towards that end, its labour market policy lags behind developments in the EU. The situation is more acute in the case of women, whose labour market participation is particularly low, as is their exit age from the labour market.

The pension reform of 1999 aimed at reducing early retirement and creating incentives to prolong working lives. It seeks to do so mainly through the pension formula, which takes into account the contributions paid throughout the entire working life and life expectancy at retirement age. As a result, the expected increase in an individual's pension level can reach up to 10% of the benefit per each additional year of work and postponement of retirement.

Still, the new pension system only covers persons born in 1949 and later. Additionally, there is also a transition rule that persons who have qualified for all retirement rights before the end of 2008 can also retire under the old system.[1] This means that the expected effect will not be apparent until those covered by the new pension system reach retirement age, which will happen in 2009.

The first section of this paper describes the existing early retirement options in Poland and resulting retirement age. The second section analyses the impact of individual characteristics, such as age, gender, education and industry in which a person worked at the point of his/her retirement. It also presents an analysis of retirement age in relation to the previous wage level. The third section discusses the potential impact of changes in the pension system on future retirement behaviour. This is followed by conclusions and recommendations on future policy directions.

1. Early retirement options in Poland

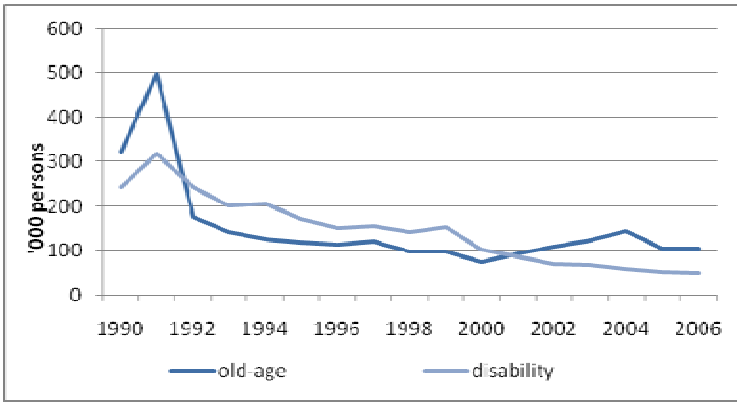
Polish pension expenditure is still one of the highest of EU countries. Among other things, this is a result of the policies introduced at the beginning of the 1990s. In 1991, the number of new old-age and disability pensions granted under the employees' pension system[2] peaked at 815,000 persons. By comparison, in 2006 the number of new old-age and disability pensions granted was 80% lower (154,000). After 1991, the number of new pensions decreased, after absorbing the wave of early retirement pensions due to restructuring, which is shown in Figure 7. The reduction in the inflow of new pensions between 1993 and 2000 may partially stem from the earlier retirement of persons who could have potentially retired in these years. After 2001, we observe a stabilisation in the numbers of newly granted pensions.

In 1998, the option of early retirement after being laid off by a company was discontinued. New kinds of pre-retirement benefits were introduced, however. The pre-retirement benefits and allowances, financed by the labour fund, were paid to laid-off workers, initially from age 50 (in the case of women) or 55 (in the case of men), or in specific circumstances even below that age. After the restructuring process slowed down, the eligibility criteria for pre-retirement benefits were tightened. Currently, the pre-retirement allowances are paid to laid-off workers who cannot find employment and who are older than 55 (women) or 60 (men).

[1] Initially the transition period was planned to last until the end of 2006, but owing to changes in the law proposed by Parliament, this period was extended by two years (the changes were legislated before the parliamentary elections in 2005 and in 2007).

[2] This paper focuses on the employees' pension system in Poland, which covers all workers and the self-employed. It does not cover the separate pension systems for farmers or military forces.

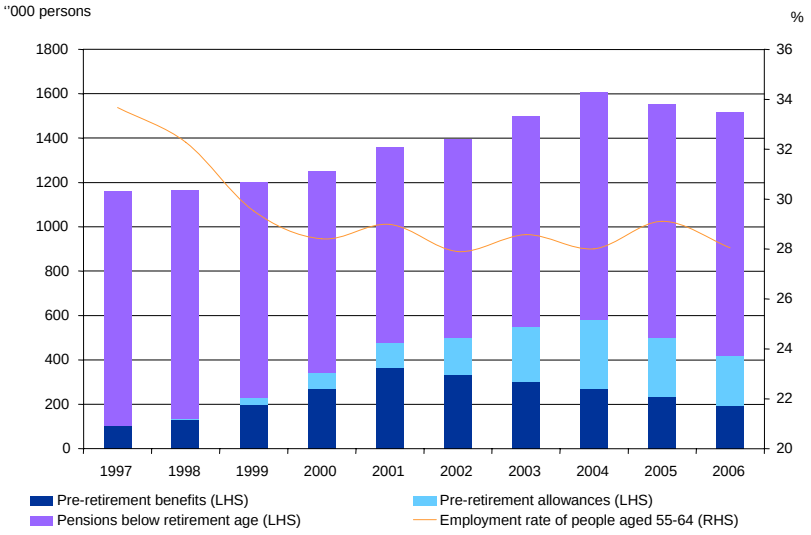
Figure 7. Number of newly granted pensions (old-age and disability) in the employees' pension system



Source: ZUS (2007 and earlier).

