Gender segregation in the labour market

Root causes, implications and policy responses in the EU

European Commission

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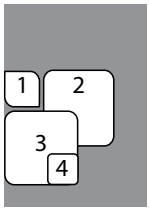

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Contents

Country abbreviations

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

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EXECUTIVE SUMMARY

The aim of this report is to analyse employment segregation for women and men in the European labour market at both the sectoral and occupational levels. It provides a comparative analysis of trends in segregation across the 27 EU Member States, Norway, Iceland and Liechtenstein, and examines the root causes of the phenomenon, the consequences, and current and desirable policy responses.

Gender-based employment segregation is so pervasive that distinctions have multiplied in order to facilitate analysis: occupational versus sectoral segregation, overall or horizontal versus vertical segregation, vertical versus hierarchical segregation. Horizontal segregation is understood as under- (over-) representation of a given group in occupations or sectors, not ordered by any criterion, and is often referred to as segregation *tout court*. Vertical segregation denotes the under- (over-) representation of the group in occupations or sectors at the top of an ordering based on 'desirable' attributes — income, prestige, job stability, etc. Finally, hierarchical segregation stands for under- (over-) representation of the group at the top of occupation-specific ladders. All forms of gender-based segregation are considered in this report, although overall and vertical segregation in occupations receive closest attention.

The first part of the report examines levels and change in overall segregation in European countries (Chapter 1). It goes on to review the most important factors that impinge on segregation (Chapter 2) and to assess three main implications, namely undervaluation of women's work, confinement in 'low quality' jobs, and skill shortages (Chapter 3). Policies are reviewed and assessed in Chapter 4. The second part of the report summarises the highlights from case-study research conducted at national level on 10 occupational groups, the evidence from this research being used as a reference throughout the report.

Persistence and change in segregation within Europe

Three indices are used in this report to measure segregation and track its change over time: the Karmel and MacLachlan index (IP for short), the index of dissimilarity (ID) and the classification of occupations into feminised, mixed and male-dominated. The reference data source is the European labour force survey.

In percentage terms, the IP index varies between 0 and 50. It is the indicator currently used to monitor segregation within the EU employment strategy and can be interpreted as the share of the employed population that would need to change occupation (sector) in order to bring about an even distribution of men and women among occupations or sectors. The ID index has a similar interpretation but varies between 0 and 100 in percentage terms because the change of occupation required to even out the distribution of employment is attributed to one sex only, men or women. All three indices turn out to broadly agree with one another in ranking the countries' level of segregation or tracing the respective pattern of change over time.

For the EU as a whole, segregation as measured by the IP index is still relatively high, reaching 25.3 % for occupational segregation and 18.3 % for sectoral segregation. However, differences among countries remain wide, with a gap of about 10 percentage points between the most and the least segregated countries.

Whether occupational or sectoral segregation is considered, the same four countries belong to the high- and the low-segregated group, respectively. The four high-segregation countries are Estonia, Slovakia, Latvia and Finland, and the four low-segregation countries are Greece, Romania, Malta and Italy. The well-known opposition of the 1990s between high-segregation Nordic countries and low-segregation Mediterranean countries has given way to a similar opposition between (part of) eastern Europe and (part of) the Mediterranean.

At aggregate level, indices of occupational segregation reveal no significant change between 1992 and 2000 for either the EU-27 or EU-15. However, a slight upward trend is detectable for the current decade and is more pronounced for sectoral segregation. Modest change at the aggregate level hides contrasting patterns at country level. Austria, the Czech Republic, Denmark, Norway, Sweden and the United Kingdom experienced relatively fast de-segregation, with decreases in the IP index ranging from 2.8 to 1.5 percentage points between 1997 and 2007. In contrast, segregation increased in Bulgaria, Ireland, Italy, Latvia, Romania and Spain. In all these countries except Romania the increase in segregation was paralleled by a growth in female employment higher than the European average, with Spain and Ireland actually offering a spectacular performance. We shall come back later to the relationship between segregation and employment growth.

With the exception of four countries, mixed occupations increased over the past decade in all the countries where segregation indices declined, and conversely. Across most countries, moreover, change affected male-dominated occupations more than female-dominated ones, since the share of the former decreased proportionately more.

Decomposition of the index of dissimilarity into a structural component, a sex ratio, and a residual component suggests that in the short term both the structure of

occupations — i.e. their respective weights on total employment — and the sexual composition of workers within occupations contribute to the overall change in segregation, often but not always in the same direction. Over longer periods of time, however, change in the sexual composition of workers within occupations tends to become the dominant component. In other words, long-run decreases in segregation ultimately depend on achieving a more balanced representation of women within each occupation.

This notwithstanding, there is evidence that significant increases in female employment are likely to raise the level of segregation in the short and medium run. A temporary trade-off may therefore arise between the objective of raising women's employment and that of favouring de-segregation.

Evidence from the case studies helps clarifying the micro-dynamics that govern the relationship between segregation and employment in the short and long runs. In the short and medium run, it may be easier for women to enter where overall employment grows, sometimes inflating an already large female share and thereby increasing segregation. When the inflows are sufficiently large, however, some women also end up in niches of relatively male occupations from where they can branch out in the long run, thus rebalancing the sexual composition.

Root causes of segregation

The debate on the root causes of gender segregation in employment dates back to the 1970s, but it remains the point of reference to date despite the fact that so much has changed since then. After decades of research, most scholars would agree that there can be no single-factor explanation for such segregation, and that the latter may lead to pay discrimination.

Key factors identified in the voluminous literature on segregation are, in no particular order, comparative biological advantages, under-investment in human capital (schooling or training), differential income roles, preferences and prejudices, socialisation and stereotypes, entry barriers and organisational practices.

Given widespread enforcement of equality legislation over the past years, impressive advances of women in education, progressive loss of importance of physical attributes for productivity, change in family roles and, last but not least, successful challenging of gender norms by feminism, current research has both narrowed down the list of potentially relevant factors identified in the early debate and nuanced the original explanations.

Priority is given in recent research to four sets of factors: choice of study field, stereotypes, the demand for shorter or flexible hours of work because of the unequal care burden and differential income roles, and covert barriers and biases in organisational practices, including collective bargaining procedures.

There is mixed statistical evidence and some qualitative (case-study) evidence that the field of study still influences which occupations men and women enter. During the last 15 years, greater diversification of choices in tertiary education appears to have preceded de-segregation in employment in the EU-15 group of countries. This does not hold for central and eastern European countries where the distribution of women and men across fields of (higher) education has recently become more balanced without this showing up in a more balanced distribution in employment. One reason for mixed evidence is that the correspondence between field of study and occupation has been found to be sufficiently close only for about 10 % of jobs, those in the licensed professions such as doctors, teachers, lawyers, accountants and so on.

Stereotypes are ubiquitous and continue to influence behaviour, but it is not easy to pinpoint how far they stand for genuine preferences, how far they express social norms or how far they are used to surrogate information. The actual role that stereotypes play in segregation may in fact be overestimated by qualitative research because they offer a ready-made and socially acceptable rationalisation of decisions that may have been taken on other grounds. Thus, for example, some researchers argue that the traditional association between caring and women is a cogent, if partial, explanation of why medical specialties like paediatrics are female dominated. At the same time, when Norwegian men have been explicitly asked why they are not attracted to pre-primary school teaching they stated poor pay as a reason, not fear of association with a caring role. Overall, case studies suggest that the role of stereotypes is less pervasive among younger professional women and men.

The unequal care burden and the consequent inability to prioritise income commitment within the family drive the quest of many women for shorter and more flexible hours of work. Among qualified women (the 'professionals') this search for hour-friendly occupational niches often results in re-segregation into a professional niche, or it hinders entry into occupations featuring high/irregular work hours and workload. For this subgroup of women, re-segregation in search for more convenient working schedules can sometimes be penalising, but it has also led to successful opposition to the culture of long hours of work, for example among general practitioners in the UK (family doctors).

When the search for shorter working hours becomes a choice for part-time work, it further restricts the choice of occupation, especially among the less qualified. A strong indication in this respect is the fact that measured levels

of segregation increase by between 15 and 30 percentage points in the vast majority of member countries (22 in the EU-25) when full-time women are dropped from the calculations, i.e. when the occupational distribution of men is compared with that of women part-timers rather than that of all women employed.

Although legal barriers to women's entry or restrictive practices have long been outlawed, covert biases or forms of impediments still operate, often restricting career paths and career prospects for women within occupations. Examples that bear special importance for vertical or hierarchical segregation are closer rungs on ladders in feminised jobs' career tracks, mechanisms of co-optation and discretionary managerial practices for selection, hiring and promotions that de facto favour men, as well as lack of networking resources among women. All these mechanisms interact with different types of employers (large/small, private/public) in shaping the pattern of segregation.

It remains important to distinguish between high-paid, professional occupations and low-pay ones. There is evidence that most of the factors sustaining segregation are becoming less important among younger cohorts of educated, professional women. This is less clearly the case for women in low-paid occupations.

Implications of segregation

Attention to the implications of gender-based segregation in research and policy circles has traditionally gone to wage inequality, including undervaluation of female work and discrimination. Whilst pay remains central, other working conditions such as employment security, health risks or provisions for reconciling work and family life are important components of the overall quality of jobs, and, because of segregation, may accrue differently to female and male employees. Recently, segregation has been questioned also because it threatens to exacerbate labour and skill shortages.

Instances of undervaluation of women's jobs are still common. Lingering overt biases in job evaluation practices, covert biases deriving from the way job evaluation procedures are operationalised, poor visibility of female skills, the fact that female-dominated jobs are often less 'professionalised' or afford shorter occupational ladders, all emerge from the case studies as important factors. Unsurprisingly, however, such instances are found to occur more frequently at the lower end of the occupational pyramid. Clear examples from the case studies are: office cleaners in Germany or the police in Slovenia for overt biases in job evaluation; home-based care workers in Italy or France for poor visibility of skills; the long-term care sector in Austria for insufficient 'professionalism' before the latest reform redefined the career ladder in the attempt to attract men.

In contrast, the possibility that occupations become devalued following feminisation is not clearly supported by evidence, but the cases in point are professional occupations such as doctors, magistrates or university teachers. These are largely public-sector jobs, a probable factor of protection from undervaluation.

Concerning pay discrimination, cross-country studies do not find that segregation is a significant contributing factor, while country-specific econometric analysis confirms that segregation between/within occupations and between sectors or industries accounts for a large share of discrimination.

This latter finding, however, cannot be taken to mean that all segregation implies pay inequality. One way to quantify the strength of the link between pay inequality and segregation is to break down indices of segregation into a component accounted for by pay inequality — call it vertical — and a neutral component. The decomposition that has been carried out here uses EU-SILC data on employment and hourly pay by occupation, and it finds that the vertical component is lower than the neutral component as it totals between one third and nine tenths of the latter in 17 out of the 22 countries included in the calculations.

Following the proposal of the European Foundation for the Improvement of Living and Working Conditions, four main dimensions of job quality have been considered: career and employment security; health and well-being of workers; reconciliation of paid work and family or personal life; skills development. Concern about differences in job quality partly overlaps with the fears raised in the debate on labour market segmentation that the unequal distribution of secure and stable jobs may be exacerbated by segregation.

Analysis of selective indicators for these four dimensions of job quality indicates that, in addition to pay, important asymmetries in favour of men still concern career prospects and access to managerial and supervisory positions, while women are much less exposed to long working hours. All of these asymmetries are channelled via occupational segregation to a greater or lesser extent.

Gender differences are rather contained in other job dimensions, specifically the distribution of fixed-term contracts, non-standard hours, opportunities for skills development within occupations, and the chances of transiting from temporary to stable employment. With specific reference to successful transition out of temporary employment, the indicator used here is the number of countries where the rate of successful transitions for a given occupational group between 2004 and 2005 was higher than the economy-wide average. The findings are that, if anything, the number of successful cases (occupations with a transition rate above the national average)

is marginally higher for prevalently female occupations, probably reflecting the fact that occupations where employment is declining are more often male dominated.

However, modest differences between female and male workers in some of the selected dimensions of job quality do not justify policy complacency. First, differences are still pronounced for some occupations or countries, although they are contained for the EU as a whole. Also, the finding that fixed-term contracts are more or less equally distributed between the sexes does not make them more acceptable; nor does it cancel the risk that uncertainty about future employment prospects may hinder fertility among the many young women on fixed contracts.

Segregation may oppose efficient reallocation of labour supplies, male and female. Both Cedefop projections and national reports indicate that skill and labour shortages are likely to affect mixed occupations less than male- or female-dominated occupations in the medium run. Instances of (broad) male-dominated occupational groups for which shortages are anticipated include plant and machine operators and assemblers, senior officials, managers and legislators, and craft and related workers. Female-dominated occupational groups where shortages are expected feature service workers and sales workers, clerical workers and elementary occupations (including care workers with low levels of qualification) and professionals or associate professionals (including qualified care workers such as nurses).

Also, a degree of polarisation is emerging in the pattern of future skill needs, with growing occupations at the lower end of the (recognised) skill spectrum, such as sale workers, unbalanced in favour of female employment, and growing occupations at the top end of the spectrum unbalanced in favour of male-dominated jobs, for example computing. This adds cogency to the need for de-segregation, because the latter can favour redistribution of labour supply flows and of opportunities for the development of higher skills. For this to happen, however, de-segregation must be pursued by attracting men into feminised areas such as care work as well as by facilitating women's advancement in managerial professions or growing technical occupations.

Policy issues

Policies to tackle segregation have a long-standing tradition in relatively few Member States, primarily the Scandinavian countries, the UK, France, the Netherlands and Germany. The southern European countries are still grappling with low female participation. Their policy interest lies less with specific de-segregation policies than with general provisions for the reconciliation of work and family life. For eastern European and other new Member States the debate on segregation is generally very recent, or there is hardly any policy debate.

Given that policies favouring reconciliation are discussed extensively in recent reports for this network, attention here is focused on societal and labour market provisions implemented by Member States. The former include events to raise awareness of gender segregation, educational programmes to counter stereotypes in school and in the media, and communication initiatives to fight stereotypes and spread information among the general public. Labour market provisions include training and the countering of skill and labour shortages; they also include programmes to identify and oppose biases in job evaluation procedures, pay systems and in other organisational practices concerning selection, recruitment, career ladders and job assignments.

Most of the countries with the longest traditions of de-segregation policies — Denmark, Finland, Germany, Iceland, the Netherlands and Sweden — show willingness to address the 'early in life' roots of segregation by investing in 'motivational events' or in educational programmes designed to positively encourage 'atypical' choices among young boys and girls, and to promote new role models. While similar initiatives in the past were actually one-sided as they primarily encouraged girls to enter male areas of work or take up male models, recent initiatives also purport to encourage boys to enter female areas of work like teaching or caring. An additional difference with the past is that some of these initiatives directly involve private firms. Inspiring examples include the parallel information campaigns labelled 'Girls' Day' and 'New pathways for boys' in Germany, educational events like 'Strong women — Complete men', 'Women's occupations — Men's occupations' or the 'Father's Day' in Liechtenstein and Switzerland.

At European level, training remains the most popular policy option to counter segregation. Female and male employees participate in vocational training course on a fairly equal basis, although women receive, on average, 10 % less in hours of training. However, 10 Member States are reported to have recently implemented training programmes specifically devoted to counter segregation — Austria, Belgium, Finland, France, Germany, Greece, Norway, Portugal, Sweden and the UK. The total number of countries with targeted training initiatives is probably larger because training programmes are known to have low visibility, especially in those countries where the primary responsibility for training rests with private firms or educational institutions.

Unlike for training, few countries have a tradition in job evaluation that can be used to redress the undervaluation of women's jobs. Among them are Belgium, Finland, Germany, the Netherlands, Norway, Sweden and the UK. In Belgium, only a few sectors have actually implemented the gender-neutral analytical job classification method that has been developed and tested, while it is still too early to assess the results of a fresh initiative in Germany

directed at the public sector. Specific software has been developed in the Netherlands and Norway to help companies (and individuals) check whether actual wages comply with gender-neutral job evaluation procedures, but there may be limitations to the effectiveness of these tools.

Certification can also be used to fight the poor visibility, and thus undervaluation, of 'female' skills. However, only two initiatives in this sense are reported, respectively for home-care workers in France and for women returners in Liechtenstein. Provisions to address biases in organisational practices other than job evaluation or certification of skill are also rare.

The Norwegian success story for quotas in company boards has revitalised interest in such positive actions since 2006. This success has prompted the introduction of quotas in Greece, as well as opening up such a possibility in Austria and the Netherlands, but the scope and expected efficacy are far more limited.

Effectiveness is the ultimate test for policies, but the provisions implemented to redress segregation do not always pass this test because of poor design or poor implementation. As a general rule, segregation policies suffer from poor coordination, targeting, monitoring and follow-up. The picture that is offered by the national reports is, at its very best, that of a wealth of initiatives still in search of an effective, coordinated strategy. This is also the conclusion of an investigation conducted by the Trade and Industry Committee for the UK. The scope and resilience of the phenomenon has not facilitated coordinated action, but a lack of strong policy motivation is certainly to blame.

Some policies fare better than others. Not training, which attracts two important criticisms. The first is that general training provisions have reinforced segregation, while specific provisions asked women, rarely men, to change, often encouraging the former to enter areas that men were quitting in search for better opportunities — for example manual, technical work in manufacturing. In the past, this lopsided approach to training may have been partly justified by the fact that women were still a labour reserve in many countries, and labour or skill shortages arose primarily in male-dominated occupations. With 10 member countries near or above the 70 % mark in female participation, coupled with the fast growth of feminised services and care occupations, this is no longer justified.

In order for men to be encouraged to enter female areas of work and taught to value traditional feminine skills, it is important to invest more in motivational events, media and educational campaigns since early ages. There are historical examples of dramatic change in gender stereotypes in response to massive public campaigns, for example during the Second World War. However, pay is a strong incentive to overcome stereotypes, and evidence from case studies strongly supports the contention that the most effective way to attract men to female areas of work is to find ways to raise the pay.

Undervaluation of women's work is difficult to tackle directly and, as seen, is of primary concern among low-pay workers. The important and common finding in two countries conducting specific investigations on potential biases of job evaluation schemes — the Netherlands and Finland — is that job evaluation systems themselves are not the cause of gender pay differences; rather, incorrect implementation of these systems is to blame. This calls for monitoring rather than redesigning such systems.

Certifying skill and redesigning career ladders in feminised, poorly paid areas of work such as caring may also contribute to fight undervaluation, although there is still not enough evidence for sound assessment. However, any attempt to fight undervaluation is bound to fail if it ignores the issue of migration. As exemplified by the experience of migrant workers in elderly care in Italy, Greece or Spain, resorting to cheap migrant labour can interfere with attempts to challenge occupational segregation or undervaluation of care jobs.

In high-paid, professional jobs, re-segregation within lower-paid niches and/or glass ceiling barriers are the key concerns. In these cases a definite shift of focus towards organisational practices and away from supply-side explanations is promising. Standardised, transparent procedures for selection, hiring and promotion have proven to reduce bias against women. In the wake of the latest Norwegian examples, quotas should be reconsidered for decision-making positions.

Gender-based employment segregation is still widespread. Not all of it heightens disparities in pay or job quality between men and women, but some of it does, and the extent to which this occurs depends significantly on the prevailing institutions and culture. Thus, any successful attempt to address segregation ought to rely on policies that define clear targets and that are country-specific to an extent. However, a common set of principles for an effective policy approach to segregation has emerged from past policy experience of the Member States as well as from current research, and can be summarised as follows.

At the analysis stage, the quantitative indications that indices of segregation afford on the level and change in segregation should be used with caution, since a trade-off between decreasing segregation and increasing female employment may arise in the short and medium term.

Concerning the choice of policies, the latest research suggests three main priorities. First, reconciliation provisions should be given a central place since choice of working hours is still important for the occupations that men and women enter. Second, the policy focus should be shifted

from individual gender differences on the supply side to the way organisations work and, in particular, to persisting biases in organisational practices for selection, hiring and promotion, skill recognition, structuring of career tracks, job and skill evaluation. Third, stereotypes should be fought by pursuing change in the attitudes, choices and actual competences of men, not only those of women.

Current or foreseen skill and labour shortages in male- and female-dominated employment areas add reasons to de-segregation. However, this new policy objective requires an integrated approach that, while relying on training, also invests in educational programmes and media initiatives that engage with attitudes early in life.

Two broader policy issues are important for de-segregation: low pay and immigration. Any attempt to rebalance men's and women's representation at the bottom end of the employment and pay pyramid will be stifled if low pay is not addressed or if potential conflicts and synergies between de-segregation and reliance on migrant workers are not evaluated.

Finally, it is especially important to monitor initiatives and ensure follow-up in programmes addressing segregation, since many initiatives in the past failed as a result of not doing so. In view of the current fragmentation of programmes, it is equally important to ensure effective coordination among the different initiatives.

RÉSUMÉ

L'objectif de ce rapport est d'analyser la ségrégation de l'emploi basée sur le genre en Europe, aussi bien au niveau des secteurs que des professions. Il fournit une analyse comparative des tendances de la ségrégation dans les 27 États membres ainsi qu'en Norvège, en Islande et au Liechtenstein, et examine les causes profondes de ce phénomène, ses conséquences, ainsi que les politiques en la matière, aussi bien celles actuelles que celles qui seraient souhaitables.

La ségrégation de l'emploi basée sur le genre est un phénomène tellement omniprésent qu'on a multiplié les distinctions afin de faciliter son analyse: ségrégation professionnelle versus ségrégation sectorielle, ségrégation générale ou horizontale versus ségrégation verticale, ségrégation verticale versus ségrégation hiérarchique. Par «ségrégation horizontale» on entend une sous- (sur-) représentation d'un groupe donné au sein de professions ou de secteurs qui n'est ordonnée selon aucun critère et auquel on se réfère comme ségrégation tout court. La ségrégation verticale indique la sous- (sur-) représentation du groupe au sein de professions ou secteurs en suivant un ordre basé sur des attributs «désirables» — revenu, prestige, stabilité de l'emploi, etc. Enfin, la ségrégation hiérarchique est définie comme une sous- (sur-) représentation du groupe à des échelons hiérarchiques spécifiques. Toutes les formes de ségrégation de genre sont prises en considération dans ce rapport, quoique la ségrégation générale et verticale au sein des professions focalise le plus l'attention.

La première partie de ce rapport examine les niveaux et le changement dans la ségrégation générale dans les pays européens (chapitre 1). Viennent ensuite les facteurs les plus importants qui affectent la ségrégation (chapitre 2) et l'analyse des trois implications principales de la ségrégation de genre, c'est-à-dire la sous-évaluation du travail des femmes, le confinement dans des emplois de «basse qualité» et les pénuries de compétences (chapitre 3). Les politiques sont passées en revue et évaluées dans le chapitre 4. La deuxième partie du rapport résume les points les plus importants d'études de cas conduites au niveau national sur 10 groupes de professions, les résultats de ces recherches étant mis en évidence tout au long de ce rapport.

Persistance et changement de la ségrégation en Europe

Trois indices sont utilisés pour mesurer la ségrégation et en suivre l'évolution au cours du temps, respectivement les indices Karmel et MacLachlan (indice IP), l'indice de dissimilarité (indice ID) et la classification des professions selon les critères de dominance (féminine, mixte ou masculine). La source de données de référence est l'enquête européenne sur les forces de travail.

En termes de pourcentage, l'indice IP varie entre 0 et 50. Il est l'indicateur actuellement utilisé pour le suivi de la ségrégation de genre au sein de la stratégie européenne pour l'emploi et peut être interprété comme étant la part de la population employée qui devrait changer de profession (ou de secteur) afin d'assurer une distribution équitable des hommes et des femmes au sein des professions (ou des secteurs). L'indice ID a une interprétation similaire mais varie de 0 à 100 en pourcentage, car le changement de profession requis pour rendre équitable la distribution de l'occupation est attribué uniquement à un sexe, hommes ou femmes. Les trois indices utilisés donnent généralement les mêmes résultats en termes de classement des pays par niveau de ségrégation ou de l'évolution de celle-ci au fil du temps.

Selon l'indice IP, pour l'Union européenne (UE) dans son ensemble, la ségrégation est toujours relativement élevée, atteignant un niveau de 25,3 % pour la ségrégation professionnelle et de 18,3 % pour la ségrégation sectorielle. Toutefois, de larges différences persistent entre les pays, avec un écart d'environ 10 points entre les pays les plus ségrégués et les pays les moins ségrégués.

Quel que soit le type de ségrégation prise en considération (professionnelle ou sectorielle), on retrouve respectivement les mêmes 4 pays dans le groupe à haute ségrégation et les mêmes 4 pays dans le groupe à faible ségrégation. Les 4 pays à haute ségrégation sont l'Estonie, la Slovaquie, la Lettonie et la Finlande, tandis que les 4 pays à faible ségrégation sont la Grèce, la Roumanie, Malte et l'Italie. La célèbre opposition des années 90 entre les pays nordiques à haute ségrégation et les pays méditerranéens à faible ségrégation a été remplacée par une opposition similaire entre (une partie des pays de) l'Est et (une partie des pays de) la Méditerranée.

Au total, les indices de ségrégation au sein des professions ont peu évolué entre 1992 et 2000, aussi bien pour l'EU-15 que pour l'EU-27. Toutefois, une légère tendance à la hausse est détectable pour la dernière décennie et est plus prononcée pour la ségrégation sectorielle. Ce changement modeste sur l'ensemble cache toutefois des tendances contrastées au niveau des pays. L'Autriche, la République tchèque, le Danemark, la Norvège, la Suède et le Royaume-Uni ont expérimenté une désségrégation relativement rapide, avec des baisses de l'indice IP allant de 2,8 à 1,5 point entre 1997 et 2007. Par contre, la ségrégation a augmenté en Bulgarie, en Irlande, en Italie, en Lettonie, en Roumanie et en Espagne. Dans tous ces pays à l'exception de la Roumanie, l'augmentation de la ségrégation s'est faite parallèlement à une croissance du taux d'emploi des femmes qui a été supérieure à la moyenne européenne, surtout en ce qui concerne l'Espagne et l'Irlande qui ont obtenu des résultats impressionnants. Nous aborderons plus loin la relation entre ségrégation et croissance du taux d'emploi.

À l'exception de 4 pays, la part des professions mixtes a augmenté durant la dernière décennie dans tous les pays où les indices de ségrégation ont décliné, et inversement. De plus, dans la plupart des pays, le changement a plus touché les professions à dominante masculine que celles à dominante féminine, la part de ces premières ayant proportionnellement davantage diminué.

La décomposition de l'indice de dissimilarité en une composante structurelle, un ratio hommes/femmes et une composante résiduelle suggère qu'à court terme aussi bien la structure des professions — c'est-à-dire leurs poids respectifs sur le total des professions — que la distribution par sexe des professions contribuent au changement global de la ségrégation, souvent (mais pas toujours) dans la même direction. À long terme, toutefois, le changement dans la distribution par sexe des professions tend à devenir la composante principale. Donc, la baisse à long terme de la ségrégation dépend en fin de compte de la réalisation d'une représentation plus équilibrée des femmes au sein de chaque profession.

En dépit de cela, il est démontré que des augmentations significatives du taux d'emploi des femmes peuvent mener à l'augmentation du niveau de ségrégation à court et moyen terme. Un arbitrage temporaire peut donc exister entre l'objectif d'augmenter le taux d'emploi des femmes et celui de favoriser la déségrégation.

Les résultats des études de cas aident à clarifier les microdynamiques gouvernant les relations entre ségrégation et emploi à court et long terme. À court et moyen terme, il peut être plus facile pour les femmes d'entrer là où le taux général d'emploi augmente, gonflant parfois une part féminine déjà très importante et augmentant ainsi la ségrégation. Toutefois, quand les flux sont suffisamment importants, certaines femmes finissent aussi dans des niches professionnelles relativement masculines à partir desquelles elles peuvent se diversifier à long terme, rééquilibrant par conséquence la distribution par sexe.

Les causes profondes de la ségrégation

Le débat sur les racines profondes de la ségrégation entre les sexes sur le marché de l'emploi date des années 70, mais demeure le point de référence jusqu'à nos jours, malgré le fait que beaucoup de choses ont changé depuis. Après des décennies de recherches, la plupart des spécialistes seraient d'accord pour dire qu'il n'existe pas un facteur unique expliquant cette ségrégation, et que cette dernière peut mener à une discrimination dans la rémunération.

Les facteurs clés identifiés dans la littérature volumineuse sur la ségrégation sont les avantages biologiques comparatifs, le sous-investissement en capital humain (l'éducation et la formation), les différences de rôle (apport de revenu), les préférences et les préjudices, la socialisation et les stéréotypes, les barrières à l'entrée et les pratiques organisationnelles.

Étant donné le renforcement général de la législation sur l'égalité de traitement durant ces dernières années, les avancées impressionnantes dans le niveau d'éducation des femmes, la perte progressive de l'importance des attributs physiques pour la productivité, le changement des rôles familiaux et, enfin, la remise en cause par le féminisme des normes de genre traditionnelles, les recherches récentes ont permis à la fois de limiter la liste des facteurs potentiellement pertinents identifiés dans le passé et de nuancer les explications originelles.

Dans la recherche récente la priorité est donnée à 4 types de facteurs: le choix de la filière d'étude; les stéréotypes; la demande d'horaires de travail plus courts et plus flexibles (à cause de l'inégale répartition du poids des charges familiales et de la disparité des revenus suivant les rôles); les barrières cachées ainsi que les tendances dans les pratiques organisationnelles, y compris les procédures de négociation collective.

Il existe des preuves statistiques, même si elles sont limitées, ainsi que certaines preuves qualitatives (étude de cas) qui montrent que le domaine des études influence toujours le type de profession dans laquelle hommes et femmes entreront. Durant les 15 dernières années, il apparaît qu'une plus grande diversification des choix dans l'éducation tertiaire a précédé la déségrégation de l'emploi dans les pays de l'EU-15. Ceci n'est pas valable pour les pays de l'Europe centrale et orientale, dans lesquels la distribution des hommes et des femmes dans les domaines de l'enseignement (supérieur) s'est récemment équilibrée, sans que ceci ait conduit à une distribution plus équilibrée au sein des professions. Une des raisons est que la correspondance entre domaine d'études et profession n'est suffisamment proche que pour 10 % environ des emplois seulement, ceux dans les professions agréées comme les médecins, les enseignants, les avocats, les comptables et ainsi de suite.

Les stéréotypes de genre sont omniprésents et continuent à influencer les comportements, mais il n'est pas très simple de préciser jusqu'à quel point ils représentent des préférences véritables, jusqu'à quel point ils expriment des normes sociales ou jusqu'à quel point ils sont utilisés comme substitut aux informations. Le rôle actuel que les stéréotypes jouent dans la ségrégation peut en effet être surestimé par les recherches qualitatives, car ils offrent une justification toute faite et socialement acceptable pour les décisions qui peuvent avoir été prises en se basant sur d'autres motifs. Par exemple, certains chercheurs soutiennent que l'association traditionnelle entre les femmes et le secteur des soins *(care)* est déterminante et explique en partie pourquoi certaines spécialités médicales comme la pédiatrie sont à dominance féminine. Cependant, quand

on a explicitement demandé aux hommes norvégiens pourquoi ils ne sont pas attirés par l'enseignement préprimaire, ils citent comme raison le bas salaire, et non la peur d'être associés à un rôle traditionnellement féminin. En général, les études de cas suggèrent que le rôle des stéréotypes est moins omniprésent parmi les jeunes travailleurs, aussi bien hommes que femmes.

La répartition inégale des charges familiales, et l'incapacité qui en découle à donner la priorité au travail, est à l'origine de la recherche d'horaires de travail plus courts et plus flexibles de la part des femmes. Parmi les femmes qualifiées (les «professionnelles»), cette recherche de niches professionnelles offrant des horaires plus commodes résulte souvent en une «reségrégation» au sein des professions ou entrave l'entrée dans des professions se caractérisant par des horaires et charges de travail assez élevés/irréguliers. Pour ce sous-groupe de femmes, la «reségrégation» du fait de la recherche d'horaires de travail plus opportuns peut être parfois pénalisante, mais a aussi mené à remettre en cause avec succès la culture des longues heures de travail, par exemple, parmi les médecins généralistes au Royaume-Uni (médecins de famille).

Quand la recherche d'horaires de travail plus courts résulte en un choix d'emploi à temps partiel, cela restreint encore plus le choix de la profession, surtout parmi les personnes moins qualifiées. Une très forte indication en ce sens est le fait que les niveaux de ségrégation mesurés augmentent de 15 à 30 points dans la très grande majorité des États membres (22 dans l'EU-25) quand les femmes travaillant à temps plein ne sont pas prises en considération dans les calculs, c'est-à-dire quand la distribution des hommes au sein des professions est comparée uniquement à celle des femmes travaillant à temps partiel plutôt qu'à celle de toutes les femmes employées.

Bien que les barrières légales à l'entrée des femmes et les pratiques restrictives soient depuis longtemps illégales, des préjudices voilés et d'autres formes d'obstacle continuent à sévir, souvent en limitant les parcours professionnels et les perspectives de carrière des femmes au sein des professions. Parmi les exemples qui comportent une importance particulière pour la ségrégation verticale ou hiérarchique, on peut citer le fait d'avoir des échelons plus rapprochés dans les carrières professionnelles féminisées, les mécanismes de cooptation et les pratiques managériales discrétionnaires pour la sélection, le recrutement et la promotion, qui favorisent de facto les hommes, ainsi que le manque de mise en réseau des ressources parmi les femmes. Tous ces mécanismes interagissent avec les différents types d'employeurs (grands et petits établissements; privé et public) pour modeler les formes de la ségrégation.

Il est toujours important de distinguer entre les professions à haut revenu et celles à bas revenu. Il est démontré que la plupart des facteurs qui favorisent la ségrégation sont en train de devenir moins importants parmi les plus jeunes contingents de femmes éduquées et professionnelles. Ceci est moins clairement le cas pour les femmes dans les professions à bas revenus.

Les implications de la ségrégation

L'attention portée aux conséquences de la ségrégation entre les sexes dans les cercles de la recherche et des politiques s'est traditionnellement focalisée sur les inégalités de salaires, y compris la sous-évaluation du travail des femmes et de la discrimination. Bien que le salaire reste un élément central, d'autres éléments de conditions de travail, comme la sécurité de l'emploi, les risques pour la santé ou les possibilités de concilier travail et vie familiale, sont des composantes importantes de la qualité des emplois et, à cause de la ségrégation, peuvent être différenciés selon le sexe des employés (hommes ou femmes). Récemment, la ségrégation a aussi été mise en question, parce qu'elle menace d'exacerber la carence de compétences et de main-d'œuvre *(skills shortages)*.

Les cas de sous-évaluation des emplois des femmes (par rapport à ceux des hommes) sont toujours assez communs. Des disparités persistantes et évidentes dans les pratiques d'évaluation professionnelle, des disparités voilées qui dérivent de la façon dont les procédures d'évaluation des professions sont réalisées, la très faible visibilité des compétences féminines, le fait que les emplois à prédominance féminine sont souvent moins «professionnalisés» ou ont des échelons professionnels plus courts, tout cela émerge des études de cas comme étant des facteurs importants. Toutefois, il n'est pas surprenant que ces cas se retrouvent plus fréquemment dans la partie inférieure de la pyramide professionnelle. De clairs exemples résultant des études de cas sont: les femmes de ménages dans les bureaux en Allemagne ou dans la police en Slovénie en ce qui concerne les disparités dans l'évaluation des professions; les travailleuses du domaine de la santé à domicile en Italie ou en France pour la faible visibilité des compétences; le secteur des soins à long terme en Autriche pour «professionnalisme» insuffisant (jusqu'à ce que la dernière réforme ait redéfini les échelles des carrières dans le but d'attirer les hommes).

En revanche, la possibilité que les professions se dévaluent à la suite de leur féminisation ne peut pas être démontrée, mais les cas concernés sont les professions comme les médecins, les magistrats ou les enseignants universitaires. Ce sont largement des emplois du secteur public, un facteur probable de protection contre la sous-évaluation.

En ce qui concerne la discrimination salariale, les études transnationales ne prouvent pas que la ségrégation est un facteur significatif contribuant à ce phénomène; en revanche, les analyses économétriques spécifiques à chaque pays confirment que la ségrégation au sein des professions et entre elles et entre les secteurs est responsable d'une grande partie de la discrimination.

Toutefois, ce dernier résultat ne signifie pas que toutes les ségrégations impliquent automatiquement une inégalité salariale. Une façon de quantifier la force du lien entre inégalité salariale et ségrégation est de décomposer les indices de ségrégation en une composante responsable de l'inégalité salariale — appelons-la «verticale» — et en une composante neutre. Cette décomposition a été menée sur la base des données EU-SILC sur l'emploi et le salaire horaire selon les professions, et il en résulte que la composante verticale est plus faible que la composante neutre puisqu'elle vaut entre un tiers et neuf dixièmes de cette dernière dans 17 des 22 pays inclus dans le calcul.

Faisant suite à la proposition de la Fondation européenne pour l'amélioration des conditions de vie et de travail, quatre dimensions principales de la qualité de l'emploi ont été prises en considération: la sécurité de la carrière et de l'emploi; la santé et le bien-être des travailleurs; la conciliation entre emploi et vie familiale ou privée; le développement des compétences. Les interrogations concernant les différences dans la qualité de l'emploi se superposent partiellement au débat sur la segmentation du marché du travail, la question étant de savoir si la distribution inégale d'emplois sûrs et stables peut être exacerbée par la ségrégation.

L'analyse des indicateurs sélectionnés pour ces quatre dimensions de la qualité de l'emploi indique que, en plus du salaire, il existe d'importantes asymétries en faveur des hommes en ce qui concerne les perspectives de carrières ainsi que l'accès à des positions managériales et de supervision, tandis que les femmes sont beaucoup moins exposées à de longs horaires de travail. Toutes ces asymétries passent, dans une plus ou moins grande mesure, par la ségrégation au sein des professions.

Dans les autres dimensions de la qualité de l'emploi, les différences entre les sexes sont plutôt limitées, et plus particulièrement dans la distribution des contrats à durée déterminée, des horaires non standard, des opportunités de développement des compétences au sein des professions, et dans les possibilités de passer d'un emploi temporaire à un emploi stable. Faisant plus spécifiquement référence à la transition vers un emploi stable, l'indicateur utilisé ici est le nombre de pays dans lesquels le taux de transition réussie pour un groupe professionnel donné entre 2004 et 2005 était plus élevé que pour la moyenne de l'économie dans son ensemble. Le résultat marquant est plutôt que le nombre de cas couronnés de succès (ayant un taux de transition supérieur à la moyenne nationale) soit marginalement plus élevé pour les professions à prédominance féminine, ce qui reflète probablement le fait que les professions au sein desquelles le taux d'emploi décline sont plus souvent à prédominance masculine.

Toutefois, le fait que les différences entre hommes et femmes dans certaines des dimensions de la qualité de l'emploi soient faibles ne signifie pas que les politiques ne devraient pas s'y intéresser. Tout d'abord, les différences sont toujours très marquées pour certaines professions et pour certains pays, bien qu'elles soient assez limitées pour l'Union européenne dans son ensemble. Aussi, avoir découvert que certains contrats à durée déterminée sont répartis de façon assez égale entre les sexes ne les rend pas pour autant plus acceptables ni n'annule le risque que l'incertitude concernant les perspectives futures d'emploi puisse freiner la fécondité de beaucoup de jeunes femmes travaillant avec des contrats à durée déterminée.

La ségrégation peut être un obstacle à la réallocation efficace de la main-d'œuvre, tant masculine que féminine. Il est clairement démontré, sur la base des projections du Centre européen pour le développement de la formation professionnelle (Cedefop) comme dans les rapports nationaux, que les carences de compétences et de main-d'œuvre affecteront moins à moyen terme les professions mixtes que les professions à prédominance masculine ou féminine. Des exemples de groupes professionnels à (large) prédominance masculine pour lesquels on anticipe des carences comprennent des opérateurs d'usine et des assembleurs de machines, des cadres supérieurs, des managers et des législateurs ainsi que des artisans. Les groupes professionnels à prédominance féminine pour lesquels on s'attend à avoir des carences sont les vendeuses et les employées du tertiaire, les employées de bureau et les professions élémentaires — y compris les travailleuses à faible niveau de qualification dans le secteur de la santé — ainsi que les professionnelles ou les professionnelles associées — y compris les professionnelles qualifiées du secteur de la santé, telles les infirmières.

De plus, une certaine polarisation est en train d'émerger dans la prévision des futurs besoins de compétences, avec un nombre croissant de professions dans la partie basse des gammes (reconnues) de compétences, comme le domaine de la vente, qui connaît un déséquilibre en faveur de l'occupation féminine, et un nombre croissant de professions situées dans la partie supérieure de cette gamme et qui connaît un déséquilibre en faveur des emplois à prédominance masculine, par exemple l'informatique. Cela confirme encore plus le besoin de déségrégation, car elle peut favoriser la redistribution des flux de main-d'œuvre ainsi que des opportunités pour le développement de meilleures compétences. Toutefois, si cela devait arriver, la déségrégation devra être menée dans les deux directions, aussi bien en attirant les hommes dans des filières féminisées comme l'assistance sanitaire, qu'en facilitant ultérieurement l'accès des femmes à des professions managériales ou à des professions techniques en expansion.

Les politiques

Les politiques de lutte contre la ségrégation n'ont une longue tradition que dans relativement peu d'États membres, principalement les pays scandinaves, le

Royaume-Uni, la France, les Pays-Bas et l'Allemagne. Les pays du Sud de l'Europe se concentrent plutôt sur la participation des femmes au marché du travail à travers des mesures générales pour la conciliation entre vie professionnelle et vie familiale plutôt que des politiques spécifiques de déségrégation. Pour les pays de l'Europe de l'Est et pour quelques autres États membres, le débat sur la ségrégation n'existe quasiment pas ou est très récent.

Étant donné que les politiques de conciliation entre vie professionnelle et vie privée sont beaucoup discutées dans de récents rapports du réseau d'experts, l'attention est ici focalisée sur les mesures «sociétales» et sur celles concernant le marché du travail qui sont mises en œuvre par les États membres. Les mesures «sociétales» incluent les mesures générales dont le but est de sensibiliser l'opinion sur la ségrégation entre les sexes, les programmes éducatifs pour combattre les stéréotypes à l'école et dans les médias, et des initiatives de communication pour lutter contre les stéréotypes et pour la diffusion d'informations parmi le grand public. Les mesures concernant le marché du travail incluent la formation ainsi que la lutte contre la carence de compétences et de main-d'œuvre; elles incluent aussi des programmes pour l'identification et la lutte contre les préjugés durant les procédures d'évaluation des professions, des systèmes de paie et au sein d'autres pratiques organisationnelles qui concernent la sélection, le recrutement, les échelons de carrières et les tâches professionnelles.

La plupart des pays ayant les plus longues traditions en matière de politiques de déségrégation — Danemark, Allemagne, Finlande, Islande et Pays-Bas — montrent la volonté d'affronter la ségrégation à un stade précoce de la vie en investissant dans des «événements motivationnels» ou dans des programmes éducatifs conçus pour encourager de façon positive les choix «atypiques» parmi les jeunes filles et garçons, et de promouvoir de nouveaux modèles à imiter. Tandis que des initiatives similaires dans le passé étaient asymétriques, parce qu'elles encourageaient principalement les filles à entrer dans des filières professionnelles masculines ou de copier des modèles masculins, les initiatives récentes ont aussi pour objectif d'encourager les jeunes garçons à entrer dans des filières professionnelles féminines comme l'enseignement ou les soins de santé. Une autre différence avec le passé est que certaines de ces initiatives voient la participation directe des entreprises privées. Un bon exemple est celui des campagnes d'information parallèles intitulées *Girls' Day* (journée des filles) et *New Pathways for Boys* (nouveaux parcours pour les garçons) en Allemagne.

Au niveau européen, la formation reste l'option politique la plus courante pour lutter contre la ségrégation. Les taux de participation des (employés) hommes et femmes aux formations professionnelles sont proches mais les femmes reçoivent en moyenne 10 % d'heures de formation en moins. Toutefois, il faut signaler que 10 États membres ont récemment mis en œuvre des programmes de formation gouvernementaux spécialement consacrés à la lutte contre la ségrégation (Autriche, Belgique, Finlande, France, Allemagne, Grèce, Norvège, Portugal, Suède et Royaume-Uni). De plus, le nombre total de pays ayant des initiatives de formation ciblée est probablement plus grand car les programmes de formation ont parfois une faible visibilité, surtout dans les pays où la responsabilité principale de la formation reste la prérogative d'entreprises privées ou d'institutions éducatives.

