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Innovative Methodology and Recent Experience

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Effective Age of Retirement:
Innovative Methodology and Recent Experience [*]

Maxime Comeau[†], Denis Latulippe[‡]

Résumé/abstract

Depuis une quinzaine d'années, une méthodologie a été développée pour permettre l'estimation de l'âge effectif de retraite du marché du travail, et cette méthodologie est maintenant utilisée sur une base régulière pour suivre l'expérience et apporter un éclairage en matière de développement de politiques. Le processus de transition travail-retraite et l'environnement socio-économique ont cependant évolué de façon significative au cours des dernières années, incluant la crise économique et financière de 2008. Ce papier présente des façons novatrices d'estimer l'âge de retraite, mettant l'accent sur l'emploi effectif des travailleurs âgés et ne référant pas exclusivement aux taux d'activité. La méthodologie retenue permet également une distinction entre la retraite d'un emploi à temps plein vs la retraite de tout emploi. Les résultats sont présentés pour quatre pays (Autriche, Allemagne, Irlande et Royaume-Uni) caractérisés par des situations divergentes au cours des dernières années

Mots clés : âge de la retraite, transition travail-retraite, retraite graduelle, expérience de la retraite, emploi des travailleurs âgés, estimation de l'âge de la retraite.

Methodology to estimate effective retirement age from the labor market has been developed over the last 15 years and is now commonly used for experience review and policy development. However, both transition from work to retirement (including gradual retirement) and the socio-economic environment have evolved over this period which includes the 2008 economic crisis. This paper presents innovative ways to estimate retirement age, in order to better assess effective retirement from employment and not only focus on labor force participation rates. It also makes possible the distinction between retirement from full-time employment vs part-time employment. Results are presented for four countries (Austria and Germany, Ireland and the United Kingdom) with rather diverging experience.

Key words: Retirement age, Work-retirement transition, Gradual retirement, Retirement experience, Older workers' employment, Retirement age estimation

Codes JEL *:* J26

Introduction

Several years ago, indicators were developed to estimate the average effective age at which older workers withdraw from the labour force, based on participation rates (Latulippe 1996; Scherer 2002). Further estimation methodology refinements were introduced recently to refer to the "actual" average effective age, rather than the "expected", and avoid compositional effects of varying cohort sizes (Keese, 2012). An accurate understanding of trends and cross-country differences has become important and such indicators are now commonly used and updated on a regular basis (http://www.oecd.org/pensions/public-pensions/ageingandemploymentpolicies-statisticsonaverageeffectiveageofretirement.htm).

Initial thoughts on the definition of a retirement age indicator go back to more than 15 years. Both the perceptions of retirement and the socio-economic environment have evolved since that time. In particular, the idea of "gradual retirement" has become more of interest over the years:

- Older workers are now more inclined to maintain some form of economic activity, following retirement from their main occupation
- Employers also tend to rely more on their former workers, for specific tasks, in the years following their retirement
- There maybe a "part-time bridge" in the transition process from full-time work to full-time retirement

Moreover, the 2008 financial and economic crisis has had significant impact on labour markets and employment, with significant variations from country to country. The retirement experience of older workers is directly linked to their employment status and perspectives.

In such a context, there is an interest in looking at complementary ways to estimate effective retirement age in order to:

- Better assess effective retirement from employment and not only focus on the labour force status that considers economically active (and therefore "not retired") both workers and individuals classified as "unemployed".
- Obtain distinct estimates for retirement from full-time employment.

Work has been conducted to estimate retirement age taking into account the employment of older workers, based on employment rates by age groups. Referring to the proportion of employed people working on a full-time basis, it is also possible to obtain distinct estimates for retirement from full-time employment. As specified in the methodology section of the paper, all these estimates of retirement age, including the usual one based on participation rates, are defined in a consistent way, considering as net movement into retirement the change over time in the proportion of the population that can be classified as having left the labour market or ceased to work. The distinctions refer to the way cessation of work or activity is defined; it is

based either on participations rates in the labour market, employment rates or full-time employment rates.