After 1997, the number of persons below retirement age drawing either pensions or pre-retirement benefits increased, which is illustrated in Figure 8. This increase stemmed from the fact that the reduction in the number of persons receiving early old-age pensions was offset by the rise in the number of persons receiving pre-retirement benefits and allowances. The growth in the number of persons receiving various types of early retirement transfers was accompanied by a drop in the employment rate for persons aged 55-64. This leads to an initial observation that routes to early retirement should be reduced for all benefit schemes, as otherwise, the substitution effect will appear and the outcomes from a labour market perspective will be negligible. In further analysis, the focus is on early retirement pensions from the new pension system, as the number of pre-retirement benefits and allowances is declining and eligibility criteria (including company restructuring) are further restricting the use of these benefits as a route to early retirement in the future.

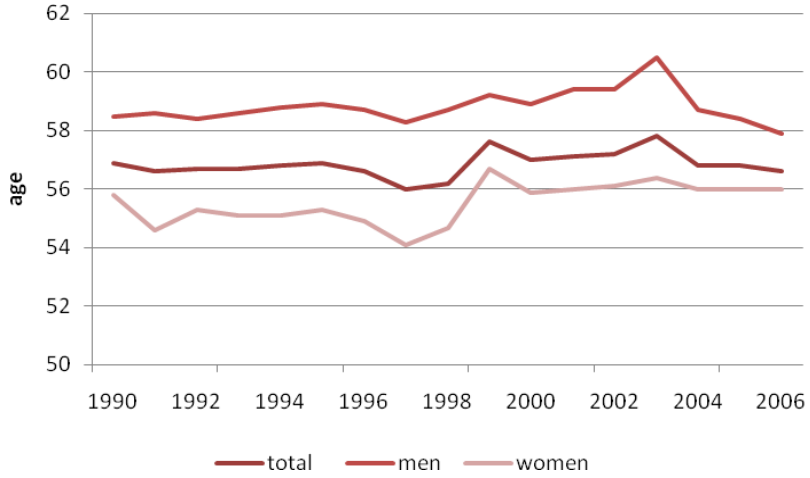
Figure 8. Number of persons receiving old-age pensions and pre-retirement benefits below retirement age



Source: Calculations by the Department for Economic Analyses and Forecasting, Ministry of Labour and Social Policy, based on administrative data.

Because of the existing options for early retirement, the average age at which the old-age pension is taken up is significantly lower than the legal retirement age for both men and women. As illustrated in Figure 9, the average retirement age in Poland has not changed substantially over the past 16 years. Some of the minor changes that can be observed can be explained by minor changes in the legislative framework. At the beginning of the 1990s, the average retirement age was around 55 for women and 59 for men. This means that the large inflow of new beneficiaries noted at the beginning of the 1990s was mainly owing to the introduction of new options for early retirement in 1990. The reduction in the average retirement age before 1998 is owing to the effect of mass retirement prior to the withdrawal of the early retirement possibility in 1998. It reflects the impact of additional inflows into old-age pensions of those persons who otherwise would have continued working, but were afraid of losing the right to retire after the change in the legislation. The initial decrease was followed by an increase in the average retirement age. From 2003, we again observe a reduction in the average effective retirement age, which could be related to the withdrawal of the right to early retirement after 2007, as stipulated by the provisions of the pension system reform of 1999. The drop in recent years may be particularly linked to the increased inflow of teachers exercising their right to early retirement.

Figure 9. Average effective retirement age



Source: ZUS (2007 and earlier).

Apart from the average retirement age, is it also worth analysing the distribution of retirement ages and their evolution over time. In 2006, the average retirement age of persons who were granted old-age pensions was 56.6 years (57.9 for men and 56.0 for women). Only 26.6% of men and 15.1% of women retire at or above the legal retirement age. The majority of both men and women retire earlier. Nevertheless, the retirement probability by age differs for men and women. In the case of women, the prevailing retirement age is 55. More than 70% of women retiring in 2006 did so within the age bracket of 55-59. This tendency is related to the existing legal possibility of early retirement at age 55 if total work experience is more than 30 years (including periods of university education and childcare leave). In the case of men, the retirement probability by age is different. Around a fifth of men who retire do so at age 49 or earlier – these are miners and to a lesser extent teachers, who can retire after accumulating the required number of years worked in their profession (25 years and 30 years respectively) without the age limit.

Currently, almost half of men retire at ages 60-64. It can be assumed that these are men working in special conditions that qualify for early retirement or who are unable to continue working because of ill health.

The distribution of retirement probabilities between 1997 and 2006 can be divided into two stages. The first stage, between 1997 and 1999, was a time of change in retirement probabilities because of the withdrawal of the opportunity for early retirement due to restructuring. This meant that there was a shift in the predominant retirement age from 55-59 to 60-64 in the case of men and a reduction in the probability of women retiring under the age of 55. After 1999, the new pattern in the retirement age distribution petrified with little change in the probability of retirement within a given age bracket (see Figures 10-13).

Figure 10. Retirement probabilities of men by age, 1997–99 (%)

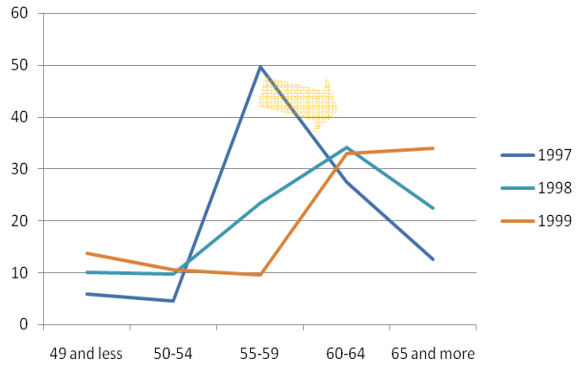


Figure 11. Retirement probabilities of men by age, 2003–06 (%)

