

# Pension reform and retirement behaviour in Poland – interdisciplinary analysis

## 1. Introduction

Pension systems principal objective is to provide means for life to people who aren't able to work anymore due to their advanced age. Defining the financial and labour market situation of older people, pension system becomes an institution that determines to a high extent life of this social category.

Therefore, what should be in the centre of attention of pension economists is the financial situation of older people and the way the whole system influences their life. Polish reformed pensions are indeed being widely discussed, but from a very different point of view. In public discourse and in economic expert circles much consideration is given to their role for public finance and their internal financial organization, yet not to how the pension institutions influence older people in Poland. Similarly, major reason that stood behind the reform was a financial, macroeconomic one – to prepare the pension system to be financially sustainable in the face of society ageing. Nevertheless, such a radical systemic change should be supported with a complex vision of old age. Having macroeconomic implications of pension system in mind, an individual context should be the most important one. However, an analysis of official documents of 1999 reform suggests that there was no such explicit vision (Office of the Government Plenipotentiary for Social Security Reform 1997).

This paper discusses possible implications of new pension regulations for retirement behaviour in Poland. It presents how new set of institutions may affect several aspects of older people's life and, consequently, their retirement decisions. In order to obtain more valuable conclusions an interdisciplinary analysis, combining methods of economics and sociology, was conducted. Its first part describes briefly the theory of retirement behaviour. Major implications from

Becker's consumer choice theory are presented, yet my approach gets beyond the individual rationality and derives from sociological theories of ageing as well. Secondly, Polish old pension system and its consequences for retirement patterns are described. Next section includes projection of reform's consequences, major obstacles that arise in front of positive adaptations and recommendations on how to minimize them. Finally, some observations on the ground of theories of ageing are discussed.

## 2. Methodology

The analysis will be based on achievements of both economic theory of retirement behaviour and sociological theories of ageing. Following section will present a review of the most prominent of these theories and their empirical results. There is a number of reasons why an interdisciplinary approach seems to be so fruitful and gains popularity in social gerontology (Niezabitowski 2007: 105). Complexity of contemporary societies, their dynamics and interrelation of phenomena of different nature imply that relying solely on assumptions of one theory might lead to less credible conclusions (Bass 2009). Scott A. Bass writes: "(...) there is a constant interaction between the individual and society, each influencing each other over time, creating multiple perspectives on phenomena and introducing the notion of chance" (Bass 2009: 371).

In addition, when positive ageing and quality of life becomes an important challenge for societies, the perspective of both science and policy-making should connect the areas of pensions, labour markets, health-care, family and others (Walker 2003: 2).

### *2.1. Retirement behaviour on the basis of rational choice theory*

This section will provide an economic background for analysis of how new pension regulations might influence retirement behaviour in Poland. To begin with, based on works of Gary S. Fields and Olivia S. Mitchell (1981, 1982, 1983) a simple age-of-retirement model will be presented, which proves to be useful to analyse a case of the Polish reform. Next, results of empirical research of pension economics will be presented.

Economic theory of retirement behaviour emerged from individual labour supply models and, consequently, is strongly rooted in the rational choice paradigm. In particular, the influence of Gary Becker (1990) and his recommendations on how to analyse people's behaviour were significant. Becker's most important introductions into the theory was that people's behaviour in many areas of life

can be analysed within an economic approach. People in their decisions compare profits and costs of their options and choose in order to maximise their utility (instead of maximisation of income or other decision rules).

## 2.2. Age-of-retirement model

Individual behaviour is one of a utility-maximiser – people search to maximise general utility, which is a function of multiperiod consumption and leisure:

$$U = U(\vec{C}, \vec{L}).$$

In order to make calculations more convenient, Mitchell and Fields (1982) proposed to present a life-time consumption and leisure in the following manner:

$$U = U(PDVY; RET),$$

where PDVY stands for Present Discounted Value of Income and RET represents length of retirement period. The former refers to the stream of consumption, whereas the latter is strictly connected with the stream of leisure. The function of utility is a classical one, which means that:

$$U_1 > 0; U_2 > 0; U_{11} < 0; U_{22} < 0.$$

The model introduces further simplifying assumptions. There is neither an option of partial retirement, nor of a work at retirement. It means that only complete exit from labour market is possible and that it automatically initiates pension payments. Individuals are aware of pension regulations and an expected lifetime  $T$  doesn't change due to postponed retirement. Individuals take the probability of death at different age into account – it is included into the discount rate. Let us now concentrate on a budget constraint. The model takes into account two streams of income:

$$PDVY = PDVE + PDVP,$$

where  $PDVE$  and  $PDVP$  stand for Present Discounted Value of Earnings and of Pensions, respectively – both in net terms. Both of them depend on retirement age and  $PDVP$  is subject to current pension regulations. Under these assumptions, the objective is to maximise utility:

$$MAX U = U(PDVY, RET) \tag{1}$$

subject to the budget constraint:

$$PDVY = PDVE + PDVP. \quad (2)$$

To find the optimal retirement age, let's make the decision variable  $R$  which will represent years of work. Both earnings stream and pensions stream vary with  $R$ . The relation between  $R$  and  $RET$  is:

$$RET = T - R. \quad (3)$$

Transforming equation (1), the first-order condition of maximum is therefore:

$$\frac{\partial U}{\partial R} = 0.$$

After the introduction of (2) and, in turn, (3):

$$\frac{\partial U}{\partial PDVY} * \left[ \frac{\partial PDVE}{\partial R} + \frac{\partial PDVP}{\partial R} \right] - \frac{\partial U}{\partial RET} = 0. \quad (4)$$

Hence, the optimal retirement age is one at which increases of utility due to higher lifetime income are equally offset by loss of utility due to shorter period of retirement (smaller amount of leisure). At this moment in time, individual has no incentives to retire earlier or later, as in both cases general utility will be smaller.

In the next step, changes of income due to changes in retirement age can be described. For instance, being at age  $R$ , an extra period of work which delays the moment of retirement to  $R'$  results in three ways on the income stream:

1. During this period an individual receives an additional stream of earnings from work, a discounted value of which equals:

$$PDE_R = \frac{\partial PDVE}{\partial R}.$$

2. Pension benefits stream is being affected by two effects:

- a. Due to postponed retirement, one will not receive at age  $R$  pension benefits. Their discounted value is  $PDP_R$ .
- b. On the other hand, this postponement in most pension systems is being rewarded by higher future pension benefits in periods from  $R'$  to  $T$ :  $\Delta PDP_{(R';T)} > 0$ .