Considering the available data, results are presented for 4 countries: Austria, Germany, Ireland and the United Kingdom. Referring to the recent experience in these countries, it was found that:

- The average effective retirement age is indeed lower when only considering retirement from full-time employment rather than considering jointly retirement from both full-time and part-time employment. This supports the fact that people tend to opt for part-time work before retiring permanently or, alternatively, that "career" part-time workers retire later.
- Countries where there has been an increase in the retirement age from employment (both full-time and part-time) also registered an increase when considering solely the effective retirement age from full-time employment. In other words, the emerging trend towards an increase in effective retirement age is not simply the fact of a gradual retirement, but also encompasses retirement from full-time employment.
- In the past, unemployment has been a route to retirement for many workers and it makes a difference whether unemployed people, who are out of employment but still part of the labour force, are considered as having retired or not. The distinction is especially important in countries like the United Kingdom and Ireland who suffered major job losses and a rise in unemployment rates following the 2008 financial and economic crisis. In these countries, retirement age from employment has been going down since 2008, and retirement age based on retirement from employment is lower than retirement age considering retirement from the labour force. In other words, people declare themselves "economically active and willing to work" following their retirement (voluntary or nonvoluntary) from employment.
- The situation is opposite in Germany where unemployment rates went down and where there has been a steady rise in employment rates. Retirement age from employment has been increasing in this country. In fact, retirement age is lower in Germany than in the United Kingdom when referring to the labour force and taking into consideration both employed and unemployed people. However, retirement age is higher in Germany when only looking at retirement from employment.

The methodology used and the results obtained are discussed below.

Section 1   Methodology

1.1 Current OECD Methodology

The methodology used by the OECD provides an estimate of the actual average age at retirement for all persons who withdraw from the labour force over a given 5-year period,

considering reduction of participation rates during this 5-year period for successive cohorts. In other words, those above the age of 45 are regarded as "retired" if they are not in the labour force and net movement into retirement is then the change in time in the proportion of the population above 45 who are neither working nor classified as unemployed.

If we let A_j^y be the participation rate in the year y for the cohort at age j, the average age of retirement can be written as:

$$AAR_A = \sum_{k=9}^{16}(5k) * (A_{5(k-1)}^{y-5} - A_{5k}^{y})/ \sum_{k=9}^{16}(A_{5(k-1)}^{y-5} - A_{5k}^{y})$$

It is assumed that no withdrawals occur before the age of 40 and that no one 80 years of age or older is in the labour force. (Keese, 2012)

1.2 Estimates based on employment rates

Referring to participation rates provides an estimate of retirement age based on the withdrawal from the labour force. Retirement from employment can be calculated, using the same methodology, but referring to employment rates rather than activity rates. Employment rates, also known as employment to population ratio, are defined as persons in employment divided by the population. Persons in employment are those in one of the following groups: Paid employment; employers and self-employed; unpaid family workers[2] (Source: OECD, http://www.oecd.org/employment/emp/onlineoecdemploymentdatabase.htm). Employment rates are lower than participation rates since the latter also include the people who are classified as unemployed.

If we let E_j^y be the employment rate in the year y for the cohort at age j, the average age at retirement based on the employment rates can be written as:

$$AAR_E = \sum_{k=9}^{16}(5k) * (E_{5(k-1)}^{y-5} - E_{5k}^{y})/ \sum_{k=9}^{16}(E_{5(k-1)}^{y-5} - E_{5k}^{y})$$

1.3 Estimates based on full-time employment

Finally, to obtain estimates of age at retirement from full-time employment, it is necessary to apply a factor to employment rates that reflects the proportion of the persons working full-time, for each age group and each calendar year. The common definition of full-time employment refers to a minimum of 30-usual weekly hours of work in the main job; it is expressed as a

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[2] Unpaid family workers at work should be considered as being self-employed irrespective of the number of hours worked during the reference period

percentage of the total employment. (Source: OECD http://www.oecd.org/employment/emp/onlineoecdemploymentdatabase.htm).