Contrairement à ce qui se passe pour la formation, peu de pays ont une tradition d'action sur les pratiques d'évaluation des professions pour redresser la sous-évaluation des emplois des femmes. Parmi ces pays on compte la Belgique, l'Allemagne, les Pays-Bas, le Royaume-Uni, la Finlande et la Norvège. En Belgique, peu de secteurs ont mis en œuvre les méthodes de classification des emplois analytique et non sexiste qui ont été développées et testées, tandis qu'il est encore trop tôt pour évaluer les résultats d'une récente initiative destinée au secteur public qui a été réalisée en Allemagne. Des logiciels spécifiques ont été développés aux Pays-Bas et en Norvège afin d'aider les entreprises (et les particuliers) à vérifier si les salaires actuels sont conformes aux procédures équitables et impartiales d'évaluation des professions, mais il peut y avoir des limites à l'efficacité de ces outils.

La certification des compétences peut aussi être utilisée pour lutter contre la faible visibilité, et donc contre la sous-évaluation, des compétences «féminines». Toutefois, seulement deux initiatives semblent avoir été prises en ce sens, respectivement pour les assistantes à domicile dans le domaine de la santé en France et pour les femmes réintégrant le marché du travail au Liechtenstein. Les mesures prises pour faire face aux disparités au sein des pratiques organisationnelles autres que l'évaluation des professions ou que la certification des compétences sont rares.

La réussite norvégienne concernant les quotas dans les conseils d'administration des entreprises a revitalisé, dès 2006, l'intérêt pour de telles actions positives. Ce succès a suscité l'introduction de quotas en Grèce et fait entrevoir cette possibilité en Autriche et aux Pays-Bas, mais l'envergure et l'efficacité prévues sont beaucoup plus limitées.

L'efficacité est le test ultime de ces politiques, mais les mesures mises en œuvre afin de lutter contre la ségrégation ne passent pas toujours ce test du fait de la faiblesse de leur conception ou de leur mise en œuvre. En règle générale, les politiques sur la ségrégation pâtissent de niveaux de coordination, d'objectif, de monitorage et de suivi assez faibles. L'image qui nous est offerte par les rapports nationaux est, dans le meilleur des cas, celle d'un grand nombre d'initiatives manquant de stratégie coordonnée et effective. Cela est aussi la conclusion d'une enquête réalisée par The Trade and Industry Committee for the UK (Comité du commerce et de l'industrie

pour le Royaume-Uni). L'étendue et la résistance de ce phénomène n'ont pas facilité la réalisation d'une action coordonnée, mais un manque de forte volonté politique est certainement à souligner.

Certaines mesures politiques fonctionnent mieux que d'autres. Ce n'est pas le cas pour la formation, à laquelle on peut faire deux importantes critiques. La première est que les mesures générales pour la formation ont renforcé la ségrégation, tandis que des mesures spécifiques ont demandé aux femmes, et rarement aux hommes, de changer, en encourageant souvent les femmes à entrer dans des filières que les hommes étaient en train d'abandonner afin de chercher de meilleures opportunités — par exemple, les travaux manuels et techniques dans le domaine de la fabrication. Dans le passé, cette approche asymétrique de la formation pouvait être partiellement justifiée par le fait que les femmes étaient une réserve de main-d'œuvre dans plusieurs pays et que les carences de main-d'œuvre et de compétences se vérifiaient principalement dans des professions à prédominance masculine. Avec 10 États membres avoisinant ou étant au-dessus de la barre des 70 % de participation des femmes et une croissance rapide des services féminisés et du secteur des soins, cette approche n'est plus justifiable.

Afin que les hommes soient encouragés à entrer dans des filières et des emplois féminisés et qu'ils soient formés à y évaluer les compétences, il est important d'investir davantage dans les événements motivationnels et dans des campagnes médiatiques et éducatives dès le plus jeune âge. Il existe des exemples historiques de changements majeurs dans les stéréotypes de genre en réponse à de massives campagnes publiques, par exemple durant la Seconde Guerre mondiale. Toutefois, le salaire est un fort encouragement à surmonter les stéréotypes, et les éléments émergeant des études de cas soutiennent fortement l'affirmation suivante: le moyen le plus efficace d'attirer des hommes dans des filières professionnelles féminines est d'augmenter le salaire.

La sous-évaluation du travail des femmes est difficile à affronter directement et, comme nous l'avons déjà vu, est une préoccupation principale parmi les travailleurs à bas revenus. Le résultat important et commun à deux pays menant des enquêtes spécifiques sur les disparités potentielles dans les procédés d'évaluation des professions — les Pays-Bas et la Finlande — est que les systèmes d'évaluation des professions eux-mêmes ne sont pas la cause de la disparité des salaires entre les deux sexes; ce serait plutôt la mise en œuvre incorrecte de ces systèmes qui en est la cause. Il faudrait donc faire un meilleur monitoring plutôt que de reconcevoir ces systèmes.

La certification des compétences et la réorganisation des échelles des carrières dans les filières professionnelles féminisées à bas salaire (comme les soins) peuvent aussi contribuer à lutter contre la sous-évaluation, bien qu'il n'y ait toujours pas assez d'éléments pour dresser une réelle évaluation. Toutefois, toute tentative de lutter contre la sous-évaluation des professions féminisées échouera si elle ignore le problème de la migration. Comme illustré par l'expérience des travailleurs immigrés du secteur des soins aux personnes âgées en Italie, en Grèce ou en Espagne, le recours à la main-d'œuvre immigrée bon marché peut entrer en opposition avec les tentatives de faire face à la ségrégation professionnelle ou à la sous-évaluation des emplois de ce secteur.

Au sein des professions bien rémunérées, les principales préoccupations sont la «reségrégation» dans des niches à bas revenu et/ou des barrières de type «plafond de verre». Dans ce contexte, l'accent mis sur les changements de pratiques organisationnelles (plutôt que les explications basées sur l'offre), est prometteur. Des procédures standardisées et transparentes de sélection, de recrutement et de promotion ont prouvé leur efficacité pour réduire les inégalités au détriment des femmes. Dans le sillage des derniers exemples venant de Norvège, les quotas devraient être reconsidérés pour les postes à prise de décision.

La ségrégation entre les sexes au sein des professions est un phénomène encore répandu. Elle ne débouche pas systématiquement sur des inégalités de salaire ou de qualité de l'emploi, mais cela reste vrai dans un certain nombre de cas. L'étendue de ce phénomène dépend de manière significative des institutions en vigueur et de la culture dominante. Ainsi, toute tentative réussie de lutte contre la ségrégation devrait pouvoir compter sur des politiques définissant des objectifs clairs et qui, dans une certaine mesure, sont liées aux spécificités des pays. Toutefois, un ensemble commun de principes pour une approche politique effective et efficace à la ségrégation s'est dégagé des précédentes expériences politiques des États membres ainsi que de la recherche et peut être résumé comme suit.

Au stade de l'analyse, les indications quantitatives que les indices de ségrégation fournissement sur le niveau et l'évolution dans la ségrégation devraient être utilisées avec précaution, vu qu'un arbitrage entre la diminution de la ségrégation et l'augmentation du taux d'emploi féminin peut exister à court et à moyen terme.

En ce qui concerne le choix des politiques à mettre en œuvre, les dernières recherches suggèrent trois priorités principales. Premièrement, il faut accorder une place centrale aux mesures de conciliation de la vie privée et professionnelle, vu que le choix des horaires de travail demeure important pour les professions dans lesquelles les hommes et les femmes entrent. Deuxièmement, l'attention devrait davantage se concentrer sur la façon dont les organisations travaillent plutôt que sur les différences de genre individuelles considérées du point de vue de l'offre et, en particulier, se concentrer sur les disparités

persistantes au sein des pratiques organisationnelles pour la sélection, le recrutement et la promotion, sur la reconnaissance des compétences, la structuration des parcours de carrières, sur l'évaluation des emplois et des compétences. Troisièmement, il faut lutter contre les stéréotypes en continuant dans la voie du changement des attitudes, des choix et des compétences des hommes, et non seulement dans celui des femmes.

Les carences en compétence et en main-d'œuvre actuelles et prévues dans les filières professionnelles à prédominance masculine ou féminine fournissent d'autres bonnes raisons pour réaliser la déségrégation. Toutefois, ce nouvel objectif politique a besoin d'une approche intégrée qui, tout en s'appuyant sur la formation, investit aussi dans des programmes éducatifs et des initiatives médiatiques traitant de façon active les attitudes à des stades précoces de la vie.

Deux plus vastes questions politiques sont importantes pour la déségrégation: les bas salaires et l'immigration. Toute tentative de rééquilibrer la représentation des femmes et des hommes se trouvant au niveau le plus bas de la pyramide des salaires et des professions sera infructueuse si le problème des bas salaires n'est pas affronté ou si les conflits et synergies potentiels entre déségrégation et utilisation de la main-d'œuvre migrante ne sont pas évalués.

Enfin, il est particulièrement important de faire le monitorage des initiatives et d'assurer un suivi dans les programmes luttant contre la ségrégation, vu que beaucoup d'initiatives ont échoué dans le passé pour ne pas l'avoir fait. Considérant l'actuelle fragmentation des programmes, il est important d'assurer une coordination effective entre les différentes initiatives.

KURZFASSUNG

Ziel dieses Berichts ist es, die berufliche Segregation von Frauen und Männern auf dem europäischen Arbeitsmarkt sowohl in branchenspezifischer als auch berufsbezogener Hinsicht zu analysieren.

Der Bericht umfasst eine vergleichende Analyse von Segregationtrends in den 27 EU-Mitgliedstaaten, Island, Lichtenstein und Norwegen, untersucht die Hauptursachen des Phänomens, seine Folgen sowie die derzeitigen und wünschenswerten Antworten der Politik.

Geschlechtsspezifische Segregation auf dem Arbeitsmarkt ist so allgegenwärtig, dass mehrere Unterscheidungen eingeführt wurden, um die Analyse zu vereinfachen: berufliche Segregation versus branchenspezifische, allgemeine oder horizontale Segregation versus vertikale Segregation und vertikale versus hierarchische Segregation. Unter horizontaler Segregation versteht man die berufs- oder branchenspezifische Unter-(Über-)Repräsentation einer bestimmten Gruppe ohne Unterteilung nach speziellen Kriterien; sie wird häufig einfach als „Segregation" bezeichnet. Vertikale Segregation bezeichnet die Unter-(Über-)Repräsentation der Gruppe in Berufen oder Branchen, die an der Spitze einer Rangliste stehen, die auf „erwünschten" Merkmalen wie Einkommen, Prestige, Arbeitsplatzsicherheit usw. basiert. Hierarchische Segregation schließlich bedeutet die Unter-(Über-)Repräsentation der Gruppe auf einer bestimmten hierarchischen Stufe. All diese Formen der geschlechtsspezifischen Segregation werden in diesem Bericht berücksichtigt, auch wenn der allgemeinen und der vertikalen beruflichen Segregation die größte Aufmerksamkeit gewidmet wird.

Der erste Teil des Berichts untersucht den Grad und die Entwicklung der allgemeinen Segregation in den europäischen Ländern (Kapitel 1). Weiter werden die wichtigsten Einflussfaktoren der Segregation bewertet (Kapitel 2), und die drei Hauptauswirkungen, nämlich die Unterbewertung der Arbeit von Frauen, die Beschränkung auf niedrig qualifizierte Arbeit und der Fachkräftemangel untersucht (Kapitel 3). In Kapitel 4 wird die Politik auf den Prüfstand gestellt und bewertet.

Im zweiten Teil des Berichts werden die Hauptergebnisse der Fallstudien zusammengefasst, die auf nationaler Ebene innerhalb von zehn Berufsgruppen durchgeführt wurden und auf die in diesem Bericht durchgehend Bezug genommen wird.

Entwicklung der Segregation innerhalb Europas

Drei Indizes werden benutzt, um Segregation zu messen und ihren Wandel im Laufe der Zeit nachzuverfolgen: der Karmel-und-MacLachlan-Index (abgekürzt IP), der Unähnlichkeitsindex (ID) und die Klassifizierung in überwiegend weiblich, gemischt oder männlich dominierte Berufe. Als Bezugsquelle der Daten dient die European Labour Force Survey.

Der IP-Index variiert zwischen 0 und 50 Prozentpunkten. Dieser Indikator wird gegenwärtig benutzt, um die Segregation im Rahmen der EU-Beschäftigungsstrategie zu beobachten. Er kann als der Anteil der arbeitenden Bevölkerung interpretiert werden, der den Beruf (die Branche) wechseln müsste, um eine gleichmäßige Verteilung von Männern und Frauen über Berufsgruppen (oder Branchen) hinweg zu erreichen. Der ID-Index hat eine ähnliche Aussage, wobei der Prozentsatz allerdings zwischen 0 und 100 variiert, weil der Arbeitsplatzwechsel für den Ausgleich der Arbeitsverteilung nur einem Geschlecht zugesprochen wird: den Männern oder den Frauen. Die drei verwendeten Indizes führen in etwa zum selben Ranking der Länder im Hinblick auf den Grad der Segregation oder die jeweilige Entwicklung im Zeitverlauf.

Die für die gesamte EU nach dem IP-Index bemessene Segregation ist noch immer relativ hoch. Die berufsspezifische Segregation erreicht ein Niveau von 25,3 % und die branchenspezifische Segregation 18,3 %. Doch die Unterschiede zwischen den Ländern sind groß und die Differenz zwischen dem Land mit der höchsten und der niedrigsten Segregation kann bis zu 10 Prozentpunkte betragen.

Ob man nun die berufliche oder die branchenspezifische Segregation betrachtet, es sind jeweils dieselben vier Länder, die zur Gruppe mit der höchsten bzw. der niedrigsten Segregation gehören. Die vier Länder mit der höchsten Segregation sind Estland, die Slowakei, Lettland und Finnland und die vier mit der niedrigsten Segregation sind Griechenland, Rumänien, Malta und Italien. Der allgemein bekannte Gegensatz zwischen einer hohen Segregation in den nordischen Ländern und einer niedrigen Segregation in den Mittelmeerländern aus den 90er Jahren hat sich heute zu einem ähnlichen Gegensatzpaar gewandelt, nämlich dem Gegensatz zwischen (einem Teil des) Osten(s) und (einem Teil des) Mittelmeerraum(s).

Insgesamt weisen die Arbeitsmarktsegregationindizes im Zeitraum 1992-2000 keine bedeutsamen Veränderungen für die EU-27 oder EU-15 auf. Jedoch ist ein leichter Aufwärtstrend in der Segregation auszumachen, der für die branchenspezifische Segregation noch deutlicher ausfällt. Die insgesamt geringe Veränderung verdeckt allerdings die gegensätzlichen Trends auf der Mitgliedstaatenebene. In Österreich, der Tschechischen Republik, Dänemark, Norwegen, Schweden und dem Vereinigten Königreich war ein relativ schneller Abbau der Segregation zu verzeichnen, mit einer Reduzierung

des IP-Indexes im Zeitraum 1997-2007 um 2,8-1,5 Prozentpunkte. Im Gegensatz dazu nahm die Segregation in Bulgarien, Irland, Italien, Lettland, Rumänien und Spanien zu. In all diesen Ländern, mit Ausnahme Rumäniens, ging die Zunahme der Segregation mit einer über dem europäischen Durchschnitt liegenden Steigerung der Frauenbeschäftigungsquote einher, wobei Spanien und Irland wirklich eindrucksvolle Leistungen vorweisen können. Auf den Zusammenhang zwischen Segregation und Beschäftigungswachstum wird später noch einmal Bezug genommen.

Mit Ausnahme von vier Ländern nahmen die gemischten Berufsfelder in all den Ländern zu, in denen der Segregationsindex im letzten Jahrzehnt zurückgegangen war, und umgekehrt. Zudem wirkte sich dieser Wandel in den meisten Ländern mehr auf männerdominierte als auf frauendominierte Berufe aus, weil der Anteil der Ersteren verhältnismäßig stärker abnahm.

Zerlegt man den Unähnlichkeitsindex in eine strukturelle Komponente (Wirtschaftsstruktur), ein Geschlechterverhältnis (in den verschiedenen Berufen/Branchen) und eine Restkomponente, so ergibt sich Folgendes: Auf kurze Sicht führt nicht nur die Veränderung der Wirtschaftsstruktur, d. h. des jeweiligen Gewichts eines Berufs in Bezug auf die Gesamtbeschäftigung, sondern auch die geschlechtliche Zusammensetzung der Arbeitnehmerschaft innerhalb der Berufe zu einer Veränderung bei der Segregation, und zwar häufig, aber nicht immer, in die gleiche Richtung. Über längere Zeiträume hinweg wird jedoch die Veränderung der Geschlechterverteilung unter den Arbeitnehmern innerhalb eines Berufsfelds meist zur dominanten Komponente. Mit anderen Worten hängt die langfristige Reduzierung der Segregation letztendlich davon ab, ob ein ausgewogener Frauenanteil innerhalb eines jeden Berufsfelds erreicht werden kann.

Nichtsdestotrotz gibt es Belege dafür, dass bedeutsame Steigerungen der Frauenbeschäftigungsquote kurz- und mittelfristig den Grad der Segregation erhöhen. Folglich könnte sich ein vorübergehender Konflikt zwischen dem Ziel, die Frauenbeschäftigungsquote zu erhöhen, und dem Ziel, die Segregation zu reduzieren, ergeben.

Die Ergebnisse der Fallstudien verdeutlichen die Mikrodynamik, die das Verhältnis von Segregation und Beschäftigung kurz- und langfristig bestimmt. Kurz- und mittelfristig könnte es für Frauen einfacher sein, dort einzusteigen, wo die Beschäftigung insgesamt wächst, und dadurch häufig einen bereits vorhandenen großen Frauenanteil übermäßig steigern und damit die Segregation erhöhen. Wenn der Zustrom aber ausreichend groß ist, finden sich einige Frauen in Nischen von verhältnismäßig männerdominierten Berufen wieder und können langfristig von dort aus in andere Bereiche vordringen und so die Geschlechterverteilung neu austarieren.

Ursachen der Segregation

Die Debatte um die Ursachen der geschlechtsspezifischen Segregation in der Beschäftigung reicht bis in die 70er Jahre zurück, aber sie bleibt bis heute ein Bezugspunkt, auch wenn sich seitdem sehr viel verändert hat. Nach jahrzehntelanger Forschung sind sich die meisten Gelehrten darin einig, dass sich eine solche Segregation nicht durch einen einzelnen Faktor erklären lässt und sie zu Lohndiskriminierung führen kann.

Schlüsselfaktoren, die in der umfangreichen Literatur über Segregation identifiziert werden, sind (in keiner speziellen Reihenfolge): komparative biologische Vorteile, zu geringe Investition in Humankapital (Ausbildung oder Fortbildung), unterschiedliche Rollenverteilung in Bezug auf das Einkommen, Präferenzen und Vorurteile, Sozialisation und Klischeevorstellungen, Eintrittsbarrieren und Personalmanagementpraktiken.

Durch die weit verbreitete Durchsetzung der Gleichstellungsgesetzgebung in den letzten Jahren, eindrucksvolle Fortschritte von Frauen in der Bildung, die immer geringere Bedeutung von körperlichen Eigenschaften für die Produktivität, die Veränderung der Rollen innerhalb der Familien und nicht zuletzt die erfolgreiche Infragestellung geschlechtsspezifischer Normen durch den Feminismus hat die gegenwärtige Forschung sowohl die Liste potenziell relevanter Faktoren aus den frühren Debatten reduziert als auch die ursprünglichen Erklärungen nuanciert.

In den neueren Untersuchungen werden folgende vier Faktoren in den Vordergrund gerückt: die Wahl der Studienrichtung, Klischeevorstellungen, der Wunsch nach kürzeren oder flexibleren Arbeitszeiten aufgrund ungleichmäßiger Pflegebelastung und unterschiedlicher Rolle des Einkommens und versteckte Barrieren und Voreingenommenheit in den Personalmanagementpraktiken, unter die auch die Tarifverhandlungen fallen.

Es gibt gemischte statistische Ergebnisse und einige qualitative Beispiele (Fallstudien), die belegen, dass die Studienrichtung weiterhin einen Einfluss darauf hat, welche Berufe Männer und Frauen später ausüben. In den letzten 15 Jahren scheint dem Abbau der beruflichen Segregation in der Gruppe der EU-15-Staaten eine starke Diversifizierung der Wahlmöglichkeiten in der Hochschulbildung vorausgegangen zu sein. Dies gilt nicht für die Länder Mittel- und Osteuropas, in denen die Verteilung von Frauen und Männern im Bereich der (Hochschul-)Bildung in letzter Zeit ausgeglichener wurde, ohne dass dies jedoch zu einer ausgewogeneren Verteilung bei den Berufen geführt hätte. Ein Grund für die gemischten Ergebnisse ist, dass nur bei 10 % der Berufe eine ausreichende Übereinstimmung zwischen Studienrichtung und Beruf festgestellt wurde, und zwar bei staatlich anerkannten Berufen wie Arzt, Lehrer, Anwalt, Buchhalter usw.

Klischeevorstellungen sind allgegenwärtig und haben weiterhin Einfluss auf das Verhalten. Allerdings ist es nicht einfach festzustellen, inwieweit sie echte Präferenzen widerspiegeln, soziale Normen wiedergeben oder als Ersatz für Fakten benutzt werden. Die Rolle, die Klischeevorstellungen bei der Segregation tatsächlich spielen, könnte in den qualitativen Untersuchungen tatsächlich überbewertet sein, da diese eine vorgefertigte und sozial anerkannte Rationalisierung von Entscheidungen bieten, die vielleicht aus anderen Gründen getroffen wurden. Daher argumentieren z. B. einige Forscher, dass die traditionelle Assoziation von Pflege und Frauen eine stichhaltige wenn auch partielle Erklärung dafür sei, dass bestimmte medizinische Bereiche wie die Pädiatrie frauendominiert sind. Gleichzeitig haben jedoch norwegische Männer, als sie ausdrücklich danach gefragt wurden, warum sie es nicht reizvoll finden würden, an Grundschulen zu unterrichten, die schlechte Bezahlung und nicht die Angst vor der Assoziation mit einer Pflegerolle als Grund angegeben. Insgesamt legen die Fallstudien nahe, dass die Rolle der Klischees bei jüngeren berufstätigen Frauen und Männern weniger ausschlaggebend ist.

Die ungleiche Pflegebelastung und das daraus resultierende Unvermögen, dem Einkommen aufgrund der familiären Verpflichtungen Vorrang einzuräumen, führen zum Wunsch vieler Frauen nach kürzeren und flexibleren Arbeitszeiten. Unter den qualifizierten Frauen (den „Fachkräften") führt die Suche nach Nischen mit günstigen Arbeitszeiten oft zu einer erneuten Segregation in berufliche Nischen, oder sie behindert den Zugang zu Berufen mit langen/unregelmäßigen Arbeitszeiten und hoher/unregelmäßiger Arbeitsbelastung. Für diese Untergruppe von Frauen kann diese neue Segregation, verursacht durch die Suche nach günstigeren Arbeitszeitplänen, manchmal nachteilig sein, doch hat sie auch den erfolgreichen Widerstand gegen die Kultur der langen Arbeitszeiten ermöglicht, z. B. unter den Allgemeinärzten im Vereinigte Königreich.

Wenn der Wunsch nach kürzeren Arbeitszeiten zur Entscheidung für Teilzeitarbeit führt, schränkt dies, insbesondere unter den weniger Qualifizierten, die Berufswahl weiter ein. Ein starkes Anzeichen dafür ist die Tatsache, dass der gemessene Grad der Segregation in der großen Mehrheit der Mitgliedstaaten (22 in der EU-25) um 15-30 Prozentpunkte zunimmt, sobald vollzeitbeschäftigte Frauen aus den Berechnungen ausgenommen werden, d. h., wenn die Verteilung von Männern auf verschiedene Berufsfelder mit der Verteilung teilzeitbeschäftigter Frauen anstatt mit der aller erwerbstätigen Frauen verglichen wird.

Obgleich gesetzliche Barrieren, die Frauen den Zugang zu bestimmten Berufen verwehren, oder restriktive Praktiken seit langer Zeit verboten sind, haben verdeckte Benachteiligungen und Hindernisse immer noch Einfluss, indem sie die die Karrierewege und Karriereaussichten von Frauen in den jeweiligen Berufen einschränken. Bedeutende Beispiele für die vertikale und hierarchische Segregation sind die kleineren Karrieresprünge in frauendominierten Berufen, der Personalauswahlmechanismus der Hinzuwahl (cooptation) und willkürliche Managementpraktiken bei der Auswahl, Einstellung und Beförderung von Personal, die de facto Männer bevorzugen, sowie der Mangel an Netzwerkressourcen unter Frauen. Das Zusammenspiel all dieser Mechanismen mit unterschiedlichen Arten von Arbeitgebern (kleinen/großen, privaten/öffentlichen) bestimmt das Muster der Segregation.

Weiterhin ist es wichtig, zwischen hoch bezahlten, spezialisierten Berufen und den gering bezahlten zu unterscheiden. Es gibt Anhaltspunkte dafür, dass die meisten Faktoren, die die Segregation aufrechterhalten, für die jüngeren Jahrgänge gebildeter, spezialisierter Frauen weniger wichtig werden. Bei Frauen in niedrig bezahlten Beschäftigungen ist dies weniger eindeutig.

Die Folgen der Segregation

Die Aufmerksamkeit, die Forscher- und Politikerkreise den Folgen geschlechtsspezifischer Segregation entgegenbringen, konzentriert sich traditionell auf die Lohnunterschiede, einschließlich der Unterbewertung der Arbeit von Frauen, und die Diskriminierung. Während die Frage des Lohns weiterhin zentral bleibt, sind auch andere Arbeitsbedingungen, wie die Sicherheit des Arbeitsplatzes, Gesundheitsrisiken oder Regelungen, die die Vereinbarkeit von Arbeit und Familie erleichtern, wichtige Bestandteile der Gesamtarbeitsqualität und können sich aufgrund der Segregation unterschiedlich auf weibliche und männliche Arbeitnehmer auswirken. Neuerdings wird die Segregation auch zur Debatte gestellt, weil sie den Arbeits- und Fachkräftemangel zu verschlimmern droht.

Fälle von Unterbewertung der Arbeit von Frauen sind immer noch alltäglich. Fortbestehende offensichtliche Benachteiligungen in den Arbeitsbewertungsverfahren, verdeckte Benachteiligungen, die von der Art, wie Arbeitsbewertungsverfahren angewendet werden, herrühren, die Tatsache, dass weibliche Kompetenzen wenig sichtbar sind, dass die überwiegend von Frauen ausgeübten Arbeiten häufig als weniger „fachspezifisch" gelten oder geringere Aufstiegschancen bieten, kristallisieren sich in den Fallstudien als wichtige Faktoren heraus. Es überrascht jedoch nicht, dass diese Aspekte öfter bei den Erwerbstätigen auftreten, die am unteren Ende der Beschäftigungspyramide stehen. Eindeutige Beispiele aus den Fallstudien für offenkundige Voreingenommenheit bei der Arbeitsbewertung sind das Büroreinigungspersonal in Deutschland oder die Polizei in Slowenien; für geringe Sichtbarkeit von Kompetenzen das Hauspflegepersonal in Italien und Frankreich; für nicht ausreichende „Professionalität" der Langzeitpflegesektor in Österreich,

bis vor Kurzem die neueste Reform die Karriereleiter neu gestaltete, um auch Männer zu gewinnen.

Im Gegensatz dazu ist die Tatsache, dass Beschäftigungen nach einer erfolgten Feminisierung abgewertet werden, nicht eindeutig bewiesen. Allerdings handelt es sich bei den betrachteten Fällen um spezialisierte Beschäftigungen, wie Ärzte, Richter oder Universitätsdozenten. Dies sind größtenteils Berufe im öffentlichen Sektor, was wahrscheinlich Schutz vor Unterbewertung bietet.

Länderübergreifende Studien zeigen, dass Segregation nicht nennenswert zur Lohndiskriminierung beiträgt, wohingegen länderspezifische ökonometrische Analysen bestätigen, dass die Segregation zwischen/innerhalb von Berufsfeldern und zwischen Branchen oder Industrien für einen Großteil der Diskriminierung verantwortlich ist.

Dieser letzte Punkt kann aber nicht so gedeutet werden, dass jede Segregation Lohnungleichheit impliziert. Eine Möglichkeit, die Stärke der Verbindung zwischen Lohnungleichheit und Segregation zu quantifizieren, ist, die Segregationsindexe in eine Komponente, die den Lohndifferenzen Rechnung trägt – nennen wir sie „vertikale" Komponente – und eine „neutrale" Komponente zu zerlegen. Die hier durchgeführte Aufgliederung beruht auf EU-SILC-Daten zur Beschäftigung und zum Stundenlohn nach Beruf und ergibt, dass die vertikale Komponente in den 17 von 22 Ländern, die in der Berechnung berücksichtigt werden, unter der neutralen liegt, da sie nur zwischen einem Drittel und neun Zehnteln der Letzteren beträgt.

Auf Vorschlag der Europäischen Stiftung zur Verbesserung der Lebens- und Arbeitsbedingungen wurden vier Hauptdimensionen der Arbeitsqualität betrachtet: Karriere und Arbeitsplatzsicherheit; Gesundheit und Wohlbefinden der Arbeiter; Vereinbarkeit von bezahlter Arbeit mit Familien- oder Privatleben und Weiterbildung. Die Befürchtungen bezüglich der Unterschiede in der Arbeitsqualität überschneiden sich teilweise mit den Bedenken, die in der Debatte um die Arbeitsmarktsegmentierung geäußert wurden, nämlich dass die ungleiche Verteilung von sicheren und stabilen Arbeitsplätzen durch Segregation verschlimmert werden könnte.

Eine Analyse ausgewählter Indikatoren für die vier Dimensionen der Arbeitsqualität zeigt, dass abgesehen vom Lohn wichtige Asymmetrien zugunsten von Männern bezüglich der Karriereperspektiven und beim Zugang zu leitenden und aufsichtführenden Positionen herrschen, während Frauen weniger langen Arbeitszeiten unterworfen sind. All diese Asymmetrien bringt, in größerem oder kleinerem Ausmaß, die berufliche Segregation mit sich.

Geschlechtsspezifische Unterschiede in anderen Bereichen der Arbeitsqualität sind eher beschränkt, und zwar besonders die Verteilung von Zeitverträgen, von nicht standardmäßigen Arbeitszeiten, Weiterbildungsmöglichkeiten innerhalb des Beschäftigungsverhältnisses und der Chance auf einen Wechsel von einer zeitlich begrenzten zu einer unbefristeten Stelle. Was den erfolgreichen Wechsel aus einem Zeitvertrag heraus betrifft, so ist der hier verwendete Indikator die Anzahl der Länder, in denen die Wechselquote für eine bestimmte Berufsgruppe zwischen 2004 und 2005 höher war als im gesamtwirtschaftlichen Durchschnitt. Das Ergebnis ist, dass, wenn überhaupt, die Anzahl der erfolgreichen Fälle (mit einer Wechselrate über dem nationalen Durchschnitt) in frauendominierten Berufsfeldern etwas höher ist, was wahrscheinlich die Tatsache widerspiegelt, dass Berufszweige, in denen die Beschäftigung abnimmt, häufiger männlich dominiert sind.

Doch die geringen Unterschiede zwischen weiblichen und männlichen Arbeitnehmern in einigen ausgewählten Dimensionen der Arbeitsqualität rechtfertigen keine politische Selbstzufriedenheit. Erstens sind die Unterschiede für einige Berufe und in einigen Ländern deutlich, obgleich sie für die EU als Ganzes gering sind. Außerdem macht die Erkenntnis, dass die Zeitverträge mehr oder weniger gleich unter den Geschlechtern verteilt sind, diese nicht akzeptabler und sie verringern auch nicht das Risiko, dass die Ungewissheit über die künftigen Arbeitsaussichten Schwangerschaften bei vielen jungen Frauen mit Zeitverträgen verhindern.

Segregation kann einer effizienten Neuverteilung des Arbeitskräfteangebots von Männern und Frauen entgegenstehen. Aus den Prognosen von Cedefop und aus nationalen Studien geht hervor, dass sich mittelfristig der Arbeits- und Fachkräftemangel weniger auf gemischte Berufssparten auswirkt, als auf Sparten, die männer- oder frauendominiert sind. Beispiele für (deutlich) männerdominierte Berufe, für die ein Engpass vorausgesehen wird, schließen Fertigungspersonal-, Geräteführer und Monteure, Angehörige gesetzgebender Körperschaften, leitende Verwaltungsbedienstete und Führungskräfte in der Privatwirtschaft, Handwerker und ähnliche Profile mit ein. Zu den frauendominierten Berufen, für die ein Mangel erwartet wird, zählen Angestellte im Servicebereich und im Verkauf, Büroangestellte und Hilfsarbeiter, einschließlich Pflegepersonal mit geringer Qualifikation, und Fachkräfte oder Fachkräfte mittlerer Qualifikationsebene, wie qualifiziertes Pflegepersonal, z. B. Krankenschwestern.

Auch kristallisiert sich eine gewisse Polarisierung bei den in Zukunft benötigten Qualifikationen heraus mit einer steigenden Anzahl von Berufen am unteren Ende der Skala anerkannter Qualifikationen, wie dem Verkaufsbereich, die frauendominiert sind, und einer steigenden Anzahl von Berufen am oberen Ende dieser Skala, z. B. Informatiker, die männerdominiert sind. Dies unterstreicht umso mehr die Notwendigkeit, die Segregation zu vermindern, weil dies die Arbeitskräfteangebotsströme neu orientiert

und die Chancen auf den Erwerb höherer Qualifikationen neu verteilt. Damit dies geschieht, muss allerdings eine Reduzierung der Segregation in beide Richtungen erfolgen, indem für Männer die typisch weiblichen Bereiche, wie z. B. die Pflege, attraktiv gemacht werden und den Frauen überdies der Zugang zu leitenden Berufen oder den immer zahlreicheren technischen Berufen erleichtert wird.

Politische Aspekte

Nur in relativ wenigen Mitgliedstaaten hat die Politik der Segregationsbekämpfung lange Tradition. Dazu gehören vor allem die skandinavischen Länder, das Vereinigte Königreich, Frankreich, die Niederlande und Deutschland. Die südeuropäischen Länder haben weiterhin mit einer niedrigen Teilhabe von Frauen am Arbeitsmarkt zu kämpfen. Ihr politisches Interesse konzentriert sich weniger auf die Politik der Segregationsbekämpfung als vielmehr auf die allgemeinen Regelungen zur Förderung der Vereinbarkeit von Beruf und Familienleben. Für die osteuropäischen Länder und für einige neue Mitgliedstaaten ist die Debatte um Segregation im Allgemeinen sehr neu oder kaum vorhanden.

Da Regelungen, die die Vereinbarkeit von Privat- und Berufsleben fördern, in den neuesten Berichten für dieses Netzwerk ausführlich diskutiert werden, liegt der Schwerpunkt hier auf gesamtgesellschaftlichen und Arbeitsmarktmaßnahmen, die von den Mitgliedstaaten eingeführt wurden. Erstere umfassen Veranstaltungen zur Sensibilisierung für geschlechtsspezifische Segregation, Bildungsprogramme zur Bekämpfung von Klischeevorstellungen an den Schulen und in den Medien und Kommunikationsinitiativen zur Bekämpfung von Klischeevorstellungen und zur Streuung der Information in der breiten Öffentlichkeit. Die Arbeitsmarktmaßnahmen schließen die Bekämpfung des Arbeits- und Fachkräftemangels mit ein, ebenso wie Programme zur Identifizierung und zur Bekämpfung von Benachteiligungen in den Arbeitsbewertungsverfahren, in Lohnsystemen und anderen Personalmanagementpraktiken wie Auswahl, Rekrutierung, Karrierestufen und Arbeitsverteilung.

Die meisten Länder, in denen die Politik der Segregationsbekämpfung die längste Tradition hat – Dänemark, Deutschland, Finnland, Island und die Niederlande –, sind bereit, die Wurzeln der Segregation, die schon im frühen Alter herankeimen, anzugehen und in Veranstaltungen zur Motivationsförderung oder in Bildungsprogramme zu investieren, die entwickelt wurden, um die Entscheidung junger Mädchen und Jungen für „atypische" Wege zu fördern und neue Rollenbilder zu schaffen. Während ähnliche Initiativen in der Vergangenheit eher einseitig waren, da sie primär die Mädchen ermutigten, in männliche Arbeitsbereiche vorzudringen oder männliche Rollen zu übernehmen, haben neuere Initiativen auch zum Ziel, Jungen dazu anzuregen, sich für weibliche Arbeitsbereiche, wie Lehrtätigkeiten und Pflege zu entscheiden. Ein weiterer Unterschied zur Vergangenheit ist, dass an einigen dieser Initiativen Privatfirmen beteiligt sind. Ein gutes Beispiel ist eine parallele Informationskampagne mit dem Titel *Girls' Day – Mädchenzukunftstag* und *Neue Wege für Jungs* in Deutschland oder Informationsveranstaltungen wie *Strong Women – Complete Men*, *Women's Occupations – Men's Occupations* oder der *Father's Day* in Liechtenstein und der Schweiz.

Auf der europäischen Ebene bleibt die Fortbildung die beliebteste politische Maßnahme, um Segregation zu bekämpfen. Die Teilnahme weiblicher und männlicher Arbeitnehmer an beruflichen Fortbildungen ist recht ausgeglichen, auch wenn Frauen im Durchschnitt 10 % weniger Schulungsstunden erhalten. Jedoch haben Berichten zufolge zehn Mitgliedstaaten kürzlich Weiterbildungsprogramme speziell zur Bekämpfung der Segregation aufgelegt: Belgien, Deutschland, Finnland, Frankreich, Griechenland, Österreich, Portugal, Schweden und Norwegen. Die Gesamtzahl der Länder mit gezielten Weiterbildungsinitiativen ist wahrscheinlich größer, denn Fortbildungsprogramme haben bekanntermaßen eine geringe Sichtbarkeit, besonders da, wo die Hauptverantwortlichkeit für die Weiterbildung in den Händen privater Firmen oder von Bildungsinstitutionen liegt.

Anders als bei der Weiterbildung haben nur wenige Länder eine Tradition der Arbeitsbewertung, auf die man Einfluss nehmen könnte, um der Unterbewertung von Frauen in Berufen entgegenzutreten. Zu ihnen zählen Belgien, Deutschland, Finnland, die Niederlande, das Vereinigte Königreich und Norwegen. In Belgien haben nur wenige Branchen die wirklich geschlechtsneutrale, analytische Klassifizierungsmethode eingeführt, die speziell entwickelt und getestet wurde. Dagegen ist es noch zu früh, die Ergebnisse einer neuen Initiative in Deutschland zu bewerten, die sich an den öffentlichen Sektor richtet. In den Niederlanden und Norwegen wurde eine spezielle Software entwickelt, die Unternehmen (und Individuen) helfen soll zu überprüfen, ob die tatsächlich gezahlten Löhne den Ergebnissen geschlechtsneutraler Arbeitsbewertungsverfahren entsprechen. Die Wirksamkeit dieser Instrumente mag aber eingeschränkt sein.

Zertifizierungen können auch dazu verwendet werden, die geringe Sichtbarkeit und folglich die Unterbewertung der „weiblichen" Kompetenzen zu bekämpfen. Diesbezüglich gibt es nur Berichte über zwei Initiativen, nämlich eine für Hauspflegepersonal in Frankreich und eine für Berufswiedereinsteigerinnen in Liechtenstein. Abgesehen von Arbeitsbewertung und Zertifizierung von Kompetenzen sind Regelungen, die der Einseitigkeit von Personalmanagementpraktiken entgegenwirken, ebenso selten.

Die norwegische Erfolgsgeschichte der Quoten im Aufsichtsrat von Firmen hat das Interesse für solche aktiven Förderungsmaßnahmen seit 2006 aufs Neue geweckt. Die-

ser Erfolg hat zur Einführung von Quoten in Griechenland geführt, ebenso wie zu einer positiveren Haltung demgegenüber in Österreich und den Niederlanden, aber der Umfang und die erwartete Effizienz sind viel begrenzter.

Die Wirksamkeit ist letztendlich der Prüfmaßstab für politische Maßnahmen, doch die Maßnahmen, die zur Segregationsbekämpfung ergriffen werden, halten dieser Prüfung nicht immer stand, weil die Konzeption oder die Umsetzung Mängel aufweisen. Grundsätzlich lässt sich über die politischen Maßnahmen zur Bekämpfung der Segregation sagen, dass sie an mangelnder Koordination, Zielgerichtetheit, Kontrolle und Kontinuität leiden. Die nationalen Berichte zeichnen bestenfalls das Bild einer Fülle von Initiativen, denen es jedoch noch an einer wirksamen, koordinierten Strategie mangelt. Dies ist auch das Ergebnis einer Untersuchung, die vom britischen *Trade and Industry Committee* durchgeführt wurde. Der Umfang und die Hartnäckigkeit dieses Phänomens hat es nicht leichter gemacht, koordinierte Maßnahmen zu ergreifen, aber schuld ist sicherlich auch das Fehlen eines starken politischen Willens.

Einige politische Maßnahmen funktionieren besser als andere. Nicht die Weiterbildungen, die zwei wichtigen Kritikpunkten ausgesetzt sind. Der erste ist, dass allgemeine Weiterbildungmaßnahmen die Segregation verstärkt haben, während spezifische Maßnahmen Frauen, und nur selten Männer, zu einem Wechsel in andere Arbeitsbereiche ermutigt haben, wie z. B. zur manuellen oder technischen Arbeit in Manufakturen, die von Männern auf der Suche nach besseren Möglichkeiten aufgegeben wurden. In der Vergangenheit wurde vielleicht diese einseitige Herangehensweise bei der Weiterbildung teilweise dadurch gerechtfertigt, dass Frauen in vielen Ländern noch immer eine Arbeitsreserve darstellten und Arbeits- oder Fachkräftemangel hauptsächlich in den von Männern dominierten Berufen entstand. Bei zehn Mitgliedstaaten mit einer Teilhabe der Frauen am Arbeitsmarkt nahe oder über der 70%-Marke, in Kombination mit einem schnellen Wachstum frauendominierter Dienstleistungssektoren und Pflegearbeiten, ist diese Annahme nicht mehr gerechtfertigt.

Um Männer zu ermutigen, in Frauenbereiche oder -berufe einzusteigen und sie traditionell weibliche Fertigkeiten schätzen zu lehren, ist es wichtig, mehr in Veranstaltungen zur Motivationsförderung, Medien- und Bildungskampagnen schon ab der frühen Kindheit zu investieren. Es gibt historische Beispiele für den dramatischen Wandel der geschlechtsspezifischen Klischeevorstellungen als Reaktion auf massive öffentliche Kampagnen, z. B. während des Zweiten Weltkriegs. Der Lohn ist zur Überwindung von Klischees ein großer Ansporn und die Ergebnisse aus Fallstudien unterstützen die Behauptung, dass das wirksamste Mittel, um Männer zur Aufnahme von „weiblichen" Berufen zu bewegen, darin besteht, Wege zu finden, um die Bezahlung zu erhöhen.

Die Unterbewertung der Arbeit von Frauen ist ein Problem, das direkt zu lösen schwierig ist und das, wie bereits erwähnt, im Niedriglohnbereich eine sehr entscheidende Rolle spielt. Die wichtige und übereinkommende Erkenntnis zweier Länder – Finnland und Norwegen –, die eine spezielle Untersuchung zur potenziellen Voreingenommenheit von Arbeitsbewertungssystemen durchgeführt haben, ist, dass nicht die Arbeitsbewertungssysteme selbst der Grund für geschlechtsspezifische Lohnunterschiede sind, sondern vielmehr ihre fehlerhafte Anwendung. Dies verlangt eher nach Kontrolle als nach Umgestaltung solcher Systeme.