Altogether, the pension benefits stream changes by:

$$-PDP_R + \Delta PDP_{(R';T)} = \frac{\partial PDVP}{\partial R}.$$

Going back to equation (4):

$$\frac{\partial U}{\partial PDVY} * [PDE_R - PDP_R + \Delta PDP_{(R;T)}] - \frac{\partial U}{\partial RET} = 0. \quad (5)$$

It consists of three components, each of which has its economic interpretation:

$\frac{\partial U}{\partial PDVY}$  and  $\frac{\partial U}{\partial RET}$  represent individual preferences towards income (consumption) and leisure. Mitchell and Fields call them tastes for income and leisure (Fields and Mitchell 1982: 6). Expression in brackets, equal to change of present value of income, may be interpreted as a price of leisure, as it is, at the same time, an amount of income one has to resign from, in order to lengthen the period of retirement. The final equation can be expressed as follows:

$$\text{Taste for income} * \text{price of leisure} - \text{taste for leisure} = 0.$$

Now, it is visible that the choice of optimal retirement age depends on individual preferences towards consumption and leisure and on the structure of income. The latter is an effect of one's lifetime expected earnings and pension regulations.

Figure 1 presents determining the optimal retirement age  $R_0$  in a tangency point between a utility curve and a budget constraint curve. The utility curve is convex, whereas the budget constraint curve is concave (a marginal discounted income is diminishing in following years of work). The exact placement of tangency point may vary. Three general cases can be distinguished:

1.  $R_0 = R_{min}$  – when an optimal age is identical with a minimal retirement age, an individual will retire exactly when he is entitled to do so.
2.  $R_0 > R_{min}$  – if an optimal age is higher than a minimal one (as in the picture), the person should postpone the retirement.
3.  $R_0 < R_{min}$  – in that case, a person will be forced to continue working till the minimum retirement age, although it will be disadvantageous in terms of utility.

The final condition for optimization (5) can be used to analyse the possible effects of changes introduced to the pension systems. In particular, two changes will be considered:

1. changes of pension benefits at all ages – higher (lower) by a constant value,
2. changes of pension adjustments due to retirement age – higher (lower) rewards for retirement delay.

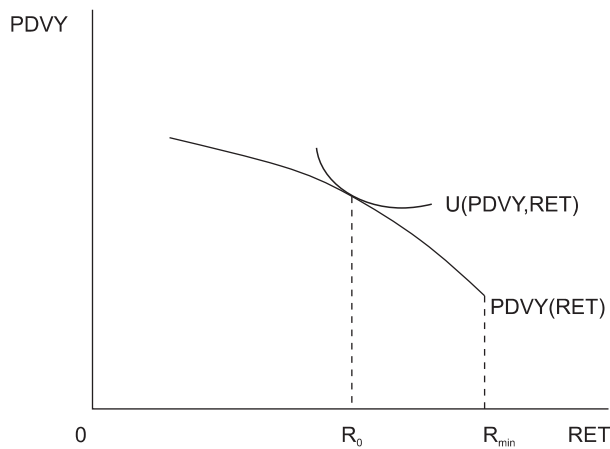


Figure 1. Model of optimal retirement age

Source: own preparation, on the basis of Mitchell and Fields (1983: 3).

### 2.3. Higher pension at all ages

Increasing benefits by a constant value at all ages, according to the individual labour supply theory, has two effects on the pension system participant. Firstly, the retirement becomes more attractive, as it brings relatively more income  $-PDP_R$  increases exogenously, making the price of leisure lower. It invokes a substitution effect, which leads to an earlier retirement. Secondly, higher benefits lead to a higher life-time income ( $PDVY$ ). This, in consequence, has an income effect – being better-off, people tend to buy more normal goods. Leisure is a normal good, so it can be expected, that people will buy more leisure, while getting richer. Both effects have the same direction, so it can be predicted that increasing pension will lead to an earlier retirement. An effect of an opposite direction should take place, when benefits are lowered (Mitchell and Fields 1981: 36–37).

### 2.4. Higher rewards for pension delay

If strength of benefit adjustments is increased, i.e. following years of a retirement delay bring consequently higher rewards ( $\Delta PDP_{(R;T)}$  rises), a motivation to working longer becomes stronger. Conversely, the price of leisure become higher. It is called an intertemporal substitution effect and it works toward the retirement delay.

### 3. Empirical research

These theoretical explorations are supported by international evidence. Mitchell and Fields' (1981) analysis of US pension system proves that in case of strong income-pension relation, high base income inclines earlier retirement, while those who can gain relatively the most on retirement postponement tend to retire latest. Additionally, it was discovered, that sole eligibility of Social Security benefits is an important factor of retirement. Börsch-Supan's et al. (2004) and Glans' (2008) research of reformed German and Swedish systems present results corresponding to my assumptions. Within a few years from the reform in Germany, actuarial adjustments introduced to the pension formula increased the actual retirement age by 1,5 year, while in Sweden by almost a year. Swedish experience demonstrates that low-income earners postpone the retirement, while high-income earners choose early retirement more often.

Important lessons can be derived from more recent analysis of actuarial neutrality of pension systems. Pension system is actuarially neutral when "pension wealth for retiring a year later is the same as pension wealth when retiring today plus whatever pension is accrued during the additional year of work" (Queisser and Whitehouse 2006: 13). Duval's (2003) study demonstrates that most of European pension systems are far from actuarial neutrality and impose very high implicit tax on continuing work – pension contributions paid during an additional year of work significantly exceed benefit rights accrued during that year. It means that pension systems provide disincentives towards retirement delay. It is also presented that other incentives, like leisure-preference or the labour market situation, have stronger impact than solely financial ones. Defined-contribution pension schemes essentially tend to be closer to actuarial neutrality, thus they don't bias individual decisions that strongly. However, contemporary NDC schemes (including Polish one), though considered as actuarially neutral, have some systematic failures that provoke higher leisure preference among its participants (Queisser and Whitehouse 2006).

Duval makes also an important notice that, in contrast to rational choice models, the official retirement age itself has profound consequences for the retirement decisions. He gives a number of reasons for that people tend to retire at the official age rather than make an individual and well-thought-out choice (e.g.: myopia, a social habit, lack of information about pension regulations, practical reasons and law limitations) (Duval 2003: 11–12).

Economic models of retirement behaviour demonstrate that individual decisions depend on financial motives, regulatory framework and individual preferences. The last factor can be interpreted in different ways and numerous research involved several variables that can determine decisions, e.g. wealth, work satisfac-

tion, household perspective, family size, health or labour market situation (Mitchell and Fields 1981). *Ex ante*, the final outcome of changes in pension systems is often ambiguous.

### 3.1. *Lessons from sociological theories of aging*

The boundary conditions of economic age-of-retirement models, which are regulations and preferences, are to a high extent influenced by a cultural and institutional context. Individual behaviour is strongly influenced by how her or his society understands ageing and what behaviour patterns exist in this society. The following section will present some conclusions from sociological theories of ageing, which may be useful to analyse retirement patterns in Poland. Both traditional and contemporary theories of ageing will be considered.