Defining F_j^y as the full-time employment ratio in year *y* and age group *j,* the full-time employment rate FE_j^y can then be defined as follows:

$$FE_j^y = F_j^y * E_j^y$$

And the estimate of the average age at retirement can be written as:

$$AAR_{FE} = \sum_{k=9}^{16} (5k) * (FE_{5(k-1)}^{y-5} - FE_{5k}^y) / \sum_{k=9}^{16} (FE_{5(k-1)}^{y-5} - FE_{5k}^y)$$

Section 2   Estimates of retirement age and related statistics

2.1 Retirement from the Labour Force

Estimates of effective retirement age published by the OECD go back to 1970. As shown in Figure 1, when looking at the long-term experience there has been a clear tendency towards a gradual reduction in retirement age over time, for both men and women.

Figure 1
Average Effective Retirement Age
1970 – 2011

Source : OECD http://www.oecd.org/pensions/public-pensions/ageingandemploymentpolicies-statisticsonaverageeffectiveageofretirement.htm
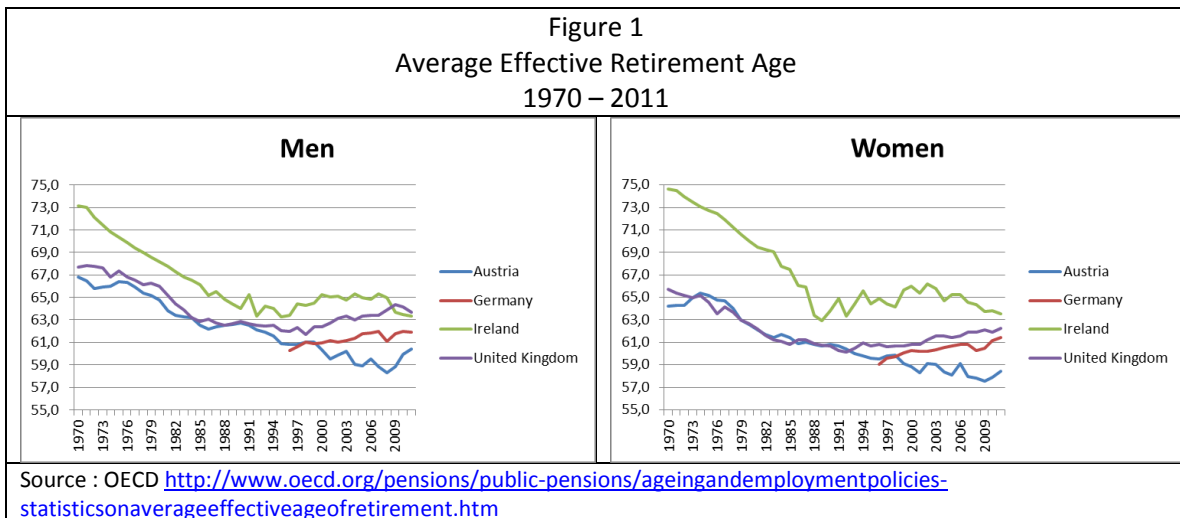
However, this downward trend has been stopped and reversed in most countries in recent years. As shown in Table 1, there has been an increase in 3 out of the 4 countries studied between 2005 and 2011 for both genders, the exception being Ireland where there has been a downward trend throughout the period studied. In the United Kingdom, there has been a slight increase up to 2009, followed by a decline, as of 2010, especially for men.

Men	2005	2006	2007	2008	2009	2010	2011	Increase vs min
			Table 1					
		Effective Retirement Age – Participation Rates						
Austria	58,9	**59,5**	58,8	58,3	**58,9**	**59,9**	**60,4**	2,1
Germany	61,8	61,8	**62,0**	61,1	**61,8**	**62,0**	61,9	0,8
Ireland	64,9	64,9	**65,3**	65,0	63,7	63,4	63,3	-
United Kingdom	63,3	63,4	63,4	**63,9**	**64,4**	64,1	63,6	0,3
Women	2005	2006	2007	2008	2009	2010	2011	Increase vs min
Austria	58,1	59,1	57,9	57,8	57,6	**57,9**	**58,4**	0,8
Germany	60,7	60,8	60,8	60,3	**60,5**	**61,2**	**61,4**	1,1
Ireland	65,3	65,2	64,6	64,4	63,7	**63,8**	63,5	-
United Kingdom	61,4	**61,5**	**61,9**	61,9	**62,1**	61,9	**62,3**	0,4

