

**Description of scientific achievement**

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This document describes scientific and research achievements as well as other activities as required in the Decree of the Minister of Science and Higher Education of 1 September 2011 on the criteria for assessing an applicant's merits to award the degree of habilitation (Journal of Laws of 2011, No. 196, item 1165). I describe my scientific, research and teaching development. An integral part of this paper is the Appendix (in Polish) with a detailed list of achievements after the doctorate.

## 1. Education and employment

### *Education and degrees*

*Bachelor Degree in Quantitative Methods and Information Systems*  
1996, Warsaw School of Economics (WSE)

Title of dissertation: *Zalety i bariery modeli rynku pracy*  
(*Advantages and barriers of the labour market models*)

Supervisor: prof. dr hab. Tomasz Szapiro

*Master Degree in Quantitative Methods and Information Systems*  
1998, WSE

Title of dissertation: *O wykorzystaniu analizy hierarchicznej we wspomaganiu decyzji w warunkach transformacji systemowej* (*On the use of the Analytical Hierarchy Process as the decision making support tool during the economic transformation*)

Supervisor: prof. dr hab. Tomasz Szapiro

*Ph.D. in Economics*

2004, Collegium of Economic Analysis, WSE

Title of dissertation: *Podaż pracy na ostatnim etapie kariery zawodowej*  
(*Labour supply at the last stage of professional career*)

Supervisor: prof. dr hab. Marek Góra.

Reviewers: prof. dr hab. Urszula Sztanderska, prof. dr hab. Janusz Witkowski

### *Employment*

Since Feb. 2009	Assistant Professor at the Department of Economics I, Collegium of Economic Analysis, Warsaw School of Economics
2005-2012	The Institute of Labour and Social Studies, Warsaw, Assistant Professor
Since 2004	Center for Social and Economic Research (CASE), temporary contracts in the research projects
2002-2004	Temporary short-term cooperation with the Ministry of Labour and Social Policy, economic analyses
May-Dec. 2001	Pont Info Ltd, employment in the research project
1998-2001	Ministry of Labour and Social Policy, specialist

## 2. Summary of educational and professional career

I describe my professional career and the development of research interests, dividing them into two stages: before obtaining Ph. D. in Economics in October 2004 and the period since 2004.

### *Before Ph. D.*

My early experience in the scientific work and teaching has been linked to the Students Scientific Group of Economic Analyses run at the Division of Decision Analysis and Support at Warsaw School of Economic, as well as writing of the two theses in the same department. I participated in research seminars and research activities, and I was a co-author of several texts, mainly linked to the area of the labour market, in that informal employment and unemployment:

- Kuszewski T., Pawlina G., **Ruzik A.** (1996), *Współczesne teorie rynku pracy [Contemporary labour market theories]*, research financed from university funds 03/E/0001/96, KAE SGH, 1996.
- Szapiro T., Pawlina G., **Ruzik A.** (1996), *Model of the Black Labour Market in Poland*, presentation at the Applied Econometrics Association Conference on Econometric of Unemployment, Centre for European Labour Market Studies (CELMS), Goeteborg, Sweden, 1996.
- Szapiro T., **Ruzik A.** (1997), „O przepływach na rynku pracy przy bezrobociu strukturalnym” [„On labour market flows in the market with structural unemployment”], *Roczniki Kolegium Analiz Ekonomicznych SGH, Zeszyt 4/1997*, s. 137-156, Warszawa.
- Szapiro T., **Ruzik A.**, Wrzosek M. (1998), *Komputerowa symulacja dynamiki szarej strefy [Grey economy dynamics simulations]*, 03/E/0004/98, KAE SGH, 1998.
- Ożdżeński W., **Ruzik A.** (1998), *Algorytm C4.5 w analizie sfery ubóstwa w oparciu o badanie ankietowe GUS [Algorithm C4.5 in the poverty analysis – based on GUS survey]*, 03/E/0004/98, KAE SGH, 1998.

After obtaining Master Degree I started employment in the Ministry of Labour and Social Affairs, in the team of experts dealing with the pension system reform and regulations. Among others, I worked on economic analyses, in that on long-term projections of the Polish pension system expenditures on early retirement and bridging pensions. Projections were based on the model I have built. In 1999, I participated in 12-day-long training on social security systems financing at the *International Labour Organization International Training Center* in Torino.

Since 2000, after starting my Ph.D. studies at the Collegium of Economic Analyses at WSE my research focused on one hand on the labour supply of the elderly – the main area of my Ph.D. thesis defended in 2004, and on the other hand on the broader area of social security systems, labour market, and human capital.

Before obtaining Ph.D. degree, I participated in two international research projects, that allowed me to establish scientific contacts with well known experts in economics. The first project - *Human Capital and Growth in Central European Countries*<sup>1</sup> resulted in the publication:

- Góra M., **Ruzik A.** (2001) “Human Capital and Growth in Central European Countries - Poland”, CERGE-EI Discussion Paper No 2001-63.

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- Phare ACE Grant, *Human Capital and Growth in Central European Countries*, Project No. P97-8085-R, realizowany w latach 1999-2000.

In years 1999-2002 I participated in another international research project *Public Participation and the Pension Policy Process: The Citizen and Pension Reform – PENREF* led by Interdisciplinary Centre for Comparative Research in the Social Sciences (ICCR) in Vienna<sup>23</sup>. Following publication were the result of my research in that period:

- Chłoń-Domińczak A., Perek-Białas J., **Ruzik A.** (2001) "Pension Reform in Poland", report for the EU financed research project HPSE-CT-1999-00023: *Public Participation and the Pension Policy Process: The Citizen and Pension Reform*, 2001.
- Perek-Białas J., **Ruzik, A.** (2004), *Aktywizacja starszych ludzi na rynku pracy: Bariery i możliwości [Activity of the elderly in the labour market: Barriers and possibilities]*, [in:] J. T. Kowalewski, P. Szukalski (ed.), *Nasze starzejące się społeczeństwo. Nadzieje i zagrożenia*. Wyd. Uł. Łódź, p. 431-438.

I was also the co-author of two chapters in books on the labour market and social security systems in the transition countries:

- **Ruzik A.**, Wóycicka I., Zalewska H. (2002), *Disability Pension in Poland*, [in:] *Reforming Worker Protections: Disability Pensions in Transition*, ed. Fultz E., M. Ruck, International Labour Office. Central and Eastern European Team, Budapest, p. 147-226.
- **Ruzik A.** (2004) *Praca z perspektywy wieku*, [in:] *W trosce o pracę: raport o rozwoju społecznym Polska 2004*, ed. S. Golinowska, UNDP, Warszawa, p. 193-214.

In years 2002-2003, I spent six months as a Marie Curie Fellow in Center for Economic Research at the Tilburg University in the Netherlands. There I continued work on my doctorate, building models of determinants of retirement using individual data from the Labour Force Survey (LFS) for Poland, as well as participating in weekly scientific seminars, economic workshops for young scientists and several academic courses. Professors Jan van Ours and Arthur van Soest were my scientific supervisors during this stay in the Netherlands.

Results of my research before Ph.D. were presented at seminars and two conferences, in 1996 at the *Applied Econometrics Association Conference on Econometric of Unemployment*, Goeteborg, Sweden, and in 2003 at the *European Population Conference* in Warsaw.