Die Zertifizierung von Kompetenzen und die Neugestaltung der Karriereleiter in frauendominierten und schlecht bezahlten Arbeitsbereichen wie denen der Pflege könnten ebenfalls dazu beitragen, die Unterbewertung zu bekämpfen, obwohl es noch immer zu wenig Beweismaterial für eine handfeste Bewertung gibt. Jedoch ist jeder Versuch die Unterbewertung zu bekämpfen, zum Scheitern verurteilt, wenn dabei das Thema Migration nicht berücksichtigt wird. Wie es die Erfahrung mit eingewanderten Arbeitskräften in der Altenpflege in Griechenland, Italien und Spanien veranschaulicht, steht das Zurückgreifen auf billige eingewanderte Arbeitskräfte dem Versuch im Wege, einen Ausweg aus der Arbeitssegregation oder der Unterbewertung der Pflegeberufe zu finden.

In gut bezahlten Berufen sind das Zurückfallen in die Segregation in geringer bezahlten Nischen und/oder „Gläserne Decken" die Hauptanlässe zur Sorge. In diesen Fällen ist eine endgültige Verschiebung des Scherpunkts weg von der Angebotsseite hin zu den Personalmanagementpraktiken vielversprechend.

Standardisierte, transparente Verfahren für Auswahl, Einstellung und Beförderung reduzieren nachweislich die Benachteiligungen von Frauen. Angesichts der neusten Beispiele aus Norwegen sollten auch Quoten für Entscheidungspositionen noch einmal in Betracht gezogen werden.

Geschlechtsspezifische Segregation in der Arbeit ist noch immer sehr weit verbreitet. Sie verstärkt nicht immer die Unterschiede in der Bezahlung oder in der Arbeitsqualität zwischen Männern und Frauen, aber doch in einigen Fällen. In welchem Maße sie dies tut, hängt insbesondere von den bestehenden Institutionen und der Kultur ab. Folglich sollte jeder Versuch, das Problem der Segregation in Angriff zu nehmen, auf politischen Leitlinien basieren, die klare Ziele stecken und in einem gewissen Maße länderspezifisch sind. Jedoch sind sowohl aus den politischen Erfahrungen der Mitgliedstaaten in der Verfangenheit als auch aus den Ergebnissen gegenwärtiger Untersuchungen allgemeine Prinzipien für einen wirksamen politischen Ansatz zur Bekämpfung der Segregation hervorgegangen, die wie folgt zusammengefasst werden können:

Im Analysestadium sind die quantitativen Ergebnisse, die aus Indizes über den Grad und die Entwicklung der Segregation hervorgehen, mit Vorsicht zu betrachten, da kurz- und mittelfristig ein negativer Zusammenhang zwischen abnehmender Segregation und wachsender Frauenerwerbsquote besteht.

Was die Wahl der politischen Strategie anbelangt, legen die neuesten Untersuchungen drei Handlungsschwerpunkte nahe: Erstens sollte den Regelungen zur Vereinbarkeit von Beruf und Privatleben ein wichtiger Platz eingeräumt werden, da die Wahl der Arbeitszeiten für Männer und Frauen weiterhin wichtig für die Berufswahl bleibt. Zweitens sollte der politische Fokus von den individuellen geschlechtsspezifischen Unterschieden auf die Angebotsseite verlagert werden, auf die Funktionsweise von Organisationen und insbesondere auf die fortbestehende Benachteiligung in den Personalmanagementpraktiken bei Auswahl, Einstellung und Beförderung, Anerkennung von Kompetenzen, Strukturierung des Karrierewegs und Arbeits- und Kompetenzbewertung. Drittens sollten Klischeevorstellungen dadurch bekämpft werden, dass eine Änderung der Einstellungen, der Entscheidungen und der tatsächlichen Kompetenzen auch bei Männern und nicht nur bei Frauen gefördert wird.

Gegenwärtiger oder voraussehbarer Arbeits- und Fachkräftemangel in frauen- und männerdominierten Bereichen sind weitere Gründe für den Abbau der Segregation. Diese politischen Ziele benötigen aber einen integrierenden Ansatz, der einerseits auf Weiterbildung basiert, aber andererseits auch in Bildungsprogramme und Medieninitiativen investiert, die sich mit Einstellungen schon im frühen Alter beschäftigen.

Zwei weitere politische Themen sind für den Abbau der Segregation wichtig: Niedriglohn und Immigration. Jeder Versuch, die Männer- und Frauenanteile am unteren Ende der Arbeits- und Lohnpyramide ins Gleichgewicht zu bringen, wird fehlschlagen, wenn man sich nicht mit dem Niedriglohn auseinandersetzt, oder wenn die potenziellen Konflikte und Synergien zwischen dem Abbau der Segregation und dem Zurückgreifen auf zugewanderte Arbeitnehmer nicht untersucht werden.

Schließlich ist es besonders wichtig, die Initiativen zu kontrollieren und zu gewährleisten, dass Programme zur Bekämpfung der Segregation weitergeführt werden: Viele Initiativen schlugen in der Vergangenheit tatsächlich fehl, weil dem nicht Rechnung getragen wurde. In Hinblick auf die derzeitige Fragmentierung der Programme ist es ebenso wichtig, eine effiziente Koordinierung der unterschiedlichen Initiativen sicherzustellen.

INTRODUCTION

In a long-term perspective, there is perhaps no better way to assess how the position of women in employment vis-à-vis men has evolved in industrialised countries than to analyse change in employment segregation by gender and in the gender wage gap. This report concentrates on employment segregation, updates previous reports on this subject (Rubery and Fagan, 1993; Emerek et al., 2002), expands analysis to the new Member States, and incorporates the insights from recent research.

The aim of the study is to analyse gender segregation in the European labour market at both the sectoral and occupational levels. It should provide a comparative analysis of the situation across the EU Member States, examine the root causes of segregation, its main consequences, and possible policy responses, such as measures for de-segregation or job evaluation practices to redress imbalances in the current valuation of women's and men's jobs.

Important objectives of the European employment strategy include improving job quality, reducing gender segregation, reducing segmentation in the labour market (notably through flexicurity policies), and tackling the gender pay gap. The recent communication of the European Commission on the gender pay gap makes explicit reference to the persistence of the latter in relation to enduring occupational and sectoral segregation. The new version of the employment guidelines reiterates the link between the gender pay gap and segregation as follows:

> The gender pay gap should be reduced. Particular attention should be given to the low level of wages in professions and sectors which tend to be dominated by women and to the reasons which lead to reduced earnings in professions and sectors in which women become more prominent. (EC, 2008, p. 31)

Whilst the European employment strategy identifies reducing the gender wage gap as an objective in its own right, addressing gender segregation in employment is potentially relevant to additional objectives, and specifically to reducing skill shortages in the EU countries and making use of the entire labour force potential. This gives cogency to the idea of incorporating de-segregation into national strategies of lifelong learning and training.

Given the European employment strategy's open recognition of the desirability of reducing the segmentation between groups of workers that differ systematically in terms of duration and stability of the contractual relation (e.g. fixed-term versus standard, indefinite contracts), conditions of work (e.g. unsocial versus normal working) or of entitlement to social security benefits, it is also advisable to explore the link between segmentation thus defined and gender-based segregation in employment.

The report is divided into two parts. The first chapter in Part One examines levels and change in overall segregation in European countries. The second chapter reviews the most important factors that impinge on segregation. The third chapter focuses on the three main implications of segregation, namely undervaluation of women's work, confinement in 'low quality' jobs, and skill shortages. The fourth chapter reviews and discusses policies, including training. Part Two summarises the evidence from case-study research that has been collected at national level for 10 professional groups and is used for discussion throughout the report. The overall summary concludes the report.

PART I

GENDER EMPLOYMENT SEGREGATION IN EUROPE

1. Persistence and change in segregation within Europe

1.1. Definitions

'Employment segregation' is a rather dramatic expression for the gendered division of labour in paid employment. Early in the 1960s, when the expression was introduced into the academic debate, its dramatic overtones were justified on the grounds that the division of labour exhibited radical separation between men's and women's work. It was also justified by the presumption that 'different' often implied 'unequal': in those days, women often earned little more than half of what men did. Women's earnings now fare much better, and gendered divisions in employment have changed or weakened, but the resilience they show motivates investigation of the extent to which they continue to sustain inequality.

Because the phenomenon is so pervasive, distinctions have multiplied in order to facilitate analysis: occupational versus sectoral segregation, horizontal versus vertical, vertical versus hierarchical. All the types of gender-based segregation will be considered in this report, although occupational segregation will receive closest attention, thereby reflecting the balance in the literature.

The distinction among horizontal, vertical and hierarchical segregation is less straightforward than that between occupational and sectoral segregation, and it has evolved over the years. In the early debate, vertical segregation referred to the under (over) representation of a clearly identifiable group of workers in occupations or sectors at the top of an ordering based on 'desirable' attributes — income, prestige, job stability, etc. Horizontal segregation was understood as under (over) representation of that particular group in occupations or sectors not ordered by any criterion, and it was often referred to as segregation *tout court*. Underrepresentation at the top of occupation-specific ladders was subsumed under the heading of 'vertical segregation', whereas it is now more commonly termed 'hierarchical segregation'. However, some semantic disagreement persists in the literature, and in this report we shall sometimes use 'vertical' and 'horizontal' in their earlier, broader senses.

This chapter deals with overall segregation in the European Union while quantitative analysis of vertical segregation is postponed to Chapter 3, and qualitative analysis of both vertical and hierarchical segregation is carried out for the occupations surveyed in Part II. The main questions addressed in this chapter concern levels and change in segregation in the European Union over the past 15 years. The next section introduces some widely used measures of segregation, and the following one illustrates the findings based on these measures. The final section investigates the relationship between growth in female employment and change in segregation, enquiring whether a trade-off exists in the medium term between pursuing increasing female employment and decreasing segregation.

1.2. Measures

Employment segregation by sex persists at high levels in Europe. *The life of men and women in Europe* (Eurostat, 2008) comments on existing gender differences in occupations as follows:

> … the degree of concentration in a limited number of occupations is much higher among women than among men. In 2005, almost 36 % of women in work in the Union were employed in just six of the 130 standard occupational categories (ISCO-88 three-digit) whereas the top six occupations for men accounted for just over 25 % of the total in work.

Table 1 reports six occupations with the largest number of men and women, and none of them overlap. Shop salespersons and demonstrators, the top occupational category for women employing 8 % of those in work, accounted for under 3 % of men in employment. The next three largest categories for women — 'domestic helpers', 'personal care workers' and 'other office clerks' — between them employed a further 19 % of women, but only 3 % of men (Eurostat, 2008, p. 59).

The highest concentration of women's employment in top feminised jobs is found in Cyprus and Romania, where in each case over 50 % of the women employed worked in the six largest occupational groups in 2005. In Cyprus, around 19 % of women in employment worked as 'domestic and related helpers, cleaners and launderers', reflecting the importance of employment in hotels and private households in that country; and in Romania, just over 27 % worked as 'crop and animal producers', reflecting the importance of agriculture. The lowest concentration was in Italy and Latvia, where the top six occupations accounted for 32–33 % of all women in work.

Indices are the most commonly used summary measures of segregation. Bridges, who has recently proposed a new index, has spoken of 'the battle of indices showing signs of fatigue' (Bridges, 2003, p. 564) to refer to the voluminous and still growing literature on the measurement of segregation. It is generally accepted that no single index is fully satisfactory, and that different indices are appropriate for different purposes. In this chapter we make use of the following three measures (for details see Box B.1 of the Technical Appendix):

Table 1. The top six occupations for women and men in Europe, 2005

Women		Men	
Code	Description	Code	Description
522	Shop salesperson and demonstrators	832	Motor vehicle drivers
913	Domestic and related helpers, cleaners and launderers	712	Building frame and related trade workers
513	Personal care and related workers	131	Managers of small enterprises
419	Other office clerks	713	Building finishers and related trades workers
343	Administrative associate professionals	311	Physical and engineering science technicians
512	Housekeeping and restaurant services workers	723	Machinery mechanics and fitters

NB: ISCO-88 occupational codes (EU-25).

Source: Eurostat (2008, p. 59).

- the standardised or Karmel and MacLachlan index (IP);
- the Duncan and Duncan index of dissimilarity (ID);
- a tripartite classification of female-dominated, mixed and male-dominated occupations or sectors.

Both the IP and ID indices assume that segregation results in a different distribution of women and men across occupations or sectors: the less equal the distribution, the higher the level of segregation. The IP index is the reference index for the present report because it is used to monitor gender equality within the European employment strategy. It can be interpreted as the share of the employed population that would need to change occupation (sector) in order to bring about an even distribution of men and women among occupations or sectors. The index ranges from 0 in the case of complete equality to twice the male share of employment multiplied by the female share in the case of complete dissimilarity. In percentage terms, the absolute maximum for the index is 50 and it is reached when there are as many women as men in employment working in completely segregated occupations/sectors. Because the value of the IP depends on how high the female share of employment is, studying change over time can be problematic, since the recorded level of segregation could increase or decrease solely in response to change in this share ([1]).

The index of dissimilarity (ID) is arguably the most widely used for international comparisons because it was proposed as early as 1955 (Duncan and Duncan, 1955). It has a similar interpretation to that of the IP index, but varies between 0 and 100 in percentage terms because the change of occupation required to even out the distribution of employment is attributed to one sex only, men or women. The value of the ID index too depends on the level of female employment, but only indirectly, via changes in the occupational structure that accompany increases or decreases in the proportion of women in the workforce.

The measure of segregation proposed by Hakim (1993) is more descriptive and identifies female-dominated, male-dominated and mixed occupations by adding or subtracting 15 decimal points from the overall share of female employment. Suppose this share is 40 %: occupations or sectors with 25 % women or less are considered male-dominated, those with 55 % or more women are female-dominated, and the remainder are mixed. The measures proposed by Hakim are the shares of female, mixed and male-dominated occupations thus defined. Clearly, this is not a proper index, yet it is a rather informative way to track the actual profile of segregation and its change over time.

Indices other than the IP will be used here to verify the extent to which IP-based findings on levels and trends of overall segregation are robust. But they will also serve specific purposes: the ID index will be used to assess how far change is attributable to the evolution of the occupational structure versus de-segregation within occupations. Hakim's measure will be employed to assess how far change has affected female- versus male-dominated occupations ([2]).

Some methodological issues should be addressed before the findings are illustrated. First, segregation is common to all countries, but the inequalities or asymmetries from which it originates are to some extent country-specific: they depend on the country's labour market, culture and broader institutional context. Thus, measuring segregation for the EU as a whole (or subgroups of countries within it), makes accounting sense because, for example, knowing that the IP index for EU-27 countries has decreased or increased is relevant information. However, satisfactory analysis of why this is so must rely on the study of individual labour markets. A further issue is that segregation is best measured and analysed for occupations rather than for sectors. Employment decisions are taken primarily with jobs in mind, not sectors, and any sector tends to comprise very different types of jobs.

([1]) This holds as long as the share for women is below that for men.

([2]) Later on in the report, the widely known Gini index will be used to measure overall segregation and the relative importance of vertical versus horizontal segregation (see Box B.2 of the Technical Appendix).

For the above reasons, the analysis will focus largely, though not exclusively, on occupations, and when EU totals are reported, primary attention will be paid to cross-country comparisons. In order to facilitate such comparison, we employ the simplest of tripartite ordinal scales: 'low', 'middle' and 'high'. The high (low) group comprises countries scoring above (below) the average value plus (minus) one mean absolute deviation (MAD); the middle group is the residual.

The main data sources for measurement of segregation are two series from the European labour force survey (LFS): employment by occupations (ISCO-88 three-digit) and by sectors (NACE two-digit). Both series are available for different intervals for different countries, starting from 1992.

1.3. Extent of segregation and change over the past 15 years

There has been uneven and contrasting change in overall segregation over the past 15 years. If we take the EU-12 group, for which the longest data series is available, both the IP and the ID indices have hardly changed since 1992. A slight upward movement is detectable for the EU as a whole over the current decade: the EU-27 value for the IP went up from 24.5 to 25.2 between 2000 and 2007, this weakly rising trend being confirmed by the index of dissimilarity (Figure 1).

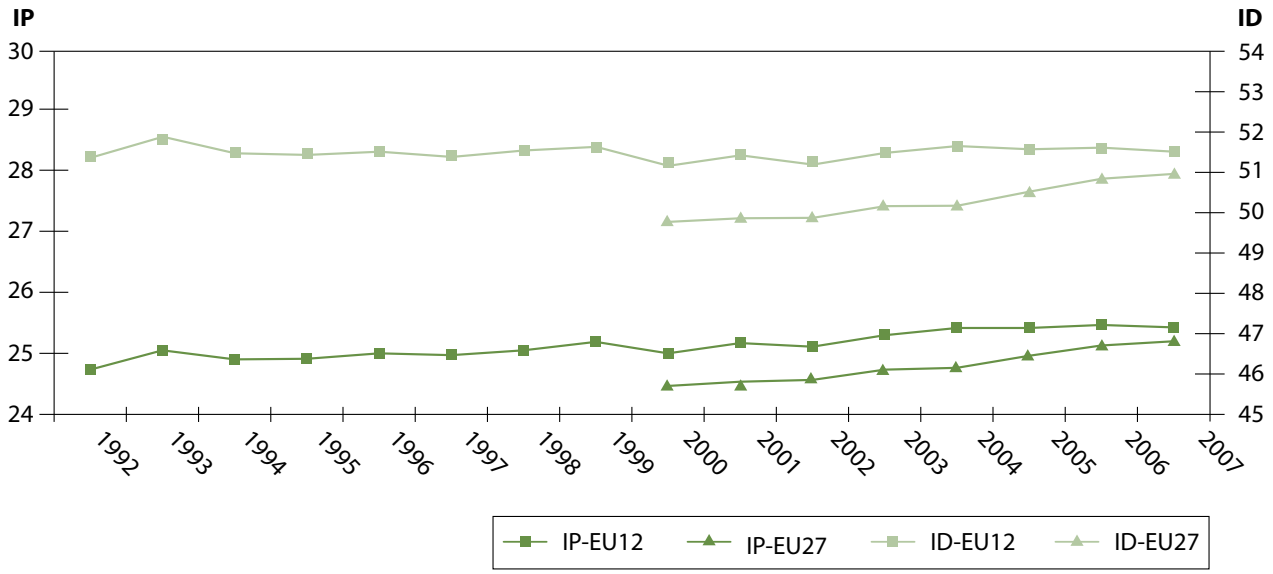
The aggregate impression of overall stability is misleading, however, because it hides rather different levels and trends at country level. Figure 2 orders countries on the basis of the 2007 IP value for occupational segregation. Countries belonging to the 'low' scoring group are Greece, Romania, Malta, Italy and the Netherlands, with a clear over-representation of the Mediterranean group. The group of 'high' segregation countries includes Estonia, Slovakia, Latvia, Finland, Bulgaria, Lithuania, Cyprus, and Hungary, all of them post-socialist countries with the exception of Cyprus and Finland. The top and bottom countries in this ranking are markedly far apart: out of a theoretical maximum of 50 %, Estonia, the highest segregated country, records a value of 32.2 % for the IP against 22.4 % for Greece, the lowest segregated one ([3]).

A commonplace feature of employment segregation in Europe before enlargement was the paradox whereby Scandinavian countries recorded some of the highest levels of segregation, whilst the Mediterranean countries exhibited surprisingly low levels. This picture has changed over the past decade, not only because of enlargement but also thanks to some convergence across countries. Nordic and Scandinavian countries have recorded relatively fast de-segregation, whereas most Mediterranean countries, together with a few eastern European ones, have actually experienced an increase in segregation.

Figure 3 documents the pattern of change by assigning different colours to the three groups in our ordinal scale: countries increasing by more than 1.72 % (the mean value plus the MAD); countries decreasing by more than 1.36 % (the mean value minus the MAD; and essentially stable countries with values intermediate between the two extreme groups. Rapidly de-segregating countries are Sweden, Norway, Denmark, the UK, Austria, the Czech Republic and Iceland, whereas re-segregating countries are Romania, Bulgaria, Italy, Ireland, Latvia and Spain.

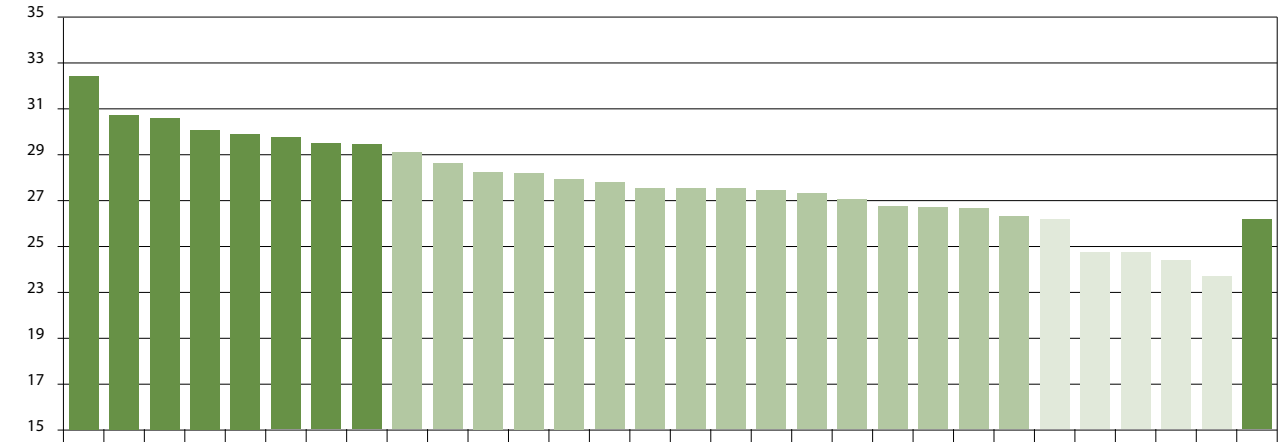
([3]) Practically the same results are obtained when the ID index is employed: suffice to say that the Pearson correlation coefficient for the ranking yielded by the IP and the ID for 2007 is 0.996, i.e. nearly 100.

Figure 1. Gender occupational segregation in the EU, 1992–2007



Source: Own calculations using LFS (three-digit).

Figure 2. Gender occupational segregation in Europe, 2007



	EE	SK	LV	FI	BG	LT	CY	HU	CZ	IE	IS	ES	NO	SE	DE	LU	FR	SI	PT	AT	PL	BE	DK	UK	NL	IT	MT	RO	EL	EU-27
IP index	32,2	30,3	30,1	29,5	29,3	29,2	28,9	28,8	28,5	27,9	27,5	27,4	27,2	27	26,7	26,7	26,7	26,6	26,5	26,2	25,8	25,8	25,7	25,3	25,2	23,6	23,6	23,2	22,4	25,2

NB: Countries are grouped by level of the IP index into high (black bar), medium (patterned bar) and low (grey bar). High- (low-) segregation countries score above (below) the EU average + (–) the mean absolute deviation.

Source: Own calculations using LFS (ISCO-88 three-digit).

Figure 3. Change in gender occupational segregation in Europe, 1997–2007

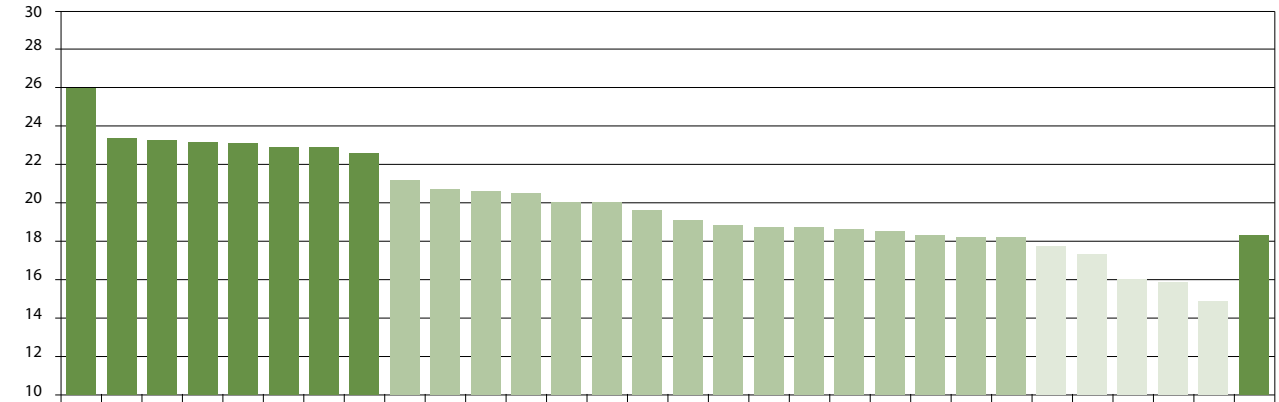
NB: The logic by which countries are grouped is the same as in Figure 2 but applied to change in the IP index:
larger increase; within 0.175±1.53; larger decrease

Source: Own calculations using LFS (ISCO three-digit), earliest and latest years as in Table A.1 in the Statistical Appendix.

Analysis of the past trends using Hakim's classification of occupations into male-dominated, female-dominated and mixed puts some flesh on the statistical bones. In line with expectations, between 1997 and 2007 mixed occupations increased in all the countries where segregation indices declined, and conversely. Four exceptions are the Czech Republic, Finland and France — where the past decade witnessed a remarkable increase in female-dominated occupations — and Germany, where the increase mainly affected male-dominated occupations. Across countries, change was more pronounced for male-dominated occupations, whose share decreased proportionately more (see Table A.1 in the Statistical Appendix).

Looking at sectoral rather than occupational segregation makes some, though limited, differences to the above findings. The overall IP value for the EU-27 is lower than the corresponding figure for occupational segregation: 18.4 % in 2007 as opposed to 25.2 %. This drop in the value of the index is considerable, but it is also to be expected on account of the lower number of sectors than occupations. The 2007 ranking by countries is depicted in Figure 4. Seven countries change group with respect to their ranking for occupational segregation, mainly from the 'high' to the 'middle' segregation group. However, the top four countries for occupational segregation are also found in the high sectoral segregation group, and conversely for the bottom four countries (see Table A.1 in the Statistical Appendix).

Figure 4. Gender sectoral segregation in Europe, 2007



	EE	LV	LT	IE	SK	IS	FI	NO	SE	BG	ES	PT	CY	HU	CZ	PL	DK	LU	NL	UK	BE	DE	AT	FR	IT	SI	RO	EL	MT	EU-27
IP index	26,1	23,5	23,4	23,3	23,2	23,0	23,0	22,7	21,3	20,8	20,7	20,6	20,1	20,1	19,7	19,2	18,9	18,8	18,8	18,7	18,6	18,4	18,3	18,3	17,8	17,4	16,1	15,9	14,9	18,4

NB: Countries are grouped, according to the level of the IP index, into high/low-segregated, with the IP index accordingly being higher/lower than mean+MAD/mean–MAD (19.97+2.14/19.97-2.14); the residual is a middle group

Source: Own calculations using LFS (NACE two-digit).

Since 2001, sectoral segregation has displayed a somewhat more marked upward trend than has occupation segregation, with an overall increase for the EU-27 of 1.2 percentage points (see Table A.1 in the Statistical Appendix). Only seven countries record a decrease. De-segregating countries include Austria, Portugal, Malta, Denmark, Sweden, the UK, the Netherlands and Slovenia, all of which except for Portugal having also experienced near stability or fast de-segregation of occupations. Overall, these findings are not inconsistent with those for occupational segregation, but they confirm that not much information is gained by considering sectors.

1.4. Segregation and female employment

Returning to occupational segregation, the change therein stems from variations in employment which impact on the structure of occupations, as well as from the re-balancing of male and female employment in each occupation. A simple decomposition of the change in the ID index yields a structural component that captures the effect of change in the structure of occupations, a sex-ratio component that captures the effect of change in the gender balance within occupations, and a residual effect (see Box B.3 in the Technical Appendix). The findings from this decomposition are summarised in Figure 5, where countries are ordered according to the level of change recorded by the ID index in the relevant period (the green line across bars). Figure 5a considers the longest interval in our data (1992–2007) and includes the oldest member countries. Figure 5b restricts the window of observation to between 1997 and 2007 in order to encompass a larger number of countries ([4]).

In Figure 5b, the structural and the sex-ratio components bear the same sign in the majority of countries: that is, both components contribute either to decreasing or to increasing segregation. However, Romania and the UK are two glaring exceptions, for in both countries a large structural component has worked in favour of more segregation whilst the gender balance within occupations has improved. Moreover, there is no clear indication that either component is dominant: in 11 out of 23 cases, the structural component dominates the sex-ratio effect in absolute terms, but the opposite occurs in the remaining cases.

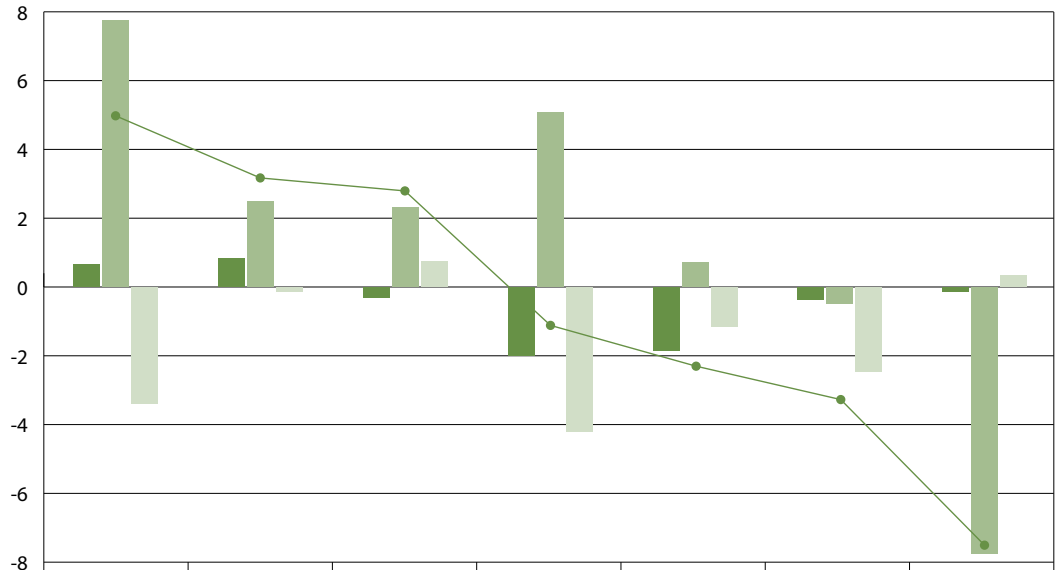
For the five countries included in Figures 5a and 5b, the two sets of results can be used to compare behaviour over the short run (the past decade) and over a longer period (the past 15 years). Over a shorter period of time, the importance of the structural effects diminishes in favour of the sex-ratio effect. Take Denmark for example: between 1997 and 2007 the structural effect decreased segregation by 1 percentage point versus 2.2 points for the sex-ratio effect. Over the longer period, however, the structural effect practically disappeared while the sex-ratio effect more than doubled.

Overall, these are indications that the structure of employment, i.e. where and to what extent total employment grows, is more important for segregation in the short run, whilst the decisive factor in the long run is de-segregation within occupations. Put otherwise, it may be easier for women to enter where overall employment grows, sometimes inflating an already large female share and thereby increasing segregation. When the inflows are sufficiently large, however, some women also end up in niches of relatively male occupations from where they can subsequently branch out if they are sufficiently motivated by income and working conditions. This is consistent with the evidence from the case studies discussed in

([4]) We consider countries for which sufficiently comparable occupational series are available for two extreme years.

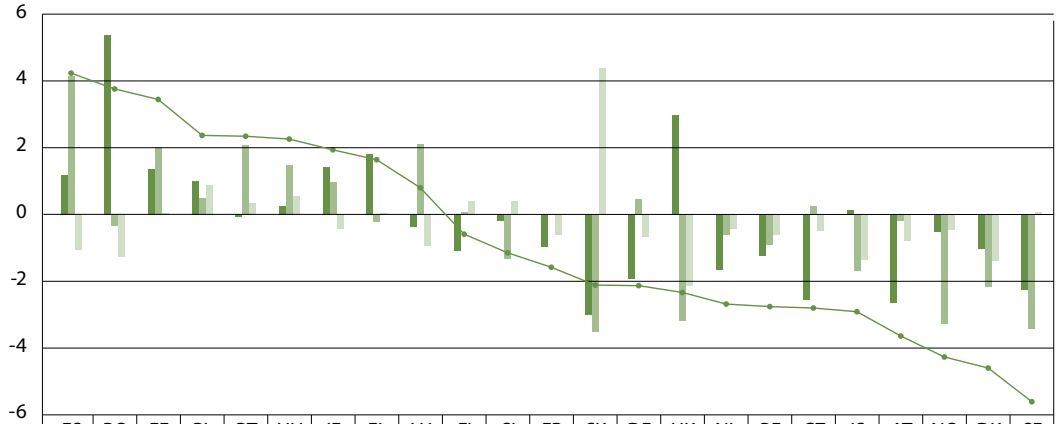
Figure 5. Components of the change in occupational segregation in Europe, 1992–2007

5a. 1992–2007



	ES	EL	PT	LU	DE	BE	DK
Structural effect	0.64	0.82	-0.31	-1.99	-1.85	-0.36	-0.12
Sex-composition effect	7.75	2.48	2.32	5.07	0.71	-0.47	-7.75
Residual effect	-3.39	-0.13	0.75	-4.2	-1.16	-2.46	0.34
ΔID	5	3.17	2.76	-1.13	-2.3	-3.29	-7.53

5b. 1997–2007



	ES	RO	EE	PL	PT	HU	IE	EL	LU	FI	SI	FR	SK	DE	UK	NL	BE	CZ	IS	AT	NO	DK	SE
Structural effect	1.17	5.37	1.37	1	-0.07	0.24	1.43	1.8	-0.36	-1.08	-0.2	-0.96	-3.01	-1.92	2.98	-1.66	-1.25	-2.56	0.12	-2.66	-0.52	-1.03	-2.25
Sex-composition effect	4.14	-0.33	2.03	0.49	2.09	1.47	0.96	-0.21	2.11	0.06	-1.34	-0.01	-3.51	0.45	-3.18	-0.61	-0.91	0.26	-1.68	-0.19	-3.28	-2.18	-3.42
Residual effect	-1.07	-1.28	0.05	0.88	0.33	0.55	-0.44	0.05	-0.95	0.41	0.4	-0.6	4.4	-0.67	-2.14	-0.42	-0.61	-0.5	-1.35	-0.79	-0.46	-1.39	0.06
ΔID	4.24	3.77	3.45	2.37	2.35	2.26	1.94	1.64	0.8	-0.6	-1.15	-1.58	-2.12	-2.13	-2.34	-2.69	-2.76	-2.8	-2.91	-3.64	-4.27	-4.6	-5.61

NB: In Figure 5b the change in ID is between the earliest and the latest years as in Table A.1 in the Statistical Appendix.

Source: Own calculations using LFS (ISCO three-digit).

the second part of the report: for example, among doctors, women initially crowded into a limited number of specialties from where they are now slowly branching out. The same case studies, however, indicate that there is some asymmetry between well-paid and low-paid employment areas. Women are not always able to seize the opportunity of more jobs in well-paid occupations, as suggested by the de-feminisation among computing professionals; whereas they seldom fail to do so in lower-paid and already-feminised occupations like care or cleaning.

A related but important question concerning the impact of employment growth on segregation is whether there is a trade-off in the short or medium run between increasing female employment and decreasing segre-

Table 2. The relation between occupational segregation and the female employment rate

Indicator	Female employment rate, 2007	Change in female employment rate, 1997–2007
Level of ID index, 2007	42.01	—
Change in ID index, 1997–2007	—	70.7 *
Level of IP index, 2007	42.1	—
Change in IP index, 1997–2007	—	78.2 *

NB: The measure applied is the Pearson correlation coefficient, always significant at 5 %; * EU-15.

Source: Own calculations using LFS (ISCO three-digit) for occupations and Eurostat data for female employment rate.

gation. The pattern over the past century suggests that higher female employment eventually decreases segregation (Bettio, 2008), but the opposite has sometimes been observed in the short or medium run or with cross-country comparison (Rubery et al., 1998; Emerek et. al., 2002; Gilles, 2007). In the 1990s, in particular, a positive correlation between segregation and female employment was found for the EU-15, and it was driven primarily by the contrast between high-segregation, high-employment countries like Sweden, Finland or Norway and low-segregation, low-employment countries like Italy or Greece (Bettio, 2002).

In order to verify the strength of this correlation, Table 2 relates the Pearson coefficient between the ID index for occupational segregation and the female employment rate ([5]). The calculations are repeated for levels and trends over different groups of countries depending on the availability of data. The coefficient is positive and significant at the conventional 5 % level when the 2007 rates of female employment are correlated with the ID values across the 29 countries surveyed in the LFS. It is equally positive and significant for the correlation between changes in the female employment rate and in the ID value over the past decade across the EU-15 countries.

These findings are not entirely robust, however, and this may be due to the fact that the employment structure diminishes in importance in the longer term. For example, the coefficient drops below the level of significance if Norway and Iceland are removed from the first correlation, indicating that the results should be treated with some caution. Nevertheless, this positive association has been observed sufficiently often in the post-war period to require some explanation. The occupational and industrial structure have evolved to date in ways that have benefited female employment more than would have happened if there had been an even expansion of industrial demand: Rubery has found that this applies to nine European countries between 1982 and 1993 (Rubery et al., 1998, p. 102). One underlying reason why growth has concentrated in female-dominated occupations is the so-called commodification or marketisation of household production, i.e. the process by which household-based activities (including care) are progressively brought to the market or the public sector. Because of the strong sex-typing of these activities, externalisation to the market or the public sector simultaneously frees female supplies and creates demand for paid female labour (Bettio, 2002; Bettio and Plantenga, 2008; Freeman and Shettkat, 2005).

([5]) The ID is used in lieu of the IP in order to minimise a possible statistical bias. As noted earlier, the IP index depends directly on the female share of employment and may therefore increase even if no change occurs in the structure of employment or the sex-ratio within occupations. Such dependence is indirect for the ID and works via the structure of employment.

Summary

The above analysis is based on three measures of segregation: the Karmel and MacLachlan index, also employed to monitor progress towards equality within the European employment strategy; the index of dissimilarity; and Hakim's criterion to categorise occupations as female-dominated, mixed and male-dominated. Occupational segregation has been prioritised after ascertaining that sectoral segregation yields a similar but less neatly defined picture. The main findings can be summarised as follows.

- For the EU as a whole, the level of segregation, as measured by the IP index, is still relatively high, with a 25.3 % value for occupational segregation and a value of 18.3 % for sectoral segregation out of a maximum of 50 %.

- Differences among countries are still wide, with a gap of about 10 percentage points in the IP index between the most and the least segregated countries. Whether occupational or sectoral segregation is considered, the same four countries belong to the high- and the low-segregated group, respectively. The four high-segregation countries are Estonia, Slovakia, Latvia and Finland, and the four low-segregation countries are Greece, Romania Malta and Italy. The well-known opposition of the 1990s between high-segregation Nordic countries and low-segregation Mediterranean countries has given way to a similar opposition between (part of) eastern Europe and (part of) the Mediterranean.

- The indices of occupational segregation for Europe as a whole (EU-27 or EU-15) do not indicate significant change since 1992. However, a slight upward trend is detectable over the current decade.

- Aggregate trends in occupational segregation hide contrasting patterns at country level. Fast de-segregating countries are Austria, the Czech Republic, Denmark, Norway, Sweden and the UK, while re-segregating countries comprise Bulgaria, Ireland, Italy, Latvia, Romania and Spain.

- With the exception of a few countries, mixed occupations have increased over the past decade in all the countries where segregation indices declined, and conversely. Across countries, change has been more pronounced for male-dominated occupations, whose share has decreased proportionately more.

- Differential growth of female employment partly accounts for differential change in occupational segregation. Decomposition of the ID index into a structural component, a sex-ratio, and a residual component suggests that, in the short term, both the structure of occupation and change in the sex composition within occupations contribute to the overall change in segregation, often but not always in the same direction. Over longer periods of time, change within occupations tends to become the dominant component.

- This latter finding is consistent with the evidence from the case studies reviewed later in the report which suggests that it may be easier for women to enter where overall employment grows, sometimes inflating an already large female share. Once women have made inroads into male areas, they may branch out if they encounter low barriers or if they are sufficiently motivated by income and working conditions.

- Significant increases in female employment may therefore raise the level of segregation on a more or less temporary basis. This is further confirmed by evidence of a positive cross-country correlation between the female employment rate and levels of segregation. The overall indication is that a trade-off may exist in the short or medium run between the objective of raising women's employment and that of favouring de-segregation.

2. Root causes of segregation

The central question addressed in this chapter is how and why employment segregation comes about and changes over the years. The first sections of the chapter concentrate on the main factors discussed in the literature and the related findings from empirical studies. The latter part of the chapter introduces evidence from the case studies surveyed in Part II of this report.

2.1. Old and new explanations

The debate on the root causes of segregation held centre stage in economics, sociology, demography and industrial relations during the 1970s and 1980s. Subsequent theoretical developments mainly refined or revisited earlier explanations. Empirical investigations continue to flourish, and several recent reviews of the literature indicate that there is still lively academic interest in segregation (for reviews of theoretical analysis and empirical findings see Anker, 1997; Bielby and Reskin, 2005; Blau et al., 2006, Chapters 5–7; Bettio, 2008; for methodological reviews on the measurement of segregation see Bridges, 2003, and Watts, 1998).

After decades of debate, a battle of indices, and abundant empirical investigations, there are two statements that would probably find most scholars in agreement, even mainstream economists: firstly that segregation may indeed imply pay discrimination, and secondly that there can be no single-factor explanation for it. A number of key factors can be singled out from the voluminous literature on the subject and grouped as follows:

- comparative advantages;
- under-investment;
- preferences and prejudices;
- socialisation and stereotypes;
- entry barriers and organisational practices;
- differential income roles.

Comparative advantages. Biology is perhaps the oldest explanation for the gendered division of labour. In the not too distant past of mass manufacturing, the emphasis was on a variety of physical differences like muscular power versus resilience or dexterity. As technological progress evened out the role of physical characteristics, attention shifted to the brain or how the mind works.

A frequently cited study of the 1970s (Maccoby and Jacking, 1974) found that whilst women show a high degree of verbal competence, men are better at solving abstract mathematical and visuo-spatial problems (see also Jones, 2008). England et al. (1982) gave support to this idea with their finding that female employment was lower in more mechanised jobs requiring spatial abilities. Systematic over-representation of women in less mechanised, and hence more labour-intensive jobs, is a key finding of other studies of the 1980s (Bettio, 1988; West, 1982), but it has also been given a different interpretation as shall be discussed below. Recently, the debate has been revived by the PISA results on the comparative performance of boys and girls in mathematics and by the controversy surrounding the statement by the principal of Harvard — Laurence Summers (2005) — that women have less aptitude for mathematics than men. However, Guiso et al. (2008) found that, across countries, the ability score in mathematics for women is negatively correlated with measures of gender gap in status and other indices of gender inequality. According to the latest PISA results, for example, in Sweden, Norway and Iceland girls scored as high or higher than men even in maths.

Given modern technology, therefore, comparative biological advantages may continue to play a role in a very limited number of occupations where an above-average competence in mathematics or language (as well as other subjects) matters for productivity; but even this limited role may not be ascribable to biology alone.

Under-investment. Biology is also the point of departure of the human capital theory. Here, an innate comparative advantage in domestic production accounts for under-investment in education or training on the part of women, thus, confining them to poorly-skilled and poorly-paid areas of employment (Mincer, 1974; Heckman, 1979). However, the fact that in most European countries women are outperforming men up to the first level of tertiary education (Eurostat, 2008, Table A.20) makes the human capital explanation somewhat obsolete with respect to formal education. The same holds for later and more sophisticated versions of this argument, such as that put forward by Coate and Loury (1993), which claims that women choose to under-invest in education because they anticipate that employers will be prejudiced against them and will assign them to jobs which do not require investment.

Segregation by field of study in favour of 'soft' disciplines has also been rationalised within the human capital approach, although some believe that stereotypes are primarily to blame. Women in higher education, the argument runs, opt for soft subjects either because they do not think of education as a job-related investment, or because the obsolescence of the human capital that they acquire in these subjects is lower in the case of work discontinuity, or less costly. Although gender differences persist, the historical reality is that de-segregation in higher education has proceeded at a relatively fast pace among younger cohorts of students,

with the exception of mathematics and computer sciences (Eurostat, 2008). The statistical evidence on the strength of the link between segregation in education and in employment is mixed. Valentova et al. (2007) found that horizontal segregation in education (by field) is more closely related to the occupational gender segregation than the vertical segregation in education (by level). In our own findings, a significant correlation between change of the segregation in education and in employment is detectable for the EU-15 over the past 15 years, not for the New Member Countries (Box 1). Such mixed evidence is consistent with the latest finding by *Employment in Europe* that there is a close connection between field of study and job requirements for only a minority of jobs (EIE, 2008).