NB Bold = increase in retirement age
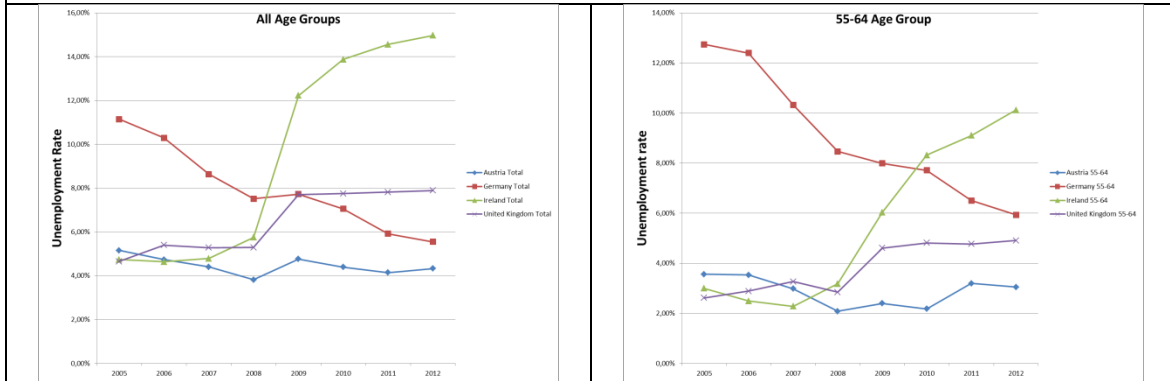
2.2 Retirement from Employment

Retirement age has also been estimated on the basis of employment, and full-time employment, rather than economic activity. Results on the basis of employment are shown in Table 2.

Results in Table 2 clearly show two distinct trends among the countries studied. In Austria and Germany, there has been a significant and steady increase of retirement age from employment, especially for men. In Ireland and the United Kingdom, if modest increases were recorded before 2008, there has rather been a downward trend following 2008. It is worth noticing that unemployment rates have increased significantly in these last two countries, following the 2008 crisis. Unemployment rates rather went down between 2005 and 2011 in Germany and remained stable in Austria. Details are shown in Figure 2.

Men	2005	2006	2007	2008	2009	2010	2011	Increase vs min
			Table 2					
		Effective Retirement Age – Employment						
Austria	58,7	**59,4**	58,0	**58,1**	**59,5**	**59,9**	**61,4**	3,4
Germany	60,0	**60,5**	**62,1**	**62,4**	**63,2**	**63,7**	**63,8**	3,8
Ireland	64,4	64,2	**65,2**	64,3	61,3	60,6	60,5	--
United Kingdom	63,8	63,4	**63,5**	**63,7**	63,0	62,8	62,7	--
Women	2005	2006	2007	2008	2009	2010	2011	Increase vs min
Austria	58,0	**59,1**	58,0	57,9	57,4	**57,9**	**58,6**	1,2
Germany	59,9	**60,1**	**60,6**	**60,6**	**61,3**	**62,1**	**62,5**	2,4
Ireland	65,3	**65,4**	64,8	64,5	63,0	**63,1**	63,1	0,1
United Kingdom	61,5	61,5	**62,0**	61,8	**62,1**	61,6	**62,0**	0,5

NB Bold = increase in retirement age

Figure 2
Unemployment rates
2005-2011

Source :OECD (2010), "Labour Market Statistics: Labour force statistics by sex and age: indicators", *OECD Employment and Labour Market Statistics* (database). doi: 10.1787/data-00310-en

2.3 Retirement from Full-Time Employment

Two distinct trends are also noticed when looking at retirement age from full-time employment. Since 2008, there has been an increase in Germany and in Austria, in comparison with a reduction in Ireland and in the United Kingdom. Details are shown in Table 3.