#### ***After obtaining Ph. D.***

After obtaining a doctorate in economics in 2004, I expanded my research on labour supply and started research in new areas of economics. In addition to broadly understood labour economics, I also analysed issues from pension economics, the impact of social benefits on the labour market, migrations, and health economics.

Since 2004 I have been cooperating with the CASE-Centre for Social and Economic Research, taking part in several national and international research and evaluation projects in the field of the labour market, social security systems and social policy.

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*PEN-REF Project - Social Exclusion and Social Solidarity: Public Participation and Welfare reform (HPSE-CT-1999-00023).*

<sup>3</sup> All research projects are described in the Appendix

In 2005 I started employment in the Institute of Labour and Social Studies (IPISS), initially in a research team in the project led by Prof. Dr. Stanisława Golinowska: *Ubóstwo i wykluczenie społeczne oraz metody ich zwalczania [Poverty and social exclusion and the methods of combating them]*. I extended the scope of my research to include the areas of poverty and social exclusion, and dealt with the labour market in a broader context - exclusion from the labour market and policies to combat it, including active labour market policies. After completing the project, I continued employment in IPISS until 2012, participating in other projects (e.g. on the grey economy, migration, women's entrepreneurship) and conducting my own research.

In 2009, I was employed as an assistant professor at the Department of Economics I at the Warsaw School of Economics. I continued my research by participating annually (with breaks for maternity leaves) in statutory research as well as in several international and national projects carried out at the university. During this period I also cooperated with the OECD, the International Labour Organisation, the World Bank and UNDP, writing expert opinions or analytical reports commissioned by these institutions.

### 3. Scientific achievement presented for evaluation as discussed in Art. 16, Item 2 of the Act of 14 March 2003 (Journal of Laws No 65, position 595 with changes)

My research interests are quite broad, but they have never been far from the study of the conditions of economic activity of people, including the determinants of inactivity and employment. That is why the cycle published works presented for the evaluation of achievements is titled:

#### Determinants of economic activity and policies influencing employment growth

In the cycle of publications constituting the achievement, I undertake analyses concerning the increase in employment of two groups in the labour market:

(a) persons aged 50 and over

and

(b) the long-term unemployed and excluded from the labour market.

The list of publications which constitute scientific achievements which are directly subject to evaluation in the habilitation procedure is presented in Table 1.

Tabela 1. List of publications.

	Title	Journal	Authors and shares
1.1	"Active ageing policies in the Czech Republic and Poland"	<i>International Social Science Journal</i> 58 (190)/2006, p. 559-570.	Jolanta Perek-Białas, Anna Ruzik (33,3%), Lucie Vidovičová
1.2	„Minimalne wynagrodzenie – analiza wpływu na zatrudnienie	<i>Polityka Społeczna</i> 1/2007, p. 5-9.	Anna Ruzik (100%)

	w Polsce" [Minimum wage – an impact on employment in Poland]		
1.3	„Aktywna polityka rynku pracy na szczeblach samorządu terytorialnego - sposób na zwalczanie ubóstwa i wykluczenia społecznego” [ALMP at local level – way to counteract poverty and social exclusion]	<i>Polityka Społeczna</i> 9/2010, p. 21-23.	<b>Anna Ruzik (100%)</b>
1.4	„Sytuacja osób starszych na rynku pracy w Polsce w latach 2008-2010” [Older people in the labour market in Poland in years 2008-2010]	<i>Ekonomista</i> nr 5/2012, p. 629-644.	Iga Magda, <b>Anna Ruzik-Sierdzińska (50%)</b>
1.5	„Wybrane aspekty zaniechania działań pomocowych w przypadku bezrobocia, ubóstwa i bezdomności z perspektywy kalkulatora społecznego” [Selected aspects of costs of inaction in case of unemployment, poverty and homelessness - the social calculator point of view]	<i>Polityka Społeczna</i> 3/2014, p. 10-15.	<b>Anna Ruzik-Sierdzińska (33,3%), Piotr Błędowski, Ewa Gałęcka-Burdziak</b>
1.6	“An Attempt to Identify Factors Influencing Retirement Decisions in Poland”	<i>Acta Universitatis Lodzianis. Folia Oeconomica</i> Vol 4(336), 2018, p. 43-59	<b>Anna Ruzik-Sierdzińska (100%)</b>
1.7	„Analiza skuteczności aktywnej polityki rynku pracy w zwalczaniu ubóstwa i wykluczenia społecznego” [Effectiveness of ALMP in combating poverty and social exclusion]	[in:] Golinowska S., A. Ruzik, B. Pielniński, J. Gandziarowska, <i>Praca lekarstwem na biedę i wykluczenie. Strategie wobec pracy</i> , IPiSS, Warszawa 2007, p. 56-93.	<b>Anna Ruzik (100%)</b>
1.8	<i>Szanse i bariery aktywizacji zawodowej osób chronicznie bezrobotnych</i> [Chances and barriers of active policies for the very long term unemployed]	Szkoła Główna Handlowa w Warszawie – Oficyna Wydawnicza, Warszawa 2010.	Arkadiusz Karwacki, Paweł Kubicki, <b>Anna Ruzik-Sierdzińska (33,3%)</b>
1.9	"The Effects of Multiple Institutional Changes – The Case of Retirement Decisions in Poland"	<i>Polish Law&amp;Economics Yearbook</i> , Vol. 2 (2011) ed. J. Beldowski, K. Metelska-Szaniawska, L. Visscher, C.H.Beck Warszawa, p. 49-58.	Grzegorz Kula, <b>Anna Ruzik-Sierdzińska (50%)</b>

1.10	"Did the Transition to a Market Economy and EU Membership have an Impact on Active Ageing Policy in Poland?"	[w:] Ervik R., T.S. Linden (ed.), <i>The Making Of Ageing Policy. Theory and Practice in Europe</i> , Edward Elgar 2013, p. 123-147.	<b>Anna Ruzik-Sierdzińska (40%)</b> , Jolanta Perek-Białas, Konrad Turek
1.11	"Two faces of ageing: Older workers and older consumers"	[in:] <i>Green, pink &amp; silver? The future of labour in Europe</i> , vol. 2, M. Beblavy, I. Maselli, M. Veselkova (ed.), 2015, Centre for European Policy Studies, p. 102-127.	Marek Radvanský, <b>Anna Ruzik-Sierdzińska (50%)</b>

The ageing of the population as a global trend - although different in different countries - is an important area of research for demographers, as well as researchers from other fields. Already a few decades ago demographers discussed the ageing of population resulting from falling fertility and prolonged life expectancy - in 1982 the first UN *World Assembly on Ageing* was organized (the second one took place in 2002 in Madrid), the subject was also present in the research of Polish demographers (Rosset 1959, Holzer and Frątczak 1987).

Since the end of the 1980s, the researchers drew attention to the acceleration of population ageing, and a decade later - to the consequences of this phenomenon for labour force and economic growth prospects (e.g. OECD 2000, Bloom et al. 2003, Rodrigues 2006, National Institute of Ageing 2007, Beehr and Bennett 2007, Kleer (ed.) 2008, Golinowska 2009, Błędowski 2012). It has been noted that demographic processes lead to changes in the size of cohorts active on the labour market (a decrease in labour force), as well as to a change in the age structure (ageing) of potential employees. Less numerous new generations entering the labour market, together with the accelerated ageing of the population, will cause even faster increase in the number of elderly people in the future.

