

The Gender Gap in Pensions in the EU

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THE GENDER GAP IN PENSIONS IN THE EU

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Country Abbreviations

AT	Austria	FR	France	NL	Netherlands
BE	Belgium	GR	Greece	NO	Norway
BG	Bulgaria	HU	Hungary	PL	Poland
CY	Cyprus	IE	Ireland	PT	Portugal
CZ	Czech Republic	IS	Iceland	RO	Romania
DE	Germany	IT	Italy	SE	Sweden
DK	Denmark	LT	Lithuania	SI	Slovenia
EE	Estonia	LU	Luxembourg	SK	Slovak Republic
ES	Spain	LV	Latvia	UK	United Kingdom
FI	Finland	MT	Malta		

List of Abbreviations

GGP	Gender gap in pensions
GGP-H	Intra-household Gender gap in pensions
Eurostat	European Statistics Bureau
EU-SILC	European Union Statistics on Income and Living Conditions
SHARE	Survey on Health Ageing and Retirement in Europe

Executive summary

Motivation: towards a pension gap indicator

Pensions are an important determinant of their beneficiaries' **economic independence**. When examining independence for people of working age, we are led naturally to think about the gender pay gap. Focusing on gaps in pensions would be the natural follow-up (or sequel) to an interest in gender pay gaps. Those gaps would reflect the cumulated disadvantages of a career spent in a gender-biased labour market. This is even truer for older cohorts. Pension systems are not simply neutral reflections: they may *amplify* imbalances, by rewarding thrift; or they may *dampen* them, as a social policy choice.

An annual indicator tracking gender imbalance may be justified by the complexity of gender effects affecting pensions. The structure of pensions is influenced by three sets of factors:

First, very long-term structural changes: ageing is obviously the most important influence, although echo effects of past employment also play a role. *Today's* pensions may reflect *yesterday's* employment as well as social norms such as divorce, widowhood, and cohabitation between generations. *Second*, today's pensions are affected by **past pension reforms**. Today's pensioners are frequently covered by transitional arrangements. They will have lived and worked under one system and will in many cases receive benefits under another. Being a 'group stuck in the middle', they may not be protected by the internal operational logic of the system, whether new or old. As time proceeds, however, more individuals will be affected by *new* features and be vulnerable to *new* kinds of pension risks. Two reforms are most likely to have a disproportionate effect on women. *First*, the switch in emphasis from public ('first pillar') pensions to *occupational* ('second pillar') pensions: the overall effect tends to tighten the link between contributions and benefits, what in US has been named 'the privatisation of risk'. *Second*, the emphasis on working longer. Although its rationale is unassailable, there may be hidden side effects in the medium term leading to lower pensions for those who do not respond to the incentives. *The third set* of factors shaping pensions are **short-term pressures** connected with the current economic crisis. These pressures vary from country to country but could lead to important swings in gender effects; these could affect both occupational and State systems.

Thus, older women are recipients of echoes of past disadvantage, just as they begin

to receive signs of future problems. As the EU has taken a lead on both ageing populations and gender balance, it is appropriate that it devotes attention to possible side effects of their interaction. A decisive step in that direction would be to produce a gender gap indicator for pensions on a regular basis.

The only realistic data source for such an indicator would be the EU Statistics on Income and Living Conditions (SILC), possibly supplemented by another international data source, the Survey of Health, Ageing and Retirement in Europe (SHARE) concerning individuals over 50. Using this data set would highlight and with time improve the quality of information and would clarify issues of definitions that now appear problematic. The option of relying on administrative data must be ruled out for three reasons: information is not comparable, is fragmentary and sometimes may be gender insensitive.

The indicator should focus on people over 65. Younger pensioners are a self-selected atypical group; the choice of an age cut-off point would keep the analysis in line with demographic practice. To describe the gender situation one needs two indicators: **firstly**, an indicator for coverage – i.e. who is a pensioner; and **secondly**, an indicator for determining differences in pensions for those who draw a pension. The latter is the key diagnostic tool used and is called the '*Pensioners' Gender Gap in Pensions*'. An alternative concept, the '*Elderly Gender Gap in Pensions*' is defined over the population, i.e. it includes those with no pensions.

The Gender Gap in Pensions is the percentage by which women's average pension is lower than men's; it measures by how much women are lagging behind men.

Considerable research effort has concentrated on Gender Gaps in Pay. Although a generalisation to pensions is a natural extension, this topic has received little attention. Does old age maintain pre-existing inequalities, does it cumulate and amplify them, or does it give a chance to level out life chances?

The large international literature concludes that gaps are the result of three facts: Women participate less in the labour market; they work fewer hours and/or years; they receive lower wages. The 'bad news' is that these facts snowball women's career earnings. The 'good news' is that pay gaps have been shrinking in the past two decades, although progress has slowed down in recent years.

Does this mean that pension gaps will likewise start shrinking with a similar lag, and that therefore they are a problem that will correct itself? The US experience is very disappointing. A recent study noted that, whereas earnings gaps have shrunk dramatically, pension gaps have been essentially immobile. In Europe this question has not been formulated; or if it has been formulated, it has not been answered. There exist a number of national studies with a focus on specific institutional features or reforms. The overall picture of where Europe is – and of where it is going – essentially absent.

A statistical characterisation of gender gaps in pension in Europe in 2009

The statistical analysis proceeded in a series of structured series of questions:

How wide is the pension gap in Europe? Our central estimate of the Gender Gap

in Pensions is that the gap is very wide. **The EU-27 average is 39%.** The two highest figures are for Luxembourg (47%) and Germany (44%). At the other extreme, Estonia has the lowest gender pension gap (4%), followed by the Slovak Republic (8%). A large number of countries are around 30%, while 17 out of the 27 have gender gaps in pension greater or equal to 30%.

This is more than twice the figure of the gender pay gap indicator (equal to 16%). However, there is no simple relationship between the two figures. Suffice it to say that Estonia (lowest pension gap) also has the *highest* pay gap. In some cases pensions may reduce pre-existing inequality; in others they may also *widen* it, sometimes as an unwanted side-effect of pension features.

Who receives a pension? Coverage effects and the elderly pension gap.

Pension gaps may also be calculated for the *total* population over 65. In some or possibly most countries this makes little difference, as all elderly people are drawing some kind of pension. However, in some countries more than a third of women have no pension, while in others that figure is more than one in ten. Including people with zero pension has a large effect on computed pension gaps, altering the ranks considerably.

Is the pension gap tending to rise or fall? Cohort analysis. Are pension gaps, like pay gaps, shrinking over time? If we compare pension gaps of those aged 80+ with those aged 65-80 using EU-SILC data, we see that pension gaps are considerably *lower* for the older group. However, this may be due to the equalising effect of pensions collected by widows. A similar exercise using data from SHARE leads to a mixed picture: in some countries younger people's pensions have *higher* gaps, while in others the opposite is the case. As a consequence, data do not provide a definitive answer on this issue.

Effects of education and lifetime income. Education is closely linked to career income. If gender gaps rise with education (e.g. through 'glass ceiling effects'), we might expect that they will rise in the future given that we know that educational attainment of future pensioners will increase. However, the picture emerging from the data is mixed. Although in the EU27 the higher the education, the larger the gender gap, this is not a picture which holds true in all Member States. This is partly because gender differences at either extremes of the educational spectrum tend to increase the gap, but less so in the middle.

How are pensions distributed? Are (proportional) gender gaps higher where pensions are higher? How are pensions distributed around the average? Women are greatly overrepresented among lower pension recipients, and conversely for every poor man, there are almost two poor women. When calculating separate gaps for each tertile (i.e. the third part of the pension distribution), there are some countries where the gap is rising with income and some where it is falling, indicating that this feature operates in different ways in different parts of Europe.

Can we discern trends in the pension gap over time? Comparing points five years apart (2010 and 2005) we again see a mixed picture. Whereas on average there is a widening of gaps (by 1.7pp), this masks opposing trends – from improvements of the order of 4-5pp to deterioration of 4-6 pp.

Pension Gaps and Broken Careers. Women in the past have worked for fewer years than men. In general, shorter careers are associated with larger pension gaps,

though that relationship is not one-to-one. In some cases gaps rise and then fall. Distinguishing what was the 'dominant job' during one's working life, the lowest gender gaps are met in the public sector (where they might even be negative), and the largest for the self-employed.

The effect of multi-pillar systems. Second-pillar systems are well established in a small number of countries. In Denmark, the Netherlands and in Switzerland the second pillar is sufficiently mature to enable analysis using data from SHARE. In these countries the composite of the two pillars has a wider gender gap than the public pillar on its own. The second pillar in those countries also displays very significant *coverage* gaps, as fewer women choose to enrol in occupational pension plans.

Gender gaps by marital status; is there a motherhood penalty? Gender gaps are narrower for single women, however even so they remain wide (17%). Gender gaps are widest for married women, while divorced women are somewhere in the middle. Using SHARE data, a very clear and strong relationship is apparent between the number of children raised and the gender gap.

Are disparities larger if we look inside households? The intra-household pension gap. Our central gap indicator, the Gender Gap in Pensions, is essentially a macro-level or aggregate indicator comparing the average pension for women to that for men. We also looked inside the household and compared each woman with her own partner to construct a micro-level indicator, the intra-household Gender Gap in Pensions. We found that disparities in pension income are higher within households than in the aggregate. The intra-household gap in pensions is higher than the aggregate gap in the EU as a whole and in the vast majority of its Member States. In particular, the median intra-household gap is 4 pp higher than its aggregate equivalent within EU27 (46% against 42%) and 20pp higher in five countries. It is lower in only six countries, four of which are Eastern European countries.

Putting the picture together: decomposition analysis and the adjusted gap. Decomposition methods supplemented the factor-by-factor analysis with a multi-variate examination. The key finding is that netting out differences between men and women in the observed characteristics reported by SILC (education, age, length of working career, marriage status and weight of third-pillar pension income) has only a moderate impact on the Gender Gap in Pensions. In six of the nine countries under analysis, the 'adjusted' gap (after netting out) ranges from -15% to +11% of the original gap (the UK, the Netherlands, Austria, Greece, Italy and Poland). In Germany and France netting out entails a decrease of around 30% of the original gap, up to about 100% in Estonia where, however, the original gap is very low (around 4 percent). In most countries a sizeable gap remains that cannot be easily explained away with the differences in characteristics between men and women recorded in the data. Understanding and addressing this gap is an important challenge for both research and policy.

Some lessons from countries' experiences

This report also set out to generate gender gap information comparable to SILC using locally available administrative data. National experts were asked to collate and comment on local administrative information on pensions and pension gaps for ten countries: Estonia, Poland, Denmark, Austria, the Netherlands, Italy, Greece, the UK, France and Sweden. Though in some cases this required little effort, in the

majority of cases it was a very difficult exercise; in some it proved impossible; in one case at least, no information was produced by sex at all. Thanks to a recent national study focusing on the gender pension gap, we could also access local information for an additional country, Germany.

Where the SILC and the national sources can be matched (Estonia, Italy), the correspondence is very close; the same holds for France and Austria where correspondence was only possible for the headline gap. However, in the other two multi-pillar systems (the UK, the Netherlands) matching of data was very imperfect.

The report concluded with opinions of the national experts on three themes: prospects for the future; data and gender visibility; and the issue of derived rights. The experts largely concur that more needs to be done to measure and understand what causes gender gaps; and that, even in those cases where the issue is less acute, there are no grounds for complacency.

Policy directions

The fear is that individuals accustomed to economic independence in their daily affairs might be confronted, once they enter pensionable age, with systems built around the presumption that dependence is the 'normal' situation. What had been gained in the labour market may be reversed in pensions.

The worrying fact is that we are only gradually forming an opinion as to whether this fear is unfounded or not. The statistical analysis showed that gender gaps in pension are many times as wide as pay gaps. One especially unsettling issue concerns the lack of visibility of the problem. The report uncovered wide gaps in most countries, but also their overwhelming complexity. The hope that improvements in pay gaps will necessarily percolate through to pensions is unfounded.

When a new concern enters policy 'radar screens', understanding proceeds in three steps: *Awareness*; *Amelioration*; and finally *Prevention*. In the case of pension gender imbalance, we are still in stage one – visibility of the issue. At this stage the EU can play a decisive role to place the issue on the agenda and to galvanise the type of national initiatives that can proceed with amelioration and possibly prevention.

Thus, the key policy lesson is **Vigilance**.

RÉSUMÉ

Motivation: vers un indicateur sur les écarts entre les pensions de retraite.

Les pensions de retraite constituent un élément déterminant de **l'indépendance économique de leurs bénéficiaires**. Lorsque l'on se penche sur l'indépendance des personnes en âge de travailler, il est naturel de songer à l'écart de rémunération entre les différentes générations. Il serait tout à fait logique de se concentrer sur les écarts entre les pensions de retraite, après s'être intéressé à l'écart de rémunération entre les générations. Ces écarts semblent refléter le cumul de désavantages inhérent à un parcours professionnel sur un marché du travail où il existe la discrimination liée au sexe. Cela est encore plus vrai pour ce qui est des cohortes plus âgées. Les systèmes de pensions de retraite ne sont pas de simples réflexions neutres. Au contraire, ils peuvent *amplifier les* déséquilibres, en encourageant l'épargne, ou encore les *atténuer*, en tant que choix de politique sociale.

La mise en place d'un *indicateur annuel mesurant les déséquilibres liés au genre* pourrait trouver sa justification dans la complexité des effets liés au genre qui affectent les pensions. La structure des pensions subit l'influence des trois séries de facteurs énoncées ci-dessous.

Premièrement, le caractère à **très long terme des changements structuraux**: il est évident que le vieillissement est le facteur qui a la plus grande influence, bien que l'effet d'écho des postes de travail précédemment occupés peut, lui aussi, avoir un rôle à jouer. Les pensions *d'aujourd'hui* peuvent être le reflet des postes de travail occupés *par le passé*, ainsi que des règles sociales afférentes aux situations telles que le divorce, le veuvage et la cohabitation entre les différentes générations. Deuxièmement, les pensions d'aujourd'hui subissent l'influence des **réformes des pensions antérieures**. Les retraités actuels relèvent, bien souvent, de régimes transitoires. C'est ainsi que lorsqu'ils ont vécu et travaillé sous l'empire d'un système, dans de nombreux cas de figure, ils percevront leurs prestations dans le cadre d'un autre système. S'agissant d'un groupe «pris entre le marteau et l'enclume», ils peuvent ne pas bénéficier de la protection de la logique de fonctionnement interne du système, qu'il soit nouveau ou ancien. Au fil du temps, néanmoins, de plus en plus d'individus se verront affectés par les *nouvelles* caractéristiques, et seront vulnérables face au risque que les *nouveaux* types de pensions représentent. Deux réformes ont toutes les chances d'avoir un effet disproportionné sur les femmes. Il s'agit, *premièrement*, du passage des pensions («premier pilier») publiques

aux régimes de retraite *professionnels* («*deuxième pilier*»): l'effet général qui s'en suit tend à renforcer le lien entre les contributions et les prestations, phénomène connu, aux États-Unis d'Amérique, sous le nom de «privatisation du risque». *Deuxièmement*, l'accent est mis sur l'augmentation des années travaillées. Bien que les raisons à la base de ces réformes soient inattaquables, il n'en demeure pas moins qu'elles pourraient avoir des effets indésirables à moyen terme, et entraîner une réduction du montant des pensions pour tous ceux qui n'auraient pas répondu aux incitations. Les **pressions à court terme** associées à la crise économique qui sévit à l'heure actuelle, constituent la troisième série de facteurs qui façonnent les pensions. Ces pressions diffèrent en fonction des pays, mais pourraient déboucher sur des variations importantes pour ce qui est des effets liés au genre, susceptibles d'affecter tant les systèmes de retraite professionnels que les régimes publics.

Aussi, les femmes âgées subissent les répercussions des désavantages du passé, tout en commençant à ressentir les effets des difficultés à venir. Alors que l'Union européenne a assumé le rôle de chef de file en faveur des populations vieillissantes et de l'équilibre entre les hommes et les femmes, il conviendrait également qu'elle s'intéresse aux effets indésirables éventuels de l'interaction de ces deux politiques. Un pas décisif en ce sens serait constitué par la mise en place d'un indicateur permanent des écarts liés au genre en matière de pensions de retraite.

La seule source de données réaliste susceptible d'alimenter un tel indicateur serait représentée par les statistiques de l'Union européenne sur les revenus et les conditions de vie (SILC) et, éventuellement, par une autre source de données internationale, à savoir, par l'enquête sur la santé, le vieillissement et la retraite en Europe (SHARE), concernant les personnes âgées de plus de 50 ans. Le recours à ces ensembles de données permettrait de mettre en lumière et d'améliorer (dans le temps) la qualité des informations, ainsi que de préciser les définitions, lesquelles apparaissent, à l'heure actuelle, problématiques. Le recours à des données administratives devrait être écarté, et cela pour les trois raisons suivantes: ces informations ne sont pas comparables, elles sont fragmentaires et, parfois, elles peuvent ne pas tenir compte du genre.

L'indicateur envisagé devrait se focaliser sur les personnes âgées de plus de 65 ans. Les retraités plus jeunes constituent un groupe atypique auto-désigné. L'option consistant à fixer une limite d'âge permettrait de faire en sorte que l'analyse demeure en phase avec la pratique démographique. Pour décrire la situation en termes de genre, deux indicateurs s'avèrent nécessaires, à savoir: **premièrement**, un indicateur de couverture (c'est-à-dire, qui a la qualité de retraité), et **deuxièmement**, un indicateur permettant de déterminer les différences entre les pensions parmi ceux qui en perçoivent une. Le dernier de ces deux indicateurs constitue un outil de diagnostic essentiel, dénommé «Écart entre les pensions des retraités percevant une prestation de retraite lié au genre». Une notion alternative, «l'Écart entre les pensions des personnes âgées lié au genre» est défini en fonction de la population, de sorte qu'il tient compte des personnes qui ne perçoivent pas de prestation de retraite.

L'écart entre les pensions des retraités percevant une prestation de retraite lié au genre est le taux qui mesure la différence entre le montant des pensions perçues par les femmes et celui de celles perçues par les hommes. Il mesure l'écart qui sépare les femmes et les hommes.

Des efforts considérables de recherche ont été consacrés à l'écart entre les

rémunérations lié au genre. Bien que leur généralisation aux pensions de retraite constitue une extension naturelle, cette question n'a mérité que très peu d'attention. Est-ce que l'âge maintient des inégalités préexistantes? Est-ce qu'il les cumule et les amplifie?, ou au contraire, constitue-t-il une occasion de niveler les chances?

La littérature internationale conclut, pour la plupart, à ce que les écarts existants sont la conséquence de trois réalités, à savoir: les femmes participent moins au marché du travail, elles travaillent moins d'heures et/ou d'années, et elles perçoivent des salaires plus bas. La «mauvaise nouvelle» est constituée par le fait que ces trois facteurs ont un effet boule de neige sur les revenus que les femmes tirent de leurs carrières professionnelles. La «bonne nouvelle» est que les écarts entre les salaires n'ont cessé de diminuer au cours des deux décennies écoulées, bien que les progrès en la matière aient ralenti ces dernières années.

Est-ce que cela signifie que les écarts entre les pensions de retraite commenceront, eux aussi, à se réduire, avec un décalage similaire, et que, par voie de conséquence, ils constituent un problème qui se solutionnera lui-même? L'expérience des États-Unis d'Amérique à ce propos s'est avérée très décevante. Une étude récente a permis de constater que même si les écarts entre les rémunérations ont diminué d'une manière drastique, ceux entre les pensions sont demeurés inchangés, pour l'essentiel. En Europe, cette question n'a pas été formulée; ou si elle l'a été, elle n'a pas encore reçu de réponse. Il existe plusieurs études nationales qui concentrent leurs efforts sur les spécificités institutionnelles ou sur les réformes. Le tableau général de la situation de l'Europe (ou de l'avenir de cette dernière) y fait généralement défaut.

Une caractérisation statistique des écarts entre les pensions de retraite liés au genre en Europe en 2009

Cette étude statistique s'articulait autour d'une série structurée de questions, à savoir:

Quelle est l'ampleur de l'écart entre les pensions en Europe? Notre estimation médiane de l'écart entre les pensions lié au genre conclut à ce que l'écart est très important. **La moyenne de l'UE-27 se situe à 39%.** Les deux chiffres les plus élevés ont été enregistrés au Luxembourg (47%) et en Allemagne (44%). À l'autre extrémité, l'Estonie présente l'écart entre les pensions le plus faible (4%), suivie de la République slovaque (8%). Nombreux sont les pays à se situer à environ 30%, alors que 17 pays sur 27 présentent des écarts entre les pensions liés au genre égaux ou supérieurs à 30%.

Il s'agit là de plus du double du chiffre de l'indicateur relatif à l'écart de rémunération (égal à 16%). Néanmoins, il n'existe pas de lien simple entre ces deux chiffres. Il suffit d'indiquer sur ce point que l'Estonie (qui présente l'écart entre les pensions le plus faible) enregistre également *l'écart de rémunération le plus élevé*. Dans certains cas, les pensions peuvent venir réduire des inégalités préexistantes, mais dans d'autres, elles peuvent aussi les *amplifier*, parfois en tant qu'effet indésirable des spécificités propres au système de pensions.

Qui sont les bénéficiaires des pensions? Les effets de la couverture et l'écart entre les pensions de personnes âgées. Les écarts entre les pensions de retraite peuvent aussi faire l'objet d'un calcul concernant la population *totale*

âgée de plus de 65 ans. Dans certains pays (et probablement dans la plupart), cela ne fait que peu de différence, dans la mesure où l'ensemble des personnes âgées perçoit un type de pension quelconque. Néanmoins, il existe des pays dans lesquels plus d'un tiers des femmes ne perçoivent pas de pension, alors que dans d'autres ce chiffre représente plus d'une femme sur dix. Le fait de tenir compte de ces personnes qui ne perçoivent aucune pension a un effet important sur les écarts entre les pensions constatés, en ce qu'il altère considérablement les classements.

L'écart entre les pensions tend-il à augmenter ou à diminuer? Étude de cohorte. Est-ce que les écarts entre les pensions diminuent-ils dans le temps, à l'instar des écarts de rémunération? Si l'on compare les écarts entre les pensions de retraite de ceux âgés de 80 ans et plus et ceux des personnes de 65 à 80 ans, en utilisant pour cela les données des statistiques européennes SILC, il apparaît que ces écarts sont nettement *inférieurs* dans le groupe des personnes plus âgées. Néanmoins, cela pourrait découler de l'effet pondérateur des pensions perçues par les veuves. Si l'on se livre à un exercice similaire, en utilisant, cette fois-ci, les données de SHARE, on obtient une image plus complexe: alors que dans certains pays les pensions perçues par les jeunes retraités présentent des écarts *plus élevés*, dans d'autres, on peut constater exactement le contraire. Aussi et dans ces conditions, il apparaît que les données n'apportent pas une réponse concluante en la matière.

Les effets de la formation et des revenus perçus tout au long de la vie professionnelle. La formation est étroitement liée aux revenus professionnels perçus. Si les écarts entre les hommes et les femmes augmentent en fonction du niveau de formation (songeons, par exemple, à «l'incidence du plafond de verre»), on pourrait s'attendre à ce qu'ils s'accroissent encore davantage à l'avenir, puisque nous savons que le niveau de formation des futurs retraités sera plus élevé. Néanmoins, le tableau tiré des données est complexe. En effet, bien qu'au sein de l'UE-27 on constate qu'à un niveau de formation plus élevé correspond un écart entre les hommes et les femmes plus important, il convient de garder à l'esprit qu'il n'en est pas ainsi dans l'ensemble des États membres. Cette situation s'explique, en partie, par le fait que les différences entre les sexes à chaque extrémité du spectre éducatif tendent à élargir l'écart, mais pas au milieu.

Comment les pensions de retraite sont-elles distribuées? Est-ce que les écarts (proportionnels) liés au genre sont-ils plus importants pour les pensions plus élevées? Comment sont distribuées les pensions de retraite en moyenne? Les femmes sont fortement surreprésentées parmi les bénéficiaires des pensions les plus faibles, et inversement, pour chaque homme en situation de pauvreté, on dénombre presque deux femmes pauvres. Lorsque l'on calcule les écarts propres à chaque tercile (c'est-à-dire, au tiers de la distribution des pensions), on constate que dans certains pays, l'écart augmente avec les revenus, alors que dans d'autres il diminue, ce qui révèle que cet aspect fonctionne de manière différente en fonction des régions européennes.

Est-il possible de dégager des tendances dans l'écart entre les pensions dans le temps? En comparant les données sur cinq ans (entre 2010 et 2005), on obtient, une fois de plus, un tableau complexe. En effet, et alors qu'en moyenne l'on peut constater un élargissement des écarts (à hauteur de 1,7%), ce chiffre occulte des évolutions contrastées (qui vont d'améliorations entre 4 et 5% à des détériorations se situant entre 4 et 6%).

Les écarts entre les pensions et les carrières professionnelles interrompues. Par le passé, les femmes travaillaient moins d'années que les hommes. En général, les carrières professionnelles plus courtes sont associées à des écarts entre les pensions plus marqués, bien que le rapport entre ces deux éléments ne soit pas totalement direct. Dans certains cas, les écarts augmentent et diminuent ensuite. Si l'on tient compte de «l'emploi dominant» au cours d'une vie professionnelle, il apparaît que les écarts liés au genre les plus faibles sont constatés dans le secteur public (dans lequel ils peuvent parfois être négatifs), et les plus marqués concernent les travailleurs indépendants.

L'effet des systèmes à piliers multiples. Les systèmes du deuxième pilier sont bien consolidés dans un petit nombre de pays. Au Danemark, aux Pays-Bas et en Suisse, le deuxième pilier est suffisamment mûr pour permettre une analyse, sur la base des données SHARE. Dans ces pays, l'association des deux piliers présente un écart lié au genre plus important que le pilier public en tant que tel. Le deuxième pilier de ces pays permet également de constater des écarts de *couvertures* significatifs, dans la mesure où le nombre de femmes qui choisissent de participer à des plans de retraite professionnelle est plus faible.

Les écarts liés au genre et la situation de famille - Les maternités sont-elles pénalisées? Les écarts liés au genre sont plus faibles pour les femmes seules, bien qu'ils demeurent importants, malgré tout (17%). Ils sont plus marqués pour les femmes mariées, alors que celles divorcées se situent quelque part au milieu. Si l'on s'en tient aux données SHARE, il apparaît qu'il existe un lien de causalité clair et important entre le nombre d'enfants élevés et les écarts liés au genre.

Est-ce que les disparités sont-elles plus larges au sein des ménages? Les écarts entre les pensions au sein des ménages. Notre indicateur des écarts de base (l'indicateur de l'écart entre les pensions des retraités percevant une prestation de retraite lié au genre) constitue, pour l'essentiel, un indicateur à l'échelle macro (ou indicateur agrégé), qui compare la moyenne des pensions perçues par les femmes par rapport à celles perçues par les hommes. Nous nous sommes également intéressés aux ménages, pour comparer la situation de chaque femme par rapport à son conjoint, afin de définir un indicateur à l'échelle micro, à savoir, l'écart entre les pensions lié au genre au sein des ménages. C'est ainsi que nous avons constaté que les disparités au niveau des pensions de retraite sont plus marquées au sein des ménages que dans le cadre de l'indicateur agrégé. L'écart entre les pensions au sein des ménages est plus élevé que l'écart agrégé dans l'ensemble de l'Union européenne, ainsi que dans la plupart de ses États membres. C'est ainsi, notamment, que l'écart moyen au sein des ménages est 4% plus élevé que son équivalent agrégé dans l'UE-27 (46% contre 42%) et 20% plus élevé dans cinq pays. Il est plus faible uniquement dans six États membres, dont quatre sont des pays de l'Europe de l'Est.

Obtenir une vue d'ensemble: l'analyse de décomposition et l'écart ajusté. Les méthodes de décomposition ont associé un examen multivarié à l'analyse facteur par facteur. La principale constatation est la suivante: la compensation des différences entre les hommes et les femmes dans les caractéristiques observées rapportées par les données SILC (formation, âge, durée de la carrière professionnelle, situation de famille et poids des revenus de retraite issus du troisième pilier) n'a qu'un effet modéré sur l'écart entre les pensions lié au genre. Dans six des neuf pays soumis à analyse, l'écart «ajusté» (après compensation) oscille entre -15% et +11% par rapport à l'écart d'origine (au Royaume-Uni, aux Pays-Bas, en Autriche, en

Grèce, en Italie et en Pologne). En Allemagne et en France, la compensation entraîne une diminution d'environ 30% de l'écart d'origine, et de près de 100% en Estonie, pays dans lequel, néanmoins, l'écart d'origine est très faible (d'environ 4%). Dans la plupart des pays, un écart de taille demeure, et il ne trouve pas d'explication aisée dans les différences existant entre les spécificités propres aux hommes et aux femmes enregistrées dans les données disponibles. La compréhension de ces écarts, pour les combattre, constitue un défi majeur tant pour les chercheurs que pour les décideurs politiques.

Quelques enseignements tirés des expériences des pays.

Le présent rapport a également pour objet de générer des informations concernant les écarts liés au genre comparables aux statistiques SILC, en utilisant pour cela des données administratives disponibles au plan local. C'est ainsi qu'il a été demandé aux experts nationaux de rassembler et de commenter des données administratives locales sur les écarts entre les pensions de retraite dans les dix pays suivants: Estonie, Pologne, Danemark, Autriche, Pays-Bas, Italie, Grèce, Royaume-Uni, France et Suède. Bien que dans certains cas de figure une telle tâche ait nécessité peu d'effort, dans la plupart des hypothèses, il s'est agi d'un exercice difficile, voire parfois impossible. Aussi, dans au moins un cas, aucune information n'a été fournie pour ce qui est du genre. Grâce à une étude nationale récente consacrée aux écarts entre les pensions liés au genre, nous avons également eu accès à des informations locales concernant un pays supplémentaire: l'Allemagne.

Dans les cas où les données SILC et celles issues des sources nationales ont pu être comparées (en Estonie et en Italie), la correspondance entre elles s'est avérée très proche. Il en va de même pour ce qui est de la France et de l'Autriche, où cette correspondance n'a été possible que concernant l'écart en général. Néanmoins, dans deux autres systèmes à piliers multiples (le Royaume-Uni et les Pays-Bas), la correspondance des données s'est avérée imparfaite.

Le rapport concluait avec l'avis des experts nationaux sur les trois sujets suivants: les perspectives d'avenir, la visibilité des données et des questions liées à l'égalité de genre, et la question des droits dérivés. Les experts se sont largement accordés sur le fait qu'il convient de consentir des efforts supplémentaires pour mesurer et comprendre les causes à l'origine des écarts liés au genre, et que, même dans les cas où le problème est moins grave, il n'y a pas lieu de faire preuve de complaisance.

Orientations politiques

Force est de craindre que des individus habitués à l'indépendance économique dans leurs vies de tous les jours soient confrontés, une fois arrivés à l'âge de la retraite, à des systèmes bâtis autour de la présomption selon laquelle la dépendance constitue une situation «normale». Ce que l'on aurait gagné sur le marché du travail pourrait être perdu pour la retraite.

Ce qui apparaît préoccupant, c'est qu'il n'est possible de se faire une opinion sur le fait de savoir si une telle crainte s'avère, ou non, fondée que de manière graduelle. L'étude statistique a mis en évidence que les écarts entre les pensions de retraite liés au genre sont, très souvent, aussi importants que les écarts de rémunération. Une question particulièrement préoccupante a trait au manque de visibilité du pro-

blème. Le rapport a permis de mettre en lumière des écarts importants dans la plupart des pays, mais aussi leur énorme complexité. L'espoir que les améliorations apportées dans le domaine de l'écart de rémunération se propageront nécessairement aux pensions de retraites n'est pas fondé.

Lorsqu'une nouvelle préoccupation pénètre les «écrans des radars» politiques, la compréhension s'opère en trois étapes, à savoir: *prise de conscience*, *amélioration* et enfin, *prévention*. Pour ce qui est du déséquilibre entre les pensions lié au genre, nous en sommes encore à la première phase, qui a trait à la visibilité du problème. À ce stade, l'Union européenne peut jouer un rôle décisif en intégrant la question à son agenda et en encourageant les initiatives nationales susceptibles d'améliorer la situation et de la prévenir, le cas échéant.

Aussi, le principal enseignement politique est la **vigilance**.

KURZFASSUNG

Begründung: Weg zu einem Pension Gap Indikator

Renten sind ein wichtiger Bestimmungsfaktor der **wirtschaftlichen Unabhängigkeit** ihrer Empfänger. Wenn man die wirtschaftliche Unabhängigkeit von Personen im erwerbsfähigen Alter betrachtet, denkt man unwillkürlich an geschlechtsspezifische Lohngefälle. Die Auseinandersetzung mit geschlechtsspezifischen Lohnunterschieden müsste eigentlich auch zu einer besonderen Aufmerksamkeit auf Einkommensgefälle bei Renten führen. Diese Gefälle müssten die kumulierten Nachteile einer beruflichen Laufbahn in Arbeitsmärkten widerspiegeln, in denen die Bedingungen für Frauen und Männer ungleich sind. Das gilt umso mehr für ältere Kohorten. Rentensysteme reflektieren diese Unterschiede nicht eins zu eins, sondern können sie durch die Belohnung von Sparsamkeit *verstärken* oder infolge entsprechender sozialpolitischer Entscheidungen *abfedern*.

Die Komplexität von Gendereffekten auf Renten könnte *einen jährlichen Indikator der geschlechtsbedingten Unterschiede* rechtfertigen. Die Rentenstruktur wird von folgenden drei Gruppen von Faktoren beeinflusst:

Erstens sehr langfristige strukturelle Änderungen: Die Altersstruktur ist diesbezüglich der wichtigste Faktor, wobei die indirekten Auswirkungen vergangener Erwerbsbiographien auch eine Rolle spielen. Die Renten *von heute* können die Beschäftigung von *gestern* widerspiegeln, aber auch soziale Normen wie Scheidung, Witwenschaft, Zusammenwohnen verschiedener Generationen. **Zweitens** hängen die Renten von heute von **Rentenreformen in der Vergangenheit** ab. Oft sind heutige Rentner durch Übergangsmaßnahmen geschützt. Sie haben in einem bestimmten System gelebt und gearbeitet, erhalten aber ihre Bezüge in vielen Fällen in einem anderen. Es kann sein, dass sie als „Gruppe dazwischen“ nicht von der internen Logik des Systems, alt oder neu, geschützt sind. Im Laufe der Zeit werden aber immer mehr Rentner von *neu eingeführten* Merkmalen betroffen und daher *neuen* Rentenrisiken ausgesetzt sein. Zwei Reformen werden wahrscheinlich einen unverhältnismäßigen Einfluss auf Frauen haben. **Erstens** die Verschiebung des Schwerpunktes von öffentlichen („erster Pfeiler“) zu beruflichen („zweiter Pfeiler“) Rentenversicherungssystemen: Der Gesamteffekt ist tendenziell eine stärkere Verknüpfung von Beiträgen und Risiken, was in den USA „Privatisierung der Risiken“ genannt wurde. **Zweitens** der Schwerpunkt auf längere Lebensarbeitszeiten. Obwohl die Begründungen dafür unanfechtbar sind, könnten mittelfristig versteckte Nebeneffekte entstehen, die niedrigere Renten für die, die ihr Verhalten nicht den

vorgegebenen Anreizen anpassen, zur Folge haben könnten. *Die dritte Gruppe* der Faktoren, die Renten beeinflussen, sind **kurzfristige Zwänge** durch die aktuelle Wirtschaftskrise. Diese sind in verschiedenen Ländern unterschiedlich, könnten aber zu bedeutenden Umschwüngen bei Genderaspekten führen – mit Folgen für Beschäftigung und Staatsysteme.

Daher sind ältere Frauen, gerade wenn sie anfangen, die Zeichen zukünftiger Probleme zu spüren, den Spätfolgen vergangener Benachteiligungen ausgesetzt. Da die EU sowohl bei der Alterung der Bevölkerung wie bei der Gendergerechtigkeit eine Vorreiterrolle eingenommen hat, ist es angemessen, dass sie ihre Aufmerksamkeit auch auf die möglichen Nebenwirkungen der gegenseitigen Beeinflussung dieser zwei Phänomene richtet. Ein entscheidender Schritt in diese Richtung wäre die Entwicklung eines Indikators für Rentengefälle zwischen Männern und Frauen auf ständiger Basis.

Die einzige realistische Datenquelle für einen solchen Indikator wäre die Statistik der Europäischen Union über Einkommen und Lebensbedingungen (EU-SILC), möglicherweise ergänzt durch eine andere internationale Datenquelle, dem *Survey of Health, Ageing and Retirement in Europe* (SHARE), der Daten zum Leben von Menschen über 50 erhebt. Mit diesem Datensatz könnte die Qualität der Informationen bewertet und mit der Zeit verbessert sowie die bislang noch problematischen terminologischen Fragen geklärt werden. Die Option, sich auf Verwaltungsdaten zu stützen, muss aus drei Gründen ausgeschlossen werden: Die Informationen sind nicht vergleichbar, unvollständig und berücksichtigen möglicherweise in manchen Fällen genderspezifische Aspekte nicht.

Der Indikator sollte auf Menschen über 65 fokussiert sein. Jüngere Rentner sind eine atypische, durch Selbstselektion geprägte Gruppe; die Entscheidung für eine Altersschwelle würde auch der gängigen demographischen Praxis entsprechen. Um die Gendersituation zu beschreiben, sind zwei Indikatoren notwendig: **erstens** ein Indikator der Rentenempfänger und **zweitens** ein Indikator, der die Unterschiede zwischen denen, die eine Rente beziehen, feststellt. Dieser ist das diagnostische Schlüsselinstrument und wird „*Pensioners Gender Gap in Pensions*“ genannt. Ein alternativer Ansatz, der sogenannte „*Elderly Gender Gap in Pensions*“ bezieht sich auf die ganze Bevölkerung, d.h. schließt auch Menschen ein, die keine Rente beziehen.

Der *Gender Gap in Pensions* wird als Verhältnis der durchschnittlichen persönlichen Alterssicherungsleistungen von Frauen gegenüber denen von Männern definiert und misst, wie stark Frauen diesbezüglich hinter Männern zurückliegen.

Dem Lohngefälle zwischen Frauen und Männern ist schon ein erheblicher Forschungsaufwand gewidmet worden. Wenngleich eine Generalisierung, die auch Renten einbezieht, eine natürliche Erweiterung darstellt, ist dieser Frage mit wenig Aufmerksamkeit bedacht worden. Werden im Alter bereits bestehende Unterschiede beibehalten, addieren und verstärken sie sich, oder besteht dadurch eine Möglichkeit, Lebenschancen auszugleichen?

Die umfangreiche internationale Literatur zu diesem Thema kommt zum Schluss, dass Unterschiede drei Gründe haben: Frauen weisen eine geringere Beteiligung am Arbeitsmarkt auf, sie arbeiten weniger Stunden und/oder Jahre, und sie werden schlechter bezahlt. Die „schlechte Nachricht“ ist, dass diese drei Tatsachen einen Schneeballeffekt auf die Erwerbsbiographien von Frauen haben. Die „gute Nachricht“ ist, dass die Einkommensunterschiede in den letzten zwei Jahrzehnten

geringer geworden sind, auch wenn sich dieser Rückgang in den letzten Jahren verlangsamt hat.