### 3.2. *Meanings of age*

Reaching retirement age is for many people a key point in their life-course. It distinguishes two stages of life – the stage of working career and the stage of retirement. This strong distinction is often identified with the distinction between the middle age and the old age. However, it doesn't have to be so – it would be improper to call a forty-eight-year-old miner “old”, who has just retired. On the other hand, there are cases of people that postpone their retirement even beyond the age of 70, which is unquestionably defined as “old”. Aforementioned examples point on the dissonance between different meanings of age. Therefore, the literature distinguishes, among others: chronological age, biological age, functional age, social age and age of economic behaviour (Urbaniak 1999: 19–27).

An important implication that runs from expansion of meanings of age is that they are not necessarily synchronised with each other. Particularly, biological and functional age, which are of physical origin, can be different from the social and the economic age at individual level. The social age refers to a life-course, characteristic for a society, with its sequence of social roles and involvement in consequent interaction nets. One of its dimensions is the economic one, which leads to the age of economic behaviour. Society's and economy's needs force individuals to enter and exit the labour market at specific ages, which are usually defined by law. At the same time the economic old age is being defined – a period in which people don't work anymore and their financial needs are maintained by their families or by state (Urbaniak 1999: 343–349). As economic activity and profession became the most important role and a basis for people's identity and social status, the role of age of economic behaviour increased (Niezabitowski 2007: 81). The social age, and in effect the social perception of old age, became tightly connected with



the age of economic behaviour. It is, therefore, of great significance, how pension regulations set the retirement age.

### *3.3. Traditional theories of ageing*

Historically, two major theories that tried to describe ageing on individual level and took opposite views were the disengagement theory and the activity theory (Hooyman and Kiyak 2008; Urbaniak 1999). Representatives of the disengagement theory considered withdrawal of older people from the labour market and from social activity in general as natural and resulting from biological and psychosocial needs of older people. In place of previous social roles – active and very engaging, older people look for passive ones, which allows them to function at a lower activity level and rest. What's important, is that supporters of this theory argue, that this process is beneficial and gratifying for older people and functional for the whole social system (Niezabitowski 2007: 94).

The activity theory presents quite an opposite view. It argues that the more activity during the last phase of life, the more satisfaction and the higher life quality in general. Since, while ageing, people still perceive themselves in categories of middle-aged, it is important for them to fulfil social roles that are related to middle age or to find new ones instead.

Which view corresponds to the reality? In every society there are examples of both types of ageing – there are people that become passive relatively fast and there are ones that remain active, in different aspects of life, till their very last years of life. The question is, which type of ageing is really more beneficial for individual.

The results of empirical research were disadvantageous for the disengagement theory. It was shown, and now is being treated as certain, that passivity at old age leads to health problems: mental and physical. There is a relevant relation between social activity and character of individual ageing, which consists in a fact that activity increases quality of life at old age (Niezabitowski 2007: 89). Authors of UNDP “National Human Development Report: Poland 1999” among a number of psychosocial risk factors that may influence negatively the quality of life of older people enlist: a sudden lifestyle change (including abrupt retirement), loneliness, excessive free time and boredom (Golinowska 1999: 21). They are direct consequences of social disengagement, which contradicts with argumentation of the disengagement theory. Often, an exit from the labour market causes ‘a retirement shock’, a serious blow for mental condition of new pensioners, who find it hard to adapt to a new, passive lifestyle (Golinowska [ed.] 1999: 48).

Probably the strongest limitation of both traditional theories was that they adopted a universal view of ageing, independent of contextual and individual characteristics (Achenbaum 2009: 31–32, Gans et al. 2009). The disengagement

theory was based only on biological assumptions and rejected cultural factors (Niezabitowski 2007: 99). The activity theory didn't take into account health and financial differences between individuals, which are important determinants of remaining active (Achenbaum 2009: 32).

### *3.4. The influence on practice of social policy*

Both activity theory and disengagement theory have been very influential on public policies. The disengagement theory sanctioned a social practice of an early retirement and of a mandatory retirement, as functional both for older people and for the whole society (Niezabitowski 2007: 114–115). In effect, between 1950s and early 90s pension systems in Western Europe became more and more generous, while official retirement age gradually declined (OECD 2011: 33). It were so-called “pull factors”, which altogether with “push factors” (e.g. employers attitude towards older workers) and “jump factors” (searching of lifestyle change), led to lower labour activity of older people. It is argued that in developed countries a whole “early retirement culture” emerged, a set of social patterns that sanctions early exit from labour market (Hinrichs and Aleksandrowicz 2005: 4–7).

Conversely, the activity theory laid emphasis on prolonging activity of older people, either by continuing work or by providing new forms of activity. Especially, since 90s the idea of active ageing has found growing popularity among policy makers and took form of many programmes and innovations in not only traditional areas of health-care, labour market and pensions, but also in strengthening the third sector and the civil society (Walker 2003). A set of actions prepared on the supranational level (e.g. European Council Stockholm 2001 and Barcelona 2002) took as its priorities flexibility of labour markets and pension systems. It is argued that only institutions that leave maximum choice to older workers themselves can be successful in increasing older people activity. However, achieving this goal will require a change at a cultural level – in employers' and employees' beliefs and habits (Niezabitowski 2007: 93; Walker 2003: 29–31). One of the major step in that process were pension reforms in most EU countries, which have taken place since 1997. One of their common goals was to strengthen the link between individual contributions and benefits and to increase official retirement age.

### *3.5. Contemporary challenges and modern theories of ageing*

Another limitation of traditional theories is that they were constructed in the reality of industrial society and their categories are of limited use when we try to analyse the contemporary society. Post-industrial economy, globalisation and demographic trends bring new challenges to theories of ageing. Among them, a few most important can be named:

- an increasing share of older people in societies;
- an increasing longevity – old age shouldn't be treated as a uniform period, but rather as a set of several phases (Golinowska 1999: 7);
- transformation of employment – instead of traditional, stable careers, employees face risk of being made redundant and of growing competition (Walker 2009);
- a decay of welfare state – in 80s and 90s many developed countries have undertaken serious changes in their social policy. In general, the level of welfare provision has diminished and the accent has been put on individual responsibility (Walker 2009). Polish Transition had a similar, neoliberal direction.

In general, these changes bring to citizens both new risks and chances, a complex of phenomena called by Ulrich Beck (1992) 'the society of risk'. Older people seem especially exposed to risks of modernity, due to changes of welfare states and reduced social safety nets. On the other hand, people enjoy greater predictability of living longer and in good health, which brings security and allows individuals to make long-standing plans. Settersten and Trauten (2009: 458–459) call these new conditions 'the period of big "Ifs"', one of high contingency, when many positive scenarios arise, yet their fulfilment depends on many conditions. In these circumstances new sociological theories of ageing emerged, which are, among others, the perspectives of: social constructionism, political economy of ageing and feminist theories (Hooyman and Kiyak 2008: 320–322). Now, their results will be presented briefly.