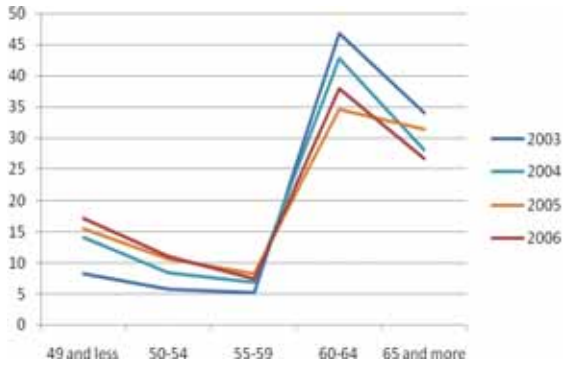


Figure 12. Retirement probabilities of women by age, 1997–99 (%)

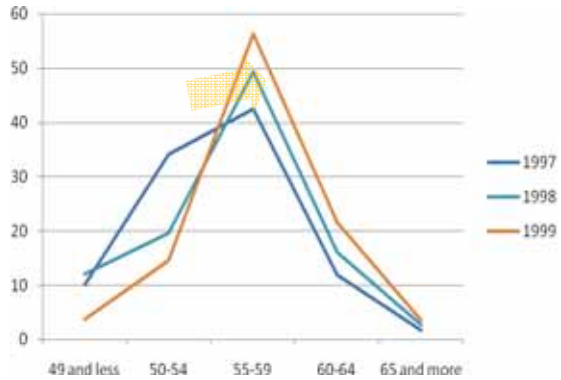
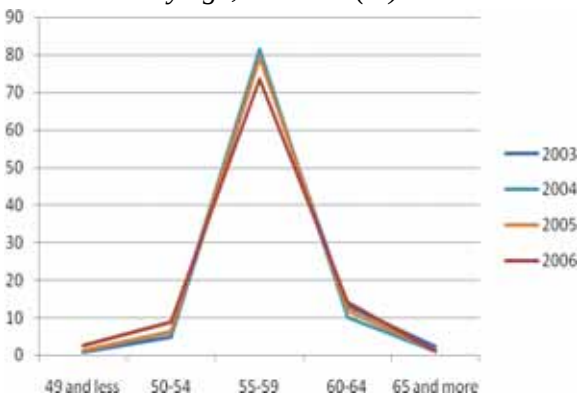


Figure 13. Retirement probabilities of women by age, 2003–06 (%)



Source: ZUS (2007 and earlier).

The analysis of retirement probabilities confirms that without changes to the retirement incentives or legal rules that restrict the opportunity for earlier retirement, there will be no changes in retirement behaviour.

According to the current legislation, from 2009 early retirement options will no longer be available.[3] This system should be replaced by the so-called 'bridging pensions', which would be

[3] In October 2007, the Parliament in Poland adopted a law that extended the possibility of early retirement until the end of 2008.

granted to individuals working in special conditions and with special characteristics based on the new list (in theory medically verified). Yet, government work on these pensions has gone on for the past eight years, and the system still has yet to be outlined. In the meantime, the existing scheme has been preserved for an additional two years compared with the initial reform programme. Early retirement is one of the most sensitive political issues in Poland.

To summarise, the evidence from Poland shows a direct link between the present legal options for early retirement and the economic activity of older workers. The existence of numerous opportunities to receive long-term benefits (early retirement pensions, disability pensions or pre-retirement benefits) has an impact on the reduction of economic activity. As a result, a vicious circle forms: people exercise their opportunity to receive pensions, leading to a rise in public expenditures and increases in the tax wedge, which in turn reduce the demand for labour. Reduced demand for labour leads to a fall in the employment of older workers, as they are perceived as potentially less productive. This consequence in turn increases the pressure to maintain early retirement options in the social system.

2. Impact of individual characteristics on retirement behaviour

The distribution of retirement probabilities presented in the previous section shows that there is a variety of retirement behaviours, especially in the case of men, but to a lesser extent also in the case of women. In this section, we aim at investigating whether individual characteristics such as gender, education, marital status or sector of employment have an impact on retirement decisions. We also analyse the distribution of the retirement age with regard to the previous earnings level.

2.1 Transitions from employment *to retirement*

The results of logit models of transitions between employment and retirement are presented below. The models are prepared for two waves of retirement: 2000–01 and 2005–06, with the latter being the latest possible, while the former takes into account the period with the highest unemployment rate in Poland. The models are based on pseudo-panels constructed from Labour Force Survey data. Use of the pseudo-panels allows increases in the number of observations and thus makes the model results more robust. This methodology has also caveats, however. Namely, we can only analyse the probability of retirement of those who were employed a year before. We cannot observe the flows between other states in the labour market (unemployed or inactive) and retirement (or more specifically receiving an old-age pension). The models are assessed on quarterly data from the fourth quarter of the year analysed.

2.1.1 Transitions from employment to retirement between 2005 and 2006

In the model we analyse the group of persons aged 50-69, which is the age category that can be defined as ‘at risk of retirement’.

Table 1 presents a comparison of situations in the labour market in 2005 and 2006. Out of a total 8.3 million persons in the analysed age category, almost 3.1 million were already retired, while 1.3 million claimed disability. Almost 2.7 million were working. A year later, 177,000 of those who worked were inactive, while almost 2.5 million were continuing employment. As shown in Table 2, 132,000 of those employed in 2005 were inactive a year later and received a pension (for old-age, disability or early retirement). In further analysis, we are interested only in those who received a pension, as we focus on the impact of the pension system on decisions to become inactive.