Bedeutet das, dass das Rentengefälle mit einer ähnlichen Verzögerung auch abnehmen und sich das Problem von selbst korrigieren wird? Die Erfahrungen in den USA sind enttäuschend. Eine vor Kurzem erschienene Studie hat festgestellt, dass bei den Renten so gut wie keine Änderungen stattgefunden haben, obwohl der Unterschied bei den Einkommen von Männern und Frauen dramatisch zurückgegangen ist. In Europa wurde die Frage bislang nicht gestellt, oder – sofern sie gestellt worden ist – noch nicht beantwortet. Es liegt eine Anzahl nationaler Studien vor, die sich mit spezifischen institutionellen Merkmalen oder Reformen befassen, aber ein Gesamtbild, wo Europa steht oder in welche Richtung es sich bewegt, gibt es im Grunde nicht.

Eine statistische Charakterisierung des Rentengefälles zwischen Frauen und Männern in Europa 2009

Die statistische Analyse besteht aus einer Reihe strukturierter Fragen:

Wie groß ist der Pension Gap in Europa? Unserer Hauptschätzung zufolge immer noch sehr groß. **Der Durchschnitt in den EU-27-Staaten beträgt 39%.** Die zwei höchsten Zahlen weisen Luxemburg (47%) und Deutschland (44%) auf. Am anderen Ende befinden sich Estland mit dem geringsten Rentengefälle zwischen Männern und Frauen (4%), gefolgt von der Slowakischen Republik (8%). Eine große Anzahl Länder liegt bei ungefähr 30%, wobei 17 von 27 Ländern einen Gender Gap von 30% oder mehr aufweisen.

Das ist mehr als zweimal so viel wie der Gender Pay Gap Indikator (16%). Dennoch gibt es keinen einfachen Zusammenhang zwischen den zwei Werten, was schon am Beispiel Estlands ersichtlich ist: Dieses Land (mit dem niedrigsten Pension Gap) hat den *höchsten* Pay Gap. In manchen Fällen tragen Renten zu einer Minderung der vorhergehenden Ungleichheit bei, in anderen zu einer *Verschärfung*, manchmal als unerwünschter Nebeneffekt von Merkmalen des Altersversorgungssystems.

Wer bekommt eine Rente? Versorgungseffekte und Unterschiede bei Renten von älteren Menschen. Das Rentengefälle kann auch für die *gesamte* Bevölkerung über 65 berechnet werden. In manchen oder möglicherweise allen Ländern macht das keinen großen Unterschied, da alle älteren Menschen irgendeine Form von Altersrente beziehen. Dennoch haben in manchen Ländern mehr als ein Drittel der Frauen keine Altersversorgung, wohingegen es in anderen mehr als jede Zehnte ist. Wenn man auch diejenigen berücksichtigt, die überhaupt keine Rente beziehen, ist der Effekt auf die sich ergebenden Rentengefälle sehr groß, und auch die Reihenfolge der Länder ändert sich dadurch maßgebend.

Ist das Rentengefälle tendenziell steigend oder fallend? Eine Kohorten-Analyse. Werden die Unterschiede bei den Renten im Laufe der Zeit wie beim Einkommen kleiner? Wenn man das Rentengefälle bei den 80+-Jährigen mit dem in der Altersgruppe 65-80 auf der Basis der EU-SILC-Daten vergleicht, stellt man fest, dass der Unterschied zwischen Männern und Frauen in der älteren Gruppe deutlich *niedriger* ist. Dennoch könnte dies durch den ausgleichenden Effekt von Witwenrenten bedingt sein. Eine ähnliche Herangehensweise mit Daten von SHARE ergibt ein uneinheitliches Bild: In manchen Ländern sind die Unterschiede bei den Renten jün-

gerer Menschen *größer*, in anderen ist es umgekehrt. Daher liefern die Daten keine endgültige Antwort in dieser Frage.

Auswirkungen von Bildung und Erwerbsbiographie. Bildung ist eng mit dem lebenslangen Einkommen verbunden. Wenn die Unterschiede zwischen Männern und Frauen mit dem Bildungsniveau wachsen (z.B. infolge der „Gläserne Decke“), kann man erwarten, dass sie in Zukunft höher sein werden, da das Bildungsniveau zukünftiger Rentner bekanntlich steigen wird. Dennoch ist das Bild, das sich aus den Daten ergibt, gemischt. Auch wenn in den EU-27-Staaten insgesamt der Unterschied zwischen Männern und Frauen bei höherem Bildungsniveau steigt, gilt dies nicht für alle Mitgliedstaaten. Das liegt zum Teil daran, dass die genderbedingten Unterschiede an den Extremen dazu neigen, das Gefälle zu erhöhen, die in der Mitte aber weniger.

Wie ist die Verteilung der Renten? Sind die Unterschiede zwischen den Renten von Männern und Frauen bei höherem Rentenniveau (proportional) höher? Wie verteilen sich Renten um den Durchschnitt? Frauen sind unter den Empfängern von niedrigen Renten stark überproportional vertreten, und dementsprechend entfallen auf jeden armen Mann zwei arme Frauen. Wenn man den Gender Gap für jedes Tertil (d.h. jedes Drittel der Rentenverteilung) getrennt ermittelt, gibt es Länder, in denen der Unterschied mit dem Einkommen wächst, und solche, in denen er abnimmt, was ein Zeichen dafür ist, dass sich dieses Merkmal in verschiedenen Teilen Europas anders auswirkt.

Können wir Trends in der zeitlichen Entwicklung von Unterschieden bei Renten erkennen? Beim Vergleich von zwei fünf Jahre auseinanderliegenden Zeitpunkten (2010 und 2005) ergibt sich erneut ein gemischtes Bild. Während die Unterschiede im Durchschnitt steigen (um 1,7%), verbergen sich dahinter gegensätzliche Trends – von Verbesserungen in der Größenordnung von 4-5% bis zu Verschlechterungen um 4-6%.

Rentengefälle und unterbrochene Karrieren. In der Vergangenheit haben Frauen weniger Jahre gearbeitet als Männer. Generell sind kürzere Karrieren mit größeren Rentengefällen verbunden, aber das Verhältnis ist nicht eins zu eins. In manchen Fällen stiegen die Gefälle und nahmen danach wieder ab. Wenn man nach dem „Hauptberuf“ im Laufe des Berufslebens unterscheidet, findet man die geringsten Unterschiede zwischen Frauen und Männern im öffentlichen Sektor (wo sie mitunter auch negativ sind) und die größten bei Selbstständigen.

Die Auswirkungen von Mehrpfeilersystemen. Altersversorgungssysteme, die auf den zweiten Pfeiler basieren, sind in einer Handvoll Länder inzwischen etabliert. In Dänemark, den Niederlanden und in der Schweiz ist der zweite Pfeiler reif genug, um eine Analyse mit Daten von SHARE zu ermöglichen. In diesen Ländern ist bei den zwei Pfeilern zusammen der Gender Gap größer als beim staatlichen Rentensystem alleine. In diesen Ländern weist der zweite Pfeiler auch sehr signifikante Deckungslücken bei der Altersvorsorge auf, da weniger Frauen in eine berufliche Altersversicherung eintreten.

Durch Ehestand bedingte Unterschiede: Wird Mutterschaft nachteilig behandelt? Bei alleinstehenden Frauen ist der Unterschied gegenüber Männern geringer, aber dennoch groß (17%). Der Gender Gap ist für verheiratete Frauen am größten, während geschiedene Frauen irgendwo in der Mitte liegen. Aus den SHARE-Daten lässt sich ein sehr starker Zusammenhang zwischen der Anzahl der Kinder

und dem Gender Gap feststellen.

Ist die Geschlechterungleichheit größer, wenn man Haushalte betrachtet? Intrahaushaltsverteilung des Pension Gaps.

Unser wichtigster Gap-Indikator, der Gender Pension Gap, ist im Grunde ein Indikator auf Makro-Ebene d.h. ein Gesamtindikator, der die durchschnittlichen Rentenbezüge von Frauen und Männern vergleicht. Wir haben auch die Situation in den Haushalten selbst betrachtet und jede Frau mit ihrem jeweiligen Partner verglichen, um einen Mikro-Indikator zu erstellen, den haushaltsbezogenen Gender Pension Gap. Wir haben dabei festgestellt, dass die Unterschiede beim Renteneinkommen in den Haushalten größer sind als in der Gesamtbevölkerung. Der Gender Pension Gap innerhalb der Haushalte ist höher als der entsprechende Gesamtindikator sowohl in der EU als Ganzes wie auch in der großen Mehrheit der Mitgliedstaaten. Der Medianwert des Gender Pension Gap innerhalb der Haushalte ist um 4 Prozentpunkte höher als der entsprechende Gesamtindikator in den EU-27-Ländern (46% gegenüber 42%) und in fünf einzelnen Staaten 20 Prozentpunkte höher. Nur in sechs Ländern ist er hingegen niedriger, von denen vier osteuropäische Länder sind.

Zusammenfügung der Ergebnisse zu einem Gesamtbild: Dekompositionsanalyse und bereinigter Gender Gap.

Dekompositionsmethoden wurden angewandt, um die Faktorenanalyse mit einem multivariablen Verfahren zu ergänzen. Das wichtigste Ergebnis ist, dass die Bereinigung der Unterschiede zwischen Frauen und Männern bei den durch SILC erhobenen Merkmalen (Bildungsabschluss, Alter, Länge der beruflichen Tätigkeit, Ehestatus und Gewicht des Renteneinkommens aus Pfeiler 3) den Gender Pension Gap nur mäßig beeinflusst. In sechs der neun Länder, die analysiert wurden, bewegt sich der bereinigte Pension Gap zwischen -15% und +11% des Ausgangswertes (Großbritannien, Niederlande, Österreich, Griechenland, Italien und Polen). In Deutschland und Frankreich führt die Bereinigung zu einer Minderung des Ausgangswertes von ungefähr 30%; in Estland, wo der ursprüngliche Pension Gap sehr niedrig ist (ca. 4%) zu einer Zunahme von ungefähr 100%. In den meisten Ländern bleibt dennoch ein signifikanter Gender Gap, der mit den unterschiedlichen in den Daten enthaltenen Merkmalen von Frauen und Männern nicht einfach erklärt werden kann. Diese Differenz zu verstehen und anzugehen ist eine wichtige Herausforderung für Forschung und Politik.

Erkenntnisse aus den Erfahrungen verschiedener Länder

Dieser Bericht hatte auch das Ziel, auf der Basis vorhandener Verwaltungsdaten Informationen über den Gender Gap zu erstellen, die mit denen von SILC vergleichbar sind. Experten aus folgenden zehn Ländern wurden gefragt, lokale Verwaltungsdaten über Renten und Rentengefälle zusammenzustellen und zu kommentieren: Estland, Polen, Dänemark, Österreich, Niederlande, Italien, Griechenland, Großbritannien, Frankreich und Schweden. Dies bedeutete in manchen Fällen nur einen geringen Aufwand, war aber in den meisten Ländern sehr schwer, in manchen unmöglich, und in einem Fall konnten überhaupt keine genderspezifischen Informationen erstellt werden. Dank einer neuen nationalen Studie über den Gender Pension Gap in Deutschland konnten wir auch für dieses ursprünglich nicht vorgesehene Land lokale Informationen erhalten.

In den Fällen, in denen die SILC-Daten mit den nationalen Quellen (Estland, Italien) vergleichbar waren, ist die Übereinstimmung sehr groß; das Gleiche gilt für Frankreich und Österreich, wo die Übereinstimmung nur für den Hauptindikator möglich

war. Auf der anderen Seite war in zwei anderen Mehrpfeiler-Systemen (Großbritannien, Niederlanden) der Datenvergleich sehr problematisch.

Der Bericht endet mit den Meinungen der nationalen Experten zu drei Themen: Perspektiven für die Zukunft, Sichtbarkeit von Genderthemen und Daten und die Frage der abgeleiteten Ansprüche. Die Experten sind sich weitgehend einig, dass mehr getan werden muss, um die Ursachen der unterschiedlichen Rentenansprüche von Frauen und Männern zu verstehen, und auch darin, dass auch in Fällen, in denen das Thema weniger akut ist, es keinesfalls vernachlässigt werden darf.

Empfehlungen an die Politik

Es wird befürchtet, dass Menschen, die in ihrem täglichen Leben wirtschaftliche Unabhängigkeit gewohnt sind, mit Erreichen des Pensionsalters mit Systemen konfrontiert werden, die auf der Annahme beruhen, dass Abhängigkeit der „normale“ Zustand ist. Was im Arbeitsmarkt erreicht worden ist, kann in der Rente umgekehrt werden.

Die beunruhigende Frage ist, dass wir uns nur langsam eine Meinung bilden, ob diese Befürchtung berechtigt ist oder nicht. Die statistische Analyse hat gezeigt, dass der Gender Gap bei Renten um ein Vielfaches größer ist als bei Löhnen. Eine besonders beunruhigende Frage ist die der Unsichtbarkeit des Problems. Der Bericht hat in vielen Ländern große Unterschiede zwischen den Geschlechtern festgestellt, aber auch die überwältigende Komplexität des Problems. Die Hoffnung, dass die Verbesserungen bei der Lohngleichstellung sich notwendigerweise auf die Renten übertragen, ist unbegründet.

Wenn ein neues Anliegen auf dem politischen Radar erscheint, durchläuft die Erkenntnis drei Phasen: *Wahrnehmung*, *Verbesserung* und zuletzt *Vorbeugung*. Im Falle der Ungleichstellung bei Renten von Frauen und Männern befinden wir uns noch in der ersten Phase – Sichtbarkeit des Themas. In dieser Phase kann die EU eine wichtige Rolle spielen, indem sie das Thema auf die politische Agenda setzt und nationale Initiativen anregt, die zu einer Verbesserung und möglicherweise Vorbeugung führen können.

Daher ist die wichtigste Einsicht für die Politik: **Wachsamkeit**.

1. Motivation: Towards a Pension Gap Indicator

1.1 The big picture: The need for gender vigilance for older people

In *the coming of age* (1970), French existentialist and feminist philosopher Simone de Beauvoir highlighted the pervasive gendered attitude of society towards old age :

“What we have here is a man’s problem... When there is speculation upon the subject (of old age) it is considered primarily in terms of men. In the first place because it is they who express themselves in laws, books and legends” (de Beauvoir, 1996, p. 89).

At the same time though, things need not *necessarily* be so. At a later point in the same book, she notes a potential for redressing gender imbalances:

“For women, the last age is a liberation (...) Now at last they can look after themselves (...)” (p. 489).

A generation later, policy is called upon to diagnose and correct the problems created by human institutions and social processes in order to realise the potential for independence that de Beauvoir sensed existed.

Today as ever, in many countries older women are insufficiently represented in decision-making *fora*, which may reinforce a pre-existing tendency to take their interests for granted. At the same time, their well-being and independence are the outcome of complex forces. Older women and men are affected by long-term social changes such as population ageing; they are the first group affected by the cumulative impact of twenty years of gradual institutional reform in pension systems and elsewhere; in the current economic and fiscal crisis, they are frequently one of the groups most immediately affected by fiscal retrenchment. At the same time, today’s older women witnessed in their working lifetimes major transformations in the role played by women in economy and society, a transformation that took place at different speeds across Europe and is yet to be completed.

Pension systems have changed considerably over the last 20 years, and are still changing. Older women have lived and worked in one system and collect their pen-

sions under a completely different system. In this way, older women's pensions carry simultaneously echoes of *past* disadvantage and premonitions of *future* vulnerability.

All of the above implies that it is important to know the roots and the extent of gender differences in pensions across Europe. What is more: in such a complex field affected by numerous influences, it is important to track changes over time. If this can be achieved problems might be individuated early on, and solutions sought and implemented in a timely fashion.

This report suggests that policy would benefit if a **Gender Gap in Pensions** indicator (**GGP** henceforth) was available on a regular basis. A GGP indicator can be easily produced across the European Union on an annual basis; it can investigate the nature of the pension gap and the dimensions of the problem for different population groups and different institutional settings; it can point the way to further work.

1.2. Motivation of the indicator. Why monitor gender differences in pensions?

Pensions are the single most important component of older people's income, and especially for women (Samek et al. 2011). In contrast to other components such as returns from savings, or income from property or rent, which are held to accrue to the whole household and cannot be separately attributed to a particular member of the household, pensions are paid to individuals. They thus are an important determinant of the **economic independence** of their beneficiaries – that is to say, of the capacity of an individual to lead an independent life and to take decisions for him/herself. In this way, differences in pension rights between women and men form the foundation of gender differences between the sexes in later life as regards capacity for individual choice.

The distinction between economic welfare and economic independence is important to make and to understand. Economic welfare, in other words: the access to resources and well-being potential depends on a wider set of income sources accruing to the *household*. In order to study welfare, all income entering a household is aggregated and then apportioned among the members of that household. Given that a household is by definition a social unit where consumption is shared among its members, total household income is necessarily *assumed* to be distributed equally among its members. In social surveys designed to gauge economic well-being, this means that income of men and women living as a couple is *equal by construction*.¹ In this way, indicators relying on household income – such as poverty rates – assume the poverty status of men and women living as couples to be identical. Therefore, differences in poverty rates by sex essentially rely on comparisons between single members of a household: people who never married, divorced individuals, widows and widowers.² Due to this fact, gender differences in access to resources are almost certainly severely underestimated in any measure that relies on household income. Should our interest lie in the related, but conceptually independent, issue of relative independence between genders, this shortcoming is even more distorting.

1 See, for example, Joint Reports on pensions 2003, 2006.

2 Strictly speaking, they rely on comparisons between households that have an odd number of members.

For people of working age this train of thought leads naturally to focusing on differences in employment remuneration – most frequently encapsulated by some measure of pay or earnings gap³. In the case of women this is essentially an achievement gap, reflecting the fact that women, in many contexts, may be underpaid, undervalued, overworked across the board; their responsibility for unpaid work in the family leads to underrepresentation in the paid labour market. Once people have left the labour market, the analogue of pay or earnings is the source of income that replaces them: i.e. pensions. An indicator of a pension gap would in this way be a natural complement, almost a sequel to an interest in gender pay gaps. Given that many pensions systems are designed to reflect employment experience, one would expect that pensions would reflect the cumulated disadvantages of a lifetime's involvement in a gender-biased labour market. The further back in time one goes (and hence the older the pension recipient), the more marked one would expect this effect to be.

However, pensions do not simply reflect labour market experiences in a neutral way. Systems which rely on the accumulation and investment of contributions may actually exacerbate inequalities in the employment remuneration. In contrast, as the largest single item of social protection expenditure, they are in principle called to correct to some degree what are perceived as imbalances (or even injustices) of the labour market. For this reason, the possibilities of intervening to correct gender imbalances are much greater in pensions than in earnings. An intervention requires information. A focus on gender differences in pensions would be an invaluable addition to the policy toolbox.

The two arguments of *complementing pay gender gaps* and of *orienting public pension decisions* are sufficient to justify a policy interest in pension differences between men and women. Why should that interest entail following those differences in regular time intervals? In other words, why should the EU consider *adding a new pension gap indicator* to the set of structural indicators it publishes every year?

An answer to the question of “*why an annual indicator?*” can be sought in the complexity of influences combined to produce the pension gender effects that will be appear every year. These influences can interact mutually or with other features and can frequently lead to unforeseen outcomes, possibly even to some ‘collateral damage’. The structure of pensions –and hence their gender-based differences– are influenced by three sets of factors:

First, very long-term structural changes operating like tectonic changes to transform the pension environment. **Ageing and demography** are the most well-known of these differences: older women are increasing in number; their state of health is changing while in comparison with earlier periods they have fewer children and social ties are looser. The anticipation of future acceleration of ageing may already have effects on today's older people, as policy adjusts with a lead.⁴ Similar in effect

³ As Goldin (1993) summarises, “when economists speak of the ‘gender gap’ these days, they usually are referring to systematic differences in the outcomes that men and women achieve in the labour market. These differences are seen in the percentages of men and women in the labour force, the types of occupations they choose, and their relative incomes or hourly wages”. Thus one can distinguish distinct notions of participation gap, pay gap and earnings gap.

⁴ See for example Report on Pension Adequacy in the EU 2010-2050: EC (2012), Pension Adequacy in the European Union 2010-2050. Report prepared jointly by the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission and the Social Protection Committee.

to ageing **are echo effects of past employment** patterns. *Today's* pensions may reflect *yesterday's* employment picture. Women's emancipation in the labour market has proceeded at different speeds in different parts of Europe, Northern Europe being typically more advanced than the South. Older cohorts may be more influenced by past gender imbalances; younger pensioners may already show the effects of non-traditional working patterns (part-time, on-call work etc.). Finally, **social norms** have been altering aspects that affect pensions: the incidence of divorce, the prevalence of widowhood, the probability of cohabitation between generations.

Second, today's pensions are intimately affected by the extent and spread of institutional change, chiefly pension reform⁵. Pension reforms have been an on-going project in Europe since the 1990s in the context of preparing for the long-term fiscal challenge of ageing, in some cases transforming the pension picture completely. However, in most cases reforms influence the *flow* of people entering retirement, and hence take a long time to percolate through all pensioners. Insofar as one can generalise, today's pensioners are affected by the general climate of retrenchment. Given that in many countries pension reforms have been under way for almost two decades, they are often covered by transitional arrangements designed to smooth the effects of those reforms and addressed towards those relatively close to retirement.⁶ This phenomenon is known as 'grandfathering'.⁷ As time passes and new systems mature, there will be an increasing number of individuals whose pensions will be marked by the characteristics of the *new* systems and who will be vulnerable to *new* kinds of pension risks, probably linked to the operation of the new system. Indeed, in those countries where reforms took place first (e.g. the Netherlands, UK, and Switzerland), those effects should *already* be visible.

The two most salient directions that are likely to impact on gender issues are: first, **the switch in emphasis from first-pillar pensions** (provided by the State and usually based on societal solidarity and pay-as-you-go financing) **to second-pillar pensions** (i.e. provided collectively based on *occupational* solidarity, and prefunded. This switch is frequently (though not always) combined with a change in the type of pensions from defined-benefit final salary schemes to defined contribution schemes (Mackenzie 2010; Orenstein, 2009). The overall effect tends to be an increase in individual responsibility in the form of a closer link between contributions and benefits⁸ and hence an overall reduction in solidarity of the system. Indeed, in the US

Available at: <http://ec.europa.eu/social/BlobServlet?docId=7805&langId=en>; COM (2010a) 2020 final, 3.3.2010. "Europe 2020: A strategy for smart, sustainable and inclusive growth", European Commission; COM (2010b) 365 final, 'GREEN PAPER: Towards adequate, sustainable and safe European pension systems', European Commission. Available at : <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0365:EN:NOT>.

5 On pension reform, see the excellent book Barr and Diamond 2010.

6 'A crucial distinction in pension reforms is between (a) the state when a reform is fully operational – 'mature', in the sense that all have participated in the new system both as contributors and as beneficiaries and (b) the transition towards full operation, when changes are gradually introduced and special dispensations are made for people who have contributed most of their lives to the old system. These dispensations may often be more generous than the new situation; they are also frequently *ad hoc*, in the sense that they do not strictly follow from the logic of *either* the old *or* the new system. This feature could imply that 'grandfathered' populations may be *more* at risk, as they are more dependent on the good will of system operators.

7 One wonders to what extent *grandmothers* receive this solicitude...

8 There is a tendency for the social component to be separated out or to be means-tested.

this trend has been termed ‘the privatisation of risk’, in the sense that it transfers risk from the employer and worker to the beneficiary. The second reform direction is the emphasis on **working longer**, which is a key message in ‘Europe 2020’. Though the long-term rationale of this direction is unassailable, there may be side effects in the short and medium terms that must be guarded against: disincentives for early retirement may lead to lower incomes for those with little choice (e.g. due to inability to work later owing to caring responsibilities). While the focus is (rightly) on the supply of labour (i.e. on incentives to work longer) employers’ prejudice as well as discrimination in training may keep *demand* for older workers low.⁹

The final set of factors shaping pensions are short-term pressures, usually connected with the current economic crisis. These pressures vary from country to country but could lead to important (and hard to predict) swings in gender effects. For example, greater insecurity in the labour market increases the relative attractiveness of state provided Defined Benefit (DB) pensions; in this way fiscal problems are exacerbated. Second pillar pensions have been hit hard by the collapse of asset values.¹⁰ The sovereign debt crisis led to numerous cuts of pension in payment, making a mockery of the notion of ‘Defined Benefits’ and fuelling pensioner insecurity.¹¹ In a cash shortage, first-pillar pensions are one of the largest items of expenditure under the direct control of the public sector; pensioners as a group are vulnerable to public finance pressures.

Recapitulating, older women pensioners may be, as a group, ‘stuck in the middle’. They have lived and worked under one system – which frequently implicitly presupposed a ‘Male Breadwinner Model’ but they will in many cases receive benefits under another. Where their entitlements are transitional (‘grandfathered’), they depend on government assurances given at the time of the original reform, the urgency of which many years later may be forgotten. They are, thus, not protected by the internal operational logic of the system, whether new or old. Women may be more at risk than men: Their rights on social insurance are often ‘derived rights’ (survivors’ pensions, married people’s supplements); in those systems where a second-pillar is taking hold, women are more likely to rely on state systems, or to be more affected by gaps in contributions and broken careers; finally, in many countries they persist in the role of carers (for children or aged parents) even as unpaid work is receiving less recognition.

Women in particular may be vulnerable due to four factors:

1. Echoes of past problems – women may have fewer pension contributions. This may be due to broken careers, low pay, segregation, past discrimination, informal work.

9 The conclusion in Munnell and Sass’s 2008 study of the US is that demand for labour factors on behalf of employers were responsible for the fall in average retirement ages in the 1970s.

10 An interesting observation was that some thrifty Northern pension funds had been investing in high yield Southern sovereign debt (used to finance, *inter alia*, unsustainable pensions). They were hit hard once those debts, in the Greek case, lost 75% of their value – a case where pension implicit debt was *de facto* mutualised?

11 Inadequate indexation erodes the real value of pensions outside the euro area. Greece post-memorandum is a case in point, where pensions in payment were cut 7 times in two years (Tinios, 2012).

2. Anticipations of future problems. Tighter linking to contributions, though desirable in itself, may exacerbate current disadvantages faced by women. Types of work such as part time may lead to lower rights in future; multi-pillar systems could compound disadvantages by introducing effects magnifying inequalities.

3. Problems where institutional change may lag behind social change. For example, social insurance systems were originally built around the notion of a single provider in the family; as systems stress increasingly individual rights, this creates problems in the case of divorce or widowhood.

4. Women may in practice be more vulnerable to crisis-induced changes. If women are worse off to begin with, they may be more vulnerable to a sudden deterioration, pushing them, for example, into poverty. Despite protestations to the contrary, 'male breadwinners' or 'heads of households' may implicitly be given priority in crisis responses (e.g. if early retirement schemes are pursued where women have lower retirement ages, they may result in more women exiting the labour market).

Current pensions received will, thus, at any one time reflect both long-term factors operating slowly, as well as other influences due to the conjuncture. Some effects may be policy driven, while others may be due to individual choice. The types of policy which will affect pensions of women and men may be systemic features but also decisions taken in a shorter time frame, sometimes in contexts not directly related to pensions, such as macroeconomic or public finance policies. In this type of situation it is important that policy makers be made aware of gender effects so that the source of the imbalance can be identified and –if possible – corrected.

Given that the EU has rightly taken a lead to guide responses to ageing populations and to gender balance, it is appropriate that it devote attention to possible side effects of one area of activity impinging on another. A decisive step in that direction would be to produce and analyse a gender gap indicator for pensions on a regular basis.

1.3. EU context: The sustainability-adequacy policy conundrum

There has been concern that demographic changes necessitate major readjustments to pension systems for at least 30 years (e.g. OECD 1981, 1988). Emphasis up to the 1990s was put on the need to safeguard sustainability of the pension systems. When the EU became formally involved (as a result of the Gothenburg and Stockholm summits in 2001),¹² it brought into the limelight the idea of adequacy, which can be understood as the extent to which pension systems fulfil their social policy functions. The two concepts should be complementary and inseparable, in the sense that they form a trade-off: sustainability can always be satisfied by sacrificing adequacy and *vice versa*. The task for policy is to seek changes that perform as well as possible in *both* dimensions.

Adequacy in the field of pensions means two different things: first, avoidance of low income and poverty at old age, which it shares with social inclusion policy. Second,

12 Commission of the European Communities, 2001 Commission Communication Supporting national strategies for safe and sustainable pensions through an integrated approach, (COM 2001) 362.

ensuring smoothing of income at different stages in the life cycle; retirement from employment should not lead to sharp falls in financial well-being. Those two objectives are, to some extent, antithetical. Indeed, ‘Beveridge-type’ social protection systems (based on citizenship rights) traditionally have given emphasis to the first objective. ‘Bismarck-type’ continental systems organised around social insurance use income smoothing as their starting point.¹³ However, though the two systems’ origins differed, as they pursued the same social objectives, in practice they evolved in converging directions, with the result that it is now possible to speak of a ‘European Social Model’. This model has common objectives which can, perhaps, be pursued by different instruments. Indeed, this recognition is the essence of the Open Method of Coordination, applied in the field of pensions since 2001.¹⁴

The dimension of gender enters through this twofold framework. Private pensions in general allow for women’s greater longevity by spreading resources over a longer time span, hence leading to lower pensions for the same contribution history. Social policy in Europe never allowed this type of discrimination in public pensions – even where a sum has to be spread over unequal expected lifetimes, no distinction was to be made between men and women; this was done by enforcing the use of unisex tables. Unisex tables, by applying a common annuity factor between women who tend to live longer and men, implicitly ensure solidarity in favour of women. A recent judgment of the European Court (The 2011 *Test-Achats* judgment), extended the principle of non-discrimination to all private insurance. Thus, the argument of greater female longevity was not allowed into the discussion – which was always placed squarely within the area of social policy. As a result, European discussion of equity issues in pensions sidesteps the fact that women live longer;¹⁵ unisex actuarial factors are used in all new systems, as is common in private systems out of Europe

Given the practice of lower retirement ages for women, it was clear that much of the sustainability adjustment had a gender dimension: women’s retirement ages and labour force participation were envisaged as adjusting the most. At the same time, pension reforms frequently did away with some gender-specific aspects of pension systems which were originally justified as compensating women for non-pension obstacles; features such as lower retirement ages for all women were replaced by targeted reductions such as compensation for care periods or for child bearing. Similarly, features of new systems could interact with existing gender disadvantages to produce new kinds of inequities, even as provisions that perpetuated disadvantage were gradually done away with¹⁶. Finally, many of the principles running through reforms could, as side effects, lead to lower entitlements for women: closer linking of contributions to entitlements cannot avoid penalising periods out of the labour

¹³ On types of pension systems see Barr and Diamond (2010). Esping Andersen (1994) is the most influential categorisation of social protection systems.

¹⁴ There have been three Joint Reports on Pensions in 2003, 2006 and 2009. E.g. Joint Report on Pensions, 2009, “Progress and key challenges in the delivery of adequate and sustainable pension in Europe”, European Economy, Occasional papers 71, http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/op71_en.

¹⁵ Such a viewpoint would come naturally if pensions were seen in the context of saving as a kind of asset accumulation. The social policy view could also be justified on more philosophical grounds in terms of certain differentiations in treatment (e.g. based on a statistical observation of longevity) being inadmissible a priori.

¹⁶ Such are provisions encouraging exit of women from the labour market with few years of contributions, hence leading to permanently low pensions.

force, unless some mitigation is designed. These looming threats can be well illustrated by work profiling hypothetical career structures and computing ('synthetic') replacement rates for people who fit those profiles; the Indicators Subgroup of the SPC has produced such results,¹⁷ as has the OECD. The work of the ISG is a clear warning sign that, should behaviour regarding years of contributions remain unchanged, many new equity issues affecting gender could appear in future years.

The Europe 2020 strategy¹⁸ is giving a clear signal that pension reforms and working longer will have pride of place in the overall attempt towards '*smart, sustainable and inclusive growth*'. In this context, though, policy formation is facing a conundrum, which is especially sharp in the field of gender equality.

The conundrum EU policy is facing is illustrated by two key documents both published in 2012. The 2012 Ageing Report¹⁹ notes that the reforms of the last few years have resulted in the outlook for sustainability being much improved in comparison with the 2009 Report. The 2012 Adequacy Report²⁰ is more circumspect, noting that "*analysis of the change in replacement rates ... demonstrates that greater sustainability ... has been achieved through reductions in future adequacy*" (p.9).²¹ The same report goes on to say that "*an important part of the adequacy challenge is gender specific*". In other words, pension reforms could, *if people's behaviour does not change*, pose threats to gender equity amongst the older population. Avoiding this is a key challenge for the EU.

Much of the Adequacy Report discusses this challenge. It examines statistical indications of today's situation and assesses the knowledge gaps to be filled by future work. Indeed, it may be said that the Adequacy Report, through a different route and from a different starting point, has come to the same conclusion of this report: defining a gender pension gap indicator must be the next step for the EU.

1.4. A Gender Gap in Pensions indicator: statistical description, data and definitions

A good indicator tracking gender imbalances in the field of pension should:²²

- Be easily understood;

¹⁷ Indicators Subgroup of the SPC 2009, *Updates of current and prospective theoretical pension replacement rates, 2006-2046*

¹⁸ CEC, EUROPE 2020, *A strategy for smart, sustainable and inclusive growth* COM(2010) 2020 final. The website of Europe 2020 contains annual growth surveys, country-specific recommendations and staff working documents, http://ec.europa.eu/europe2020/index_en.htm

¹⁹ EPC, 2012, The 2012 Ageing Report: Economic and budgetary projections for the 27 EU Member States (2010-2060), *European Economy* 2|2012, http://ec.europa.eu/economy_finance/publications/european_economy/ageing_report/index_en.htm

²⁰ Report on Pension Adequacy in the EU 2010-2050: <http://ec.europa.eu/social/BlobServlet?docId=7805&langId=en>

²¹ The Ageing Report makes clear that the largest contribution to expenditure restraint comes through falls of the 'benefit ratio', i.e. the size of the average pension relative to the average wage. If the pension bill is contained by more people working longer, the fall in the benefit ratio may not necessarily lead to lower average pensions.

²² Atkinson et al (2002) was the report that led to the adoption of structural indicators by the EU. They deal extensively with the characteristics of a good indicator.

- Be computed on an annual basis;
- Be available and comparable across Member States;
- Complement existing structural indicators used by the EU, particularly those on the risk of poverty but also on gender earnings gaps.

Given the above, the only realistic source for data is the EU **Statistics on Income and Living Conditions - EU SILC**²³. This is a questionnaire-based survey that draws on a random sample covering the entire population and is conducted annually across all 27 EU Member States. Considerable effort is made to standardise answer categories to make them internationally comparable. The latest available data is based on the survey conducted in 2010; given that the questions refer to the previous year, the situation reflected in the data is that pertaining to **2009**. The same survey is used to construct other EU structural indicators, most notably those connected with social inclusion and the risk of poverty; its properties, advantages and disadvantages are well understood.

EU-SILC asks households detailed questions about the income sources of all their members, whether from employment, from property or social transfers.²⁴ Social transfers are defined in such a way as to include under the same heading both first-pillar (state pensions) and second-pillar (occupational pensions). The two pillars cannot be distinguished (reflecting a judgment that at least in some systems the demarcation between the two may rely on fine distinctions), a matter of some importance in the current investigation given the gender difference in participation in second pillar pensions. In contrast, individually negotiated pension packages (the third pillar) are separately indicated. Another feature of EU-SILC that is problematic is that (in most countries) survivors' pensions paid to individuals older than 65 are classified as 'old age protection' and not separately identified.²⁵ In situations such as this, where there are problems of comparability between countries, the *sum* of three variables (in this case 'pensions') may be more reliable and meaningful than each of its components taken separately. These two issues, the inability to distinguish survivors' pensions and second-pillar pensions, may be thought of as 'blind spots' of EU-SILC in the context of pension gender gap analysis.

EU-SILC is a survey of the overall population irrespective of age; moreover, it probes especially in the areas linked to economic and financial well-being – i.e. 'income and living conditions'. For an older population there exist other questions and areas of enquiry that acquire greater importance such as health care or social relations. In order to delve in greater detail in particular issues or to investigate issues related to the EU-SILC 'blind spots', it is possible to draw data from another survey of European countries. This is the Survey of Health, Ageing and Retirement in Europe (SHARE), an interdisciplinary survey covering economic well-being, health – physical

²³ Appendix 1 provides more information on EU-SILC and the definition of variables contained.

²⁴ Social transfers are defined as transfer payments that meet one of two criteria: Coverage is compulsory and / or it is based on the principle of social solidarity (i.e. eligibility is collectively decided and is not decided, as in life insurance, on individual risks).

²⁵ In the latter case the separate SILC variable on survivors' pensions (PY110G) refers to payments to individuals *under* 65 years of age.

and mental - health care and social relations.²⁶ Though it is of the nature of sample surveys that they cannot be comparable in absolute terms, being able to draw on an alternative survey can be thought of as a check on key findings in EU-SILC. Equally, the existence of more detailed information on items such as employment histories can shed light on causal mechanisms that may be obscured in EU-SILC. There have been to date two waves of SHARE (2004 and 2007), while the third wave (SHARE-LIFE) was devoted to extracting retrospective information for respondents' entire life from childhood. SHARE will be used thus to supplement the picture derived from EU-SILC.

When we focus on older populations, we must be aware of a further blind spot – the exclusion of people in old people's homes, hospitals and other collective habitations –i.e. not living in normal households, which is the sampling unit in all surveys.²⁷ More women than men live in this type of accommodation (as they tend to survive their partners), while it is also more common in the West rather than the East (Bettio and Verashchagina 2011: figures 3 and 5 especially). Moreover, one may expect that the sampling rate of those parts of the elderly population who are infirm, bedridden or have fading cognitive abilities may well be lower.²⁸ This is an argument for supplementing SILC data with other surveys designed for older population; statistical exercises that examine the older part of the population separately (e.g. Section 2.4) may also be used as further checks.

A matter of some importance is the decision of whom to include in the definition of 'pensioner'. This has two aspects:

First, individuals themselves decide when to leave work and enter retirement. They decide whether to apply for a pension as a conscious decision, depending on a number of features both of their personal circumstances, the parameters and regulations of the pensions system in place (e.g. minimum retirement ages) and ultimately whether they prefer to be pensioners rather than to carry on working.²⁹ The transition from work to retirement is a very complex process; the issues feeding into it

26 The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and family networks. The first wave (2004/5) of SHARE covers more than 30,000 individuals aged over 50 in 12 European countries, while in the second wave (2006/7) further data have been collected in Czech Republic, Poland as well as Ireland. SHARELIFE is the third wave of data collection for SHARE, which focuses on people's life histories. Almost 30,000 men and women across 13 European countries took part in this round of the survey. The SHARE data collection has been primarily funded by the European Commission through the 5th Framework Programme (project QLK6-CT-2001-00360 in the thematic programme Quality of Life), through the 6th Framework Programme (projects SHARE-I3, RII-CT-2006-062193, COMPARE, CIT5-CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the 7th Framework Programme (SHARE-PREP, N° 211909, SHARE-LEAP, N° 227822 and SHARE M4, N° 261982). Additional funding from the U.S. National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, R21 AG025169, Y1-AG-4553-01, IAG BSR06-11 and OGHA 04-064) and the German Ministry of Education and Research as well as from various national sources is gratefully acknowledged (see www.share-project.org for a full list of funding institutions).