Trends in demographic changes in Europe lead to the so-called "new demography of Europe" as a result of increasing life expectancy, fertility rate remaining low in many countries (total fertility rate between 1.35 and 1.5 children per woman aged 15-49) or even very low (below 1.35), increased migration in the second half of the 20th century, as well as changes in family and household structures (Kotowska and Jóźwiak 2012). Due to changes in fertility and mortality leading to an advanced aging of the population, Europe will not only be the oldest continent in terms of demographics, but also the continent with the largest loss of working age population. According to Eurostat basic projections, the share of population aged 65+ in the population of the European Union - amounting to 18.9% in 2015, will reach 28.5% in 2050 and the old-age dependency ratio (the number of people aged 65 and over for every 100 people aged 15-64) will increase from 28.8 to 50.3 over the same period, with the total number of people aged 15-64 falling by 33 million. Changes in the age structure of the Polish population are even deeper than in other European countries, it is predicted that the share of 65+ in the population is projected to increase from current 16% to 30.6% in 2050,



the demographic dependency ratio from 22.2 to 54.6, while the number of people aged 15-64 is projected to decrease by 7 million<sup>4</sup>.

The response to demographic challenges at the European level was, among others, establishment in 2006, of *the Working Group on Ageing Populations and Sustainability*, that prepares triennial studies containing projections of employment, economic growth, public spending on pensions, health care, long-term care (latest Ageing Report 2018<sup>5</sup>). Additionally, conclusions from a number of research projects on the effects of population ageing are often the basis for formulating or changing public policies (European Commission 2014).

One solution to partially counteract the negative effects of permanently diminishing potential labour force is to make the best use of these increasingly smaller potential labour resources. This requires an increase in economic activity of those groups of the population which are less involved in the labour market. Literature usually refers to elderly, women, people with health limitations, as well as the long-term unemployed who remain outside the labour market.

In my publication cycle I present research aimed at analysing the determinants of labour force participation and the effectiveness of employment policy. The publications described below focus on two groups: people aged 50+ and the long-term unemployed. The first group is particularly important due to the growing number of people in Europe at the age at which they leave the labour market and low employment rates at the age of 50+ in some countries. Long-term unemployment has become an important area of research in the light of the changing situation in many economies following the recent economic crisis. Between 2005 and 2014, the share of the long-term unemployed (over 12 months) in total unemployment of people aged 15-74 was 49.5% on average in the European Union, and of chronic unemployment (longer than 2 years) was 30.1%. The group of the long-term unemployed is also important from the point of view of the Polish labour market, in 2018 every second unemployed person registered in employment offices was long-term unemployed, while in many poviats unemployment has been relatively high and mostly over 2 years for many years.

#### a) An increase in employment of people aged 50+

In my publications on determinants and policies of increasing employment of people at the pre-retirement age, I undertook analyses of adjustment to the ageing of the population in Europe and possible scenarios of changes in the labour force and its impact on economic growth [1.11]. I studied the determinants of activity of people aged 50+ in Poland [1.4, 1.6, 1.9] and the evolution of Polish active ageing policy in the European context [1.1, 1.10].

The analysis of factors influencing economic activity of 50+ is an important part of labour economics, while due to the significant impact of pension systems on labour supply in old age, the research area can also be placed in pension economics area. The first theoretical papers on this subject were published in the 1970s, see e.g. Feldstein (1974) or Boskin and Hurd (1978), often referring to the theory of rational choice or life-cycle theory. From the late 1980s

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<sup>4</sup> <https://ec.europa.eu/eurostat/web/main>, Baseline projections: demographic balances and indicators [proj\_15ndbims], access 10.02.2019.

<sup>5</sup> European Commission (2018), The 2018 Ageing Report. Economic & Budgetary Projections for the 28 EU Member States (2016-2070), Institutional Paper 079, May 2018.

onwards, researchers use more advanced models, taking into consideration uncertainty, and analyse retirement decisions within the household. Literature allows for the division of factors influencing retirement decisions into economic factors - related to incomes from work, savings, social security system and taxation of these incomes, and also to labour demand, in that attitudes towards older workers, and non-economic factors like state of health, or socio-cultural norms (Blöndal and Scarpetta 1999, Gruber and Wise 1999, 2002, García-Pérez et al. 2013; Axelrad and McNamara 2017, Krzyżowski 2011). In recent years, it has been pointed out that sometimes people's expectations regarding the financial situation in retirement have fallen short of reality and retirement or saving decisions are not based on sufficient knowledge or rational choice (Bissonnette and van Soest 2010, Buchholtz et al. 2018).

In the publications [1.4] 2012 and [1.6] 2018 presented for assessment, I examined factors that influence retirement in Poland and how the situation of older people in the labour market differed from that of people at a younger age during the recent economic slowdown in years 2008-2012. Results show that institutions, including above all regulations on access to social security benefits, play an important role in explaining the economic activity of older Poles.

Inequalities on the labour market due to age are the subject of the study [1.4] from 2102, in which with dr Iga Magda from WSE we analyse whether the situation on the Polish labour market differed depending on the age group during the recent economic crisis in 2008-2010. We asked the following research questions: I. What was the role of the institutional environment and labour market policy in the observed changes in activity and employment of people over 55 years of age? II. Did the observed changes affect women and men differently? III. Did and how the mobility and flows of older people on the labour market change and what could be the reasons for these changes? Using LFS data from 2008-2011, we showed that older employees in the analysed period had significantly lower probability of losing their jobs than younger ones, but at the same time older unemployed people also had significantly lower probability of finding new job. These relationships were stronger for men. The reasons for the described phenomena are mainly related to institutional changes (in particular lower availability of early retirement since 2009) and to some extent to active labour market policy.

My contribution to the article was preparing the concept of the article, a summary and conclusions from the analyses together with the co-author, developing part of a literature review (on changes in the economic situation in Poland that may affect the labour market), preparing individual databases for the analysis of the situation on the labour market and developing a chapter on "The situation of older people in the labour market".

The article [1.6] 2018, is an attempt to identify factors influencing retirement in Poland after 2005, with particular emphasis on pension system regulations. In the analyses I used data from the Labour Force Survey for years 2005-2016 (including individual LFS data from 2013-2016 on people aged 50-74) and statistics of the Social Insurance Institution (ZUS). On the basis of calculated probabilities of outflow from the labour force and estimated logistic regression models of chances of being economically inactive, I found that retirement decisions in Poland are influenced, among others, by education and health status<sup>6</sup>. More importantly, the

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<sup>6</sup> Conclusions are similar to other authors, e.g. Hardy et al (2018) or my study on retirement decisions in 8 transition countries in years 2003-2004 (Ruzik 2008).

behaviour of older people in the labour market strongly depends on economic incentives created by the pension system, in particular on the legal retirement age.