Men	2005	2006	2007	2008	2009	2010	2011	Increase vs min
Austria	-	-	58,5	57,9	57,9	**59,4**	59,4	1,5
Germany	-	-	60,8	**61,4**	**62,2**	**62,5**	63,0	2,2
Ireland	-	-	63,9	62,8	59,9	59,3	59,2	-
United Kingdom	-	-	61,5	**61,8**	60,9	60,7	60,8	0,1
Women	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**Increase vs min**
Austria	-	-	58,0	57,7	57,2	**57,7**	58,5	1,3
Germany	-	-	59,7	59,5	**60,6**	**61,4**	61,8	2,3
Ireland	-	-	63,0	62,9	60,4	**61,6**	61,5	1,1
United Kingdom	-	-	60,3	60,3	60,2	59,7	59,7	-

Table 3
Effective Retirement Age – Full-Time Employment

NB Bold = increase in retirement age. Data not available for 2005 and 2006.

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2.4 Comparative analysis

Detailed results for the three estimates of retirement age are presented on a country basis in Figure 5 in the annex. Statistics on participation rates and employment rates for the 65-69 age group are also shown.

The first conclusion to be drawn is the lower retirement age from full-time employment when compared to retirement from employment. For 2007-2011, the difference is slightly more than 1 year on average (1,0 for men and 1,2 for women), but more important in the United Kingdom (2,0 and 1,9 years) and Ireland (1,4 and 1,8 years), than in Austria (0,8 and 0,1 year) and Germany (1,1 and 0,8 year). These differences between the two estimates, based on employment and full-time employment, have been rather stable over the years. They corroborate the "hypothesis" that people may opt for a part-time job following their retirement from full-time employment. Also, career part-time workers are possibly more inclined to defer retirement at a later age.

Figure 5 also charts participation rates and employment rates in the 65-69 age group, showing the tendency towards an increase in three out the four countries, the exception being Ireland.

In Ireland as well as in the UK, retirement age is higher when considering retirement from the labour force than when referring to retirement from employment. Unemployment rates have been increasing over the last years. The situation is different in Austria and even more so in Germany where retirement age is higher when calculated on the basis of employment. In this country, the significant increase in employment rates over the years has offset, at least partially, the natural reduction in employment rates with age which implies that few people have been retiring from employment before the age of 60. This increase in employment rates has not been coupled with an increase in activity rates before that age, but rather a reduction in unemployment rates. Figure 3 shows the reduction over time of the difference between activity rates and employment rates in Germany and the United Kingdom.

If average retirement age is lower in Germany that in the United Kingdom when taking into consideration both employed and unemployed people, the situation is different, leading to a higher retirement age in Germany, when only looking at employed people. The difference is more important for full-time employment. Details are shown in Figure 4.

Figure 3
Difference between Activity rates and Employment Rates
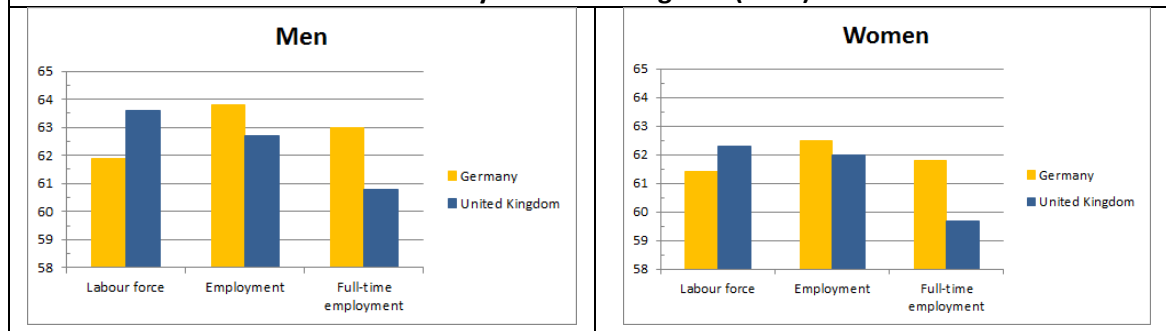2005-2012