27 The exclusion of this group of the population is a further source of difference with administrative data.

28 SHARE uses devices such as proxy interviews to get around this problem.

29 All these considerations mean that one cannot take as random who is a pensioner and who is working. In technical terms the sample is endogenous and any simple observations derived from it can be seriously misleading. Correcting for this endogeneity is technically possible, but would greatly complicate the interpretation of the indicator, whilst also making it contingent on the model used to correct for endogeneity.

are largely distinct from the issues that motivated our search for a pension gap indicator. In order to abstract from these complications and to produce an indicator that retains the feature of simplicity and ease of understanding, we investigate a homogeneous group of people defined in such a way that the transition from work to retirement is complete and for whom pensions have settled into the relationship with other income that will characterise the rest of their retirement. To achieve this, the simplest course is to focus on the **group of people over 65**. In all Member States, the transition to retirement is all but complete;³⁰ in consequence the relationship between pensions and other incomes, as well as, most crucially, gender differences in pensions have settled into their long-term values.³¹

During the course of the analysis age will be sub-divided further (into 'the younger old' 65-80, and 'the oldest old' 80+). Indicative results will also be presented for the younger pensioners (50-65) – section 2.4. In this way the effect of excluding large numbers of pensioners in those Member States with a lower retirement age can become apparent. Furthermore, the use of 65 as a cut-off age also serves to underline the concern for the elderly; that age is the conventional statistical start for 'old age' and will thus allow the indicator to be harmonized with a large number of other works in the area.

The second important issue is also related to the definition of who is a pensioner. The definition used here is 'any person who appears to be drawing a pension as his/her own income', i.e. individuals with non-zero values of pensions.³² This *excludes* from the definition individuals who are not themselves beneficiaries of pensions, and whose pension income is zero.³³ The definition of who is a pensioner is thus sensitive to the definition of what is a pension. Should Eurostat define in SILC social benefits given to older people in, say, recognition of child-rearing, as 'pensions', then our definition will include individuals collecting them as 'pensioners';³⁴ they will unavoidably enter the calculation on an equal standing with age pensioners whose pension is substituting at least for minimum resources. However, this problem may be seen as an example of the statistical tools improving as they are being used.³⁵

30 Even if the latter is not 100%, the 'missing percent' is very small and is unlikely to pose a major problem in calculations.

31 Objections to this choice may be raised by pointing that, in member states with a retirement age of 60, the cut-off of 65 will have a different meaning than the same age in a context where retirement takes place at 67. Nevertheless, the tendency of retirement to converge means that the alternative of having a cut-off varying according to the general retirement age in each member state would add the cost of complication and add very uncertain benefits.

32 In France women who draw only a survivor's pension as a derived right are excluded from the definition of 'pensioner' used in official statistics.

33 This definition may *include* people whose main source of income is not pensions (e.g. income from property), as well as others who may still be working and simultaneously drawing a pension – though the latter group is small for the over-65s.

34 An example of a small pension-like benefit that could be included in the pensions total is the "forfait d'éducation" (informally 'mama rent') which is given in Luxembourg to any retired man and woman and which depends on the number of children the woman/ man has cared for. Inclusion of such payments to older people as pensions may bias the analysis: if they are given to people with no other pension income, they would boost the pension gap while at the same time reducing the coverage gap. Clearing up such ambiguities and definitions on a country-by-country basis is an important part of the 'housekeeping' exercises that need to be undertaken when a statistical indicator comes into use.

35 The alternative of intervening in the SILC definitions and deciding how low a 'real' pension can be

Thus, a pension system would be defined by two indicators: one measuring gender pension differences for those with a pension, and another indicator depending on system coverage – i.e. the gender differences for those people over 65 who have no pension. It should be noted that the exact parallel exists in the case of people of working age: gender analysts are used to talking separately of a participation gap (i.e. how many more women rather than men are working for pay) and an earnings (or pay) gap; the latter looks at earnings of those who are working and compares women and men.

The pension gender gap is computed in the simplest possible way: it is one minus women's average pension income divided by men's average pension income. To express it as a percentage this ratio is multiplied by 100. It is the percentage by which women's average pension is lower than men's, or by how much women are lagging behind men.

In parallel with earnings gaps we define two linked indicators:

DEFINITION OF THE GENDER GAP IN PENSION

We define the Gender Gap in Pensions as:

$$\left(1 - \frac{\text{women's average pension income}}{\text{men's average pension income}}\right) \times 100 \quad (1)$$

In order to define both *women's and men's average pension income* we take into account the following assumptions: we consider the subsamples of individuals in the EU-SILC UDB p-file who are 65 years old at the beginning of the income reference period (t-1) of the EU-SILC wave concerned (t). Among the subsample of individuals in 1), we select those who have AT LEAST one positive income value of old age benefits (PY100G), regular private pensions (PY080G) or survivors' benefits (PY110G). By denoting “F” the women in subsample 2), and “M” the men in sub-sample 2) formula (1) can be re-written as follows:

$$\left(1 - \frac{\frac{\sum_{i=1}^F (PY080G_i + PY100G_i + PY110G_i) w_i}{\sum_{i=1}^F w_i}}{\frac{\sum_{j=1}^M (PY080G_j + PY100G_j + PY110G_j) w_j}{\sum_{j=1}^M w_j}}\right) \times 10 \quad (1b)$$

Where w_i is the personal cross-sectional weight of female i (SILC variable PB040), and w_j is the corresponding weight for male j .

1. The coverage gap – i.e. the extent to which more women than men do not have access to the pension system (in the sense of having zero pension income – as that in defined in EU-SILC).

is clearly unworkable. This is an example of the kind of adjustment that has to be undertaken at the member state level.

2. The pensioners' pension gap – or else '*the*' pension gap, i.e. the difference in pensions *excluding* zero pensions. This measures how the pension system treats 'its beneficiaries', i.e. excludes those that have no active links with pensions.³⁶ It is what administrative data, by construction, would invariably cover. This definition would match statistics produced by pension providers, or any other kind of administrative data (e.g. compilations of pension fund data).

If we include in the pension average calculation individuals with zero income, we come to an indicator which combines the two above – which can be called the '**elderly pension gap**', in the sense that it includes in one indicator all people over 65.

Thus the analysis will use the pensioners' pension gap and the coverage gap as its 'headline indicators'; it will nonetheless investigate how these two indicators combine in the elderly gap.

1.5 The question of administrative data

In the Gender Gap in Pensions analysis at the European level a key consideration is that of comparability – i.e. the numbers produced have to mean the same thing for all Member States. In a survey coordinated on a European level such as EU-SILC, this is ensured by asking a common set of questions and ensuring the definitions and concepts can encompass the unavoidable heterogeneity in collecting data from 27 different jurisdictions. Comparability is not something that emerges automatically; it continuously improves with the use of data and with attempts to resolve the problems of interpretation that arise. Thus the very fact of highlighting a particular area of data by using it will bring forth improvements in the survey information.

Yet it is inescapable that in each Member State taken separately, the natural place to look for pension gender differences is from those organisations that disburse pensions – that is to use administrative data. For someone accustomed to the picture emerging from administrative data, the EU-SILC data may well be unfamiliar. It is thus important at the outset to understand why and in what directions administrative data may differ from survey information:

- Administrative data would of necessity cover *only* those receiving a pension – i.e. what we call the pensioners' pension gender gap, rather than the elderly pension gap.
- National pension systems are frequently fragmented – there may be a multitude of pension providers and data may exist separately by occupational category. In multi-pillar systems, statistics for the pension total (equivalent to SILC which aggregates first and second-pillar pensions) may be hard to get. The typical case is that statistics for the first-pillar is far easier to obtain than that from the second³⁷; the latter is very hard to

³⁶ We must recall that, due to using SILC data, 'pensions' in this case includes survivors' pensions of individuals who were not themselves active contributors to the pension system.

³⁷ In multi-pillar systems, each pillar would produce statistics taken its coverage as given. What we will have is a series of 'pensioner's gap' for each system taken on its own; it would be impossible to reproduce the national coverage statistics for each pillar separately. It would be especially hard to aggregate coverage statistics in fragmented systems (especially multi-pillar ones) if the statistics are not

aggregate to derive a national picture. Sometimes data for parts of the system (e.g. civil servants) is only available separately and is not aggregated.

- Administrative data is frequently produced separately by types of pension: old age, disability, survivors may produce separate statistics.³⁸ Pension providers naturally count pension cheques and not people. In the (not fanciful) case of someone entitled to two pensions, it is fully possible that that person will be counted twice; indeed it is not unknown in pension statistics for the pensioner population to exceed the demographic population. This is sometimes corrected by conducting a periodic (in France every 4 years, also in Germany) survey of activities of pension providers.

- Administrative data would normally be available for all pensioners. These would include those under 65 which are excluded in our definition. Additionally differences will be due to those excluded from the EU SILC sampling frame – those living in old age homes, those not responding due to cognitive problems, those residing abroad; on the other side will be beneficiaries of foreign systems, as well as cases of fraud.

In order to highlight and illustrate the crucial distinction between administrative and survey data, this report will return to the issue once the European picture derived from EU-SILC survey data is complete. This will be contrasted to a mosaic of available administrative data from eleven European countries.

1.6 What do we know? Literature review

A. Gender gaps as a difference in life chances

The gender gap is one of the better-known aspects of empirical gender analysis. According to *the Oxford Dictionary*, gender gap (noun) is ‘the discrepancy in opportunities, status, attitudes, etc., between men and women’. The gender gap is essentially an achievement gap. It focuses on inequalities in outcomes between men and women and usually places emphasis on wage rates, earnings or other economic magnitudes.³⁹

In more general terms gender gaps could be taken to mean systematic differences in access to resource or in life chances between men and women. In this way the concept could be generalized in order to be applied to an older population, whose attachment to the labour market lies in the past but still may be a dominant influence on their economic well-being. Though this is a natural extension, the sequel of pay gaps, it has received far less attention, both theoretical and empirical, than gender gaps more directly linked to the labour market. Does old age maintain inequalities, does it cumulate them and make them worse, or does it give a chance to redistribute and level life chances? (O’Rand and Henrietta, 1999).

produced by some central body. This is an important point to do with the governance of a multi-pillar system: system adequacy can only be judged if some statistics are produced centrally.

38 Some national systems do not produce statistics by sex, hence obscuring the question totally.

39 The persistence of an achievement gap is somewhat paradoxical, in economic theory terms: a preferential demand for lower paid women should drive their wages up until they reach the level of men’s. Chichilnisky (2008) explains this seeming paradox by bringing in the economics of the family and the necessity for women to engage in housework.

B. From the labour market to cumulative gender gaps

As Goldin (1993) says, *‘when economists speak of the ‘gender gap’ these days, they usually are referring to systematic differences in the outcomes that men and women achieve in the labour market. These differences are seen in the percentages of men and women in the labour force, the types of occupations they choose, and their relative incomes or hourly wages’*. The gender gap in labour force participation has been eroding steadily over the past century, at a different pace in different countries and periods. The gender gap that attracts the most attention, however, is in earnings: here, again, progress has been recorded in leaps (no steady trend).⁴⁰

As for the reasons accounting for the difference in earnings between men and women, economists tend to come up with observable and non-observable factors: education and shorter work experience belong to the first category, while discrimination⁴¹ to the latter (e.g. Blau and Kahn, 2000; Smith and Ward, 1989)⁴². Finally, the unbalanced gender distribution in occupations (often called occupational segregation⁴³) supplies a further explanation for women’s lower earnings, in the sense that they tend to populate lower paid jobs (Bettio, 2008).

Evidence based on historical cross-section data provides a snapshot of different economic outcomes in the labour market at a specific point in time, as well as over time. In a more dynamic analysis focusing on the life-pattern of the same individuals, the consecutive instances of different outcomes add up to an effect of cumulative disadvantage for women. Such a dynamic approach can follow one of the two following paths: either to utilize panel data comprising the same individuals over time, or to assess the performance of different cohorts in the same phase in their life (say, reproductive ages 25 to 45 years). The latter approach has been used in order to evaluate the *‘maternity burden’* on wages throughout the life-course (Crittenden, 2001, for the USA; and Davies & Joshi, 1999; Davies, Joshi and Peronaci, 2000, for the UK).

It is thus a well-documented fact that women earn lower wages and tend to accumulate less income from (paid) work in the course of their working lives. There is a consensus that women’s role as the main carers at home largely explains their lower earnings record. This is the result of three main facts present in all national contexts, but to varying degrees: *first*, women with family obligations participate less in the labour market; *second*, even when they participate, they tend to work for fewer hours and/or years; and *third*, they receive lower wages.

The combination of these three stylised facts produces a snowball effect on women’s earnings and careers. Although it appears that the cumulative disadvantage over the life-course has been eased in the late 1990s for women with high educa-

40 For recent comparative studies on the gender wage gap in the USA and in Europe see Arumpalam et al. (2005), Blau and Kahn (2003); Brainerd (2000), OECD (2008), Olivetti and Petrongolo (2008), Pastore and Verashchagina (2011), Plantenga and Remery (2007).

41 Discrimination refers to persistent wage disparities between clearly identifiable labour segments with equal productivity potential (Cain 1986 cited in Bettio, 2008: 171).

42 There is an interesting debate on whether the narrowing of the gender gap remained stalled since the late 1990s (see Goldin, 2006) and more recently Bettio (2008) and ITUC (2012).

43 This is the horizontal segregation. From the point of view of lower wages producing the gender wage gap, more important perhaps is the hierarchical or vertical segregation.

tion characteristics, there is no recorded improvement for women with lower educational attainment (Davies and Joshi, 1999; Davies, Joshi and Peronaci, 2000).

International comparisons reveal substantial differences in the cumulative earnings gap in Europe: Germany and the UK show similar intensity in the gap, while France and Sweden display lower cumulative earnings gap (Davies and Joshi, 1994). In a more recent attempt to capture international variations, Sigle-Rushton and Waldfogel, 2007 utilised data from the Luxembourg Incomes Study in order to compare the cumulative earnings gap in eight countries.

C. From the labour market to the Gender Gap in Pensions

In a special issue on gender and ageing Folbre *et al* (2005) note that ‘although women are a majority among the elderly, little is heard about gender differences in economic resources’ (p. 3). Fifteen years earlier, Hurd 1990 noted that ‘the great majority of research on retirement has been the retirement of single men and husbands’.

Even and Macpherson 2004, surveying how the US Gender Gap in Pensions evolved over the last 30 years, note the key question that still needs to be answered. During that time there were dramatic improvements in gender balance in the labour market. Yet the gender gap in median incomes of the older population ‘[...] has been stagnant over the past fifty years. The female-male ratio of median incomes in the population aged 65 and over was 0.61 in 1950 and fell only slightly to 0.59 in 1994’ (p. 182). They explain this stagnation through countervailing institutional change in pension policy (extending the critical period for pension calculation) as well as selection effects,⁴⁴ mainly to do with second-pillar pensions.

Tracking the Gender Gap in Pensions outside the United States has not been attempted in a systematic manner in a cross-section of countries, in the way that has happened to pay and earnings gaps (as in, say, Olivetti and Petrongolo 2008). There have been a number of studies of individual countries, usually focusing on specific aspects of the pension system.⁴⁵ This literature, surveyed recently by Jefferson 2009, can generate a number of hypotheses that can be used to explain observed differences in gender balance in pensions: **(a)** gaps in **coverage** in systems linking entitlements to contribution: coverage gaps in public systems are closing as new gaps are opening up in occupational systems (p. 120), thus highlighting the importance of following the *total* entitlement for all pillars, **(b) benefit** calculation policies – (the role of derived benefits such as survivors’ pension, the period of earnings taken into account, the existence of pension minima, unisex annuity tables for the second pillar),⁴⁶ **(c)** methods of financing and part-shifting to funding, affecting the distribution of risk.

44 Though the number of women covered increased, those covered for pension had fewer contributions, probably due to lower labour market attachment. This feature allows them to be more optimistic about the future.

45 For instance, Frericks *et al* 2006 compare Denmark with the Netherlands, Balchin and Finch 2006 look at the UK, Zajicek *et al.*, 2007 Poland; Steinhilber 1996, Bonnet *et al* 2006.

46 Given women’s greater longevity, using a unisex actuarial table to convert a lump sum to an annuity, as is done in prefunded pensions, may be interpreted as advantageous to women. However, the same issue can be approached as an issue of gender balance in the labour market – as the US Supreme Court examined it – in which case unisex tables are a logical conclusion. In all EU second-pillar systems to date unisex tables have been applied.

Most of the literature on gender and pensions is oriented towards the effects of reforms, usually focusing on a *specific* reform or systemic feature. In this way the effects of *combination* of factors, or indeed of the overall logic of systems may be missed. This piecemeal approach begs the question of **benchmarking the starting point**: what is the current level of gender imbalance, how does it differ between countries and why?

In this respect the US was privileged in having access to good quality survey data which allowed researchers to pose relevant questions and to ponder on causes of observed phenomena. Chief amongst these was the Health Retirement Study (HRS), a panel survey of people 50+ which has been in operation since 1992⁴⁷, and has provided material for a large number of studies. The Survey of Health, Ageing and Retirement in Europe (SHARE) was consciously modeled on the HRS. SHARE-based studies have begun appearing, in some cases attempting to explain income gaps in older age.⁴⁸ Many of the papers in Börsch-Supan et al., 2011 approach the issue of broken careers (Lyberaki et al., 2011; Tinios et al., 2011).

However, when one looks at European-level data one has to get along with studies relying on local administrative data or impressionistic analyses of selective cases (see for example Frericks et al., 2009).

Addendum: The Gender Gap in Pensions and the Gender Pay Gap

Gender gaps – from the Pay to the Pension gap through the life cycle

THE WORLD OF WORK			TOTAL CAREER RESOURCES
A. Pay per hour → PAY GAP			
Education, skills (human capital)	SEGREGATION ("women's work")	DISCRIMINATION	
B. Hours Worked per year → HOURS GAP			
Part- time	Contract or seasonal work	Self employment	
C Years Worked→ BROKEN CAREERS			
Late entry due to education, military service	Unemployment Work interruptions	(periods credited for social insurance and other compensating measures could correct)	LIFETIME EARNINGS GAP (=AxBxC)
THE WORLD OF RETIREMENT			

⁴⁷ See www.hrs.org

⁴⁸ Lyberaki et al. 2012 try to explain gaps in 'personal income' – an amalgam of labour and pension income; for people over 65 this is equivalent to a pension gap.

CHOICE of AGE OF RETIREMENT		PENSION SYSTEM	
D. PENSION → PENSION GAP			
Depending on system - zero pensions.	Age pensions may be given to <i>all</i> after a certain age Other pension supplements?	Social insurance pensions reflect lifetime earnings gap. Married supplements.	TOTAL PENSION RECEIPTS E. TOTAL PENSION GAP
Individually-based additions Benefits in kind?		second-pillar pensions may compound lifetime gap.	
YEARS IN RETIREMENT/ LIFE EXPECTANCY			
Survivors pensions	Gender differences in life expectancy impact on total pension receipts		Indexation practices

Gender differences begin cumulating from the World of Work. The aspect most studied concerns **pay per hour**. Differences may be ‘explained’ by different endowments of measurable variables (e.g. years of education), by concentration of the gender’s in different occupation, or simply due to ‘discrimination’. The genders also differ according to **the hours worked per year**, where there is different concentration in part-time work, seasonal work or fixed-term employment but also differing propensities towards self-employment. Annual earnings cumulate through the career and are mediated by **years worked**. Gender differences may be due to late entry (education, military service) but are most commonly due to exit from the labour force due to child bearing and unemployment spells. The three aspects are multiplied to form total career resources – which could lead to a **lifetime earnings gap**.

The world of retirement is predicated upon the world of work and builds on life time earnings. These operate through the rules of the **pension system** but are also, in most cases, affected by the individual deciding on an **age of retirement**. The resulting pension is typically affected by both features: early pensions typically lead to lower pensions; the pension system may correct imbalances in lifetime re s, or it may amplify them (e.g. where a prefunded element may reward saving). We may distinguish three types of situations:

- Some social insurance systems may lead to some individuals with an insufficient insurance record not being entitled to a pension at all (zero pensions). In those situations the other partner (in the case of married couples) may receive a married person’s pension supplement.
- Some systems may have an age pension which is received by all citizens on reaching a particular age. In some countries there may be a widespread use of pension-like emoluments (e.g. for having raised children in Luxembourg).
- Social insurance pensions are designed to reflect lifetime contributions

and can be expected to mirror the career earnings gaps. Nevertheless, a number of devices (credit for childbearing periods, minimum pensions) can temper this. Second pillar pensions can be expected to have a closer link to contributions, as well as to reflect possible differences in rates of return.

- We must note that looking at pensions neglects benefits in kind, housing benefits, transport subsidies and eligibility of other social inclusion benefits such as minimum income guarantees. (Though in most systems minimum income guarantees to older people are incorporated into the pension system).

- Finally, symmetrically with the world of work, one may also calculate the **total lifetime pension receipts**. Gender differences in years collecting pensions are due to earlier retirement as well as longer life expectancy for women, but may also depend on pension indexation practices. The status of survivors' pensions is unclear: they constitute a legal right earned by the (male) contributor, yet are collected by the surviving (usually female) partner.

- Of the various gender gaps the one most extensively studied is the gap in hourly pay. Many of the issues that arise in the treatment of pension gaps are also met in the case of pay gaps: the practice of distinguishing a pay gap and a participation gap is the most obvious case. Other issues, such as the treatment of small pension-like emoluments, can also find analogies in the case of pay gaps; these can serve as guides in defining the gap and/or refining the data that enters the pension gap calculation.

The Gender Gap in Pensions and the Gender Pay Gap: how far can the analogy between the Gender Pay Gap and Gender Pension Gap – our headline indicator – be carried out? In answer to this question we comment below on a catalogue of similarities and dissimilarities, strengths and limitations of the two indicators with respect to criteria such as concept, data quality, sectoral and population coverage, relation to labour market inequality, and analytical fecundity.

	The Gender Gap in Pensions (GGP) (proposed headline indicator)	The Gender Pay Gap (GPG) (Official indicator to monitor the European Employment Strategy)
Concept	The (unadjusted) Gender Pension Gap measures the difference between average gross yearly pension income of male pensioners and that of female pensioners as a percentage of the average gross yearly pension income of male pensioners. Only pensioners aged 65 years and older are considered.	The (unadjusted) Gender Pay Gap measures the difference between average gross hourly earnings of male paid employees and those of female paid employees as a percentage of average gross hourly earnings of male paid employees. All age groups are included.
	Comment: There is a perfect analogy in the (formal) concept. In both cases the income (earnings) for men is the standard of reference, and inequality is measured as a percentage difference with respect to the standard.	
Data source & quality	The source we propose for the headline GGP is the EU-SILC survey, cross sectional, which is deemed the best data base at EU level for coverage, quality and comparability of income data.	The source of the official GPG is the Structure of Earnings survey, which is deemed to be the best source for quality and comparability of (hourly) wage data.
	Comment: The source currently used for the GPG and that proposed here for the GGP are first choice: there is, of course, scope for improvement in both cases.	
Time unit	Year	Hour
	Comment: The difference in time unit is less consequential than it may appear at first sight. The GPG refers to hourly wages in order to rule out differences in hours worked by sex, which are considerable and reflect personal choice, at least to an extent. All pensions are paid on an annual basis, so differences in hours are irrelevant. Thus year is the appropriate unit. Pensioners who also work, however, do exist and their number will probably increase in the future. However, their prevalence is limited in the over 65 population.	
Population coverage	The reference population is individuals aged 65 years and older receiving a pension. Two major exclusions concern: non pension beneficiaries pension beneficiaries younger than 65	The reference population is all waged employees. Two major exclusions concern: non-working people the self employed
	Comment: Both indicators need to be flanked by measures of coverage in order to give indications about the importance of non-beneficiaries. In the GPG case, the coverage indicator is the employment rate, a well-known and widely used statistics. Its analogue for the GGP we propose is the Coverage Gap (Section 2.2, step 2). Coverage indicators separate out beneficiaries from non-beneficiaries. People thus excluded take no part in the calculation of gaps. For example, the self-employed are excluded from calculation of the GPG in the same way that younger pensioners are excluded from calculation of the GGP. Both exclusions are motivated by difficulties of measurement and of ensuring simplicity of the indicator. In both cases, moreover, the distortion that such exclusions imply is likely to vary across countries. A key issue relates to the definition of a pension. Certain small social protection benefits collected by old age people may be classified as 'pensions' in some countries and not in others. Definitions would have to be harmonized.	
Sectoral coverage	No sectoral or firm based exclusion. (in administrative data there may be differences in coverage where the system is fragmented and/or in multi-pillar systems)	Data are available from the reference source for all sectors excluding agriculture forestry and fisheries, activities of households as employers extra territorial organizations and, depending on the country, public administration, defense and compulsory social security. Moreover enterprises with 9 or less employees are excluded.
	Comment: because of the uneven distribution of male and female employees across sectors and size of firms, the GPG may be distorted by the above restrictions, the most consequential exclusions concerning public administration and very small firms. The GGP does not suffer from such a limitation. However, the main reference source –EU-SILC – does not allow for a breakdown by past sector of activity of the pensioner. This limits the analysis of the impact of occupational pension schemes, unless a different source is used such as SHARE.	
Relation to labour market inequality	The GGP reflects cumulative differences in earnings measured at the end of one's working life, i.e. it is influenced by differences in hours and days worked in one's lifetime as well as in hourly earnings.	The GPG captures differences in hourly earnings at one point in time
	Comment: Again, the apparently large dissimilarity between the two indicators must be qualified. Although the GPG takes a snapshot, hourly wages of each employee at a given point in time reflect cumulative qualifications (e.g. past education and training choices) as well as cumulative labour market experience. As a result, we may expect both indicators to move slowly over time insofar as they both depend on past history of individuals.	
Analytical fecundity	The GGP is an 'unadjusted' indicator because it compares individuals with different characteristics and past work history.	The GPG is an 'unadjusted' indicator because it compares individuals with different characteristics and past work history.
	Comment: both indicators are 'unadjusted' and can be 'adjusted' using the same econometric techniques (see section 2.13, step 13). At present, however, there is a difference in the extent of adjustment that can be carried out using the respective data sources. The SES source is much richer in details about past work history of waged employees than the EU-SILC survey source is about past work history of pensioners. This can be partly made up for by using the SHARE source for analysis of 'adjusted' 'GGPs'. Given the very long time needed for changes to operate across lifetimes, the operational and policy significance of decomposition is different in the case of pensions.	

2. A Statistical Characterisation of the Gender Gap in Pensions in Europe in 2009 in Thirteen Steps

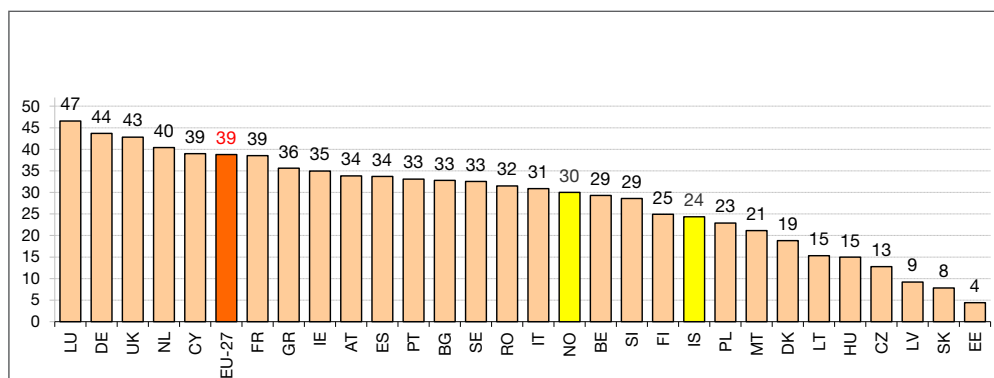
In approaching a relatively little known and under-researched field such as gender differences in pension entitlements in Europe, it is important to proceed by simple steps – each of which designed to clarify a particular issue. In this way and by cross-checking our information and the robustness of our assumptions to the extent possible, we aim to derive a small number of ‘stylised facts’ about the characteristics and distribution of gender gaps in Europe. These stylised facts should form the backbone of a policy approach oriented towards getting to grips with this phenomenon. At the initial, benchmarking stage, *description* of the facts across the EU27 has priority; explanation and analysis of causal factors will come afterwards, quite often as reactions to the stimuli created by benchmarking findings.

Our analysis thus proceeds in a series of eleven structured steps, each addressed to a particular issue. Each step may also be thought of as an ‘exercise’, designed to illustrate a particular issue or hypothesis. In this way, a step may approach an issue in more than one way or may supplement EU-SILC information with SHARE.

2.1 STEP 1. The headline indicator – How wide is the gross pension gap in Europe?

It is important to have an idea of ‘the’ Gender Gap in Pensions (GGP) in Europe – what may be thought as the ‘headline indicator’ or our ‘best estimate’ for gender differences in pensions. This, for the record, consists of the difference in average pensions between men and women over 65, calculated in terms of pensions gross of tax (i.e. before tax is deducted).⁴⁹ The results appear in Figure 1.1.

⁴⁹ The consequences of adopting alternative definitions are explored in other exercises.

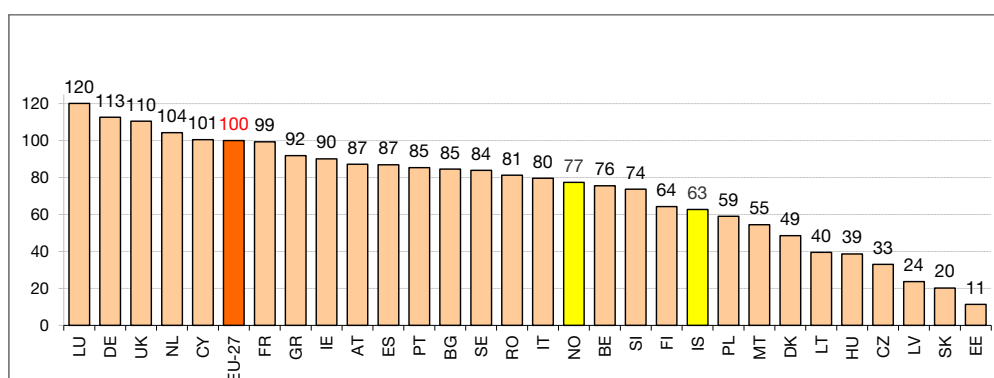
Figure 1.1. Gender Gap in Pensions (%), pensioners aged over 65 years

Source: own estimation from EU-SILC 2010. Note: Estimates for CY and IE are based on 2009 data.

Taking the EU as a whole (weighted by population), men on average receive higher pensions than women by **39%**. The widest difference is observed in Luxembourg (47%), followed by Germany (44%), and the UK (43%), which are clearly above the average. The Netherlands (40%), Cyprus (39%) and France (39%) are around the average. A large group of countries have values exceeding a third (Greece, Ireland, Austria, Spain, Portugal, Bulgaria), while five other countries are around 30% (Sweden, Romania, Italy Norway, and Slovenia). It is thus true to say that in 17 of the 27 Member States women receive pension on average 30% or more lower than men's. The EU average, being calculated on a population-weighted basis, is heavily affected by the gap of the larger countries – Germany, the UK and France most notably.

Finland (25%), Poland (23%) and 19% (Denmark) fare better, but still show sizeable differences in Gender Gaps in Pension. The lowest values are found for Eastern European countries: Lithuania (15%), Hungary (15%), the Czech Republic (13%), Latvia (9%) and the Slovak Republic (8%). Estonia is 'top of the class' – as women's pensions are lower by only 4%.

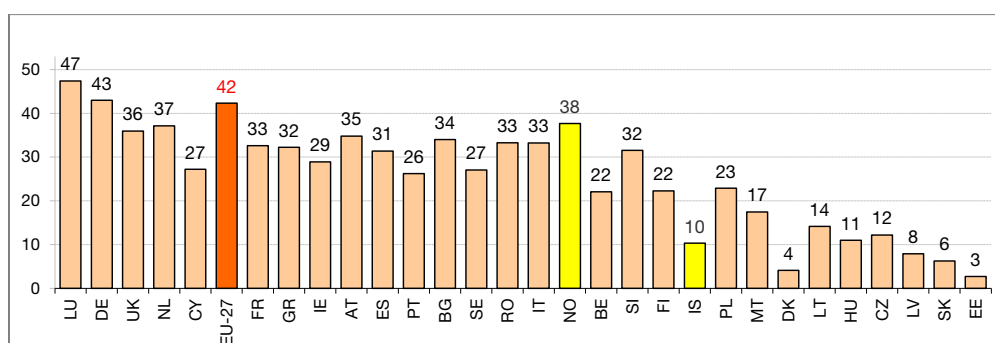
Figure 1.2 shows the same picture normalized so that each country's Gender Gap in Pensions is shown relatively to the EU average. The range between the lowest (Estonia) and the highest (Luxembourg) is by a factor more than 10. Though the breaks (especially at the top end) are not sharp, the existence of the four clusters of countries detailed above is confirmed, with the most common range among countries being some 20 percentage points (pp henceforth) below the EU average.

Figure 1.2. Indexed Gender Gap in Pensions (EU-27=100), pensioners aged 65+

Source: own estimation from EU-SILC 2010

The Gender Gap in Pensions, as here defined, essentially compares each person to the society's average. If those women married to richer men have not worked or have few years of contributions, the distance between the two pensions will be such as to magnify the gender gap (i.e. the gender gap will be affected by extreme values). To see how far this has affected the data, Figure 1.3 presents an alternative definition of pension gaps, based not on *average* pensions, but on the pension of the middle individual (i.e. the median), a measure that is not affected by outliers, whether high or low.⁵⁰ In order to facilitate comparisons with the headline (average), the sequence of countries is preserved for all subsequent analysis– i.e. all presentation are sorted by order of the headline gap: our headline estimation of Figure 1.1 appears sufficiently robust.

Figure 1.3. Gender Gap in Median Pension: pensioners aged 65+



Source: own estimation from EU-SILC 2010

The classification of countries into four groups is largely preserved: in 15 countries the Gender Gap in Pensions based on mean pension income does not deviate by more than 3 percentage points from Figure 1.1. For example in Germany it only deviates by one point, in Italy by 2, in the Netherlands by 3. Nevertheless, there are some notable divergences: In Sweden, France, Ireland, Portugal, UK, Belgium, Cyprus, Iceland and Denmark the estimation of the Gender Gap in Pensions based on median pension income is more than 5pp lower, ranging from 5.5pp in France to over 14pp in Denmark.⁵¹

Women's pensions are lower than men's pensions. At the same time, pensions across Europe may be higher or lower *in absolute terms*, but also relative to productive capacity of a country depending on how rich or poor a country as a whole is, or how its social protection system is structured. Though these matters are not part of the remit of this study, it is important to have an idea of what absolute magnitudes are to be found behind our relative figures. Table 1.1 sets out the values (in Euros) of average monthly pensions by sex. It also notes what percentage this is of GDP per capita and of the at-risk-of-poverty threshold for a household with one member for each country. The variation (as expected) is enormous, with the lowest pension for women being in BG (113 EUR/month) and the highest in LU (2000 EUR); the latter interestingly corresponds to one of the *lowest* shares of pensions as % of per capita GDP. Only in Bulgaria and Cyprus are *mean* women's pensions insufficient to take a single person out of poverty.

⁵⁰ This is, however, achieved at the cost of further distancing the indicator from published administrative data.

⁵¹ A large divergence of mean and median is a sign of lack of symmetry in the distribution of individual values. Such would be caused by a concentration of larger or smaller pensions.

Table 1.1. Mean Value of Annual Pension Income of Men and Women aged 65+

Persons aged 65+	Mean <i>monthly</i> value of Pension Income (EUR) ¹		Mean Annual Pension Income as (%) of 2009 GDP per capita ²		Mean Annual Pension Income as (%) of 2010 National Poverty line ³	
	Men	Women	Men	Women	Men	Women
LU	3751	2004	60	32	232	124
DE	1804	1016	75	42	192	108
UK	1501	858	71	40	175	100
NL	2220	1323	77	46	219	130
CY	1134	692	66	40	134	81
EU-27	1447	886	74	45	196	120
FR	1960	1205	81	50	195	120
GR	1037	667	61	39	173	112
IE	1869	1216	62	41	188	122
AT	2319	1535	84	56	225	149
ES	1168	774	61	41	179	119
PT	766	512	58	39	176	118
BG	169	113	44	30	112	75
SE	1881	1270	72	48	191	129
RO	197	135	43	29	193	133
IT	1565	1082	75	52	196	136
NO	2556	1789	55	38	158	110
BE	1622	1147	62	44	167	118
SI	874	624	60	43	149	106
FI	1738	1305	65	48	163	122
IS	1276	965	56	43	139	105
PL	403	311	60	46	183	141
MT	757	597	64	50	145	114
DK	2070	1681	61	50	161	131
LT	304	257	46	39	150	127
HU	340	289	45	38	160	136
CZ	430	375	38	33	122	106
LV	271	246	40	36	119	108
SK	383	353	40	36	125	115
EE	322	308	38	36	113	108

Source: Own estimation from EU-SILC 2010

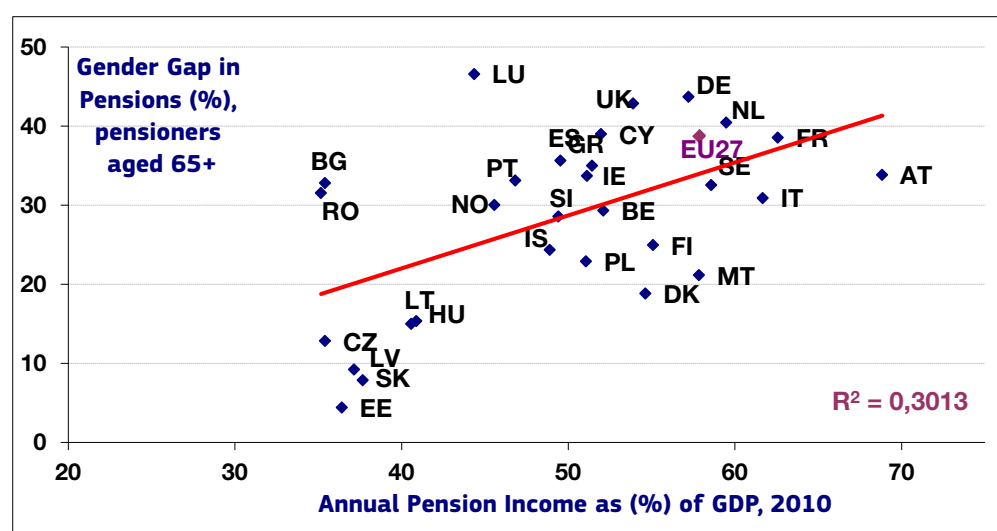
¹Monthly value= Annual mean total gross pensions divided by 12

²GDP at market prices, source Eurostat

³At risk of poverty level for 1-member household, from EU-SILC 2010

Do higher pensions coexist with a higher gender imbalance? This is what one would expect should pension systems attempt to focus on greater needs. This question is approached by relating a measure of pension generosity (average pension income of individuals 65+ as a percentage of GDP *per capita*) with the pension gap of Figure 1.1. The result appears in the form of a scatter plot in Figure 1.4. The hypothesis finds some corroboration in the form of a positive relationship; however the relationship is weak and leaves much dispersion around the trend line ($R^2=0.3$).

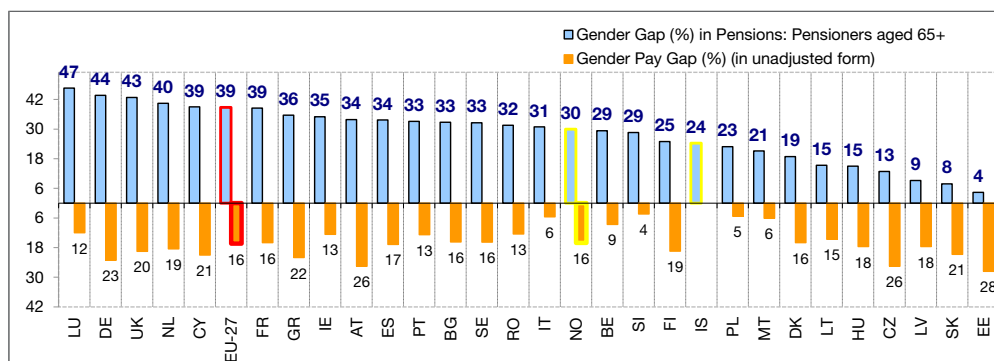
Figure 1.4. Plotting the gender pension gap against pension generosity



Source: Own estimation from EU-SILC 2010

To answer the key question of interest 'how wide is the pension gap in Europe?' one needs a point of comparison. In the case of pensions, the obvious yardstick is the pay gap -i.e. differences between men and women in paid labour. Pensions replace employment income at an older age when that ceases, so the comparison is a natural one to make. At the same time, the pay (or earnings) gap is one of the most extensively studied aspects of gender differentiation. It must be noted, of course, that today's pay gap and today's pension gaps refer to different groups of *people*. If evaluated *today*, pension gaps average income sources of a different *generation* than the one currently earning income in the labour market.⁵² Nevertheless, in order to grasp orders of magnitude, it is important to see how the two gaps compare. Figure 1.5 juxtaposes the headline pension gap with the latest available Gender Pay Gap, produced on an annual basis by Eurostat, based on the Earnings Database.