The importance of institutional factors was confirmed by research with dr Grzegorz Kula from the University of Warsaw conducted in a project carried out at the Faculty of Economics of the University of Warsaw: *Economic risk, savings and retirement decisions in ageing societies - empirical comparative analysis of Poland and Germany*. The aim of the article [1.9] 2017 was to assess the impact of institutional uncertainty (manifested by frequent changes in regulations giving or taking away from various groups the right to early retirement or its substitutes in the Polish social security system) on pension decisions. We used individual data from the Household Budget Survey (BBDG) for the years 1995-2007. As it was not possible to create a longitudinal database for a sufficiently long period of time, we combined sets for subsequent years, creating a so-called pseudo-panel (see Verbeek 2008). We used fixed-effect OLS estimation of pension decision for people born between 1921 and 1956 who retired in different conditions of access to pensions, benefits or pre-retirement benefits. The results confirmed the importance of changes in the social security system for economic activity after the age of 50.

My contribution to the text was a description of changes in the Polish pension system over time, preparation of a pseudo-panel database, preliminary data analysis and participation in the development of the concept of the article and conclusions.

Another publication [1.11] 2015 was co-authored by Marek Radvansky from the Slovak Academy of Science. In the study we used, among others, the results of comparative analyses of the EU markets conducted during the international project NEUJOBS - *Employment 2025: How will multiple transitions affect the European labour market*, in which I coordinated a part on the employment of the elderly. We show what distinguishes the labour markets of countries where employees over 50 years of age constitute an increasing part of the economically active population. Quantitative and qualitative analyses were carried out using data from the beginning of the 21st century: Survey of Health, Ageing and Retirement in Europe (SHARE), English Longitudinal Study of Ageing (ELSA), Structure of Earnings Survey (SES), Labour Force Survey (LFS), European Social Survey (ESS), employer surveys.

In the part of the publication which I am the author of, I try to answer the question of how the labour market should adapt to the ageing of the population in order to delay the transition to inactivity. Studies have shown that while health and inability to work have a significant impact on retirement in all countries surveyed, the importance of other factors depends on the country. Pension reforms in recent decades have raised the exit age from the labour market by weakening financial incentives or even preventing early retirement, but changes to pension systems alone may not be sufficient. *Active ageing* also depends on the productivity of the workforce (although the highest frequency of retirement immediately after reaching the statutory retirement age cannot be explained by a decrease in productivity exactly at that age), the working environment and whether employers will manage staff in an appropriate way to take into account the changing age structure of employees (the concept of *age management*). Older workers' productivity is influenced by their health as well as by their participation in education and lifelong learning throughout working lives.

Based on the results of a broad analysis carried out in workpackage 17 of the NEUJOBS project, I proposed four possible scenarios for the development of the workforce depending on two factors: age management skills in companies and changes in the productivity of an ageing

workforce. It seems that over the next decade, employers' approach to age management will be more important, including not exploiting the possibility of "pushing out" workers who have reached the minimum retirement age. In the longer term, changes in productivity will gain in importance. The implementation of these two processes may result in different labour markets and different competitiveness of economies.

My contribution consisted in preparing with the co-author a concept of chapter and summary and writing a part about the situation of older people as labour market participants on the basis of, among others, the results of research carried out in the NEUJOBS project, as well as proposals for four scenarios of labour market situation development with a change in the demographic structure of the population.

Knowledge of the main determinants of labour force participation in a specific country is important for the development and implementation of appropriate policies, as well as for forecasting changes in future labour supply. However, various factors influence the policy towards population 50+. Measures aimed at increasing employment in old age are part of a broader policy known as active ageing policy. I addressed this issue in publications [1.1] and [1.10].

In the article [1.1] from 2006, together with dr Jolanta Perek-Białas from WSE and Jagiellonian University and dr Lucy Vidovicova from Masaryk University in Brno we discuss the policy of active ageing in Poland and the Czech Republic - in two countries not only facing similar demographic changes but also with a similar history of social and economic changes initiated in the last decade of the 20th century.

My participation consisted in analysing the directions of shaping policy towards older people in Poland in the last decade of the 20th century and at the beginning of the 21st century and in co-authorship of discussions and conclusions.

We show the differences in the policies pursued in both countries in this area, more advanced in the Czech Republic, where the debate resulted in the development of strategic documents and the start of their implementation earlier than in Poland. Some of the actions resulted from the threat to the financial stability of pension systems, others were the result of the recommendations of the European Union, which Poland was then a candidate for. While during the discussed period in Poland the concept of active ageing was understood primarily through the idea of productive approach to active ageing (increasing economic activity of the elderly), the broader concept of the policy towards older people has over time permeated the social policy in both countries, as shown by the conclusions of our study.

The publication [1.8] from 2013 is a result of my research in the international project *The Policy Ideas and Practice of Active Ageing*, co-implemented by the Institute of Statistics and Demography of the Warsaw School of Economics. It is a chapter in the book devoted to the theory and practice of active ageing at the national and international level. The chapter co-authored by dr Jolanta Perek-Białas and dr Konrad Turek from Jagiellonian University, describes the change in the active aging policy in Poland from 1990 to 2012. We show, how the economic transformation started in 1989 and the accession to the European Union influenced the policy in the face of demographic changes taking place at the same time. We show that while at the beginning of the systemic transformation demographic changes were less important than other problems and older people were rather inclined to leave the labour market quickly (via early retirement or easily accessible pensions), later problems with the

finances of the pension system forced certain actions, and EU membership resulted in the creation of more coherent active ageing policy.

Our research on seniors' policy was part of the real policy in Poland in the next decade. The "Solidarity across generations - measures to increase economic activity of people aged 50+" programme adopted in 2008 by the Council of Ministers focused on the concept of productive ageing and prolonging economic activity. On the one hand, this could have been criticised as narrow approach to the concept of active ageing, and on the other hand, it was justified by the low share of people aged 50+ in the Polish labour market. Greater availability of the EU funds financing resulted in a wider involvement of non-governmental organisations implementing programmes increasing the broadly understood activity of older people. In year 2012, proclaimed as the European Year for Active Ageing and Solidarity between Generations, more extensive activities were undertaken, and the "Social Council 50+" was established in 2013 (I participated in the council works as an expert).

#### **b) Reducing long-term unemployment and exclusion from the labour market**

My interest in identifying the determinants of better use of potential labour force has also prompted me to address the issue of reducing unemployment. In my research I focused in particular on people in a difficult situation on the labour market, i.e. the long-term unemployed, with low qualifications or other features that make it difficult to find sustainable employment. Therefore, this area of my scientific activity can be situated both in labour economics and in social policy towards people threatened with exclusion from the labour market.

Opportunities and difficulties in activation of the long-term unemployed, including active labour market policy as a tool to counteract exclusion from the labour market, were described in the studies [1.7] from 2007 and [1.3] and [1.8] from 2010. The article [1.5] (2014) is based on the results of analyses of an innovative approach to social policy developed in the project Costs of Abandonment Calculator, analysing the possible effects of the lack of assistance to the long-term unemployed. In the article [1.2], published in 2007, I presented an empirical analysis of the impact of minimum wage regulations on the labour market in Poland.