Social constructionism breaks with the tendency to search for one uniform theory of ageing and treats old-age as a social construct, a concept produced within a certain group, dependent on local economic, cultural and societal context (Hooyman and Kiyak 2008: 329). Consequently, to understand old-age, we have to get the knowledge about several local conditions, e.g. values and rules dominant in local culture, public discourse, social and economic hierarchy. Also personal characteristics should be considered, i.e. how important social variables – gender, class, race – determine ageing on individual level.

Walker (2003, 2009) presented how social construct of old age and its relation with welfare state developed in time, in developed countries in general. After the World War II, when welfare states were being formed, older people were given rights to welfare provision. They were treated as 'deserving poor', but in a positive way. However, it also meant institutionalization of old age and the economic dimension became the basis of social construction of older people. In industrial economies social position of older people diminished, because they played little part in the production process. It led to a crisis of social identity of older people – a phenomena, called by Ernest W. Burgess 'a roleless role', when old age is associated mainly with poverty and illnesses (Niezabitowski 2007: 79). Economic

changes were supported by cultural ones, as since 60s a development of a cult of youth have been observed. Old age became defined from a perspective of youth, thus its social status obviously inferred significantly (Golinowska 1999: 47–49).

The spread of neoliberal ideology, with its emphasis on cutting public expenditure and on individual responsibility, brought a change in attitudes towards older people. Pension and health-care systems became perceived in terms of their costs. Consequently, older people became a burden for societies and general perception of them changed from a positive into a negative one. Walker (2009) points out that it was a case mainly of Anglo-Saxon countries, while European Union welfare systems tried to adjust to new risks and gave more attention to social inclusion and protection of older people.

Political economy of ageing studies how the position of older people in society and their entitlements to public benefits and services change due to political processes. It also examines inequalities within the category of old-aged itself and the role of political and institutional actors in mentioned processes (Walker 2009).

This approach proves to be particularly fruitful when analysing changes that have taken place in recent decades. What we observed, was a gradual withdrawal of governments from their previous responsibilities in many areas of social life. Under the pressure of current fiscal limitations and of alarming demographic predictions many European governments undertook pension reforms. In late 90s and in 2000s similar changes took place in a number of Central and Eastern Europe countries (Walker 2009). As a result, benefit levels diminished and became more dependent on life-time earnings. Instead of a wide scope of income redistribution, the rule of individual responsibility was given greater importance. According to Scott A. Bass, Western societies: “(...) demonstrated declining financial commitment to the public good through social welfare while displacing this responsibility and risk to individuals and their families” (Bass 2009: 356–357).

In effect of these changes, inequalities among older people have increased. Individualization leads to a different risk exposure for different social categories. Unfortunately, the most disadvantaged seem to be those already at the bottom of social hierarchy. Settersten and Trauten (2009) refer to the theory of cumulative inequalities and argue that social class is the factor that determines one's chances of high-quality old age. The better-off will enjoy a variety of choices for their old age, while ageing of the poor will be a period of high uncertainty and insecurity. In future, social class will become an even stronger reason for social divisions.

Authors representing political economy perspective suggest that described situation was created not due to bottom-up processes and desires of societies, but rather because of pressure of specific actors in global economy and politics. Bass (2009) and Walker (2009) name international corporations and international

governmental organizations (IGOs) – the World Bank, the IMF, the OECD and the WTO as those responsible. They argue, that ideological motives represented by these institutions (and not the ones of social welfare) led to limitation of social protection of older people and to strengthening the principle of equivalence (Walker 2009: 605).

A somehow similar perspective is being presented by feminists of ageing. They underline the inequalities among older men and women. Old women, though form a considerable majority of their age category, are being treated in an inferior way by public policies. When old, women often suffer the consequences of previous discrimination – due to a lower life-time income and childbearing, their pension wealth is lower. In addition, many women have to take care of their grandchildren or their parents or have to face the loneliness of widowhood (Hooymann and Kiyak 2008: 323–325).

## 4. Results and discussion

### 4.1. *Old pension system in Poland*

Within this theoretical framework an analysis of pension reform in Poland will be conducted. As its starting point, the old pension system and its most important features for retirement decisions will be described. Secondly, characteristics of retirement behaviour under that system and of the culture of retirement in general will be presented.

The old pension system, formed during the late socialism era and in the early 90s, was a repartition system with a defined-benefit method of calculating benefit levels. Since the pension reform covered only those born in 1949 or later, its regulations are still in force.<sup>1</sup> Three of its elements that are particularly relevant for the retirement decisions are: pension formula, official retirement age and legislation of working at retirement.

The old defined-benefit formula is constructed in a way that there is little relation between total contributions paid into the system during working career and pension benefit levels. It consists of two parts: a so-called “social element”, equal for every pensioner, and of an individual, earnings-related element. The former

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<sup>1</sup> Precisely, the old system covers to some extent also younger generations. Women born in 1949–1954 who are to retire in 2009–2014, will receive mixed pensions, which will consist of two elements, calculated according to old and new rules. People that started working before 1999 also are subject to old rules, since they pension wealth contains also ‘initial capital’. Therefore, the new system will reach its full maturity only about 2040, when first generations of workers that started working after 1998 will retire.

equals 24% of an average wage in the economy, whereas the latter was calculated on the basis of earnings from a specific number of years.<sup>2</sup>

In practice, the old pension formula has two major consequences for the financial situation of Polish pensioners. Firstly, it provides high benefits, compared to the contribution rate. Before the reform, the system was very generous - average benefits corresponded to 70% of average wage in the economy, which was a high level, even when compared to developed European countries. In recent years it fell slightly below 60% (ZUS 2010).

Secondly, the structure of benefits is relatively flat and income inequalities among older people are smaller than those among working population. According to the OECD, in mid-2000s Gini coefficient for the retirement age population in Poland was 0.28, while for the working age population - 0.38. To indicate both the generosity of the system and the inequalities we can use the replacement rate. It is an index measuring the relation between first benefit after retiring and the last wage. If it is equal for all income levels, the system is equivalent and preserves inequalities. In old pension system replacement rates depend strongly on the income level. It guarantees very high replacement rates (even exceeding 100% in extreme cases) to low-income earners, while high-income earners receive lower benefits, in relation to income from work (about 40% for the richest) (presented in Fig. 3).

To present it briefly, the old pension system resembled much an old-age welfare provision system. It means that old-age poverty relief and social inclusion were major objectives of the system. According to EU-SILC 2008 research, poverty rates for the population of older people in Poland are much lower than ones for whole society and for older people in Western Europe.

Official retirement age was set at 60 for women and 65 for men, however a considerable share of workers were entitled to an early retirement privilege. They could retire at 55 or 60 respectively, without pension reduction. Further privileges were given to some occupational groups, like miners and railway workers, which entitled them to higher benefits and an even earlier age of retirement.

Finally, the obstacles to continue working after early retirement are limited. Pension is subject to reduction once the earnings exceed 70% of average wage and is suspended when earnings reach 130% of average wage.