Germany
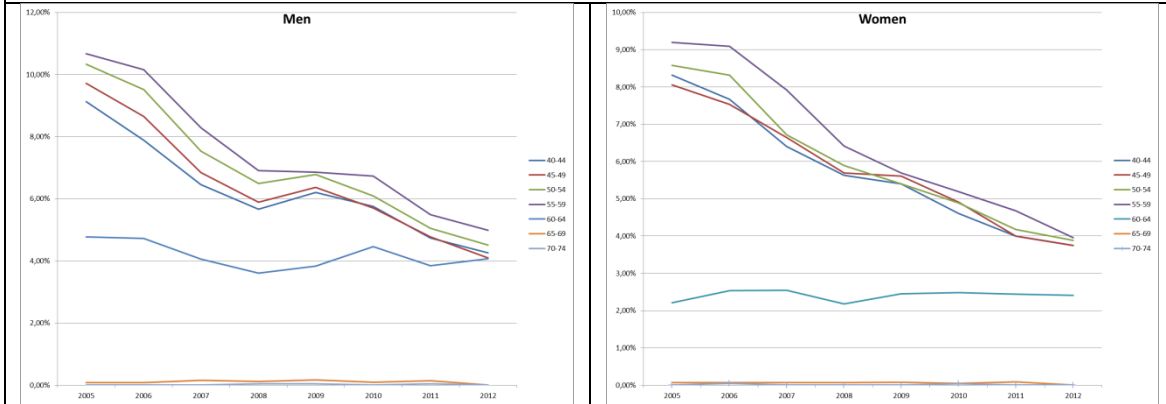
United Kingdom
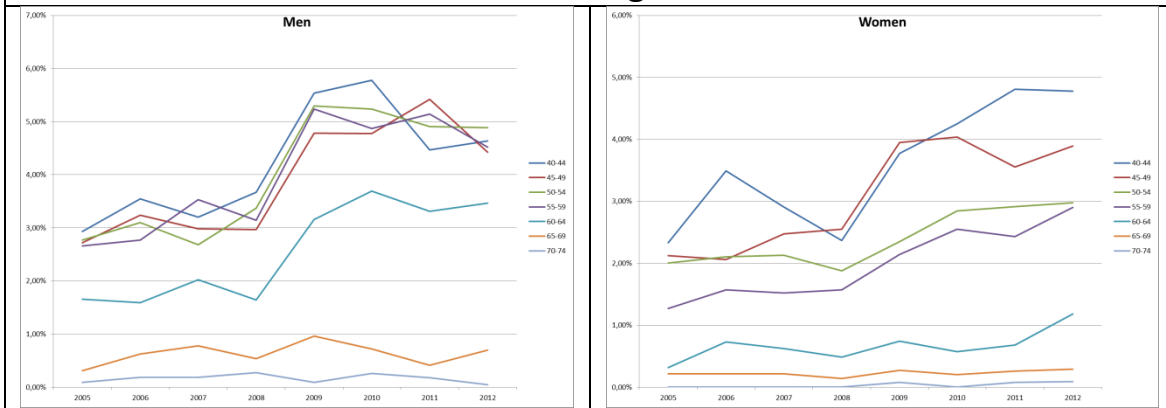
Source :OECD (2010), "Labour Market Statistics: Labour force statistics by sex and age: indicators", *OECD Employment and Labour Market Statistics* (database). doi: 10.1787/data-00310-en

Figure 4
Average retirement age :
Germany vs United Kingdom (2011)

Conclusion

The methodology developed over the last 15 years to estimate effective retirement age, based on withdrawal rates from the labour market, has proven to be very useful for both experience review and policy development. Discussions of retirement age will still be on the agenda for many more years, and the current paper was written to provide additional tools for more in-depth analysis of retirement experience.

In fact, we will be talking less about retirement age and more about the transition from work to retirement. Moreover, experience has clearly shown that retirement is impacted by the economy and the situation of the labour market. In that context, estimates of retirement age that throw some light on part-time work and part-time retirement, and take into account the effective employment of older workers, should be useful to stimulate further discussion.