High unemployment, which characterized the Polish labour market in the 1990s, was the result of the transition from a centrally controlled economy to a free market economy and the restructuring of many state-owned companies. At that time, structural unemployment appeared, which was partly mitigated by the policy of relatively easy access to early retirement and other social transfers (Rutkowski 1998). In the next decade, the economy and the labour market absorbed the effects of the transformation shock, and the situation on the labour market depended more strongly on the phase of the economic cycle. The number of unemployed registered with Polish labour offices decreased from 2773 thousand at the end of 2005 to less than 1 million in 2018. (CSO 2018). The share of the registered unemployed aged over 2 years decreased in the period 2005-2017 from 35% to 25% and stabilized at the level of about 250 thousand people, regardless of the number of vacancies reported by employers. Another 150,000 unemployed people are registered between 12 and 24 months<sup>7</sup>.

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<sup>7</sup> Registered unemployment is not the perfect measure of the labour market situation. As it is difficult to verify if the registered unemployed are ready and willing to work, we do not know how many of

Labour market institutions may encourage or hinder the flow from unemployment to employment (Boeri and van Ours, 2013). For example, the main objective of active labour market policy (ALMP) is to help unemployed and economically inactive groups without experience or with low qualifications to return to employment or enter the labour market (David, Jochen and Weber, 2010, Bassanini and Duval, 2006). The literature points out that ALMP should counteract long-term unemployment, which has a particularly negative impact on the labour market and job prospects of the unemployed (de Koning et al. 2004). Other institutions, e.g. the level and changes in the minimum wage may, under certain conditions, have a negative impact on the employability of young people entering the labour market and those with low qualifications (Neumark and Wascher 2007).

Publication [1.7] (2007) is one of the results of my work in a national research project devoted to various dimensions of social exclusion and poverty implemented at the Institute of Labour and Social Affairs. The aim of the study was to assess the effectiveness of various active labour market policy instruments applied in Poland in relation to the long-term unemployed. The analysis period covered the years 2002-2005, in which, despite the acceleration of economic growth after 2003, the rate of job creation was still insufficient to significantly reduce unemployment. During this period, a new Act on employment promotion and labour market institutions was adopted<sup>8</sup>, which created the basis for programmes aimed at facilitating the employment of people with low qualifications. It also defined groups of people in a special situation on the labour market, to whom broader activation measures could be applied.

The publication shows the evolution of labour market policy from the early 1990s (dominance of benefits, protective and deactivation policy) to 2005 (greater emphasis and higher financial resources on activation policy). Then I discussed what types of ALMP were used, what are the beneficiaries and effectiveness of measures. Apart from quantitative methods (statistical data analysis), two qualitative methods were also used in the study. These were in-depth individual interviews with representatives of poviats labour offices, social assistance centres and poviat family assistance centres in six poviats: Bełchatów, Będzin, Mielec, Małowo, Radom, and Węgrów (30 interviews in total) and analysis of diaries - three volumes of Unemployment Memoirs, i.e. collections of awarded and distinguished works submitted to the competition announced by the Warsaw School of Economics. The analysed period includes memories of the unemployed mainly in the years 1999-2000.

My research indicated that the active labour market policy pursued in the first decade of the 21st century did not help people who had been unemployed for a particularly long time to return to employment. The results suggest that the source of low effectiveness may be a lack of cooperation between institutions with which the long-term unemployed and the poor come into contact at the local level, but also specific characteristics of the beneficiaries/receivers, including the reluctance of some of the unemployed to take up employment. Effective complex problems involving long-term persons in employment were rare in the analysed period, and yet more effective for this group of persons than the standard activation tools available in public employment offices.

As a conclusion from the research it was also pointed out that the labour market policy omits economically inactive people, the domain of interest is registered unemployment, which may

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them are not interested in employment. However, as ALMP is directed mainly at registered unemployment, this was my main group of interest.

<sup>8</sup> Journal of Laws 1 May 2004, No 99, pos. 1001, with changes.

be a barrier to better use of the labour force necessary for the demographic changes taking place.

I continued my research on long-term unemployment in subsequent years, which resulted in an article [1.3] from 2010 showing that even in the period of decreasing unemployment in the years 2003-2008 there was still a problem of effective integration of certain groups of people in the labour market in Poland. Additionally, while instruments aimed at activating graduates were quite well developed, activation of the long-term unemployed in older age was (and still is) much more difficult. The economic slowdown resulted in the growing regional stratification of the unemployment rate since 2009, despite the fact that the percentage of the long-term unemployed still decreased as a result of, among others, activation programmes from previous years, which allowed a person to be removed from unemployment registers for a certain period of time. In comparison to an earlier study [1.7] from 2007, I state that the differences between poviats effectiveness of active labour market policies aimed at people excluded from the labour market depend on the structure of local labour supply and demand for labour, as well as different organisational effectiveness of institutions designed to help excluded people.

Not only local labour markets are diversified, but also the chronically unemployed group itself, as I shown with Arkadiusz Karwacki from Nicolaus Copernicus University and Paweł Kubicki from the Warsaw School of Economics in the publication [1.8] from 2010. We tried to identifying opportunities and barriers to economic activation of the chronically unemployed (over 2 years old). We were based on analyses of labour market statistics for the years 2004-2009, a review of local development strategies and activation programmes as well as on individual in-depth interviews conducted in five poviats of the Mazowieckie Voivodeship, where the problem studied was the sharpest.

My contribution to this publication was to prepare a statistical description of the surveyed poviats: unemployment, employment, labour force resources, economic situation and to prepare a summary and conclusions with the co-authors. I drew attention to the weaknesses of official registered unemployment statistics, due to the possible presence of the "grey market" in employment and the fluidity of the border between the economically inactive and the unemployed.

My experience in the analysis of long-term unemployment was used in the project, carried out at the Economic and Social College of the Warsaw School of Economics, which resulted in an article [1.5] published in 2014, written together with prof. dr hab. Piotr Błądowski and dr Ewa Gałęcka-Burdziak from the Warsaw School of Economics.

The project dealt with the costs of "(...) unresolved social problems. These are the so-called costs of abandonment, i.e. the expenses to be borne by the given community due to the fact that the given problems have not been solved or the given problems have not been identified in advance"<sup>9</sup>. The article focuses on the analysis of social problems of unemployment, poverty and homelessness. My contribution was, first of all, the part devoted to the social problem of unemployment. New problems were identified, which may arise one, four and seven years after the identification of the original problem of long-term unemployment, if appropriate preventive or activating and supportive measures are not taken. It was pointed out that in many situations social assistance centres should undertake protective measures combined

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<sup>9</sup> Hryniewicka, ed. 2011, p. 91.

with ALMP instruments, as actions at the local community level reduce the probability of new problems occurring in the future. This means that by giving appropriate status to policies conducive to better use of labour force, many other negative consequences of unemployment for the individual and its environment are avoided, such as:

- at the level of an individual and his/her family - falling into poverty, addictions, reduction of social contacts, social exclusion, domestic violence, educational problems of children,
- at the local community level - increasing the size of the grey market and crime; diseases and increased use of health care and the associated increase in public spending, lower potential revenues from local taxes and parts of local PIT.