Under-investment may also concern on-the-job training when job or firm-specific skills are important. On average, women receive less hours of on-the-job training than do men (see Table A.2 in the Statistical Appendix). However, employers' decisions and collective bargaining are more likely to account for under-training than are women's own choice to under-invest. Moreover, if it were true that, anticipating career breaks, women chose occupations where less firm-specific investment was needed, starting salaries would be higher in female-dominated occupations because there would be less need to offset training costs (England et al., 2000); but this is hardly a common finding!

Preferences... Women may have a clear preference for certain occupations, and likewise for men. Mainstream economists assume that preferences for jobs and job characteristics are defined prior to entry into education or the labour market, and they theorise that people are willing to pay for their own preferences if necessary (Rosen, 1986). According to the theory of compensating wage differentials, if, say, women are found in caring jobs and are paid less than men for comparable effort and skill, the ensuing wage gap is interpreted as the pay that women are willing to forgo in order to enjoy the 'caring' aspect of their jobs. However, in spite of the assumption by economists of well-defined and stable preferences, ascertaining what people really prefer may not be simple. Because of cognitive dissonance, preferences may 'adapt' to outcomes once a choice has been made, or if there is no choice. Hence, proving that women truly prefer female-dominated jobs even if they are paid less is problematic and comes dangerously close to being tautological. In fact, we are not aware of attempts to directly validate the compensating differential argument in relation to occupational segregation.

...and prejudices. Preferences may include 'prejudices', because *de gustibus non est disputandum* (Becker, 1957). If some male employers are prejudiced, Becker (1957) argues, but there are enough non-prejudiced employers willing to operate with an all-female or prevalently female work force, then segregation may actually protect women against the risk of discrimination (and lower pay). It is perhaps not surprising that this historically counter-intuitive hypothesis derived from Becker's theory of discrimination has been subject to little empirical testing, and with controversial results at best (Masters, 1975; Reich, 1981).

Goldin (2002) has recently revisited Becker's line of argument turning it into a more sophisticated 'pollution' hypothesis. Because women are late-comers to the labour market, the argument runs, there is more uncertainty about their attributes and capacities. When they first enter male-dominated occupations where certain capacities are sources of higher pay and prestige — as physical strength used to be in the past — this is taken to imply that the job may no longer need such capacities. Fearing 'pollution', male workers oppose women's entry. In order to avoid male opposition and be able to hire women, non-prejudiced employers respond by creating two occupations, which are sex-typed 'female' and 'male' respectively and paid equally. Nevertheless, the solution of creating two separate occupations takes time, and in the intervening period women may be crowded into occupations that require less of the highly paid capacities and command lower pay. Thus instances of discrimination may occur alongside processes of 'neutral' segregation. Goldin cites a wealth of historical examples in support of her account. Her explanation has the advantage of providing theoretical foundations for the idea that not all segregation is necessarily 'bad'. However, the reasoning boils down to the idea that a resilient phenomenon like segregation ultimately depends on the fact that not enough knowledge has been gained about women's productive potential. Some may find this unconvincing.

Socialisation and stereotypes. In contrast to economists, sociologists believe that preferences are socially constructed via the labour market, as well as via the family and other social institutions. In their view preferences are bound to reflect sex-based stereotypes ([6]):

> All societies categorise members by their sex. Personality traits, preferences and potential are inferred from individual's biological sex. These sex-based inferences are sex-stereotypes. Stereotypes matter because they are generally known and prescribe appropriate behaviour. (Reskin and Bielby, 2005, p. 73)

In the labour market, stereotypes can also be used as proxies for productivity when the true characteristics of the individual workers are not fully known: for example, presumptions about women being 'better' at teaching, men at driving, or the perception that women are less reliable, hence less productive because of discontinuity.

([6]) In their identity theory, Akerlof and Kranton (2000) introduced the notion of 'normative stereotypes' among economists, using formal language.

This may give rise to statistical discrimination, whereby all women are assumed to be discontinuous at work even if only some of them are (Phelps, 1972).

Whether stereotypes are used as surrogate information or in order to prescribe behaviour, they are ubiquitous, and they are attributed considerable importance for segregation by sociologists: see, among others, Harman and Reskin (1986) for earlier work, and Reskin and Bielby (2005) for more recent findings. Especially telling are examples of the explicit and intentional construction of stereotypes like that of 'Rosie the Riveter'. In order to deal with the shortage of men in factories during the Second World War, the media first created the female 'Riveter' — a woman also able to do men's work — and then demolished it once the war was over (Honey, 1984).

As this example clarifies, history is needed to explain how a particular occupation has come to be associated with one or other sex. In other words, explanations based on stereotypes are either very general or they are detailed but *ex post*. At practical policy level, however, the message from the literature on stereotypes is clear: implementing processes that use education or the media to remove the association between given occupations and womanhood can go a long way towards de-segregation. Akerlof and Kranton, for example, credit the American feminist movement with having weakened this association in the 1970s, when indices of segregation recorded their first major decrease since early industrialisation.

Barriers to entry and organisational practices. Stereotypes gained importance as mechanisms of segregation with the progressive demolition of the formal barriers preventing women from entering specific occupations. Barriers had been imposed by legislation but also by unionised workers in the guise of restrictive practices (Humphries, 1977; Rubery, 1978; Hartman, 1979). In the most developed market economies, legal bans and restrictions may now be regarded as things of the past, but some of that past is sufficiently recent for it to exert influence still today. For example, women were allowed to enter the judiciary only as late as 1963 in Italy, and even the Netherlands waited until 1947 to witness the appointment of the first female judge. Moreover, the lifting of a legal ban does not guarantee that covert opposition will disappear. May (2008) maintains that some of the arguments used in the past to justify formal barriers to entry to higher education are still used today to justify segregation of school/university curricula in the USA.

Covert and milder forms of barriers may be found in organisational practices that bias selection and promotion for women by using stereotypes (Kanter, 1977). Whilst discrimination at hiring may be less common today because of anti-discriminatory legislation, personnel practices are still largely discretionary. For example, gender is often taken into account when assigning jobs. In the well-known case of *Sears* v *Roebuck*, one of the largest department stores in the USA, the American Equal Employment Opportunity Commission claimed that the assignment of men to the large household appliances department constituted discrimination against women. This was because sellers of appliances were paid commissions proportional to the value of their sales and earned higher salaries (Milkman, 1986). The case was lost, and men and women continue to be assigned to different jobs within department stores, in the USA and elsewhere.

The dual labour market and the internal labour market hypotheses that Barron and Norris (1976) and Doeringer and Piore (1971) proposed in the 1970s postulate systematic differences in payment systems, career ladders and working conditions in male and female jobs. The reasons may be actual or presumed discontinuity on the part of women, or plain discrimination. At least some of these differences still persist, because it has been found that predominantly male jobs still have longer ladders. In female-dominated jobs, by contrast, the rungs on ladders are closer together and therefore yield less advancement at each promotion (Peterson and Saporta, 2004; Barnett, Barron and Stuart, 2000).

Different examples of potentially biased organisational practices are mechanisms of co-optation for hiring or promotion, which tend to favour men because women have poorer networking resources. In general, research has found that the more bureaucratic, formal and transparent personnel practices are, the weaker the association between jobs and workers' sex (Reskin and McBrier, 2000). Jobs in large firms or in the public sector tend to be more bureaucratically regulated. Thus different payment structures or different types of employer (large/small, private/public) concur to shape the pattern of segregation (Grimshaw and Rubery, 2007).

Income and care roles. Based on detailed case-study analysis, Bettio (1988) argues that occupational segregation often confines women to lower value added, lower-paid jobs. On the one hand, different jobs have different value added for employers depending on the location of the job in the production structure, not on the productivity or training of the worker. For example, labour-intensive jobs tend to yield less value added per hour worked and have often been feminised (West, 1982; Bettio, 1988, Chapter 8). On the other hand, women's bargaining position tends to be lower, primarily because of unequal distribution of care work and unequal commitment to securing monetary income for the family. Even when women share equally with men the commitment to securing money income, they are often assumed not to 'need' as much (the 'pin money' stereotype). Given widespread assumptions about gendered income and care roles, employers find it easier to match men with greater value added jobs for which they are willing to pay more. An inevitable offshoot of this 'matching' is the undervaluation

and under-recognition of the specific skills required by women's jobs (Elson and Pearson, 1981; England, 2004).

The unequal care burden also provides an explanation alternative to compensating wage differentials for the frequent finding that women seek occupational niches where hours are shorter or more flexible. It is not that women are willing to forgo pay because they enjoy flexible hours whilst men do not; rather, women are more likely to accept lower (per hour) wage offers if this is the only way that they can combine the roles of mother and wage earner.

2.2. Evidence from national case studies

Case-study research on occupations reviewed by the national experts is summarised in Part II for 10 occupational groups: university professors, doctors, financial professionals, IT technicians, lawyers and judges, home helpers in elderly care, nursery care workers and pre-primary school teachers, cleaners, retail sector workers and police.

Evidence from these studies does not expand the above list of factors, but it clearly prioritises some over others. Primary emphasis is placed by these studies on the choice of the field of education, covert barriers and biases in organisational practices, including collective bargaining procedures, stereotypes and hours of work. We briefly highlight the most significant findings below, while a more extensive description is given in Part II of the report.

Organisational practices. The importance of organisational practices for the pattern of segregation emerges from several case studies.

- In their research on teachers of economics in Italian universities, Carabelli et al. (1999) found that supply-side explanations like motherhood or fewer publications could not fully explain differential career outcomes for male and female faculty, whereas poorer networking resources among women was a more convincing explanation.

- Research on faculty in Germany indicates that how women are or behave in comparison with men has been overestimated in comparison with how academic institutions are and behave (Wissenschaftsrat, 2007, p. 20). Advocacy of standardisation and transparency of hiring and selection procedures is, in fact, strongly supported by the findings on university teachers.

- Longitudinal research on doctors in Norway *(Gjerberg, 2002) suggests that, whilst having children is among the factors accounting for the fact that young female doctors change specialty more often than men when they start a family (e.g. from surgery or internal medicine to gynaecology) some exclusionary mechanisms could also account for these changes.*

- Work assignment by managers of maintenance cleaning firms in Belgium is an example of how organisational practices can still be driven by prejudices or stereotypes. Male managers — the vast majority — often assign jobs entailing longer hours to their male staff on the assumption that men are the main breadwinners (Meulders, 2008).

Stereotypes: The role of stereotypes that emerges from the surveyed case-study research is complex. The following are examples of how and why stereotypes matter.

- In Hungary, acceptance of a stereotypical division of labour between men and women in the family hinders awareness of the seriousness of vertical segregation among managers: vertical segregation is taken to be a 'natural' consequence of the family division of labour.

- Across countries, medical specialties where women predominate are allegedly viewed as 'feminine', 'caring', requiring interpersonal skill and 'emotional work'. Some scholars go so far as to claim the existence of 'innate skills', for example for female paediatricians (Brooks, 1998, quoted in Fagan, 2008).

- Seven in every 10 law professionals in Ireland (barristers or solicitors) are women in family law, but only 5 out of 10 work in commercial law. Allegedly, although higher representation in family law partly ensued from larger inflows of women when legislative changes introduced legal separation and other family law remedies, 'the global tendency for family law practice to be dominated by women….suggests a gendered explanation' (Bacik et al., 2003, author's emphasis).

However, what lies behind stereotypes is not always clear. In Portugal, where almost half of doctors are women, dentistry is male-dominated whilst clinical haematology is female-dominated. Is this evidence that dentistry requires less care and involves less emotional work? Moreover, qualitative research in the sector of financial intermediation carried out in the Czech Republic highlights how women cope with discriminatory behaviour by complying with feminine stereotypes so as to gain acceptance for career advances. In similar vein, the findings of a study of academic engineers in Italy suggest that women first entering subdisciplines dominated by male culture and practices may exploit stereotypes in order to ease their acceptance. But once the presence of women has somehow been 'accepted', the process of breaking stereotypes becomes less costly.

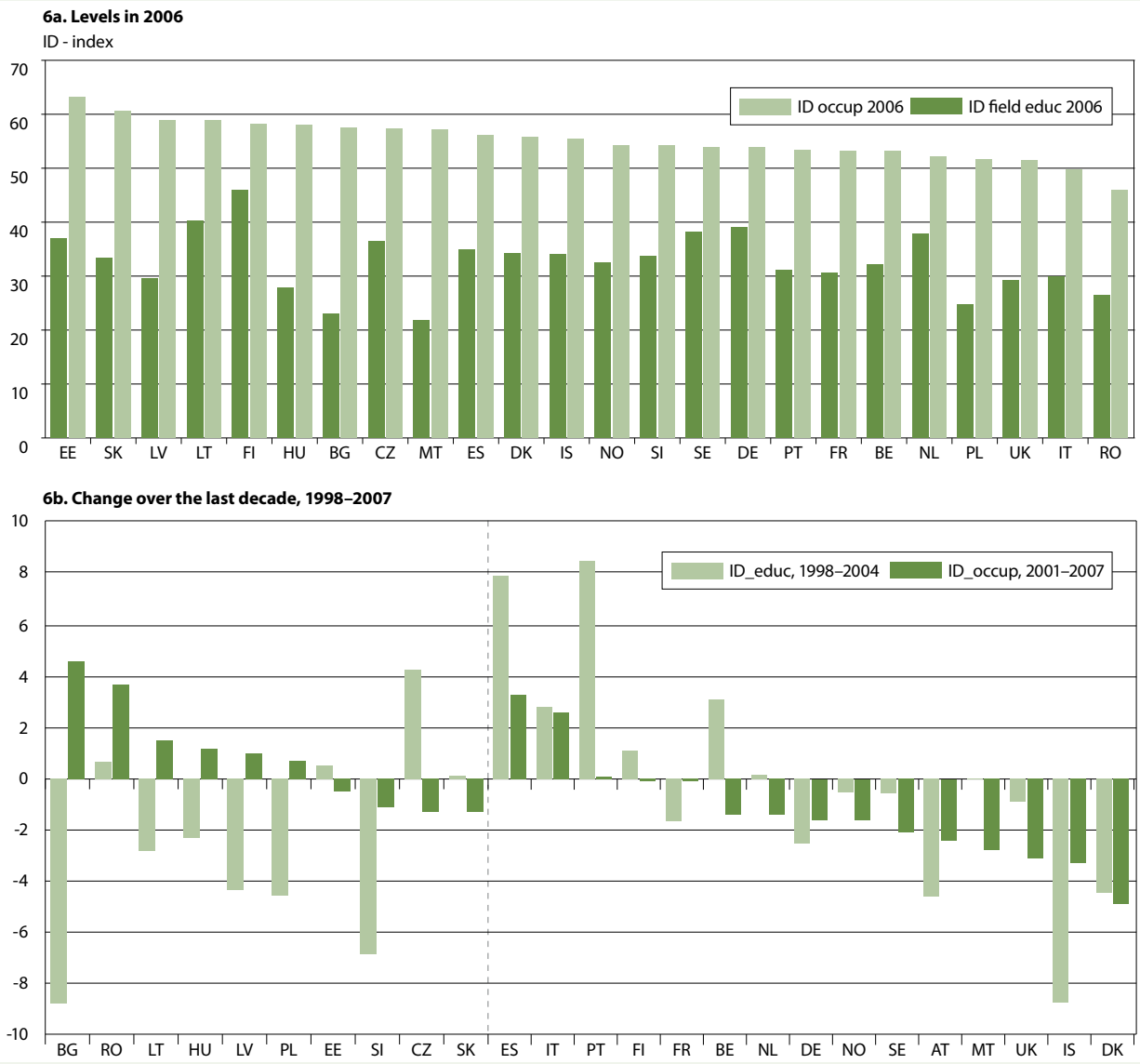
Additional indications that the true role of stereotypes may be overestimated because they offer ready-made and so-

Box 1. Field of study and occupational segregation

Choice of level and field of education is a popular explanation for occupational segregation emphasised by several national reports. Since women are outperforming men in levels of education attained – up to the first stage of tertiary education – choice of field is the primary channel through which education can influence de-segregation in the future.

As with choice of occupation, segregation indices are used to measure the dissimilarity of choice of study field between men and women. Figures 6a and 6b juxtapose for each country the value of the ID index for occupations and that for fields of study in tertiary education, the purpose being to detect any influence of education on occupational patterns. Chart 6a uses levels in segregation, while Chart 6b reports change over the past decade allowing for a three-year 'production' lag, i.e. assuming that less (more) differentiation in choice of field of study at year *t* will show up in employment some three years later (*t+3*). Over time, and for EU-15 countries only, de-segregation of education clearly associates with de-segregation in employment (and conversely). While this finding conforms to expectations, it is not repeated for central and east European countries, where the distribution of women and men across fields of education has recently become more balanced – with the exception of Romania, Estonia and the Czech Republic – without this showing up in the distribution in employment. Moreover, inspection of levels of segregation across countries does not reveal a clear tendency for more dissimilar educational choices to be matched by more dissimilar occupational structures. Perhaps the main reason for this patchy evidence is that the choice of field matters for a limited number of occupations and is therefore easily obscured by other factors at aggregate level.

Figure 6. Segregation by field of education and by occupation in Europe, 1998–2007



NB: Twenty-three fields of education are considered for the ISCED 5–6 graduates (first and second stage of tertiary) including teaching and training, education science, arts, humanities, social and behavioural science, journalism and information, business and administration, law, life science, physical science, mathematics and statistics, computing, engineering and engineering trades, manufacturing and processing, architecture and building, agriculture forestry and fishery, veterinary, health, social services, personal services, transport services, environmental protection, security services.

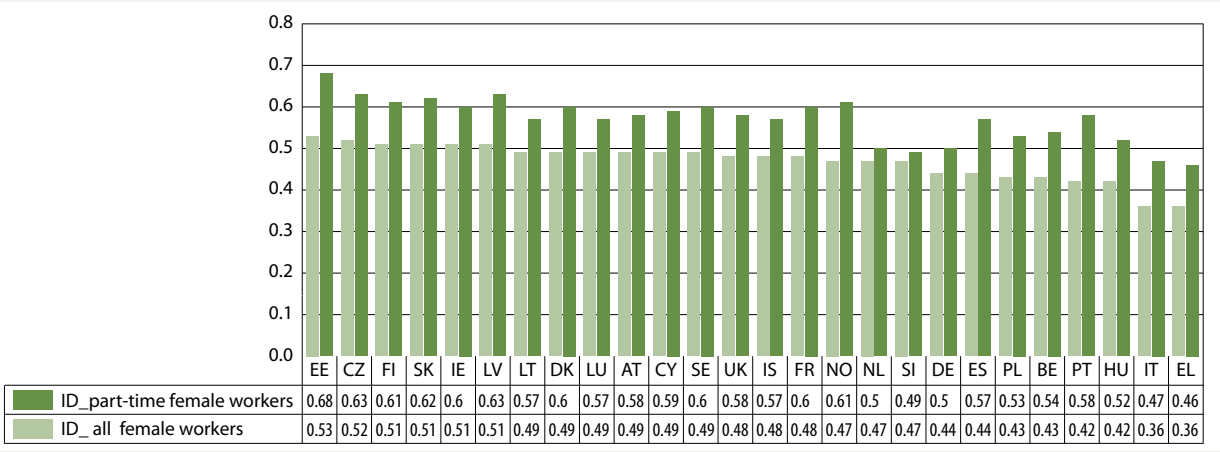
Source: Own calculations using LFS (ISCO-88 three-digit) for occupations and Eurostat data for the distribution of men and women between different fields of education.

Box 2. Part-time employment and segregation

Previous research has found that segregation is higher among women part-timers, indicating that the choice of part-time implies further restrictions in the range of available employment opportunities (Petrongolo, 2004; Blackburn et al., 2001; Fagan, 2003)

Figure 7 offers supporting evidence by comparing two ID values. The first value is computed for all men and women employed and the second is computed for all men and women part-timers only. If the second value (bar to the right) is higher than the first (bar to the left) this indicates that the occupational structure of female part-timers is less diversified than that of female full-timers. This is precisely what the figure shows for all European countries with no exception. Two countries record a comparatively lower difference, Slovenia and the Netherlands. The result for the Netherlands is especially noteworthy because this is the country with the highest share of part-timers: Dutch part-timers are clearly so many that they are found in a much larger number of occupations compared with their counterparts in other countries.

Figure 7. Segregation of all/part-time female workers versus all male employees in Europe, 2006



	EE	CZ	FI	SK	IE	LV	LT	DK	LU	AT	CY	SE	UK	IS	FR	NO	NL	SI	DE	ES	PL	BE	PT	HU	IT	EL
ID_part-time female workers	0.68	0.63	0.61	0.62	0.6	0.63	0.57	0.6	0.57	0.58	0.59	0.6	0.58	0.57	0.6	0.61	0.5	0.49	0.5	0.57	0.53	0.54	0.58	0.52	0.47	0.46
ID_ all female workers	0.53	0.52	0.51	0.51	0.51	0.51	0.49	0.49	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.47	0.47	0.47	0.44	0.44	0.43	0.43	0.42	0.42	0.36	0.36

NB: The ID index is used for this exercise because the IP is sensitive to variations in the share of female employment, and automatically decreases when female full-timers are dropped from the calculations. The values for the ID index differ from those in Table A.1 of the Statistical Appendix because SILC data at two-digit ISCO level are used. The reason is that LFS data at three-digit level are not available for the part-time/full-time breakdown.

Source: Own calculation using EU-SILC 2006 (ISCO-88 two-digit)

cially acceptable or socially appealing reasons for choice come from Norway. According to Solberg (2004), male students attending pre-school teacher training courses are significantly less motivated than female students, but they report a lack of alternative employment opportunities as the main reason for their low motivation, not the prospect of entering a heavily feminised occupation.

Discussion on the importance of field of study for segregation is bound to overlap with that on stereotypes, as some of the above examples make clear. Case-study research on the high-paid professions underscores the importance of educational choices. Women are found to flow into a profession following an increase in the supply of female graduates with the appropriate qualifications. This tends to the rule, although there are exceptions, for example among IT technicians in Greece, where the share of women is still much smaller than that among students (Karamessini, 2008). However, the correspondence between qualifications and field of education is much weaker for non-professional occupations, which are in the majority (EIE, 2008, Chapter 5). Overall, therefore, more diversified choices of field among men and women do not consistently match with more diversified employment structures at aggregate level (see Box 1).

Hours of work. With reference to segregation, hours of work are less of a concern in central and east European countries than in the rest of Europe. For instance, the gender gap in hours worked is small in top occupations such as management in the Czech Republic and financial intermediation in Bulgaria (Beleva, 2008; Křížková, 2008). In other European countries, however, men clearly compete for better jobs by putting in more hours of work. Accordingly, women find that the search for shorter hours may considerably restrict their choice of occupation. This is known to occur more frequently at the lower end of the skill spectrum, specifically among part-timers. Our own calculations confirm that segregation is considerably higher among female part-timers, without a single exception among European countries (Box 2).

Part-timers tend to be found more frequently in low-paid and low-qualified occupations. However, case-study research singles out workloads and works schedules as important contributors to segregation — between and within occupations — even among doctors, judges, primary school teachers, home-care workers, and IT professionals.

- In Austria and Greece, where women decreased within large segments of the IT sectors, long hours and/or

irregularly spaced hours with peaks at project deadlines have been found to deter entry by women (Karamessini and Sakellaridis, 2007, quoted in Karamessini, 2008; Krenn, 2005, quoted in Mairhuber, 2008).

- Conversely, greater opportunities to work part-time or flexible hours are cited in explanation for the long-standing feminisation of primary school teachers in Latvia and home-care staff in Austria.

- Patterns of re-segregation also reflect hours of work arrangements. In the UK and Italy, male general practitioners (GPs or family doctors) are alleged to be, respectively, under-represented and over-represented compared with other doctors because of hours of work. In the UK, average working hours for part-time and full-time GPs vary from 33.8 hours among partners to 22.3 hours among salaried GPs, thus attracting women in a profession where the culture of long hours is still dominant (Fagan, 2008, Box 2b.2). By contrast, in Italy, the earnings of GPs are directly proportional to the number of patients up to a statutory maximum, and male GPs seize this opportunity to maximise their earnings alongside their hours of work; female doctors prefer hospital work or set up studios where opportunities for shorter or flexible hours are higher (Vicarelli and Bronzini, 2008).

Whilst case-study research underlines the importance of hours of work, some caution is necessary, as illustrated by the following examples:

- In the Netherlands, where women are making large strides in the judiciary, the profession of magistrate is depicted by personnel advertisements as a modern form of employment with opportunities to work part-time, parental leave and childcare facilities. However, past research found that few women mentioned the opportunity to work flexible hours or part-time as the reason for choosing the judiciary (De Groot-Van Leeuwen et al., 1996).

- In Italy, the importance of hours of work was stressed by research looking at women first entering male professions, but research updates indicate that this reason is less frequently cited by younger women now entering these same professions (David and Vicarelli, 1994).

- The above-cited longitudinal research in Norway on change of specialty among female doctors over the life course further counsels caution. For example, when the change is from surgery to gynaecology, the gain in flexible or shorter hours may be rather limited, and part of the explanation probably lies elsewhere.

Finally, the presumption that all women want shorter hours may be used against them. Thus the battle to reschedule working hours in order to combine family and work cannot be fought for women alone, or else it may turn into a trap.

- Male supervisors of maintenance cleaning firms in Belgium allegedly often assign men to longer, better-paid tasks on the assumption that men need to or should earn more.

- In Malta, the lowest female-participation country, it is not infrequent for women with college educations to drop out of the labour force or radically shift their career orientation — for example from accountant to teacher — in order to meet family demands. Interviews with women graduates revealed that 'they were "encouraged" by husbands, whose earning commitment takes priority over theirs, to reduce their full-time hours of work or exit the labour market, to look after their children' (Camilleri-Cassar, 2005).

Summary

The debate over the roots of segregation dates back to the 1970s, but it remains the point of reference despite the fact that so much has changed since then. After decades of research, most scholars would agree that there can be no single-factor explanation for segregation. Given widespread enforcement of equality legislation over the past years, impressive advances of women in education, progressive loss of importance of physical attributes for productivity, change in family roles and, last but not least, successful challenging of gender norms by feminism, current research has both narrowed down the list of potentially relevant factors identified in the early debate and nuanced the original explanations.

Priority is given to four sets of factors: hours of work, stereotypes, choice of study field in education, and covert barriers and biases in organisational practices, including collective bargaining procedures. The main findings can be summarised as follows.

- There is both statistical and qualitative (case-study) evidence that choice of study field still matters for the type of occupations that men and women enter, but the correspondence between field of study and occupation is close for about 10 % of jobs only, those in the licensed professions.

- Stereotypes are ubiquitous and continue to influence behaviour, but it is not easy to pinpoint how far they stand for genuine preferences, how far they express social norms or how far they are used to surrogate information. Also, the actual role they play in segregation may be overestimated by qualitative research, since sometimes they are used to rationalise or even legitimise *ex post* choices that may have been made on other grounds.

- The unequal care burden and the consequent inability to prioritise income commitment within the family drive the quest of many women for shorter and more flexible hours of work. Among qualified women (the 'professionals') this search for hour-friendly occupational niches often results in re-segregation into professional niches, or it hinders entry into occupations featuring high/irregular work hours and workload.

- When the search for shorter working hours becomes a choice for part-time work, it is likely to further restrict the choice of occupation, as underlined by the significant increase of segregation that has been found for female part-timers in comparison with female full-timers.

- Although legal barriers to entry or restrictive practices have long been outlawed, covert biases or forms of impediments still exist, often restricting career paths and career prospects within occupations. Examples that bear special importance for vertical or hierarchical segregation are closer rungs on ladders in feminised jobs' career tracks, discretionary managerial practices for selection, hiring and promotions, networking and mechanisms of co-optation.

- All these mechanisms interact with different payment structures or different types of employer (large/small, private/public) in shaping the pattern of segregation.

- In highly paid, professional occupations there is evidence that the influence of the above mentioned factors of segregation is diminishing, especially among younger cohorts of women. This is not the case for low-pay occupations.

3. Implications of segregation

Employment segregation matters if it yields unequal outcomes or interferes with an efficient functioning of the labour market. This chapter initially focuses on undervaluation of women's work, wage discrimination and job quality, because these issues are still of primary concern for the European employment strategy. The final section of the chapter addresses a macroeconomic issue, namely the possibility that segregation may be exacerbating skill shortages insofar as it impedes the efficient reallocation of male and female workers and distorts the allocation of future flows of workers.

3.1. Undervaluation, discrimination and overall inequality in pay

Undervaluation and segregation

In their report to the Equal Opportunity Commission in the UK on the undervaluation of women's work, Grimshaw and Rubery (2007, p. 10) define undervaluation as 'higher quality of labour for a given wage' and see it as '…a thread which links together the three causes of the gender pay gap: occupational segregation, discrimination and women's unequal share of family responsibilities'. They identify two groups of factors that may convert segregation into undervaluation: respectively, the social construction of value and payment systems (Box 3).

Box 3. Undervaluation and occupational segregation

The social construction of value

Segregation makes it much more difficult to compare the relative skills or contributions of women and men directly. Segregation may disguise the influence of gender on wage differentials between sectors and organisations and on pay and grading hierarchies within firms. These influences can be summarised as follows.

- Visibility: women's skills are often simply not visible, as their jobs tend to be aggregated into large and undifferentiated pay and grading bands.
- Valuation: women's skills may not be valued, since pay and grading structures are still often based on male-type skills.
- Vocation: women's skills are often treated as 'natural', deriving from women's essence as mothers and carers, and are considered to provide opportunities for high levels of job satisfaction that justify the provision of low pay.
- Value added: women are more likely than men to be found in low value added or labour intensive occupations.
- Variance: women's lives follow different patterns to men's. This variance from a male norm promotes the notion that women's work (e.g. part-time work) occupies a separate sphere that is non-commensurate with that of men's.

Payment systems

Women's pay may be lower than men's if there is no job-grading system in place; if there are separate systems related to different kinds of jobs; and if the system does not reflect the kind of skills found in women's as well as in men's jobs. Starting salaries and individualised pay increments tend to be lower for women than for men.

Men appear both more able or willing to engage in individual bargaining and to use external pay offers to boost pay.

Some women are less able than men to gain access to higher level jobs, as they face higher progression bars or are less able to meet them. Even if promoted, they may receive lower initial or continued pay rises.

Performance pay acts to maintain or exaggerate undervaluation by being more common in, and providing higher rewards in, male-dominated occupations; by being based on discretion; and by being based on variable, subjective, or male-biased, criteria of assessment.

Non-pay elements of the reward package tend to be higher, the higher the pay, and do not provide compensation for lower pay.

Pay systems are often based on rewarding the male model of continuity of employment and long hours of work.

Source: Grimshaw and Rubery (2007, pp. 14–15).

Several findings from the case studies reviewed in Part II show that many of the factors discussed in the Grimshaw and Rubery report continue to play a role in the undervaluation of women's work.

Skill and payment structures may overtly or covertly contribute to undervaluation. Overt biases in skill evaluation, or skill downgrading, have been documented for the Czech Republic and for Germany in the following instances.

- In the Czech Republic, Kozel (2002) compared the pay scale for the police force with that for nurses, two occupations that are both in the public sector, have positive externalities (social usefulness), offer similar working conditions such as shifts and exposure to safety hazards, and require psychical and emotional effort, as well as control over emotions and ability to interact with people. However, the police scale starts from a higher minimum pay rate, and cumulates this initial advantage with higher supplements for night work, working with the mentally ill or being exposed to hazards.

- In Germany, separate pay rates are negotiated for building and window cleaning and for maintenance cleaning, with the latter being much more feminised. In these negotiated scales, an unskilled helper in building and window cleaning is entitled to a per hour rate higher than that received by a foreman in maintenance cleaning (Maier, 2008).

Covert biases become evident when feminised occupations attempt to attract more men, as these examples from Iceland and Austria show.

- In Iceland integration of pre-primary school teaching into the school system and away from 'care work' is expected to reduce the undervaluation of this highly feminised occupation and to attract men (Jónsdóttir, 2005).

- In the Austrian long-term care sector, the occupational ladder initially comprising only nurses and home staff workers has been lengthened with the creation of the 'assistance nurse position'. This move follows a search for 'professionalism' in the hope of attracting more men.

The underestimation of women's skills or their poor visibility is evidenced by several case studies as ways in which skill is socially constructed.

- Both male and female waiters interviewed for a survey in Portugal (Ferreira, 2008) justified lower pay for women with the claim that men are able to cope with 'physical effort' whilst women are merely more 'sensitive'. It is clearly taken for granted that physical effort should pay more than sensitivity and that actual waiting at tables is more strenuous for male waiters and demands more sensitivity to female waiters.

- In the attempt to fight the undervaluation of home-based care of the elderly, the Brigitte Croff Conseil in France has drafted a skills certificate for home carers which states the skills and competences that the job requires, including autonomy, perseverance, ability to listen, physical competence, ability to work in a team, self-confidence, etc. (Silvera, 2008).

Very high turnover in several feminised low-pay occupations is a summary indicator that pay is too low for the demands imposed by the work, and it is a frequent finding for feminised low-pay occupations.

- Labour turnover is explicitly reported to be very high or higher than average among: maintenance cleaners in Belgium and Germany (Meulders, 2008: reference to a 55 % turnover; Hieming et al., 2005; Maier-Ahuja, 2003); waiters in Portugal (Agender, 2008); sales workers in Ireland (Indecon, 2002), and bar tenders in Liechtenstein (Papouschek, 2008). Across countries, one of the responses in many of these occupations is to rely increasingly on immigrant workers.

- In-living elderly-care workers in Italy are overwhelmingly female and immigrant. Even this docile labour supply resorts to forms of turnover in response to working conditions. In-living care workers of eastern European origin (the majority) often work in 'rotation' with friends or relatives in order to cope with family commitments back home, but also to counter the stress that the job entails (Bettio et al., 2006).

A typical process of undervaluation well documented in the literature is the decline in comparative earnings that has often accompanied the feminisation of an occupation (Reskin and Roos, 1990). In the UK, men's relative earnings have declined over the past 15 years in 10 out of 18 occupations undergoing feminisation, including personnel managers, biological scientists, education officers/school inspectors, management accountants, authors/writers/journalists, and vocational and industrial trainers (Grimshaw and Rubery, 2007, p. 134). Another frequent finding is a positive correspondence across occupations or sectors between higher feminisation and lower comparative pay: research for the USA indicates that this is still the case in that country (Budig, 2002; Booras and Rodgers, 2003).

However, the evidence on both these points from the case studies discussed in Part II is mixed.

- An example of how feminisation makes occupational downgrading easier is provided by Tomášek's study (Tomášek, 2007, quoted in Křížková, 2008) of supermarket cashier work in the Czech Republic, where most cashiers are women. Following transition to the market economy, the workload has increased for the same amount of hours and pay, the work schedule

has become highly irregular, and generally the occupation is attracting marginalised groups of women — foreign workers and elderly female workers with few other opportunities.

If we look at high-paid occupations, the picture is more varied.

- Among university teachers, for example, women tend to experience more difficult career advancement in traditionally feminised disciplines such as arts or the humanities. This has been explicitly documented for Germany, Belgium and Italy, but it may also be true for other countries (De Henau, 2006; Wissenschaftsrat, 2007, p. 16; CNVSU, 2007, Table 3.10, p. 40). At the same time, the current distribution of university teachers in Italy across disciplines shows no consistent association with comparative earnings opportunities (Bettio and Verashchagina, 2008).

- Women are making large strides among doctors throughout western Europe. Ongoing feminisation of the profession has provoked fears of devaluation in France and has been explicitly linked with de-skilling in Portugal. However, that of doctors continues to be a high-paid, high-prestige profession in Italy, the UK and Finland.

- Despite the rapid and ongoing increase in the share of women judges in the Netherlands, the issue of devaluation has not been discussed for this profession, which may be taken to indicate that this risk is not deemed high.

The overall indication from case-study research is that low-paid occupations which are already feminised, or are undergoing feminisation, are more at risk of undervaluation than high-paid occupations ([7]). Two 'protecting' factors may be at work. In western European countries, high-paid occupations undergoing feminisation such as judges or doctors are 'strategic' public-sector occupations that continue to yield considerable bargaining power for their incumbents.

Discrimination and segregation

If undervaluation is defined as 'higher quality of labour' for a given wage, it largely coincides with discrimination. Statistical analyses are best suited to investigating the link between segregation and discrimination, and most of them share the same concept of discrimination: the latter is measured by 'netting' the hourly wage gap from the influence of male/female differences in characteristics like schooling, experience, work attitudes.

([7]) High-paying occupations in the case studies surveyed are doctors, university teachers, law professionals (judges and lawyers), financial intermediaries and managers, IT professionals. Low-pay occupations include nursery care workers and pre-primary school teachers, home helpers and elderly-care workers, cleaners, sales assistants and supermarket cashiers, and police.

Unsurprisingly, the findings from these studies depend on the methodology used; but the greater the detail in the data, the more visible the importance of segregation becomes. Recent econometric analyses testing the extent to which the wage gap is influenced by the level of segregation across countries find that the influence is weak, or works in the opposite direction to that expected. In contrast, analyses for individual countries using detailed data on wages by occupation, firm and sector conclude that segregation at all these three levels and not only by occupation explains a large share of the (netted) wage gap (Box 4).

Discrimination and inequality in pay

Undervaluation or discrimination are specific aspects of wage inequality. A different line of inquiry addresses the relationship between wage inequality at large and occupational segregation. The underlying assumption is that segregation does not always result in inequality. This idea has led to several attempts to decompose indices of segregation into 'invidious' and 'non-invidious' components (Charles and Grusky, 1995; Bridges, 2003; Blackburn et al., 2005).

Blackburn et al. (2001, 2005) propose a decomposition that resorts to the old concept of vertical segregation. As described in more detail in Box B.2 of the Technical Appendix, the overall segregation (*O,* measured by the Gini coefficient*)* is broken down into a vertical component (*V*, measured by Somers' D*)* capturing the association between segregation and a specific dimension of inequality (such as income, for example) and a neutral or non-invidious horizontal component (*H*). The relationship between *V, H* and *O* is

$$O^2=V^2+H^2,$$

so that the horizontal component can be obtained as a residual once the Gini index and Somers' D have been computed.

The decomposition carried out for this report used EU-SILC income data for 21 countries in 2006 at ISCO-88 two-digit level (26 occupations). Somers' D (vertical segregation) was computed using average per hourly wage earnings (cash and near-cash) by occupation for year-round employees. Workers reporting only self-employed income or reporting zero income were dropped from the sample because data on self-reported income are known to be less reliable for the self-employed. Given that the SILC source reports net income for some countries, and gross income for others, the gross income option was taken in order to incorporate the largest number of countries. Figure 8 lists the findings for all-year-round workers reporting non-negative wage income: the continuous line records overall segregation (as measured by the Gini coefficient) whilst the bars chart the value for vertical and horizontal components (see Box B.2, Technical Appendix).

Box 4. Findings from econometric analysis on segregation and discrimination

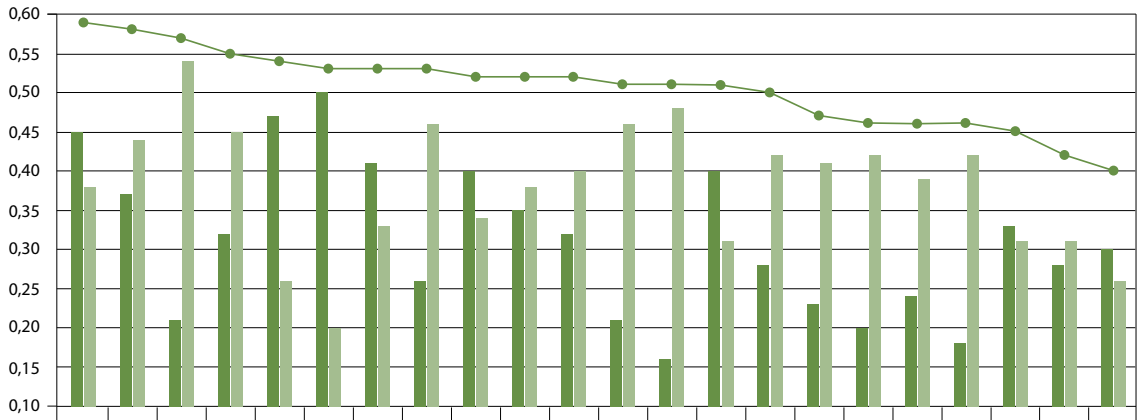
The results from recent studies exploring the link between indices of segregation and the net gender wage gap across countries cast doubts on the strength of this link. Both Blau and Khan (2001) for the USA and Dolado et al. (2002) for the EU-15 found a non-significant, albeit positive, influence of segregation on the net pay gap, while Pissarides et al. (2003) found a negative influence for 11 European countries observed between 1980 and 1998.

However, these are rather aggregate types of analysis. Different indications emerge from studies using more specialised sources (so-called matched employee-employer data) which record the characteristics of both narrowly defined occupations and the workers employed. Analysis using these types of data recently found that segregation accounts for a large share of the overall gender wage gap. Bayard et al. (2003) estimated that the effect of segregation among occupations, establishments and industries explains around one third of the net wage gap in the USA, whilst within-occupation differences in wages between male and female workers account for between one fourth and one half of the overall gender wage gap. Amuedo-Dorantes and De la Rica (2006, Table 5) found that the within-occupation component of gender pay differences accounts for between 22 and 53 % of the total net wage gap in Spain, depending on the year. The estimated impact of segregation among occupations, establishments and industries also varied considerably with the year of the survey, ranging between one tenth and one half.

Vertical segregation turns out to be less important than horizontal segregation in the vast majority of countries. Exceptions are Estonia, Slovakia and the Czech Republic among eastern European countries, Sweden and Germany among western European ones ([8]). In the remaining countries, the vertical component is between one third and nine tenths of the horizontal component. Somewhat unexpectedly, Scandinavia together with Germany and the UK record the highest vertical component in ratio to the horizontal one. This probably reflects the high share of part-timers, among whom pay is comparatively lower. However, this is not the case for the Netherlands, perhaps because part-time in that country is more the rule than the 'marginal' choice for women. The general prevalence of the horizontal component over the vertical component suggests that, whilst the dimension of inequality remains important for segregation, it cannot be (*or* is no longer) assumed that all segregation implies inequality.

([8]) This finding is fairly robust to change of the reference population — e.g. whether or not the self-employed are included — or to change of the indicator of income inequality — e.g. whether the share of employees in each occupation above median income is used instead of the average occupational income. However, the ratio of the vertical to the horizontal component is sensitive to the change in the indicator.

Figure 8. Horizontal, vertical and overall segregation in Europe, 2006



	EE	DK	LU	FR	SK	CZ	SE	NL	LT	NO	UK	ES	IE	CY	AT	HU	FI	BE	SI	DE	PL	IS
Vertical	0.45	0.37	0.21	0.32	0.47	0.5	0.41	0.26	0.4	0.35	0.32	0.21	0.16	0.4	0.28	0.23	0.2	0.24	0.18	0.33	0.28	0.3
Horizontal	0.38	0.44	0.54	0.45	0.26	0.2	0.33	0.46	0.34	0.38	0.4	0.46	0.48	0.31	0.42	0.41	0.42	0.39	0.42	0.31	0.31	0.26
Overall	0.59	0.58	0.57	0.55	0.54	0.53	0.53	0.53	0.52	0.52	0.52	0.51	0.51	0.51	0.5	0.47	0.46	0.46	0.46	0.45	0.42	0.4

NB: The criterion for vertical segregation is pay inequality measured by the percentage of male workers in the occupation with average gross hourly income higher than the average gross male hourly income in the economy. For more details on methodology, see Box B.2 of the Technical Appendix.

Source: Own calculations using EU-SILC 2006 (ISCO-88 two-digit).