⁵² In the study of ageing, a key distinction is between *age* groups and *cohorts* (i.e. people born at a particular time period). Today's 60-year olds (born around 1950) may behave differently than the 60 year-olds of 1990 (who had been born around 1930). At any one time, however, the two concepts coincide. One should always be careful of making generalisations based solely on age, as these may be due to a cohort effect and hence not hold in the future.

Figure 1.5. Gender Gap in Pensions vis-à-vis Gender Pay Gap (in unadjusted form)

Source: own calculations EU SILC; Gender Pay Gap from Eurostat's Earnings Database for 2010
http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/database

Notes: (a) The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The population consists of all paid employees in enterprises with 10 employees or more in NACE Rev. 2 aggregate B to S (excluding O).
 (b) Greece, Estonia, 2008. No information exists for Iceland.

A first observation is that pension gaps are considerably wider than pay gaps: the average pay gap (16%) is less than half the average pension gap (39%). This is expected given that women work fewer hours per year as well as receiving less on a per hour basis. Thus a given pay gap is magnified into a wider annual earnings gap. Of course, women also work fewer years, and hence we would expect an even *wider* career earnings gap. It is the latter earnings concept that most pensions systems base the pension calculation on. A large difference is thus only to be expected.

Second, there appears no simple relationship linking the two indicators. The country with the widest pay gap (Estonia) is the one with the lowest *pension gap*. This kind of coincidence is quite common in Eastern Europe. Pension systems can intervene on market outcomes in very meaningful ways. Third, the dispersion in pay gaps appears to be lower than that for pension gaps. A clearer picture of the relationship between pay and pension gaps can be derived from the scatter diagram linking the two sets of observations. Figure 1.6 plots pension gaps against pay gaps. We must remember that the two sets of data cannot be linked with a direct *causal* relationship, as they refer to different people: in particular a younger cohort working and an older cohort drawing pensions. It is partly to underline this fact that the pension gap appears as the x-axis of Figure 1.6.

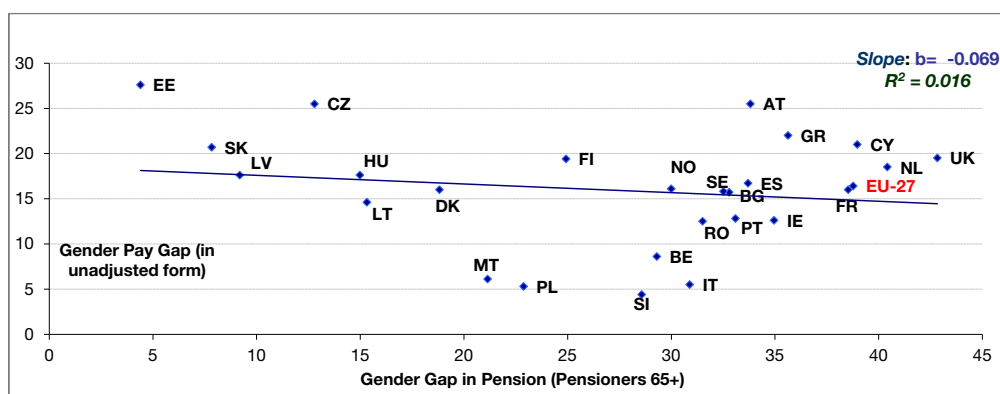
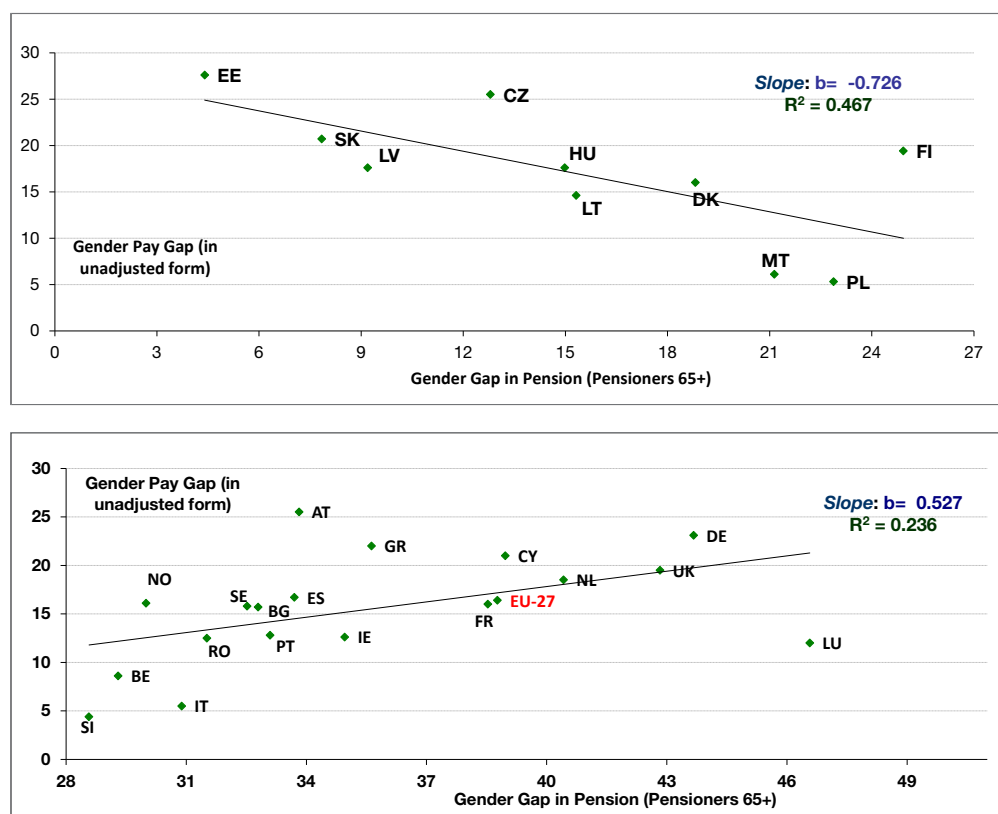
Figure 1.6. Gender Gap in Pensions vis-à-vis Gender Pay Gap

Figure 1.7: Gender Gap in Pensions vis-à-vis Gender Pay Gap: Fitting two linear trends

Source: Data from Figure 1.5

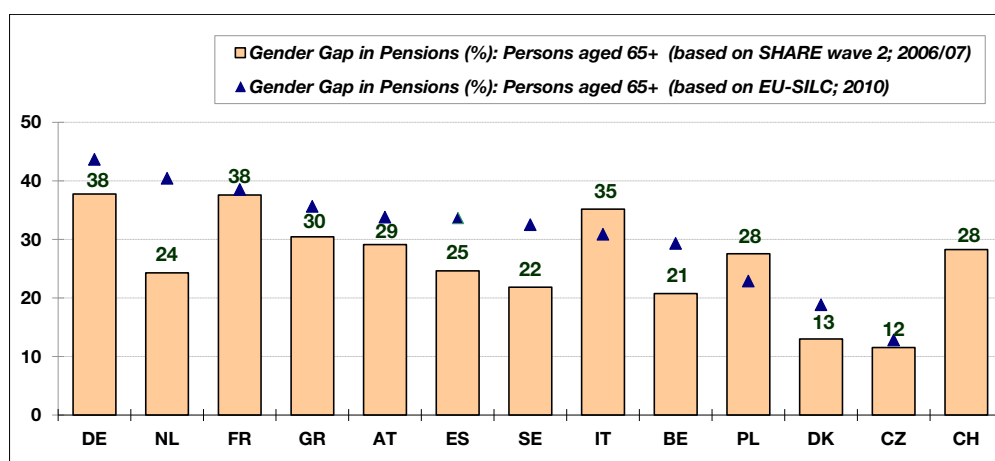
The scatter confirms the impression that there is no simple linear relationship between pension and pay gaps across countries; the line of best fit is almost flat and explains a tiny part of the variation ($R^2=0.016$). However, one could tentatively discern *two* separate relationships – as shown in Figure 1.7 by splitting the first scatter into two panels. Given that the relationship essentially reflects (clusters of) characteristics of the pension system, as well as historical factors, it is preferable to think of two linear relationships, than a single U-shaped non-linear one.

The first panel shows an *inverse* relationship with pay – i.e. a *low* pension gap *despite* a high pay gap. This group of countries is comprised of transition countries plus Denmark and refers to a pension gap lower than 27%. This effect would be created by pension systems including some kind of age pension. In the *second* group of countries (those with a pension gap above 27%, and clustered around the EU average), there can be seen a kind of *positive* relationship between pay gaps and pension gaps, such as would be produced by pension systems which reproduce the labour market situation (e.g. if they are based on social insurance principles). If a relationship exists, it is interesting that it would be relatively steep – i.e. pension systems tend to magnify pay gaps. Poland and possibly Finland could be classified in either group.

Data derived from the Statistics on Income and Living Conditions (EU-SILC) are the basis for the bulk of our analysis. When one looks for ‘the’ Gender Gap in Pensions, EU-SILC would be the natural place to look. However, it is important that this information is cross-checked against other data sources; it is also significant to be

able to supplement the information which exists in EU-SILC for *particular* questions with other sources of data which might go into some questions at greater depth or might approach a particular question from a slightly different angle. Data derived from SHARE (the Survey of Health, Ageing and Retirement in Europe) will be used in a number of occasions to supplement the picture emerging from EU-SILC. It is thus important at this stage to compare the two sources and to be aware of their key differences, in order to discount answers derived later on in the analysis. Figure 1.8 compares SHARE wave 2 data from the data derived from Figure 1.1 (what has been called the ‘headline Gender Gap in Pensions’) for the same countries. Switzerland is included in SHARE but not in EU-SILC.

Figure 1.8. Gender Gap in Pensions: Evidence from SHARE vis-à-vis EU-SILC



Source: Own estimation from SHARE (Survey on Health, Ageing & Retirement in Europe), wave 2 (2006/7) and EU-SILC 2010

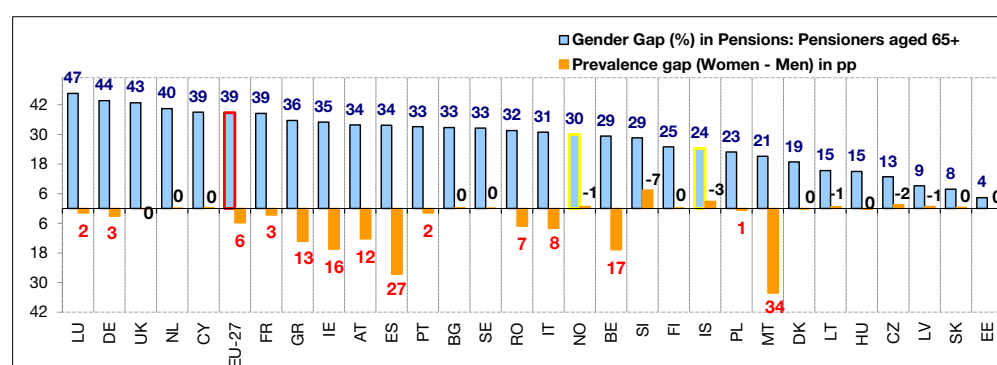
The first thing to notice is that the ranking of countries is comparable. Germany (followed by France) has the widest gap, the Czech Republic and Denmark among the narrowest. Gender Gap in Pensions estimated based on SHARE data tend to be lower (with the notable exceptions of Italy and Poland). This could be due to a different definition of income (SHARE reported figures are net of tax – see Figure 7.1 for the equivalents in EU-SILC); it may also be due to the inclusion of alternative or supplementary pension sources, as a result of a more detailed pension questionnaire. Some of the differences could also be due to a different reference period (SHARE 2006/7, EU-SILC 3 years later). However it may be, the differences between SHARE and EU-SILC are *not* such as to preclude SHARE as a supplemental source of information. In order not to confuse matters with alternative estimates for the same concept, an attempt is made to present SHARE information after normalization – i.e. to express values relative to a particular yardstick (e.g. as an index number) – rather than in absolute magnitudes.

2.2 STEP 2. Introducing Coverage effects – the prevalence of zero pensions

A key characteristic of a pension system is its coverage: whether it leaves some people without pensions at all. In pension systems that include an age pension, paid to all citizens past a certain age, the gender gap in coverage will be zero. In contrast, we might see prevalence gaps emerging in social insurance systems where the right to an old age pension is dependent on a minimum number of years of contributions.

In many such systems, in a distinct echo of the Male Breadwinner Model (rather than a married woman who has insufficient years of contributions being entitled to her own pension), the husband's pension is augmented by a married allowance (e.g. BE, GR). In the latter case, we might expect to see a large prevalence gap to be associated with a *larger* pension gap and even greater gap if zero pensions are included (Figure 2.1).

Figure 2.1. Gender Gap in Pensions and Gender Gap in Coverage by the pension system



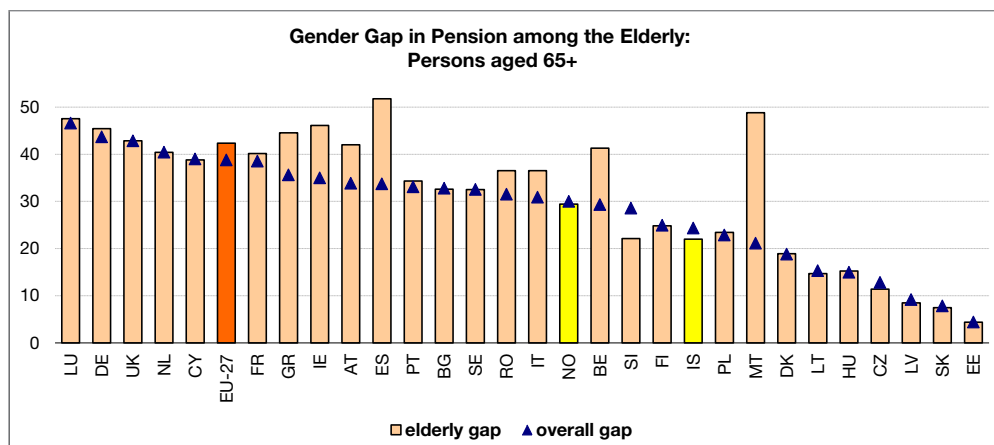
Source: Own estimation from EU-SILC 2010

Figure 2.1 charts the coverage gap on the same graph as the headline gap. In most countries, the entire population of men and women has active links and access to the pension system. All the countries in the group with high pension gaps come into that category (Luxembourg, Germany, the Netherlands, Cyprus and France); pension gaps are caused by women receiving low pensions, rather than not having access to pensions at all. On the contrary there are countries where coverage gaps tell a large part of the story: In Malta 34 % more women than men have no pension; in Spain 27 %. Other countries with a large group of women with no pension are Belgium (27%), Greece (13%), Ireland (16%) and Austria 12%, while Romania and Italy have values a little over 5%. Negative values (more men than women having no pension), in Slovenia and Finland are probably due to a misclassification of disability pensions. However, as already noted, the coverage statistic is sensitive to the statistical definition of what is a pension in SILC. Such an 'anomaly' is responsible for a *negative* gap in Slovenia.⁵³ A similar issue may be created by classifying certain small social benefits as 'pensions'. This could explain the very small coverage gap in social insurance-based systems such as Luxembourg in contrast with, say, Belgium. This kind of issues should first be identified and then a case can be made for adapting classifications.

2.3 STEP 3. The combined picture: the elderly pension gap

It is possible to combine the story told by the pension gap and the coverage gap in a single indicator, one based on the entire population. It would rather naturally be termed 'the elderly pension gap' as it includes everyone over 65, whether they have a pension or not (i.e. it would include individuals with zero pensions who are absent from Figure 1.1). Figure 3.1 shows the elderly gap for 2010, also noting the value of headline gap.

⁵³ Disability pensions paid to people over 65 should be classified as pensions; this appears not to be the case for Slovenia and the Czech Republic. If such pensions are reclassified, the 'anomaly' disappears. However in subsequent tables the EU-SILC practice is preserved.

Figure 3.1. The Gender Gap in Pensions among the elderly: persons aged 65+

Source: Own estimation from EU-SILC 2010

The overall gap is somewhat higher at 42% as opposed to 39%. However, in those cases where there exists a large coverage gap, the elderly pension gap is massively affected. Spain is now the country with the widest gap which at 52% is 16 points (and 63%) higher. Malta follows closely increasing from 21% to 49%. For those two cases, bringing coverage in the picture alters the impression gleaned by the headline gender gap almost completely: the fact that women's pensions are (relatively) high compared to men is due to the large number of women being excluded from pensions altogether. This may be reinforced by a selectivity effect: In systems where few women work (or do not drop out), those who are working may be disproportionately better paid. This, by raising women's pensions (and earnings) might depress observed pension (and earnings) gap *for that selected sub-group*.⁵⁴ Considerable (though not as large) differences are noted in the other countries with sizeable coverage gaps: Belgium, Ireland, Greece, and Austria.⁵⁵

The implications of this discrepancy between the elderly and the headline gaps depend largely on the viewpoint adopted. The countries where a coverage gap exists have pension systems based on the social insurance principle, whereby the right to a pension is earned through the payment of contribution. The existence of a coverage gap simply reflects the fact that many older women had limited involvement in paid labour. However, it must be pointed out that other countries *also* following the social insurance paradigm (e.g. Germany, France) ensure that all of both men and women have access to a pension, presumably overcoming the same issue. This observation has important implications about policy actions needed to complete the spread of social protection across all groups of the population.

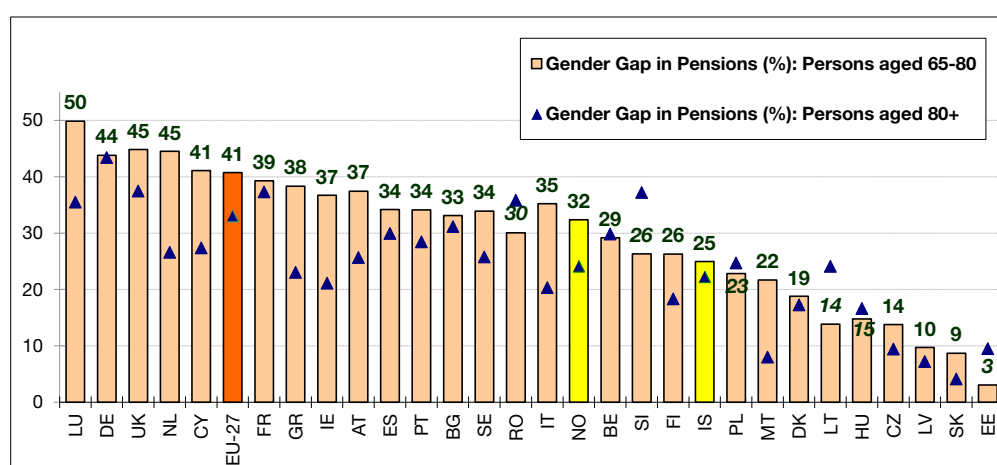
⁵⁴ This would be the case if women earning above average are more likely to participate in employment.

⁵⁵ The seeming anomaly for Slovenia is due to the issue of possible misclassification of disability pensions noted earlier.

2.4 STEP 4. Cohort analysis: Is the gap becoming wider or narrower over time?

A key point of interest is whether the passage of time is leading to the pension gap becoming wider or narrower. If over the last generation the situation in gender balance *improved* in employment, we would expect older individuals to experience worse gender imbalances than younger ones. In the opposite direction, the spread of atypical modes of employment such as part-time working, contract employment or other ways of combining work and family life could imply, as unwanted side effects, larger number of individuals with insufficient (or simply lower) social insurance rights. Though the rapid spread of such contracts in the 1990s implies that most individuals over 65 would have been affected only marginally, this effect could be visible for some countries.⁵⁶ A cohort effect would also be produced by pension reform. Older cohorts faced systems which, by encouraging early exit of women, also condemned them to retire with fewer contributions (and hence fewer rights). Moreover, if (as is often the case), some countries index pensions inadequately relative to inflation, the longer a person has remained in retirement, the lower his/her pension relative to the average. Finally, one should also bear in mind that sampling and other technical survey issues are likely to be more prevalent for the older group. Figure 4.1 is designed to examine this question by splitting our sample into a younger group (the younger old, aged 65–79) and an older group (the oldest old aged over 80).

Figure 4.1. Gender Gap in Pensions: cohort analysis, all pensions



Source: Own estimation from EU-SILC 2010

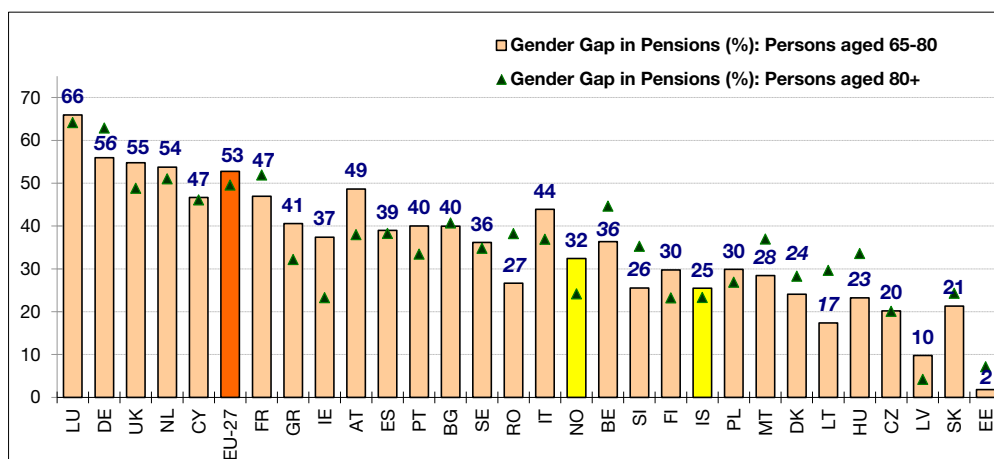
Figure 4.1 plots in histogram form the headline gap for the younger group and on the same graph, the same indicator for the over-80 group. It shows, contrary to most expectations, that the younger group faces considerably *wider* pension gaps than their predecessors. The *average* pension gap for the younger group is 41%, whereas for the older group it is 8 pp lower, at 33%. Differences are especially marked in the Netherlands, Greece, Ireland, Austria and Italy. In contrast in France, Germany and Denmark there is no discernible difference, while in some smaller countries (Slovenia, Lithuania, Romania, and Estonia) gender gaps widen with age;

⁵⁶ In the US a large improvement in pay gaps over 50 years had no effect on pension gaps (Even and Macpherson, 2004). The reason was differential participation of women to second-pillar employer-sponsored pensions.

in pension reforms in Eastern countries older individuals were less affected than those who retired earlier – the effect of grandfathering. The more time passes since the reform, the more we will see the effects of the new system.⁵⁷

We must be careful not to conclude from the above observation that the Gender Gap in Pensions problem is getting worse. In older age groups survivors' pensions given to widows become very common. This type of pensions would depress gender gaps in pension; if men have higher pensions, their widows would correspondingly increase the average of pensions drawn by women. A simple solution would be to include only pensions given to individuals as a result of *personal* entitlement (i.e. old age plus disability) and to exclude survivors' pensions. However, this is not possible in EU-SILC data, as survivors' pensions given to individuals over 65 are reclassified as old age protection. To compensate for this, it is possible to *exclude* all widows from the analysis of Figure 4.1, hence leaving in the sample only pensions drawn as a personal right (Figure 4.2 – for non-widowed persons).⁵⁸

Figure 4.2. Gender Gap in Pensions: cohort analysis, all pensions, for non-widowed persons



Source: Own estimation from EU-SILC 2010

Note: In Malta the number of observations, by sex, of persons aged over 80 years is less than 30.

Figure 4.2 partly confirms our supposition that survivors' pensions act in an equalising fashion. Though the average pension gap is still wider for the younger group, the distance between them is much smaller. There is also probably a selection effect: life expectancy is lower among disadvantaged groups. In some countries (e.g. Belgium, Denmark, Germany, France) the younger group faces lower pension gaps. However, taking out of the sample a differentially large percentage of observations between the two cohorts is bound to affect the results, most probably in the direction of reducing gender gaps among the older group.

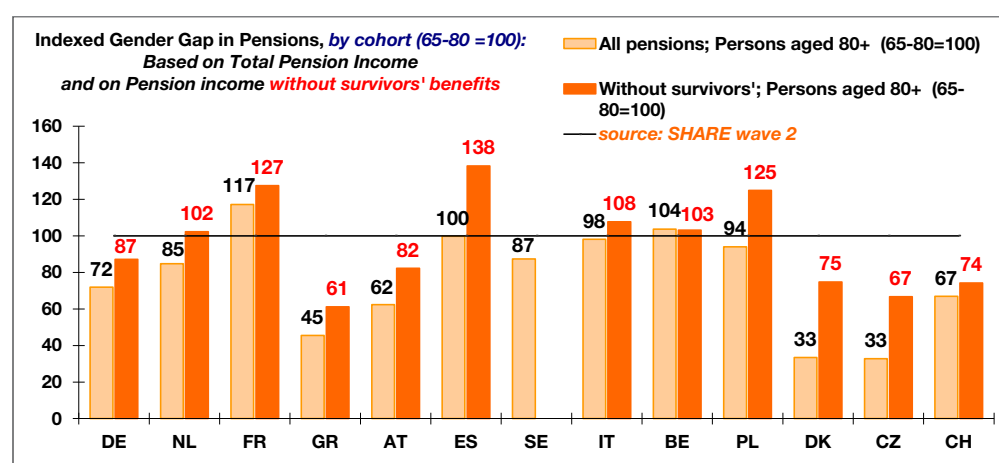
Given the policy importance of the question of whether the passage of time is

⁵⁷ In the 'German Study' reviewed under chapter 3, a key finding was a massive difference in gender gaps between the Eastern (ex-socialist) and Western parts of the country.

⁵⁸ This would be strictly not problematic if widowhood was completely random. However we know that the average difference in age among spouses is not random and could hence 'contaminate' our results.

making gender imbalances better or worse, it is worth posing the same question to our alternative data source, SHARE. That data set allows us to selectively subtract survivors' pensions from individual incomes, leaving only pensions based on own rights and could have better coverage for the group of the very old. In the case, for an example, where a widow has both a pension based on her own contributions and a survivor's pension from her husband, we can focus only on the former. Figure 4.3 examines whether, looking at all pensions with the exception of survivors' pensions, the younger group faces a wider or narrower pension gap. It normalises all gaps relative to the pension gap based on the pension gap of the younger cohort (65–80=100) using *total* pension income (i.e. the equivalent of Figure 4.3).

Figure 4.3. SHARE Cohort analysis, all pensions; without survivors'



Source: Own estimation from SHARE (Survey on Health, Ageing and Retirement in Europe), wave 2 (2006/7)

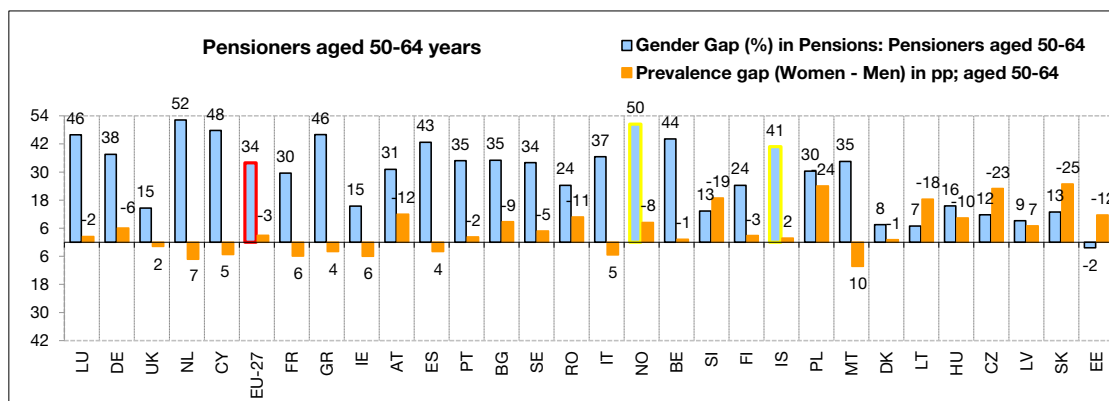
Notes: In Sweden, there is no separate answer category for survivors' benefits; hence pension income without survivors' benefits cannot be estimated for Sweden.

The cohort picture emerging is mixed. In some countries pensions of younger cohorts exhibit greater gaps (Greece, Germany, Austria, Sweden); in others they exhibit smaller ones (France, Spain). The effect of abstracting from survivors' pensions is larger for the Netherlands, Greece, Austria, Poland, Denmark and Czech Republic. In contrast in Belgium, Italy, Switzerland and Germany the differences are smaller.

Concluding this inquiry it is fair to say that, although there is some evidence that pensions due to individuals' own contribution history are becoming more balanced by sex, this is a process that proceeds at different speeds across Europe, mediated by characteristics of the pension systems.

The investigation by cohorts was based on the comparison between two cohorts, both over 65. What of the situation of those approaching retirement age, i.e. those **aged between 50 and 65?**

It is worth recalling that this group was excluded from the analysis on the grounds that any picture emerging will be dominated by factors related to the process of exiting the labour market, rather than the more structural long-term forces that would affect people who rely totally on pensions. Also, given that the general retirement ages are at different ages in different countries, comparability will be hampered. Nevertheless, at this point it is appropriate to see what kind of gender gaps are being faced by this group. In particular, whether there are any discernible trends that would affect the situation in future affecting the older group, as this younger age group approach age 65. Figure 4.4 looks at the combined prevalence and pensioner gap picture, in a manner equivalent to Figure 2.1.

Figure 4.4. Gender Gap in Pensions and Gender Gap in Coverage by the pension system, persons 50-64

Source: Own estimation from EU-SILC 2010

Note: Negative values in Prevalence Gap indicate that *more* men are receiving pension than women.

The first thing to notice is that there is a far more complex picture regarding prevalence.⁵⁹ In those countries where individuals receive an old age pension (at 65 or 60 in some cases), women at ages *below* 65 are less likely to receive pensions than men. This would appear as negative prevalence gaps (e.g. in the Baltic States, Slovenia, Romania and Austria). It would be counteracted by a tendency of those women who are working to exit into retirement before men (e.g. due to lower minimum retirement ages). As regards pension gaps, if some women retire earlier with fewer contributions (and hence a lower entitlement to pensions), whereas those women who continue working will end up with higher pensions, then gender gaps calculated for this group would be seriously *over-estimated* relative to the picture that will emerge at our headline indicator of over 65s⁶⁰. The same would result if lower-paid men retire earlier with a lower pension. We see, for example in the Netherlands, that the Gender gap is wider for this group than for the group 65-80; this observation also holds for Greece, Belgium and France. In contrast, for most countries pension gaps are *lower*: the EU-27 average is 34% for those below 65, and 41% for the immediate older cohort. Thus, though, it would be tempting to conclude that the 'stored change' embodied in this group who will enter full retirement in the next 10 years' is positive, no such conclusion is possible, essentially due to the heterogeneity of that population group.

2.5 STEP 5. Are the pension gap differences due to lower education for older women?

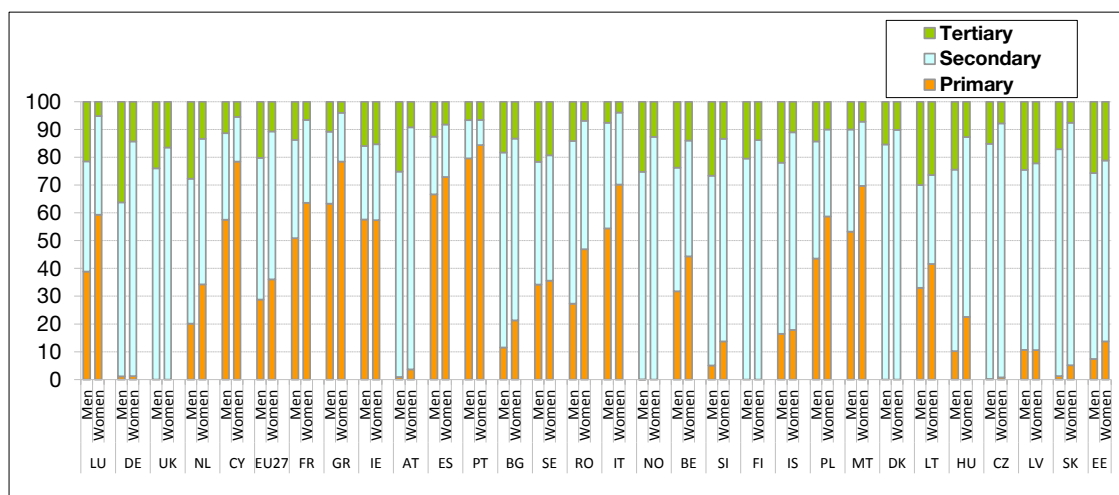
The observed differences in pension gaps may be due to differences in the average experience for men and women. Pensions are linked to lifetime contributions, which are themselves a function of career earnings. In sample surveys the variable most

⁵⁹ The group of pensioners below 50 is not examined at all, as it would be dominated by disability pensioners and is likely to be even more heterogeneous.

⁶⁰ They would exclude those women who will receive a higher pension later and are not included in the under-65 pension data.

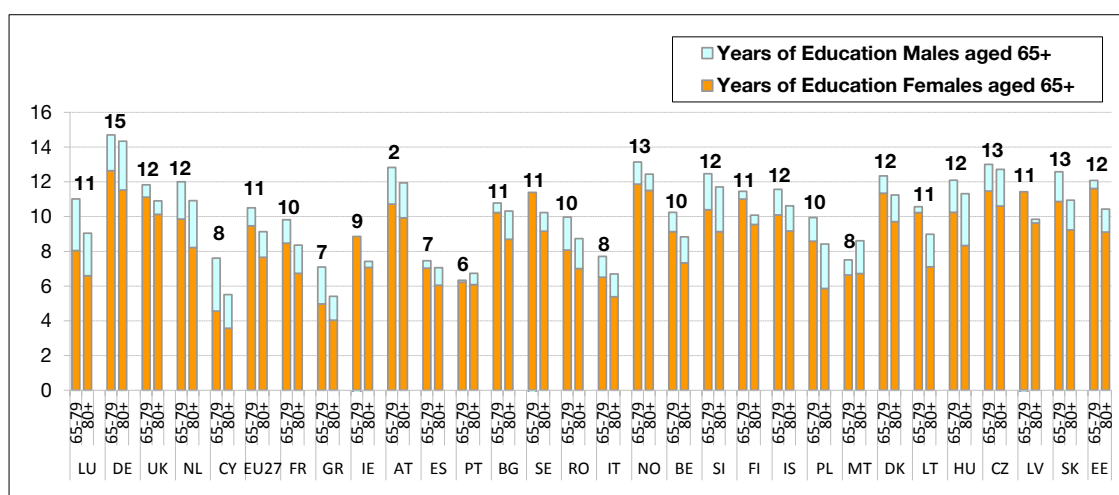
closely associated with long-term earning potential⁶¹ is education. Thus by seeing the effect of education we are getting close to the idea that differences in pensions may reflect differences in the earning potential of men and women.

Figure 5.1. Distribution of educational level, by sex (persons aged 65+)



Source: Own estimation from EU-SILC 2010

Figure 5.2. Number of years in education by sex, by cohort



Source: Own estimation from EU-SILC 2010

Note: Years derived by imputing number of years to educational levels

Men, for example, may systematically have higher pensions if they have more educational qualifications, i.e. more 'human capital'. Figure 5.1 shows that gender differences in education among this older group of Europeans are considerable, with men having attained higher degrees across Europe. Figure 5.2 shows that, in all cases, the differences are wider in the older group. What is also striking is the very wide divergence in educational attainments between the South of Europe and the rest – a difference which has (thankfully) shrunk decisively among working age cohorts.

⁶¹ Corresponding to what economists call 'permanent income' – i.e. disregarding short term fluctuations and chance factors.

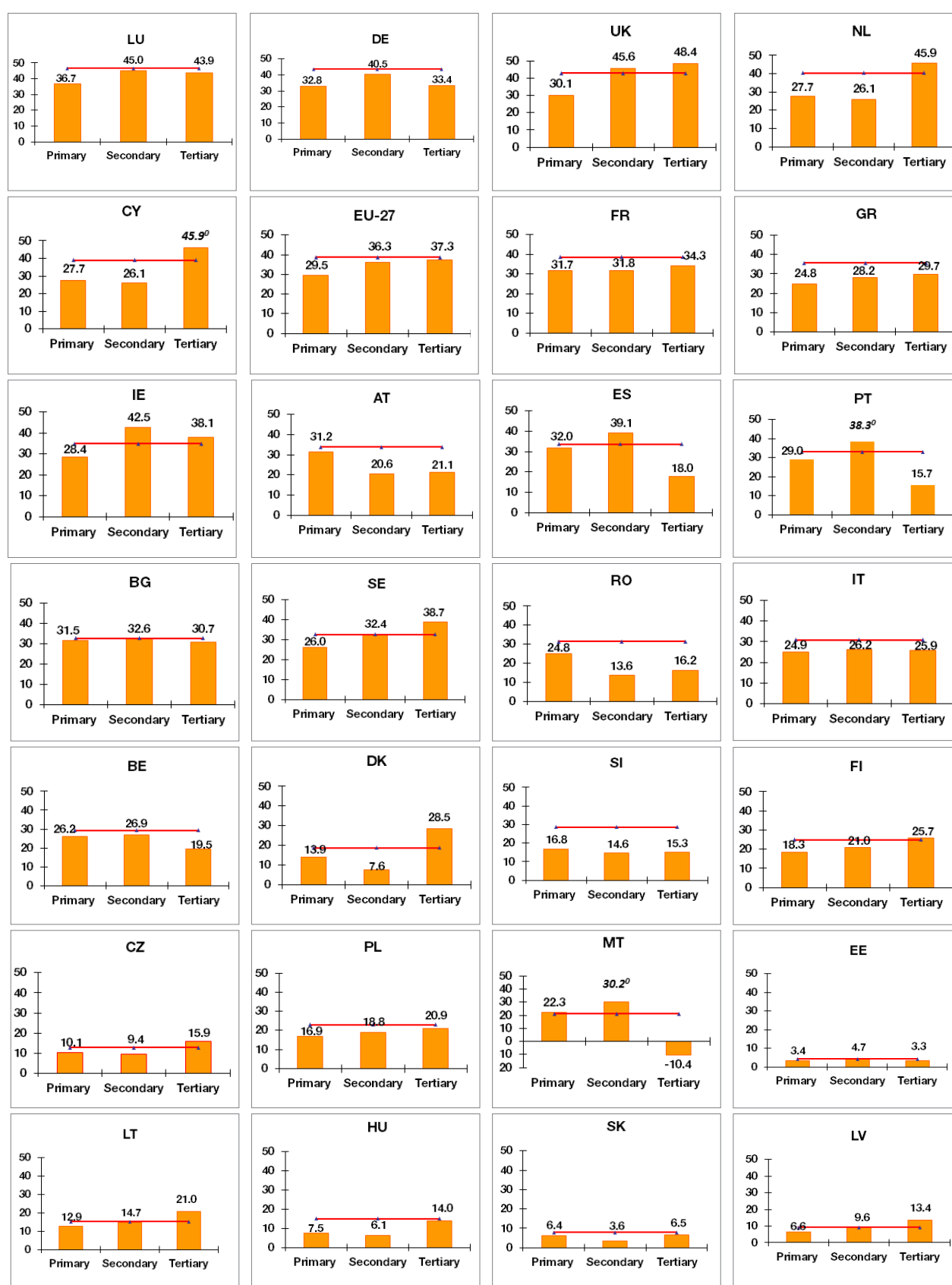
Examining education and human capital entails proceeding in the direction of examining possible *determinants* of Gender gaps in Pension. Alternatively it may be seen as an investigation of the extent to which the observed headline Gender Gaps in Pension is due to composition effects. Given that education differences are the most important determinant of human capital endowments (and hence of income differences), disaggregation of the pension gap by education would be a natural starting point.