Table 1. Labour market transitions of persons aged 50-69, 2005–06 (in thousands)

	What was your situation a year ago? (2005)							
Status in 2006	Work	Unemployment	Education	Retirement	Disability	Family responsibilities	Others	Total
Employed	2,471	60	0	100	33	2	13	2,679
Unemployed	37	190	0	14	18	4	20	283
Inactive	177	199	0	2,956	1,260	197	515	5,304
Total	**2,685**	**449**	**0**	**3,070**	**1,311**	**203**	**548**	**8,266**

Source: Own calculations based on LFS data.

Table 2. Classification of status in 2006 for persons employed in 2005 (in thousands)

In 2006	**LFS category**			
Own category	Employment	Unemployment	Inactivity	Total
Employment	2,471	0	0	2,471
Unemployment or other	0	37	45	82
Pension	0	0	132	132
Total	**2,471**	**37**	**177**	**2,685**

Notes: The variable 'own category' aims at identifying those persons who withdrew from the labour market to take up a pension, because not all of those who went from employment to inactivity (214,000 persons) received a pension in 2006. Some of them (45,000) became inactive for reasons other than receiving a pension, e.g. they resigned because of low earnings and they are currently supported by other family members.

Source: Own calculations based on LFS data.

The results of the model (Table 3) can be summarised in the following conclusions:

- being a woman doubles the probability of retirement (compared with men, other things being equal);
- compared with employment in industry, being employed in agriculture and fishery significantly reduces the likelihood of retirement, as does employment in market services (although to a lesser extent), which is partially explained by more restricted access to early retirement in the farmers' pension system;
- persons aged 60-64 have a probability of retirement that is five times higher than those aged 50-54; and
- the lower the education level, the higher is the probability of claiming a pension (77% higher in the case of persons with at most primary education compared with those with higher education).

Table 3. Logit model of flows out of employment, 2005–06

Number of observations		15,784	
Wald chi2(18)		485.25	
Prob > chi2		0.0000	
Log pseudo likelihood		-4948.5669	
Pseudo R2		0.0551	
Variable (reference group)		retirement	**RRR**
Flows from employment to unemployment or other than pension inactivity status			
Gender (man)	Woman		1.03
Sector of the economy (industry)	Fishery and agriculture		0.37***
	Market services		0.96
	Non-market services		0.59***
Age (50-54)	55-59		1.08
	60-64		0.47***
	65-69		0.21***
Education (higher)	Secondary (and vocational)		2.87***
	Primary and lower		5.29***
Flows from employment to retirement			
Gender (man)	Woman		2.11***
Sector of the economy (industry)	Fishery and agriculture		0.67***
	Market services		0.81*
	Non-market services		1.07
Age (50-54)	55-59		3.70***
	60-64		5.12***
	65-69		3.98***
Education (higher)	Secondary (and vocational)		1.58***
	Primary and lower		1.78***

*** Significant at 0.01; ** significant at 0.05; * significant at 0.1

Notes: The base category is remaining in employment; RRR refers to relative risk ratio.

Source: Own calculations based on LFS data.

The results of the logit analysis confirm the effects of the existing legal options for receiving a pension. These are namely the lower legal retirement age of women, the tendency towards early retirement mainly in the industrial sector, a lack of early retirement in the farmers' pension system and a lack of early retirement for the self-employed, who are mainly active in the market services sector.

2.1.2 Transitions from employment to retirement between 2000 and 2001

Below we present an assessment of a similar logit model for retirement probabilities between 2000 and 2001 (Table 4).

Table 4 Labour market transitions of persons aged 50-69, 2000–01 (in thousands)

	What was your situation a year ago? (2000)							
Status in 2001	Work	Unemployment	Education	Retirement	Disability	Family responsibilities	Others	Total
Employed	2,239	32	0	92	49	2	8	2,422
Unemployed	53	135	0	33	29	4	20	274
Inactive	224	118	4	2,584	1,360	167	328	4,786
Total	**2,516**	**285**	**4**	**2,709**	**1,438**	**173**	**356**	**7,482**

Source: Own calculations based on LFS data.

The final database for the calculations covers persons aged 50-69 who were employed in 2000 – 15,839 observations in total corresponding to 2.5 million persons. Almost 2.2 million of these continued working in 2001, while 223,000 withdrew from the labour market. Among the latter number, 162,000 received a pension (for old age, disability or early retirement) (Table 5).

Table 5. Classification of status in 2001 for persons employed in 2000 (in thousands)

In 2001	**LFS category**			
Own category	Employment	Unemployment	Inactivity	Total
Employment	2,239	0	0	2,239
Unemployment or other	0	53	61	114
Pension	0	0	162	162
Total	**2,239**	**53**	**223**	**2,515**

Source: Own calculations based on LFS data.

The estimation of the logit model for transitions to retirement between 2000 and 2001 is presented in Table 6. As one can see, the results are quite similar to the 2005–06 estimations, which also confirms the administrative data presented in the previous section. In particular, the impact of gender on retirement probabilities remained practically unchanged.

Also in 2000, employment in industry increased the probability of an outflow to pensions compared with other sectors in the economy. The impact of this characteristic was higher then than in 2005, probably because economic and labour market conditions were worse and unemployment levels were higher. Furthermore, the differences in the probabilities of retiring among persons with different educational levels had diminished in 2005 compared with 2000.