It is important to bear in mind that, as Blackburn et al. put it when illustrating their own results from the decomposition:

> …pay is not the only form of inequality, and although all forms of inequality tend to be positively correlated with earnings, in so far as any form of inequality is not perfectly correlated with earnings it is not included in this vertical dimension. Also these findings are based on the rank ordering of occupational incomes which underestimates the full extent of inequality. Because the exceptionally huge incomes […] go overwhelmingly to men (usually company directors), the mean income difference by gender is rather greater than our findings indicate. Nevertheless, our results give a good guide to the inequalities relevant to the majority of the population…
> (Blackburn et al., 2005, p. 9) ([9])

To recapitulate, key findings are that undervaluation is still widespread, but it is more so for low-paying than high-paying occupations. Biases in job evaluation practices, the degree of 'professionalisation' of occupations, the length of occupational ladders, the visibility of skills all emerge from the case studies as important factors, although they do not exhaust the list. Cross-country studies do not find a significant impact of segregation on discrimination, whereas detailed, country-specific econometric analysis confirms that segregation between occupations but also within occupations and between sectors or industries accounts for a large share of discrimination. This latter finding, however, cannot be taken to mean that all segregation implies pay inequality. Decomposition of overall segregation into a vertical component capturing inequality in hourly pay and a 'neutral' component indicates that the latter is often larger than the former.

3.2. Job quality and labour market segmentation

Income is one of the dimensions along which segregation sustains disparities between men and women. Additional dimensions of inequality that may be channelled via segregation affect the overall quality of jobs. The European Foundation for the Improvement of Living and Working Conditions (European Foundation) has assessed work and employment quality (European Foundation, 2001) along four main dimensions: (i) career and employment security; (ii) health and well-being of workers; (iii) reconciliation of work and family life; (iv) skills development. The discussion below focuses on selected evidence for each of the four dimensions.

Concern for the quality of jobs at European level partly overlaps with concern about labour market segmentation. The term refers to the coexistence in the labour market of two or more segments of workers with differential access to jobs and job security, skills development, pay and career track. Whilst segmentation is not a new phenomenon, the selective implementation of labour market flexibility over the past decades has sometimes exacerbated divisions between sheltered jobs and those without protection or prospects (Blanchard, 2006), for example via fixed-term contracts or outsourcing ([10]).

The first and fourth dimensions of job quality are especially relevant to segmentation.

Career and employment security

Career prospects for different jobs still reflect gender biases, as repeatedly noted. Recall the previous examples of the introduction of an intermediate career rung among home-care workers in Austria in order to attract men into the occupation, or the efforts to professionalise care work in the UK and Austria. The under-representation of women in supervisory and managerial positions is also an outcome of these biases, and it is well documented elsewhere (EC, 2007). Specific attempts to estimate the extent to which the differential access to supervisory positions for men and women increases the gender pay gap produced figures ranging between 8 and 15 % of the overall gender pay gap for eight of the EU-15 group of countries in the late 1990s (Bettio, 2002).

The interaction among gender, occupation and employment stability has received less research attention. One important development that has raised concerns about labour market segmentation is the increase in fixed-term contracts. In the European Union, women record a slightly higher incidence of fixed-term contracts than men, both overall (respectively 14.9 % and 13.9 % in 2005 for the EU-25) and for involuntary fixed-term contracts (7.5 % and 6.9 %). Nonetheless, the pattern of transition from temporary to permanent is occupation-specific to a degree and may therefore differ between female and male occupations. Table 3 indicates that differences exist but do not work systematically in favour of male or female occupations. For each occupation, the table records the number of countries where the rate of transition from temporary to permanent status between 2004 and 2005 was higher than the economy-wide average. If anything, there are more success cases (transition rate above the national average) for prevalently female occupations, probably reflecting the fact that occupations where employment is declining are found more often among male-dominated than among female-dominated occupations (see Table 3). However, the picture is mixed.

([9]) Our own choice of sample (all-year-round workers receiving non-zero wage earnings) is likely to further underestimate inequality because the distribution of income tends to be flatter among employees and because some of the non-year-round workers may be marginal workers on low earnings.

([10]) The expression 'fixed-term contracts' is used here to denote all temporary employment positions. For example, in countries like Sweden, most fixed-term female employees are women employed by the hour or on call rather than regular workers on a contract of limited duration.

Health and well-being of workers

In comparative terms, women are still somewhat better 'protected' against heath risks by being under-represented in industrial occupations. However, the differences with respect to men are diminishing. In their recent report on gender and working conditions in Europe, Burchell et al. (2007) conclude that 'Overall, the pattern of risks at work and absence according to sex and occupation is mixed. Despite the earlier findings regarding men's greater exposure to more traditional ambient and physical risks [….], gender differences in self-reported risks almost disappear in a number of occupations. As a whole, however, men are more likely to report work-related health risks'.

Work/life balance

The importance of schedules and hours of work for work/life balance can hardly be overstated. Statistical evidence from both the survey on working conditions by the European Foundation (Burchell et al., 2007, Chapter 4) and labour force survey data (Eurostat, 2008, pp. 84–89) indicates that part-time and long hours clearly differentiate women's and men's working schedules, whilst the differences are contained, and sometimes unexpected, for other non standard working schedules such as evening, night or Sunday work.

Table 3. Transitions from fixed-term to permanent contracts, 2004/05

ISCO-88	Occupation	Number of countries where the occupation is			Number of countries where the success rate in the occupation is higher than the economy-wide average
		Male-dominated	Mixed	Female-dominated	
1	Armed forces	10	0	0	2
11	Legislators, senior officials and managers	7	5	0	5
12	Corporate managers	8	4	0	0
13	Managers of small enterprises	5	7	0	0
21	Physical, mathematical and engineering science professionals	12	0	0	4
22	Life science and health professionals	0	7	5	4
23	Teaching professionals	0	2	10	8
24	Other professionals	0	11	1	2
31	Physical and engineering science associate professionals	11	1	0	3
32	Life science and health associate professionals	0	0	12	6
33	Teaching associate professionals	0	2	8	6
34	Other associate professionals	0	10	2	6
41	Office clerks	0	0	12	7
42	Customer services clerks	0	0	12	9
51	Personal and protective services workers	0	2	10	9
52	Models, salespersons and demonstrators	0	1	11	8
61	Skilled agricultural and fishery workers	8	4	0	0
71	Extraction and building trades workers	12	0	0	6
72	Metal, machinery and related trades workers	12	0	0	3
73	Precision, handicraft, craft printing and Related trades workers	5	7	0	4
74	Other craft and related trades workers	5	7	0	6
81	Stationary-plant and related operators	11	1	0	5
82	Machine operators and assemblers	5	6	1	9
83	Drivers and mobile plant operators	12	0	0	4
91	Sales and services elementary occupations	0	0	12	9
92	Agricultural, fishery and related labourers	3	6	2	2
93	Labourers in mining, construction, manufacturing and transport	12	0	0	9

NB: [a] Data for 12 countries were available and used, including AT, BE, EE, ES, FI, FR, EL, IE, IS, IT, LU, NO.
[b] Occupations are classified as female-dominated if the share of women is higher than the average female share of employment in the country (FSE) plus 0.3 × FSE; likewise for male-dominated occupations.

Source: Own calculations using EU-SILC longitudinal data for the years 2004 and 2005 (ISCO two-digit); ESTAT data for the female share in employment by country.

Table 4. Flexible working time arrangements of male/female employees aged 25–49 (% in the sector), 2004

Sector	Women	Men
Agriculture (A+B)	19.3	21.1
Mining/utilities (C+E)	32.9	22.6
Manufacturing (D)	20.7	23.2
Construction (F)	27.3	17.0
Distribution (G)	18.1	23.3
Hotels/restaurants (G)	17.7	22.9
Transport/communications (I)	23.2	25.1
Financial services (J)	31.0	36.7
Business activities (K)	26.3	34.5
Public administration (L)	39.7	27.6
Education (M)	12.8	22.2
Health/social work (N)	17.1	24.3
Personal/community services (O)	27.3	31.4

Source: Eurostat (2008, Table A.61, p. 194).

The quoted survey on working conditions corroborates the finding from case-study research that, across sectors and occupations, women tend to avoid long hours, sometimes at the cost of re-segregation (Figure 9 below). In compensation for large differences in hours of work, women appear to experience a small increase in satisfaction with the work/life balance compared with men; 82 % of the women interviewed for the European survey on living conditions declared that work fits well or very well with non-working compared with 77 % of the men, and this modest advantage re-surfaces when the data are broken down by family type or broad occupational category (Burchell et al., Table 22 and Figure 50). However, it should be noted that the overall level of reported satisfaction is generally very high, whilst gender differences are very small, casting some doubt on the discerning power of direct questions on satisfaction.

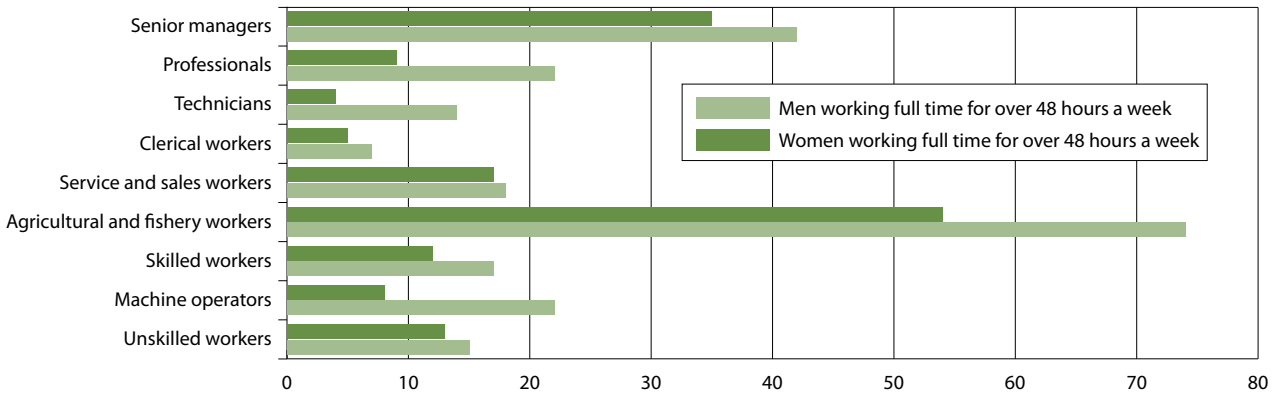
The findings on flexible schedules are less expected. Flexible working hours benefit men more than women, although men's advantage in the EU as a whole is contained within 2 percentage points. Unsurprisingly, however, there is a marked divide between the public and the private sector, with about 40 % women in public administrations working flexible hours or being able to count on forms of time banking — more than 10 points above the male figure. This is consistent with evidence from case studies for public-sector-type jobs like doctors, teachers or judges, where flexible forms of employment are sought after by women.

Skills development

Segregation may induce mismatches between actual job requirements and the qualifications or skills of the incumbents. However, in the self-assessment of male and female workers, the degree of underutilisation of the respective qualifications and skills is broadly similar. The survey on living conditions finds that about one third of men (36 %) and women (33 %) believe that they have the skill or qualification to do more; less than one sixth (between 15 % and 13 % depending on sex) report that they need more training. Thus, if there are skill mismatches by occupations, they affect female- and male-dominated occupations to largely the same extent.

Overall, analysis of the four basic dimensions of job quality indicates that, in addition to pay, important gender asymmetries still concern long working hours, career prospects, and access to managerial and supervisory positions, all of which are channelled via occupational segregation to a greater or lesser extent. Differences in other dimensions of job quality are modest, although this does not justify policy complacency. For example, the fact that fixed-term contracts are more or less equally distributed among the sexes does not make them more acceptable; nor does it cancel the risk that uncertainty about future employment prospects may have other undesirable effects such as hindering fertility among young women (Del Bono, Weber and Winter-Ebmer, 2008).

Figure 9. Occupational profile of full-timers working more than 48 hours p.w., EU-27, 2004



Source: Burchell et al. (2007, Figure 45, p. 40).

3.3. Skill and labour shortages

In all the countries of the European Union, fewer than 35 occupations out of the 106 recorded by the LFS are mixed occupations (see Table A.1 of the Statistical Appendix); the remainder are male- or female-dominated. With the pattern of segregation changing slowly over time, it is practically inevitable that labour shortages in strongly sex-typed occupations take longer to be resolved within a country, unless suitable foreign labour can be attracted from other countries. Given that labour is less mobile than capital, the likelihood of bottlenecks is particularly high when demand grows fast at the local level. All this causes inefficiencies, especially in those European countries where the supply of young workers is not projected to increase for some time. In the interest of efficiency, therefore, de-segregation could be targeted at easing skill/labour shortages when the occupations affected are strongly sex-typed (Miller et al., 2004). This section discusses evidence on the sex composition of current and projected labour shortages across European countries, whilst suitable de-segregation policies will be examined in the next chapter.

Medium-term labour demand projections carried out by Cedefop (2007) suit this purpose because the estimated growth of demand is broken down by broad occupational category (ISCO one-digit) and country. In order to map the sex composition of future labour needs, the occupational groups in Table 5 are categorised as male/female and mixed, and at the same time as growing/stable/declining.

Table 5. Projected medium-term growth (2006–15) and prevalent sex composition of occupations

	Armed forces	Legislators, senior officials and managers	Professionals	Technicians and associate professionals	Clerks	Service workers and shop and market sales workers	Skilled agricultural and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
AT	M	M	X	X	F	F	M	M	M	X
BE	M	X	X	X	F	F	M	M	M	X
CY	M	M	X	X	F	X	M	M	M	F
CZ	M	M	X	X	F	F	X	M	M	F
DE	M	M	X	X	F	F	X	M	M	X
DK	M	M	X	X	F	F	M	M	M	X
EE	n.a.	M	F	F	F	F	n.a.	M	M	X
EL	M	M	X	X	F	F	X	M	M	F
ES	M	X	X	X	F	F	M	M	M	X
FI	M	M	X	X	F	F	X	M	M	X
FR	M	X	X	X	F	F	M	M	M	F
HU	M	X	X	F	F	X	M	M	M	X
IE	M	X	X	X	F	F	M	M	M	X
IT	M	X	X	X	F	F	M	M	M	X
LT	n.a.	X	F	F	F	F	X	M	M	X
LU	M	M	X	X	F	F	M	M	M	F
LV	n.a.	X	F	X	F	F	X	M	M	X
MT	M	M	F	X	F	X	M	M	X	X
NL	M	M	X	X	F	F	M	M	M	X
NO	M	X	X	X	F	F	M	M	M	F
PL	M	X	F	X	F	F	X	M	M	X
PT	M	X	X	X	F	F	X	M	M	F
SE	M	M	X	X	F	F	M	M	M	X
SI	M	X	X	X	F	F	X	M	X	X
SK	M	M	F	F	F	F	M	M	M	X
UK	M	X	X	X	F	F	M	M	M	X

NB: [a] Occupations are classified as growing/declining (white/dark green) if their contribution to the projected growth/decline in employment change by countries and occupations over the years 2006–15 amounts to more than 5 %. Light green indicates relatively stable occupations with a contribution to the projected change within ± 5 %.

[b] M stands for male-dominated occupation, F for female-dominated and X for mixed occupations, as in Table 3; n.a. stands for data not available.

Source: Own calculations using Cedefop (2007, Table 20) for projected employment change over 2006–15, and LFS data for the female share in employment in 2006.

Instances of feminised or male-dominated occupations projected to grow at country level greatly outnumber instances of growing and mixed occupations. Feminised occupations projected to expand are primarily those of service workers and sales workers (17 countries), followed by clerical workers (eight countries), elementary occupations, including care workers with low levels of qualification (five countries), and professionals or associate professionals, including qualified care workers such as nurses (four countries). Growing male occupations are plant and machine operators and assemblers (nine countries), followed by senior officials, managers and legislators (six countries), and craft and related workers (four countries).

The implications for future skill needs of this occupational pattern of employment projections are summarised in the Cedefop report.

> In 2006 it is estimated that just under 80 million of the 210 million people employed in Europe were doing higher level jobs such as management, professional work of one kind or another or technical support of those activities. These areas are all expected to experience increased demand over the next decade. In contrast, jobs requiring traditional agricultural skilled workers, jobs for several other craft and related skills and jobs requiring clerical skills are expected to decline in number. If the trends observed over recent years continue there will, however, be significant expansion in the number of jobs for many service workers, especially in retail and distribution, and also for some elementary occupations which up until now typically require little or no formal training … Technological and other changes are tending to polarise the demand for skills, creating many jobs at higher levels and at the lower end of the job spectrum, with low pay and poor terms and conditions.
>
> (Cedefop, 2007, p. 87)

Table 6. Skill shortages resulting from national reports

Sector	Occupation	Country
Care and personal services	Childcare Nurses Home helps Elderly-care workers	Austria, Belgium, Denmark, Finland, France, Iceland, Italy, Norway, Portugal, Sweden, UK
Construction and building	Builders	Bulgaria, Denmark, Finland, France, Italy, Malta, Poland, UK
Education	School teachers University professors	Estonia (school), Iceland (primary school), Norway (pre-school, university)
IT sector	Technicians Programmers	Czech Republic, Malta, Portugal, UK
Mechanical and electrical engineering and production Manufacturing	Mechanical engineers Electrical engineers Metalworkers	Czech Republic, Finland, Italy, Poland, Portugal, Slovenia, Spain, UK
Chemical industry		Czech Republic, France
Textile industry		Bulgaria
Telecommunications		Czech Republic, Portugal, UK
Transportation	Drivers (bus drivers, shuttle transportation, freight vehicles, truck drivers) Air and marine technicians	Czech Republic, Finland, Italy, Poland
Mining	Miners	Italy
Medicine	Physicians	Spain
Financial services	Financial intermediaries	Malta
Retail trade	Shop salespeople Sales marketing managers Cashiers	Czech Republic, Luxembourg, Ireland, Poland
Services	Repair workers Security staff	Czech Republic, Luxembourg, Poland, Slovenia
Office jobs	Clerks	Luxembourg
Hotels and restaurants	Waiters Cooks	Bulgaria, Czech Republic, France, Malta
Tourism		Bulgaria
Elementary jobs		Poland

Source: National reports.

This expected polarisation has a clear gender dimension, with growing occupations at the lower end of the spectrum unbalanced in favour of female-dominated jobs, and growing occupations at the top end of the skill spectrum unbalanced in favour of male-dominated jobs. This adds cogency to the need for de-segregation, because the latter can favour the redistribution not only of labour supply flows but also of opportunities for the development of higher skills. For this to happen, however, de-segregation must be pursued in both directions, by attracting men into feminised areas such as care work, and by further easing women's access into the managerial professions or growing technical occupations.

Indications from the national reports are broadly in line with this analysis, and at the same time they afford greater details on the occupations involved. The list of occupations singled out by the national experts as experiencing skill shortages, or being at risk of doing so in the medium term, confirms the prevalence of strongly sex-typed occupations and suggests a certain degree of polarisation in terms of required qualifications (see Table 6 below).

Shortages of care workers and home helpers — all overly feminised and low-qualification occupations — are reported by eight countries, whilst the second group of occupations experiencing shortages is overly male-dominated, skilled or highly skilled, and comprises engineers and metalworkers. Other occupations where shortages are being experienced or forecast in at least four countries are builders, drivers and transport technicians at the male-dominated end, shop sales staff, cashiers and sales marketing managers at the female-dominated end.

Summary

This chapter examined three main implications of gender-based segregation, respectively for wage inequality, including undervaluation of female work and discrimination, for job quality and for skill and labour shortages.

Undervaluation is still widespread, but it is more so for low-paid than high-paid occupations. Biases in job evaluation practices, the degree of 'professionalisation' of occupations, the length of occupational ladders, the visibility of skills all emerge from the case studies as important factors.

Cross-country studies do not find a significant impact of segregation on discrimination, whereas detailed, country-specific econometric analysis confirms that segregation between/within occupations and between sectors or industries accounts for a large share of discrimination. This latter finding, however, cannot be taken to mean that all segregation implies pay inequality. The decomposition of overall segregation into a vertical component capturing inequality in hourly pay and a 'neutral' component indicates that the latter is often larger than the former.

Segregation may heighten differences in the quality of jobs between men and women, in addition to differences in pay. Concerns about differences in job quality partly overlap with the fears raised in the debate on labour market segmentation that the unequal distribution of secure and stable jobs may be exacerbated by segregation. In line with the proposal from the European Foundation for the Improvement of Living and Working Conditions, four main dimensions of job quality have been considered: career and employment security; health and well-being of workers; reconciliation of working and non-working life; and skills development.

Analysis of selected indicators for these four dimensions of job quality suggests that, in addition to pay, important gender asymmetries still concern long working hours, career prospects, and access to managerial and supervisory positions. All of these are channelled via occupational segregation to a greater or lesser extent. Differences are more contained in other respects, specifically the distribution of fixed-term contracts, the chances of transiting from temporary to stable employment, the distribution of non-standard hours, and of opportunities for skills development within occupations. However, modest differences in some of the selected dimensions of job quality do not justify policy complacency. First, differences are still pronounced for some occupations or countries although they are contained for the EU as a whole. Also, the fact that fixed-term contracts are fairly equally distributed between the sexes does not make them more acceptable; nor does it cancel the risk that uncertainty about future employment prospects may have other undesirable effects such as hindering fertility among the many young women on fixed contracts.

Segregation may oppose efficient reallocation of labour supplies, male and female. Current projections indicate that skill and labour shortages will affect male- and female-dominated occupations in the medium run more than mixed occupations. Also, several of the female-dominated employment areas facing labour shortages such as jobs in the retail and in the care sector are poor in (formally recognised) skills. In contrast, several male-dominated occupations at risk of shortages are found in highly qualified areas of employment, such as computing. A de-segregation approach targeted at labour shortages could thus facilitate redistribution of flows where labour is most needed while at the same time redistributing opportunities for skills development. For this to happen, however, de-segregation ought to be pursued both ways, attracting men into feminised areas such as care work, and further facilitating women's access to managerial professions or growing technical occupations.

4. Policy issues

4.1. The policy toolkit

Given the variety of factors recognised to influence gender segregation in employment, it is hardly surprising that policies addressing the root causes of the phenomenon, or its implications, are very diverse within and across countries. Policies have also changed over the years, with the change being driven more by perceptions of topical priorities in a given country than by effective monitoring and *ex post* assessment. In view of this diversity, the first part of this chapter restricts its attention to the current decade and to significant initiatives. There follows a discussion on the effectiveness of these policies and the biases that they reflect. Recommendations on the most promising directions for future action in this area conclude the chapter.

Policies to tackle segregation have a long-standing tradition in relatively few Member States, primarily the Scandinavian countries, the UK, France, the Netherlands and Germany. The southern European countries are still grappling with low female participation. Their policy interest lies less with specific de-segregation policies than with general provisions for the reconciliation of work and family life. For some of these countries (especially Italy and Malta), weak interest in de-segregation may be partly explained by relatively low levels of segregation, but it remains to be seen whether the increase currently under way will change the policy agenda in the near future.

Whilst there are differences of approach and of policy commitment between Nordic or continental countries and the Mediterranean group, a much stronger divide separates western and eastern countries in regard to employment segregation. For eastern European and other new Member States the debate on segregation is generally very recent, or there is hardly any policy debate at all, let alone a policy approach. Little or no interest on the part of these countries has less to do with their comparative levels of segregation — some of them are highly segregated, others are not — than with the fact that they have not experienced feminism.

The provisions to be examined in this chapter are grouped under the two broad headings of 'societal' and 'labour market' policies. The former include general provisions to raise awareness of gender segregation, educational programmes to counter stereotypes at school and in the media, and communication initiatives to counter stereotypes and spread information among the general public. Labour market provisions include training and the countering of skill and labour shortages; they also include programmes to identify and oppose biases in job evaluation procedures, pay systems and in other organisational practices concerning selection, recruitment, career ladders and job assignment.

Policies on reconciliation are of great importance for segregation. The previous chapters have clearly identified the unequal distribution of the care burden and differential income commitments as very important root causes of segregation. Nonetheless they are not included in the discussion here because they have been specifically addressed by recent reports from the network (Fagan, 2003; Plantenga and Remery, 2005). Nor shall we consider general forms of institutional support for gender equality such as the recent creation of the Ministry of Gender Equality in Spain. Although such measures can be important for setting the right institutional context, their connection with specific policy measures is rather indirect.

The next three sections illustrate the main provisions in place or recently implemented by the Member States to specifically counter gender segregation in employment. The penultimate section assesses the consistency and effectiveness of each main group of policies with respect to their target. The final section puts forward some general recommendations for an integrated policy approach to de-segregation.

4.2. Societal policies

Most of the countries with the longest traditions of de-segregation policies show willingness to address the 'early in life' roots of segregation by investing in 'motivational events' or in educational programmes designed to positively encourage 'atypical' choices among young boys and girls, and to promote new role models. In Denmark, a spate of initiatives geared to breaking down segregation in the choice of education, of occupation or of trade, is alleged to have followed the publication of research by Holt et al. (2006). The report found that gender segregation is due to choice of education, family background and social heritage. Research may have been an important catalyst in the Danish case, but Denmark is not an isolated example. The Icelandic Equal Opportunity Office plans to hire a person with the sole task of visiting primary schools in order to make young people more aware of how gender influences their behaviour. In Finland, moreover, the National Thematic Network for De-segregation in the Labour Market (2003–07) — the main plan of action in this policy area — has prioritised the twin objectives of motivating children and young people to make choices atypical of their sex, and of training teachers and educational counsellors to advance gender equality via education. Greece also reports a spate of initiatives designed to mainstream gender equality in school curricula and encourage atypical choices among girls and boys: initial training courses for girls entering fields of study where they are under-represented, vocational guidance and counselling, support during girls' school-to-work transition, and a richer supply of gender-related library material.

An important question is whether this is any different from the hundreds of programmes implemented in the past in Nordic continental countries or Mediterranean countries to encourage girls to take up technical subjects or natural sciences. For example, the 'Glass Wall' initiative in the Netherlands recently co-financed by the government and the European Social Fund seems to follow traditional lines: it purports to inspire girls in vocational and secondary education to opt for technical subjects, but does not question the choices of young boys. However, the pressure exerted in Scandinavian countries by labour shortages in feminised occupations, like pre-primary teaching or care work is ushering in a change in perspective (see the case studies in Part II). For example, emphasis on 'atypical' rather than 'technical' subjects in Finland or Denmark is a subtle but important way to indicate that young men, too, can be encouraged to enter stereotypical female jobs, not just the reverse.

Instances of 'motivational events' in Germany, Liechtenstein and Switzerland further confirm that choices for men are also beginning to be questioned. Public information campaigns to encourage less traditional choices among boys and girls like the 'Girls' Day' and the 'New pathways for boys' in Germany, and the 'Fathers' Day' in Liechtenstein and Switzerland are especially inspiring because they directly involve companies (see Box 5). An equally significant instance of involvement of companies in the fostering of atypical occupational choices is offered in France by the Federation française du bâtiment (FFB). In 2004 the FFB launched a massive campaign for a threefold increase in the number of women in building sites and workshops. This is a clear example of how skill and labour shortages can readily inspire efforts to challenge stereotypical choices. At the same time, however, it is hardly a novelty that women are called to enter male industries that men find less attractive. The FFB campaign included use of the media and of appealing rhetoric, as potential female candidates were told that they were being offered a chance to take part in 'revolutionary changes'. The rhetoric can be different, but equally strong when the aim is that of attracting men in female-dominated professions. The Federation of Nurses in Iceland has recently launched a media campaign to attract men: in this case, however, men were promised a chance to work in war zones!

Box 5. Motivational events

Germany. *Mädchen-Zukunftstag* ('Girls' Day — Future prospects for girls') has initiated a large-scale campaign in which a wide range of occupations and activities have been presented, in the light of contemporary experiences, to girls attending lower-secondary school in the age-class 5 to 10. Companies that have successfully organised specific Girls' Days report an increasing number of young women in technical and technically-oriented occupations. Targets similar to those of the Girls' Day are pursued by the national project *Neue Wege für Jungs* ('New pathways for boys') which started in April 2008. This project consolidates, supports and encourages regional activities aimed at boys in the lower-secondary school and addresses the issues of career and life planning in a gender-sensitive way. The project primarily seeks to amplify the occupations chosen by boys. 'New pathways for boys' also bundles already existing projects and initiatives for boys, above all at schools at which Girls' Days have been arranged on the same date. A gender-sensitive education policy is essential for changing the career choices of girls and boys. This implies that all the actors — parents, schools, employees, universities — must pull together and pursue equal opportunities in all fields (Maier, 2008).

Liechtenstein and Switzerland. Several initiatives targeting boys and girls are also reported for Liechtenstein and Switzerland. The 'Strong women — Complete men' project (*Starke Frauen — Ganze Männer*) is an experiment undertaken in Liechtenstein since 2000 where boys and girls in secondary school are asked to swap roles for four days. The girls take part in crafts and technical tasks while the boys are involved in social and domestic activities. In a similar project entitled 'Women's occupations — Men's occupations' (*Frauenberufe — Männerberufe*), boys spent one day in various kindergartens, while girls visited a technical enterprise and Liechtenstein's College of Advanced Technology. Since 2001, Liechtenstein and Switzerland have also jointly conducted a 'Daughters' Day', when girls in the fourth to ninth year of school accompany their father to work. Since 2004, Daughters' Day has been replaced by Fathers' Day when children visit their fathers at work and fathers are invited to visit children at school and in kindergarten. Three Fathers' Days have already been conducted since 2004. Almost without exception, they have met with a positive response on the part of the involved business units, fathers and children (Papouschek, 2008).

4.3. Labour market policies

Training

At European level, most of the policy action for de-segregation is concentrated on training, since this is the traditional tool employed for this purpose and remains the most popular policy option. Female and male employees participate in vocational training courses on a fairly equal basis, although women receive, on average, 10 % less in hours of training (Box 6). However, 10 Member States are reported to have recently implemented governmental training programmes specifically devoted to counter segregation: Austria, Belgium, Finland, France, Germany, Greece, Norway, Portugal, Sweden and the UK. The actual number of countries offering training programmes aimed totally or partially at de-segregation is probably larger, for two reasons. First, in countries such as Iceland, special training programmes to overcome horizontal or hierarchical segregation (or skill shortages) are left to educational institutions, the private sector and individuals to introduce, so that initiatives may not be public knowledge. More generally, training initiatives are reported to suffer from poor visibility. For example, more than 500 projects were carried out by the Swedish national labour market administration between 1993 and 2001, but their visibility was low.

As with vocational education, de-segregation via training has often been sought only in one direction, i.e. to provide women with 'male', generally technical, skills without questioning the occupational choices of men. The national reports on which we rely record fewer exceptions to this rule than is the case for education, and suggest that labour shortages play a role. One clear example in this regard is the earlier noted process of professionalisation among elderly-care staff in Austria, where more training provisions have been put in place for the newly created position of 'assistant nurse' (see case study in Part II).

Job evaluation and certification of skills

In principle, unbiased job evaluation could remove undervaluation from women's jobs. However, few countries have a tradition of job evaluation. Among them are Belgium, Germany, the Netherlands, the UK and Finland. The attempt to use job evaluation in order to address segregation is not new in Belgium, but only few sectors have actually implemented the new gender-neutral analytical job classification method that has been developed and tested. In contrast, a fresh attempt was made in Germany in 2003, when the social partners revised all collective agreements in the public sector. The new job evaluation system only partly meets the formal requirement of creating 'an attractive, future-orientated and gender-fair job evaluation and grading system that uses uniform evaluation criteria' (Maier, 2008). The system is more transparent than it was in the past, but many female-dominated service occupations still lie at the bottom of the pyramid.

Investigations conducted in other countries conclude that biases arise not so much from job evaluation systems *per se* as from the way in which they are implemented. In Finland, attempts to improve job evaluation systems in order to reduce the gender pay gap date from the 1990s. Recently, the National Thematic Network for De-segregation in the Labour Market has re-examined the issue and concluded that, in order for the system to favour more gender equality, organisations should monitor it constantly, paying special attention to standardising procedures across different bargaining systems. Similarly, in the Netherlands a 'quick scan programme' — a guide for gender-neutral policy evaluation to provide ready insights into pay structures — was made available to firms, and a working group on equal pay was also set up to develop policy initiatives in 2006–07. The group concluded that job evaluation systems themselves are not the cause of gender pay differences; rather, incorrect implementation of these systems is to blame. Norwegian companies, too, can make use of a job assessment tool developed in 2001 on government funds with the explicit aim of reducing the gender wage gap. The tool enables the company to determine whether the actual rate for the job differs from that calculated by the programme. However, there are serious limitations in the effectiveness of this tool. Within establishments, wage differentials are generally smaller, and the larger differences arise between firms. Moreover, even when the tool discloses discrepancies between the job value and the actual wage, this does not necessarily imply discrimination, because the characteristics of workers are not taken into account in calculations of job value.

Certification can also be used to fight poor visibility, and thus undervaluation, of typically 'female' skills. However, good practices in this respect are not so frequently mentioned in the national reports. One exception has already been noted: the Certificate of Occupational Skills proposed by the French organisation (Box 14). However, certificates have shortcomings as well. The volunteer work certificate was introduced in Lichtenstein to give women returning to the labour market social recognition of the unpaid work performed during their period of absence, as well as to facilitate re-entry. It is alleged, however, that recognition of traditional female competences may end up reinforcing gender stereotypes.

Positive action

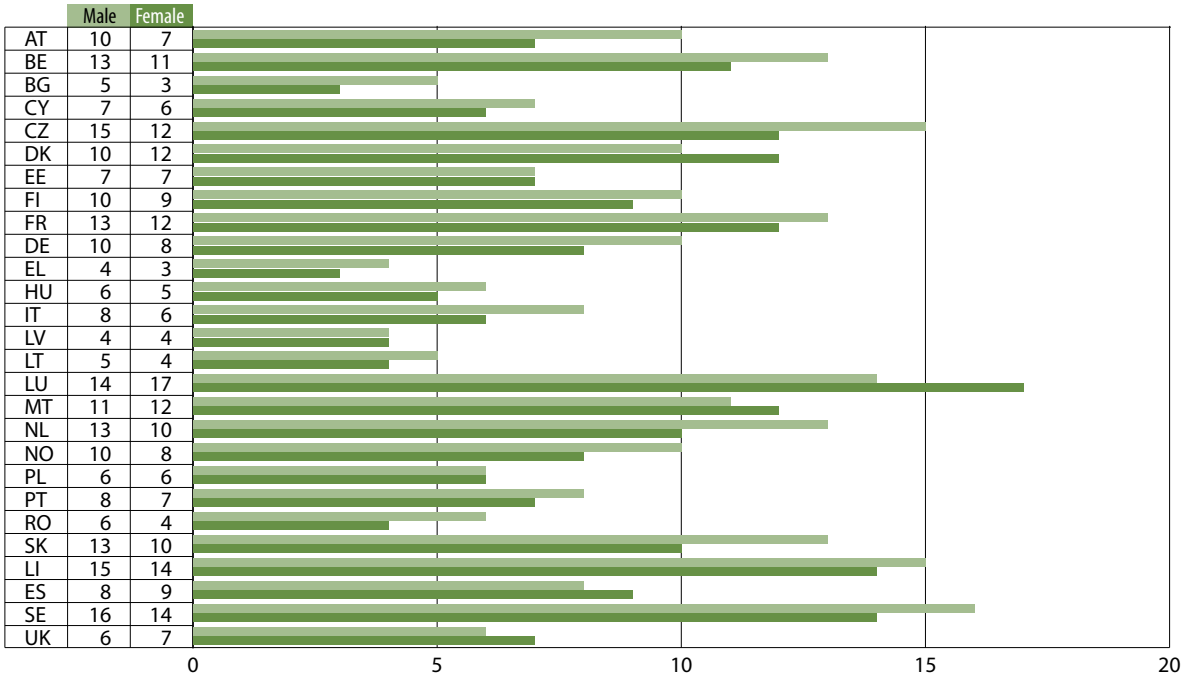
The drive for positive action in Europe lost momentum in the late 1990s, when the Court of Justice ruled in the *Kalanke* v *Freie Hansestadt Bremen* case that a German state law guaranteeing women automatic priority over men in the labour market was contrary to the European equal treatment directive. Since 2004, however, the Norwegian success story for quotas on company boards has revitalised interest.

Box 6. Training and segregation

Female and male employees participate in continuing vocational training (CVT) courses on a fairly equal basis. In fact, the share of female participants is higher than, or very close to, that of men in 14 out of the 28 countries listed in Figure 10a. Female employees, however, consistently receive less hours of training in all countries, although the absolute difference in hours is contained, and diminishes further if it is taken in ratio to the respective hours of work. Taking the simple average for EU countries, men receive some 10 % more hours of vocational training across all sectors (Figure 10b; see also Table A.2 in the Statistical Appendix for sectoral breakdown).

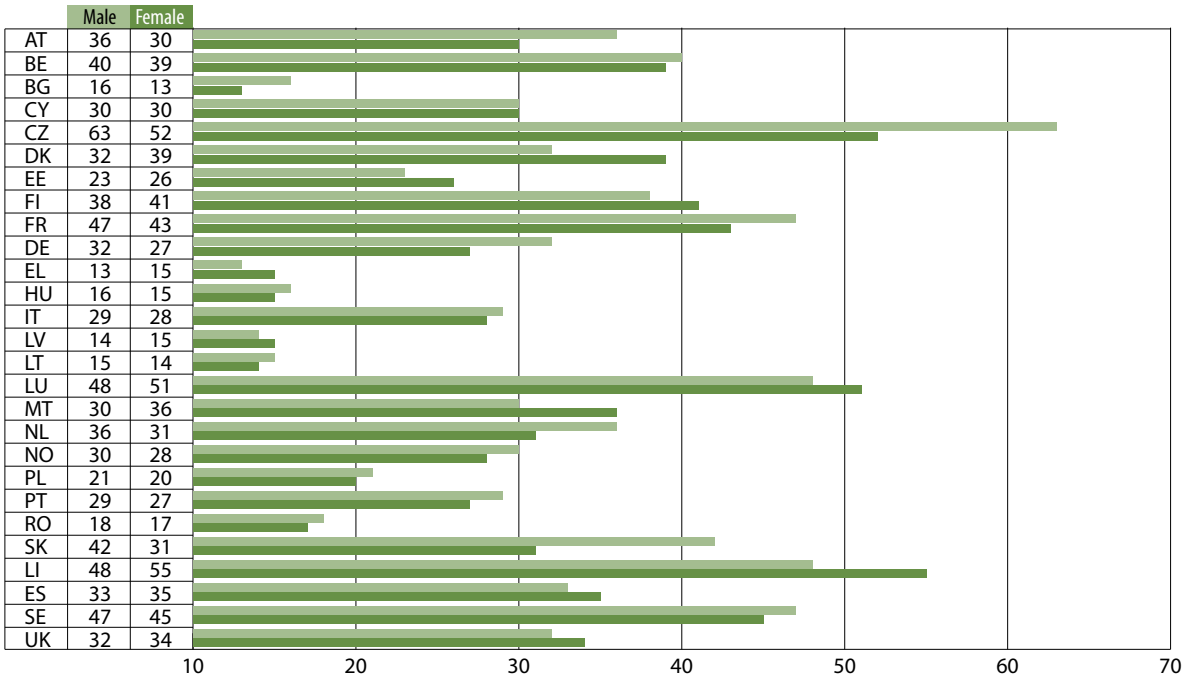
Figure 10. Training of men and women, EU countries, 2005

10a. Percentage of employees participating in CVT



	Male	Female
AT	10	7
BE	13	11
BG	5	3
CY	7	6
CZ	15	12
DK	10	12
EE	7	7
FI	10	9
FR	13	12
DE	10	8
EL	4	3
HU	6	5
IT	8	6
LV	4	4
LT	5	4
LU	14	17
MT	11	12
NL	13	10
NO	10	8
PL	6	6
PT	8	7
RO	6	4
SK	13	10
LI	15	14
ES	8	9
SE	16	14
UK	6	7

10b. Hours in CVT courses per employee



	Male	Female
AT	36	30
BE	40	39
BG	16	13
CY	30	30
CZ	63	52
DK	32	39
EE	23	26
FI	38	41
FR	47	43
DE	32	27
EL	13	15
HU	16	15
IT	29	28
LV	14	15
LT	15	14
LU	48	51
MT	30	36
NL	36	31
NO	30	28
PL	21	20
PT	29	27
RO	18	17
SK	42	31
LI	48	55
ES	33	35
SE	47	45
UK	32	34

Source: Own elaboration on Eurostat 2005 data.

The use of targets to promote women in decision-making positions has a long tradition in some Nordic countries, notably Sweden. More recently, in 2006, Norway implemented a mandatory 40 % quota for women's representation on company boards. Despite initial scepticism, the quota was fulfilled within the two-year period prescribed by the law (Ellingsæter, 2008). This success has prompted the introduction of quotas elsewhere: in Greece, a 30 % quota has been set for promotion panels within the public sector, and in the Netherlands, the government has committed itself to setting a target for the representation of women in decision-making governmental positions, although it has not gone to the full extent of introducing mandatory targets. Interestingly, quotas for men have also been proposed. The Portuguese medical profession has put forward the idea to implement them among the trainees of medical schools.

Two examples of 'soft' positive action measures are provided by Austria. In 2008, the Austrian Federal Ministry of Economic Affairs and Labour proposed adding a (voluntary) quota for women to a protocol of the Austrian Corporate Governance Codex, a body of regulations covering large Austrian enterprises listed on the stock exchange. An additional proposal by the Austrian government is to award a grant of EUR 10 000 to the 10 best positive action plans for women in Austrian small and medium-sized enterprises.

Un-biasing organisational procedures

Few novel provisions to address biases in organisational practices are recorded in the national reports other than job evaluation or certification of skill. One reportedly successful exception is the introduction in France of the obligation for companies where at least one trade union is represented to carry out specific bargaining each year on occupational equality at company level. The measure is alleged to be proving effective.

4.4. Policy assessment

Are policies that have been put in place to pursue de-segregation effective and consistent with their declared objectives? The first general remark about the effectiveness of segregation policies is that they very often suffer from poor coordination, targeting, monitoring and follow-up. The UK Trade and Industry Committee recently argued that there is an 'over proliferation of initiatives with little coordination', with too many different funding sources and a tendency for the funding of pilot schemes to run out just as they have started to show results (House of Commons, Trade and Industry Committee, 2005, p. 26, quoted in Fagan, 2008). Although none of the reports from the other countries with a long-standing policy record in matters of segregation makes an equally critical assessment, the overall picture that is offered by the national reports is often not dissimilar from that of the UK. At best, the situation being portrayed is that of a wealth of initiatives still in search of an effective, coordinated strategy. The scope, variety and resilience of segregation has not facilitated coordinated and focused action, but a lack of strong policy motivation is certainly to blame.

Related reasons for disappointment are poor targeting and a lack of monitoring or follow-up. In Portugal, for instance, the training of women for technical male occupations in engineering or computing has been discontinued because the first female trainees did well in the courses but met with hostile environments once they took up their jobs, and then quit. In a Mediterranean setting, the male culture at work can indeed be rather unpalatable to women, and a follow-up programme might have helped the pioneers to meet the challenge. However, there was no follow-up and the resources spent on training were simply wasted. This is not to endorse uncritically the policy of training women for technical jobs, some of which that may have lost attractiveness for men; rather, what is argued is that training per se may not work, unless it is part of well-designed, coordinated policy package.

Training attracts two main criticisms. The first is that general training provisions tend to reinforce segregation. This earlier finding by Rees (2001) is echoed in a surprisingly large number of reports from old and new Member States. The second criticism is that training specifically devoted to de-segregation has targeted women and much more rarely men — as repeatedly documented earlier.

In the past, this short-sighted approach to training may have been partly justified by the fact that women were still a labour reserve in many countries, and labour or skill shortages arose primarily in male-dominated occupations. With 10 member countries near or above the 70 % mark in female participation, coupled with the fast growth of feminised services and care occupations, shortages for female-dominated occupations have already surfaced in a number of countries and are expected to continue in the medium term (see Section 1.4). Thus, training programmes to overcome shortages by way of de-segregation cannot fail to pursue men's entry into female jobs.

Can such reorientation of training succeed? While there may be too few experiences and too limited evidence for sound guidance to be forthcoming, there are reasons for optimism. The earlier quoted example of 'Rosie the Riveter' illustrates how powerful a concerted media campaign can be in changing stereotypes. Also, research evidence from the case studies and statistical evidence (Holt et al., 2006, Box 1) concur to suggest that non-traditional educational choices have at least some impact on de-segregation. At the same time, the national experts suggest that additional policies must be pursued in parallel with training in order to buttress the chances of success. Novel educational programmes at

school and in the media are called for to challenge stereotypes from an early age. In parallel, effective measures must be taken to address the undervaluation of female jobs since pay is very important to attract men. Moreover, if de-segregation is to be used to effectively address skill shortages in both female- and male-dominated jobs, a radical change of perspective may require an overhaul of the apprenticeship systems currently in place.