Figure 5.3 charts – for each of the 27 Member States and for the EU-27 average – the separate Gender Gap in Pensions according to educational attainment. The latter is distinguished into primary (or less), secondary and tertiary. For purposes of comparison, the average (headline) gap is noted in each country. Given that the pension gap for each educational level is calculated relative to men of that *same* educational level (rather than the average for all educational levels), it is perfectly possible for all three gender gaps by education to be below (or above) the *overall* average. For the EU-27, those with primary education exhibit lower gender gaps. In terms of Member States, this applies to Germany, the UK, Greece, Ireland, Sweden, Spain and Portugal. However there are cases where people with tertiary education exhibit lower gaps than those with primary education, such as in Austria, Belgium, Bulgaria, Romania, Spain, Portugal, Slovenia and Malta. *Higher* education carries a wider gap in the Netherlands, Sweden, and Denmark, possibly due to the effects of the second pillar, magnifying underlying earnings differences.⁶²

What is the combined effect of education and cohort? An interesting question is to what extent educationally-based differences are shrinking among (the better educated) younger cohorts. The EU-27 average seems to be hinting at such an effect (the difference between gender gaps between primary and secondary education is 8.9 percentage points for the older group and is halved at 4.3 point for the younger group). However the variation around this average is very considerable and sample sizes (especially for university educated women) rather small. The above exercise looked at differences *within* educational classes. We know that future generation of pensioners will be more evenly balanced in

62 It is often found that the higher the earnings, the higher the gap and the lower the earnings the lower the gap. These results are echoed here and could be due to the same underlying causes: the glass ceiling in career and earnings at the top, whereas at the bottom there is less scope for differentiation.

Figure 5.3. Gender Gap in Pensions (%), pensioners aged 65+, by educational level



Notes: Horizontal lines, in red, portray the total (overall) country average Gender Gap in Pensions.

^o indicates that the number of observations between 11 and 30; ^{oo} indicates sample size < 10 observations.

Source: Own estimation from EU-SILC 2010

terms of educational achievement. If, at European level, we will continue to witness a gap profile rising with the level education – as the profile currently evident in the EU27 – we may paradoxically expect that growing educational attainment among women will translate to a tendency for the overall gap to increase.

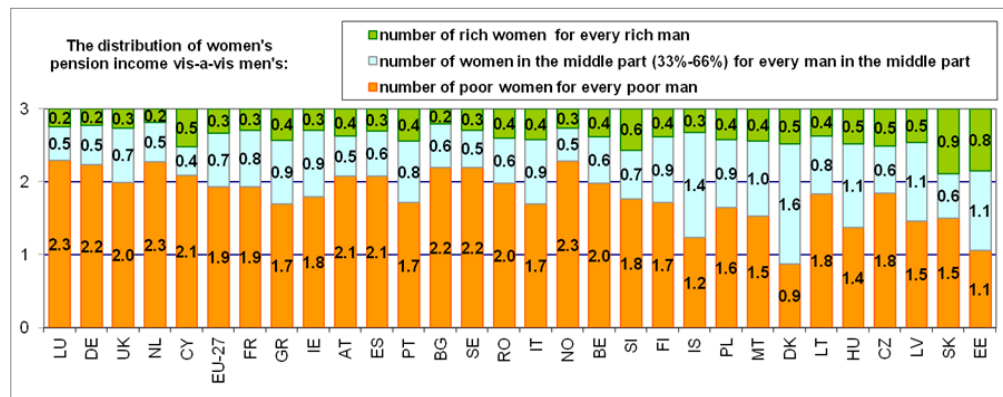
2.6 STEP 6. How is the pension gap related to the level of pensions? Distributional calculations

So far we have been talking of pension gaps by comparing the average woman pensioner with the average man pensioner. We began to depart from this rule when we considered gender gaps in pension separately by education category. It is thus important to ask now how pensions are distributed around that pension average.

This exercise is distinct from the previous one in that whereas education is linked to potential earnings and long-term factors (*prior* to the filtering by the pension system), looking at the distribution according to pensions is equivalent to looking at final pension outcomes (*after* pension filtering). Thus, though earning capacity is linked to education, it is at some removes distant from pension *outcomes*. So, we should not be surprised if the pattern of effects differs between a distribution by education and one by pension level.

One way of doing that is to ask whether we find more or less women among individuals who have a lower pension. We thus take the distribution of *men's* pensions for each country and we note the pension levels that distinguish pensioners into three groups: Those of low pensions (bottom 33%), middle pensions (between 33% and 66% percent) and high pensions (top 33%). The distribution of income thus defined *according to men's pensions* is then matched to the women's distribution.

We therefore ask what share of women receives a pension less than the *men's* cut-off point – that is, the amount that the richest man of the bottom 33% receives. If the distribution of women is no different than that of men the answer would be the same as for men, i.e. 33%; if women are more concentrated among low pensions their share would be more than 33%; if women are pension-richer, it would be less than 33%. The result appears as Figure 6.1. Thus, for the EU-27 average, 64% of women are 'squeezed' into a pension range that holds the poorest 33% of men (which could be expressed as saying that there are 1.9 times as many pension-poor women as pension-poor men; or for every pension-poor man there are 1.9 poor women). Among high income pensioners, women are correspondingly underrepresented – only 11% of women reach the pension enjoyed by the richest third of men (for every 3 pension-rich men there is less than one pension-rich woman). This effect – of overrepresentation of women at the bottom and under-representation at the bottom – can be expressed more intuitively by means of odds ratios. Dividing the proportion of men at the bottom (33%) with the proportion of women who are 'squeezed' in the same income range can be expressed quite simply as '*how many poor women are there for every poor man?*'; equivalently '*how many rich women for every rich man?*' and '*how many women for every middle income man?*'. Thus figures over one imply overrepresentation; less than one the opposite.

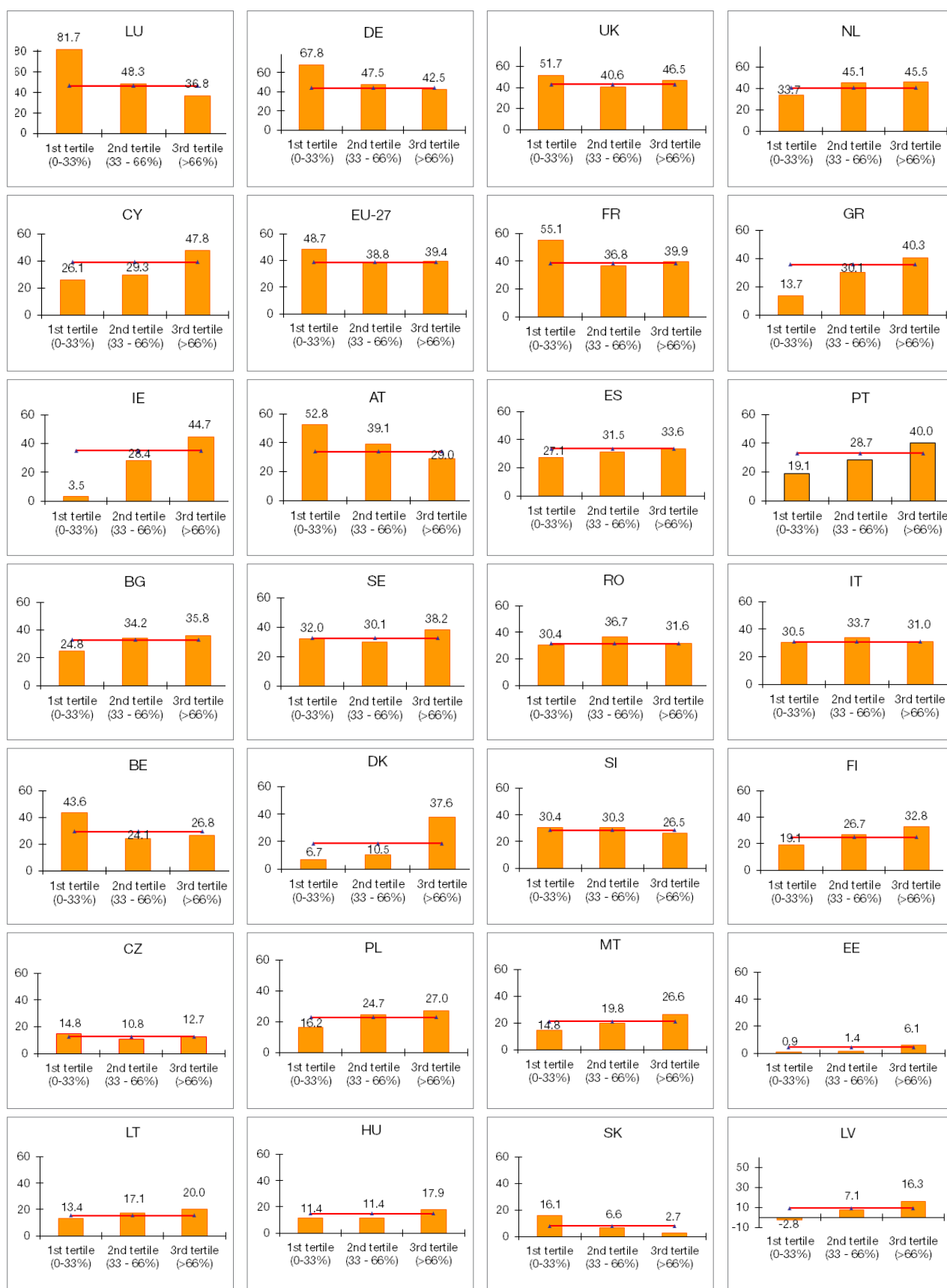
Figure 6.1. Distribution of pension income. Three linked odds ratios

Source: Own estimation from EU-SILC 2010

Figure 6.1 shows that women are overwhelmingly overrepresented (by a factor close to two) in low pensions and equivalently underrepresented in high incomes. Only in Estonia does the distribution of women follow almost exactly that of men, followed possibly by the Slovak Republic. In Denmark, women do slightly better than men for low pensions (0.9), but worse for high pensions. At the other extreme –high incidence of lower pensions among women– are the Netherlands, Germany, Norway, Sweden and Bulgaria (all well above 2 for the bottom third); the same group of countries do badly at the top end – where less than 10% of women are able to attain the pension that the top 33% of men can attain. A third group of countries, whilst over-representing women at the low end, come close to parity i.e. 30% at the middle: the UK, Greece, Ireland, Portugal, Italy, Finland, Poland, Hungary, and Latvia.

The above exercise examines whether women are less or more likely to have low (or high) pensions than men. To judge how the pension distributions by sex differ we may also try separately comparing the gender gap for different parts of the pension distribution. If we divide men and women into thirds, we can see how far men's low pensions are greater than women's low pensions – i.e. a separate 'Tertile Gender Gap in Pensions'. The result appears as Figure 6.2, where each of the three tertile gaps is shown together with the headline gender gap for each of the 27 Member States and the EU average.

For the average of EU-27, there is a wider gap for the bottom third, whereas the other two thirds are close to the average. This is a pattern followed in many other countries, notably Germany, the UK, France, Austria, and Belgium. In contrast, there are some Member States where the gender gap for the poorer people is considerably *lower* than the average: Greece, Ireland, Portugal and Denmark are notable examples. There is notably *greater* imbalance at the high end in Denmark, Finland, Ireland and

Figure 6.2. Gender Gap in Pensions (%), pensioners aged 65+, by pension income tertile


Note: Horizontal lines in red, portray the total (overall) country average Gender Gap in Pensions

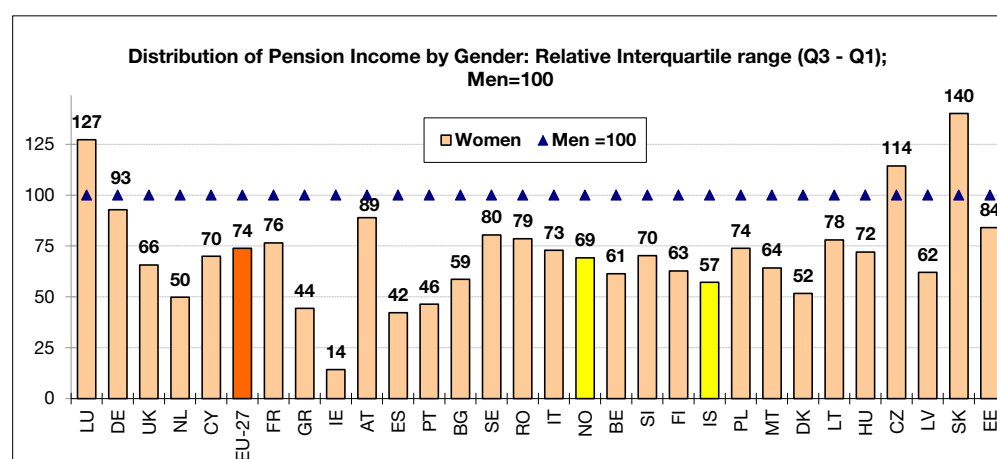
Source: Own estimation from EU-SILC 2010

Malta. Finally in the Netherlands, Spain, Italy, Slovenia and (possibly) Sweden, Gender Gaps in Pension appear not to differ by income level. An interesting question arises when these results are compared with those in education.

Given the close link between education and income, one would have expected the results of the current exercise to mirror the ones on education. However, this is not the case. Pension systems alter the underlying earnings/ income situation most notably by the operation of minima (e.g. the age pension) or maxima (maximum social insurance pension). These results are somewhat at odds with the results for education, giving in some cases a different shape of response (e.g. Greece, Portugal). However, this should not surprise us. The pension system is not a neutral filter: minima and maxima for pensions as well as contribution requirements are sufficient to radically transform a relationship based on education (and hence on long-term factors).

The above exercises attempt to show how widely dispersed pension are for men and for women. A simple alternative way of approaching this issue is to see how 'spread out' are the two distributions in those parts that hold the majority of people, i.e. the middle of the distribution. The interquartile (IQ) range is the range of incomes that holds the middle 50% of a distribution; counting from the bottom, if the poorest 25% of men has a pension of EUR 500 and the top 25% has a pension of EUR 2500, then the IQ range is EUR 2000. A simple way to gauge the shape of the distribution is to calculate the *relative* IQ range – i.e. whether the middle 50% of women are 'spread out' between pensions which are further apart than for men. Figure 6.3 shows the results by normalizing so that men's IQ range is 100.

Figure 6.3. Measures of dispersion: The Relative Interquartile range



Source: Own estimation from EU-SILC 2010

Note: The interquartile range is set to be equal to 100 for men in each country. Hence, a relative interquartile range >100 for women indicates that the interquartile range is higher in women's pension distribution compared to men's. The opposite is the case for values which are <100.

The middle of women's pension distribution is more thickly populated than that for men, meaning there is less dispersion and more women tend to receive similar pensions. For the EU average, women's IQ range is shorter. However that hides some striking differences: for example in Ireland the value of that indicator is only 14, whereas in the Slovak Republic it is 140 and in the Czech Republic 114. The values for Germany and Austria are higher than the EU average. The countries fall into a large group where the relative IQ range is around 70 (e.g. the UK, Sweden,

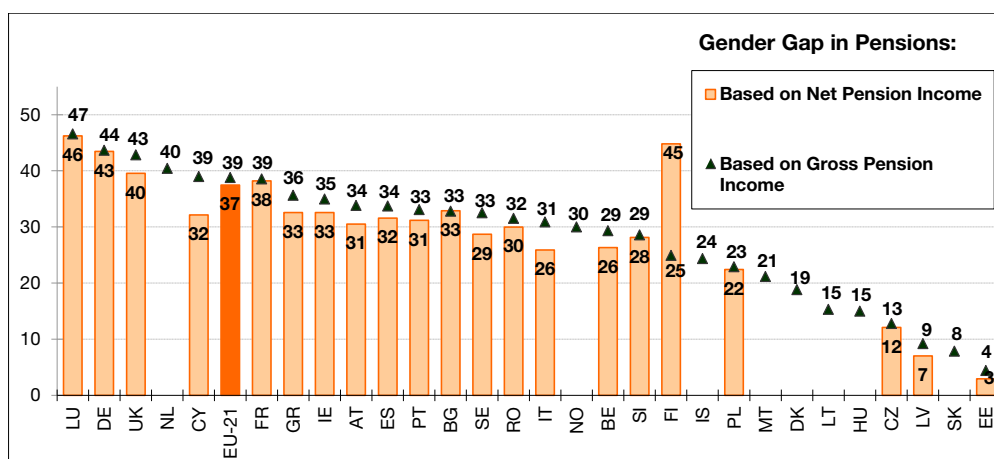
Italy, Poland, Denmark, and Hungary) and a slightly smaller group where they are more densely distributed around the middle value (Denmark, Portugal, Greece, the Netherlands, Portugal, and Spain).

2.7 STEP 7. Does tax make a big difference to the pension gap?

The data from EU-SILC are reported on a gross of tax basis, i.e. before the deduction of income tax and social contributions.⁶³ An interesting question is whether the deduction of tax alters the Gender Gap in Pensions. In progressive income tax systems, higher pensions would (presumably) be subject to higher marginal tax. However, given that most un-earned income accrues to couples and is more easily manipulated to minimize the tax obligation, the extent to which marginal tax rates would rise as a result of taking into account other income is likely to be dampened; if tax engineering leads to income from property being taxed at the rate of the poorest partner it may even correct for gender imbalances. Thus we would be surprised if the decision whether to use pensions net or gross of tax would make much difference to our calculations.

This supposition is largely confirmed by Figure 7.1. The average for those Member States where both net and gross pension gaps can be computed is 39% for gross income and 37% for net income. In most countries the two figures, as expected, almost coincide. Considerable differences exist only in Cyprus (net -7 pp), Italy (net -5 pp) and Finland (net +20 pp). It is a matter of investigation whether those large differences reflect features of the tax system or are due to problems of the methods used by national statistical authorities to transform net into gross magnitudes. The existence of six EU countries that have produced no data could signal that the process of producing net of tax data is still being developed.

Figure 7.1. Gender Gap in Pensions based on gross and net pension Income, Pensioners 65+



Source: Own estimation from EU-SILC 2010

⁶³ In some Member States the data as collected in the questionnaire may be net of taxes, if that is a more familiar way of expressing pensions. In that case the data are converted into gross magnitudes by applying a tax model. This is done by each national statistical institute before the data are communicated to Eurostat.

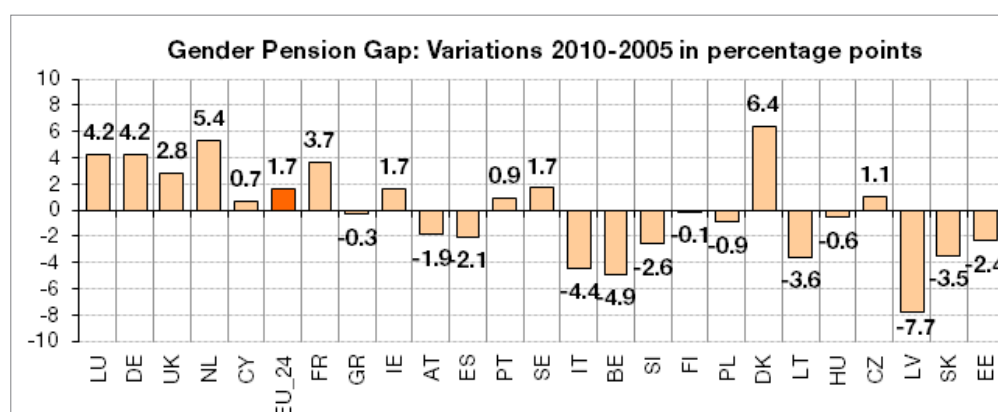
2.8 STEP 8. Can we discern trends in the pension gap over time?

A question that any policy analyst would pose is whether there are any indications that things are improving over time or not. As we saw in the motivation of this report, there are grounds to suppose each of these statements may be true. If pension gaps are the result of past injustices, we may expect things to get better; if they are premonitions of future problems, they may be getting worse. However, both of these phenomena are likely to operate over the longer term and are unlikely to be visible in changes from year to year.

Given that EU-SILC is available since 2005, a five-year comparison i.e. between 2010 and 2005 is the longest time comparison which is currently feasible. Given that EU-SILC (2010) refers to 2009 incomes this (in most countries, though not, say in Latvia or Hungary) would predate the major impact of the economic crisis. Figure 8.1 compares the 'headline Gender Gap in Pensions' for the two years 2005 and 2010.

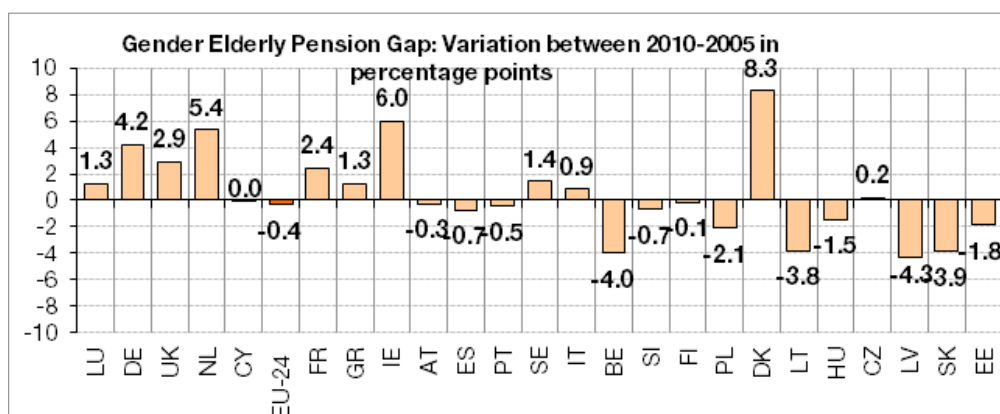
Contrary to some expectations, gender gaps in pension appear to be *widening* over time for the EU as a whole. The EU average is greater by 1.7 pp (a 5% increase). This however is the result of some larger deterioration in some countries: Denmark (6.4pp), the Netherlands (5.4pp), Germany (4.2pp), and the UK (2.8pp). On the other hand, there are *opposing* trends towards greater gender balance in Italy (-4.4), Belgium (-4.9), Latvia (-7.7). In a third group there is little change (Greece, Ireland, Portugal, Finland and Hungary).

Figure 8.1. Trends in the Gender Gap in Pensions over time



Source: Own estimation from EU-SILC 2010

According to the EU-SILC data, between 2005 and 2010 there were some notable differences in *coverage* in some countries. In particular, important gaps in coverage were filled in Denmark (where the number of people without pensions was reduced by around 7pp for both men and women). Smaller advances in making up for coverage gaps were noted in Portugal (4.3pp reduction), France (1.7pp) and Greece (1.6pp). Much more worrying, though, is the *fall* in coverage among women in Ireland (where the coverage gap increased 6.6pp). The overall picture can be gleaned from the elderly Gender Gap in Pensions, which combines both coverage and pension gap (Figure 8.2). The picture differs from the headline pension gap variations over time only for those countries where there was a coverage change. Ireland, for example, registers an *increase* in gender gaps by 6 pp.

Figure 8.2. Gender Gap in Pensions among the elderly

Source: Own estimation from EU-SILC 2010

2.9 STEP 9. Do pension gaps reflect broken careers for women? What of labour force involvement?

An important hypothesis explaining gender gaps in pension is that gender gaps in pension to a large extent are a reflection of women's low and intermittent involvement with paid labour in the past. In particular, especially in past decades, a large number of women dropped out of the labour force in order to fulfill their family responsibilities. This may have reflected personal choice, but may also have been imposed on them by insufficient child care facilities, inadequacies in maternity leave etc.

In order to gauge the effect of 'broken careers' using EU-SILC data it is important to note that what a 'broken career' means will be different from one country to the other – i.e. has to be defined according to what is considered 'normal' in each country. To define what a broken career means, and to classify women into four categories according to labour force attachment, we have taken a mixed approach. Women with a number of years of employment greater than the median years⁶⁴ for their country were judged *not* to have a broken career problem. To classify the remainder we note that in those countries that base their system on social insurance principles, the cut off for being entitled to a pension ('vesting') is usually 15 years. Thus, it makes sense to define three groups: (1) women with years of employment between 0-15 (distinguished into two subgroups in table 9.1);⁶⁵ (2) those between 15 and the median; (3) greater than the median. Many (perhaps most) women who have fewer than 15 years' work would have worked after leaving school and at the early stages of building a family; thus at the age of 65 their involvement in employment may only be a distant memory. Given that many pension systems have vesting requirements, a woman who may have worked in the 1970s for 4-5 years

64 The (un-weighted) median value of years in paid work in the EU as a whole (but excluding Sweden, Denmark and Finland which do not report this variable in the SILC survey) is 28 years for men, 21 for women, with little change if we average out the single country's median values in lieu of calculating the median at the aggregate EU level. For women, however there is considerable dispersion across countries: from 10 years in Malta and 16 in the Netherlands to 29 years in the Czech Republic and 30 years in Hungary.

65 If the years worked data were of better quality, or if there could be access to administrative data, it would have made sense to distinguish 'no work' with even a small number of years.

would, for social insurance purposes, be treated in the same way as someone who has never worked⁶⁶. Both would only receive an age pension, or a means tested 'citizens' pension at 65. This is the reason for aggregating the 'never worked' group with those with few years of contributions. Table 9.1 shows the classification of women into the three groups. It further breaks the low category into those with 0-10 and those between 11-14 years in employment.

Table 9.1. Classification of women over 65 according to broken careers status

Country	0-10 years	11-14 years	15-median 'years in employment distribution'	>median
LU	43.4	7.2		49.4
DE	18.8	6.1	25.4	49.8
UK	14.3	11.1	26.1	48.5
NL		50.3		49.7
CY	43.0	3.5	3.9	49.5
FR	28.6	4.7	17.6	49.1
GR	26.0	1.3	23.1	49.6
IE	46.1		4.3	49.6
AT	20.7	3.6	25.8	49.9
ES	40.4	4.6	5.5	49.5
PT	12.4	2.3	36.8	48.5
BG	1.3	0.5	50.4	47.9
RO	15.4	1.1	35.8	47.7
IT	29.5	2.8	19.4	48.4
BE	39.5	3.4	7.9	49.1
SI	23.9	0.6	29.2	46.3
PL	11.3	1.7	38.3	48.8
MT		52.0		48.0
HU	9.6	1.9	42.4	46.1
CZ	1.8	0.1	49.0	49.2
LV	1.1	0.2	53.3	45.5
SK	4.7	0.5	50.3	44.5
EE	0.8	0.3	57.6	41.4

Source: Own estimation from EU-SILC 2010

Given that we are dealing with cohorts of older women (born before 1945), broken careers appear to be a major issue: in nine countries, where more than one out of four women had been in employment for less than 14 years: Luxembourg, Cyprus, France, Greece, Ireland, Spain, Italy, Belgium and Slovenia. On the contrary, in most Eastern European countries (with the possible exception of Poland and Romania), broken careers (in the sense of a large number of women with fewer than 15 years' work) appear to be less of an issue.

The next step is to apply this categorization in order to compute gender gaps for each gradation of broken career. To do this, and in order to get around the problem that broken careers are an exclusively female issue, the average pension for women in each broken career category is compared to the overall mean pension for all males. (In this way all three computed gender gaps in pension have the same denominator).

⁶⁶ A recent judgment of the Court of Justice of the European Union in Case C-385/11 ruled that Spanish legislation on contributory pensions discriminates against women on account of the higher prevalence of part-time work and is thus contrary to Council Directive 79/7/EEC. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:62011CJ0385:Es:NOT>

Figure 9.1. Gender Gaps in Pensions (%) by broken careers


Source: Own estimation from EU-SILC 2010

Notes: Horizontal lines in red, portray the total (overall) country average Gender Gap in Pensions (%)

° indicates that the number of observations between 11 and 30; °° indicates sample size < 10 observations.

In almost all countries, women with working life of less than 14 years exhibit significantly greater Gender Gap in Pensions income. In Germany for instance women who had been in employment for less than 14 years appear to have twice as high a Gender Gap in Pensions income (64.1%) compared to women with the 'median' working life (31.8%). The trend is to be seen also in France, Austria and to a lesser extent in Spain. The 'dominant pattern' holds with broken careers being associated with greater pension gaps; as years of employment increase past the median, pension gaps shrink. However, in Bulgaria and in Poland there appears no significant variation across different working life categories. Greece is the main exception where, remarkably, gender gaps are *higher* for women with the 'median' working life. This extraordinary result may well be an artifact of the fragmentation of the system into occupational categories, each with very different generosity.⁶⁷ Portugal is a partial exception since it records the lowest gap among women having spent between 15 years and median years in employment.

As new cohorts enter retirement, broken careers may be more of an issue (for women who in previous cohorts would have remained out of employment altogether) or less (for those women who took advantage of better possibilities to reconcile family and work). For this reason we reproduced Figure 9.1 by cohort; in order to abstract from the equalizing effects of survivor's pensions we excluded widows (i.e. similarly to Figure 4.2). The result appears as Figure 9.2.

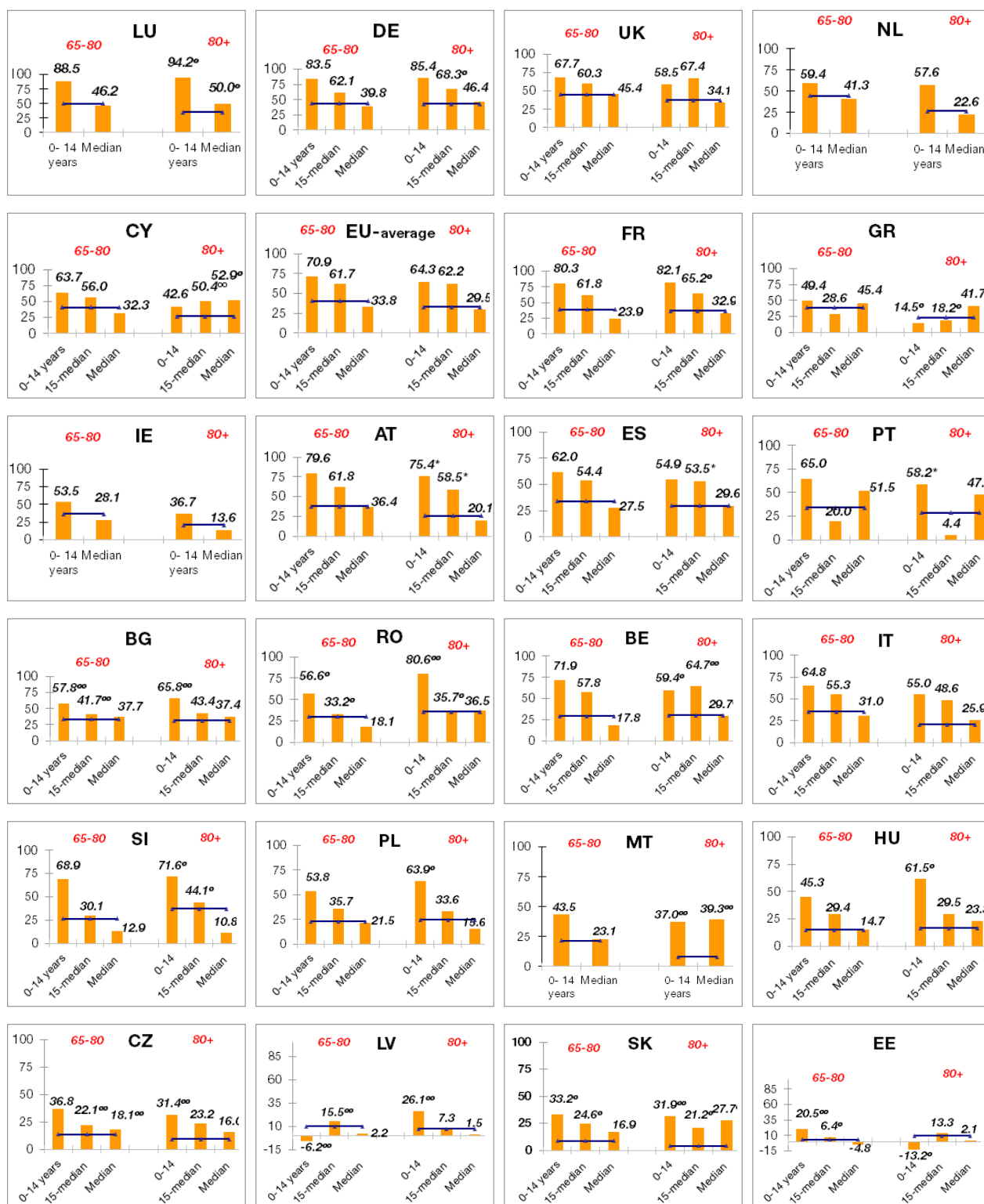
The picture emerging is complex and is difficult to generalize.⁶⁸ The finding of the previous exercise that broken careers lead to wider gaps is reproduced for both cohorts. Though the difference is not striking, 'Working careers' may be seen to matter more in reducing Gender Gaps for the younger cohort. This is more noticeable in UK, Cyprus, Spain and Belgium, where the Gender Gap in Pensions for women aged 65-80 years is decreasing gradually as we move from working careers of less than 14 years to 'median' working life careers, while this is not the case in these countries for women aged over 80 years. In France and Germany the shape of the response is maintained, with a lower gender gap penalty for full careers. Greece, once again is an outlier. The huge gap (over 85%) for low careers in Luxembourg confirms it as an outlier – most probably due to the classification as a pension of a low universal benefit given to women in recognition for child-rearing.⁶⁹

⁶⁷ A short career may be a marker for employment in the government sector (with generous pensions); a long career may be a proxy of agricultural employment.

⁶⁸ In many instances (noted by asterisks) the data relies on only a few observations.

⁶⁹ A sensitivity analysis was also conducted, altering the definition of what a full career is by +/- 10% of each country's median. Once individuals of longer career were identified as full, the EU average gap estimated fell. However there were many exceptions.

Figure 9.2. The Gender Gap in Pensions (%) by broken careers 65-80 excluding widows; and 80+ excluding widows



Source: Own estimation from EU-SILC 2010

Notes: Horizontal lines in red, portray the total (overall) country average Gender Gap in Pensions (%)

° indicates that the number of observations between 11 and 30; °° indicates sample size < 10 observations.

Given the centrality of the issue of broken careers, it was also investigated using data from SHARE. In that survey, rather than simply asking a single question about the number of years worked, the working career was followed in detail and each working episode was separately identified. Table 9.2 shows the years of employment by sex for the 13 countries that participated in SHARELIFE (wave 3 of SHARE).

Table 9.2. Average years in employment by sex in SHARE, women and men over 65

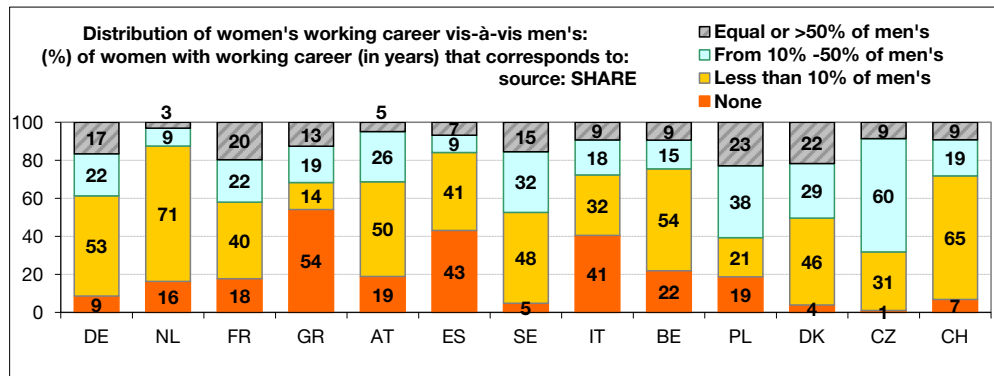
SHARE	Years in employment (entire sample, including zero employment)			Years in employment (for those with <i>some</i> employment)		
	Men	Women	Gap (M-W)	Men	Women	Gap (M-W)
65+						
DE	39.6	24.4	15.2	39.8	26.7	13.1
NL	39.8	16.4	23.4	40.5	19.4	21.1
FR	35.1	21.1	14.0	37.2	25.6	11.6
GR	38.6	14.6	24.0	41.5	31.7	9.7
AT	39.7	19.4	20.3	40.6	23.9	16.7
ES	43.4	12.8	30.5	44.7	22.6	22.2
SE	43.1	31.9	11.2	43.6	33.5	10.1
IT	38.6	14.6	24.0	39.6	24.5	15.0
BE	39.2	17.3	22.0	39.7	22.1	17.6
PL	35.9	24.9	11.0	37.9	30.7	7.2
DK	40.9	29.7	11.2	41.2	30.9	10.3
CZ	40.1	35.3	4.9	40.3	35.6	4.7
CH	42.4	21.8	20.5	42.5	23.4	19.1

Source: Own estimation from SHARE, wave 2 (2006/7) and SHARELIFE (2008/9)

We can see that in all countries women (even if constrained to have entered the labour market) have shorter careers by a very large margin⁷⁰. Men tend to have worked for almost 40 years, women between 20 and 30. We may note the large number of women who have never entered the labour market in Greece, Spain and Italy. However, even ignoring zero values, the lowest year gap is 4.7 years in the Czech Republic and the largest (22.2 years) in Spain. We see large gaps in the Netherlands, Switzerland, Austria and Belgium (>15 years). Germany, France, Sweden and Denmark have working differences of around 10 years.

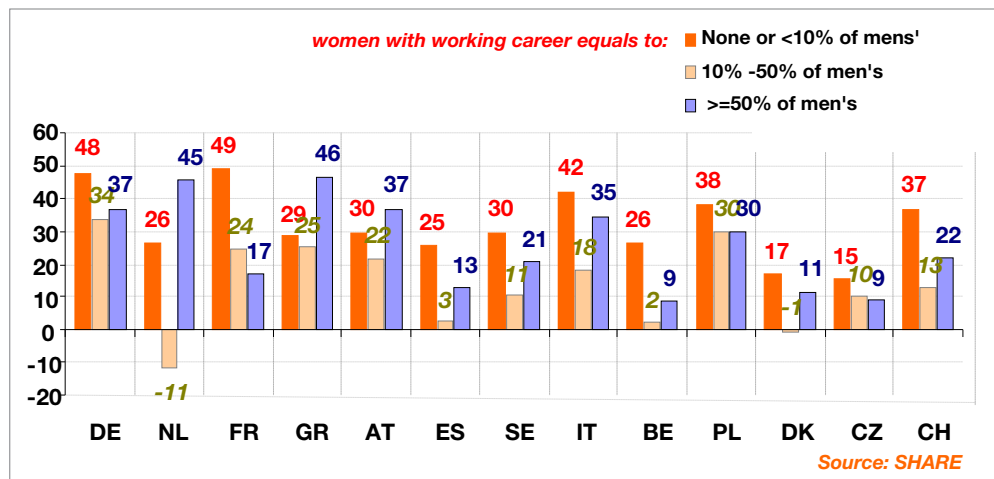
In order to categorise SHARE respondents into groups by degree of attachment to the labour market, women were compared to men in their own country. Thus the groups were broken into: no employment, less than 10% of men's average employment, 10%-50% of men's employment and equal or greater than 50%. The classification appears in Figure 9.3: the proportion of women who have never been in employment or who have worked for less than 10% of men's number of working years exceeds 50% in all but two countries (Poland and the Czech Republic), reaching almost 70% in Greece, Austria, Italy and Belgium, and exceeding 80% in Netherlands and Spain.