#### *4.2. Consequences for retirement patterns*

Presented features of old pension system resulted in certain behaviour patterns of its participants - Polish workers adjusted their retirement decisions to the institutional surrounding. In general, basing on the rational choice theory, rules in all

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<sup>2</sup> One could choose a more beneficial from two alternatives: either consecutive 10 years out of last 20 of working career or any 20 years out of whole working career.

mentioned areas worked together to encourage early retirement. Firstly, the privilege of early retirement enabled individuals with strong free-time preference to retire at the age of 60 for men and 55 for women, and for some groups even earlier.

Secondly, in the consequence of high replacement rates, the loss of individual income after retirement was so small that it made income from work relatively unattractive. It was an ordinary substitution effect, when utility of leisure combined with high pension income exceeded utility of on-the-job income. In turn, high pension wealth had an income effect, which caused higher leisure preference.

Thirdly, little relation between the actual retirement age and received benefits discouraged from postponing retirement. Early retirement usually didn't mean lower benefits, while premium for working longer than legal retirement age was too small to actually encourage people to do it. Pension formula rewarded every extra-year of work by estimated 1.5–2.5% increase of future benefits.<sup>3</sup> It means that the intertemporal substitution effect was very weak. On the contrary, old pension system put very high implicit tax on workers that decided to continue working – total increase of gross pension wealth was much smaller than contributions paid during this extra period.

In consequence of these three effects retiring before having reached the official age became a common practice, which has prevailed till the recent years. Those who actually work till the official retirement age form a small share of whole population: in 2009 they accounted for 19.5% for men and 37.5% for women. Average actual retirement age is way below the official one of 60/65 and in 2009 equalled 61.0 for men and 57.8 for women (ZUS 2010).

Another common pattern was to retire early, but at the same time remain active in the labour market. A very attractive option of receiving double income was chosen by some 14.3% in 2007. However, still for many occupational groups (e.g. miners, policemen) retirement below the age of 60/65 is not treated as “early” and, therefore, over 17% of all pensioners aged less than 60/65 still work (GUS 2007).

A more insightful analysis of multiple reports on Polish pensioners provides several specific patterns of retirement behaviour, which exist in Polish society:

### **1. The main reason for retirement is the eligibility to pension benefits itself.**

Financial and other reasons are less important (GUS 2007: 49). Conversely, according to the same report (2007: 174), major reason for delaying the moment of retirement is income from employment (46%), however non-financial needs are important too (29%). Accruing rights to higher pension in future is a minor reason (12%). Another research (Krzyżanowska 2008) presents more detailed, but

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<sup>3</sup> Based on calculations for: diverse income levels ranging from 0.7 to 2.0 x national average; 3 non-contributory years and prolonging the working career year-by-year from 30 to 40 contributory years. Chłóń-Domińczak (2009: 15) assesses that increase at “less than 5.0% a year”, however it seems unreasonably high.

still corresponding results – main reason for retiring is bad health (52%), and far behind: bad employer's situation (5%), risk of losing the job (4%), chance of increasing income by combining pension with additional work (4%) and need to take care of a sick relatives (3%). Factors in favour of postponing the retirement are: avoiding the income drop (50%), loss of prestige (8%) and satisfaction from work (5%).

**2. Retirement behaviour is very diversified and a few clusters of workers can be distinguished**, with respect to personal income and education level. There is a number of strategies of retirement behaviour, which include choice of actual retirement age and decision about labour activity.

### 2a. Actual retirement age

Figures 2a and 2b present retirement age for different income groups in 2006. For both women and men, there is a general tendency that the share of early retirements increases with income, whereas the share of late retirement diminishes with income. The share of late retirements (at the age of 60/65 or later) is outstandingly high among low-income earners. In 2006 among the poorest men (below 50% of average wage) it reached 73.4%, compared to 26.7% for all income groups. For women, these shares were 82.0% and 15.2% respectively. The data demonstrates that there is also a significant growth of retirement age for the highest-income earners – over 200% of average wage (Chłóń-Domińczak 2009: 12).

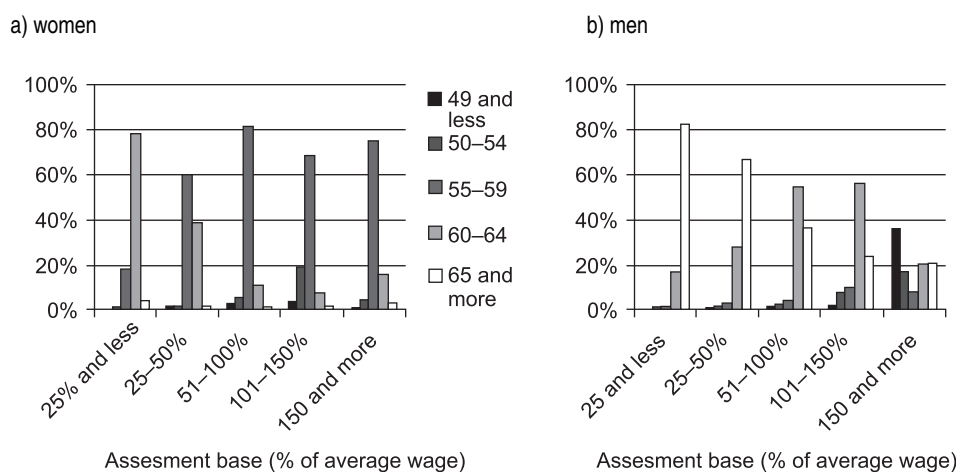


Figure 2. Actual retirement age by groups of income in 2006 – for women and men

Source: own calculations on the basis of data in Chłóń-Domińczak (2009: 12).



## *2b. Labour market participation*

Due to common early retirement, labour activity of older people is very low. In 2006 in the pre-retirement age category (55–60/65) only 27.3% were active, whereas 5.3% of those aged 60/65+ still worked (GUS 2007: 23). Among those, who remain active there is a significant overrepresentation of people with higher education and of those with primary education (GUS 2007: 28–33).

There is also an interesting case of people that didn't retire, though could have. Those who didn't retire and still work earn 40% more than those who retired and still work (Bobrowicz 2008: 46). It is either because of a very high income, which exceeds 130% of average pension (and makes receiving pension impossible) or probably due to some non-financial reasons, like a loss of prestige or a stigma of pensioner that discourage from retiring.

This data points on an important conclusion: there are two major groups of workers that postpone the retirement and participate in the labour market longer – people with very low income and people with very high income. In the case of the lowest-income earners, the reason that stands behind it is probably a very low total income of the household. These people are either not eligible for pension benefits or their pension income is too low to make a living (even though their replacement rates may be very high). In the terms of rational choice theory, their taste for income is very high in comparison to the taste for leisure.