Undervaluation is more difficult to tackle than stereotypes in training and, as seen, is of primary concern among low-pay workers. Job evaluation still represents an important tool where there are overt biases, as in the case of police workers in Slovenia or maintenance cleaners in Germany. However, in the three countries that have closely investigated the issue — Finland, the Netherlands and Norway — available evidence suggests that the way the system is implemented is more important than the features of the system itself. This means that monitoring is a crucial ingredient for effectiveness.

Certifying underrated or poorly visible skills can also help fight undervaluation. So can the designing or redesigning of occupational career paths with a view to offer prospects of skill and pay progression in jobs at the bottom of the pay pyramid. Ultimately, however, fighting undervaluation among low-pay workers raises questions that go beyond the problem of segregation and encroach on the larger issue of migrant labour. The rapid expansion of home-based, long-term care in Mediterranean countries is an illustrative instance of how shortages in low-pay care occupations can be filled by migrant workers, female, cheap and often irregular. The attempt to challenge occupational segregation or undervaluation in these contexts is fraught with difficulties, and can only succeed if the problem of migrant labour is taken on board.

Key concerns in high-paid occupations are re-segregation within lower-paid niches within professions and/or glass ceiling barriers. In this case a definite shift of focus towards organisational practices and away from supply-side explanations where gender differences inevitably boil down to lower productivity for women is promising. One general indication from research at national level is that standardised, transparent procedures for selection, hiring and promotion are less biased against women than discretionary ad hoc procedures. In the wake of the latest Norwegian examples, quotas should be reconsidered as effective tools to improve representation in decision-making positions. Additional indications, however, are inevitably specific to the occupation and the country, as so much depends on the details of the institutional setting.

Finally, the degree to which de-segregation can reduce gender wage inequality depends on payment structures and the system of collective bargaining, since for the same amount of segregation pay inequality may be higher if wage bargaining is decentralised rather than centrally coordinated, or if provisions for minimum wages are not in place. Payment structures have been included in the discussion of this chapter and the previous ones, but attention has gone into specific occupational features rather than general characteristics. The latter are of primary interest in regard to the overall wage gap, and as such have been discussed at length in previous reports (Plantenga and Remery, 2006).

A basic policy check list

Segregation depends so much on institutions and culture that any successful policy packet is necessarily country-specific. However, a set of common principles to ensure consistency as well as effectiveness has emerged from past and current experiences in member countries.

- Use aggregate, statistical indicators of change in segregation with caution. A trade-off between decreasing segregation and increasing female employment may exist in the medium term.
- Ensure effective coordination among the different programmes and initiatives. Too many ad hoc programmes may be ineffective.
- Give central role to reconciliation policies.
- Shift the policy focus from the supply side of individual gender differences to the way organisations work.
- Address biases in organisational practices for selection, hiring and promotion, skill recognition, structuring of career tracks, job and skill evaluation.
- Aim at changing the attitudes, competences and choices of men, not only those of women.
- Pursue de-segregation also in view of addressing skill and labour shortages. This requires an integrated policy approach that not only promotes training but also implements educational programmes and media initiatives in view of fighting stereotypes and encouraging new role models.
- In addressing skill and labour shortages, do not fail to also address low pay in feminised occupations in order to encourage men's entry.
- In addressing skill and labour shortages, evaluate potential conflicts but also synergies between de-segregation and reliance on migrant workers.
- Specify clear programmes' targets, monitor initiatives and ensure follow-up. Even cultural and attitudinal change can be measured.

PART II
CASE STUDIES: HIGHLIGHTS FROM NATIONAL RESEARCH

Issues addressed

This second part of the report reviews research at the national level on 10 occupations: university professors, doctors, financial professionals, IT technicians, lawyers and judges, home helpers in elderly care, nursery care workers and pre-primary school teachers, cleaners, retail sector workers and police.

Each case study draws from research in a different number of countries, from a maximum of nine for university professors to just one country for the police force. Occupations have been chosen so as to ensure adequate representation of high-paid and low-paid areas of work, and preference has been given to those having recently undergone significant change in feminisation either way.

Being based on secondary sources, each case study draws from specific investigations that differ in scope and in methodology across countries. However, prior guidelines about the kind of information to be extracted from existing research made it possible to pursue a broadly common set of questions across the case studies.

The most frequently provided information concerns the current gender mix in the occupation in a comparative perspective, recent and prospected change in this mix, re-segregation in occupational niches and along hierarchical lines, as well as contractual and working conditions. Only few case studies yield actual data on the level of, and change in, the gender pay gap, or the ranking of the occupation in the national pay hierarchy. A few case studies also report on the terms of the national discussion about the implications of feminisation. Common questions being addressed concern the factors driving or opposing feminisation, whether loss of pay or prestige has followed feminisation, which processes are at work in case of discrimination or undervaluation of women's work, hierarchical segregation or re-segregation into occupational niches.

Although the findings have been used extensively in Part I, this review of case studies is of interest in its own. Not only does it serve to better contextualise and enrich the specific results, but it also provides extensive reference to research in Europe on the different occupations and themes.

1. University professors

(Belgium, Cyprus, Germany, Iceland, Italy, Netherlands, Malta, Slovakia and Sweden)

Horizontal and vertical segregation. Teaching is a highly feminised occupation across the European countries, but not in tertiary education. The overall share of women in tertiary education is high within the EU-25 (43.1 in 2007) but still well below 50 %. Female teachers outnumber men in four countries (Luxembourg, Belgium, Latvia and Lithuania), whilst elsewhere tertiary teaching is a mixed occupation according to Hakim's criterion, except within the most prestigious subgroup of university teachers.

Recent figures for the overall proportion of women among university teachers are not available at European level, but if we take the case of Italy, where women are

Table 7. Share of women among college, university and higher education teaching professions, 2007

AT	**BE**	BG	**CY**	CZ	**DE**	DK	EE	EL	ES	FI	FR	HU	IE	**IT**	LT	LU	LV	**MT**	**NL**	NO	PL	PT	RO	**SE**	SI	**SK**	UK
49.1	**51.7**	44.8	**41.8**	37.2	**37.1**	43.3	48.1	27.1	38.4	43.8	44.1	32.2	45.9	**40.6**	73.9	100	75.8	**46.4**	**37.4**	40.8	39.7	42.8	42.1	**37.7**	38.2	**40.6**	49.4

NB: The occupation corresponds to ISCO 231.

Source: Own calculations using LFS.

Table 8. Female academic staff as a % of total by grade, 2004

	AT	**BE**	BG	**CY**	CZ	**DE**	DK	EE	EL	ES	FI	FR	HU	IE	**IS**	**IT**	LT	LU	LV	**MT**	**NL**	NO	PL	PT	RO	**SE**	SI	**SK**	UK
A	9.5	**9.0**	18.0	**10.2**	10.3	**9.2**	10.9	17.2	11.3	17.6	21.2	16.1	15.4	0.0	**15.1**	**16.4**	12.1	0.0	26.5	**2.3**	**9.4**	15.7	19.5	20.9	29.1	**16.1**	12.9	**13.5**	15.9
B	16.2	**20.8**	34.9	**17.3**	22.1	**16.1**	24.4	37.1	22.7	36.1	46.6	38.7	30.9	0.0	**29.9**	**31.4**	37.4	0.0	37.0	**31.7**	**14.2**	28.2	27.4	34.4	49.1	**38.6**	25.8	**31.5**	31.2
C	35.6	**33.1**	0.0	**37.5**	40.2	**25.9**	37.6	56.6	31.9	52.2	52.9	0.0	46.0	0.0	**53.0**	**43.8**	49.5	0.0	0.0	**14.2**	**26.9**	45.5	41.0	43.4	0.0	**40.0**	39.3	**48.5**	46.1
D	37.9	**46.6**	52.4	**33.5**	48.8	**35.6**	42.7	66.6	39.4	50.6	42.8	39.3	36.7	0.0	**41.6**	**0.0**	59.9	0.0	0.0	**25.0**	**39.4**	48.8	0.0	50.4	55.2	**50.0**	47.9	**54.3**	46.1

Key: Grade A: the single highest grade/post at which research is normally conducted within the institutional or corporate system; Grade B: it should include all researchers working in positions which are not as senior as the top position (A) but definitely more senior than the newly qualified PhD holders (C), i.e. below A and above C; Grade C: the first grade/post into which a newly qualified PhD (ISCED) graduate would normally be recruited within the institutional or corporate system; Grade D: either postgraduate students not yet holding a PhD (ISCED) degree who are engaged as researchers, or researchers working in posts that do not normally require a PhD.

NB: Countries marked in bold are those included in the case studies reviewed.

Source: Eurostat (2008, Table A.47).

comparatively well represented, the female share of faculty was 32.9 in 2007, nearly 8 points lower than among all tertiary education teachers (40.6 %, Table 7) ([11]).

Pronounced hierarchical segregation is perhaps the hallmark of this occupation, especially among university lecturers. Women account for less than 15 % of the top professorial rank in 12 countries, and for less than 30 % in all EU-15 countries (Eurostat, 2008, Table A.47).

Relative pay and devaluation

A well-known finding from past studies is that women's entry into an occupation brings with it a lowering of pay or is accompanied by re-segregation into the lowest paid occupational niches. However, no clear evidence that this may be happening emerges from the nine countries reporting on university teachers: Belgium, Cyprus, Germany, Iceland, Italy, the Netherlands, Slovakia, Sweden and Malta.

Slovakian university teachers do not enjoy high prestige or high pay. New universities have recently been opened and the share of female faculty staff jumped to 24 % in 2006 after oscillating between 10 % and 15 % for a long time (Piscová, 2008). It is a matter of speculation whether this increase signals a flight of men in search of better opportunities elsewhere, or whether it ensues from the fact that new cohorts of highly educated women have been able to seize opportunities that have opened up for academic teachers.

In both Cyprus and Italy, and especially the former, teaching at university still features as a well-paid public-sector occupation. In the absence of further evidence, one might speculate that the high pay and prestige of the profession in Cyprus contribute to keeping women's share of the top two teaching positions pegged at the lower end of the European range (10.2 and 17.3 respectively, versus 29.1 and 49.1 for Romania, the top scorer).

The case of Italy offers the opposite suggestion, as no clear association is detectable between relative opportunities for earnings and the overall increase in female faculty in recent decades, or its distribution across disciplines (Bettio and Verashchagina, 2008). The main reason is that pay-setting is strongly influenced by institutional procedures, for example increases for university teachers are linked to those of magistrates, the highest-paid occupation in public employment after top management. Moreover, seniority increments are perhaps the most important determinant of the size of pay packet, even more so than promotions.

The role of educational choices

Among university teachers, opportunities for earnings are generally influenced more by the relative position in the academic hierarchy than by the discipline chosen. It is therefore not surprising that research in the various countries has focused on differential career opportunities for women, and on the glass ceiling. The role of family, educational choices, stereotypes, academic selection procedures and co-option mechanisms have all been blamed for slower and less brilliant career achievements among women, but a shift is taking place away from emphasis on supply-side factors and gendered choices or preferences towards underlining the importance of institutional mechanisms, especially the formal and informal procedures involved in selection.

A fairly common claim in the research surveyed by national experts is that the career chances for women have been hindered by educational choices that segregate women into a limited number of disciplines, thereby reducing the pool of suitable candidates in non-traditional areas to below critical proportions. Despite the fact that women are still a minority in several disciplines, the argument is confounded by evidence that women do not fare better in female-dominated subjects. In Germany:

> The concentration of women in stereotypical subjects has traditionally been used to explain the low number of female professors, especially for large and expanding areas of tertiary education like business administration or health. The argument is based on the assumption that there are not sufficiently qualified women for the relevant professorships. However, detailed research on academic careers in different fields has reached the conclusion that in nearly all disciplines the number of women in the relevant field holding the relevant qualifications exceeded the number of positions offered. Women's concentration in traditional subjects has not led to a larger number of female professors in these subjects. Women's chances of obtaining a professorship are even worse in female-dominated subjects: since 1984, 12 men out of 1 000 graduates in all subjects have become professors, as against 4 women out of 1 000 graduates. However, the respective figures for engineering are 8 out of 1 000 for men and 6 out of 1 000 for women, whereas those for humanities and arts are 21 out of 1 000 for men and 4 out of 1 000 for women.
> (Maier, 2008)

([11]) Own calculations on LFS data for 2007, ISCO-88 three-digit; Bettio and Verashchagina (2008, Figure 2).

A slower career for women in female-dominated subjects is also reported for Belgium — where an inverse correlation has been found between the share of women and the rate of transition from the bachelor degree to the doctorate (De Henau, 2006). Similarly, in Italy female faculty has increased less in the arts than in some less stereotypical and male-dominated disciplines like chemistry, agricultural science, engineering and medicine (CSVNU, 2007, Table 3.10, p. 40). In the future, however, the choice of subject should matter progressively less, given that the high share of female students is favouring de-segregation in university curricula, with the exception of mathematics and science (Eurostat, 2008, p. 38).

Stereotypes

Stereotypes are still being used to discriminate against women in academia, as a recent study for Iceland highlights.

> Recently, a discourse analysis was undertaken to identify the extent to which evaluation of job applicants at the University of Iceland has disadvantaged female applicants. The analysis focused on written judgements made by various evaluation committees of male and female applicants applying for academic positions during the period 1997–99. The findings revealed an extensive use of gender-based language when the merits of men and women were assessed. Male candidates were said to be engaged with difficult projects (*glíma við erfið verkefni*) while female candidates were working on something (*hafa eitthvað á prjónunum*). Moreover, the work of male candidates was discussed in much more detail and the evaluation was less critical than was the case with the work of female candidates. When male candidates had applied a gender perspective in their research, it was regarded as a sign of being open-minded while such research undertaken by a female candidate was described as a rather narrow perspective or as being marginal research. Finally, the evaluation committees valued continuous research activities, but women have greater difficulties in fulfilling this requirement due to the bearing and rearing of children. (Þorvaldsdóttir, 2002, quoted by Mósesdóttir, 2008)

However, stereotypes may also be used by women to seek legitimate niches in strongly male environments, as the contrast between young and older female faculty in engineering in Italy suggests.

> In their study of the engineering faculty at the University of Naples, Vicarelli and Bronzini (2008) found that previous cohorts of female faculty were (comparatively) over-represented in subjects like mathematics, which is considered peripheral to the disciplines because it does not belong to the technical 'core' and because opportunities for earnings other than in teaching are limited. In contrast, young female faculty engineers are breaking stereotypes by growing faster in core subjects like mechanical, electrical, civil or computer engineering. Educated women first entering occupations dominated by male culture and practices may thus be seen to exploit stereotypes in order to ease acceptance. Once the presence of women is somehow 'accepted' the process of breaking stereotypes becomes less costly.
>
> (Bettio and Verashchagina, 2008)

Box 7. Monitoring progress in hierarchical segregation: the glass ceiling index

The Netherlands. Based on the share of women in different academic positions, a glass ceiling index may be calculated. This refers to barriers against women having an academic career. This index is calculated by dividing the share of women in a particular position by the share of women in the next higher level. If women have no obstacles to climbing the academic ladder, the value would be around 1 (Stichting de Beauvoir, 2006, p. 21).

Table 9. Glass ceiling index for women in scientific occupations

	Glass ceiling index
Senior university lecturer/professor	1.6
University lecturer/senior university lecturer	1.8
PhD/university lecturer	1.5

Source: Stichting de Beauvoir (2006), quoted in Plantenga and Remery (2008).

Supply-side or institutional factors?

In countries like Italy or Germany, evidence of changing behaviour among younger female faculty has shifted the focus of the debate from supply-side factors to the rules and procedures of what may be termed an internal labour market in academia, including the importance of 'old boys networks'. In Germany, gender differences in preferences, attitudes or commitment to career, like investing less in self-promotion, publishing less, doing more teaching instead of research or taking career breaks in view of the primary commitment to raising a family, appear to play some role, but they do not fully account for the persistence of vertical segregation (Lind, 2006, p. 4). In order words, the way women are or behave in comparison with men is believed to have been overestimated in past research, whilst insufficient attention has been paid to the way academic institutions are and behave (Wissenschaftsrat, 2007, p. 20).

Even more explicit on this point are the results of one of the most in-depth studies on university teachers carried out in Italy in the late 1990s (Carabelli et al., 1999). The study investigated the career paths of teachers of economic subjects based on longitudinal administrative records for the entire population of academic economists. It also made use of publication records drawn from bibliographical data banks and of a questionnaire administered to the female component in order to explore the importance of family conditions.

> One of the main findings is that marital status or the size of the family (number of children) had no clear impact on publications or career progression. At the time of the study, in fact, more than one third of the female economists were single or childless; among women with children, moreover, the number of children increased both at the bottom and at the top of the publication records or the career ladder (Bettio, 1999). In general women were found to publish less, but, controlling for publication, the study found evidence of lower probabilities of climbing up the career ladder and concluded that one of the main factors involved was much weaker networking resources. While the evidence for these findings is sufficiently robust, generalisation to the current situation may not be entirely warranted. Economics remains a male preserve, although increasingly less so, but younger female cohorts may not be prepared to give up family and to entirely devote themselves to career as the pioneers in this occupation often did. (Bettio and Verashchagina, 2008)

De-segregating?

Progress in both vertical and horizontal de-segregation is reported for the majority of the countries surveyed (Italy, the Netherlands, Slovakia, Sweden). No common measure of de-segregation is available except the percentage rise or fall of the female share in each successive rung of the academic ladder. Stichting de Beauvoir (2006) has proposed an interesting 'glass ceiling index' which can also be used to monitor progress in hierarchical de-segregation over time. Applied to the data for the Netherlands, the index shows that segregation is higher at the top and at both extremes of the faculty pyramid, less so in the middle (Box 7).

Overall, progress is deemed to have been slower than what might be expected on the basis of women's advances in education. Labour force survey data for all teachers in tertiary education support this claim. If we allow for a three-year 'production' lag and compare female progress in attaining a postgraduate degree with advances in the share of female teachers in tertiary education, the latter is lagging behind. Compared with six years earlier, women in 2004 had gained 6.2 percentage points in their share of graduations in tertiary education, whilst their representation hardly increased among teachers between 2001 and 2007 ([12]). Thus it is not simply a matter of waiting for the highly educated young cohorts of women to close the gaps. Sweden, Malta and Belgium tell different versions of this story for university teachers, as shown in Box 8.

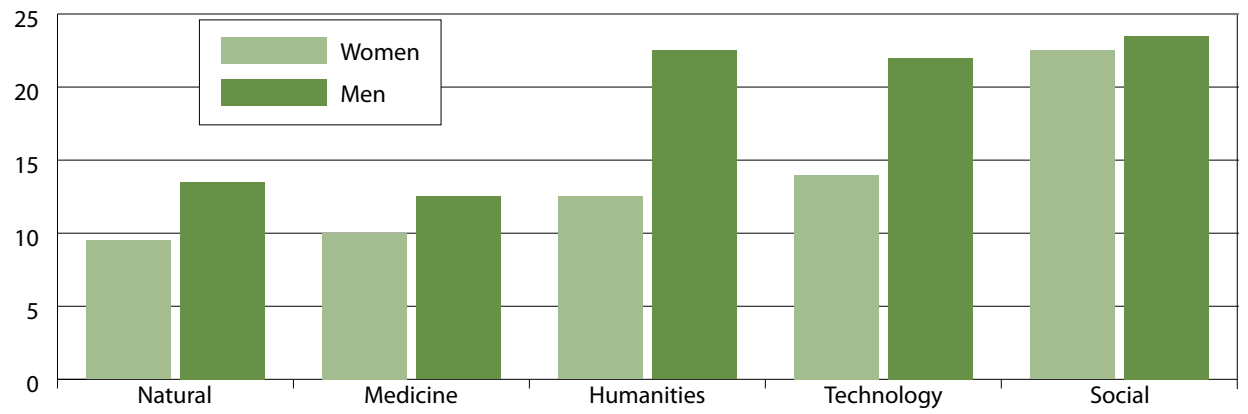
([12]) Own calculations on LFS data and Eurostat table (2008, Table A.19).

Box 8. De-segregation within academia: just a matter of time?

Belgium. In 2001, the academic staff in Belgian universities included 14 % of women (in full-time equivalents), and women accounted for 8 % of professors. Some professors interviewed by De Henau and Meulders (2003) disputed this finding on the grounds that it painted an over-simplistic picture of the great diversity existing among faculties, universities, hierarchical grades and years; others maintained that parity is being achieved spontaneously and will be complete within 25–30 years. Closer analysis does not, however, give cause for such optimism: the pace of change in female representation, judging by the trend over the past 15 years, is rather slow: it would take almost 40 years to have as many female as male assistant professors, 70 years to achieve a gender balance for academic staff as a whole, and 183 years (about seven generations) before men and women were equally represented among university professors in Belgium's French Community. This stasis is confirmed by other indicators. The proportion of female permanent staff is higher among those aged under 40 than on average, in all subject areas (first and foremost health sciences and applied sciences), yet vertical segregation in terms of senior positions is also more pronounced among that group.

Sweden. In Sweden progress in post-secondary education among women has been considerable. In 20003/04, women accounted for 63 % of graduates. Of those who started their doctoral studies in 2005, half were women and half were men. Of those who took a doctorate, 55 % were men and 45 % women (Högskoleverket, 2006). But the occupational pyramid is still very thin at the top for women. They have reached 45 % among 'other researching and teaching employees', 40 % among research assistants, 34 % among senior lecturers and a very low 16 % among full professors. This low proportion of women among professors is of course partly a result of under-representation among doctorates in the past: in 1969/70, only 8 % of those who took a doctor's degree were women, in 1979/80 they were 18 %. In order to investigate the possible role of additional factors, the National Agency for Higher Education has carried out a longitudinal study. The share of doctorates becoming professors has increased for men and women over the years, partly because of a change in the procedure to attain professorship. However, gender differences persist and are summarised in the chart below reporting the proportion of men and women who became professors within 18 years after receiving a PhD. In all fields, the chances are greater for men than for women, which can be seen as evidence of systematic undervaluation of female competence. Women do comparatively better in social sciences and worse in the humanities and technology.

Figure 11. Proportion of women and men appointed as professors within 18 years of receiving a PhD among those who took the degree during 1980–85 (and younger than 60 years)



Source: Högskoleverket, 2006, p. 78.

Malta. Although women now account for more than half of university graduates, success in education is not percolating down the workplace. A case study of women graduates in Malta, undertaken by Camilleri-Cassar in 2005, critically assesses public claims to gender equality by way of a random, purposive sample of 39 women who graduated between 1991 and 1995. The age interval of the research participants was 28 to 38 years, and all were living with a husband and dependent children during the time of the study. The women came from various disciplinary fields: dentistry, engineering, medicine, law, pharmacy, science, architecture, education, commerce, marketing, accountancy and arts. At the time of the interview, 7 of the 39 women graduates had already withdrawn from the labour market and were full-time housewives. Sixteen women were working full-time: four were in education, and an additional four had abandoned their original field in order to become teachers; for example, an accountant was working as a 'supply' teacher, a pharmacist was employed as a secondary-school teacher, an engineer was teaching mathematics, and a business graduate was teaching in a school. The remaining 16 respondents were either working reduced hours or had shifted to self-employment. Four were on parental leave.

2. Doctors

(Finland, France, Norway, Portugal, Spain and the UK)

The marked increase in women doctors

To borrow an expression used in the Spanish report, the progress of female employment in medicine has been 'nothing but spectacular' in several countries. In three of the six countries covered by these case studies (Finland, Portugal and Spain), the share of women has reached, or is close to, 50 % of total employment, and in at least five out of the six countries (Finland, France, Portugal, Spain and the UK), it is above 50 % among students of medicine or trainees (Table 10). Thus feminisation is projected to continue in the years to come.

Devaluation of the medical profession?

Ongoing feminisation is raising opposite concerns. In at least one country, Portugal, worries are being explicitly expressed that feminisation is threatening the 'standards' of the profession (Box 9). Discussion on this issue in Portugal parallels that taking place in the Netherlands on the desirability of ensuring a balanced representation of both sexes within the judiciary, or the debate in Norway or Latvia on having a significant representation of men among teachers of young children (see the respective case studies). In other countries, devaluation and the implied loss of prestige or of relative earnings is a concern.

However, evidence on devaluation is mixed, with the cases of Portugal and France suggesting or claiming ongoing devaluation, whilst the converse holds for the UK

Table 10. Share of women in the medical profession

Country	% of women among doctors	Share of female doctors in younger cohorts	Share of females among students/trainees
Finland	48 (2000) 52 (2007)	72 % aged under 30	
France	30 (1990s) 40 (2007)	54 % aged under 40	65 % of medical students (first year)
Norway	15 (1980s) 23 (1990) 32 (2001)	53 % aged under 40 (2007)	About 60 % (2007)
Portugal	45.4 (2001) 47.2 (2007)	60.8 % aged under 45	
Spain	52.3 (2006)		About 70 % (2000)
United Kingdom	< 40 % (2005)		60 % of entrants to medical school

Source: National reports.

Box 9. Discovering the desirability of gender balance in the medical profession

Portugal. The increasing number of female doctors has been headline news in the Portuguese media. This followed a statement made by the Dean of an important school of medicine at a public event, in mid-2004, to the effect that the increasing feminisation of medicine was seriously affecting professional performance. Given the alleged difficulties in organising suitable schedules and working teams, and the consequent problems for female doctors to reconcile work and family life, the Dean advocated the introduction of quotas for men upon enrolment in university courses. His idea was to create a positive action aimed at attracting more men to medical schools.

This gave rise to a public debate featuring several participants, including the chairman of the most important Portuguese medical association (Ordem dos Médicos) and the Minister for Health, who declared that 'sometimes, the participation of women is constrained by their domestic chores and responsibilities, and they become less available for a profession demanding commitment round the clock'. One hotly debated issue was men's embarrassment at being examined by a female urologist.

Source: Ferreira (2008).

and Finland. Interestingly, on both sides of the debate we find countries at different stages of the feminisation process, intermediate in France and the UK, advanced in Portugal and Finland.

In the UK, medicine is still an attractive career option, with places in medical schools and for specialty training in the NHS highly sought after (Review Body on Doctors and Dentists, Thirty-Seventh Report 2008). Moreover, both the absolute and relative levels of pay remain high. At the top end, consultants can earn between GBP 73 403 and GBP 173 638, but even a general practitioner (GP, or the more familiar family doctor) earns well over GBP 100 000 (Fagan, 2008). Comparison with other professions — some of which are male-dominated — is favourable to doctors: median total earnings for consultants are as high as they are for taxation professionals and solicitors and higher than for accountants and engineers. The glaring exception is the group of actuaries, whose high earnings reflect involvement in the financial services sector.

In France, by contrast, it is reported that men are beginning to desert medicine because the profession is losing earnings and prestige in comparison with others. This evidence comes from *a survey of students (Hardy-Dubernet, 2005, quoted in Silvera, 2008) showing that those with a scientific baccalaureate tend to opt for entry into preparatory classes for the Grandes Ecoles and university institutes of technology where women are still in the minority.*

Although no clear evidence for or against devaluation is available for Portugal, change in medical skills is used to rationalise the feminisation of doctors. But this rationalisation comes suspiciously close to arguing that the new medicine is a de-skilled occupation. '…Global trends observed in the medical occupations' are characterised by Antunes (2003, p. 98, quoted in Ferreira) as follows:

- evidence-based medicine has replaced the long-established 'individual clinical eye';
- individual practice is conditioned by standardised just-in-time information, condensed in guidelines, which do not respect the biological phenomenon of illness;
- costs are now a decisive criterion in public health policies;
- health services quality is evaluated by a variety of criteria, like those of benefit/costs ratios, and the subjective opinion of patients, not only by professionals;
- professional autonomy has been progressively replaced by scientific, professional and administrative interdependence;
- the wage-earning relationship has replaced the professional relationship.

The new medical epistemology is said to be based on decision algorithms which enable a more systematic prevention of errors compared with the traditional 'clinical eye' (Antunes, 2003, p. 83). This change is seen to benefit the young generations of doctors, those possessing more updated information and more dependent on the guidelines typical of so-called 'managed care' (Ferreira, 2008).

Discussion on feminisation and changing skills is also taking place in Finland, but here the argument is sometimes turned on its head: it is the entry of women that has brought about the change in skills and organisation. Also, there is apparently no evidence of a decline in status or prestige for the profession. A survey conducted by the Finnish Medical Association in 2003 (Vänskä et al., 2005, quoted in Sutela, 2008) reported higher appreciation for their profession among young physicians than had been found in previous surveys. The persisting popularity of physicians is also confirmed by surveys recently conducted by popular magazines (Lappalainen, 2004, quoted in Sutela, 2008).

Vertical segregation and re-segregation

In all countries, intra-professional segregation occurs along several different lines: from divisions between specialties to those based on the scope of specialisation (e.g. general practitioners versus specialists), on the type of contract (salaried versus self-employed), or on some contractual hierarchy (e.g. specialists versus consultants). All these dimensions concur to differentiate working and pay conditions as well as career prospects, thus contributing to a complex web of vertical segregation.

Because of this complexity, no comparable quantitative evidence on the extent of vertical segregation or on how it reflects the gender wage gap can be drawn from the case studies, apart from recognition that women earn considerably less than men even where they are in the majority, for example in Finland. In France female doctors are reported to earn half what male doctors earn, but the gap allegedly decreases to 18 % in Finland and to 19 % in Spain among doctors in wage employment after adjustment for differences in education. No aggregate figure is available for the UK, Norway or Portugal.

(Re-)segregation by specialty has received close attention, partly because it captures the imagination, and partly because there is a strong differentiation of earnings (and prestige) among doctors working in the different specialties. Table 11 compiles ([13]) the evidence from the case studies. In Finland women account for at least two thirds of all doctors in clinical genetics, palliative medicine, allergy, gynaecology, oncology, psychiatrics, geriatrics, dermatology and dentistry. In Portugal they make up at least half of the total in 8 out of 17 specialties. In France gynaecology

([13]) Note that the data are drawn from different sources, and classification into specialties may not adopt precisely the same criteria across countries.

Table 11. Latest figures available for the female share among medical professionals

Specialty	Finland	France	Norway (specialists)	Portugal (all physicians)	UK (consultants only, 2006)
Clinical genetics	77	n.a.	n.a.	n.a.	61.0
Palliative medicine	90	n.a.	n.a.	n.a.	65
Audiovestibular medicine	n.a.	n.a.	n.a.	n.a.	45
Genito-urinary medicine	16	n.a.	n.a.	n.a.	40
Allergy (and immunology)	72	n.a.	n.a.	72.5	34.5
(Physical medicine) rehabilitation	38	n.a.	n.a.	58.9	23.8
Gynaecology/obstetrics	70	88	33	57.6	n.a.
General practice	55	n.a.	23	57.2	21.3
(Clinical) haematology	63	n.a.	n.a.	56.8	35.8
Immunochemotherapy/immunology	n.a.	n.a.	n.a.	53.2	22
Endocrinology (nutrition)	43	n.a.	n.a.	51.1	17.6
(Medical) oncology	71	n.a.	n.a.	43.4	28.8
Neurology	56	n.a.	n.a.	43	15.6
Infectious diseases	51	n.a.	n.a.	40.2	15.3
Gastroenterology	25	n.a.	n.a.	33.4	12.6
(Medical) ophthalmology	50	n.a.	n.a.	30.4	40
Cardiology	24	n.a.	n.a.	23	9.1
Tropical medicine	n.a.	n.a.	n.a.	20.0	15.3
Psychiatry	60	n.a.	33	42.7	n.a.
Paediatrics	63	56	27	61.4	n.a.
Geriatrics	66	n.a.	32	n.a.	25.1
General surgery	33	n.a.	6	19.1	n.a.
Child psychiatry	≈ 90	n.a.	n.a.	n.a.	n.a.
Dermatology	72	61	n.a.	n.a.	44.4
Dentistry	69	n.a.	n.a.	21.8	n.a.

Source: Sutela (2008) for Finland, Silvera (2008) for France, Ellingsæter (2008) for Norway, Ferreira (2008) for Portugal, Fagan (2008) for the UK.

is heavily feminised and paediatrics and dermatology are undergoing feminisation. In the UK palliative medicine, clinical genetics and dermatology record more than half female doctors. Across countries men still clearly outnumber women in cardiology, gastroenterology, general surgery and tropical medicine.

Two recurrent explanations across countries for segregation by specialty are working hours and gender roles or stereotypes, whilst exclusionary practices have been investigated primarily in the UK. Female doctors are reported to work fewer hours than men, or tend to be more involved in part-time work, though much less so than elsewhere in the economy. In France, for example, women work on average six hours less than men, but their weekly total nevertheless amounts to 51 hours. Also, one quarter of those in part-time work report hours close to the norm for all women in employment. The desire to avoid excessively long hours in order to meet family commitments may explain the underrepresentation of women in many of the major acute medical specialties. However, as the Norwegian expert remarks, family commitments are part of the story but perhaps not the full story:

> …work history data from 1996 (doctors authorised between 1980 and 1983) show that gender differences in fields at the start of the career are negligible (Gjerberg, 2002). Women in this cohort start as often as men do by specialising in surgery and internal medicine, but they change to other fields during their career more often than men. The reasons for this are rather complex, but work–family reconciliation is likely to be one factor. Some women quit these fields when they have children, and women who end up in these specialities have children later in the life course than other women colleagues. However, this is unlikely to be the only explanation, e.g. some women switch from surgery to gynaecology, a field which also has high work load and heavy duty rosters. Such shifts may, among other things, indicate that exclusionary mechanisms are active in some work environments.
>
> (Ellingsæter, 2008)

Hours are also reported to influence the choice of salaried versus self-employment status in France, the likelihood

of moonlighting in Spain, and the preference for general practice (GP) versus hospital work in the UK. Such choices, however, vary across countries because they depend on the specific institutions and organising principles of the profession. In contrast to what happens in the UK, for example, Italian GPs are prevalently male because earnings are proportional to the number of patients, and it is common for men to maximise income at the cost of long and sometimes unsocial hours of work. Italian female doctors are apparently more attracted to work in hospitals, where work schedules are better defined (Vicarelli and Bronzini, 2008).

Specialties where women predominate are often seen as 'feminine', 'caring', requiring interpersonal skill and 'emotional work'. Some scholars go so far as to claim the existence of 'innate skills', for example for female paediatricians (Brooks, 1998, quoted in Fagan, 2008). It is unclear, however, how far these explanations account for actual choice mechanisms, rather than reporting *ex post* rationalisations or covering up a lack of knowledge about other factors. For example, if we look at the distribution of female doctors in Portugal, as reported in Table 11 above, are we prepared to accept that dentistry requires less care and interpersonal skill than, say, clinical haematology? And what to make about the 70 % share of women among dentists in Finland?

Prospects of de-segregation

Whatever answer may be given to the latter question, intra-occupational segregation appears to be changing among younger medical cohorts. In some respects, 'changing' also means 'diminishing', for example in the UK, where women's share among consultants has risen by 7 percentage points in the past decade (2 points more than in aggregate) and is expected to rise further.

In other respects the picture is more complex. With regard to choice of specialty, for example, a Norwegian study,

> ...comparing older and younger cohorts (doctors authorised in the period 1970–73 versus doctors authorised [in] 1980–83), indicates that there are changes in the patterns of specialisation, but the trends are complex (Gjerberg, 2001). Both cohorts have had a high degree of specialisation, four in five have become specialists 15 years after authorisation, and gender differences have been insignificant. Among women in the youngest cohort there has been a trend toward a broader choice of specialisation, but there have still been pronounced gender differences, with women being nearly absent or strongly under-represented in a number of fields.
>
> (Ellingsæter, 2008)

Current signs of the decline in the culture of long hours or of round-the-clock availability are promises of more change in the future. Women are fighting for shorter hours or for work organisation that allow for flexible hours. Such fight may take the form of direct action, as in the UK, where the average GP has been able to cut down NHS work by about seven hours following introduction of the general medical services contract in 2004. Or it may ensue from pressure within couples. With increasingly educated wives who are themselves at work, and the increased probability that a doctor's wife is herself a medic, men can no longer rely on total exemption from family responsibilities, or even occasional secretarial support for their own jobs. According to Lapeyre Le Feuvre (2005) quoted in Silvera (2008) the 'permanent availability' of doctors is changing and this can be explained 'less by the gradual increase in the number of women doctors (…) than by the gradual transformation of the relationship of men doctors' wives to employment'.

Table 12. Numbers of male and female medical staff in England, 1997–2007

	Female staff				Male staff			
	1997	2000	2005	2007	1997	2000	2005	2007
All grades	23 000	25 728	33 638	37 273	43 836	45 960	56 992	57 365
Consultant	4440	5519	8353	9328	17 034	18 882	23 640	24 346
Associate	473	554	1005	1283	878	1014	1549	1765
Specialist	913	1551	2220	2321	1644	2948	3307	3734
Staff Group	4074	4778	7090	13 467	7835	7942	10 916	17 292
Registrar Group	6180	7088	9427	2652	8826	8413	12 215	3302
Senior House Officer	-	-	-	2696	-	-	-	2134
Foundation Year2	1762	1845	2561	3076	1636	1846	2102	2164

Source: Fagan (2008).

3. Financial professionals

3.a. Financial intermediaries

(Bulgaria, Czech Republic, Liechtenstein, Romania and Poland)

Feminisation in a high-earnings sector

The transition of post-socialist countries to market economies eventually reversed the traditional pay bias against service occupations, thus benefiting jobs in which women predominated. The sector of Financial Intermediation — NACE category 65 — is a case in point. Four out of the five countries reporting on this sector are post-socialist — Bulgaria, the Czech Republic, Romania and Poland — and in all of them women made up at least 66 % of the workforce in 2007, 24 percentage points more than in Liechtenstein, the fifth country in this case study, and 13 points more than the EU-25 average. All the major occupations in this sector record average earnings above the economy-wide figure, although there are considerable differences across them. In the sector as a whole, women have increased their representation since 2001 in three out the five countries surveyed, with an overall tendency among post-socialist countries to converge to a 70 % share (Table 13).

Whilst there can hardly be cause for concern in regard to overall devaluation for the sector as a whole, intra-sectoral segregation is still an issue. Women still predominate in lower-paid niches, and hierarchical segregation is very pronounced. As a result, the gender gap in earnings exceeds the economy-wide average by at least 10 percentage points (Table 14).

Differences in hours of work no doubt account for part of the gap in earnings, since the financial sector is a long-working-hours sector in the East as well as the West of Europe (see Box 10 below), but no comparable evidence is available on hours by sex. The two factors other than hours most often alleged to account for a larger-than-average earnings gap are age and discrimination.

Age partly accounts for lower earnings on the part of women in post-socialist countries. In these countries the sector of financial intermediation underwent a major overhaul with the transition to a market economy. It grew apace following restructuring, with foreign firms often taking the lead. Because the new skills required by a modern, capitalist financial sector were scarce, firms resorted to students, and supplemented formal education with on-the-job training. Selection of candidates among college graduates has tended to favour women, who perform better in higher education and are therefore over-represented among younger employees. However, the prevalence of younger female staff among women tends to reduce women's relative wages, especially where the seniority component of the pay packet is important.

Discrimination reportedly compounds the effect of age. The advantage of women at the hiring stage often turns into a gap at the time of family formation. Re-segregation into lower-paid niches like book-keeping, together with widespread discrimination and voluntary exits, concur in preserving a relatively high wage gap. Qualitative research carried out in the Czech Republic highlights how women cope with discriminatory behaviour by complying with stereotypes in order to gain acceptance for career advances. However, several women give up having children altogether.

Table 13. Share of women in financial intermediation, 2007

AT	BE	BG	CH	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
54.2	48.6	72.9	40.0	54.0	65.9	56.0	44.5	63.7	51.8	42.9	75.5	59.1	78.5	68.7	61.1	38.1	76.1	38.2	73.7	47.9	48.4	51.8	72.4	45.9	71.0	53.8	73.9	66.5	50.6

NB: Corresponds to NACE 65.

Source: Own calculations using LFS.

Table 14. Gender pay gap

	GPG overall	GPG in finance
Bulgaria (2002)	0.183	n.a.
Czech Republic (2006)	n.a.	0.33–0.65 depending on occupation
Liechtenstein (2005)	0.22	0.38
Poland (2006)	0.178	0.39 (2006)
Romania (2007)	0.11	0.21 (2007)

NB: The gender pay gap (GPG) in earnings is the difference between the earnings for men and for women in percentage to men's earnings (measured in monthly amounts). Definition and coverage population may vary across countries.

Source: National reports.

An interesting observation made by the Czech report is that the dominance of financial institutions originating from more developed capital markets has neither eased discrimination nor increased options for reconciling family and work (Box 10). Yet, there are signs of change in hierarchical de-segregation: Czech women increased to a striking 35 % among directors and chief executives in 2007, up nearly 28 percentage points on 2001. This may hide a restructuring of the internal hierarchy, since the upward move was paralleled by a 22 point increase in the gender gap in earnings, but it is nevertheless indicative of some ongoing progress.

3.b. Managers

(Hungary and Slovenia)

Unlike financial intermediation, management is still largely dominated by men. In 14 countries (out of the 27 group) there is no woman CEO in the top 50 publicly quoted companies. Moreover, women account for less than 10 % of the members of high decision bodies in these companies (Eurostat, 2008, Table A.44). Under-representation is far less pronounced among managers in general, where women reached 32.5 % in the EU in 2006. The past five years have recorded mixed progress: slow among most EU-15 countries, with the glaring exception of Italy, faster in some post-socialist countries and negative in the remainder (Table 15).

Of the two countries reporting on this occupation — Slovenia and Hungary — the latter can boast the highest female share in management within the EU-27, 37.1 %, whilst Slovenia is just slightly above the European average at 32.4 %. In both countries, the female share has increased since 2001, so that the picture they depict is likely to be 'rosy' in comparison with other countries, including some of the richer ones in Europe.

Like elsewhere in Europe, vertical segregation is more pronounced at the very top in these two countries, i.e. among members of company boards. In Hungary, for example, the representation of women is fairly balanced in middle management, whereas it has been found that men were twice as likely as women to obtain a position in upper management in the early 2000s, and five times as likely to get top management posts (Balint, 2003, quoted in Fazekas, 2008). Moreover, 9 out of every 10 members of the boards of large companies are men.

Box 10. Coping with discrimination and stereotypes in the financial intermediation sector

Czech Republic. Fifteen in-depth interviews were administered by Křížková (2003) to female staff in middle and top management within a large international company specialising in financial consultancy. The interviews revealed that:

> ….a significant role is played in organisational masculinity by an informal structure of relations, which for women represent one of the important barriers in the glass ceiling. These barriers, and other conditions that affect the development of women's careers within an organisation, are, together with their strategies for success, what form the basis of women's career patterns. The main strategies that women are forced to develop and use within the existing framework of rules and conditions are: (i) a strategy of subordinating their lives to work and the organisational rules of work, i.e. trying to conform and thus achieve success, and (ii) using gender stereotypes and gender hierarchies when executing tasks, i.e. accepting the stereotypical characteristics ascribed to women and turning sources of disadvantage to their own advantage by using stereotypes to pursue work-related goals. However, even behaviour according to these characteristics does not ensure women the same chances of success as men, owing to their handicap as women, which diminishes the value of their performance. … [Moreover] a comparison of the strategies of women in lower management positions on the one hand and the strategies of women in top management positions on the other hand reveal that, in order to combine a career and a family, it is necessary to take value decisions that for Czech women are not usually acceptable, given that the society is heavily structured by gender stereotypes. Often the strategy that seems most 'advantageous' is childlessness.
>
> The occupation of management in financial consultancy is a new field, which with the arrival of foreign companies in the Czech Republic was developed as a masculinised occupation. The main ingredients of successfull performance in this profession are: company loyalty, automatic overtime work, devoting part of one's time off to informal company activities, on-the-job training, presentialness, negative flexibility, a sharp division between family and working life, long-term career plans without interruptions. Women who start working in lower positions often leave the firm when they start a family and then begin working in smaller firms, often with a Czech owner, or work in the public sector where the conditions for achieving work–life balance are better.