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Figure 5a
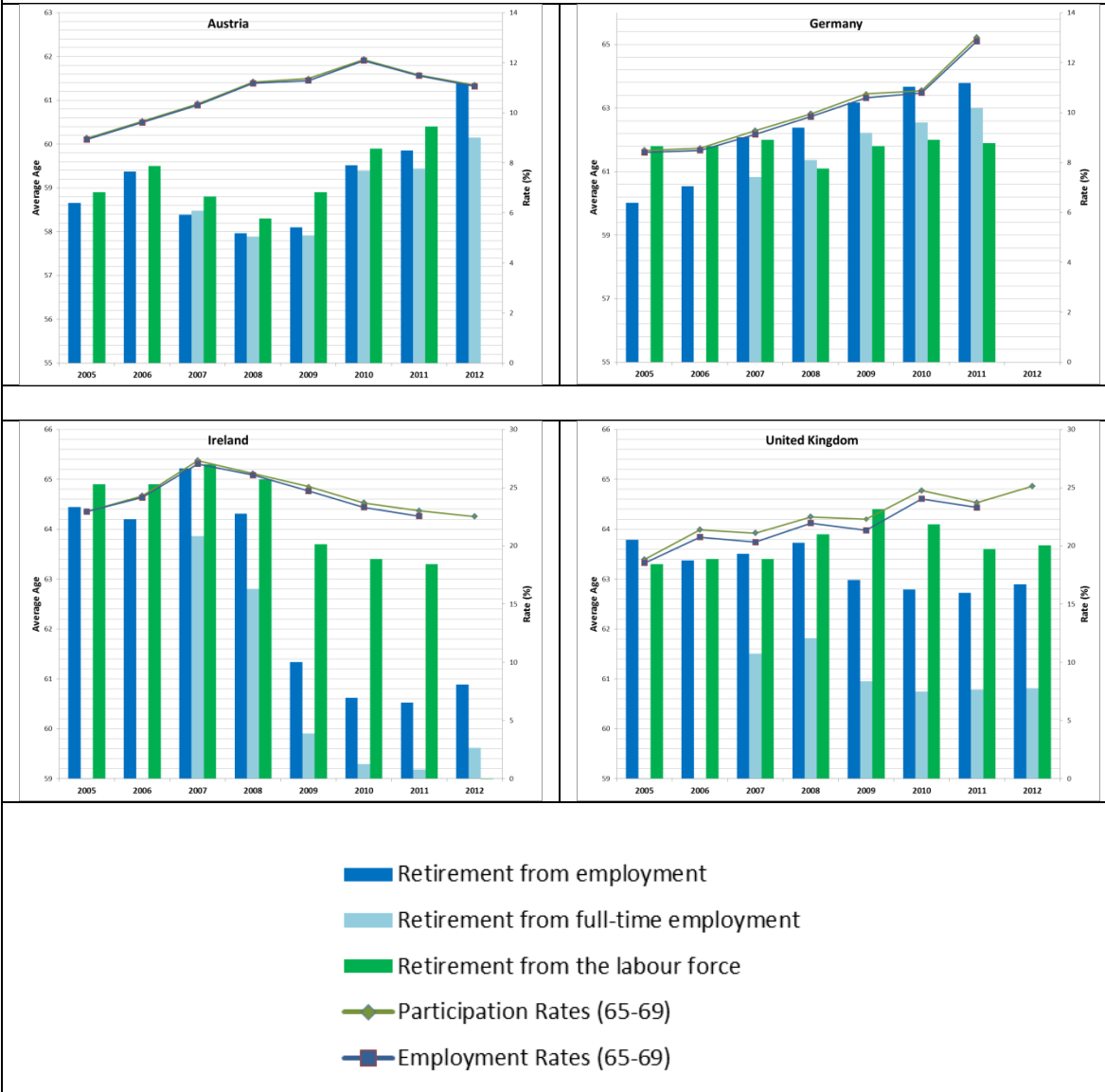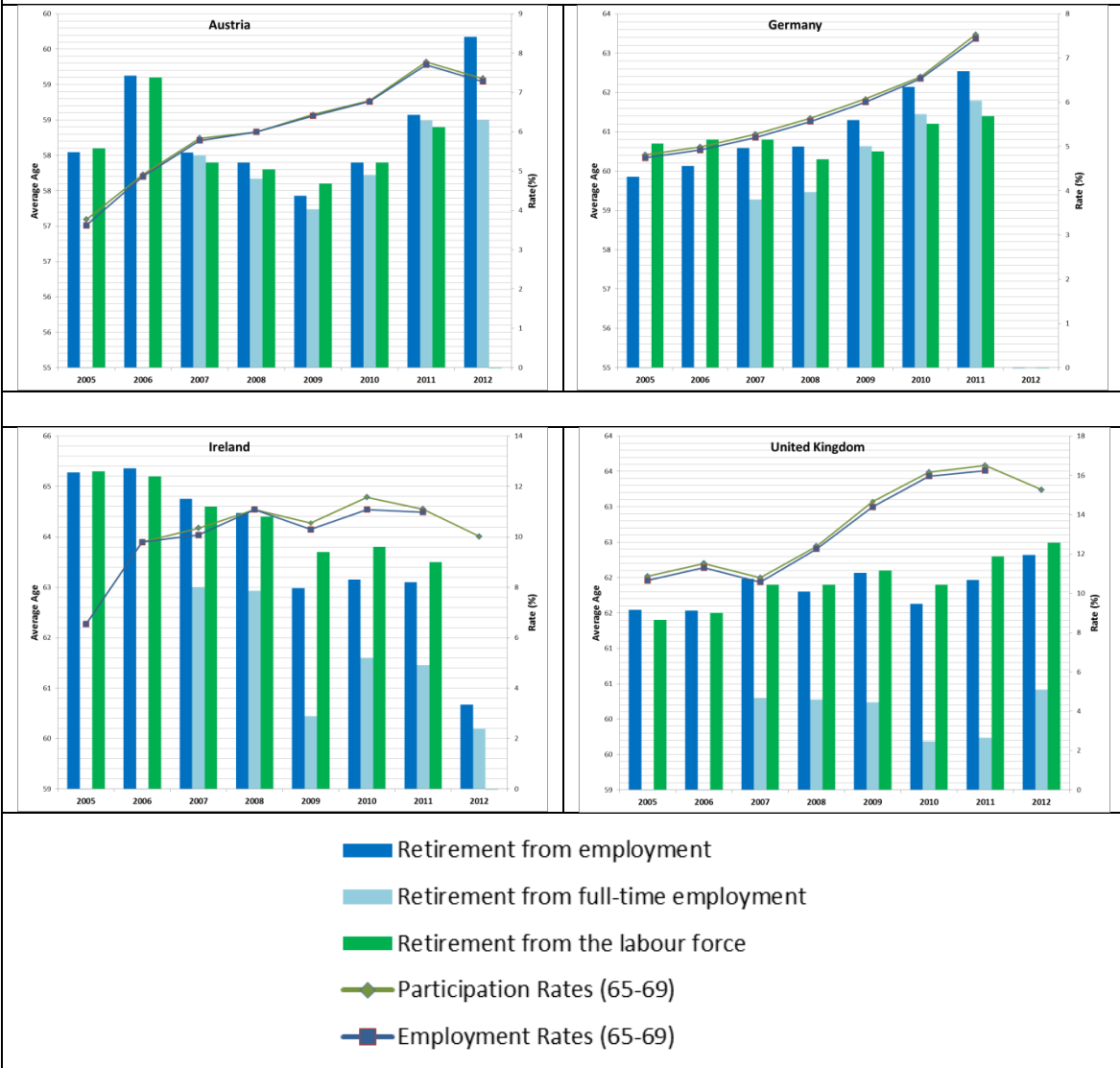**Effective retirement age:**
Men 2005-2012

Figure 5-b
Effective retirement age:
Women 2005-2012

1130, rue Sherbrooke Ouest, bureau 1400, Montréal (Québec) H3A 2M8

Tél. : 514-985-4000 • Téléc. : 514-985-4039

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