Conversely, high-income earners' behaviour can be explained in two ways. Firstly, due to low replacement rates they suffer a strong income drop after the retirement, so work continuation is a way to avoid it. Secondly, they may prefer to continue working for non-financial reasons, like prestige, social interactions and satisfaction from work in general.

## *4.3. Planning retirement*

Researches about planning retirement present general passivity of middle aged people in this area – many people don't make any previous arrangements at all and just follow social and legal patterns of retirement (Krzyżanowska 2008: 17–18; GUS 2007: 70–78). Many people, mainly those with high and low education, indicate that they are going to work as long as it's possible. It is also presented that those people who plan working usually accomplish it, but there is also a considerably large group of pensioners (about 1/4) that are forced to work, despite previous plans of deactivation.

On that basis, altogether with whole welfare regime, a specific culture of early retirement came into existence. Several research present that in Polish society there is a common view of retirement as of a time to rest, which should begin the

earlier the better<sup>4</sup> and during which one can relax after years of 'hard work.' At the same time, pension benefits are treated as a deserved privilege and it is the state's obligation to provide them (Golinowska 1999: 41–42). This view influences the behaviour at earlier stages of life – expecting early retirement, people don't invest in their qualifications (e.g. low participation in life-long learning and trainings) (Matysiak 2004; Kononowicz, Michałowska and Majewska 2009).

At individual level the process of retirement takes place abruptly, with people withdrawing quickly from their worker's role. Usually, employers don't organize any transition period, during which older workers could get accustomed to life past retirement. Old pension regulations strengthen this effect – only 10 years, chosen from last 20 years of work are considered in benefit calculation. Therefore, for many workers final period of their career is the most engaging one. Eventually, withdrawal from work means an even greater shock for them, in many cases leading to mental and physical problems (Golinowska 1999).

What's more, it usually meant also a withdrawal from other social roles one played in their previous life. Research presents that life of Polish pensioners is a solitary one, with little contacts with other people. Their major activities include watching television, meeting with friends or neighbours and taking rest in general (Wądołowska 2010). Work is not being associated with ageing – as factors of successful ageing Polish respondents indicate health, family and friends. Work was chosen by the least number of respondents, however with relevant differences due to education level (Maniecka-Bryła and Bryła 2008).

What's positive about the situation of older people in Poland is the social attitudes towards them. Positive vision of elderly in Poland is very strong and it is even getting stronger in time. Older people, at least in survey's declarations, are treated as a very valuable resource rather than as a burden for society (Kotowska 2004; Wądołowska 2009).

#### *4.4. Barriers for labour activity of older people*

It has to be noted that, what majority perceive as a privilege, for many others is an obstacle. Many workers (especially well-skilled ones, but not only) prefer to continue working after reaching the retirement age. Work is for them a source of many non-financial benefits of different types: emotional, interpersonal etc. However, there is a pressure to retire, which is developed from younger workers, from employers and from social norms in general. In that case pension system indirectly leads to old-age discrimination on the labour market.

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<sup>4</sup> In 2003 preferred retirement age was indicated at 53 by women and at 58 by men (Wóycicka and Matysiak 2004: 63).

The culture of retirement influences strongly the demand side of the labour market. Polish employers still value older workers ambiguously – though for some their life-experience, loyalty and other qualities are an advantage, a dominant view is quite opposite. People over 50 find it hard to get employed and are the first to dismiss (Kononowicz et al. 2009). Experts argue that in Polish companies there is little awareness of the process of ageing (both individual and societal) and, in effect, no systemic approach to the needs of older employees. The conception of age-management remains of little use in Poland (Boni 2004; Matysiak 2004).

Paradoxically, this disadvantageous situation of older people is reinforced by certain regulations of Polish labour law that were meant to protect older. For instance, jubilee rewards and protection against dismissal during the pre-retirement period is for many employers an argument against hiring older people or keeping them employed. It makes especially hard for unemployed in their pre-retirement age to find a new job. Pre-retirement benefits, in turn, are used as a reason to dismiss older employees first and to protect the younger ones (Perek-Białas and Małodzińska 2005; Kononowicz et al. 2009).

#### *4.5. Reformed pension system*

The reform introduced a partially funded system, which, in its mandatory part, consists of two separate institutions, so-called pension pillars. First pillar remained a PAYG one, and is still administered by ZUS. Since 1999, part of the contribution (7.30 p.p. out of the total contribution of 19,52% of wage) has been transferred from ZUS to private pension funds (OFE), which invest them in financial markets. The pension formula has been fundamentally changed into a defined-contribution one. It means that benefits are an outcome of only two factors: sum of contributions accumulated during working career on individual accounts in both pillars and life expectancy at the age of retirement. It ensures an actuarial fairness of the pension system and puts an end to income redistribution (with some exemptions).

Another important feature, at least in the original plans, was discontinuation of early retirement privileges. Some of them still remained in force, but their scope is much limited now. In 2009 the early retirement option was eliminated and, to a certain number of workers that had already vested the right to it, an option of a ‘bridging pension’ was given. Eventually, the number of beneficiaries eligible to early retirement fell from ca. 1.1 mil. to 270,000 bridging-pensions beneficiaries. In addition, regulations of 2001 liquidated pre-retirement allowances and made pre-retirement benefits less available.

In comparison to the old, ‘welfare-provision-like’ system, the new one is much alike a life-cycle income allocation scheme. It means that benefit levels are connected directly with total amount of contributions paid into the system and de-

pend on individual decisions whether to retire or not. The only instrument of social protection that remained in the pension system is the minimum pension guarantee, granted to pensioners that have a working career of at least 25 years. However, now it's being indexed at a lower rate and, hence, its implications for poverty reduction will be smaller.<sup>5</sup>

Under new regulations, levels and structure of benefits will change. Replacement rates will be equal for all income categories, but for the richest one, yet with contribution-benefit equivalence retained.<sup>6</sup> It means that some income categories will lose on the reform, while other may gain. Figure 3 presents estimated replacement rates in relation to income level (RR-I) in old and new pension system.<sup>7</sup> What is probably the most visible is the new flat slope of the RR-I lines. Secondly, what stands out is the RR-I line for women – in the new system it is well below the old one, at all income levels. The same observation applies to men that earn below 1.7–1.8 of average. It means that all women and majority of men will lose on the reform, in terms of pension benefits. The only income category that will probably take advantage of these changes are the highest-earning men – those whose lifetime earnings exceed 1.7–1.8 of national average. However, they account for only ca. 11%–15% of all pensioners (Chłóń-Domińczak 2009; ZUS 2010).