⁷⁰ It may be objected that women in Table 9.2 have short careers because they have also retired before men. However, if we calculate years of employment before age 50 (which would largely do away with this problem), the large differences remain.

Figure 9.3. Distribution of women's working career vis-à-vis men's

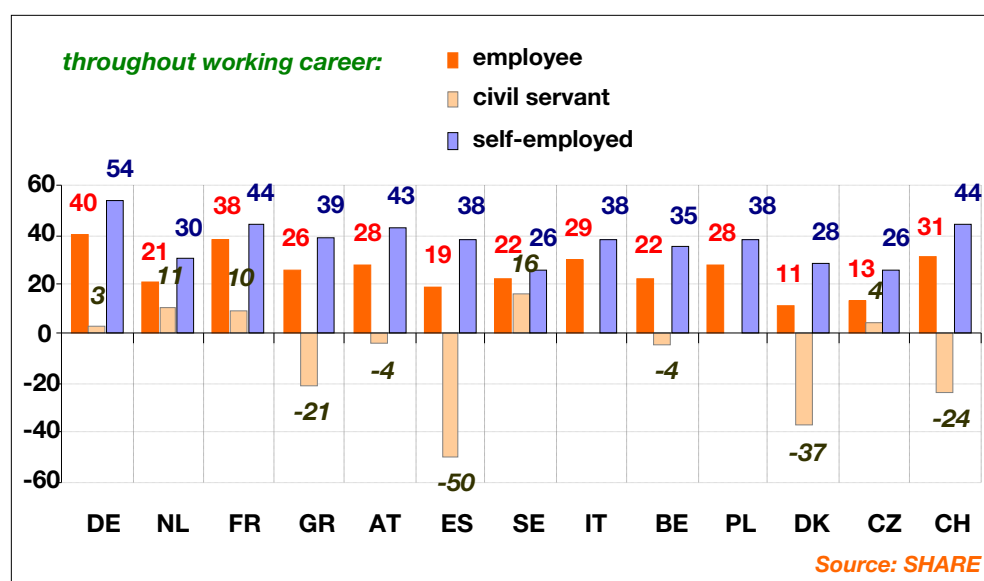
Source: Own estimation from SHARE, wave 2 (2006/7) and SHARELIFE (2008/9)

Figure 9.4 examines the effect on gender gaps of separately identifying the four groups of employment attachment. The penalty exacted by a broken career is all too obvious. Even in Denmark and the Czech Republic (where gaps are lower anyway), the gap for shorter careers is of the order of 15%. The most common situation is for the short career gap to be between 40 and 50% (e.g. Germany, France and Italy). If survivors' pensions are excluded (not reported) that penalty becomes even larger, reaching 68% in Italy and 62% in France. The reverse effect in the Netherlands and Austria is probably due to a small sample size; in contrast the same effect for Greece corroborates the EU-SILC findings.

Figure 9.4. Gender Gap in Pensions, by women's working career in SHARE, all pensions

Source: SHARE, wave 2 (2006/7) and SHARELIFE (2008/9)

SHARE also allows asking whether the sector of employment makes a difference for gender gaps. It is possible to identify for people who have retired their 'dominant' sector of employment of the period they were working. In all cases, the widest gaps appear amongst self-employed (Figure 9.5). The public employees in local and central administration ('civil servants'), where they could be identified, have very low or even *negative* gender gaps: given that the civil service has large numbers of low paid men (working for local authorities) but also a fairly large number of high paid women (e.g. doctors and magistrates) that result is explainable. Of course, the civil service can also be expected to keep discrimination by sex low.

Figure 9.5. Gender Gap in Pensions, by sector of dominant job

Source: Own estimation from SHARE, wave 2 (2006/7) and SHARELIFE (2008/9)

Note: in Italy and in Poland, there is no civil-servant category in SHARELIFE questionnaire.

2.10 STEP 10. The effect of multi-pillar systems in SHARE

The tendency in many advanced countries is to move towards ‘multi-pillar pension systems’. These systems, supplement State provision of pensions with an additional occupationally-based pension, usually financed through prefunding and calculated as a return on accumulated contributions. Typically each individual would receive two pensions: a pension from the State first-pillar system and a second from the occupational system. Of course, people who want may add to those pensions an individually negotiated third pillar pension from an insurance company. Such systems have been in operation since the early 1990s in Switzerland, the Netherlands and Denmark. They have been introduced recently in countries like Sweden, Germany or Poland, while progressing towards such a system may be a reform option in the remaining countries. What effect multi pillar systems would have on gender gaps in pension is of major policy significance; by taking part of income replacement out of the ambit of direct public responsibility and subjecting to the logic of accumulating contributions.

Unfortunately EU-SILC does not allow us to examine pillars 1 and 2 separately. The third pillar (individual pension provision) is separately identified, but is, in most countries, very small.⁷¹ We can only guess at the impact of multi-pillar systems by seeing whether some effects in those countries with mature pension systems are consistent with how the operation of a second-pillar may affect the data. The weight of analysis should thus fall on SHARE data. Particular attention must be paid to those countries where the second-pillar is relatively mature and would thus have spread even in the older population which is the focus of this report: Switzerland, the Netherlands and Denmark are the three cases where we might see what a multi-pillar system would look like.

⁷¹ The third pillar is essentially a means of savings; it is hence debatable whether much is gained by aggregating with the other two.

Table 10.1. Gender Gaps in Pension, by pillar, SHARE wave 2

SHARE	<i>Gender Gap in Pensions, by pillars</i>				
				<i>Combined income</i>	
Persons 65+	1	2	3	s 1+2	s 1+2+3
DE	34.3	26.4	52.2	36.5	36.4
NL	-3.1	30.6	-7.8	23.1	22.7
FR	32.5	32.8	na	32.9	32.7
GR	29.9	30.1	na	30.5	30.5
AT	30.5	-49.3	21.1	29.4	29.1
ES	26.9	25.7	na	28.7	29.2
SE	14.4	29.2	29.5	15.1	17.0
IT	35.7	32.8	na	35.2	35.2
BE	20.3	-5.3	na	20.9	20.8
PL	23.2	na	na	23.2	23.4
DK	-3.5	43.8	12.2	9.2	12.8
CZ	10.6	48.7	na	10.5	11.5
CH	-4.4	34.8	26.8	23.5	23.0

Source: Own estimation from SHARE, wave 2 (2006/7)

Table 10.1 examines the headline pension gap for each pension pillar separately. In the last two columns it aggregates pension from the first two pillars, and then also adds the third pillar. The three countries with mature multi-pillar systems are shaded. In those countries, the first-pillar is gender balanced, in all cases showing a slight advantage for women (negative gender gap). The second pillar, taken on its own for those who have it, yields much larger gender gaps, reflecting the return of contributions. The third pillar in the Netherlands appears to correct some of the gender effects of the first and second pillars. The *combined* effects of first and second-pillar systems in the three mature systems is at the low end of country gender gaps (especially for Denmark). This shows that, at least in aggregate, the first-pillar is exerting its influence to restrain gender imbalance effects. The effect of the third pillar, given its small size, is minor. A discernible effect *widening* the gender gap exists in Denmark and Sweden. In step 13th we shall find that the third pillar increases the Gender Gap in Pensions in two other, third-pillar mature, countries: the UK and Germany. This could operate through coverage effects (more third pillar for those with higher pensions) as well as through higher returns to those with third-pillar pensions. As was mentioned, multi-pillar systems were introduced in some countries in the 1990s and are spreading through their population. Thus it is important to check how far coverage of the second pillar has progressed through the population (Table 10.2).

Table 10.2. Gender Gap in Coverage, by pillar

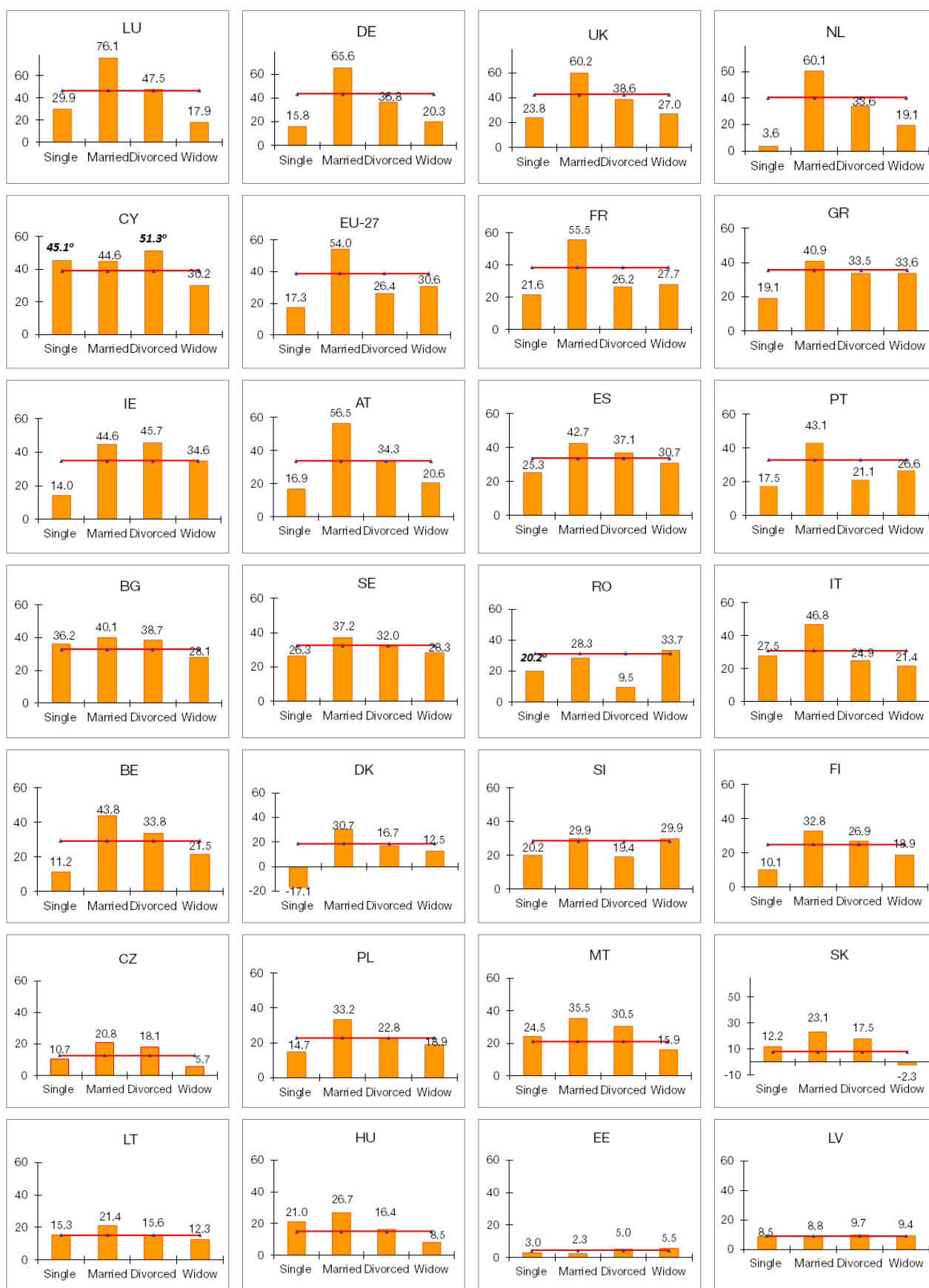
	Gender Gap in Coverage, by pillar (Persons aged 65+ years)								
	1			2			3		
	Mean Pension		Gap	Mean Pension		Gap	Mean Pension		Gap
	Men	Wo-men	W-M	Men	Wo-men	W-M	Men	Wo-men	W-M
DE	94.0	90.2	-3.8	30.3	13.0	-17.3	4.5	4.0	-0.5
NL	93.2	96.3	3.1	76.8	48.4	-28.4	10.1	7.2	-3.0
FR	99.4	94.2	-5.2	4.7	1.7	-3.1	4.8	3.3	-1.5
GR	82.8	72.5	-10.3	8.7	6.1	-2.6	0.2	0.2	0.0
AT	98.5	88.6	-9.9	11.0	4.9	-6.1	1.8	4.3	2.5
ES	90.1	62.7	-27.4	4.5	1.2	-3.4	1.0	1.4	0.4
SE	94.5	95.6	1.2	64.8	69.0	4.3	21.3	14.9	-6.4
IT	90.1	82.8	-7.3	6.7	3.9	-2.7	0.2	0.1	-0.1
BE	92.9	78.7	-14.2	6.7	2.5	-4.1	2.0	1.0	-1.0
PL	97.4	95.2	-2.2	0.0	0.0	0.0	1.8	1.9	0.1
DK	96.9	97.9	1.0	23.3	16.2	-7.0	21.6	13.7	-7.9
CZ	96.5	98.9	2.4	4.0	5.8	1.8	1.4	0.9	-0.5
CH	93.2	98.0	4.8	60.7	27.9	-32.8	5.7	7.3	1.6

Source: Own estimation from SHARE, wave 2 (2006/7)

The important point to note is that in those countries with mature multi-pillar systems, there are very important gender gaps in coverage for the second pillar. This is most evident in the oldest of the mature systems (Switzerland) but also in the Netherlands, where gender gaps are of the order of a third. In contrast Denmark, though overall the spread of the second-pillar is more limited, has managed to ensure that the spread is more gender balanced (coverage gap 7%). As second pillars spread to newer generations of pensioners, the combined effect of second-pillar coverage gaps and pension gap can be expected to affect overall gender gaps to an increasingly greater extent.

2.11 STEP 11. The effect of marital status and family

Women's pension and labour force involvement are closely related to the family status of women. Graph 11.1 examines the effect on pension gaps of women's *current* marital status – i.e. single, married

Figure 11.1. Gender Gap in Pensions by marital status


Source: Own estimation from EU-SILC 2010

Notes: Horizontal lines in red, portray the total (overall) country average Gender Gap in Pensions (%)

° indicates that the number of observations between 11 and 30; °° indicates sample size < 10 observations.

(living in a couple), divorced and widow. Average pensions for each category of women are compared to the overall mean for men to avoid the problem of low sample sizes.

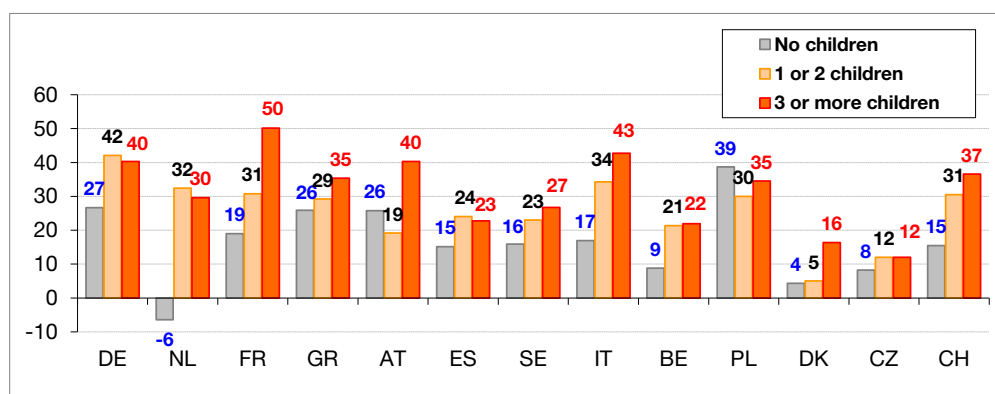
Single women in general face lower gender gaps, as do widows. In Denmark single women actually have an advantage over men; this might be due to that group of women having characteristics which differentiate them from other women. Granted that, it is significant that even in this category where broken careers would have lower importance, gender gaps in pension remain sizeable (the EU average being around 17%). In all cases, married women have the widest gaps, the EU average being 54%. In many cases this gap even exceeds 60%: In Germany it is 66%, the UK 60%, France 56%.

Divorced women as a category lie between married and single women: for the EU-27 average their Gender Gap in Pensions at 26%, is almost exactly between single and married women. However, given that, unlike married women, divorced women will have smaller access to their ex-spouse's resources, a given gap will doubtless translate to a greater welfare problem. The treatment of divorce appears to be very system-specific: in France, for example, divorced women fare better than widows and only slightly worse than single women. Eastern European countries do particularly well for divorced women, there being small differences by family status anyway. Portugal and Italy appear to do well for divorced (though the sample for these two Catholic countries is very small).

The problem of small sample sizes precludes examining the question whether the way pension systems treat women of different marital status has changed over time. *Current* marital status is not necessarily a good indicator of the kinds of constraints women had faced over their working lives. The most significant such factor is child-rearing – the number of children that women have raised. Given that this information does not exist in EU-SILC, this question was approached using data from SHARE⁷². The sample of women was divided into those women who had no children, those who had 1-2 and those who had 3 or more.

Figure 11.2 reports the Gender Gap in Pensions of the three groups of women relative to average pensions for *all* men. Having children leads to a pension disadvantage everywhere, except in Poland and possibly Austria. In most cases the 'children penalty' increases linearly with the number of children; in France, Austria, Denmark and Switzerland there appears to be more than proportionate burden for three children or more children. According to Figure 11.2, the most 'child-friendly' countries are Denmark and Spain.

72 The number of children exists for couples of working age whose children are cohabiting. In an older population such as the one we are dealing with here, grown-up children will not be known.

Figure 11.2. Gender Pension Gap of women by number of children vis-à-vis men

Source: Own estimation from SHARE, wave 2 (2006/7) and SHARELIFE (2008/9)

2.12 STEP 12. The Intra-household Gender Gap in Pensions

A. Motivation

The unit of measurement for the Gender Gap in Pensions income is the individual. We essentially compare each individual female pensioner with the average pension for male pensioner and compute the average. This has evident computational and analytical advantages. However, a gender gap indicator can also be meaningfully computed at household level in the case of pension income. In that case, i.e. by looking inside the household, we will be comparing each woman with her own partner rather than with the population average. Such an indicator is also apt to capture the relative economic independence between men and women at the micro level. According to a well-known argument in economics – the intra-household bargaining hypothesis introduced by McElroy and Horney (1981) – the partner with the largest bargaining power has the largest say in decisions taken at household level. Bargaining power crucially depends on the amount/adequacy of resources each partner would muster in case of separation, and pension income is one such resource in old age.

From a policy perspective, knowledge of the way the intra-household gap behaves in different types of families is clearly important for targeting social provisions; after all, most decisions of how to react to changed incentives of, say, the pension system, are taken jointly by the two partners, i.e. are household decisions. However, information about the way ‘her’ pension compares to ‘his’ is very scant (EC, 2012);⁷³ equally, there exist a number of difficult technical and conceptual problems to overcome. This section makes a start and illustrates some basic findings about the intra-household gap, including essential comparison with the aggregate gap we have been examining up to now. For semantic clarity and consistency, we shall continue to refer to the aggregate gap as simply ‘the’ Gender Gap in Pensions (or **GGP**), while denoting intra-household gaps with **GGP-H**.

⁷³ EC (2012), Pension Adequacy in the European Union 2010–2050. Report prepared jointly by the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission and the Social Protection Committee.

B. Measurement

As with measurement of the GGP, we propose two ‘headline indicators’ in order to track gender imbalances in pension income within households: namely the intra-household gender **coverage gap** and the intra-household **pensioners’ gap**. Underneath the similarity of concepts and labels there are, however, important differences between the two sets of headline indicators. The first difference concerns the sample. In analogy with the criteria used for the GGP we consider the population older than 65, but in the intra-household case the sample is also confined to couples where at least one of the members receives a positive pension. This introduces additional and complex sample selection issues.

Therefore:

- **The intra-household coverage rate** indicator measures the extent to which more women than men receive no pension among households **where at least one member is a pensioner**.
- **The intra-household pensioners’ gap** provides a summary measure of gender disparities within households **where both members are pensioners**.

Additional differences concern the measurement of the pensioners’ gap. In analogy with our measurement of the GGP, we consider both the median and the mean values for the GGP-H. The mean GGP-H gap can be unduly influenced and is more sensitive to extreme values (outliers), with the result of distorting information. To remedy the distortion we ‘trimmed’ the mean GGP-H by removing 3% of the households at either extreme of the distribution of households’ gaps. Contrary to the mean, the median statistics is robust with respect to outliers and does not change whether we trim it or not.⁷⁴

C. Expectations

We may expect the intra-household gap to differ from the aggregate gap in response to interactions among four set of factors - **sample selection, assortative mating, income role specialization, and the institutional design** of the pension system. The term **sample selection** alludes to the consequences of confining analysis to elderly *couples*, to the exclusion of the widows, the never married and the divorced. Since women in the excluded groups tend to have higher pensions (see step 11) we may expect the selection effect to drive the intra-household gap upward. **‘Assortative mating’** implies similarity between spouses, a widely studied social phenomenon (Vandenberg, 1972). This phenomenon concerns the choice of spouse: women graduate tend to meet and marry men graduate. Each scientific discipline uses the term somewhat idiosyncratically, and economists stress education,

⁷⁴ The Gender Gap in Pensions, our headline indicator, takes the ratio between two mean pension amounts (a mean difference at the numerator and the mean value for men at the denominator). In contrast, the mean intra-household Gender Gap in Pensions takes the average of a distribution of *ratios*, each ratio representing the gap in a given household. Such distribution is ‘right censored’ at 1 (the woman cannot draw less than zero pension and with zero pension the gap is 1, i.e. 100%) and skewed to the left with negative values theoretically unbounded. For example if the wife receives 500 and the husband receives 100 the gap is -4 (i.e. -400%). This skewness is the source of the distortion and calls for trimming. Symmetric trimming limits the arbitrariness entailed by any correction. The *median* of a distribution of ratios (the household gaps) is not unduly affected by outliers as it counts the number of households rather than the value of each household’s gap. Not only, therefore, is trimming not required, but, by construction, the median does not change with symmetric trimming because the same share of households is removed on either side.

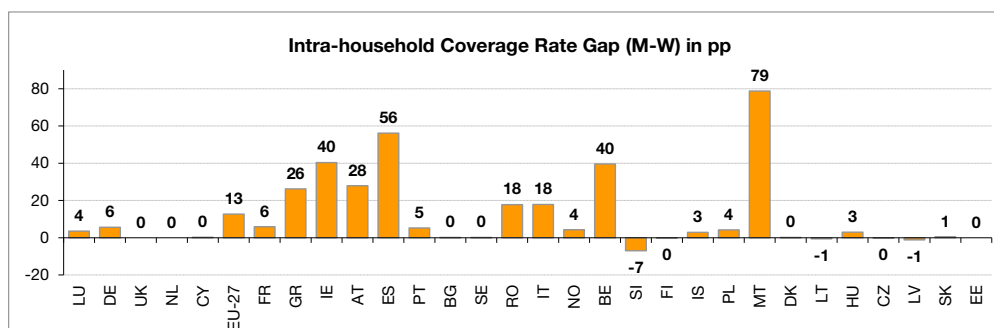
attitudes, and productivity as key components of similarity.

When people marry, however, an opposite effect is triggered by **income role specialization**, the tendency for men to ‘specialize’ in market work and for women to ‘specialize’ in child rearing and housework. Having married, though, some women might decide to drop out of paid employment (especially common among older cohorts), leading to a higher pension gap. If they carry on working, on the other hand, they are likely to have higher pensions, implying a smaller gap. The rationale for such specialization between paid and unpaid work is disputed within economics as well as outside the discipline (see Becker 1981 for one of the earliest views and the critique by Bergmann 1995). The extent of specialization is much weaker now than in the past, but still exists and introduces a North-South gradient in behaviour. Yet, marriage is still strongly associated with higher pension gaps (step 11) indicating that income role specialization tends to prevail over assortative mating. If this evidence is combined with the expectations of a gap-augmenting selection effect, we should find larger within-households gaps. Superimposed to these three effects, however, **institutional factors** may push the gap in either direction. For example the gap may be compressed by providing generous old-age benefits unrelated to labour market behaviour. This way, each country is really a case on its own, while we may also expect to find differentiation between cohorts and between North, South and Eastern Europe.

D. First results

Figures 12.1 to 12.4 display the intra-household coverage rate gap, the median and the mean intra-household pensioners’ gap (both trimmed and untrimmed). In order to facilitate comparisons with earlier work, the ordering of country is that of the headline aggregate indicator, the pensioners’ gap in average income. Within elderly couples households, the coverage rate gap is relatively high, in fact higher than at aggregate level (13% in Figure 12.1 for EU27 compared to 6% in Figure 2.1). The highest gap countries are the same we found at aggregate level, namely Austria, Belgium, Greece, Ireland, Malta and Spain, all of which record intra-household coverage rate gaps higher than 25%. In most of these countries high coverage rates are driven by the fact that relatively few women belonging to earlier cohorts were in paid work.

Figure 12.1. Coverage Rate Gap among elderly couples (aged 65+) with at least one pension recipient

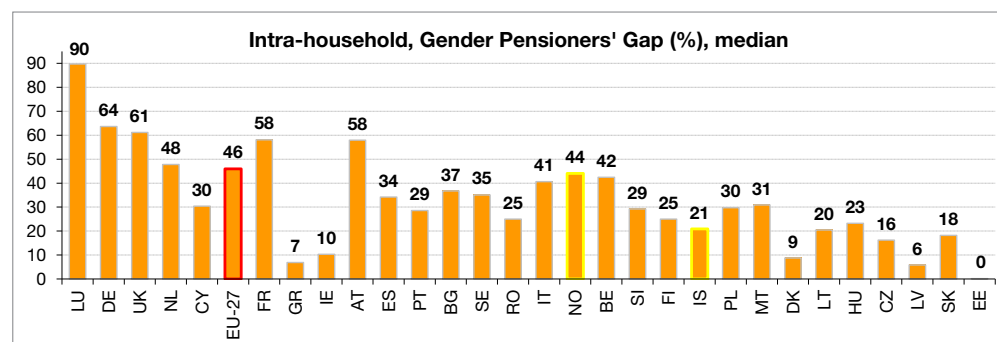


Source: Own estimation from EU-SILC 2010

For the ‘middle’ elderly couple, the **intra-household gap is high** in absolute terms and higher than its GGP equivalent (46% in the EU27 compared to the 42% of Figure 1.3). In fact the intra-household median gap dominates the aggregate gender gap in median pension in all the countries except in Estonia, Greece, Ireland,

Latvia, Romania and Slovenia. It is also more dispersed, with the lowest gap country (Estonia) boasting absolute equality (zero gap) while Germany records slightly over 64% and Luxembourg an astounding 90%.⁷⁵ Eastern and Nordic countries tend to have the smallest intra-household gap, some continental countries like Luxemburg, France and Germany the highest, but this is also broadly true for the aggregate gap.

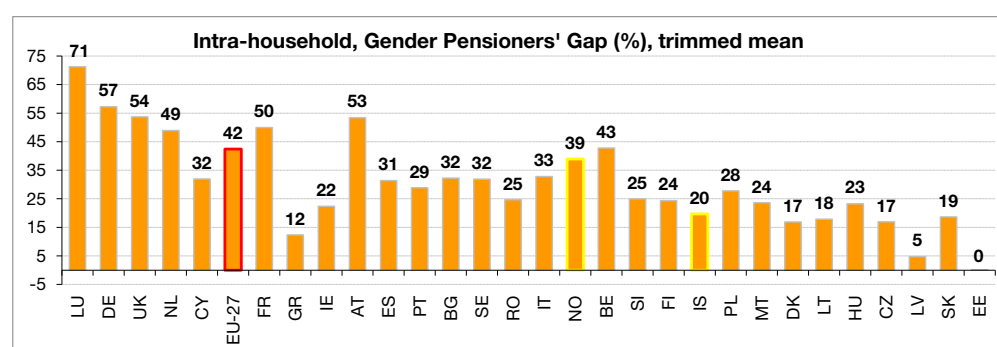
Figure 12.2. Intra-Household Median Gap in Pension for elderly couples (aged 65+), both pensioners



Source: Own estimation from EU-SILC 2010

For the **average elderly couple** in the EU27, the intra-household gap is higher than its aggregate equivalent but only if the mean is trimmed (42% in Figure 12.3 against 39% in Figure 1.1). Trimming consistently increases the gap across countries⁷⁶, with the sole exception of the Slovak Republic where there is no change (Figure 12.4). The size of the increase varies from hardly 1 percentage point in Estonia to almost 25 points in France.

Figure 12.3. Intra-Household Mean Gap in Pension for elderly couples (persons aged 65+), both pensioners (Trimmed mean)

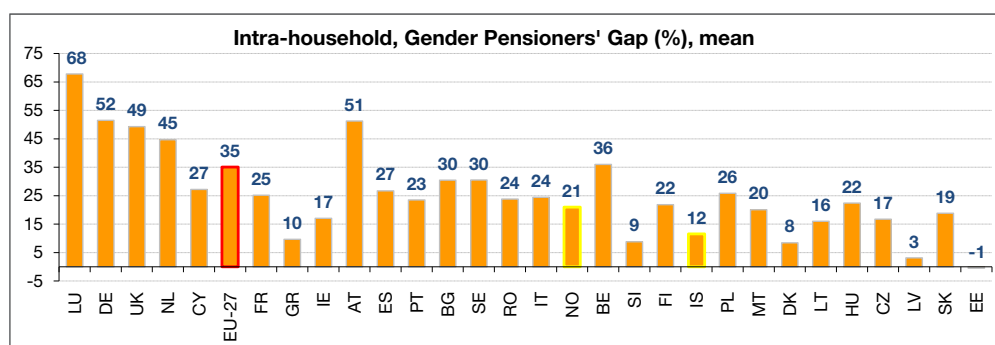


Source: Own estimation from EU-SILC 2010

⁷⁵ Luxembourg reports an astoundingly high figure, but caution must be exercised because of the sample size.

⁷⁶ The reason for this is that we are excluding cases where the wife's pension is many times larger than the husband's, e.g. if the husband is still working.

Figure 12.4. Intra-Household Mean Gap in Pension for elderly couples (persons aged 65+), both pensioners (Untrimmed mean)



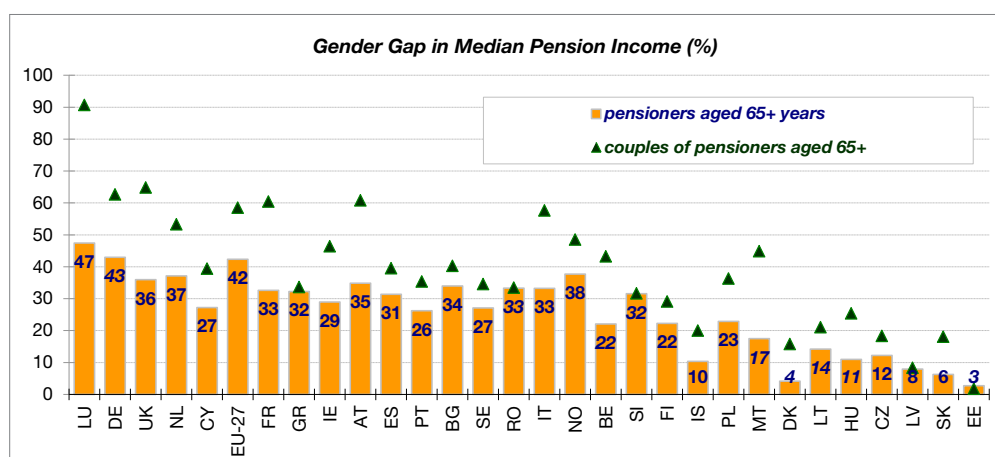
Source: Own estimation from EU-SILC 2010

E. Discussion

If we take the median and the trimmed mean gaps as the most robust measures at the intra-household level, the evidence is fairly consistently in favour of higher within-household gaps, which is broadly consistent with expectations. There are some exceptions depending on the indicator, and they are mainly found among Eastern countries.

A fine grained analysis is needed to discriminate among the four effects that might account for discrepancies between the aggregate and the intra-household level. Although such an endeavour is outside the scope of this report, it is relatively straightforward to provide some evidence of how much one of the effects weighs, specifically the sample selection effect. This is done in Figure 12.5 where the aggregate, median gap is compared for two samples, respectively all the pensioners older than 65 years (the sample used for the rest of the report) and all the pensioners older than 65 living in couple households (the sample used in this section). Among the latter, the (aggregate) gap rises by nearly 12 points in EU27 and by various amounts in the different countries, and falls in three countries (GR, IE, SI). In other words, excluding single and widowed individuals accounts for an increase of more than one quarter in the original gap.

Figure 12.5. Gender Gap in median pension income for pensioners aged 65+ years (the effect of selecting couple households)



Source: Own estimation from EU-SILC 2010 Note: the bars reproduce Figure 1.3

2.13 STEP 13. Putting a complex mosaic together: Decomposition analysis

This investigation has proceeded by means of a series of linked steps, factor by factor. These exercises have shown beyond doubt that gender gaps in pension are a very significant part of life for older European citizens. Gender gaps in pension of the size located in many Member States could mar individual lives; if these gaps grow further in the future, they might constitute an important obstacle to any policy on gender balance or social inclusion. The picture uncovered was also very complex: gender gaps vary with education, but they also depend on aspects such as age, level of income, broken careers or marital status and child rearing history. These factors could plausibly explain some of the observed phenomena. However, in the typical case, they are also highly related among themselves. We see, for instance gender gaps varying by marriage status, number of children and labour market career, but we cannot tell which of those two factors is doing more of the explanation.⁷⁷

A. Motivation

The factor-by-factor approach was motivated by the assumption that differences between men and women in these characteristics are driving the gap, although their influence is filtered through the architecture of the pension system.

While simple and intuitive, a factor-by-factor analysis may yield a fragmented picture and may even be inaccurate because the different factors often reinforce or offset one another. If a person is highly educated s/he is likely to have been more years in employment, hence separate analysis of the impact of education may be ‘picking up’ also part of the effect imparted by years in employment (and conversely). Factor by factor analysis can *describe* the data, i.e. of what we observe. This description can be adequate for designing palliative interventions to ‘cure’ the effects of a particular issue. Indeed, given that most of the effects would operate over entire lifetimes, dealing with the ‘root causes’ of observed phenomena would largely be irrelevant for social policy, given the latter’s primary emphasis on current welfare. To give a concrete example, finding that the treatment of broken careers in the 1970s is ‘responsible’ for pension gaps in 2013 may imply changes to prevent the same thing happening for the pensioners of 2030; for today’s pensioners the intervention has to be directly in current pensions.

However, for certain policy interventions, we need to go beyond analysis of each factor taken separately and allow for interaction between factors by a multivariate analysis. A well-known approach is to build a counterfactual gap that simultaneously removes the effect of gender differences in education, marriage status, cohort, labour market career and so on, and to compare this counterfactual with the actual gap.⁷⁸ So called decomposition analysis has been used to this purpose in labour economics, and has been widely applied in the analysis of pay gaps. We may in fact denote the proposed counterfactual ‘adjusted Gender Gap in Pensions’ in close analogy to the concept of ‘adjusted gender pay gap’.

⁷⁷ They might even be ‘explaining’ matters because they are related to other unobserved influences – cases of spurious correlation.

⁷⁸ In mathematical terms this is equivalent to the difference between a partial and a total differential. For palliative purposes the total differential is needed; for prevention we need to see the root causes – i.e. a partial differential.

Let's take this analogy a step further. Women may be low paid in the labour market because, say, they have lower experience or because they receive a lower salary for each year of experience. In the literature the first possibility is often referred to as '*explained component*' of the wage gap' and the second as '*unexplained component*'. This hints to the fact that gender pay disparities may be more easily tracked to and justified by higher experience on the part of men whereas further analysis is needed to explain why men should also be rewarded more for each year of experience.

In the same fashion, women may receive lower pension income because they spent fewer years in the labour force (*explained component*) or because they receive less pension income per year spent in the labour force effect on account of low pay or other reasons to be investigated (*unexplained component*). An adjusted or unexplained Gender Gap in Pensions computes the gap that would result if the relevant explained components were simultaneously removed. It compares women and men with the same characteristics without ruling out the possibility that the characteristics may be rewarded differently. Individual characteristics are not confined to personal attributes. For example, the pillar composition of one's pensions can be treated as a characteristic.

B. Literature review

In the field of pay the Blinder-Oaxaca decomposition approach (named after Blinder 1973 and Oaxaca 1973 who introduced it) seeks to decompose the gender gap in wages by asking this kind of counterfactual questions. Well-known applications of Blinder-Oaxaca type methods in the field of pay gaps have been surveyed recently by Jann (2008) and Fortin et al. (2011) who also assess the econometric techniques that have been developed to deal with many technical issues.

However, there are very few applications of decomposition methods in the field of pensions. A notable recent exception is Even and Macpherson (2004) for the US, while Lyberaki, Tinios and Georgiadis (2012) look at the allied issue of old age personal incomes using SHARE data. The key difference between analyzing pay gaps and pension gaps arises from the special circumstances of pensions. Pay arises in a market and wage rates are outcomes of market processes. Pensions are four times removed from this, in the sense that four processes 'filter' market outcomes: *pay* is transformed into *annual earnings*; annual earnings enter into *career (lifetime) earnings* through the length of career; finally the pension system transforms career earnings into *pension entitlements*.

What we see in the results is the total and cumulative effect of all four processes; special importance may be accorded to the operation of the pension system and social policy which may act to correct (in most cases) and (in fewer cases), possibly even to magnify imbalances. This implies that we must be very careful with the interpretation of decomposition results – most of the interpretations of the pay decompositions must be adapted. So, at this stage of the analysis, the results are indicative, they should be used to nuance the factor-by-factor analysis and should be used to chart future work.

C. First Results

At this very preliminary stage of investigation, the rationale for computing an adjusted Gender Gap in Pensions is straightforward: the idea is to compare likes for women with likes for men and to derive a measure of gender differences that cannot be easily explained away with clearly observable gender differences. We will also

be able to gauge the combined effect of these observable differences by simple comparison of the adjusted and the unadjusted gap.

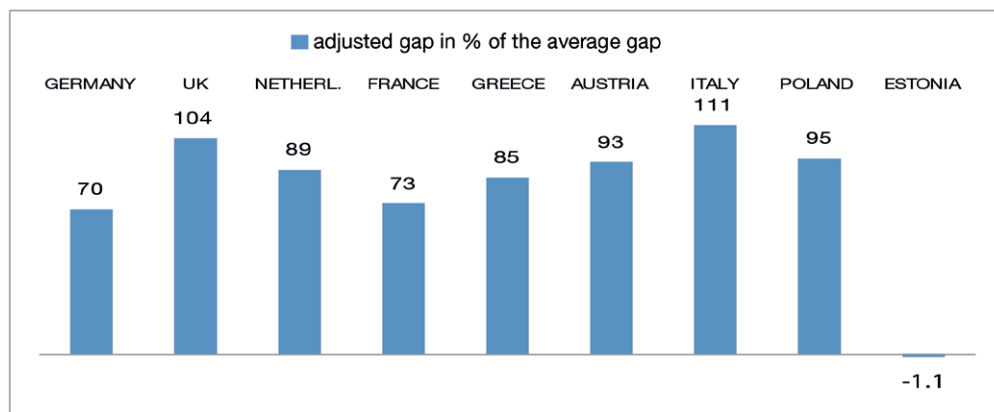
We adopt the Neumark (1988) variant of the Blinder-Oaxaca methodology to 'adjust' the gap for the following characteristics:

- Being married (as opposed to being single);
- Being divorced (as opposed to being single);
- Being widow (as opposed to being single);
- Being low, medium or highly educated;
- Having a certain number years in paid employment;
- Being older than 80 years of age;
- Having a certain share of the third pillar in own pension income.