In the last article [1.2] 2005 presented for assessment, I conducted an empirical analysis of the impact of the minimum wage on the labour market in Poland in 2002/2003. As we know from the literature (e.g. Neumark and Wascher 2007, Meer and West 2013, Boeri and van Ours 2013), too high minimum wage is sometimes considered to be the cause of growth or persistence of unemployment among the youngest workers and those with the lowest qualifications, although results concerning the significance of this labour market institution differ among studies. In the article [1.2], individual data from the Labour Force Survey panel were used to estimate the logistic regression model. The probability of losing one's job in the first quarter of 2003 by people who worked in the fourth quarter of 2002 was examined. The choice of the moment of the analysis was dictated by the availability of data and the choice of the period allowing to trace the impact of the real increase in the minimum wage: between 2001 and 2002 the minimum wage did not change, In 2004, nominal growth was lower than inflation.

I have shown that the level of earnings before the change in the minimum wage is the variable that has the strongest impact on the chances of staying out of work in the next quarter. People below the new minimum wage level, i.e. those whose wages would have to increase from the new year onwards, were more likely to lose their jobs. The level of education also has a strong impact on these chances, and the age and gender of respondents did not affect their chances of remaining in employment in the analysed period.

The change in the level of the minimum wage did not significantly affect either the average wage or the median, while a small change can be observed among the lowest wages - the value of the 25th percentile increased.

It seems that the high minimum wage in the analysed period may have been a barrier to the official employment of people with low qualifications, whose productivity may be perceived as lower than the minimum wage, and their labour supply is higher than the demand for it. Thus, I confirmed the conclusions from research on the minimum wage for other countries that raising it may have an impact on the employment of people with lower qualifications. Available data did not allow for verification of the hypothesis whether this has an impact on the employment of graduates entering the labour market.

### **Summary**

To sum up, the described achievements in the theoretical, empirical and application aspects contributed to the development of knowledge in the field of economic sciences, in areas that are also of interest to social politicians and sociologists.



In my research I took up the issue of counteracting the consequences of demographic changes (changes in age structures) for the labour market. I used such quantitative research methods as: models of labour market flows, models of logistic regression, or estimated age-wage profiles (Mincer equation) using European and Polish macroeconomic data, individual data from, among others, the Labour Force Survey, Household Budgets Survey, Structure of Earnings Survey, Survey of Health, Ageing and Retirement in Europe as well as primary data from surveys in projects in which I participated. In some of publications presented for evaluation I also used qualitative methods - in-depth individual interviews and analysis of diary materials. Many of the publications were created as a result of research work in international projects, which allowed me to situate the results against a wider background and comparative analysis of the situation in different countries.

By my research I have contributed to the increase of economic knowledge in the following areas:

- 1) Deepening the knowledge on the impact of demographic trends on the labour markets of European countries and possible adjustments to the ageing population [publication 1.11].
- 2) Understanding of the mechanisms of shaping the active ageing policy in Europe and Poland against the background of the European Union [1.1, 1.10].
- 3) Better identification of factors influencing economic activity of older people, especially in Poland, where apart from individual factors similar to those identified in other countries (health, education), institutional factors, including social security institutions and criteria for access to benefits in old age, are important [publications 1.4, 1.6, 1.9, 1.11].
- 4) Analyses which types of policies and when were conducive to finding a job for the long-term unemployed or hindered their employment in Poland in the first decade of the 21st century [1.2, 1.3, 1.7, 1.8].
- 5) Demonstrating wider effects of abandoning activation measures in relation to the long-term unemployed [1.5].

The results of my research are important from several perspectives. First of all, knowledge of the factors that influence labour force participation allows for better design of labour market and social security policy solutions, favouring the best possible use of labour force, which for demographic reasons is decreasing and will continue to decrease. Second, the long-term effects of inactivity on the labour market contribute to poverty and social exclusion, not only material, but also in a broader perspective. Finally, some labour market institutions (e.g. minimum wages) may have an unfavourable impact on the labour market situation, in particular in the less favourable phase of the business cycle.

It is worth stressing that even with better use of potential labour supply it is not possible to fully counteract unfavourable effect of demography on economic growth. Hence, there is still much room for future research in the area of my main research interests.

## 4. Other achievements

### Other publications

The other most important publications include the following areas:

- a) labour market analyses,
- b) pension systems and pension policy,
- c) other social security benefits, their impact on poverty and social exclusion,
- d) economics of health and health protection,
- e) migrations.

Some of the studies from the first two areas may be treated as an introduction to the research from the scope of the publication cycle submitted for assessment, or their extension indicating the possible direction of future research. These are:

- Perek-Białas J., **Ruzik A.** (2005), *Wpływ cech rynku pracy i systemu emerytalnego na aktywność zawodową Polaków* [Characteristics of the labour market pension system and its impact on labour force participation in Poland] [in:] Perek-Białas J. (ed.), *Aktywne starzenie. Aktywna starość*, Wyd. AUREUS, Kraków 2005, p. 77-92.
- **Ruzik A.** (co-author) (2008), *Dezaktywizacja w wieku przedemerytalnym a kwalifikacje* [Inactivity in pre-retirement age and qualifications], [in:] *Edukacja dla pracy: Raport o Rozwoju Społecznym Polska 2007*, U. Szanderska ed., UNDP Poland, Warszawa, 2007, p. 135-137.
- **Ruzik A.** (2008), *Retirement Decisions as a Function of Socio-Economic Factors in Central and Eastern European Countries*, ENEPRI Research Report No. 52/ March 2008.
- Magda I., Perek-Białas J., **Ruzik-Sierdzińska A.** (2014), *Kształcenie i doszkadzanie się z perspektywy aktywności zawodowej* [Formal and non-formal education and labour force participation], *Raport tematyczny z badania Uwarunkowania decyzji edukacyjnych. Wyniki pierwszej rundy badania panelowego gospodarstw domowych, 2014*; Instytut Badań Edukacyjnych, p. 94-127.
- **Ruzik-Sierdzińska A.**, Lis M., Potoczna M., Belloni M., Villosio C. (2013), *Age and productivity: Human capital accumulation and depreciation*, CASE Network Reports 114.
- **Ruzik-Sierdzińska A.**, Perek-Białas J. (2015), *Early entry – early exit? Education's impact on being active in the labour market of Poles 50+*, IBE Analyses 2015/5.

While conducting research on the **labour market**, I also focused on **wages**, human capital and employment in the shadow economy. This area also includes analyses of labour market policy. Apart from the publications discussed in the previous chapter, it is worth mentioning the studies on the structure and changes in the distribution of wages, the wage gap between men and women working in the shadow economy (quoted many times) or the analysis of wages in the health care sector.

- Marcinkowska I., **Ruzik A.**, Strawiński P., Walewski M. (2006), *Badanie struktury i zmian rozkładu wynagrodzeń w Polsce w latach 2000-2006* [Analysis of structure and changes in the distribution of wages in Poland in years 2000-2006], Departament Analiz Ekonomicznych i Prognoz, Ministerstwo Pracy i Polityki Społecznej, Warszawa 2008.