Such situation means that poverty prevention and social inclusion will no longer be achieved to such a high extent. Many older people will fall into poverty, while income inequalities will increase to the levels similar to those in the rest of society. Estimations from 1999 show that up to 17% of pensioners will receive benefits low enough to be eligible for a minimum pension guarantee. Now, we can say with a high certainty that this number will be much higher. Siwek (2004) conducted an analysis of poverty-relief effectiveness of new pension system. She analysed how many years individuals at different income levels will have to work in order to receive benefits higher than the minimum pension.<sup>8</sup> Women of average income will have to work at least 28 years to achieve that pension level, whereas ones with income of 85% of average wage will have to work at least 38 years and

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<sup>5</sup> Minimum pension was set in 1999 at 415.00 PLN, equal to 40% of average wage at that time. Since then, it has been indexed at a regular rate (Consumer Price Index +20% of real wage growth) and in 2010 it was equal to 706.29 PLN, about 22% of average wage.

<sup>6</sup> The upper limit of wage subject to pension contribution is 250% of the average wage. Therefore, for people that earn more than that level, the replacement rates will diminish.

<sup>7</sup> They are calculated for a constant-income career profile, consisting of 30/35 years of contributory periods (for women and men respectively) and 5 years of non-contributory periods. A review of several projections of replacement rates is provided by Kłos (2008). Szumlicz's projections (2009), used in my calculations, are situated approximately in the middle.

<sup>8</sup> Minimum pension may be used as an approximated poverty line, though it's systematically below the social minimum line. In 2009 the minimum pension was 675.10 PLN, while social minimum for a pensioner was 905.00 PLN (IPiSS).

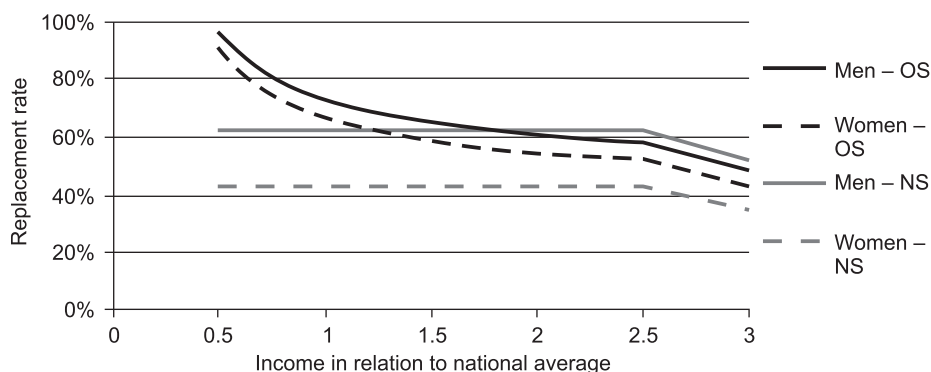


Figure 3. Replacement rates in old (OS) and new (NS) pension system

Source: Szumlicz 2009 and own calculations.

retire at the age of 62.<sup>9</sup> Higher official retirement age for men, combined with a work record of 32–39 years, saves them from poverty, unless they earn less than 45% of average wage.

#### 4.6. Retirement behaviour in the new pension system – economic outlook

The new set of institutions will require people to undertake some actions in order to maintain their living standards and avoid poverty. In face of lack of personal savings, many of them will have to work longer. Abolition of early retirement option will automatically increase average actual retirement age, while further hypothetical labour market adaptations may be subject to discussion on the basis of rational choice theory. We have to distinguish two types of effects that may take place when the new regulations come into force: ones caused by changes in benefit levels and ones caused by adjustments of benefits due to different actual retirement ages.

Theory suggests that lower pension benefits at all ages for the majority of people will have an income effect (due to lower life-time wealth) and a substitution effect (pension smaller in relation to wage) that will have the same direction and will encourage them to work longer. Analogically, highest earning men, whose pensions will probably increase, will now have stronger incentives to retire earlier.

The fact that for each additional year of work one's pension will increase by at least 10% (Chłóń-Domińczak 2009) will encourage all workers to postpone re-

<sup>9</sup> For comparison, in 2009 only about 10% of new pensioners had work record shorter than 30 years (ZUS 2010).

tiement – it will cause an intertemporal substitution effect. The only category of workers that this effect may omit are lowest-earners – ones covered by the minimum pension guarantee. Their benefits are subsidised by government, so an extra year of work for them may not lead to an actual higher pension. They may find it more economical to retire at the minimal possible age and, potentially, enjoy income from both employment and pension sources.

Just to remind, the optimal retirement age is being determined by the equation:

$$\frac{\partial U}{\partial PDVY} * [PDE_R - PDP_R + \Delta PDP_{(R;T)}] - \frac{\partial U}{\partial RET} = 0.$$

Table 1 presents how each element of the equation will change under the new pension rules, for two major income groups.

Table 1. Changes of optimal retirement age determinants after the pension reform

Factor	Low-income earners	High-income earners
$\frac{\partial U}{\partial PDVY}$	Higher – income effect due to lower general PDVY.	Lower – income effect due to higher general PDVY.
$PDE_R$	Constant (no changes to earnings).	Constant (no changes to earnings).
$\Delta PDP_{(R;T)}$	Higher – higher benefit adjustments for each extra year of work (intertemporal substitution).	Higher – higher benefit adjustments for each extra year of work (intertemporal substitution).
$PDP_R$	Lower – lower pension benefits (ordinary substitution).	Higher – higher pension benefits (ordinary substitution).
$\frac{\partial U}{\partial RET}$	Lower – income effect.	Higher – income effect.

Source: own preparation on the basis of Fields and Mitchell (1982: 7).

Introducing these observations back into the equation, we may find out the final effect. Let's assign:  $\uparrow$  – when a factor's force increases;  $\downarrow$  – when a factor's force decreases; *const* – when factor's influence doesn't change. Then we have:

a. For low-income earners:  $\{\uparrow\} * [\{const\} - \{\downarrow\} + \{\uparrow\}] - \{\downarrow\} \rightarrow \{\uparrow\}$

Low-income earners will probably experience stronger incentives towards postponement, because all three effects work in the same direction.

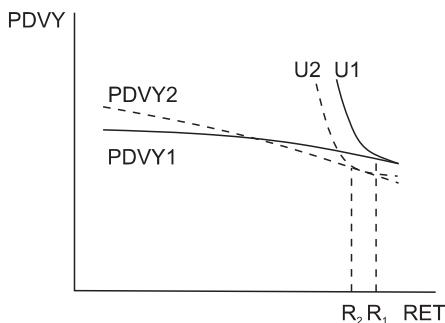
b. For high-income earners:  $\{\downarrow\} * [\{const\} - \{\uparrow\} + \{\uparrow\}] - \{\uparrow\} \rightarrow ?$

In this case, final effect is ambiguous, because higher incentives to postpone retirement work in an opposite direction to higher benefits that can be received at all ages. Individual decision will depend on which effect is stronger – the inter-

-temporal substitution effect or the income effect with the ordinary substitution effect combined.