2010 SILC data are used for nine of the eleven countries we have chosen for deeper investigation in this report – Austria, Germany, Estonia, France, Greece, Italy, the Netherlands, Poland and the UK (see Chapter 3). Sweden and Denmark have not been included because they do not record years in employment, which is an important determinant of pension income. The results are displayed in Figure 13.1 where the adjusted gap is reported in percentage of the unadjusted value for the country. The methodological details can be found in Appendix 3.

Two caveats deserve mention. First is what is known in the literature as selection issue. Years spent in paid work are recorded only for those who have ever worked, leaving out of the analysis the segment of men and women who never participated in the labour market.⁷⁹ Thus the average gap computed is close to the headline indicator for the country but the two gaps do not coincide because not all the pensioners (over 65) have been in paid employment. Because of the non-negligible differences that exist between women ever and never in paid work, the results we obtain for the adjusted gap may not, therefore, be extended to all the pensioners or all the elderly (for men the problem is negligible as there are very few who never worked). Ideally, the fact that those not covered by the pension system, or who have never worked for pay, are not a random group must be taken on board. The second caveat concerns the set of characteristics included in the estimation of the adjusted gap. We stick here to those we have chosen for our earlier factor-by-factor analysis. This decomposition analysis is thus a kind of complement to the preceding work. However, choosing a different set could alter the results. With this caveats in mind, the findings are 'plausible' although not entirely expected. For example, selection effects could explain the apparently counterintuitive finding of adjusted gaps wider than unadjusted ones (e.g. in Italy); an equally possible explanation may lie with some omitted variables being correlated with one of (the limited set) of variables included in the analysis.

79 Participation in the labour market is what is known as a 'discrete choice', implying that it is a qualitative issue, and not simply equivalent to choosing x rather than $x+1$ years. In practical terms, we do not know what those women would have done in the labour market, had they decided to enter. All we know is that they did not enter.

Figure 13.1. The adjusted gap as a percentage of the original gap for each country

Source: Own estimation from EU-SILC 2010. Note: see Appendix 3 for details

The key finding is that netting out differences in observed characteristics between men and women (who were ever in employment) has a modest impact on the average pension gap in most but not all the cases. In six countries the adjustment ranges from -15% to +11% (UK, the Netherlands, Austria, Greece, Italy and Poland). In Germany and France the adjustment reaches around -30% while in Estonia it more than cancels out the original gap resulting in a (minimal) gap in favour of men. Unlike France and Germany however, Estonia has a very low gap to start with (around 4%). We find high gap countries among those where the gap decreases (Germany, France) but also where it *increases* (the UK: recall that the countries are listed in decreasing order of the headline GGP). Hence adjusting the gap is not likely to substantially lessen the dispersion of GGP values across countries. There is also no obvious divide in our results between high and low employment countries: the adjusted gap increases in a low female employment country like Italy but decreases in Greece.

One basic reason why no clear pattern emerges is a complex interaction between factors that weigh differently from country to country although, individually, they pull in the same direction across countries. This is shown by Table 13.1 that renders visually the impact of each characteristic on the original (unadjusted) country's gap. The countries are listed by row, the characteristics by column and each cell of the resulting matrix is shaded white, grey or blue. White stands for no discernible (statistically significant) impact, grey for an augmenting effect and blue for a decreasing effect.

Table 13.1. The impact of gender differences in characteristics on the GGP (unadjusted)

	GERMANY	UK	NETHERL.	FRANCE	GREECE	AUSTRIA	ITALY	POLAND	ESTONIA
being never-married									
being married									
being divorced/separated									
being widow									
being low educated									
being middle educated									
being highly educated									
years in employment									
being older than '80									
share of pillar3					omitted			omitted	

Source: our estimations from EU-SILC 2010 data

Legend: White: the impact of the variable is not statistically significant

Grey: the impact is statistically significant and increases the gap

Blue: the impact is statistically significant and decreases the gap

Note: see Appendix 3 for details

Women are more likely to be widows or married, as well as being older in general. Differences between men and women in the prevalence of marriage and widowhood as well as in age tend to lessen the gap across countries, with marriage and widowhood exerting the strongest and more consistent effect. The results for widowhood are straightforward as there are far more widows among women and they often receive survivor's pensions. That for marriage warrants an explanation. Being married is generally associated with higher pension for men and lower for women, but the depressing effect for the latter is stronger than the augmenting effect for the former. As there are more men than women in the reference population, the net result is a lower gap. Divorce or separation have a discernible and augmenting effect on the gap only in Germany. Lack of a discernible effect in the remaining countries might be due to be the low numbers of divorcees.

Gender differences in the level of education tend to augment the gap at both ends. At the low end of the educational spectrum women outnumber men in the sample used for estimation (recall the sample only includes people who ever worked and are entitled to a pension); at the high end the opposite holds. In both cases this translates into a disadvantage for women, and longer years in employment among men add to this disadvantage. As concerns the effect of pension pillars, SILC data separates out the third pillar while bunching the first two pillars. However, the beneficiaries of third-pillar pension schemes are less than 100 in our dataset for all the 9 countries except Germany and the UK. In Greece third-pillar pensions are so few that the variable was dropped from the analysis and in Poland third-pillar is not separately recorded. The two mature third-pillar countries give the clear indication that participation in third-pillar schemes tends to increase the gap because it is less frequent among women but yields relatively generous pensions.

Summing up, the combined differences in the distribution of men and women by age, marriage status, education, employment career and participation in third-pillar schemes have a modest impact on the GGP in most cases – lower than 15%. Three exceptions are worth noting: Germany and France where the share of the gap explained rises to around 30% and Estonia where the entire (very small) gap is explained by differences in marriage status, education or age. Although the same characteristics tend to pull the gap in the same direction across countries, the com-

bined effect differs from country to country because of the complexity of interactions, and it may augment or decrease the gap. This leaves a sizeable Gender pension Gap warranting explanation in the majority of the countries we considered: if we except Estonia, the adjusted gap ranges from more than 100% (where the 'explanation' is negative) to 70 percent of the original (unadjusted) gap; and all of it cannot be explained with the characteristics we considered here. The challenge is thus to know why women similar to men as concerns education, family status, working career and even propensity to invest in third-pillar pension schemes are 'treated' differently by pension systems. Is it because of personal characteristics that we were not able to include in this analysis – e.g. motherhood status or attitudes towards financial risk – or because of systematic discrimination in the way the labour market and the pension systems treated women in the different countries over their lifetimes?

Having used SILC data the analysis was necessarily limited to the characteristics reported by this source. Investigating pension entitlements necessitates possessing information about events that took place a long time ago – such as changes of job, number of children ever born, and so forth. SILC has information about respondents' *current* status, which in the case of pensions may frequently be irrelevant. Moreover, SILC is rich in personal details but poor in legal and administrative details relating to individuals' relationship to the pension system which would be decisive in explaining pensions. While SILC remains the best source for calculating the gaps, it has limitation for the analysis of what *determines* the gaps.⁸⁰

80 Using SHARE would allow a richer description of the process.

3. Some Lessons from Country Experience

The analysis to this point has relied on performing a number of statistical exercises ‘horizontally’ across the 27 Member States and for the EU on average. A different and complementary kind of understanding can be gleaned by examining specific countries in some depth and commenting on important features. Ten national experts were asked to answer a questionnaire relating to country data features, as well as on institutional details that may shed explanatory light to findings that might otherwise appear opaque. The respective countries are Austria, Denmark, Estonia, France, Greece, Italy, the Netherlands, Poland, Sweden and the UK. For Germany we relied on a recent study by the German Federal Ministry for Family Affairs, Senior citizens, Women and Youth

3.1 STEP 14. A comparison of EU-SILC and administrative data

Experts from the countries enumerated above were asked to investigate the possibility of replicating gender gaps using definitions as close as possible to EU-SILC, in order to derive a first assessment of the kind of differences that may be expected. A number of issues hinder comparisons in some countries:

- In Austria, administrative data do not include civil servants.
- A number of social insurance-based systems rely on separate institutes to collect information from pension providers every four years or so; one of their chief duties is to match pensions to individuals, using some kind of unique social security number (France, Sweden). The production of reliable person-level data is an important governance tool whose importance cannot be overestimated.
- However in the Netherlands it is still not possible to match first and second-pillar incomes in order to come to a single pension average. In Denmark it is possible to match second and third pillars with each other but not with the first. Similar problems are caused in the UK by the existence of large numbers of providers, but also of system fragmentation.
- Even in those cases where data exist and cross-tabulation can be produced, the dissemination of the data and production of indicators such as gender gaps is very limited.
- In some systems (e.g. Denmark), everything works on an individual basis.

Other systems (Austria, Italy) rely on derived rights.

- A number of systems exhibit a pervasive ‘layering’ of reforms of different generations, so that different people may be subject to different rules. This appears to be especially an issue in the UK but was also mentioned in Estonia, Austria and Italy.

Table 14.1 compares administrative and EU-SILC data for equivalent definitions. Where the two sources can be matched (Estonia, Italy), the correspondence is very close; the same holds for France and Austria where correspondence was only possible for the headline gap. It is notable that differences are greater in the older age group. However, in the other two multi-pillar systems (UK, Netherlands) matching of data was very imperfect.

Table 14.1. Cross-checking administrative data

	Gender Gap in Pensions (%)						Prevalence gap	
	Administrative Data			EU-SILC 2010			Adm / v e Data	EU-SILC
Country	65+	65-80	80+	65+	65-80	80+	65+	65+
Italy	29.7	35.2	17.2	30.9	35.2	20.3	-9.8	-8.1
Estonia	3.4	2.2	8.5	4.4	3.1	9.5	-3.3	0.0
Denmark	20.7	23.1	9.5	18.8	18.8	17.2	0.5	-0.1
Sweden	36.1	..	..	32.5	33.9	25.7	0.5	0.0
Austria	31.9	..	..	33.8	37.4	25.6	..	-12.3
France	36.0	..	..	38.5	39.3	37.3	..	-2.7
Netherlands	50.9¹	..	40.1	40.4	44.5	26.6	..	0.0
UK	25.0²	..	..	42.8	44.9	37.4	..	-0.1
Poland	30.5 ³	..	..	22.9	22.8	24.7	..	-0.7

Source: Administrative data obtained by the ENEGE group of experts from publically available data.

Notes: (1) In the Netherlands, the reported Gender Gap in Pensions refers to pillars 2 & 3.

(2) In the UK the reported Gender Gap in Pensions refers to pillar 1 and the data are not disaggregated by age.

(3) Covers only ZUS system (excludes farmers); all pensioners regards.

Figure 14.1. Administrative data vis-à-vis EU-SILC data: a comparison of the Gender Gap in Pensions



Source: Own estimation from EU-SILC 2010 and administrative data from table 14.1

Table 14.4 was compiled with the help of experts; it shows that national systems differ according to the data they produce and the conventions used. The table also brings out that systems differ according to how far they are based on individual rights and the treatment given to derived rights, such as survivors' pension or the treatment of social insurance entitlements upon divorce.

The overall impression is one of heterogeneity. Administrative data obviously and by definition describe the operation of their pension system in a way best adapted to their own circumstances; yet their use can be misleading when the object is to understand *differences* in national experience. Especially worrying is the low visibility of the data by sex. Even in those countries where the data exist, computing gender gaps that would be meaningfully comparable to other countries was a non-trivial issue.

A. Benchmarking the eight country studies

Table 14.2 benchmarks the eight countries corresponding to the country studies by compiling for 2009 structural indicators and social protection macroeconomic magnitudes (ESSPROS data). Table 14.3 further collates information derived in the course of this report for the same countries.

The two tables together show that the eight countries between them encompass the range of European experience, both in terms of the role of pensions in social protection, types of pension systems and pension gender gap experience.

Table 14.2. Benchmarking the eight country study: Structural and social protection indicators, 2009

Indicators	DK	SE	FR	PL	NL	AT	IT	UK	GR
Structural Indicators									
% At risk of poverty: National	13.3	12.9	13.3	17.6	10.3	12.1	18.2	17.1	20.1
% At risk of poverty rate:									
Total 65+	17.7	15.5	10.6	14.2	5.9	15.2	16.6	21.4	21.3
Males 65+	16.8	7.8	8.7	9.9	5.5	10.4	12.6	17.6	18.8
Females 65+	18.5	21.6	12.0	16.8	6.3	18.7	19.5	24.5	23.3
Total 75+	24.9	23.5	13.2	12.4	7.1	17.9	18.5	25.5	25.5
Males 75+	25.0	11.0	10.7	7.0	7.1	13.6	13.5	20.6	25.2
Females 75+	24.8	31.5	14.9	15.1	7.1	20.5	21.6	29.1	25.8
Total 65+	11.7	10.7	14.0	16.1	10.2	15.5	16.2	19.2	14.6
Males 65+	11.7	10.0	14.3	16.1	10.2	15.3	16.0	18.3	14.2
Females 65+	11.4	10.8	13.4	16.2	10.5	15.5	16.2	19.5	15.8
Total 75+	12.0	10.9	12.2	14.6	11.7	15.1	14.6	19.6	14.6
Males 75+	12.0	9.9	12.6	16.1	9.0	16.7	13.0	18.5	14.2
Females 75+	12.0	11.5	12.2	14.1	31.4	15.1	14.9	19.7	15.0
Social Protection expenditure (% GDP, ESSPROS)									
Pensions	12.1	12.9	14.5	12.4	12.8	15.1	16.0	12.5	13.4
Old age protection	8.4	9.3	11.7	6.9	9.0	10.5	12.5	10.2	7.6
Survivors' pension	0.0	0.6	1.9	1.7	1.2	2.0	2.6	0.2	2.2
Means tested	:	:	0.8	:	0.1	0.4	0.5	1.0	0.5
Pensions as % of total Social protection expenditure	37.1	41.0	45.9	63.9	43.2	50.4	56.4	44.5	49.3

Source: Eurostat

Table 14.3. Collecting findings for the eight country cases

Indicators	DK	SE	FR	PL	NL	AT	IT	UK	GR
Women's mean pension as (%) of GDP per capita	49.7	48.4	49.5	46.0	45.7	55.8	51.5	40.4	39.1
Women's mean pension as (%) of national poverty line	130.9	128.8	120.1	141.1	130.4	148.9	135.8	100.3	111.6
Women's <i>median</i> pension as (%) of GDP per capita	45.3	45.1	45.5	42.5	38.0	48.1	43.1	34.7	32.1
Women's <i>median</i> pension as (%) of national poverty line	119.3	120.1	110.4	130.1	108.2	128.4	113.6	86.3	91.7
Gender Gap in Pensions (%)	18.8	32.5	38.5	22.9	40.4	33.8	30.9	42.8	35.6
Indexed Gender Gap in Pensions (EU-27=100)	48.5	83.9	99.4	59.0	104.3	87.2	79.7	110.5	91.9
Gender Gap in <i>Median</i> Pension	4.1	27.1	32.6	22.9	37.1	34.8	33.2	35.9	32.2
Gender Pay Gap (in unadjusted form)	16.0	15.8	16.0	5.3	18.5	25.5	5.5	19.5	22.0
Gender Gap in Coverage by the pension system (M – F)	-0.1	0.0	-2.7	-0.7	0.0	-12.3	-8.1	-0.1	-13.3
The Gender Gap in Pensions among the elderly	18.9	32.5	40.2	23.5	40.4	42.0	36.5	42.9	44.5
Gender Gap in Pensions by cohort and marital status									
Persons aged 65-80	18.8	33.9	39.3	22.8	44.5	37.4	35.2	44.9	38.3
Persons aged 80+	18.9	32.5	38.5	22.8	40.4	33.8	30.9	42.8	35.8
Non-widowed persons aged 65-80	24.1	36.2	46.9	29.9	53.8	48.6	43.9	54.8	40.6
Non-widowed persons aged 80+	28.3	34.8	51.9	26.9	51.0	38.0	36.9	48.8	32.2
Persons aged 50-64: Gender Gap in Pensions	24.1	36.2	46.9	29.9	53.8	48.6	43.9	54.8	40.6
Persons aged 50-64: Gender Gap in Coverage (M – F)	1.1	4.8	-5.9	24.1	-7.3	12.0	-5.4	-1.8	-3.9
Gender Gap in Pensions by educational level (shape primary-tertiary)	U shape	Rising	Flat	Flat	Rising for tertiary	Falling	Flat	Rising	Rising
Distribution: Number of poor women for poor man	0.9	2.2	1.9	1.6	2.3	2.1	1.7	2.0	1.7
Relative interquartile range (men=100)	51.7	80.4	76.5	73.9	49.9	89.0	72.9	65.7	44.4
Trends in the Gender Gap in Pensions over time: Difference between 2010 and 2005 in pp	6.4	1.7	3.7	-0.9	2.8	-1.9	-4.4	2.8	-0.3
Broken careers % 0-10			28.6	11.3		20.7	29.5	14.3	26.0
Analysis based on SHARE data: Gender Gap by pillar									
Gender Gap in Pensions: pillar 1	-3.5	14.4	32.5	23.2	-3.1	30.5	35.7		29.9
Gender Gap in Pensions: pillar 1+2	9.2	15.1	32.9	23.2	23.1	29.4	35.2		30.5
Gender Gap in Coverage by pillar 2 coverage (M – F)	7.0	-4.3	-3.1	0.0	28.4	6.1	2.7		2.6
Gender Gap in Pensions by Number of children									
None	4.3	15.9	19.0	38.7	-6.5	25.7	16.9		25.9
1-2	5.0	23.0	30.7	30.0	32.4	19.2	34.2		29.2
>2	16.3	26.7	50.2	34.5	29.6	40.3	42.7		35.4

Source: Chapter 2 of this report

Table 14.4. The portrait of the national systems

	Existence of publically available administrative data by sex	Entitlements of those who have never worked (e.g separate age pension)	Supplements on behalf of non-working spouse	Divorce treatment
Denmark	Possible to disaggregate by pillar1 and pillar 2+3	OAP pension at 65. Full for residence period of 40 years	No	Until 2007 only lump sum pensions were divided; since 2007 no pensions are divided
Sweden	The Swedish Pension Agency covers the first pillar Statistics Sweden publishes system-wide data	Guarantee pension at age 65	Spouse eligible to guarantee pension (at lower rate)	Pension rights are individual rights
France	Based on annual survey of all funds. Every 4 years detailed data from inter-pension fund survey	Although the system is contributory, those without pension rights are entitled to minimum pension 65+	Supplement abolished 2011. Some supplementary and third-pillar pensions have them	No rights for divorcees
Poland	Only for ZUS Not for farmers' system. (data not aggregated)	No (only social assistance). To some extent, the family pensions are a way to obtain a pension benefit for a non-working spouse if she/he is 45+	None	None for current pensioners In new DC system: second-pillar capital divided
The Netherlands	Data for first pillar provided by the SVB second-pillar consists of 651 funds; Data collected but not published Gender gap not published	First pillar (AOW) is flat rate; all are entitled to it at 65. Different rates by family situation	None	Partners are entitled to 50% of old age pension accrued during marriage or partnership. Applicable unless explicitly ruled out by agreement If an ex-partner dies, the survivor draws full pension
Austria	Data provided by Federation of Austrian Social Insurance Institutions Civil servants excluded second-pillar very small	Means tested equalization supplement to low pensions. In practice if the husband has a pension, only widows can draw it	No supplement; however, equalization may apply	Right depends on guilty verdict for divorce; if amicably dissolved, no division
Italy	Istat publishes data, converting pensions into pensioners; some inaccuracies	Means tested age pension at 65; not separately identified	Supplements for dependents	Survivor's pension granted, with conditions to divorced ex-spouse
UK	Department of Work and Pensions publishes data for different first pillar schemes; separated by pillar. Aggregation over pillars difficult	May qualify for Flat rate Basic state Pension based on spouse's contributions Pension Credit may top up	No	Courts decide one of three ways of financial settlements
Estonia	Pension register of the Estonian National Social Insurance board Second-pillar still very small for pensioners	Flat rate national pension at 63	No Individually based pension rights	Survivors' pension, if the marriage had lasted at least 25 years, the person had reached pension age or had become permanently incapacitated before divorce or within 3 years from divorce
Greece	No data published; Social budget stops in 2008 No gender disaggregation	Means tested pension at 65 equal to farmer's pensions	Yes	Received only at death of ex-spouse; strictly means tested.
	Survivors' pensions	Multiple pension entitlement: are total entitlements aggregated?	Cross-border pension payments	Tax treatment of pensions
Denmark	All first pillar pensions are individual. Many second and third-pillar schemes may incorporate	Data only available for pillar 1 and pillars (2+3). All though are individualized by pillar	Not included in data	Data refer to gross. Interest earned on pension investment treated preferentially.
Sweden	Pension rights are individual rights. A married person can choose to transfer his/her pension entitlements to her/his spouse or partner	Data on total pensions from all sources can be produced upon request, but are not available to the general public.	Included in data	Gross. Certain supplements are not subject to tax; taxed less favourably than employment income
France	Survivor's pensions are mean tested Women only having derived rights (widow's pensions) not included in data, approx. 900k women	Yes, in the Inter-pension fund sample (EIR)	Data does not include payments to non-residents	Gross; but pensioners pay lower social insurance contributions.
Poland	85% of spouse's pension, provided +50 years old (if 45 y.o. at the moment of spouse's death, he or she will receive spouse pension when turning 50 y.o.). If spouse dies before retirement age, then pension is calculated as 85% of disability pension	(new) Mandatory system: entitlements for both pillars in individual personal accounts.	The data probably does not include cross-border payments	Gross. Treated as income from employment
Netherlands	Payable only before age 65	Difficult to aggregate first pillar and other pillar pensions	Cross-border first pillar separately identified.	Gross. Marginal rates lower for pensioners
Austria	Depends on relation between own and deceased spouse's income; 0%-60%; minimum for low incomes	Administrative data refer to rights not persons	Included in administrative data	Gross. Treated as income from employment
Italy	Survivor's pension paid to spouse – RESTRICTIONS	Theoretically individually attributed. Inaccuracies persist	Not separately identified. Included in data	Gross
UK	Rights differ by kind of public scheme. Earnings related part can be inherited to max 50%	Problem in aggregating total pensions of first <i>plus</i> second and third pillars	Pensions paid out; may lose indexation. Separately identified in the data	Both Gross and Net data provided
Estonia	Survivors' pension to a survivor who has reached pension age or has become permanently incapacitated and the marriage had lasted at least 1 year	Each beneficiary may receive only one state pension at his/her choice at any time	Not included in data	Gross
Greece	Yes, depending on fund 70% of deceased pension Possibility of choosing if own pension exists	No	Not separately identified	Gross; net of social insurance contributions

Source: ENEGE experts group: Michael Jørgensen (DK), Anita Nyberg (SE), Rachel Silvera (FR), Dariusz Stanko (PL), Chantal Remery and Janneke Plantenga (NL), Ingrid Mairhuber (AS), Gianni Betti (IT), Colette Fagan and Helen Norman (UK), Lauri Leppik (EE), Platon Tinios (GR)

B. Three recurring themes from the mosaic of national specificities – Comments from ten Member States

Apart from attempting to collate administrative data, the experts illustrated three recurring themes in the report.

Theme 1: Interpreting long-term trends / projecting the future

Some experts commented on aspects of relative performance, and what could be possible future prospects. The common denominator was one of unease about possible future developments, even in those cases where the current situation appears relatively benign. This worry is clearest in the case of Estonia, where pension reform has moved the pension system to a closer linkage with contributions. In this way, the discrepancy between a wide pay gap and a narrow pension gap is certain to give way to a worsening of pension gaps in the future – especially if women are either unable or unwilling to respond to incentives to increase their working lives. The Danish expert outlines the ways in which means testing and the existence of a basic public pension combine with occupational pensions to correct the tendency of occupational systems to widen preexisting gender differences.

Estonia (Lauri Leppik)

Why does Estonia have the lowest Gender Gap in Pensions in the EU, whilst also having the widest pay gap?

The Gender Gap in Pensions in 65+ age group is explained by the following factors:

1. The old age pension formula has a flat rate element, which in 2010 was about 38% of the average old age pension;
2. Pension rights up until 1999 are counted on the basis of the length of service, while the amounts of contributions determine only those rights which are acquired from 1999 onwards;
3. Employment rates of women in Estonia have been historically rather high;
4. Even if the current gender wage gap is high, the wage gap is higher in younger age groups and somewhat lower in older age groups, hence the wage gap does not (yet) show up as pension gap. The wage gap is influencing only those cohorts which have retired after 2000 and only for that part of pension which relates to rights acquired from 1999 onwards.
5. Up until 1999, the periods of taking care for children were taken into account in a generous manner: the periods of parental leave up to three years were equalized with employment, and an additional two years were credited for each child raised for a maximum of 8 years. Even though the periods credited for child-rearing became considerably less favourable after 2000, most of the *current* pensioners have raised their children before 1999 and get their child-rearing credits⁸¹.

⁸¹ The child rearing credits have been improved again in 2012. These will be applied retrospectively also for child raising periods 2000-2012.

If the high Gender Pay Gap persists, the Gender Gap in Pensions will gradually increase in the coming years, as pension rights acquired since 1999 are based on the amounts of contributions paid. Furthermore from 2002 a mandatory funded pillar was introduced, directly linked to contributions (contributions for the funded pillar are 6% of wage). Currently second and third pillar pensions have still a marginal role in retirement incomes as benefit payments from the second-pillar have commenced only from 2009 and many of these payments are still lump sum due to a short accumulation period.⁸²

Poland (*Dariusz Stanko*)

Multi-pillar Reform and the prospects of the Gender gap

The Gender Gap in Pensions in Poland, even though quite substantial, is likely yet to become a problem to come, because most of the pensioners received their pensions from the old pre-1999 pension system. The old pension formula contained a common social term, which flattened to some extent the differences in benefit values of males and females. Those who retired after 1999 (when the pension reform was introduced) still have most of their pension financed from entitlements acquired from the old system.

In the case of **the large agricultural pension system** one can infer that there are no serious gender differences due to two factors. First, the agricultural pension formula depends only on the number of years, when a person was liable to pension insurance or worked in a farm. Thus, this condition does not differentiate the situation of men and women. It is due to the fact that, in spite of its name, the pension system for farmers has no insurance features and is financed through taxes of other social groups. Second, the absolute values of pension benefits are quite low due to the flat nature of the formula; therefore, any gender differentiation is likely to represent also small absolute values.

The **new Defined Contributions (DC) pension formula** in the statutory pension system (covering the vast majority of Polish workers) does not offer the redistribution part (from poorer to richer and/or from men to women). The value of monthly pension benefits is calculated as the result of dividing the value of pension entitlement (first, unfunded pillar) or pension savings (second, funded pillar) by the number of months of expected lifespan in retirement (unisex tables). Bearing in mind the typical problems women face (lower salaries, longer career breaks due to child and family care), the new **DC formula may result in drastically lower retirement benefits for women** in the Polish system.

However, there are some factors mitigating the pension gap: i) unisex life tables favour women, ii) equalized retirement age (from 2040, 67 years for both sexes), iii) a minimum pension guarantee (calculated for both funded and unfunded pillar for the insured whose insurance coverage was 20 (women) or 25 (men) years long), iv) crediting mechanism for both pillars for women who are on maternity leave (contribution take into account the maternity benefit). The pension gap is also mitigated by v) survivors' pensions granted

82 The unisex life tables for calculating annuities in the second pillar will in future entail some gender redistribution, in particular considering the very wide gap between life expectancy of men and women in Estonia.)

under conditions to a surviving spouse. Usually this is the case of women who either obtain a survivor pension equal to 85% of the husband's pension or – if already retired – can choose the full pension.

Denmark (Michael Jørgensen)

Historical development of the multi-pillar system and simulating future prospects

Until 1990, only about 30 % of the working population was saving for an occupational pension. Because of this relative low rate, an agreement between employees, employers and the government was reached in 1987 to increase the savings in occupational pensions. As a result, by 2009 around 90 % were saving in an occupational pension fund, while the saving rate for the new occupational pensions had increased to 12 %. The increase was primarily due to the private sector, where before 1990 only people with tertiary education and salaried employees were supplementing their old age pension with occupational pensions. Given that more women are employed in the public sector than the private sector, the spread of occupational pensions affected men more strongly than women. Counteracting this tendency, a bigger share of women started working in the 1960s, 1970s and 1980s and could take part in the expansion of occupational pensions.

It is possible to **project total income replacement at retirement for today's 40-45 year olds** (for the sum of public and occupational pensions). Because the old age pension is universal and pensions are flat-rate (before means testing), public pensions are not equally important for people with high and low incomes. For people with very low incomes, the saving needed in order to get a reasonable replacement rate upon retirement is much lower. This is amplified by the progressive taxation and the means testing of public old age pensions. Progressive taxation forces high income earners to save relatively more because they are taxed more heavily, and since the means testing starts at a certain threshold (at about 50 % of the old age pension) it reduces the marginal value of saving more for people who have a large pension wealth. These facts are important when comparing men's and women's pensions, because men on average earn more than women, and therefore they also have to save relatively more in order to obtain the same replacement rate.

Austria (Ingrid Mairhuber)

The risks of closer linking of pensions to contributions and gender gaps

Despite the five year difference in the statutory retirement age, women do not retire significantly earlier than men. This is because women reach the required insurance period for an early retirement due to long insurance duration less often than men. Even so, a large difference in benefit levels between women and men remains, as differential treatment of women is in practice embodied in the logic of earnings-centered Austrian pension system (Mairhuber 2009): The pension is dependent on the type (of employment contract), length and continuity of gainful employment as well as the level of earnings. The “female life context” of breaks in employment and reduction of gainful employment

owing to unpaid care work, limited employment opportunities and income discrimination results in structural disadvantages for women. The traditional male “norm(al) biography” can hardly be achieved by women, above all in the case of earning mothers. A number of changes make the situation more difficult for women: changes in employment structures, the growth of “atypical” employment, such as part-time work, broken careers and rising unemployment among women combine with the tendency of pension reforms to strengthen the connection between gainful employment and benefit levels to threaten a widening of gender difference in entitlements in the future

When assessing the gender balance of the Austrian pension system over time it is important to note, that with the “**Act on the Harmonisation of Austrian Pension Systems**” (2004) a new pensions system has been introduced, but the new regulations are only fully applied to those who had not acquired any pension entitlements before 2005. For those younger than 50 on that date, pension entitlements are calculated as a mix of old and new provisions on a *pro rata temporis* basis, whereby different regulations apply to different age groups. The new regulations will be less favourable to women, especially in the case of discontinuous working biographies.

Theme 2: The question of Data and data comparability

National administrative data has to contend with system fragmentation or heterogeneity. In some cases (multi-pillar systems, such as UK, Netherlands or Denmark) this is a design feature; in others it may be seen as a governance shortcoming (in Greece there exists a multiplicity of uncoordinated first-pillar pension providers). In all cases the key problem is to match pension entitlements to individual people.

The Netherlands (Chantal Remery and Janneke Plantenga)

Data availability problems in a multi-pillar system

Administrative (aggregated) data are available for the AOW (Dutch General Old Age Pensions Act) and are provided by the Sociale Verzekeringsbank (SVB). This organization implements national insurance schemes in the Netherlands.

With respect to the **second and third pillar**, there are only very few administrative data publicly available (provided by the Nederlandsche Bank (DNB)). The reason might be related to the number of actors involved. The Dutch pension system consists of 651 pension funds (end of 2008); 543 of these funds are single-employer funds, 95 concern industry wide funds (of which 69 mandatory) and funds are for professional groups. Together, these schemes cover approximately 6 million members. Though these pension funds provide data on pensions to Statistics Netherlands, these are not publicly available.

The publicly available data do not enable a disaggregation by pillars. There is information of the SVB on the first pillar. This information includes data on all persons in the Netherlands receiving the state pension AOW. Data are available on the number of recipients by sex, age-categories and household characteristics. In addition, there is information on the number of persons whose pensions are adjusted because they did not live permanently in the Netherlands between the age of 15 and 65. There is, however, no information published on the number of people who are *not* entitled to the AOW. Survey data from Statistics Netherlands indicate that this is a very small group. There are no public data on the average amount of AOW paid per person (by sex).

There exists some information on the total amount of additional pensions (pillar 2 and 3), but a breakdown by the two pillars is not possible. These data are from Statistics Netherlands and are based on National (representative) income surveys.

Italy (*Gianni Betti*)

How many pensioners? Data cleaning difficulties

Note: some prevalence ratios are greater than 100 because there are more pensioners than people in the age class. This is due to the fact that the original administrative data record pensions not pensioners. The source of the table below (ISTAT; the main statistical Institute) converts pensions into pensioners, but clearly the conversion is imperfect and some double counting remains. This affects especially older people and especially widows who are likely to cumulate more than one pension originally accruing to different beneficiaries.

Coverage of the Italian system (Istat)

Age	Men			Women		
Classes			Prevalence			Prevalence
	Pensioners	Population		Pensioners	Population	
0-54	753,099	20,551,953	4	663,956	20,146,011	6
55-64	1,945,727	3,528,865	55	1,701,652	3,736,220	46
65-79	3,988,161	3,923,307	102	4,210,290	4,779,215	88
80+	1,216,990	1,148,298	106	2,298,567	2,231,199	103
65+	5,205,151	5,071,605	103	6,508,857	7,010,414	93
All	7,903,977	29,152,423	27	8,874,465	30,892,645	29

Greece (*Platon Tinios*)

Gender invisibility and system opaqueness

Greece produces no individual-level data. Data aggregates on social insurance providers' budget data were available in the Social Budget, an annual publication. The last available year is 2010 (budget data for 2009, which would have been compiled in 2008). Thus no official information exists on the effects of the crisis yet. Distributional information on pensions exists only for the private sector fund, IKA; however, no gender breakdown was ever available, while the last available data refers to 2007. That data never aggregates primary and supplementary pensions, while it refers to pension rights and not people. Nevertheless, information is produced and is made available to the National Actuarial Authority, which in its turn, produces some actuarial studies and has projected expenditure for the Economic Policy Committee's Ageing Working Group. This data, however, is not made publically available.

As a consequence, gender imbalance in pensions as an issue remains invisible. The pension system is insurance-based, and hence leads to lower pensions for women. A large vesting requirement (minimum 15 years' contribution) plus a requirement for active links to the labour market prior to retirement leads to many women having no right to a pension at all.

In a very fragmented system of pension provision, the Farmer's pension pro-

vided a 'floor' for gender differences; all women resident in rural areas were entitled to such a pension at 65. Indeed, the farmer's provider was the only one in which rights were individual, rather than family-based. However, the introduction of a new contribution-based system in 1998 reverted to a traditional system where farmer's wives were insured through their husband's contributions and would not be accumulating towards their own pension.

Theme 3: Pensions rights unrelated to own contributions

When analyzing SILC data, time and again, the issue of pension rights not directly associated with the payment of contributions was raised as a key factor intervening so that the pension system may lead to outcomes different from the simple accumulation of lifetime earnings. What is striking is the heterogeneity of such provisions. The comments illustrate this.

UK (Colette Fagan and Helen Norman)

State Pension entitlements for divorcees: three court-determined divisions of rights

The 1999 Welfare Reform and Pensions Act gave powers to the Court to split rights to occupational and personal pensions between husbands and wives on divorce (and following dissolution of civil partnerships) filed on or after 1 December 2000 (Pensions Advisory Service 2009).

Following divorce from a marriage or civil partnership, an individual has the right to make a claim on their husband, wife or civil partner's pension with the financial agreement to be settled in one of three ways:

1. *Pension offsetting* takes place when the value of one partner's pension is compared to the value of the couple's other assets, such as property for instance. Once the financial arrangement is made, the partner with the pension will retain this while the other partner will receive something of equal value.
2. *Pension sharing* occurs when the value of one partner's pension at the time of divorce is divided between the couple. The shares may not be equal as they are determined by the court.
3. *Pension attachment* is when an individual receives an agreed proportion of their partner's occupational or personal pension when it is paid to them, which could be a lump sum or money or a regular pension payment although if the partner dies, the payments will cease (Directgov 2012)

France (Rachel Silvera)

Survivor's pensions and other pensions for derived rights

In France, there is the minimum old-age pension for people who have never worked and have no right from a spouse. Widows, widowers and the disabled have pension rights, but survivor's pensions are means-tested. There is an important distinction between **direct personal rights and derived rights**. The main derived rights concern widowers and above all widows in the form of survivor's pensions. But in (administrative) data, only people who have direct AND derived rights are included. There are not many people (mainly women) who *only* have derived rights (namely totally economically

inactive widows). According to data for 2004, 900,000 women and 19,000 men were in this situation, but many of them were not yet 65 and therefore had not yet applied for their direct rights.

Other derived rights are linked to the presence of children, who lead to advantages for parents in the form of additional contribution years. Derived rights (on top of direct rights) play an important role for women and fill in some of the gap regarding direct rights. These derived rights in fact represent 20% of women's total pensions (compared with only 1% for men).

Monthly gross amounts and composition of pensions (all ages) by sex in 2008

	Men (€)	Men (%)	Women (€)	Women (%)
Direct personal rights	1,657	95	879	75
Derived rights	15	1	238	20
Additional advantages	68	4	40	3
Minimum old-age pension	9	1	8	1
Total pension	1,749	100	1,165	100

Source: EIR 2008, La Direction de la recherche, des études, de l'évaluation et des statistiques (Drees)

Sweden (Anita Nyberg)

The guarantee pension

The Guarantee Pension is part of the national retirement pension and is paid to those who have had little or no pension-qualifying income during their lives. A person is entitled to Guarantee Pension at the age of 65. In order to get a full Guarantee Pension a person must have lived in Sweden for 40 years. If a person has lived in Sweden less than that, the Guarantee Pension will be lower. A Guarantee Pension will also be reduced if a person has an earnings-related pension. It can be paid to persons who are residents in an EU or EEA country.

Pension rights are individual rights. In the case of married couples where only one spouse has been employed, the non-employed spouse is entitled to a Guarantee Pension. The full Guarantee Pension is lower for married/cohabiting/registered partners (6,967 SEK) than for a person who is single (7,810 SEK). A married person or a registered partner can choose to transfer her/his pension entitlements to the premium pension to her/his spouse or partner.

C. A Comparison with the German Federal Ministry Study (2011)

In November 2011 a study on Gender Gaps in Pension in Germany was published. The study, entitled *"The Gender Pension Gap: Developing an indicator measuring Fair Income Opportunities for Women and Men"*, was commissioned by the German Federal Ministry for Family Affairs, Senior citizens, Women and Youth and was conducted by Judith Flory of the Fraunhofer Institute for Applied Information – henceforth referred to as the 'German Study'.⁸³ Its subject matter, its methodology, focus

⁸³ The importance of women's family related characteristics – career interruptions, number of children and soon – is explored in a companion study titled "Women's Biographical Patterns and Pension Income Prospects" (<http://www.bmfsfj.de/BMFSFJ/Service/Publikationen/publikationen,did=173872.html>).

and recent publication, make comparison with this study an exercise which will aid understanding and take the discussion forward.

The definitions employed by the German Study are identical to those employed in our study. The indicator, as is the case with our 'headline indicator' is confined to individuals over 65, which is the legal retirement age in Germany. The study employs *administrative* data for 2007 compiled every four years in the ASID database of all pension funds, conducted on behalf of the Federal Ministry for Labour and Social Affairs. The use of administrative data, rather than survey data, is the main source of difference with our study. Using administrative data amounts to attempting to calculate our '*pensioner's* pension gap'; people not covered by the pension system are by definition excluded⁸⁴. The ASID database aggregates all pension rights into total individual-based entitlements, i.e. the total of all pensions of all pillars and all providers. An interesting point, which differentiates it from EU-SILC, is the ability to net out survivors' pensions.