- **Ruzik A.** (2008), „Wynagrodzenia w ochronie zdrowia” [Remunerations in the health care] [in:] Cylwik, Andrzej i in. *Stan finansów ochrony zdrowia*, BRE Bank- CASE Seminar Proceedings, No. 97, p. 13-17.
- **Ruzik A.** (2008), „Płace i relacje płac w gospodarce z perspektywy sektora zdrowotnego” [Wages and wage relations in economy from the perspective of the health care sector], *Polityka Społeczna* nr 7 (412) 2008, p. 11-13.
- **Ruzik A.** (2009), „Zatrudnienie i wynagrodzenia w ochronie zdrowia” [Employment and wages in health care], [in:] *Finansowanie ochrony zdrowia w Polsce. Zielona Księga II*, Golinowska S., E. Kocot, A. Sowa (ed.), UWM „Vesalius”, Kraków 2009, p. 103-126.
- Rokicka M., **Ruzik A.** (2010), *The Gender Pay Gap in Informal Employment in Poland*, CASE Network Studies and Analyses nr 406, 2010.

Another important research area includes **pension systems** and their reforms, i.e. pension economics. I have analysed, among other things, the impact of reforms introduced in various countries on incomes after retirement, the effects of changes in regulations on the financial stability of pension systems and the relationship between the pension systems of various countries and the age of retirement. The works were both empirical - comparisons, estimates or projections for various European countries, as well as theoretical - as exemplified in the article, which extended the theoretical model of Burda 1995) migration decisions by expectations concerning future pension.

- Monticone Ch., **Ruzik A.**, Skiba J. (2008), *Women's Pension Rights and Survivors' Benefits: A Comparative Analysis of EU Member States and Candidate Countries*, ENEPRI Research Report No 53 (IV 2008).
- Uścińska G., **A. Ruzik**, H. Zalewska (2008) „Świadczenia emerytalne” [Pension benefits] [in:] Uścińska G. (ed.), *Zabezpieczenie społeczne w Polsce. Problemy do rozwiązania w najbliższej przyszłości*, IPISS, Warszawa 2008, "Studia i Monografie".
- Góra M., **Ruzik-Sierdzińska A.** (2018), *Migration with Pension Reform Expectations*, IZA Discussion Paper No. 11960.
- Määtänen N., Vork A., Piirits M., Gal R.I., Jarocińska E., **Ruzik-Sierdzińska A.**, Nijman T.E. (2014), *The Impact of Living and Working Longer on Pension Income in Five European Countries: Estonia, Finland, Hungary, the Netherlands and Poland*. Netspar Discussion Paper No. 08/2014-036.
- Chłoń-Domińczak A., Góra M., Kotowska I.E., Magda I., **Ruzik-Sierdzińska A.**, Strzelecki P. (2018), *The Impact of Life-Course Developments on Pensions in the NDC Systems in Poland, Italy and Sweden and Point System in Germany*, IZA Discussion Paper No. 11341.
- Jarocińska E., **Ruzik-Sierdzińska A.** (2015), *The impact of pension system reform on projected old-age income: the case of Poland*, Netspar Discussion Paper No 06/2015-025.

Regulations on other **social transfers** and their impact on the labour market, poverty and social exclusion is another area of my research, partly overlapping with each other from the previous one. Here, it is worth stressing the impact of expenditure and regulations concerning family policy on poverty and the income gap of families with children in Poland, as well as the analysis of the impact of the new Family 500+ benefit for families with children introduced in 2016. This benefit for the first child is income tested, which, according to the economic knowledge, may have an impact on the labour supply of parents.

- Schuh U., Ruzik A., Graf N., Golinowska S., Mateeva L., Sowa A., Paterson I. (2005), "Social protection and the life course" [in:] Nimwegen, N., G. Beets (eds), *Social situation observatory; demography monitor 2005*. NIDI report No 72, Haga, NIDI, 2005, p. 164-216.
- Piętka K., Ruzik A. (2006), *Analiza wpływu świadczeń społecznych na sytuację na rynku pracy*, Ministerstwo Pracy i Polityki Społecznej Departament Analiz Ekonomicznych i Prognoz, Warszawa, 2006.
- Balcerzak-Paradowska B., D. Bieniasz, H. Perło, A. Ruzik (2008) „Świadczenia rodzinne” [Family benefits] [in:] Uścińska G. (ed.), *Zabezpieczenie społeczne w Polsce. Problemy do rozwiązania w najbliższej przyszłości*, IPISS, Warszawa 2008, "Studia i Monografie", p. 63-82.
- Balcerzak-Paradowska B., Ruzik A., Styrc M. (2009) „Polityka rodzinna a ubóstwo i wykluczenie społeczne” [Policy towards families vs poverty and social exclusion], [in:] *Polityka dochodowa, rodzinna i pomocy społecznej w zwalczaniu ubóstwa i wykluczenia społecznego. Tendencje i ocena skuteczności*, Golinowska S., B. Balcerzak-Paradowska (eds) IPISS, Warszawa 2009.
- Ruzik-Sierdzińska A. (2018), "Krótkookresowe skutki programu Rodzina 500+" [Short-term effects of Family 500+ program], *Studia z Polityki Publicznej/ Public Policy Studies* 1(17)/2018, p. 63-76.

Labour market participation is related to health and the health of the population and the ability to work depends, among other things, on the health care system, lifestyle and environment. That is why the next area of my interest after obtaining Ph.D. were analyses of the impact of disability and health problems on professional activity, as well as other issues from **health economics**. In addition to the above mentioned analyses of earnings in the health care system, I analysed this system from the perspective of its financing, resources, the use of health services and the modern telemedicine solutions used to ensure better access to health care and services.

- Ruzik-Sierdzińska A. (2012), "Trudności uczestnictwa osób niepełnosprawnych na współczesnym rynku pracy" [Barriers to labour market participation of people with disabilities], *Polityka Społeczna, Zdrowie, sprawność i aktywność starzejącej się populacji*, IPISS/MPiPS, Warszawa 2012, p. 43-46.
- Ruzik-Sierdzińska A. (2012), „Zakres i tendencje występowania niepełnosprawności. Analizy na podstawie krajowych i międzynarodowych danych statystycznych (OECD, EUROSTAT, GUS)” [Scope and trends of disability. Analysis based on country and international data (OECD, EUROSTAT, GUS)], [in:] Golinowska S. (red.) *Instytucjonalne, zdrowotne i społeczne determinanty niepełnosprawności*, Studia i Monografie, IPISS, Warszawa.
- Ruzik-Sierdzińska A. (2016), "Zdrowie a korzystanie z różnych rodzajów świadczeń zdrowotnych. Koszt i dostęp do usług ochrony zdrowia" [Health and use of different health care services. Cost and access to health care services], *Polityka Społeczna*, 7 /2016, p. 17-21.
- Ruzik-Sierdzińska A., Sierdziński J. (2018), „Koszty i korzyści rozwiązań telemedycznych” [Costs and benefits of telemedical solutions], *Studia i Prace Kolegium Zarządzania i Finansów*, 165, p. 49-61.

International **migration** has an influence on the labour markets of both sending and receiving countries, as well as on social security systems. Significant increase in emigration from Poland

*Ruzik*

after 2004 after accession to the European Union and gradual opening of the labour markets of Western European countries, as well as an increase in immigration to Poland in recent years have caused that the subject of economic migration is becoming more and more important in relation to the Polish labour market. My studies in this area focused on the analysis of migration trends, the impact of migrations on the Polish social security system, and including differences between the two countries pension systems migration decisions making (see the above mentioned text of Góra and Ruzik-Sierdzińska 2018).