Table 6. Logit model of flows out of employment, 2000–01

Number of observations	15,839	
Wald chi2(18)	762.85	
Prob > chi2	0.0000	
Log pseudo likelihood	-6137.9202	
Pseudo R2	0.0785	
Variable (reference group)	Retirement	RRR

Table 7. cont'd

Flows from employment to unemployment or other than pension inactivity status		
Gender (man)	Woman	0.97
Sector of the economy (industry)	Fishery and agriculture	0.14***
	Market services	0.8**
	Non-market services	0.43***
Age (50-54)	55-59	0.96
	60-64	0.48***
	65-69	0.17***
Education (higher)	Secondary (and vocational)	2.51***
	Primary and lower	4.22***
Flows from employment to retirement		
Gender (man)	Woman	2.08***
Sector of the economy (industry)	Fishery and agriculture	0.27***
	Market services	0.61***
	Non-market services	0.89
Age (50-54)	55-59	3.26***
	60-64	5.2***
	65-69	4.14***
Education (higher)	Secondary (and vocational)	1.62***
	Primary and lower	2.21***

*** Significant at 0.01; ** significant at 0.05; * significant at 0.1

Notes: The base category is remaining in employment; RRR refers to relative risk ratio.

Source: Own calculations based on LFS data.

2.1.3 Retirement age and wage level

The labour Force Survey data used for the estimation in the previous sections do not allow an investigation of whether the individual wage level has an impact on retirement decisions. Based on the results presented in the previous section, we can set a hypothesis that a higher education level, linked to higher qualifications and skills leads to a higher wage level, which in turn leads to later retirement. Research on the deactivation of individuals around retirement age (MPiPS, 2008) shows that a higher wage level leads to the postponement of retirement.

Analysis of the data on newly granted pensions in relation to the assessment base[4] enables us to test this hypothesis in the case of persons retiring in 2006 (see Table 8).

The data presented shows that in the case of men, the relationship between the age of retirement and wage level does not fully follow the hypothesis, which is illustrated in Figure 14. As one can see, the largest share of men retiring earliest (at age 49 and younger and the age group 50-54) retires with the highest assessment base; this group is mainly made up of miners, who can retire at such low ages.

The third age group that has a relatively high share of retirees with the highest wage level are men aged 65 and older. This may indicate that men with higher wages working in professions with no early retirement privileges retire relatively late, which is consistent with the formed hypothesis.

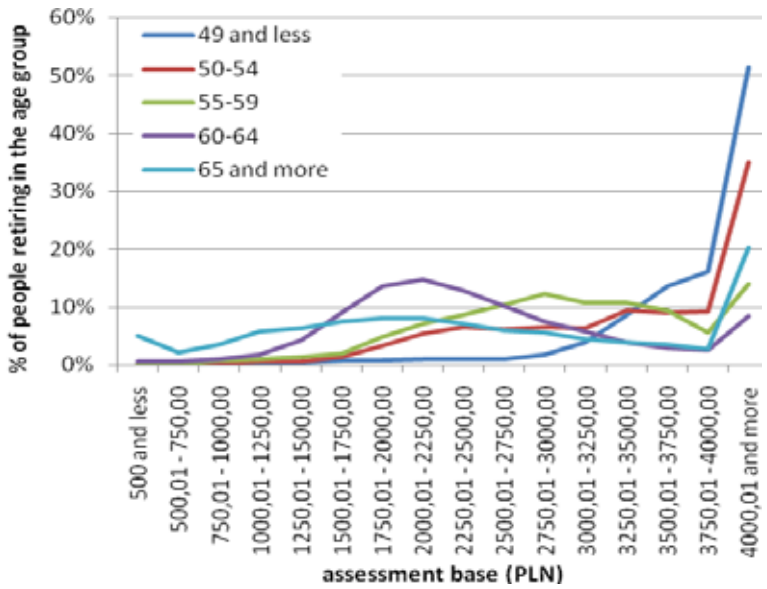
[4] The assessment base is the average individual wage level compared with the national average taken for 10 consecutive years, selected from the past 20 years of earnings.

Table 8. Persons who were granted an old-age pension from the social insurance fund by age and assessment base level

Age	Assessment base (% of average wage)																
	Total	**25 and less**	**25–38**	**38-51**	**50–63**	**63–75**	**75–88**	**88–101**	**101–113**	**113–126**	**126–139**	**139–151**	**151–164**	**164–177**	**177–189**	**189–202**	**202 and more**
									Total								
Total	**103,853**	**2,497**	**1,662**	**3,465**	**9,055**	**11,073**	**11,022**	**11,040**	**10,459**	**8,671**	**6,663**	**4,928**	**3,839**	**3,265**	**2,995**	**2,688**	**10,531**
49 and less	7,424	0	4	9	34	137	364	380	384	298	200	155	260	515	788	929	2,967
50-54	9,952	6	5	23	62	248	767	1,139	1,545	1,516	1,054	650	441	428	384	355	1,329
55-59	54,153	350	593	2,026	6,658	8,467	7,270	6,474	5,414	4,121	3,153	2,334	1,736	1,280	960	699	2,618
60-64	22,647	1,605	835	1,063	1,734	1,606	1,899	2,286	2,357	2,064	1,670	1,269	959	675	522	437	1,666
65 and more	9,677	536	225	344	567	615	722	761	759	672	586	520	443	367	341	268	1,951
									Men								
Total	**33,627**	**554**	**281**	**489**	**801**	**1,203**	**1,966**	**2,753**	**3,033**	**2,772**	**2,374**	**2,080**	**1,859**	**1,958**	**2,032**	**1,969**	**7,503**
49 and less	5,758	0	0	2	8	18	41	49	59	55	52	94	221	494	778	926	2,961
50-54	3,702	1	1	11	21	24	50	125	201	245	231	244	232	348	332	338	1,298
55-59	2,490	3	5	21	29	35	50	123	179	218	258	305	268	270	235	141	350
60-64	12,716	93	81	134	230	552	1,151	1,736	1,872	1,622	1,301	941	732	504	371	314	1,082
65 and more	8,961	457	194	321	513	574	674	720	722	632	532	496	406	342	316	250	1,812
									Women								
Total	**70,226**	**1,943**	**1,381**	**2,976**	**8,254**	**9,870**	**9,056**	**8,287**	**7,426**	**5,899**	**4,289**	**2,848**	**1,980**	**1,307**	**963**	**719**	**3,028**
49 and less	1,666	0	4	7	26	119	323	331	325	243	148	61	39	21	10	3	6
50-54	6,250	5	4	12	41	224	717	1,014	1,344	1,271	823	406	209	80	52	17	31
55-59	51,663	347	588	2,005	6,629	8,432	7,220	6,351	5,235	3,903	2,895	2,029	1,468	1,010	725	558	2,268
60-64	9,931	1,512	754	929	1,504	1,054	748	550	485	442	369	328	227	171	151	123	584
65 and more	716	79	31	23	54	41	48	41	37	40	54	24	37	25	25	18	139