Source: Křížková (2008)

Table 15. Distribution of managers by sex in EU Member States, 2001 and 2006

	2001		2006	
	Women	Men	Women	Men
EU-27	30.1	69.9	32.6	67.4
Belgium	33.3	66.7	31.3	68.7
Bulgaria	32.4	67.6	30.5	69.5
Czech Republic	26.5	73.5	29.2	70.8
Denmark	20.8	79.2	24.3	75.7
Germany	27.0	73.0	27.4	72.6
Estonia	34.2	65.8	33.4	66.6
Ireland	27.3	72.7	30.2	69.8
Greece	24.7	75.3	26.8	73.2
Spain	32.3	67.7	31.8	68.2
France	35.6	64.4	38.5	61.5
Italy	17.8	82.2	32.9	67.1
Cyprus	19.4	80.6	16.1	83.9
Latvia	37.7	62.3	40.6	59.4
Lithuania	46.7	53.3	40.7	59.3
Luxembourg	30.5	69.5	25.9	74.1
Hungary	35.2	64.8	37.1	62.9
Malta	15.8	84.2	18.6	81.4
Netherlands	26.0	74.0	27.0	73.0
Austria	30.3	69.7	28.7	71.3
Poland	32.1	67.9	35.2	64.8
Portugal	30.8	69.2	33.1	66.9
Romania	—	—	31.1	68.9
Slovenia	31.8	68.2	33.4	66.6
Slovakia	31.2	68.8	27.7	72.3
Finland	27.7	72.3	29.5	70.5
Sweden	30.3	69.7	31.8	68.2
United Kingdom	31.0	69.0	34.8	65.2

Source: Eurostat.

For Hungary, the process of de-segregation is apparently faster in corporate management: not only did the share of women go up by a notable 14 percentage points between 1995 and 2006, but the wage gap between male and female corporate managers decreased from 58 % to 13 %. In Slovenia, by contrast, there has been hardly any improvement at the top of the occupation in recent years, and the overall wage gap in monthly earnings for managers remains pegged at about 11 %. Both countries are apparently heading towards a rather low pay differential for a coveted occupation, but information is too scarce to support any firm conclusions.

The alleged reasons for persisting vertical segregation include the usual list of suspects.

> Research done up to now on the position of women in management in Slovenia (Kanjuo Mrčela, 1996, 2000, 2007; Petelinkar, 2005) has shown that the main reasons for gender segregation of this occupation are family and household obligations and the related more frequent absence of women from work, lack of self-confidence and low aspirations of women, existing stereotypes about women managers and discrimination in employment and promotion practices.
>
> (Kanjuo Mrčela, 2008)

What is perhaps more striking is low awareness of the issue. Research conducted in Hungary shows that both men and women tend to think of the existing division of labour within management as stemming naturally from the household division of responsibilities, and deny that a problem exists in this respect (Box 11). Although optimism is partly justified by the relatively good performance of the country in comparative terms, there is still some way to go before meaningful equality is achieved.

Box 11. Denial of discrimination among female managers

Hungary. A quote from Nagy and Vicsek (2008), who researched the careers of female municipal managers, illustrates how gender stereotypes permeate Hungarian society, including female managers: '… men and some of the women articulated their view that gender roles function well if men and women equally fulfil traditional role expectations, and women can look up to men. Thus we see that in the organisation investigated, in a strongly feminised workplace where men too regard themselves as feminised and the majority of leaders are women, the nostalgia for traditional gender roles persists. Women working in the organisation — without being conscious of it — still have to struggle with two opposing needs: they have to meet the expectations of their job and they also have to continually show that they are not losing their femininity, which principally means the proper fulfilment of family and domestic duties.' In a survey investigating the perceptions of employees regarding the under-representation of women in managerial positions Nagy (2005) also found that most of the respondents did not blame organisational policies for barriers to advancement in the careers of women. This perception confirms the low level of awareness and the strength of ingrained beliefs about gender roles in Hungarian society (Fazekas, 2008).

Source: Fazekas 2008

4. IT technicians

(Austria, Greece and Latvia)

Within the EU-27, computing professionals increased fast (some 39 %) between 2000 and 2007 according to the LFS source. This growth was accompanied by a decline in the share of women from a low 18 % to an even lower 17 %. Eastern countries were the most severely affected by the decline, but countries like France and Norway, the UK or Finland were not spared either. Of the three countries included in the case studies, Greece and Austria experienced a decline in the share of women, with the drop taking on dramatic proportions in Latvia (from 42 to 12 %) ([14]). In Austria, the decline in feminisation stopped around 2000 among computing professionals, but continued in the IT sector as a whole.

Feminisation in the IT sector

In trend with the overall increase of the employment rate of women in Austria, the IT sector too has witnessed an expansion in the proportion of women employees. However, as noted in the Austrian report, the male–female presence in the sector has been highly conditioned by the degree of affinity to technology attributed to women and men. So, the increase in the proportion of women in the sector does not eclipse the segregation trends. Employment in the IT sector accounts for 1 % of total employment and about one fourth of this are women, which is clearly below the national average shares. In Greece women make up 22.4 % of all IT occupations. There has been a significant increase in the proportion of women being employed in the better-paying IT professional category, from 23.2 % in 2000 to 26.8 % in 2007. Conversely, in the lower-paying category of IT technicians, the proportion has gone down from 29 % to 18.6 %. This category had been mixed-sex until 1993, when 49 % were women among the total employed as IT technicians. Since then there has been a comparatively larger inflow of male employees and thus the proportion of women has gone down significantly. In 2007 of all employed IT professionals, 63 % of the women had a PhD or master's degree against 35 % of their male counterparts. This indicates that, although women represent a minority of the IT profession, they are much more qualified than men on average.

In Latvia, the proportion of women in the technical professions is very low and varies from 10 % to 25 % depending on the size of the firm. In micro-enterprises the proportion of women is quite low, averaging to lower than 10 %. In small and medium level enterprises there is more female presence, but it is still proportionately low at less than 25 %. Large enterprises comprise 25–50 % of women, significantly more than the other categories. Data from the Latvian report show that women have more general duties and only a small proportion (24 %) are heads of departments. The more responsible and technically more complicated duties are performed by men.

There is more visibility of women workers, however, in the lower-paying bracket of IT occupations. In Austria, in the IT core sector, i.e. software development, a university degree in computer sciences became more important for acquiring a job. This was accompanied by a decline in female IT students in universities. According to data of 2005–06, the rate of female students in IT subjects amounts to less that 14 % and this may directly affect their presence in the high-paying IT jobs. On the contrary, Greece has seen an increase in the number of higher qualified IT professionals, and 90 % of the employed today have higher graduation degrees. A Latvian study has shown that, while the majority of male respondents recognise a gender inequality in pay in the IT sector, only a small minority of women regard this fact.

The inherent flexibility of working hours in the IT sector usually translates into longer working hours. Overtime working becomes essential in the sector in view of employees undertaking projects that have to be finished by specific deadlines. Apart from long hours of working, short deadlines make working conditions stressful and strenuous. There is limited scope for part-time work and temporary employment in all the three countries considered and it often leads to self- employment. The report from Greece records a respondent claiming that during periods of heavy overload 'there is no time for private life at all' and that 'they go home only for a few hours to get some sleep'. This leads to difficulty for women employed in the IT field to reconcile family obligations and work under demanding conditions.

Table 16. Share of women among computing professionals, 2007

AT	BE	BG	CY	CZ	DE	DK	EE	**EL**	ES	FI	FR	HU	IE	IT	LT	LU	**LV**	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
11.7	12.3	28.5	17.9	9.1	14.3	24.5	13.8	**26.8**	23.2	18.6	15.4	11.5	17.8	19.2	15.4	16.9	**12.0**	21.0	12.4	20.6	19.3	36.5	27.8	20.8	13.0	11.5	15.2

NB: Corresponds to ISCO 213.

Source: Own calculations using LFS.

([14]) Note that the data are drawn from different sources, and classification into specialties may not adopt precisely the same criteria across countries

Box 12. Coping with discriminatory hiring practices in the IT sector

Greece. Interviews of employers, employer organisations, unionists and representatives of professional associations conducted for a research project on employment and working conditions in the IT sector (Karamessini and Sakellaridis, 2007) revealed that:

> the difficulties women encounter to combine work and family are well known to employers and 'are of course taken seriously under consideration when a decision is to be made about a hiring'. Employers always ask women candidates whether they will be able to match their family obligations with job requirements. However, they do not rely only on women's answers to make a decision, since most of the times their answer is affirmative. They usually tend to ask questions about women's personal life (i.e. how long they have been married, how many children they have, if there are grandparents available to babysit the kids, etc.) and only afterwards they judge whether the candidate can really manage to reconcile family life with career. Another interesting finding from our interviews with the employers is that asking personal questions to candidates (sometimes even indiscrete ones) avails as a method to also implicitly letting them know that their private life will be constrained if they are hired. (ibid, p. 12)

Source: Karamessini (2008).

'Incredible shrinking pipeline'

The gendering of professional fields has conditioned women for so long to choose 'soft professions' and the IT sector has been regarded as a technical field to which there is a greater degree of affinity of men than women. More women in the sector are engaged in administrative work, sales and management than in the technical development work. Technical work is still considered male work and is statistically male dominated as well. It stems from the educational choices of young girls and boys and this directly affects hiring trends, especially among IT technicians, with this discrepancy being evident in numbers. Female higher education graduates do postgraduate studies more often than men to compensate discrimination with credentials.

This is despite the fact that generally the share of women in most technological subjects has gone up. However, obstacles in terms of relative pay and more prominent conditions of work prove an obstacle to retaining women in the sector. Long working hours and limited opportunity to work part-time, compel many women to choose either family life or a career. Working conditions, especially a male culture and long hours, discourage women who wish to pursue a career and become mothers.

5. Lawyers and judges

(Ireland and the Netherlands)

Legal professionals — ISCO occupation 242 comprising lawyers, judges and other legal professionals — was a male-dominated occupational group back in the 1970s. In both the EU-25 and EU-12 the share of women is currently close to 46 %, the 15-year increase since 1992 amounting to 17 points within the EU-12.

The group as a whole classifies as gender mixed in all European countries except Estonia, Latvia, Portugal and Slovenia where it is female dominated, and Norway where — surprisingly — it remains male dominated. Women are increasing both among lawyers and among judges, but at different paces across countries. This is reflected in the countries reporting on this occupation — Ireland and the Netherlands. In Ireland, women have made the largest inroads among lawyers, whereas in the Netherlands judges are more feminised. This makes for an interesting comparison between two different processes of feminisation both of which draw from a steady and ongoing increase of women among law graduates.

Table 17. Share of women among legal professionals, 2007

AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	**IE**	IT	LT	LU	LV	MT	**NL**	NO	PL	PT	RO	SE	SI	SK	UK
37.4	41.3	47.2	52.5	43.4	41.7	47.8	81.3	59.6	45	43.8	53.7	59.2	**44**	41.9	48	44.4	73.6	40	**46**	25.1	49.2	62	49	40	66	50.8	45.4

NB: The occupation corresponds to ISCO 242.

Source: Own calculations using LFS.

The judiciary in the Netherlands. Flows into the judiciary are already female dominated in the Netherlands. While women accounted for almost half of the stock of magistrates in 2006 (48.2 %) they made up between 60 and 80 % of successful applicants to the training positions offered each year by the judiciary system. Despite ongoing feminisation, however, hierarchical segregation is still pronounced: the share of women ranges from 65 % at the bottom to 14.8 % at the top of the occupational hierarchy. Hierarchical de-segregation is not just a matter of time, since there is evidence that women take longer than men to climb each step of the ladder (De Groot-Van Leeuwen, 1997).

Are working hours driving feminisation?

Working conditions and especially the possibility to work part-time could be driving feminisation.

> … In personnel ads, the magistrate presents itself as a modern employer with flexible working hours, opportunities to work part-time at all levels, with parental leave and childcare facilities (Website Werkenbijhetrijk.nl). Moreover, according to the 'Outline personnel policy 2008–11' the Council for the Judiciary favours a personnel composition of boards and management which reflects the composition of the total workforce within the judiciary system.
>
> (Plantenga and Remery, 2008)

However, past research in the Netherlands found that, while men and women differed in the reasons that they cited for choosing to enter the judiciary, few women mentioned the opportunity to work flexible hours or part-time (De Groot-Van Leeuwen et al., 1996). For women the most important reason was the judicial character of the job, whilst for men the challenge and variety of the work was more important. The availability of flexible working times and part-time work was a motive for only a few women. Hence the effective importance of the working-hours motive requires further investigation.

The prospects of feminisation are an issue of concern for the Dutch judiciary establishment. The Council for the Judiciary has expressed concerns about vertical segregation in the profession, but also about the risk that feminisation may undermine the judiciary's aspiration to be representative of, and recognised by, all groups in society (Box 13). This latter concern has also been voiced in different countries for other professions perceived at risk of being 'taken over' by women — doctors in Portugal, for example — as well as for already feminised professions like teaching in Norway or Latvia. It is, however, worth reflecting on the fact that in a high-paid occupation like the judiciary these concerns surface even before women achieve equal representation.

Legal professionals in Ireland

Irish women have been growing in numbers among lawyers despite a culture and practice of long hours of work in the occupation. Starting from a very low 5 % in the early 1970s, women had grown to 34 % among barristers and 41 % among solicitors by 2002.

Overall, reconciliation and discrimination still are major issues for Irish women in this profession. According to a detailed survey carried out by Bacik et al. (2003) the comparative chances of promotions and relative pay remain an issue (Barry, 2008, Tables 16 and 17), partly due to difficult access to flexible working hours and full maternity leave entitlements. In the words of the authors of the survey:

> While it may be slowly becoming more acceptable for women to seek flexible working hours on the basis of their parenting responsibilities, it does not seem that there is any recognition in the legal workplace of the parenting role of men.
>
> (Bacik et al., 2003)

Box 13. Worrying about too few women (at the top) and yet too many (in the judiciary)

The Netherlands. [In] the 'Outline personnel policy 2008–11' the Council for the Judiciary favours a personnel composition of boards and management which reflects the composition of the total workforce within the judiciary system. In this respect the Council considers it a good development that the proportion of men and women within the management development programme for courts of law is balanced. At the same time, feminisation of the workforce seems a topic of concern within the judiciary system. According to another section of the outline of its personnel policy, 'it is important to know why the share of men and allochtonous persons in the inflow of the judiciary system is rather low and how the inflow of these target groups may be increased'. According to this outline the Council for the Judiciary strives to achieve 'a translation of the development of a more differentiated society into its personnel composition, given the importance of a judiciary recognisable for all groups in society'.

Source: Raad voor de rechtspraak (2007), quoted in Plantenga and Remery (2008).

Differences in hours worked are probably contributing to a pronounced gender pay gap: at the top end of the income scale, 31 % of women respondents to the survey stated that they were earning EUR 75 000 or over, compared with 59 % of men. At the lowest end of the income scale, 23 % of women respondents compared with 14 % of men reported earning less than EUR 35 000 (Barry, 2008).

Feminisation is being accompanied by re-segregation. The search for convenient work schedules or lingering discrimination partly account for re-segregation but other factors appear to be also at work. Women are much better represented in legal areas like family law, property, personal injury and, recently, asylum and immigration law, rather than criminal or commercial law. One explanation is that significant increases in opportunities for litigation in some of these areas coincided with major inflows of women, for example in the case of the introduction of provisions for legal separation in the 1970s and 1980s or in the newer area of asylum and immigration law. However, Bacik et al. (2003) suggest that timing alone cannot entirely explain the pattern of re-segregation and that adherence to gender roles has played an independent part (Barry, 2008).

6. Home helpers in elderly care

(Austria, France, Italy, the UK and Sweden)

Care workers in Europe

Care workers (ISCO group 513) are the most feminised occupation in the EU. They comprise two subgroups, which are reviewed in the present and the next case study: home helpers in elderly care, and care workers and teachers in pre-primary services. Much like elsewhere, in the nine countries covered by the two case studies (Austria, France, Italy, the UK and Sweden for home helpers in elderly care, and Cyprus, Latvia, Iceland and Norway for childcare workers and pre-primary teachers), the share of women in the broad occupational group of care workers often reaches 90 % or higher, never falls below 80 % except in Greece (79 %), and exhibits basically stable trends.

Care of the elderly has shifted decisively towards the home throughout Europe, giving tremendous impetus to the occupation of home helper. The exact features of this occupation vary because the organisation of home-based care not only differs across countries but is undergoing change in response to the exponential increase in demand. The broad profile of a home helper is that of a waged worker responsible for assisting, totally or partially, the disabled elderly in their daily routines with cooking, eating, house-cleaning and bathing, taking medicine, walking or shopping.

Occupational titles vary. Members of this occupation are known as 'home helpers' in Austria and France, 'domiciliary care workers' or 'care assistants' in the UK, where they are grouped with social workers, 'household assistants' in Italy, more commonly called 'minders' if they are hired directly by the family. In Sweden, where the home-based care sector is well developed and the division of labour is finer, home help is split into several occupations, from 'guardian' to 'cleaner'.

The type of employer also differs and obviously depends on qualification requirements, training provisions, pay and working conditions. Sweden and Italy stand at opposite extremes, since in the former country long-term care is primarily organised at public, municipal level. Swedish municipalities are the main employers of care workers, whereas in Italy the family is a far more important employer of home helpers than local authorities. Because of outsourcing, in the UK or Austria a small-sized private-sector or voluntary-sector company typically provides home-based care to the elderly, whilst in France services are organised via departmental councils which administer the personalised independence allowance (*Allocation personnalisée d'autonomie — APA*).

Last but not least, irregular employment and the employment of migrants strongly influence pay and working conditions in this occupation. Irregular employment is more widespread when families hire and pay home helpers directly, owing to a common interest in avoiding taxation or the weak bargaining position of the workers. Families are the main employers of home helpers in Italy, as noted, but Austria also reports large estimates of irregular workers hired by the family, and in the UK the share of families self-funding (paid) elderly care is not negligible.

Migrant care workers are especially at risk of irregular working conditions, because their civil and working rights are more often uncertain, or simply because they are foreigners. Thus in Italy one recent estimate of the share of workers in domestic services without a regular contract

Table 18. Share of women among care workers

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	**FR**	HU	IE	IS	**IT**	LT	LU	LV	MT	NL	NO	PL	PT	RO	**SE**	SI	SK	**UK**
1992	**na**	97.5	na	na	na	91.0	90.4	na	76.5	84.4	na	**92.5**	na	na	na	**68.7**	na	na	na	na	86.2	na	na	87.7	na	**na**	na	na	**91.2**
1997	**na**	96.8	na	na	82.3	92.1	85.9	93.8	81.9	82.1	94.4	**91.7**	87.6	na	94.2	**73.1**	na	86.1	na	na	96.8	90.3	82.2	92.0	93.3	**89.8**	90.2	na	**92.0**
2001	**75.8**	95.9	94.9	100.0	85.1	90.7	89.4	91.9	82.0	87.9	96.7	**92.5**	86.1	87.7	94.1	**76.1**	96.9	93.2	94.5	na	96.9	88.9	86.1	89.6	na	**89.8**	72.2	90.5	**92.1**
2007	**86.3**	96.7	90.1	97.9	83.5	89.2	87.1	99.0	78.9	90.1	93.7	**90.0**	84.7	89.4	na	**84.5**	100.0	86.7	91.8	58.1	97.5	87.1	90.7	93.5	85.5	**87.0**	78.6	87.7	**90.1**

Source: Own calculations using LFS.

puts it at 23.8 % (IREF-ACLI, 2007, Graph 8), but the figure is likely to be considerably higher for home helpers in elderly care. Similarly, in Austria it is believed that there is practically one irregularly employed care worker, usually an immigrant, for each regularly employed one (Flecker et al., 2007, p. 115, quoted in Mairhuber, 2008).

Feminisation and the occupational pyramid

Despite organisational variety, some basic features — and issues — are common across the five countries surveyed. First, home help in elderly care is an overwhelmingly feminised job which lies at the bottom of the elderly-care occupational pay and skill ladder. Reported rates of feminisation are never below 85 %, and they are close to 100 % in two cases: France and Austria. With such rates, vertical or hierarchical segregation are meaningful concepts only if we look at home helpers from within the hierarchical ladder of care work, rather than from within the occupation itself.

The degree to which skills are recognised is the key to understanding vertical/hierarchical segregation, because it is one of the main factors that structure the occupational ladder. In the more favourable cases, some training and skill recognition are granted to home helpers, for example in Sweden, or to the (minority of) municipal care workers in Italy, or to carers in regular employment in Austria. For example, there are two different levels of qualifications for regular care workers in Austria: skilled and semi-skilled personnel. Qualified nurses (*diplomierte Gesundheits-* and *KrankenpflegerInnen*) are skilled personnel who have successfully completed a three-year course, while the semi-skilled include both assistant nurses (*Pflegehilfskräfte*), for whom a one-year course suffices, and home helpers (*HeimhelferInnen*), who are required to attend courses of between 200 and 400 hundred hours, i.e. the equivalent of a half-year course at most. In the UK and France, practically no training was given or required until recently, and current training provisions are reported to be scarce or below targeted standards. In the UK, for example, the Care Standards Act 2000 established various national minimum standards, qualification levels and target dates. Since the act came into force, levels of qualification have increased, but national minimum standards are still far from being fully achieved for care workers. There are, however, even poorer examples: when families are the direct employers or when employment is irregular, no training is provided, and the work is considered to require no skill at all.

Male care workers are rare, but they tend to be better represented in the more skilled occupations, in administration and in management. This is well exemplified by Austria, where male home helpers account for less than one fourth of all men working in home care, as opposed to almost two thirds for women. Overall, however, career chances for women are less unbalanced among qualified nurses in residential elderly care.

Table 19. Median and average gross hourly pay for care assistants and home carers, April 2007, UK (ONS Annual Survey of Hours and Earnings, 2007)

Type of worker	Median GBP/hour	Average GBP/hour
All (male + females)	7.53	8.07
All female	7.46	8.00
All female full-time	7.48	7.94
All female part-time	7.45	8.09

Source: Fagan (2008).

Table 20. Women's average wage as a % of men's and share of women by occupation in Swedish municipalities, all sectors, 2002

Occupation	Women's wages as a % of men's	Share of women	Occupation	Women's wages as a % of men's	Share of women
Electrician		0	Custodian	100	68
Engineman	95.6	1	Assistant nurse	101	96
Skilled worker	95	1	Children's nurse	103	97
Construction worker	97	1	Assistant carer	103	95
Craftsman	97	3	Guardian	100	86
Driver	97	2	Nurse's assistant	103	88
Garden worker	98	9	Child minder	105	100
Paramedic	98	18	Catering assistant	103	97
Janitor	97	7	Cleaner	101	96

Source: Nyberg (2008).

Low wages

Regarding pay, the main issue for home helpers is low wages rather than the within-occupation gender wage gap. There is evidence for the UK that even among home helpers men earn slightly more than women (Table 19). However, in Swedish municipalities women's earnings exceed those of men in the more feminised, care-related occupations. This is documented in Table 20, which should be read bearing in mind that the figures reported refer to all municipal employees and do not control for possible differences in age, qualifications or other.

Very high rates of turnover among home helpers indicate that the main problem is pay, which is low for the working conditions that the job entails. As with other types of care work, undervaluation is one reason for low pay in this occupation. Quoting from the French and the UK report, respectively,

> Is it a matter of simply reproducing tasks that women carry out at home, 'without' any particular skills? Or should not other required skills be recognised, such as interpersonal skills concerning the family and the person they [the home carers] are looking after? In spite of the desire to professionalise these workers and develop training, there is a tendency to underestimate the interpersonal skills required, which are sometimes considerable when the person concerned is very ill or psychologically fragile. The technical nature of the work is also sometimes denied — some home helpers give medicine, as well as certain treatment, even though it is not prescribed.
>
> (Silvera, 2008)
>
> The highly gendered character of 'caring' and 'bodywork' is associated with the intimate realms of the personal and the familial. It is also linked to the traditional construction of medicine as a high status professional occupation suitable for middle-class men. This status was preserved by female nurses 'mopping up' after patients, and these tasks have since been delegated to care workers in an attempt to conceptualise the difference between 'technical' and 'basic' nursing and draw professional demarcations for nursing.
>
> (Wolkowitz, 2006, quoted in Fagan, 2008)

For migrant workers in regular employment, however, the feminised work that they do may not be perceived as particularly undervalued in comparison with existing alternatives in more male-dominated occupations entered by migrants, as illustrated by the case of an immigrant home helper *regularly* employed by an Italian family and co-residing with the elderly.

> Consider a full-time co-resident minder receiving EUR 850 per month in 2005 and working 54 hours. Per hour earnings would amount to some EUR 3.5 or even less if we account for the fact that a co-residing minder is de facto 'on call' at night, i.e. is unlikely to refuse occasional or limited night services, especially if the need arises sporadically rather than systematically. In terms of yearly earnings the occupation would rank penultimate in the two-digit occupational ranking drawn from EU-SILC data, sitting between 'Agricultural, fishery and related labourers' and 'Skilled agricultural and fishery workers'.
>
> However, having food and lodging provided for free (or paid for on top of the salary) considerably lowers work-related costs that workers in other occupations bear. Moreover, for short-term or rotating migrant workers, perhaps the largest group from former Soviet republics, the actual purchasing power of their take-home earnings is at least doubled once money is transferred and spent in their own country. Rotation refers here to the widespread practice to work in relay with other relatives or friends in order to alternate work in Italy to caring for one's family back home.
>
> (Morokvasic, 1996)
>
> In terms of earnings, but also of other working conditions, therefore, being a regularly employed, co-resident elderly-care minder should be no less attractive to migrant men than other occupations in building or harvesting where conditions are known to be very exploitative.
>
> (Bettio and Verashchagina, 2008)

This notwithstanding, stress levels and long or very irregular hours of work are among the conditions that are not sufficiently compensated for, although the reason varies from country to country. In France, for example, typical jobs involve 70 hours per month and only 5 % of them are full-time (more than 165 hours)! Home helpers serve several 'clients', often located in premises distant from one another, and no law enforces minimum working hours for them. Among home carers in Austria, the pressure to be flexible and available at short notice is exacerbated by understaffing, and the resulting overtime makes it difficult for women to reconcile family and work. Finally, long hours of work are complained about by residential care workers in Austria or by co-resident home helpers in Italy.

Future shortages

The combination of low pay and undesirable work conditions for many home-helper jobs has caused and is continuing to cause shortages among the native supply. To date, shortages have been met either thanks to a considerable inflow of immigrants — in Italy or Austria — or by recruitment among resident ethnic minorities — in the UK and France. Neither solution, however, is considered unproblematic for the future. In Italy reliance on migrants has greatly eased the demand shortage, and the occupation is still sought after by female migrants from the East for the reasons just mentioned. However, the Italian solution may not be sustainable for long in its present form, since a large share of migrant home helpers come from eastern European countries, and a likely improvement of job opportunities there in the medium term may considerably reduce migration flows (Bettio and Solinas, 2008).

In order to heighten incentives for bottom-layer care workers to invest in their occupation, the UK and France have adopted the 'more training, more professional standards' solution, but the deeds do not yet match the commitments on paper. Austria has gone further in this direction with an attempt to integrate the occupation of home helpers into a professional ladder that guarantees at least some recognition of skills, training and work standards.

Within Austria this has raised fears that increased differentiation among care workers may attract men, who would steal from women the advances secured to date thanks to a female-dominated environment (Reidl et al., 2006, p. 40, quoted in Mairhuber, 2008). However, it is hoped that recognition of skill may not only contribute to addressing the problem of low pay but also help meet shortages through a greater involvement of men in the occupation.

Box 14. Skills assessed in the certificate of occupational skills (*Certificat de compétences professionnelles — CCP*): 'Helping an individual carry out functions related to everyday life'

** Making contact with the person concerned and organising the work*

During the first meeting, exchanging information in order to build a positive relationship and to organise the work.

During each visit to the person's home, discussing, observing and analysing the data of the moment (the condition of the person and the liaison book) in order to decide on the right course of action; agreeing on how to organise things; motivating impossibilities or refusal.

**Accompanying and helping individuals carry out functions related to everyday life*

Helping the person to eat: preparing, organising and creating the right atmosphere for meals and snacks.

Advising the person and adapting menus.

Helping the person regarding their personal hygiene: helping them wash in a basin or shower,

helping the nurse washing the person in his/her bed.

Helping with getting dressed and undressed.

Helping the person move from one place to another — with or without specialist equipment, depending on the type of invalidity.

Helping the bedridden: making the bed and manipulating a hospital-type bed.

Helping with paper work.

Accompanying the person in their social and leisure activities.

**Contributing to maintaining the person's physical and intellectual independence*

Involving the person and asking for their physical and intellectual participation.

Maintaining contact and communicating with the person during the various activities.

**Dealing with emergency situations*

Raising a person who has fallen; anticipating incidents and accidents; giving first aid; taking emergency measures and alerting.

**Keeping in contact with those close to the individual, other people, services and professionals involved*

Writing reports in the liaison book; envisaging necessary contacts.

Taking stock with the person concerned; jointly assessing the service; preparing the future service.

Leaving the person.

Source: Doniol-Shaw 2005, quoted in Silvera 2008

As a step in this direction, a French organisation has drafted detailed guidelines for home helpers caring for elderly or disabled people which can also be used to identify the skills involved (for details, see Box 14).

7. Nursery care workers and pre-primary school teachers

(Cyprus, Latvia, Iceland and Norway)

Extreme feminisation

Nursery care workers and pre-primary school teachers broadly identify two layers of the same occupation, namely assisting the physical and mental development of children under three years of age while looking after them at the same time. In the four reporting countries (Cyprus, Latvia, Iceland and Norway) the occupation is extremely feminised, even more so than primary teaching. Among registered teachers, men are practically absent in Cyprus and Latvia. They account for a 4 % share in Iceland and a little more in Norway (7 %).

Low pay and relatively high qualification

In all four countries, pay is reported to be low in absolute terms or with respect to the level of qualification. In Latvia wages among pre-primary teachers are below the economy-wide average. In Norway, the education requirements for pre-school teachers are the same as for nurses and physiotherapists, but the wage the former earn corresponds, on average, to the base wage that the latter receive. Furthermore, over their lifetimes pre-school teachers receive the lowest income among all workers with college educations. In Cyprus, crèche workers are paid the minimum wage despite having a two-year college education, and kindergarten staff receive some 25 % more for four years at college.

In all the four countries, therefore, pre-primary teachers hold qualifications requiring three to four years of college attendance. In Cyprus other childcare workers in regular employment also have some college education (the remaining countries only report on teachers). The occupation has therefore managed to professionalise itself but not to be paid accordingly. Time may be a factor: in Iceland, for example, professionalisation is a relatively recent conquest after a long struggle primarily motivated by the desire to raise pay levels. *Unlike the education of primary school teachers and nurses, which moved to the university level in the 1970s, training for pre-primary school teachers became a three-year study course leading to a Bachelor of Education degree only in the late 1990s* (180 ECTS) *(Jónsdóttir, 2005, quoted in Mósesdóttir, 2008).* Persistent over-demand for pre-school teachers, however, means that about 60 % of all staff is recruited among the unskilled.

The expectation in Iceland is that real change will come about with the proposed integration of pre-primary teaching into the school system. Such expectations are justified in the Scandinavian context. In Norway, for

Box 15. More manliness for male children? Raise teachers' pay

Norway: Since the early 1970s, when the first male teachers entered pre-school teacher education, the proportion of men has been low, with some fluctuations (Solberg, 2004). Although the past 10 years have seen a slight increase, over a 20-year period there has actually been a decline (Solberg, 2004). The stability experienced in the 1990s is surprising, because this was the decade when the government launched its campaign to increase the recruitment of men to kindergartens. Since then, all governments have pursued the target of a 20 % male component in kindergartens. In 1998 a regulation allowed male quotas in admissions to the pre-school teacher colleges; and other incentives have also been introduced, among them local, so-called 'men-in-kindergarten' networks. It is widely agreed that these policies have been unsuccessful (Solberg, 2004). Solberg (2004) maintains that the 2004–07 action plan represented more of the same 'medicine'. In his opinion what is lacking is a national strategy to point out directions. The action plan is based on an implicit assumption that, if the proportion of men increases, gender equality will follow automatically, but this does not problematise gender power relations in kindergartens.

According to Solberg (2004), recent research indicates that male pre-school teacher students are significantly less motivated than female students. The majority of men interviewed for the study were not attending college because they thought they had something to offer to kindergartens; rather, they reported a lack of other alternatives or considered the education in primary teaching an easy way to get a job (Solberg, 2004, p. 147). This pragmatic attitude is perhaps surprising, given the female dominance of this occupation and its connotations. However, this type of rational reasoning is likely to be underrated as a motivation for men who enter female-dominated occupations, because such choice is usually perceived as being strongly gendered.

Some researchers have studied the rationale behind recruiting men as pre-school teachers, as well as how men construct their masculine work identity as pre-school teachers (Røthing, 2006; Solberg, 2004). Evidently, different forms of masculinity are evolving.

Source: Ellingsæter (2008).

example, only half of those educated in pre-primary school teaching are actually employed in childcare services (Gulbrandsen, 2005, quoted in Ellingsæter, 2008), whilst the remainder opt for elementary school teaching or other occupations, the alleged reason being the low pay offered by care services.

Low pay and the failure to attract male teachers

Low pay is one of the reasons why there are so few men in the occupation. Other reasons mentioned for Iceland are the association with part-time and with 'mere' care as opposed to teaching. In Latvia, low pay is, reportedly, the overwhelming, or the most important, reason why men are not attracted into pre-primary or primary teaching. Yet extreme feminisation is perceived to be a problem, especially among primary and secondary teachers, because boys are believed to need authoritative male figures to identify with and to develop their manliness, which is otherwise sought for outside school. The Latvian battle over the low pay for teachers in the first level of education has thus been waged behind the goal of ensuring balance in sexual identities among children.

The experience of Norway confirms that, if the objective is to increase the share of men among teachers of young children, raising pay is likely to work where other measures have failed. At the same time, it casts doubt on whether men's attitude and behaviour as teachers is as different as implied by the assumption that there are two clear and distinctive female and male identities to be passed on to children. Box 15 gives a flavour of the Norwegian debate.

8. Cleaners

(Belgium, Finland and Germany)

Cleaning is an important source of employment at the bottom of the occupational and pay pyramid. No harmonised data are available for the occupation as a whole, because no European source goes down to the four-digit-level classification needed to identify the different sub-occupations.

Of the three countries reporting on this occupation (Belgium, Finland and Germany), Finland records the highest rate of feminisation, with 9.6 women for every 10 cleaners in 2005, against about 6.6 women in Belgium and 7.2 in Germany. Outsourcing by both public institutions and private concerns has brought major changes to the occupation. Belgium and Germany, in particular, report fairly similar trends and organisational structures in regard to working conditions and schedules, intra-occupational segregation and the wage gap, as well as biases in the way feminised work is evaluated and remunerated.

Working conditions and schedules

Since the introduction of outsourcing, the private sector has expanded considerably at the expense of public employment in both countries, and a triangular relationship between the client, the cleaning company and the cleaners has become entrenched in this occupation. The work load and irregular and non-negotiable hours have increased in parallel. The heavier work load can be illustrated by com-

Box 16. The split schedule in maintenance cleaning

Belgium. Work at most cleaning sites is organised according to a split schedule, so that it is concentrated into two time slots — early morning and late afternoon or evening — without any additional wages being payable. In Belgium, for example, the pay increment due for night work is not payable until after 10 p.m. Night work, incidentally, is quite rare. It appears that, on average, only 25 % of the cleaning work entrusted to outside firms in European Union countries is performed during normal working hours, i.e. during the daytime (EFCI, 2006). In a highly competitive market, therefore, client companies can impose inconvenient schedules on subcontractor firms so that their own staff are not disturbed by cleaning work.

Time organisation of this kind is not as unavoidable as is often maintained, however. It seems to result from an implicit understanding between client companies and employers, so as to reduce cleaning costs by means of an intensification of work obtained by eliminating all slack periods, breaks, interruptions, disturbances and the deployment of labour in blocks of hours that can be lumped together where necessary in order to make up the paid working time. On closer inspection, in fact, the nature of the work is insufficient to justify this method of organisation. In Sweden, for instance — though it should be acknowledged that the country is an exception — daytime cleaning has become the rule and accounts for 70 % of such work (EFCI, 2006).

This contingent organisation of work, based on the split schedule, represents one of the main grounds for rejecting full-time work, especially for women who continue to shoulder the lion's share of domestic and family responsibilities. The split schedule poses at the very least the problem of a […] possible mismatch between time spent at the workplace and working time that is duly remunerated. It is not surprising under these circumstances that female workers shy away from the split schedule, in that they are obliged to forego one or other of its shifts.

Source: Meulders (2008).

parison between a typical maintenance cleaner working for the private sector and her counterpart in the public sector in Germany: the latter cleans an average of between 150 and 200 square metres in an hour, whereas the former can cover up to 820 per hour (Mayer-Ahuja, 2003, p. 182f; Hieming et al., 2005, p. 111, quoted in Maier, 2008).

Full-time work is scarce in the occupation, accounting for 37 % of total employment in Belgium and 37 % in Germany, down to 13 % and 16 % among women in the respective countries. Given the high competition among private firms, clients can impose their preferred hours of services. Thus, although hours of work are short, they are often inconvenient or irregular for the worker, as in the case of the split schedule in Belgium described in Box 16. Moreover, clients may be located at some distance from one another, and travel time is not paid for. For mothers working in this occupation, the choice of increasing hours of work may thus pose a very difficult conflict between the need to reconcile time for care with time for the client, on the one hand, and the need to get more income on the other: a classic trap among 'working poor' women.

Intra-occupational segregation, job evaluation biases and the gender pay gap

Workers' allocation to sub-occupations within cleaning is gendered in both Belgium and Germany. Industrial cleaning, refuse collection and window and building cleaning are mixed or male-dominated sub-occupations, depending on the country, and they record a higher incidence of normal working hours and of full-time employment. The converse holds for maintenance cleaning, i.e. cleaning of offices, hospitals schools, etc., where women predominate.

In Belgium, hours of work differentiate earnings between men and women more than does employment in different sub-occupations. In Germany, however, there are important differences in recognised skill level and pay across sub-occupations. In this country both maintenance and window cleaning are recognised trades. Cleaners can complete a three-year vocational training course as state-approved maintenance workers or building and window cleaners, and receive further training for a master craftsman's diploma. In building and window cleaning almost one third of the workers employed in 2007 had received vocational training against less than one fifth in maintenance cleaning.

Whilst training related-qualifications are a source of wage differentiation, they are compounded by differential evaluations of comparable skill levels in the two sub-occupations. Table 21 below reports the rates negotiated for these sub-occupations according to recognized skill level: an unskilled helper in building and window cleaning is entitled to a per hour rate higher than that received by a foreman in maintenance cleaning.

Table 21 is not the only evidence of biases in the devaluation of female-dominated areas of work. In lump-sum maintenance cleaning in Germany — for example, when cleaners are responsible for a building (often schools) and get a fixed monthly sum for it — the agreed deliverable is often too demanding for workers to complete cleaning on time, so that they take longer than they should and end up being paid average per hour wages between EUR 3 and 5 with no overtime. Additional evidence of underpayment in the same country concerns the cleaning of toilets. This task is seen as a self-evident part of maintenance cleaning and not as 'exceptional contamination', a criterion used elsewhere to justify extra pay for difficult working conditions (Hieming et al., 2005, p. 111, quoted in Maier, 2008). Similarly, inconvenient hours do not give rise to extra pay as weekend work or night work does elsewhere in the economy.

Well-developed training provisions in this occupation may have prevented a generalised downward fall of wages in Germany, but they have also been used to enforce gender differentiation in pay. In Finland, by contrast, not even the offer of training provisions has been sufficient to raise the wage level among cleaners, because investment in training simply does not pay:

Table 21. Classification system of the wage agreement for the private cleaning sector in North Rhine-Westphalia, 2003

Occupation field 1: building and window cleaning	**%**	**EUR**
Skilled foreman/-woman	115	13.91
Skilled worker (basic wage A)	100	12.09
Cleaner (basic wage A)	90	10.88
Unskilled worker (helper) (basic wage A)	85	10.28
Occupation field 2: maintenance cleaning		
Cleaner (basic wage B)	100	9.40
Foreman/-woman (basic wage B)	110	9.80
Foreman/-women for teams up to more than 15 workers (basic wage B)	115	10.21

Source: Maier (2008).

There have been attempts to raise the education level among the cleaning staff by introducing an education programme of basic qualifications in cleaning work, but it has been difficult to find enough students. The basic qualifications take a year of studies, but the attained qualifications do not really show up in the extremely low wages: the supplement for a qualified cleaner is about 14 cents per hour more than for an unqualified cleaner. Qualified cleaners tend to seek their way into public sector where the pay level is slightly higher than in the private sector.

(Sutela, 2008)

9. Retail sector workers

(Czech Republic and Ireland)

In Europe as a whole, the largest concentrations of female employment are in wholesale and retail trade, comprising 19 % of female full-time employment. The Cedefop report on future skills needs in Europe predicts a Europe-wide significant expansion in the number of jobs in retail up to 2015 (Cedefop, 2007). Female employment growth in the retail sector has been on a constant increase over the last decade, evidenced by the table below. Female employment growth in the sector is higher than the total employee growth rate, and is nearly double the growth rate of male employees in the sector. It is expected that this trend will continue over the coming decade.

In trend with the figures for the whole of Europe, the countries in case have had a significant increase in the proportion of women employees over the last one decade. In the Czech Republic the job of a supermarket cashier is highly feminised where women represent 93 % of shop cashiers and make up 82.5 % of shop salespeople.

In Ireland, there is clear evidence of gender occupational segregation in the retail sector. Nearly twice as many females are employed in sales positions as are males, and males additionally comprise nearly three times as many management and administration positions as females in the retail sector, with very few females represented in senior management (Barry, 2008). Of all sectors in the Irish economy the wholesale and retail sector is the second largest, employing 289 100 people. Of these, females continue to dominate the 'sales' broad occupational group, comprising 61 % of the total in 2006.

This does not completely reflect a healthy picture as it constitutes evidence of concentration of women in the marginal occupations of retail. When supermarket chains began to explode into the Czech market they obtained tax privileges from the state that put them in an advantageous position over other types of traders, and they took advantage, for example, of the growing unemployment in certain regions or in certain categories of the population (typically women) so that they could set wages very low (bordering on minimum wage level), offer negative contract terms (e.g. fixed-term work contracts and other unfavourable contracts) and provide employees with poor working conditions (long shifts, nightshifts, weekend shifts, mentally and physically demanding labour) (Jindra, 2006; Tomášek, 2007, quoted in Křížková, 2008).

Similarly, in Ireland there are tendencies of over-representation of women in low-skill occupations and sectors. When compared with other EU countries, Ireland's retail sector is skewed towards employment of those with lower levels of educational attainment. One third of retail workers hold education levels lower than upper secondary, and just over half are at upper secondary. 'In 2003, 4.7 % of those in the wholesale and retail sector participated in formal education or training, while 12.7 % participated in non-formal education or training and 41.6 % in informal training'.

Table 22. Persons aged 15 years and over employed in wholesale and retail trade in Ireland

	1997	1999	2001	2003	2005	2007	% increase 1997–2007
Male	115.0	122.9	127.5	130.1	141.8	156.2	36
Female	92.3	105.1	117.8	124.8	142.2	155.4	68
Total	207.2	228.0	245.3	254.9	284.0	311.6	50

Source: Central Statistics Office, quarterly national household survey data, quoted in Barry (2008).

Table 23. Employees in the retail sector — extent to which male/female employees have sought promotion and have successfully been promoted within the last five years, Ireland

	% who have sought promotion	% who have been successfully promoted
Male	33.3	23.9
Female	21.3	20.5
Total	24.5	21.5

Source: Indecon (2002) survey of employees in the retail sector, quoted in Barry (2008).

A 2006 FAS survey in Ireland found 126 900 out of the 2 037 700 workforce employed as 'sales assistants', deeming it the single most populated occupation in the economy as a whole. Within this occupation, 73 % of employees are women and almost half of the workers are employed part-time. More than 100 work permits were issued in 2006, demonstrating what has been clearly deemed a labour shortage, with 60 vacancies having been left 'difficult to fill'. Sales assistants comprise 62 % of the more broad category of 'sales occupations' which employed 200 000 persons in 2006, or 10 % of Ireland's workforce. Between 2001 and 2006, over 40 000 additional posts were created in sales occupations, and 30 000 of these were for sales assistants. Women constitute over half of all marketing managers and almost three quarters of all sales assistants (FAS/EGFSN, 2007, quoted in Barry, 2008).