- **Ruzik A.** (2007), „Trendy procesów emigracyjnych z uwzględnieniem wyjazdów do Francji na podstawie polskich danych” [Migration trends including migration to France based on Polish datasources] [in:] *Wyjazdy zarobkowe Polaków do Francji na tle poakcesyjnych tendencji migracyjnych*, S. Golinowska, A. Ruzik, Ch. Starzec, J. Gandziarowska, A. Graś, IPiSS, 2007, p. 78-97.
- **Ruzik A.** (2008), „Wpływ migracji na polski system zabezpieczenia społecznego - zmiany podaży pracy” [Impact of migrations on the Polish social security system – labour supply changes], *Polityka Społeczna*, 11-12/ 2008, p. 27-30.

Other publications, which I do not discuss here, are listed in Annex.

To sum up, after obtaining the doctorate, I published 31 papers (nine of which were published by myself as only author): 13 articles, two of which were published in scientific journals indexed in the Web of Science database (list A), and 11 in scientific journals without IF (list B), and two articles in national non-scoring journals. In addition, I am the author of two scientific monographs (co-authored), 16 chapters in scientific monographs in Polish or English, 17 working papers and reports. The results of my research are noted and discussed by other economists, which is reflected in the number of quotations by Polish and foreign authors Total number of quotations: according to Web of Science: 18, according to BazEkon: 129, according to Google Scholar 277, Index Hirsch WoS 2, BazEkon 6, Google Scholar 9.

### ***Participation in Polish and international research projects***

After obtaining Ph.D. degree I participated in 19 research projects, in that 8 international. I was a (co)lider of the project or of the workpackage in four of them:

- In 2009, together with Magdalena Rokicka I led the project *Gender pay gap in unregistered employment in Poland*, financed by a grant in GDN 9th Regional Research Competition.
- In years 2010-2011, in the research project *Orzekanie o niepełnosprawności i niezdolności do pracy* [Certification of disability and incapacity for work] at the Institute of Labour and Social Studies I led workpackage 2 on identifying statistical information on disability in Poland and in the European Union and proposing a method of collecting systematic data on the incidence of disability and implementing a special statistical survey.
- In years 2010-2013, in the project financed by the Norwegian Research Council: *The Policy Ideas and Practice of Active Ageing: Political, Economic and Cultural Challenges in Europe* I was a researcher and a co-leader (with Jolanta Perek-Biafas) of the Polish team of the project at WSE.
- In years 2011-2015, in the research project *NEUJOBS - Employment 2025: How will multiple transitions affect the European labour market* I was a leader of WP17

(*Employment of the elderly*) and I coordinated work of a group of researchers from various countries working in this team.

### **Conferences**

I presented the results of my postdoctoral research at 10 national and 18 international scientific conferences. I was also a co-organizer of the *15th European Association for Comparative Economic Studies Conference*, which took place in September 2018 at the Warsaw School of Economics.

### **Dissemination of knowledge**

I have spoken many times on economic and social issues on the radio (Polish Radio 1, Radio TOK FM). At the invitation of students of 64<sup>th</sup> Witkacy Secondary School in Warsaw at the Entrepreneurship Meeting 2016, I conducted a popularization lecture on the economy and financial markets.

In years 2007-2009 I was a member of the Social Council of the National Health Fund and in 2013 (until maternity leave) I worked as an expert of "Social Council 50+" at the Ministry of Labour and Social Policy, to which I was appointed by the Minister of Labour and Social Policy.

My expert opinions on issues related to the pension system and the labour market include:

- 2006, as part of the CASE Foundation's team of co-workers, "Human Capital Operational Programme: Diagnosis",
- 2006-2007, co-creator of the concept of an IT system for monitoring equal status between women and men (indicator system) for the Ministry of Labour and Social Policy,
- 2011 - expert opinion for Reytech "Polish flexicurity model: social security";
- two expert opinions for the Civic Institute: On changes in the retirement age in Poland (2016) and the Family 500+ Programme (2017)

### **Teaching**

I passed on the knowledge and experience gained during my studies, scientific and professional work during lectures and exercises with students at the Warsaw School of Economics. I conducted the following classes in Polish or English: Labour economics, Pension economics, Health economics, Macroeconomics I, Microeconomics I, Macroeconomics II, Microeconomics II. I was in the academic year 2014/2015 in the team of economists delivering classes in Economics for doctoral students.

I supervised ten diploma theses on the labour market and pension systems defended in the years 2004-2018. I have reviewed eight diploma theses and participated in more than 50 committees accepting diploma exams as chairwoman of the committee or examiner in economics for persons graduating from the second degree studies at the Warsaw School of Economics. Since June 2018, I have been an aux. supervisor of the Ph.D. thesis at the College of Economic Analysis at the Warsaw School of Economics.

In years 2005-2008 at the Joint Vienna Institute I gave lectures and workshops at *Applied Economic Policy Course* co-organised by OECD, and in 2009 at Helena Chodkowska University of Management and Law I had a lecture on the pension systems and pension plans.

### ***Organisational achievements***

I am currently the coordinator of the following subjects at the Warsaw School of Economics: Labour Economics, Introduction to Labour Economics, and I have also created a syllabus and I coordinate the subject to choose from: Modelling pension systems and decisions. Together with other lecturers Labour Economics/ Labour Economics I have developed guidelines to standardize the lecture and exams in this course. In the academic years 2007/2008 and 2017/2018 I was a member of the Recruitment Committee for the second degree at WSE, and in 2010 a member of the Recruitment Subcommittee at the same university. I also took part in the work of the Dean's Working Group for Didactics (2012-2014) and the Dean's Committee on statutory solutions (January - February 2018).

In 2005, I was a member of the Team for Statistics on residents' and non-residents labour incomes at the Central Statistical Office (GUS) as a representative of IPISS.

### ***Membership in scientific organisations and societies***

I am or have been a member of the following organisations:

- 2006-2007: European Sociological Association – coordinator of The ESA Research Network on Ageing in Europe (2 years).
- 2014: Polish Telemedicine Society (Polskie Towarzystwo Telemedycyny i e-Zdrowia).
- I am a co-founder and a member of the Polish Pension Group SGH, PPG-SGH at the Warsaw School of Economics.

### ***Reviews***

I have reviewed articles for scientific journals: *Bank i Kredyt*, *Studia Ekonomiczne*, *Polityka Społeczna*, as well as statutory research carried out at the Warsaw School of Economics and two reports carried out as part of scientific research commissioned by Instytut Badań Edukacyjnych.

I was the author of grant applications evaluations for: the Institute of Structural Research, GDN Global Competition competitions in 2010-2011 and the assessment of master's theses submitted for the competition of the Institute of Labour and Social Affairs for the best master's and doctoral theses in the field of labour and social policy.

### ***Other***

In 2012 - diploma of recognition of the Rector's of the Warsaw School of Economics, for publishing the articles in journals from JCR list.

Together with colleagues from the Department of Economics at the Warsaw School of Economics led by prof. Marek Góra, I co-authored the translation into Polish of the book by Tito Boeri and Jan van Ours (2008), *Economics of Imperfect Labour Markets*, Princeton University Press, published in Polish in 2011 by Wolters Kluwer as *Ekonomia niedoskonałych rynków pracy*.

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