Source: ZUS.

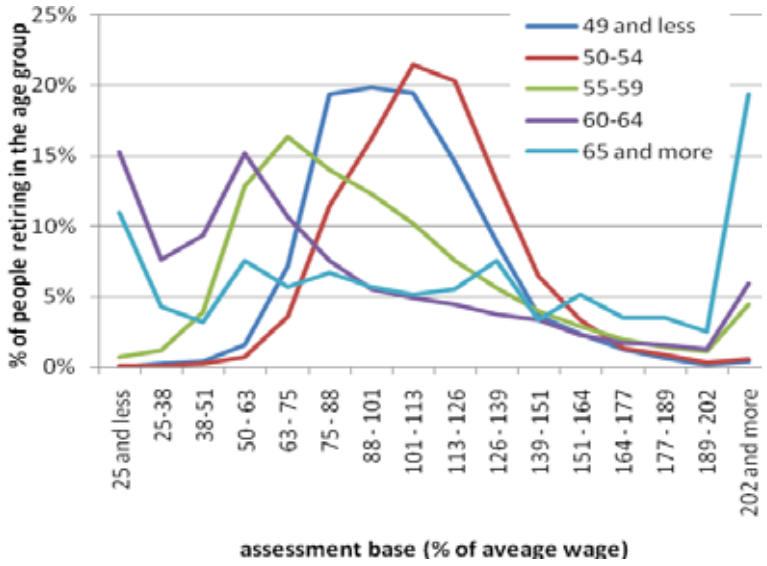
Figure 14. Inflows to retirement by age group and wage level in 2006, men



Source: Own calculations based on ZUS data.

An analysis of retirement inflows by wage level for women shows a different picture (Figure 15). Here we can see that the cohort of women retiring at age 65 and older has the largest proportion of women with the highest assessment base. Yet, for other age groups the prevailing assessment base tends to decrease with age, and it is higher for women retiring at ages younger than 54 than it is for those retiring at ages 55-59 and 60-64. The lower assessment base in the latter group may also be related to the fact that self-employed women cannot retire at age 55, but at age 60, when their assessment base is 60% of the average wage (which is the minimum base for social security contribution payments for the self-employed).

Figure 15. Inflows to retirement by age group and wage level in 2006, women



Source: Own calculations based on ZUS data.

3. Potential impact of changes in the pension system on retirement behaviour

The reform of the old-age pension system introduced in 1999 is designed to break the vicious circle described above. The reform includes first, the abolition of any early retirement options under the old-age pension system. Those covered by the new system will not be able to retire prior to the legal retirement age, set at age 60 years for women and 65 for men. This rule, fully implemented, will lead to a rapid increase in retirement ages, which should be apparent from 2009, when cohorts covered by the new system retire.[5]

Additionally, the new system also has mechanisms that encourage the prolonging of working lives. The new pension system is based on the defined contribution principle and financed from two accounts: a notional (pay-as-you-go) and funded contribution (NDC and FDC, respectively). In both parts of the mandatory system, the pension level depends on two main factors – the value of the individual account and life expectancy at retirement age.

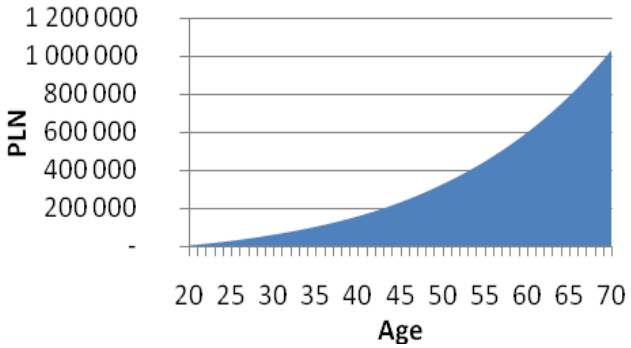
Contributions paid to the old age system (a total of 19.52% of the gross wage) are split between the NDC (12.22% of wage) and the FDC accounts (7.3% of wage). They earn a rate of interest, which in the case of the NDC equals the growth of the wage bill covered by social security and in the case of the FDC equals the returns on investment of a given open pension fund. This approach means that each contribution paid to the pension system, even at very early ages will count towards the future pension value.

In a simplified way, we can denote the pension formula as follows:

$$pension_{age} = \frac{NDC_{age} + FDC_{age}}{life\ exp_{age}}$$

As shown in Figure 16, the accumulation of pension savings increases at the end of the working career, when the base for potential returns is highest. Furthermore, as retirement is postponed, life expectancy also decreases. Thus, the incentives to prolong working lives are quite strong.