The key findings of the German study are as follows:

- The gender pension gap is very large – fully 60%;
- The gender gap is lower in the East (37%) than in the West (64%);
- Higher education implies lower pension gap;
- The presence of children widens the gap more in the West than in the East.

The results by marital status are especially interesting. Germany has a system whereby upon divorce the couple's total pension entitlements are aggregated and then split equally. This has the effect of increasing women's entitlements at same time as reducing men's, which explain the lower gaps for divorced people – a little larger than for singles but far smaller than for either married or widowed people⁸⁵.

The German study asks how the gender gap is evolving over time. It is able to do that, as by netting out survivors' pensions, it can compare pension outcomes that accrued to individuals who were born at different times. Indeed comparing the youngest cohorts (aged 65-69) in ASID from 1992 to 2007⁸⁶, pension gaps have fallen from 64% to 54%.

The German study concludes by examining SILC data for 2007 for the EU-15. They do not exclude non-pensioners, so they estimate what we have called the 'Elderly Pension Gap'. That gender gap for Germany is some 20 points lower than that derived from ASIP administrative data. The difference is accounted for by the exclusion of derived rights, the chief of which is the **survivors pensions**; when they add survivors' pension to ASIP data, the gender gap drops to comparable levels with EU-SILC.

84 Though, as we saw above, the coverage gap in Germany is not very large.

85 Survivors' pensions are disregarded in this comparison.

86 i.e. people born between 1910 and 1942.

The German study can be taken as an example of the constructive dialogue which can take place between the EU benchmarking level and national systems. Administrative data can be used to elucidate and explain comparative findings, whereas use of local systemic information can highlight the effect of specific features impinging on gaps (e.g. the treatment of divorce). This dialogue can be fruitful and useful insights drawn both at the national and the EU level. Such interplay characterized the progress in areas such as social inclusion and is one of the key areas of value added of the Open Method of Coordination. Should this dialogue also operate in the field of pension gender gaps, one would expect equivalent gains of understanding and an enrichment of the policy toolkit.

4. Overview and Conclusion

4.1 An overview of the argument

Whereas the pay gap between men and women – known as the Gender Pay Gap – is regularly monitored and studied and its amelioration is a policy target, its natural sequel– the Gender Gap in Pensions – was hardly ever mentioned until recently. Very little internationally comparable information exists, while the suspicion lurks that gender imbalance may be worse in those countries where less is known about it: Such a case is Greece, where *no* gender-sensitive administrative information is produced, yet gender imbalances among the population (the elderly pension gap–figure 3.1) are amongst the largest in Europe. Given the difficulties in producing administrative data on total pensions in multi-pillar systems, there is a real danger that, as occupational pensions spread, the danger of growing gender imbalances may remain undocumented. For example in both the UK and the Netherlands administrative data on total pension entitlements do not exist. The estimates that exist for individual countries are sufficient to engender a sense of unease. They can also signal that information gaps could have important welfare implications, in the sense that the important policy areas and initiatives are missed out through being unremarked. That issues of great importance for the independence of older women lack visibility, could be interpreted by some as another example of that group of citizens being taken for granted.

This report argues that the gaps in pension entitlements between women and men in Europe, should be the object of an statistical indicator. Given the exposure of pensions to short term changes in the context of retrenchment in many countries (above, section 1.2), this indicator should be produced on an annual basis, along with other pension indicators. **This indicator should be equal to the percentage by which women's average pensions are smaller than men's average pensions, calculated for pensioners over 65 years of age.** Such a simple indicator would, for the first time, produce comparable information across Europe and will be able to chart changes from year to year. It would complement existing indications on poverty and well-being. Those indicators, through being based on household income, assume *by construction* that resources are distributed equally within the couple; they are thus incapable to describe systematic gender imbalances. A pension gender gap indicator solves this problem, by attributing incomes to individuals within households according to who has legal right to such income. It is thus able to capture gender differences in the extent of *independence* provided by access to resources. In this way it is a natural complement to earnings gap information applied to individuals of working age and has a similar interpretation.

The ready availability of such an indicator would, of itself, provide visibility to the underlying social problem. Having established key differentiations, a better understanding of their underlying causes will come about. Many of the technical problems that relate to definitions or that would impede comparisons between countries can be first diagnosed and later smoothed out. Such issues ('teething problems') are unavoidable when a new indicator comes into use; similar issues have been dealt in the case of the risk of poverty. In this way, constructive use of statistical information should lead to an improvement in data and definitions that could deal with many of the technical issues noted in this report. The final reward would be a detailed understanding of policy initiatives that can ameliorate problems and possibly prevent them.

The key characteristic of pension gender differences is their complexity. In the pensions of today's older generation we see at the same time the legacy of past imbalances and the anticipation of future problems, some of which unwanted consequences of reforms undertaken in the past. The year-on-year problems caused by the economic crisis and the conjuncture add a further twist. The situation affecting today's older population is due to a mixture of all three classes of factors – past problems, future difficulties and year-on-year adjustments. This mixture of factors will be different in different parts of Europe, and may even be moving in different directions over time. An example of how the same social need may lead to different outcomes may be provided by the pension effects of widowhood, divorce or broken careers across Europe. European pension systems are gradually switching from stressing family entitlements and derived rights for dependents, towards an emphasis on individual entitlements and a tighter link between contributions and pensions. The way this switch interacts with existing family structures of today's older cohorts explains a good deal of the observed gender heterogeneity.

Taking this diagnosis as a starting point, this report argued that, in order to base initiatives on a sound foundation, the first step should be to benchmark the current situation facing the older population of the Member States of the EU. To do this it is imperative that information is derived from a European data source. Administrative data may be more familiar to local users, but their use in comparisons raises a host of questions and would complicate rather than enlighten the issue.

Thus, having established the motivation for a Gender Gap in Pensions indicator, the report proceeded in twelve linked statistical steps, designed to establish a statistical starting point for the analysis. This was done by supplying robust stylized facts about particular issues, but also by charting the degree of complexity that would otherwise cloud judgments.

The final step was to revisit administrative data. A network of ten experts from ten different Member States were utilised together with a recent study commissioned by the German government. Experts were asked to report information about gender gaps comparable to the one produced by our analysis, using locally available administrative data. In the typical case the data had been produced as a side product of the process of paying pensions. The comparison of administrative and survey data (Table 14.1) showed that in some cases finding the data and producing the breakdowns required proved little problem (EE, DK); in the majority of cases producing data which conformed to some minimum theoretical requirements proved difficult; in others, such as the UK, France or Poland a full breakdown was not possible; in one case, at least, Greece, no information was produced by sex at all. Even when the

data existed, differences in coverage and definitions would further hinder their regular usage. It might have been a coincidence, but Estonia with the smallest measured gap also was the easiest to compare data; data was problematic or non-existent in countries where the problem (as evidenced in the SILC analysis) was most acute, such as Greece.

The report concluded by viewpoints of the ten national experts which covered three themes: Prospects for the future; data and gender visibility; and the issue of derived rights. The experts largely concur with the conclusion that more needs to be done to understand what causes gender gaps; and that, even in those cases where the issue is less acute, there are few grounds for complacency. As older reasons for gender divergences are receding, new ones are taking their place – chief among which the closer linking of entitlements to contribution histories.

4.2 Findings of the fourteen statistical steps: towards stylised facts

The statistical analysis proceeded in a series of structured lines of inquiry – what we termed ‘steps’. Each was designed to investigate particular aspects or questions; each step may have undertaken and presented more than one statistical exercise and on occasion used more than one data source to approach the same question. In summary the results are as follows:

STEP 1: how wide is the pension gap in Europe?

Our central estimate of pension gap – what we termed the ‘headline indicator’ is very wide. **The EU-27 average is 39%.** The two highest figures are for Luxembourg (47%) and Germany (44%). At the other extreme, Estonia is lowest (4%) followed by the Slovak Republic (8%). A large number of countries are around 30%, while fully 17 out of the 27 have Gender Gaps in Pension greater or equal to 30%.

This is more than twice the figure of the pay gap indicator (equal to 16%). However, there is no simple relationship between the two figures. Suffice it to say that Estonia (lowest pension gap) also has the *highest* pay gap. Indeed, it is possible that two separate relationships exist: one where high pay gaps coincide with lower pension gaps, typical in Eastern Europe; and one where a large pay gap is associated with a large pension gap. This can be taken as an indication that pension may *dampen* pre-existing inequality, but may also *widen* it, sometimes as an unwanted side-effect of design features.

STEP 2 and STEP 3: who has a pension? Coverage effects and the elderly pension gap

Pension gaps may also be calculated for the total population over 65, what we called ‘the Elderly Pension Gap’. In some countries (e.g. Germany, the Netherlands, Denmark) this makes for little difference, as all elderly people are drawing some kind of pension. However, in a large subset of countries there are large numbers of women who have no pension, probably because they have not accumulated sufficient rights for their own pension, or because they are thought to be dependents of their husbands. These countries are Malta (coverage gap 34%), Spain (27%), Belgium (17%) and Ireland (16%), while six countries have coverage gaps greater than 10% and nine greater than 5%. Including people with no pensions predictably

has a large effect on computed pension gaps. The country with the largest Elderly Pension Gap is Spain (52%), followed by Malta (49%), hence altering the country rankings considerably.

STEP 4: is the pension gap tending to rise or fall? Cohort analysis

The pay gap in all developed countries and in Europe has been shrinking in the past 20 years, although progress may have stalled in recent years. Is this mirrored in pensions? A cautionary note must be sounded from the US, where an equivalent reduction in pay gaps was associated by immobility in pension gaps (Even and Macpherson 2004).

If we compare pension gaps of those aged 80+ with those aged 65-80, we see that pension gaps are considerably *lower* for the older group. However, this may be due to the equalising effect of survivors' pension collected by widows. Indeed, excluding widows from the analysis reduces the difference but does not obliterate it. A similar exercise using data from SHARE leads to a mixed picture: In Greece, Denmark, the Czech Republic and Austria (and possibly in Germany) younger people have *higher* gender gaps in pensions. In contrast, in France and Spain the opposite is the case, while in Italy and Belgium (and possibly in the Netherlands) differences are small.

In consequence, for this very important issue, the data do not allow us to draw general conclusions.

STEP 5: effects of education and lifetime income.

Education is a key determinant of lifetime chances and is thus closely linked to lifetime income (what economists call 'permanent income'). Given that we know educational attainment of future pensioners will be higher than for current pensioners, if gender gaps rise with education, through, for instance, the operation of a 'glass ceiling' or through women being concentrated in occupations which are less well remunerated, that would serve as an indicator that gaps will rise in the future. However, the picture emerging from the data is very mixed. Though in the EU27 the higher the education, the larger the gender gap, this is not a picture which holds in all Member States. In some it does (Sweden, the UK, the Netherlands), in some the opposite holds (Spain, Austria, Portugal), while in others most of the gender effect comes from differences between and within educational categories (Greece, Germany). Decomposition analysis suggests, in particular, that the gap was boosted by (past) gender disparities at the bottom and at the top of the educational spectrum, not around the middle – largely consistent with other education findings. This suggests that the greater equality in educational achievements of cohorts yet to enter retirement would not, *of itself*, act to correct future gender pension gaps.

STEP 6: how are pensions distributed?

Pension gaps focus on average pensions; however, a linked issue of importance is how pensions are distributed around the average. Predictably, women are greatly overrepresented among lower pensions and underrepresented in higher pensions. Fixing the pension level to that of the poorest third of men, we see that for every poor man, we have almost two poor women. Denmark is the country where the shape of women's pension *distribution* (rather than pension levels – which is the distinction of Estonia) comes closer to men's, while the Netherlands is at the other extreme. Even when the linked issue of calculating separate gaps for each third

of the distribution is examined, there are some countries where the gap rises with income (IE, PT, DK) and some where it falls. In general, the link of pension gaps with level of pensions appears to be a systemic characteristic which operates in different ways in different parts of Europe.

STEP 7: does income tax make a difference?

Pension gaps after tax are very little different from pension gaps before tax, with the exception of Finland and Italy.

STEP 8: can we discern trends in the pension gap over time?

Comparing points five years apart (2010 and 2005), we again see a mixed picture. Whereas on average there is a widening of gaps (by 1.7pp), this masks opposing trends – from improvements in Belgium (-4.9), Latvia (-7.7) and Italy (-4.4) to deterioration in Denmark (6.4) the Netherlands (5.4), Germany (4.2).

STEP 9: pension gaps and broken careers.

Women have worked for fewer years than men. In general shorter careers are associated with larger pension gaps, though that relationship is not one-to-one. In some cases gaps rise with the length of the break and then fall. Distinguishing 'dominant job' during one's working life, the lowest gender gaps are found in the public sector (where they might even be negative), and the largest for the self-employed.

STEP 10: the effect of multi-pillar systems: some indicative results

Our focus on people 65+ means that in most countries the effects of multi-pillar reforms are not yet visible. However, in Denmark, the Netherlands and in Switzerland the second-pillar is sufficiently mature to enable some analysis, using data from SHARE. In those countries gender gaps of the public pillar on its own is negative; the gap in the occupational pillar is heavily imbalanced by sex. Thus the gender gap is wider in the composite of the two pillars than in the public pillar. The second and third pillars in those countries also display a very significant *coverage* gap, especially for the second pillar.

STEP 11: gender gaps by marital status; is there a motherhood penalty?

Gender gaps are narrower for single women; even so, though, gender gaps remain large (17%). Gender gaps are widest for married women, while divorced women are somewhere in the middle. However, there are very marked national differences. Using SHARE data, a very clear and strong relationship is apparent between the number of children raised and the gender gap. This relationship is strongest in France and weakest in Denmark.

STEP 12: the intra-household Gender Gap in Pensions

The unit of measurement for the headline indicator, the Gender Gap in Pensions income, is the individual. The comparison here involves judging the average pension for women against the average for men. However, a gender gap indicator for pensions can also be meaningfully computed at household level. By looking inside the household, we compared each woman with her own partner and generated a distribution of household gaps. The median and the trimmed mean of this distribu-

tion turned out to be the most robust indicators for the intra-household Gender Gap in Pensions.

We found that the intra-household gap is higher than the aggregate gap in the EU as a whole and in the vast majority of its member countries. This follows from complex interactions involving the institutional design of the pension system as well as statistical factors – the intra-household and the aggregate gaps are measured for different subgroups of the elderly population – and behavioural processes – such as who marries whom and who earns the most within families. In particular, the median intra-household gap is 4 percentage points higher than its aggregate equivalent in the EU27 (46% against 42%) and over 20 points higher in five countries. In only six countries the median gap is lower within households than in the aggregate: Estonia, Greece, Ireland, Latvia, Romania and Slovenia.

STEP 13: Putting the picture together: decomposition analysis

Decomposition ('Oaxaca') methods were employed on SILC data in order to supplement the factor-by-factor analysis with a multivariate examination and to begin the search for a causal explanation. The picture, once again, is of complexity and heterogeneity: the combined gender differences in those variables available in SILC have a modest impact on the Gender Gap in Pensions.

In six of the nine countries we investigated, netting out the combined effect of gender differences in marriage status, education, age, years in paid work, and weight of third-pillar in pension income causes the 'unexplained' (adjusted) gender gap to vary in a range comprised from -15% to +11% of the original gap (UK, the Netherlands, Austria, Greece, Italy and Poland). In Germany and France the original gap decreases by around 30% as a result of the netting out while in Estonia it disappears entirely; unlike France and Germany, however, Estonia has a very low gap to start with, around 4%. Although any given characteristic tends to pull the gap in the same direction across countries, their combined effect differs from country to country and it may augment or decrease the gap. This could be because of the complexity of interactions, of influences not explicitly included in the analysis, but also may be due to the operation of the pension system.

STEP 14: Comparing EU SILC and administrative data

An attempt was made to reproduce EU SILC findings with publically available administrative data for ten European countries. It was possible to reproduce a very basic set of cross-tabulations only in three countries, whereas in the other cases only very basic information was available. In one case no gender information existed in administrative data at all.

4.3 Policy lessons

Gender gaps in pension are an important issue both for welfare, and chiefly for the economic independence of the older Europeans – both women and men. As those newer and larger generations of pensioners, who will have experienced the benefits of greater gender balance in employment, enter pensionable age, they might find the situation awaiting them in the pension system unfamiliar, anachronistic and limiting. The risk is that, individuals accustomed to economic independence in their daily affairs might be confronted with a pension context presuming dependence.

What has been gained for gender balance in the labour market may be reversed in pensions.

Is the danger of shrinking independence for women in retirement unfounded?

The worrying fact is that, in most European contexts, we still do not possess a totally convincing answer to this question – one way or another. The statistical analysis showed that gender gaps in pension are unexpectedly wide – many times wider than pay gaps. In some countries (e.g. NL, UK) or some categories of individuals (e.g. broken careers) the analysis uncovered mechanisms operating to widen existing differences further. One especially unsettling issue is to do with the lack of visibility and awareness of the problem. This is partly due to problems in national administrative data but is certainly aided by lack of information benchmarking national situations against a European norm.

This report made a start in this direction. It uncovered wide gaps in most countries, a wide dispersion of gaps across Europe, but also an overwhelming complexity especially when trying to relate observed behavior to causal influences. A key part of this complexity is to do with the cohort effect: what is observed to hold for today's older population 65+ may not hold when they are replenished by those who today are in their forties. We know that the older generation in future decades will be more educated, will have worked to a greater extent and will have benefited from all the improvements of the heyday of the welfare state of the 1970s to 2000s; so many of the factors behind today's disadvantage will gradually decrease in importance. A key area of ignorance is how the population responds to the oftentimes radically altered incentive structure embodied in reformed pension systems.

What is certain is that wide gender gaps in pension are the outcome of a series of overlapping factors, at least some of which are due to unforeseen and unanticipated consequence of policy decisions made in other contexts. What is also certain is that in many, if not most, cases relying on improvements in pay gaps of the working generation to percolate through to pensions would be insufficient.

When a new concern enters policy 'radar screens', understanding proceeds in three steps. The first stage is awareness – simply to make the issue visible. With the second phase comes amelioration – correcting the worse consequences, after the fact. By the third phase, the source of the problem is sufficiently well understood to proceed to prevention.

In the case of gender gaps in pension we are still in stage one – visibility of the issue and an ability to grasp its complexity. It is in this first stage that the EU can play a decisive role: to place the issue on the agenda and, through benchmarking to galvanise the type of national initiatives that would be in a position to deal with actions ameliorating the worse effects but also acting to prevent the underlying causes giving rise to the issue.

The report uncovered wide gender gaps. It also uncovered particular instances where developments were in the direction of making matters worse in a relatively short period of five years. Examination of the national differences in experience uncovered very few 'easy generalisations'.⁸⁷ For instance Denmark and the Netherlands have

⁸⁷ The SILC data, on which the report is based, in the majority of cases does not allow to credit specific individuals with access to particular benefits. Thus comparisons are essentially limited to comparing

opted for a stronger second pillar; however, this choice did not translate, at least in our work, in consistent clustering of these two countries. The worries about gender impacts and unpredictable effects may be exacerbated as the economic crisis and the need for retrenchment affects pensions in as yet unforeseen ways.

The report can, nevertheless, hint at the existence of policy alternatives that by compensating disadvantage, end up perpetuating it. Such would be measures encouraging women to leave the labour market early, with the consequent permanent reduction of pensions and increase of the poverty risk of single women. Policies that mitigate disadvantage – relying on survivors' pensions, on 'married bonuses' to men's pensions – can also fall in this category. In contrast, policies that attack the root cause of disadvantage, such as credits for child rearing, can be thought to operate towards creating a level playing field between men and women.

The one policy lesson that – at this early stage – can be repeated is: Vigilance.

4.4. Directions of future work

The present report essentially dealt with description of the underlying situation in the 27 Member States. This was done through a factor-by-factor analysis. This type of analysis, by associating a given characteristic to an outcome for today's pensioners, is appropriate to pinpoint and correct existing problems, -i.e. if what is required is the amelioration of current problems. To examine the root causes of problems one needs to go beyond characterising the current situation. The analysis made a start on a simple multivariate analysis using the Neumark version of the Blinder- Oaxaca decomposition, as well as examining intra-household pension gaps. What was apparent all along is that there must be a number of influences behind the overwhelming complexity. We can observe clustering of Member States, but the identity and membership of the clusters is shifting and does not appear to follow any simple organising principle. For example, the three countries with relatively mature second-pillar systems, the UK, the Netherlands and Denmark, were seldom found in the same grouping, hence precluding any easy generalisations about the effect of multi-pillar systems.

These observations imply three separate directions – one for statistical improvement, the second for policy discussion and policy formation at EU level, and the third for research.

Some knowledge gaps ought to be filled for a benchmarking exercise to be satisfactory. A survey source such as the SILC overcomes many of the comparability problems arising from the use of national data. However, two blind spots hinder analysis of gender pension gaps based on this source, namely the inability to distinguish survivors' pensions and second pillars pensions. We also suggested earlier that in order to further research on the gender pension gap SILC ought to be made richer in other respects, e.g. identification of childcare credits and small social benefits.

As for EU policy work, once sufficient visibility is given to a benchmarking exercise,

national averages for countries with different systemic features. Other data sources such as SHARE may allow a more complete characterization of benefits going to the individual level. See the papers in Börsch-Supan, 2011.

the question could be put to each member state to ‘respond’ by explaining and projecting its own national issues. This kind of structured dialogue in similar issues has been undertaken with some success in the context of the Open Method of Co-ordination in pensions as well as in other fields. Its principal benefit is in highlighting an issue and bringing it to the limelight, which are factors which would help most where the problem is least acknowledged. It is thus something which the EU has much fruitful experience to share, and can usefully adapt to an issue which naturally flows from the pension OMC. It should not be forgotten that the main adequacy challenge to future pensions is acknowledged by the Pension Adequacy Report 2012 (EC2012) to have a strong gender dimension.

Research needs to go beyond simple description in order to ask analytical questions. It will be recalled that at the outset of the analysis are the indications of impending gender problems generated by the Synthetic replacement rates calculated by the ISG (ISG 2009). To take the discussion forward we need to be clear about (a) the composition of the population around the various ‘profiles’ and (b) behavioural reactions to the changed environment. Such could be working longer for women or intra-household decisions leading to more equal distribution of pensions within the household.

In the field of taxation and policy on social benefits, the EUROMOD model has aided policy making and has proved itself invaluable for evidence-based policy formation. To proceed in a similar direction in the field of pensions (which is clearly advocated by the Pension Adequacy Report 2012) would require data far richer than SILC, given that it requires detailed information on past characteristics⁸⁸. In the US the Health Retirement Survey (the precursor and model for SHARE) has been utilised for such purposes. Apart from data, we need to research how individuals respond to changed incentives, which needs to utilise amongst others international experience.

A richer set of data would allow us to enrich the analysis by a formal clustering exercise based explicitly on system parameters. In this way we could identify the effectiveness of, say, child rearing credits or the impact of more part-time working. The second is to expand the decomposition exercise by including other variables, system parameters but also more sophisticated econometric methodology. The third possible direction is to attempt to link more closely the situation in the labour market and that in pensions through a better understanding of the transition from work to retirement – the sample selection issues that we encountered throughout the report. Those kind of issues are especially important as regards intra-household effects, which supply the fourth direction: The decision how to react to, say, lower accrual rates (less generous pensions) is a decision taken at the level of the household.

Understanding the dynamics of these effects may hold the key to the policy conundrum: how can we have sustainable pension systems which serve adequately the social functions for which pensions systems exist in the first place?

⁸⁸ For example, we saw in chapter 3 that using SILC we cannot tell how many children a woman over 65 has reared.

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The Gender Gap in Pension in the EU

APPENDICES

APPENDIX 1:

Pension Gender Gap Based on Eu-Silc

1. Introduction

EU-SILC survey is the major source of comparative statistics on income and living conditions in Europe. It covers data and data sources of various types: cross-sectional and longitudinal; household-level and person-level; economic and social; from registers and interview surveys; from new and existing national sources.

EU-SILC collects a variety of social benefits at individual level, which are reported in the so-called p-file of the UDB (User Data Base). These income variables are collected through personal interviews with all adults aged 16+ in each sample household, or are reported from registers for the so-called “Register Countries” (see Annex 1 below).

According to Eurostat (2011), social benefits⁸⁹ are defined as current transfers received during the income reference period⁹⁰ by households intended to relieve them from the financial burden of a number of risk or needs, made through collectively organised schemes, or outside such schemes by government units and NPISHs.

It includes the value of any social contributions and income tax payable on the benefits by the beneficiary to social insurance schemes or to tax authorities.

In order to be included as a social benefit, the transfer must meet one of two criteria:

- Coverage is compulsory (under law, regulation or a collective bargaining agreement) for the group in question;
- It is based on the principle of social solidarity (i.e. if it is an insurance-based pension, the premium and entitlements are not proportional to the individual exposure to risk of the people protected).

The Social benefits collected at individual level are the following:

⁸⁹ The social benefits included in EU-SILC, with the exception of housing benefits, are restricted to cash benefits.

⁹⁰ In order to get a closer measure to the well-being of the household, the lump-sum benefits received during the income reference period shall be treated according to Eurostat technical recommendations. In the same way, lump-sum received before the income reference period could be taken into account and imputed according to Eurostat recommendations.

- Unemployment benefits (PY090G)/ (PY090N)
- Old-age benefits (PY100G)/ (PY100N)
- Survivor' benefits (PY110G)/ (PY110N)
- Sickness benefits (PY120G/PY120N)
- Disability benefits (PY130G/PY130N)
- Education related allowances (PY140G/PY140N)

Social benefits exclude:

- Benefits paid from schemes into which the recipient has made voluntary payments only, independently of his/her employer or government (which are included under 'Pensions from individual private plans (other than those covered under ESSPROS)' (PY080G)).

In order to construct a Pension Gender Gap for the European Union EU-27 countries, the EU-SILC variables which are here taken into account are:

- Old-age benefits in gross form (PY100G);
- Survivor' benefits in gross form (PY110G);
- Pension from individual private plans in gross form (PY080G).

1.2 EU-SILC UDB variables⁹¹

1.2.1 Old age benefits (PY100G)

The Old age function refers to the provision of social protection against the risk linked to old age, loss of income, inadequate income, lack of independence in carrying out daily tasks, reduced participation in social life, and so on.

Old age benefits cover benefits that: provide a replacement income when the aged person retires from the labour market, or guarantee a certain income when a person has reached a prescribed age.

It includes:

- Old age pensions: periodic payments intended to maintain the income of the beneficiary after retirement from gainful employment at the standard age or support the income of old persons
- Anticipated old age pensions: periodic payments intended to maintain the income of beneficiaries who retire before the standard age as defined in the relevant scheme or in the scheme of reference. This may occur with or without a reduction of the normal pension.
- Partial retirement pensions: periodic payment of a portion of the full retirement pension to older workers who continue to work but reduce their working hours or whose income from a professional activity is below a defined ceiling.
- Care allowances: benefit paid to old people who need frequent or constant assistance to help them meet the extra costs of attendance (other than medical care) when the benefit is not a reimbursement of certified expenditure.
- Survivor's benefits paid after the standard retirement age.
- Disability cash benefits paid after the standard retirement age.
- Lump-sum payments at the normal retirement date.
- Other cash benefits: other periodic and lump-sum benefits paid upon

⁹¹ See Eurostat (2011) 'Description of SILC User Database Variables: Cross-sectional and longitudinal', for further details.

retirement or on account of old age, such as capital sums paid to people who do not fully meet the requirements for a periodic retirement pension, or who were members of a scheme designed to provide only capital sums at retirement.

It excludes:

- Family allowances for dependent children (which are included under 'Family/children related allowances' (HY050G)).
- Early retirement benefits paid for labour market reasons or in case of reduced capacity to work (they are included respectively under 'Unemployment benefits' (PY090G) or under 'Disability benefits' (PY130G)).
- Benefits paid to old people who need frequent or constant assistance to help them meet the extra costs of attendance when the benefits are reimbursed against a certified expenditure.

1.2.2 Survivor's benefits (PY110G)

Survivors' benefits refer to benefits that provide a temporary or permanent income to people below retirement age who have suffered from the loss of their spouse, partner or next-of-kin, usually when the latter represented the main breadwinner for the beneficiary.

Survivors eligible for benefit may be the spouse or ex-spouse of the deceased person, his or her children, grandchildren, parents or other relatives. In some cases, the benefit may also be paid to someone outside the family.

A survivor's benefit is normally granted on the basis of a derived right, that is, a right originally belonging to another person whose death is a condition for granting the benefit.

It includes:

- Survivor's pension: periodic payments to people whose entitlement derives from their relationship with a deceased person protected by a scheme (widows, widowers, orphans and similar).
- Death grant: single payment to someone whose entitlement derives from their relationship with a deceased person (widows, widowers, orphans and similar).
- Other cash benefits: other periodic or lump-sum payments made by virtue of a derived right of a survivor.

It excludes:

- Family allowances for dependent children (These benefits are included under Family/children related allowance (HY050G)).
- Funeral expenses
- Additional payments made by employers to other eligible persons to supplement the survivors' benefits pay entitlement from a social insurance scheme, where such payments cannot be separately and clearly identified as social benefits (those payments are included under 'gross employee cash or near cash income' (PY010G)).
- Survivor's benefits paid after the standard retirement age (these benefits are included under 'Old age benefits' (PY100G)).

Note: periodic payments to people whose entitlement derives from their relationship

with a deceased person during a war are included in PY110. Survivor's benefits paid after the standard retirement age are included under 'Old age benefits'

1.2.3 Regular pensions from individual private plans (other than those covered under ESSPROS) (PY080G)

Regular pensions from private plans (other than those covered under ESSPROS) refer to pensions and annuities received, during the income reference period, in the form of interest or dividend income from individual private insurance plans, i.e. fully organised schemes where contributions are at the discretion of the contributor independently of their employers or government.

It includes:

- Old age, survivors, sickness, disability and unemployment pensions received as interest or dividends from individual insurance private plans.

It excludes:

- Pensions from mandatory government schemes.
- Pensions from mandatory employer-based schemes

1.3 Methodology for constructing a Pension Gender Gap from EU-SILC UDB variables

We define the Pension Gender Gap as:

$$\left(1 - \frac{\text{women's average pension income}}{\text{men's average pension income}}\right) \times 100 \quad (1)$$

In order to define both *women's* and *men's average pension income* we take into account the following assumptions:

1. We consider the subsamples of individuals in the EU-SILC UDB p-file who are 65 years old at the beginning of the income reference period (t-1) of the EU-SILC wave concerned (t)⁹².
2. Among the subsample of individuals in 1), we select those who have AT LEAST one positive income value of variables PY080G, PY100G or PY110G.
3. Denote "F" the women in subsample 2), and "M" the men in subsample 2).

⁹² For instance, for the EU-SILC 2009 wave, the income reference period is from 01/01/2008 to 31/12/2008.

$$1 - \frac{\frac{\sum_{i:1}^F (PY\ 080\ G_i + PY\ 100\ G_i + PY\ 110\ G_i) w_i}{\sum_{i:1}^F w_i}}{\frac{\sum_{j:1}^M (PY\ 080\ G_j + PY\ 100\ G_j + PY\ 110\ G_j) w_j}{\sum_{j:1}^M w_j}} \times 100$$

Formula (1) could be therefore re-written as follows:
(1 bis)

Where w_i is the personal cross-sectional weight of female i (SILC variable PB040⁹³), and w_j is the corresponding weight for male j .

Usually, the Pension Gender gap assumes positive values (i.e. *women's average pension income* is less than *men's average pension income*); however it could also be negative in the opposite case.

⁹³ Note that PB040 weights let the SILC sample to be representative of the concerned country's population, and that the sum of the weights gives the exact number of individuals in the concerned country.

APPENDIX 2:

Share as a Source of Information

2.1 Description of the pension variables in SHARE wave data

SHARE (Survey of Health, Ageing and Retirement in Europe) covers individuals aged 50+ providing information for pensions (distinguishing types of pensions, on careers, family and an ability to relate economic conditions to other dimensions of well-being such as health and family). SHARE wave 1 was collected in 2004 and wave 2 (with the addition of new countries) in 2007. SHARE wave 3 (SHARELIFE) is a specialised retrospective questionnaire covering career experiences; it thus has richer information on broken careers, changes of occupation, marital changes etc. SHARE does not exist for all member states but is available for a cross-section covering a wide range of pension experience. Tables A1 to A3 present the description of the pension variables of SHARE wave 2 that used in the analysis of the present report for pillar 1, pillar 2 and pillar 3 respectively.

Table A1: Description of the pension variables, SHARE wave 2, pillar 1 (statutory pensions schemes)

Variable's Name	Code in the Quest/naire	PILLAR 1: STATUTORY PENSIONS SCHEMES
pen1v	ep078_1	Monthly public old age pension, previous year
pen2v	ep078_3	Monthly public early or pre-retirement pension, previous year. <i>In Sweden, it refers to invalidity and disability pension</i>
pen3v	ep078_4	Monthly main public disability insurance pension, or sickness benefits, previous year. <i>In Sweden, it refers to the survivor pension</i>
pen4v	ep078_6	Monthly public unemployment benefit or insurance, previous year. <i>In Sweden, it refers to occupational pensions for blue-collar workers in the private sector</i>
pen5v	ep078_7	Monthly public survivor pension from partner, previous year. <i>In Sweden, it refers to occupational pensions for white-collar workers in the private sector</i>
pen7v	ep078_9	Monthly war pension, previous year. <i>In Sweden, it refers to occupational pension for workers in municipalities, in counties or in the government</i>
pen12v	ep078_2	Monthly public old age supplementary pension or public old age second pension, previous year
pen13v	ep078_5	Monthly secondary public disability insurance pension, or sickness benefits, previous year
pen14v	ep078_8	Monthly secondary public survivor pension from spouse or partner, previous year
pultv	ep078_10	Monthly public long-term insurance payments, previous year

Table A2: Description of the pension variables, SHARE wave 2, pillar 2 (occupational pensions)

Variable's Name	Code in the Quest/naire	PILLAR 2: OCCUPATIONAL PENSIONS
pen8v	ep324_1	Monthly private (occupational) old age pension, previous year
pen9v	ep324_4	Monthly private (occupational) early retirement pension, previous year. <i>In Sweden, it refers to unemployment insurance benefits</i>
pen10v	ep324_5	Monthly private (occupational) disability insurance, previous year. <i>In Sweden, it refers to sickness benefits</i>
pen11v	ep324_6	Monthly private (occupational) survivor pension from partner's job, previous year
pen15v	ep324_2	Monthly occupational old age pension from a second job, previous year
pen16v	ep324_3	Monthly occupational old age pension from a third job, previous year
pen17v	ep324_5	<i>(only in Sweden)</i> - Monthly private (occupational) disability insurance, previous year

Table A3: Description of the pension variables, SHARE wave 2, pillar 3 (individual supplement provision)

Variable's Name	Code in the Quest/naire	PILLAR 3: INDIVIDUAL SUPPLEMENTARY PROVISION
reg1v	ep094_1	Monthly life insurance payment received, previous year
reg2v	ep094_2	Monthly private annuity or private personal pension, previous year
reg3v	ep094_2	<i>(only in Greece)</i> Monthly private health insurance payment received, previous year
reg4v	ep094_3	Monthly alimony received, previous year
reg5v	ep094_4	Monthly regular payments from charities received, previous year
prltv	ep094_5	Monthly private long-term care insurance payments, previous year

2.2 Questions on Pension Coverage in SHARE wave2 Questionnaire

All data are collected via face-to-face, computer-aided personal interviews (CAPI). The information on pension coverage is based, mainly, on three questions in EP (employment) module that ask respondents to report:

- 1. EP071:** income from public pensions in last year (*that is pillar 1*)
- 2. EP324:** occupational pensions (*that is pillar 2*)
- 3. EP089:** Individual supplementary provision (*that is pillar 3*)

Answer categories of pension pillar 1 question: Statutory pensions schemes
EP071_ INCOME FROM PUBLIC PENSIONS IN LAST YEAR

Please look at card 29. Have you received income from any of these sources in the year [{previous year}]?

1. Public old age pension
2. Public old age supplementary pension or public old age second pension
3. Public early retirement or pre-retirement pension
4. Main public disability insurance pension, or sickness benefits
5. Secondary public disability insurance pension, or sickness benefits
6. Public unemployment benefit or insurance
7. Main public survivor pension from your spouse or partner
8. Secondary public survivor pension from your spouse or partner
9. Public war pension
10. Public long-term care insurance
96. None of these

Table A4: Country deviations in EP071 (pensions not included in the questionnaire of countries)

	1	2	3	4	5	6	7	8	9	10
DK					X			X		X
FR					X					X
DE		X			X			X		
GR			X							X
IT		X			X			X		X
NL		X						X	X	X
CH					X			X	X	X
PL		X			X				X	X

Answer categories of pension pillar 2 question: Occupational pensions
EP324_ OCCUPATIONAL PENSION INCOME SOURCES

Please look at card 30. Have you received income from any of these sources in the year [{previous year}] ?

1. Occupational old age pension from your last job
2. Occupational old age pension from a second job
3. Occupational old age pension from a third job
4. Occupational early retirement pension
5. Occupational disability or invalidity insurance
6. Occupational survivor pension from your spouse or partner's job
96. None of these

Answer categories of pension pillar 2 question: Individual supplementary provision
EP089_ ANY OTHER REGULAR PAYMENTS RECEIVED

Please look at card 31. Did you receive any of the following regular payments or transfers during the year [{previous year}]?

1. Regular life insurance payments
2. Regular private annuity or private personal pension payments

- 3. Alimony
- 4. Regular payments from charities
- 5. Long-term care insurance payments from a private insurance company
- 96. None of these

APPENDIX 3:

Decomposition of the Gender Gap in Pensions and Calculation of the 'Adjusted' Gap

The adjusted pension gap was estimated using EU_SILC 2010 data and the STATA software command 'oaxaca'.

In the first stage of the Oaxaca procedure OLS regressions were separately estimated for men and women. Observations in the sample used for estimation comprise 65+ pensioners with positive pension income and positive years in paid work.

The dependent variable is the logarithm of pension income as defined for our headline indicator, while the independent variables include:

- three dummy variables respectively for married, divorced /separated and widow status, with never-married being used as the reference category;
- two dummy variables respectively for primary and secondary education, with tertiary education being used as the reference category;
- the number of years in paid work;
- the square of the number of years in paid employment in order to capture decreasing returns to career length, e.g. because earning decrease as workers age;
- a dummy for the older cohort (elderly aged 80+);
- the share of pension income from pillar 3 schemes.

In all the countries the vast majority of these variables, very often all, turn out to significantly contribute to defining the level of individual pension income, and in the expected direction. The adjusted R^2 ranges from 16% to 43% in the regression for men and from 30% to 56% with the exception of Estonia where it falls to 16%.

In the second stage of the Oaxaca procedure, the unadjusted pension gap (was decomposed into the explained and the unexplained component. *Because the dependent variable is in log form, the unadjusted gap is measured as the log difference of*

the average predicted pension for men and for women (where the average predicted value in OLS regressions coincides with the respective sample average).

For a two-fold decomposition an assumption must be made as to which is the reference population, men, women or an average individual in the pooled (merged) sample. We took this latter option as suggested by Neumark (1988), with the STATA software automatically correcting for the omitted variable distortion that this procedure otherwise entails. We also incorporated corrections for the omitted dummy category problem in order to ensure that the results do not depend on the choice of the omitted category (in our case never-married individuals and individuals with tertiary education, respectively).

In this second stage of the Oaxaca procedure, the contribution of the single independent variable to the total 'explained' and 'unexplained' components was also computed. Figure 13.1 displays the total unexplained component (alias the adjusted gap) in ratio to the unadjusted. Table 13.1 features the direction and statistical significance of the contribution of each independent variable to the explained component of the gap.

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