Additionally, projected changes are presented on figure 4a and 4b. The budget constraint curve (PDVY) will change. For low-income earners it will be situated lower, but with a steeper slope. In effect, the tangency point of the curves of budget constraint line and utility will move to the left, with a lower total utility. For high income earners both slope and intercept of the budget constraint curve will increase. The exact tangency point will depend on how the utility curve  $U_2$  will be situated.

a) low-income earners



b) high-income earners

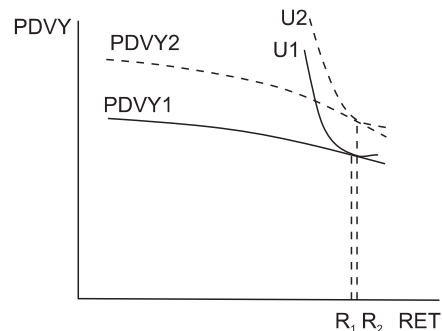


Figure 4. Retirement behaviour adaptations after the pension reform

Source: own preparation.

If we summarize these considerations, three groups of beneficiaries might be distinguished. For low-income earners, who will constitute the majority, both effects work in the same direction, which means that they will have strong incentives to postpone their retirement in order to receive higher benefits. Retirement decisions of highest-earners (about 15% of total) are ambiguous as two effects have opposite directions and the final one will depend on individual preferences. Additionally, for ones that receive minimum pension, subsided from budget, final effect is ambiguous. Some of them will retire at legal retirement age, while other will continue working. Inferring from the behaviour of current pensioners, most of them will remain active in order to improve their living conditions. Hence, adaptations we might observe will probably be similar to those in Sweden and Germany.

For the purpose of clarity, the analysis above did not take into account the possibility of working at retirement. It makes options of individual choice broader, though it doesn't change the sense of the effects described above. Supposedly, many low-income earners will chose to work at retirement, as it increases contem-

porary income. There is one obstacle that may make work at retirement harder to accomplish. A recent regulation says that in order to retire, one has to resign from his current job at first and only then may he get employed again. The whole process may be discouraging for retirees and prevent them from remaining active.

#### *4.7. The influence of social and institutional surrounding*

Pension reform might contribute significantly to higher labour activity among older people. New regulations correspond to ones advised by experts as measures to improve old-age participation (Hinrichs and Aleksandrowicz 2005). They bring the system closer to actuarial neutrality, which is supposed to make smaller distortions to labour market, leaving decisions subject to individual preferences. However, in order to achieve higher activity further conditions have to be fulfilled.

First and foremost, described in previous section culture of retirement means that the whole process will take much time. Beliefs about retirement, shared by older people, their employers and their younger colleagues will be hard to change – examples of rich developed countries prove it (Hinrichs and Aleksandrowicz 2005). Crucial for overcoming this cultural barrier seems to be awareness of new pension regulations. From the young age people should be well informed about them so that they could plan their education, career, savings etc. adequately. However, although it is already 12 years after the reform, awareness remain very low (Roguska 2010). Pension system is a typical black box, a complex mechanism, with a mysterious interior, unapproachable for a non-expert. Góra (2008) argues that it's not a serious obstacle, since people will “learn by doing” – they will automatically adapt, when facing the decisions. This view seems to omit serious distortions that may take place in the meantime.

Undergoing changes lose acceptability and legitimacy due to low quality of legislation process and its products. Pension regulations undergo frequent changes, which are often unreasonable and contradictory to each other. It causes high uncertainty and intensifies the ‘black box’ perception. No wonder that people find early retirement a safe option and that there is a strong opposition against raising official retirement age for women (Roguska 2011). An option worth considering is an introduction of gradual retirement. Giving more choice, it might contribute to the legitimacy and acceptability of higher actual retirement age (Hinrichs and Aleksandrowicz 2005; Wóycicka and Matysiak 2004).

Similar doubts arise with reference to labour demand adaptations. Without adjustments in Polish companies strategies, increasing actual retirement age and labour activity of older people might not succeed. It might be especially hard for physical workers, who face a natural barrier at some point of life. The opportunities lie with improving health, technological change and development of a services economy – all these factors work in favour of unskilled workers (Kesneci



2007). In the long-term, the increasing share of older workers and diminishing number of potential young employees will probably make employers adapt automatically. However, it should be facilitated by active labour market policies, promoting flexible employment, trainings, and work-force mobility<sup>10</sup> (Kesneci 2007).

#### *4.8. Interpretation according to theories of ageing*

Instead of a summary, a brief discussion on the basis of theories of ageing will be conducted. With high probability, the pension reform will increase labour activity of older people. Consequently, the model of ageing in Poland might evolve from a disengagement ageing to an active ageing, which, in turn, can possibly have positive long-term effects for Polish elderly, in terms of their health, interactions, social and political position and life satisfaction in general. Longer activity, imposed by new financial surroundings can change the paradigm of ageing in Poland.

Nonetheless, this is a highly conditional state of the world – many obstacles named in previous section can make this process long and problematic. What's more, ageing in Poland will become much more riskier and individualised. Individual financial situation will depend strongly on one's lifetime efforts, but not only. For instance, capital pensions are subject to financial markets' situation, hence, the pension level may vary significantly, depending on the exact moment of retirement. Similarly, labour market situation will be highly uncertain.

On the grounds of political economy, growing inequalities will be observed, which will, to some extent, counteract the positive aspects of active ageing. New pension system improves the situation of the well-off and deteriorates one of the worse-off, which corresponds with the hypothesis of cumulative inequalities. The worse-off are being disadvantaged twofold. Not only will they have lower chances to enjoy long and peaceful retirement, but they also may find it harder to work longer – due to more physical character of their work (Hinrichs and Aleksandrowicz 2005). Class may become an important dimension of divisions among older people and so is the gender, as the 'privilege' of earlier retirement for women may become a discrimination factor now.

Aforementioned improvement of labour market flexibility and of companies' policies can make this process go more smoothly. At least as important as that, seems to be the public discourse and the social construction of ageing. After all, the direction and strength of adaptations will depend on beliefs of every individual. Therefore, it is of a great relevance to provide proper education and infor-

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<sup>10</sup> Some of these policies have been recently implemented: governmental program "Solidarity of generations" is going to increase labour activity of people aged 55–64 to 50% until 2020 and will cost ca. 17B. PLN. Since 2004 older people have been treated as a special risk group on the labour market.

mation about the pension system and to promote a vision of active ageing. The discourse should change its main attention from issues of the system to one's of its participants.

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## Abstract

Pension reform in Poland totally changes financial and legal incentives that shape retirement behaviour. Among others, the early retirement option was abolished and a contribution-benefit equivalence was introduced. The paper presents an analysis of financial effects of these changes for pensioners and potential adaptations of retirement behaviour on the basis of the rational choice theory. Next, referring to sociological theories of ageing, the cultural and institutional influence was considered. It is projected that the category of pensioners will become much more diversified financially and most of older people will decide to postpone the retirement. Potentially, it may lead to a new pattern of ageing in Poland, an active one with positive implications for older people. However, multiple factors, among others: "the culture of early retirement" and labour demand limitations, might counteract this process.