Figure 16. Accumulation of pension capital



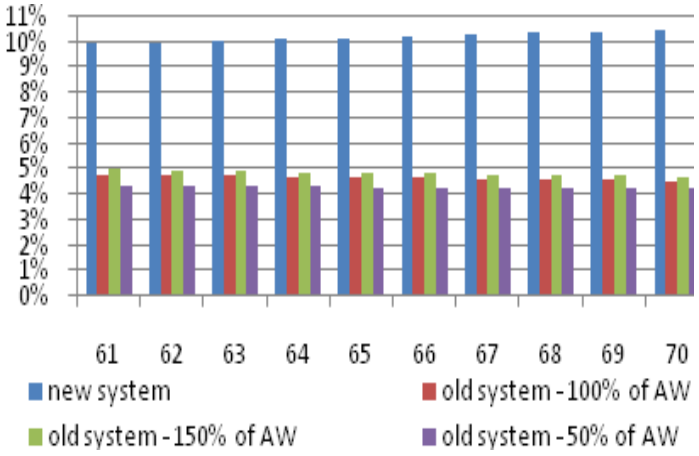
Notes: A person starts working at age 20 and continues to work until retirement age without any breaks. Wage growth is 3% (and the NDC return is equal to wage growth); the return on the funded part of the pension system is an average of 4.9% in the projection period.

Source: Own calculations.

[5] It should be noted that the initial assumptions of the pension reform were diluted by the extension of the transition rules for early retirement by an extra year, as well as the re-introduction of special early retirement pensions for miners. This change happened in 2005, preceding the parliamentary elections as a response to the demonstration of miners in front of the Parliament.

Figure 17 shows a comparison of changes in pension levels for different retirement ages. It shows the change in the nominal pension value resulting from an additional year of work for persons with different wage levels. There are several conclusions that can be drawn from this simulation.

Figure 17. Simulation of changes in pension levels depending on retirement age and wage level in the old and new systems



Notes: AW refers to average wage; a person starts working at age 20 and continues to work until retirement age without any breaks. Wage growth is 3% (and the NDC return is equal to wage growth); the return on the funded part of the pension system is an average of 4.9% in the projection period.

Source: Own calculations.

First, there is a significant difference between the old and new systems. In the new system, the reward for postponing retirement is significantly higher. A pension value increases by some 10% per year. Under the old system, pension increases were much lower – less than 5% per year. In other words, the accrual rate increases from 1.3% to a variable rate, ranging from around 3% for someone retiring at age 60 to more than 6% for someone retiring at age 70 (Figure 18). Piekkola (2008) shows that increases of the actuarial adjustment to around 7 percentage points per year would lead to an increase in the retirement age by around 4.4 years in selected EU countries (even up to 6 years in Belgium or Germany). It should be noted that owing to the withdrawal of early retirement options in the new Polish system, the effective retirement age should increase by around 5 years, which shows that the change in the legal options roughly corresponds to the potential change in retirement behaviour from alterations to the pension calculation method.

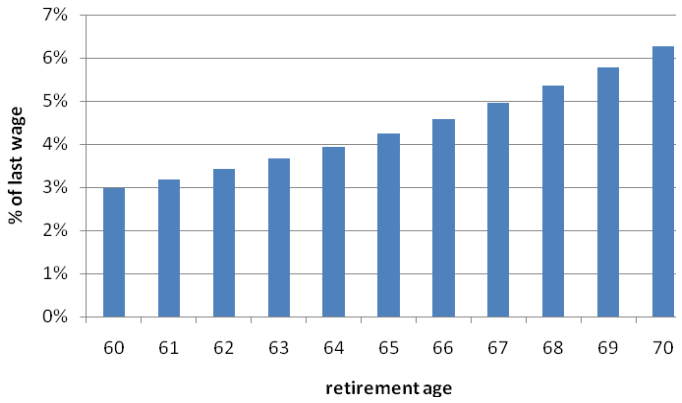
Second, with the rise in the retirement age, the rate at which the pension increases is higher in the new system, while in the old system the link between the retirement age and the pension increase rate was weaker.

Third, the new system offers the same incentives to prolong working life for all wage levels. Under the old system, the pension value increase was lower for those with lower earnings, which provided an additional disincentive for workers with lower earnings to continue their activity beyond the earliest retirement age. This aspect is related to changes in the distributional effects in the pension system. The old system formula included a large flat-rate component, equal to 24% of the average wage. Consequently, workers who earned less than the average wage could expect higher replacement rates compared with those whose earnings were above average. Thus, the old system aimed at redistribution from higher to lower income earners.

The new pension system does not include such distributional components. The pension level is based solely on individual contributions and redistribution is included in two ways:

- for selected periods (maternity, childcare leave, unemployment or mandatory army service), pension contributions are paid from public funds; and
- the minimum pension guarantee, financed from the state budget, tops up the individual pension.

Figure 18. Simulation of accrual rates in the new pension system



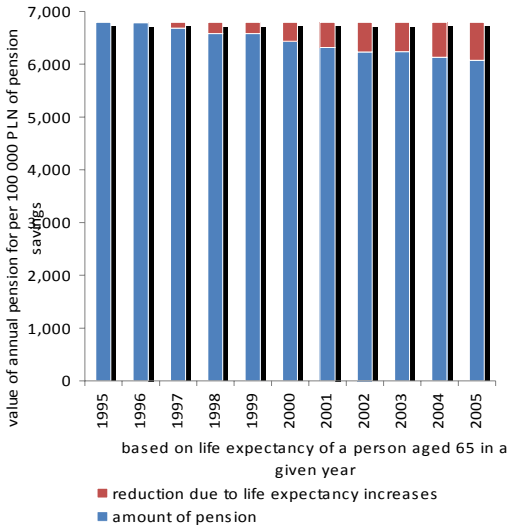
Source: Own calculations.

As a result, the distribution of pensions will follow the distribution of wages more closely than in the past. Nevertheless, as previously shown in Figure 17, the rate at which the pension increases will be higher for the low-income earners. This means that the new system provides more incentives for this group to postpone retirement.

Another feature of the new pension system that is important from the perspective of ageing and retirement decisions is the impact of changes in life expectancy on retirement. The pension formula applied in Poland automatically adjusts to increases in life expectancy, as each year the denominator in the pension formula is increased, following a change in the reported life expectancy. This means that a cohort retiring a year later can expect a little lower pension value for the same amount of capital or, in other words, that they would have to work a couple of months longer to expect the same pension level as a cohort retiring a year before. The potential impact of this feature of the pension system is illustrated in Figure 19. As one can see, increases in life expectancy between 1995 and 2005 would cause a drop of around 10% of the total pension value for the same amount of pension savings.

The new system provides strong incentives to prolong working life. Additionally, it limits options for early retirement. Hence, in the course of the next few years we can expect another transition of retirement patterns leading to a rise in the average retirement age and growth in the labour market participation of older workers. These outcomes of course depend on several assumptions. The first assumption is that the initial reform scenario will not be further amended, allowing an additional extension of the current low retirement age. The second assumption is that people will react to incentives. A systematic public education effort by the public authorities is required to improve the 'pension literacy' of the Polish population. One element of such an education effort is the annual information on individual accounts that is sent by the social insurance institution to the covered workers. From 2008, this information will also cover the calculation of the accrued pension based on the current account value and the projected account value for selected potential ages of retirement.

Figure 19. Changes in potential pension values owing to increases in life expectancy in Poland, 1995–2005



Source: Own calculations based on GUS data.

The challenge still ahead is the effort to equalise the retirement ages of men and women. Poland is one of the very few countries in the EU that has kept differentiated minimum retirement ages for men and women. Despite several attempts by the government, during the preparation of the new pension system as well as afterwards, there was neither a political nor a social consensus to change this aspect.

Conclusions

Poland ranks among those countries that have the lowest labour market participation of older workers and the lowest effective retirement age in the EU. This is a legacy of past policies, mainly aimed at reducing the pressures of the economic transition on the labour market.

Such a policy has a high price, however, which is still being paid today. Namely, the high tax wedge and the practice of 'pushing out' those aged 50 and older from the labour market through various benefit schemes are the main causes of the very low employment rate in Poland. After EU accession and rapid changes in the labour market – which transformed from a 'shortage of jobs' to a 'shortage of skills' – a potential source of labour supply is lost owing to a deactivation of workers that occurs to early.

The low employment rate and low retirement ages of Polish workers are among the most important challenges to labour market policy in Poland. The old defined-benefit pension system encouraged early retirement and withdrawal from the labour market. It had strong disincentives to postpone retirement. The new pension system that will be fully implemented in a few years' time can support the extension of working lives in Poland. It can do so through a significant reduction of early retirement options and the greater incentives offered by increased accrual rates. But it is only when the new pensions are paid that we will be able to assess whether people react to the incentives.

Pension reform also entails changes in distributional effects. As the new pension system is linked solely to individual wages, lower income earners can actually expect higher increases in accrual rates with additional years of working than those with higher wages. This feature provides an added incentive for those with lower earnings to prolong their working lives.

Still, the pension system alone is not sufficient. Continuous efforts are needed to encourage workers in Poland to stay in the labour market longer than they do currently. This goal requires a set of well-designed labour market policies and a changing legal framework to support the increase in the labour market participation of older workers.

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About AIM (Adequacy & Sustainability of Old-Age Income Maintenance)

The AIM project aims at providing a strengthened conceptual and scientific basis for assessing the capacity of European pension systems to deliver adequate old age income maintenance in a context of low fertility and steadily increasing life expectancy. The main focus is on the capacity of social security systems to contribute to preventing poverty among the old and elderly and more generally to enable persons to take all appropriate measures to ensure stable or "desired" distribution of income over the full life cycle. In addition it will explore and examine the capacity of pension systems to attain broad social objectives with respect to inter- and intra generational solidarity.

Furthermore it will examine the capacity of pension systems to allow workers to change job or to move temporarily out of the labour market and to adapt career patterns without losing vesting of pensions rights. The project will also address the specific challenges with respect to providing appropriate old age income for women.

A general objective of the research project is to clearly identify and analyse the potential trade-offs between certain social policy objectives and overall stability of public debt.

AIM is financed under the 6th EU Research Framework Programme. It started in May 2005 and includes partners from both the old and new EU member states.

Participating institutes

- Centre for European Policy Studies, CEPS, Belgium, coordinator
- Federal Planning Bureau, FPB, Belgium
- Deutsches Institut für Wirtschafsforschung (German Institute for Economic Research), DIW, Germany
- Elinkeinoelämän tutkimuslaitos, (Research Institute of the Finnish Economy), ETLA, Finland
- Fundación de Estudios de Economía Aplicada , FEDEA, Spain
- Social and Cultural Planning Office, SCP, Netherlands
- Instituto di Studi e Analisi Economica (Institute for Studies and Economic Analysis), ISAE, Italy
- National Institute for Economic and Social Research, NIESR, United Kingdom
- Centrum Analiz Spolleczno-Ekonomicznych (Center for Social and Economic Research), CASE, Poland
- Tarsadalomkutatasi Informatikai Egyesules (TARKI Social Research Informatics Centre), TARKI, Hungary
- Centre for Research on Pensions and Welfare Policies, CeRP, Italy
- Institute for Economic Research, IER, Slovak Republic
- Inštitut za ekonomska raziskovanja (Institute for economic research), IER, Slovenia