Women are more visible in junior manager professional position (47 %) than in senior manager positions (16 %). Employment trends in Ireland have followed a particular pattern in recent years. Sales marketing managers are being increasingly outsourced which indicates a skill shortage in this area of the retail sector, particularly in relation to representatives with technical, product and sectoral knowledge. Addressing these skill shortages is key to the development of Irish companies in the global marketplace. There is also a shortage of sales assistants, made evident by the increasing number of non-Irish employed as such (FAS/EGFSN, 2007, quoted in Barry, 2008).

In the Czech Republic, women employees' wage equals 93 % of men's average wage in the occupation of supermarket cashiers and 71.5 % of men's average wage in the sales occupation. According to Indecon's 2001 survey, 59 % of female employees in the retail sector in Ireland earned less than EUR 18 000 per year, while the corresponding share among males was 35 %. Further, 89 % of females earned less than 24 000 per year compared with 72 % for males. When surveyed, approximately one third of both male and female retail sector employees responding indicated their belief in the existence of discrimination between men and women in the workplace (Indecon, 2002).

Factors affecting the gender pay gap could be the younger age profile among women employed in the retail sector as well the high incidence of lone parenting affecting almost 17 % of female employees in the sector. This leads to high incidence of women working part-time, due to the lack of affordable and accessible childcare and thus the need for flexibility in working arrangements, especially for lone parents.

Interestingly, studies in the Czech Republic indicate that the occupation of a sales cashier has gradually gravitated towards a part-time form of employment, while the workload remained the same or was even greater than before, when performed full-time. This also brought about a change in the types of employees that are able to work in this kind of changing occupation. While we would expect that part-time work would be useful, for example to women on parental leave, the actual organisation of work and actual working conditions and contract terms mean that this work is best 'suited' to ad hoc employees like students or older workers — for example, women prior to retirement, who are often discriminated against in other occupations on the basis of age and gender. Recently there has been a trend of employing foreigners, which is a relatively new phenomenon in this occupation. This mainly involves workers from Slovakia.

According to a survey conducted in Ireland, (Indecon, 2002), Employers felt that working conditions and recruitment opportunities were consistent across genders. Few employers have implemented crucial formal programmes to address gender issues. When employees were surveyed about employment and pay conditions, responses showed little differences between men and women. The most important approaches to improving the situation were cited as: make improvements to the availability of childcare support; provide flexible working arrangements; provide improved and more

Box 17. The most frequently occurring problems in commercial chains

Czech Republic. As part of the 'Garde' project in the Czech Republic, the Ecological Legal Service conducted a legal analysis of the most frequently occurring problems in commercial chains:

- the employer does not allow employees an adequate break for food and a pause;
- the employer does not allow employees enough time to rest between shifts;
- insufficient time off during the week;
- the employer maintains a dual record of working hours;
- employees are not paid the same wages for the same work;
- the employer does not pay overtime;
- the employer does not provide employees with training on work safety and protection.

Source: Křížková (2008).

flexible paid maternity and paternity leave arrangements. Employers also ranked provision of childcare as the most important approach to addressing the gender pay gap (90 % listing this as important or very important), followed by provision of enhanced training and job search assistance for women re-entering the job market (87 %), flexible working arrangements (83 %) and greater educational training support for females (72 %) (Indecon, 2002). Gender differences in positions held in retail work, combined with the female dominance of the retail sales positions was seen to translate into more women experiencing tiring or painful positions, such as standing or walking for most of their working hours. Indecon's analysis of the retail sector highlights the high rate of growth within this female-dominated sector together with a high rate of staff turnover, a high level of part-time working and a significant percentage of women lone parents, in a sector in which low pay is prevalent and a substantially lower proportion of females are in managerial/administrative positions**.**

Downgrading of an occupational sector:

It becomes evident from both the countries in case that the sudden expansion of the retail market has also led to the downgrading of its occupational esteem. In the Czech Republic, especially, *during the normalisation period this occupation had a relatively high status, because it signified a link to goods that were in short supply, and therefore also a link to a wide social network and the possession of a certain type of power to distribute goods and exchange services. With the onset of capitalism and the arrival in the CR of large foreign supermarket chains with their fast-moving goods in the 1990s the status of this occupation fell and smaller shops were squeezed out of the market. To quote from Marcel Tomášek's qualitative study of supermarket cashiers in 2006–07:*

> Up until the mid-1990s the job sector for shop salespeople and workers in grocery and consumer goods stores typically offered a full-time eight-hour workday and open-ended contracts, while at present this sector of the job market is heavily based on groups in the workforce traditionally regarded as a marginal segment of a labour reserve in the CR, and what has occurred in this sector is an illustrative example of how a specific occupational sector is being downgraded in the Czech environment.
>
> (Tomášek, 2007, p. 11, quoted in Křížková, 2008)

10. Police

(Slovenia)

There is a high degree of gender segregation in occupations such as the armed forces and police. The duty of 'protection' has been traditionally considered a male task as women are more attributed to care-giving tasks. A case

Table 24. Average gross wage of policemen and policewomen in Slovenia, 2000–04

Year	Average wage total	Average wage: men	Average wage: women	Women wage as a % of men	Number of employed persons	Number of employed men	Number of employed women	% of employed women
2000	218 959	225 304	157 561	69.9	3 812	3 455	357	9.4
2001	245 750	253 660	172 765	68.1	4 367	3 940	427	9.8
2002	256 948	264 609	191 350	72.3	4 590	4 110	480	10.5
2003	282 559	289 073	226 567	78.4	4 625	4 143	482	10.4
2004	286 404	293 599	229 397	78.1	4 854	4 310	544	11.2
2005	289 593	298 098	230 543	77.3	5 258	4 596	662	14.4

Source: Kanjuo Mrčela (2008).

Table 25. Factors determining wages of two occupations in the same tariff class

Factors	Police officer	Nurse/medical technician
Basic factor for wage determination	2.30	2.20
Minimal supplements (*)	0.05 < than for medical nurse	0.05 > than for police officer
Maximal supplements (**)	1.36	1.05
Total	0.41 > than for medical nurse	0.41 < than for police officer

(*) Supplements that are connected with the job and are paid as a part of monthly wage.

(**) Total of minimal and special supplements that are connected with the job position.

Source: Kanjuo Mrčela (2008).

in point is a study of Slovenia where women constitute a mere 14.4 % of the total police force, as of 2007. The first uniformed policewomen were employed only as late as 1973, when Slovenia was still part of Yugoslavia. In 1973, there were six women in the force, which grew to 187 in the next 10 years (4.5 % of the whole police force). In 1993 the proportion of women police personnel dropped to 3.2 %. In 1996, the independent Republic of Slovenia employed its first policewomen, after organising special educational courses for women police officers.

According to data from the Human Resources Department, the proportion of them have increased only slightly over the years. Women are seen to be employed in a greater proportion in the peripheral services in the police force (22.18 %), while only 12.24 % are part of the uniformed police force.

There is a disproportionate share of women on fixed-term contracts, but part-time work is a rarity in the police service in Slovenia. So during pregnancy, policewomen are designated to administrative work. There is a significant gender gap in pay of the Slovene police force (30.1 % in 2000). However, with the (slight) increase in the share of women employed, the pay gap decreased to 22.7 % in 2005.

Kozel (2002) has carried out a comparative analysis of two highly gendered occupations, namely the feminised nurse/medical technician occupation and the highly masculinised occupation of police officer. According to data from the Ministry of Internal Affairs, in 2002 there were 6.8 % women among police officers, while according to the Ministry of Health in the same year there were 11 % of men among medical technicians (Kozel, 2002). Both these occupations are placed in the same tariff rank of the Slovene standard classification of occupations and have a number of similar characteristics such as:

- both are in the public sector;
- both are seen as socially useful;
- both demand regular and direct interaction with people;
- both involve work in shifts (night and weekend work, work on holidays);
- both include high physical and psychological demands;
- both have expectations of emotional work;
- both include exposure to health and security risks at work.

The study reveals that, in spite of being in the same tariff classification, job evaluation has resulted in higher wages for police officers, since more importance is attached to supplements for a dangerous job, work with mentally ill people, night work, etc. (Table 25). According to data from the Association for Evaluation of Work, Organisational and Human Resources Development (1998), the earnings of medical nurses in 1996 amounted to 65 % of the earnings of police officers. In the same year, women police officers had 9.2 % lower earnings than their male colleagues, while male medical technicians had 17.5 % higher earnings than female nurses. The above examples and analysis reveal how seemingly 'objective' job evaluation procedures actually reflect which occupation is socially more valued.

OVERALL SUMMARY

For the EU as a whole the level of gender-based, occupational segregation measured by two of the most commonly used indices — IP and ID — remains high and has changed little since the early 1990s. According to the IP index, about 25.3 % of all people employed in 2007 would need to change occupation in order to bring about a gender-even distribution of employment, the theoretical maximum being 50 %. A slight upward trend in segregation is detectable, with an increase of about 1 percentage point in the index for the EU-12 area since 1992, and for the EU-27 area since 1997. The upward trend over the current decade is somewhat more pronounced for sectoral, gender-based segregation.

However, differences among countries are wide in both levels and trends. There is a gap of about 10 percentage points in the IP index between the most segregated and the least segregated country. Whether occupational or sectoral segregation is considered, the four high-segregation countries are Estonia, Slovakia, Latvia and Finland, and the four low-segregation countries are Greece, Romania Malta and Italy. The well-known opposition of the 1990s between high-segregation Nordic countries and low-segregation Mediterranean countries has given way to a similar opposition between (part of) eastern Europe and (part of) the Mediterranean.

Over the past decade segregation decreased in Austria, the Czech Republic, Denmark, Norway, Sweden and the UK, increased in Bulgaria, Ireland, Italy, Latvia, Romania and Spain, and recorded little change in the remaining countries. With the exception of a few countries, the increase in measured levels of segregation reflects a parallel increase in mixed occupations, and conversely.

Temporary increases in segregation should be considered with caution, since there is evidence that a trade-off may arise in the short or medium run between the objective of raising women's employment and that of favouring de-segregation. Such evidence includes a positive cross-country correlation between female employment rates and measured levels of segregation.

Not all segregation implies inequality. With specific reference to pay, the decomposition of overall segregation into a vertical component capturing inequality in hourly pay and a 'neutral' component indicates that the latter is often larger than the former. Nevertheless, the inequality dimension remains important and demands clear understanding of the root causes as well as the implications of the phenomenon.

Recent research on the root causes of segregation prioritises four groups of factors: choice of education, hours of work and differential commitment to family income, stereotypes, and covert barriers and biases in organisational practices, including pay-setting procedures. Their respective importance varies across countries, occupations, sectors and cohorts of women. In high-paid, professional occupations, in particular, there is evidence that the influence of some of these factors of segregation is diminishing, especially among younger cohorts of women, whilst this is less clearly the case for low-pay occupations.

In view of women's spectacular advances in education across member countries, it is segregation by field of study rather than level of formal education that still matters. Since, however, the correspondence between occupation and field of study is close for only about 10 % of the jobs, the importance of (segregated) choices of study field should not be overstated.

Stereotypes are ubiquitous and continue to influence behaviour, but the actual role that they play in segregation may be overestimated by qualitative research, since sometimes they are used to rationalise or even legitimise *ex post* choices that might have been made on other grounds.

The unequal care burden and the consequent inability to prioritise income commitment within the family underpin segregation throughout the employment structure, driving the search of many women for shorter and more flexible hours of work. Among qualified women (the 'professionals') this search for hour-friendly occupational niches often results in re-segregation within occupations, or it hinders entry into occupations featuring high/irregular work hours and workload. When the search for shorter working hours becomes a choice for part-time work, the range of occupations available to women narrows further, as underlined by much higher levels of segregation among part-timers.

Legal barriers to entry or overt restrictive practices have long been outlawed, but covert biases and exclusionary practices are still embedded in the way many organisations work, often restricting career paths and career prospects within occupations. Examples that bear special importance for vertical or hierarchical segregation are closer rungs on ladders in feminised jobs' career tracks, discretionary managerial practices for selection, hiring and promotions, networking, and mechanisms of co-optation.

Research and policy attention on the invidious components of segregation has traditionally prioritised wage inequality, including undervaluation of female work and discrimination. Lately, consideration has broadened to encompass skill and labour shortages as well as a potentially unequal distribution of job quality, and this report has reviewed all these dimensions. Following the proposal of the European Foundation for the Improvement of Living and Working Conditions, job quality is understood here as comprising, respectively, career and employment security, health and well-being of workers, reconciliation of working and non-working life, and skills development.

Undervaluation is still widespread, but it is low-pay occupations that are especially exposed to this risk. According to the literature and the evidence from the case studies, the most frequent factors at work include the degree of 'professionalism' of the occupations — as signalled by the length of the career ladder or the amount of training required — the visibility of skills, and biases in job evaluation and pay-setting practices — such as lower grading for comparable tasks or lack of compensation for similar, extra tasks (e.g. inconvenient hours).

Furthermore, there is statistical evidence that segregation may lead to discrimination, although the order of magnitude is controversial. Cross-country studies do not find a significant impact of segregation on discrimination, whereas detailed, country-specific econometric analyses indicate that segregation between occupations but also within occupations and between sectors or industries accounts for a large share of discrimination.

Concerning job quality, analysis of selective indicators for the different dimensions of job quality indicates that, in addition to pay, important gender asymmetries still concern long working hours, career prospects, and access to managerial and supervisory positions, all of which are channelled via occupational segregation to a greater or lesser extent. However, additional job characteristics impinging on quality do not markedly differentiate between men and women. These comprise the distribution of fixed-term contracts and related chances of transitions from permanent to stable employment, the distribution of non-standard hours, and opportunities for skills development within occupations.

Segregation does not facilitate efficient reallocation of labour supplies, male and female. Current labour projections indicate that skill and labour shortages will affect both male- and female-dominated occupations in the medium run, even more the former than the latter. Also, a degree of polarisation is emerging in the pattern of future skill needs, with growing occupations at the lower end of the spectrum unbalanced in favour of female-dominated jobs, and growing occupations at the top end of the skill spectrum unbalanced in favour of male-dominated jobs. This adds cogency to a policy of de-segregation, because the latter can favour the redistribution of labour supply flows while also redistributing opportunities for the development of higher skills. If this is to happen, however, de-segregation must be pursued in both directions, attracting men into feminised areas such as care work, and further promoting women's advancement in male-dominated areas.

These findings call for a targeted and at the same time coordinated policy approach to de-segregation pivoting on three priorities: countering the undervaluation of women's work, pursuing men's entry into traditionally feminised occupations, and meeting skill and labour shortages. As a general rule, however, policies currently implemented are neither well targeted nor well coordinated or monitored. In the best of cases, a variety of different initiatives are implemented that do not sum up to a coordinated, effective strategy.

Policies to tackle segregation have a long-standing tradition in relatively few Member States, primarily the Scandinavian countries, the UK, France, the Netherlands and Germany. In eastern European and other member countries, segregation is not seen as an issue or has only recently entered the political agenda. As for southern European countries, they are still striving to increase female employment, and their primary interest is in provisions for reconciliation. The latter help building the necessary pre-conditions for de-segregation and ought therefore to be given central place in a comprehensive policy approach to the problem. However, they have been extensively documented and discussed in previous reports, and are disregarded here.

Of the provisions specifically devoted to de-segregation and currently implemented by Member States, training remains the most popular. However, the range is wider, as measures go from those aiming to influence attitudes early in life, to those countering undervaluation and discrimination, to positive action such as quotas.

Most of the countries with the longest traditions of fighting segregation show willingness to address the 'early in life' roots of segregation by investing in 'motivational events' or in educational programmes designed to positively encourage 'atypical' choices among young boys and girls, and to fight stereotypes by promoting new role models. Although these initiatives are examples of best practices rather than routine events, they signal a welcome change of perspective. Unlike in the past where the effort went into changing women towards becoming more like men at work, in these events both boys and girls are familiarised with tasks, skills and models of the opposite sex.

In principle, unbiased job evaluation is a key tool to upgrade women's work. However, few countries have a tradition of systematically investigating job evaluation systems from a gender perspective. Among them are Belgium, Germany, the Netherlands, the UK and Finland. Investigations conducted in three of these countries — Finland, the Netherlands and Norway — conclude that biases arise not so much from job evaluation systems *per se* as from the way in which they are implemented.

Where skill is less visible or goes unacknowledged, forms of certification can be used to counter undervaluation and undergrading. However, there are few mentions of such good practices in national reports, except for France and Lichtenstein. Measures aimed at redressing biases in organisational practices other than those concerning job

evaluation or certification of skill are also scanty. A partial exception is quotas. The drive for positive action in Europe lost momentum in the late 1990s following the *Kalanke* v *Freie Hansestadt Bremen* case. Since 2004, however, the Norwegian success story for quotas on company boards has been revitalising interest and policy initiatives.

Most of the action in favour of de-segregation goes to providing training, the traditional and still the most popular policy option. Training attracts two main criticisms: the first is that past provisions have been largely ineffective or have actually reinforced segregation; the second is that men have rarely been targeted while women have often been targeted in the hope that they would fill vacancies in technical areas of employment that had lost attractiveness for men. Both criticisms call for an overhaul of training and vocational systems in place.

In the past, this lopsided approach to training (or to education) may have been partly justified by the fact that women were still a labour reserve in many countries, and labour or skill shortages arose primarily in male-dominated occupations. The combination of female participation close to the 70 % mark in several member countries and fast growth of feminised services and care occupations is giving rise to shortages in female-dominated occupations that are expected to continue in the medium term. Programmes to overcome shortages by way of desegregation can no longer, therefore, fail to pursue men's entry into female jobs.

On its own, however, training cannot succeed to redirect male and female workers where they are most needed. In particular men appear to respond first and foremost to pay, thus the issue of undervaluation of feminised occupations must vigorously be pursued in parallel with training, particularly at the low end of the pay spectrum.

Fighting undervaluation among low-pay workers raises questions that go beyond the problem of segregation and impinge on the larger issue of migrant labour. The rapid expansion of home-based elderly care in Mediterranean countries illustrates how shortages in low-pay, care occupations are being filled by migrant workers, female, cheap and often irregular. Although this solution raises problems of sustainability in the medium and long term, it can stand in the way of occupational de-segregation or the upgrading of care jobs. Thus potential conflicts but also synergies between de-segregation and reliance on irregular and cheap migrants' labour must be evaluated in any attempt to tackle de-segregation at the bottom of the employment pyramid, whether the target is to counter undervaluation or labour shortages.

One issue has been overlooked in this report although it is becoming a concern among some scholars and politicians. As the case studies on doctors, pre-primary teachers and judges indicate, the growing feminisation of teaching — including pre-primary — medical care or the judiciary raises concern because a good balance of male and female role models, cultures and identities is allegedly needed to satisfactorily meet the demands of students, patients or citizens. The argument is clearly controversial but it is likely to give rise to passionate debates, thus raising the priority for the demand of a more gender-balanced distribution of employment in the political agenda.

A. STATISTICAL APPENDIX

Table A.1. Indexes of gender segregation: occupational and sectoral, EU countries, 1997–2007

Country	Year	Occupational					Sectoral	
		ID	IP	Gini	Percentage of mixed occupations	Percentage of female-dominated occupations	ID	IP
AT	1997	56.4	27.7	62.5	27.4	20.8	40.5	19.9
AT	2001	55.2	27.2	60.1	31.1	20.4	41.1	20.3
AT	2007	52.8	26.2	56.5	28.6	22.9	37.0	18.3
BE	1997	55.0	26.6	56.9	22.4	25.2	37.2	18.0
BE	2001	53.6	26.1	54.3	24.5	25.5	37.1	18.1
BE	2007	52.2	25.8	53.1	29.5	23.8	37.7	18.6
BG	1997	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
BG	2001	54.3	27.1	52.9	36.6	29.5	35.1	17.5
BG	2007	58.9	29.4	62.8	30.6	33.3	41.7	20.8
CY	1997	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CY	2001	60.2	29.5	64.9	18.6	26.8	35.7	17.5
CY	2007	58.4	28.9	64.4	22.6	24.5	40.7	20.1
CZ	1997	60.8	30.0	62.0	32.6	27.5	38.6	19.0
CZ	2001	59.3	29.2	59.8	29.9	27.6	38.3	18.9
CZ	2007	58.0	28.5	57.8	26.7	33.6	40.1	19.7
DE	1997	56.0	27.4	61.0	30.0	24.6	36.4	17.8
DE	2001	55.4	27.3	60.1	29.4	25.7	37.0	18.2
DE	2007	53.8	26.7	58.7	27.5	23.9	37.0	18.4
DK	1997	56.3	27.9	61.3	31.0	24.8	39.1	19.4
DK	2001	56.6	28.1	60.3	28.8	25.2	38.2	19.0
DK	2007	51.7	25.7	53.7	32.8	24.1	37.9	18.9
EE	1997	61.8	30.9	62.1	29.4	38.2	43.5	21.7
EE	2001	64.8	32.4	67.4	23.0	41.0	48.8	24.4
EE	2007	64.3	32.2	64.7	22.1	39.4	52.2	26.1
EL	1997	45.3	21.0	38.6	33.6	24.3	32.0	14.9
EL	2001	46.0	21.5	39.5	34.6	24.0	33.0	15.4
EL	2007	47.2	22.4	43.0	30.2	25.5	33.4	15.9
ES	1997	52.5	23.9	59.1	33.3	23.2	41.6	19.0
ES	2001	53.4	24.9	60.9	31.8	23.4	41.3	19.3
ES	2007	56.7	27.5	62.7	32.4	21.3	42.8	20.7
FI	1997	59.9	29.9	64.5	32.0	23.3	44.0	21.9
FI	2001	59.3	29.6	63.4	29.3	27.4	44.0	22.0
FI	2007	59.2	29.5	61.5	26.4	30.2	46.0	23.0
FR	1997	55.4	27.4	63.8	29.9	20.6	35.0	17.3
FR	2001	53.7	26.6	61.6	26.2	22.4	35.2	17.4
FR	2007	53.6	26.7	58.8	24.3	24.3	36.8	18.3
HU	1997	56.4	27.8	60.2	31.5	30.6	37.9	18.7
HU	2001	56.9	28.2	62.3	35.7	26.8	39.0	19.3
HU	2007	58.1	28.8	62.6	30.0	30.0	40.5	20.1
IE	1997	52.4	24.9	54.7	37.0	22.2	41.8	19.9
IE	2001	55.3	26.7	50.2	29.3	24.2	42.8	20.7
IE	2007	57.0	27.9	56.3	23.2	26.3	47.6	23.3
IS	1997	58.3	29.0	61.6	24.5	29.6	44.2	22.0
IS	2001	58.7	29.2	62.2	18.6	26.5	44.8	22.3
IS	2006	55.4	27.5	59.6	28.9	28.9	46.3	23.0

Country	Year	Occupational					Sectoral	
		ID	IP	Gini	Percentage of mixed occupations	Percentage of female-dominated occupations	ID	IP
IT	1997	46.6	21.4	48.0	35.2	22.9	32.2	14.8
IT	2001	46.8	21.9	47.3	35.2	23.8	32.4	15.2
IT	2007	49.4	23.6	51.4	29.7	26.1	37.2	17.8
LT	1998	57.4	28.7	47.6	25.8	37.9	37.7	18.8
LT	2001	56.9	28.4	46.3	24.3	37.4	41.7	20.8
LT	2007	58.4	29.2	58.4	26.6	37.6	46.8	23.4
LU	1997	53.7	25.2	59.0	28.7	23.8	40.6	19.0
LU	2001	55.9	26.8	63.8	22.8	22.8	40.9	19.6
LU	2007	54.9	26.7	58.5	19.2	26.3	38.7	18.8
LV	1998	53.9	27.0	48.5	25.2	36.6	33.2	16.6
LV	2001	59.3	29.7	53.8	22.4	42.2	42.0	21.0
LV	2007	60.3	30.1	61.8	19.1	40.9	47.0	23.5
MT	1997	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MT	2003	56.3	23.8	60.2	29.2	27.1	37.7	15.9
MT	2007	53.5	23.6	56.0	28.1	28.1	33.9	14.9
NL	1997	53.1	25.7	54.5	22.7	23.6	39.6	19.1
NL	2001	52.2	25.6	52.4	24.3	22.5	38.2	18.7
NL	2007	50.8	25.2	52.9	25.9	21.4	37.9	18.8
NO	1997	59.3	29.5	62.9	24.8	24.8	44.1	21.9
NO	2001	56.1	27.9	60.3	23.8	24.8	42.8	21.3
NO	2007	54.5	27.2	59.3	27.7	22.8	45.6	22.7
PL	1997	49.8	24.6	45.3	35.2	26.7	n.a.	n.a.
PL	2004	51.5	25.6	48.7	34.0	25.5	37.7	18.7
PL	2007	52.2	25.8	53.2	30.5	27.6	38.9	19.2
PT	1997	50.2	24.9	51.4	29.0	22.4	40.8	20.2
PT	2001	53.2	26.3	58.3	32.1	23.9	42.8	21.2
PT	2007	53.3	26.5	56.6	32.1	27.5	41.4	20.6
RO	1997	43.1	21.4	31.7	29.3	34.0	29.4	14.6
RO	2001 (*)	23.7	11.8	13.0	33.3	33.3	27.7	13.8
RO	2007	46.8	23.2	39.0	25.9	32.1	32.4	16.1
SE	1997	59.7	29.8	62.7	24.3	24.3	43.8	21.9
SE	2001	56.2	28.0	57.7	26.9	22.2	42.6	21.2
SE	2007	54.1	27.0	55.9	28.7	22.2	42.7	21.3
SI	1997	54.7	27.2	51.7	25.2	24.3	35.8	17.8
SI	2001	54.7	27.2	54.7	26.8	25.9	35.2	17.5
SI	2007	53.6	26.6	52.9	25.5	31.1	35.0	17.4
SK	1998	63.0	31.2	66.9	29.5	29.5	42.9	21.3
SK	2001	62.7	31.2	68.7	33.6	28.7	45.8	22.8
SK	2007	61.4	30.3	66.5	33.1	29.4	47.0	23.2
UK	1997	55.3	27.4	58.4	26.7	19.8	38.4	19.0
UK	2001	54.0	26.8	58.6	27.6	20.4	37.9	18.8
UK	2007	50.9	25.3	53.3	27.6	19.4	37.5	18.7
EU-27	2001	49.89	24.53	54.06	36.05	24.49	35.0	17.2
EU-27	2007	50.99	25.20	54.04	37.67	23.29	37.2	18.4

(*) The drastic change in the level of indexes in Romania might be driven by the fact that only one-digit occupational data are available there for the whole period of 1998–2004. Thus the figures provided for 2001 are not comparable to the extreme points in time.

Source: Own calculations using LFS (ISCO three-digit, NACE two-digit).

Table A.2. Continuing vocational training (CVT) for men and women in Europe, 2005

Country	Sex	All NACE branches covered by CVT		Mining and quarrying; electricity, gas and water supply; construction; hotels and restaurants; transport, storage and communication		Manufacturing		Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods		Financial intermediation		Real estate, renting and business activities		Other community, social, personal service activities	
		Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours
Austria	Males	36	10	34	8	32	9	35	10	70	36	31	7	41	7
	Females	30	7	25	5	27	7	28	5	59	29	19	4	38	7
Belgium	Males	40	13	35	12	44	15	39	11	68	20	41	15	23	8
	Females	39	11	45	13	40	11	29	6	63	17	40	14	23	8
Bulgaria	Males	16	5	18	6	17	4	13	7	38	9	15	7	4	2
	Females	13	3	23	4	9	2	9	3	44	8	10	4	12	7
Cyprus	Males	30	7	32	7	22	4	24	6	65	15	34	15	14	4
	Females	30	6	31	6	24	4	24	4	59	13	29	11	16	2
Czech Republic	Males	63	15	67	15	64	14	53	12	85	52	62	18	56	10
	Females	52	12	55	12	53	10	41	8	75	42	53	13	52	10
Denmark	Males	32	10	25	7	26	9	25	5	38	12	59	20	53	19
	Females	39	12	43	11	30	12	22	7	37	10	57	17	64	20
Estonia	Males	23	7	24	6	17	5	28	7	66	42	32	15	27	7
	Females	26	7	33	7	14	4	29	6	69	40	30	10	33	7
Finland	Males	38	10	35	8	45	11	32	8	61	17	45	17	18	5
	Females	41	9	45	8	43	9	38	6	58	17	44	15	30	8
France	Males	47	13	48	13	47	14	41	11	74	29	45	12	40	11
	Females	43	12	51	13	40	11	30	7	70	25	43	12	40	13
Germany	Males	32	10	26	7	37	10	27	7	46	22	28	11	39	10
	Females	27	8	23	6	29	10	19	4	46	16	30	8	32	7
Greece	Males	13	4	10	3	13	3	16	3	44	13	13	6	3	2
	Females	15	3	10	3	9	2	21	3	43	12	13	4	5	1
Hungary	Males	16	6	23	8	14	5	12	5	44	19	11	6	9	3
	Females	15	5	28	11	10	4	14	4	35	10	10	4	13	3
Italy	Males	29	8	29	8	24	6	27	7	76	29	36	10	24	4
	Females	28	6	27	7	15	4	30	5	70	25	33	5	22	5
Latvia	Males	14	4	16	4	11	3	12	3	41	10	13	6	13	2
	Females	15	4	15	4	11	3	12	3	48	10	15	5	15	3
Lithuania	Males	15	5	16	6	14	5	12	3	46	20	20	7	9	2
	Females	14	4	17	5	10	3	11	2	51	19	18	6	13	3
Luxembourg	Males	48	14	33	13	50	24	46	7	78	20	59	13	47	25
	Females	51	17	37	13	43	22	35	10	78	24	48	25	65	17
Malta	Males	30	11	32	9	33	15	14	8	70	14	25	14	15	3
	Females	36	12	31	9	49	23	10	4	74	14	32	13	9	3
Netherlands	Males	36	13	37	12	35	14	29	9	54	22	39	17	30	11
	Females	31	10	33	12	28	10	23	6	54	17	31	12	31	7
Norway	Males	30	10	24	8	29	13	32	9	45	25	39	7	35	9
	Females	28	8	20	5	26	10	28	7	48	24	26	6	45	11

Country	Sex	All NACE branches covered by CVT		Mining and quarrying; electricity, gas and water supply; construction; hotels and restaurants; transport, storage and communication		Manufacturing		Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods		Financial intermediation		Real estate, renting and business activities		Other community, social, personal service activities	
		Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours	Particip.	Hours
Poland	Males	21	6	22	7	21	6	17	5	46	24	15	5	12	2
	Females	20	6	30	8	16	4	15	5	45	18	16	5	14	2
Portugal	Males	29	8	26	6	26	7	33	10	68	16	29	10	23	6
	Females	27	7	31	8	18	5	35	9	65	14	23	7	25	6
Romania	Males	18	6	16	6	20	7	14	3	56	14	21	10	10	1
	Females	17	4	17	6	15	4	13	3	58	13	16	5	16	4
Slovakia	Males	42	13	48	14	45	13	41	17	75	34	22	6	19	5
	Females	31	10	34	12	27	8	36	10	75	39	21	6	19	6
Slovenia	Males	48	15	39	13	53	16	42	10	85	28	40	18	54	13
	Females	55	14	44	11	54	15	58	7	76	26	46	15	53	25
Spain	Males	33	8	29	7	34	8	30	11	66	19	38	8	21	6
	Females	35	9	37	8	32	8	32	12	69	20	33	6	23	5
Sweden	Males	47	16	46	9	50	22	48	12	44	9	43	19	48	15
	Females	45	14	38	9	49	24	41	8	55	11	44	16	52	18
United Kingdom	Males	32	6	32	6	30	5	18	4	42	9	43	9	50	10
	Females	34	7	35	4	27	5	22	4	45	15	40	10	46	12

NB: Average for all NACE branches of the economy.

Source: Own calculations using ESTAT data.

Table A.3. Policy issues for occupational segregation by gender at the national level

	Current policies	Highlights/comments from the expert	Check list from the expert
AT	A range of different policies is in place. Individual educational pathways and career choices are being monitored and influenced with a view to de-segregation. A gender-balanced distribution of unpaid care work is being promoted. Positive action measures for the promotion of women have also been implemented: a voluntary 40 % quota for female employees in all fields, at all levels has been set; grants of EUR 10 000 are assigned to the 10 best positive action plans in SMEs.	The training and qualification measures enforced in the care sector so far have contributed to consolidating gender segregation in the labour market.	Develop further qualification and career-planning measures for female care workers. Improve working conditions, especially working schedules, as well as opportunities to reconcile work and family obligations.
BE	The existing job evaluation system has not proved successful for reducing segregation and is now being reformed. In order to tackle skill shortages, the government in 2006 asked regions and the social partners to list the so-called 'critical activities'. The latter turned out to be overwhelmingly male, and this launched a debate on how better to approach the issue in order to avoid exacerbating segregation.	In the recent political debate, unions insisted that the causes of mismatches need to be identified and more women should be attracted to deficit professions before external labour is resorted to. However, the belief that shortages should be filled by resorting to the immigration of selected qualified people has wide currency in the debate.	Include the gender dimension into studies on skill shortages, carried out by local government.

	Current policies	Highlights/comments from the expert	Check list from the expert
BG	The issue of employment segregation is relatively new for the country and has not been the subject of regular studies or of policy debate.	Policies on de-segregation may conflict with limited employment opportunities in some regions that push women to accept any job offer.	Carry out systematic analysis on gender segregation, and develop gender-sensitive statistical data. Initiate public debates on the issue of segregation.
CY	Segregation is not seen as a policy issue.	The gender pay gap in the country is largely due to occupational segregation. The latter has been addressed by various training programmes for women, which, however, are so designed that they further sustain the phenomenon.	Training should be redesigned in order to not add to existing stereotypes. School counsellors must be trained to combat sexist stereotypes; action must be taken to change stereotypes, including those in textbooks and the media. State scholarships would ease girls' entry into traditionally male fields of study. Incentives should be provided to encourage unemployed women to enter traditionally male-dominated areas.
CZ	Segregation is generally recognised to be one of the main causes of disparities between men and women. Nevertheless no concrete measure has been taken to address the phenomenon.	At the political level there is no mention of the possibility that women could be encouraged to enter occupations at risk of skill shortage, although these occupations are predominantly male. The vast majority of training programmes are not aimed at such rebalance but rather serve to reinforce traditional stereotypes.	At every level of the education system, teachers and counsellors should be encouraged and trained to increase awareness of stereotypes and start questioning them. Motivational events can be organised for students to encourage them to choose fields of study not in line with gender stereotypes
DE	Two prominent recent policies are the 2003 reform of job evaluation and motivational events. The reform, launched in 2003, was also aimed at creating 'gender-fair job evaluation and grading systems' in order to fight undervaluation. Motivational events like Girls'/Boys' Day (Box 5) are becoming common practice and prove to be effective in attracting the interest of secondary-school attendees to professions atypical for their sex.	The new job evaluation system is more transparent and uniform, but the lower wage groups experienced a decrease in the pay rate. These groups are mainly female dominated. Women hardly enter typical male-dominated occupations because employment conditions in these occupations were and remain unattractive. There are no institutions to formally back claims against pay discrimination, and it is still up to single employees to oppose it.	Support campaign for an increase in wages and improvement of working conditions, in particular for low-skill occupations. Pursue gender-sensitive education policy. All actors (e.g. parents, schools, employees, universities) should join efforts in order to ensure equal opportunities in all fields. Act for a change in employers' personnel policy which is driving occupational segregation at the firm level.
DK	Gender segregation is still considered to be a problem by public authorities in Denmark. A study on the issue was commissioned by the government in 2006 and has led to a memorandum on 'how to' break down segregation drafted by an interdepartmental group at the Ministry of Equality, Employment and Education. However, de-segregation is not a special objective of active employment policies. Public authorities, employers and organisations can, if they want to, set up initiatives to attract women or men if either represents less than 25 % of the workforce.	Job evaluation is recognised to be the main precondition for tackling segregation, but it is used to a very limited extent.	Reconsider the competences transmitted by the different educational programmes, and at the same time give a less gender- biased educational guidance. Attract more men to female-dominated areas. Higher pay is an effective incentive. Increase awareness about the re-creation of asymmetries (including differential access to leading positions) among men and women with the same qualifications. Make the sharing of parental leave more equal and reduce the rigidity of opening hours in childcare facilities.

	Current policies	Highlights/comments from the expert	Check list from the expert
EE	Policies addressing horizontal segregation include: educational guidance and career counselling (for students and, since 2008, also for adult workers); popularising vocational education among young persons while raising its effectiveness for matching labour supply and demand.	An equal pay policy may demand additional legislation. Many policies aiming to support female entrepreneurship often reinforce segregation. Vertical segregation is acknowledged to be a problem but has attracted no policies; lack of data at the enterprise level hinders analysis. Only about one third of students were given career counselling at school, despite the fact that it is provided in all Estonian schools.	Monitor and guide the educational choices of boys and girls. Improve statistical data collection, introduce gender dimension. Increase awareness on the issue of segregation in the population at large, but more so among employers.
EL	Segregation is primarily tackled via education, especially by giving guidance to students in secondary and post-secondary education, as well as in curricular training. In addition, a special scheme has been designed to enhance female entrepreneurship, a 30 % quota has been set for women's representation on promotion panels in the public sector, and positive actions have been undertaken to further women's careers within firms.	Initiatives aimed at creating a favourable institutional and social environment for change in firms' management and organisational practices have not produced concrete results, and may remain on paper without political and social pressure.	Carry out critical assessment of the measures implemented to address segregation during the last six to seven years. Prioritise the re-evaluation of female-dominated occupations and involve women in this process.
ES	The debate on segregation is quite recent because efforts have gone primarily into raising participation and reducing unemployment for women. It is expected that the establishment of the Ministry of Equality will help promote de-segregation. Important steps in this direction are the 2007 law on gender equality banning any form of discrimination and the law on personal autonomy and assistance to dependants (2006) promoting reconciliation.	No institution is in charge of regularly monitoring segregation, analysing its implications and publicising the results. Academic research can only partly and unsystematically fill the gap.	Include the gender perspective in all official data disseminations. From kindergarten to higher education, work on changing gender stereotypes and on encouraging men and women to achieve their full potentials. Provide appropriate social services in order to relieve women from a disproportionate care burden.
FI	The country has a long tradition of dealing with gender segregation, which nevertheless remains quite high. Lately, however, there has been limited academic and political interest in the issue and it concerns vertical rather than horizontal segregation. The National Thematic Network for De-segregation in the Labour Market (2003–07) outlines future policy directions. Most projects are funded through the ESF and include initiatives to motivate children to make educational choices atypical of their sex. One project worth mentioning assesses the impact of job evaluation on gender pay disparities.	Assessment of the impact of job evaluation systems revealed that gender bias stems primarily from lack of uniformity in the way job evaluation is actually implemented.	In order to raise pay, action should be taken to acknowledge the competencies and the demands made by low-pay 'female' jobs. Practical actions such as information sharing, education and management training should be taken for job evaluation systems to be working in conformity with their goals.
FR	Long-standing de-segregation policies in France include campaigns to affect educational choices of boys and girls (since the 1980s), and 'gender balance contracts' to facilitate women's entry into male-dominated occupations (since 1987). A programme launched in 2004 focuses on potential discrimination arising from biases in skill grading and the evaluation criteria used.	There are no actual measures to promote men's access to jobs where women predominate. Actions directed at companies are not sufficiently developed; for instance fewer than expected gender balance contracts have been signed, and the measure has not proved effective. The implementation of job evaluation schemes suffers from the fact that the skilled job content of many female-dominated occupations often remains 'invisible'.	Address the persistence of stereotypes by balancing the composition of occupations. Develop actions directed at companies, in particular their recruitment policies and exclusion practices in organisation. Upgrade jobs and working conditions as a necessary pre-condition to achieve gender balance. Invest further into the development of non-discriminatory job evaluation systems. Involve trade unions for better implementation of existing legislation

	Current policies	Highlights/comments from the expert	Check list from the expert
HU	Social policy, labour policy and educational policies are in place but do not directly address segregation. Some policies may have an indirect impact: since 2002, for example, women returning from maternity leave can take part in integrated labour market programmes which offer training and work experience and subsidise commuting costs and employers' contributions.	Actual implementation of policies affecting segregation is not monitored, while there is a need for feedback and ex post evaluation. Current legislation on maternity leave and childcare allowances hinders the growth of employment of mothers with small children, because of the excessive length of the average spell of benefits that keeps women out of the labour market.	Raise gender awareness in order to increase the economic and social returns to gender equality. Reduce taxes on part-time employment in response to the increase in the share of part-timers. Provide well-targeted subsidies as an incentive for employers offering low-skill jobs in disadvantaged areas. Support lifelong learning.
IE	Recently proposed policies for tackling vertical segregation include: addressing indirect discrimination in recruitment and promotion systems; proactively developing women for management; incorporating greater accountability into organisational practice and awareness-raising programmes on the benefits afforded by equal opportunities. Additional provisions include: training programmes; work placements for women in under-represented areas; information initiatives to facilitate recognition of women's skills among managers; and the setting up of a network of women in technology and science.	Despite many initiatives undertaken in recent years, inadequate training has been identified as an important factor contributing to the lack of opportunities for women.	Broaden the range of subjects for boys and girls in secondary-level education. Develop career advice programmes, provide in-company training targeted at women, and broaden the apprenticeship system to include job areas where women are better represented. Foster networking and mentoring for women in training, education and employment, establish formal criteria for recruitment and promotion and increase female representation within professional bodies. Implement access to flexible working arrangements without career penalties. Integrate gender informed job evaluation into wage setting. Favour redistribution of the care burden and improve social and care infrastructure.
IS	The main policy targets are the educational and occupational choices of young men and women, and pay in female-dominated public jobs. The government is targeting pay rise in these jobs so as to also make them more attractive to men.	Women have limited access to investment initiatives leading to the creation of new jobs.	Inform young men and women about non-traditional educational and occupational choices and provide support to those who choose to enter non-traditional studies and occupations.
IT	Under-representation of women in decision-making positions has recently been at the centre of media and political debates, but has not translated into a wider interest in segregation or a policy approach towards de-segregation.	Given the trade-off between overall segregation and growth of female employment, de-segregation policies should not be carried out across the board but ought to be targeted.	Possible targets for de-segregation are occupations with strong hierarchical segregation, low-pay occupations, especially in the care sector; occupations threatened by skill or labour shortages. Policies to tackle hierarchical segregation ought to be largely occupation-specific, like promoting professional studios among female doctors or fostering academic networking. De-segregation of low-pay occupations necessarily infringes on migration policy. Finer forecasting analysis is needed to precisely identify occupations where de-segregation can ease labour shortages.
LI	Segregation is explicitly addressed primarily via education and communication. Provisions include career guidance, vocational orientation and motivational events (see Box 5). Awareness raising is pursued through measures like the Equal Opportunity Prize for women-friendly and family-friendly businesses.	In the past years policymakers have given some attention to the situation of women wanting to re-enter the labour market after a career break. One of the measures implemented is the introduction of a 'volunteer work certificate'. While the certificate represents social recognition of the unpaid work and could facilitate re-entry of women into the workforce, it reinforces gender stereotypes.	Introduce disaggregated data and statistics by gender. Raise awareness of gender segregation in employment. Provide career guidance and vocational orientation to men and women, especially the young. Develop qualification measures, lifelong learning programmes and financial support for women during certain phases of their lives. Promote expansion of qualified part-time work.

	Current policies	Highlights/comments from the expert	Check list from the expert
LT	De-segregation is not a policy target on its own.		Raise awareness of the issue of segregation, and combat persisting gender stereotypes. Increase employment opportunities for women. Improve reconciliation between family and work. Raise women's motivation, competence and ability to take part in decision-making processes.
LU	The policy debate remains focused on gender wage inequality and on childcare, both of which are relevant for segregation. Traditionally, policy effort has been directed primarily at developing legislation that may facilitate women's entry or re-entry into the labour market. Examples are the right to two years unpaid leave in the public sector (1994), the right to parental leave in 1999, and the 2003 lengthening of this leave.	Half of the women who choose to interrupt their career do not resume work ever. Several programmes address this problem, but they mostly target feminised occupations, thus reinforcing gender segregation.	Investigate the reasons for career breaks. Redesign training policies so as to help women enter better paid and prestigious occupations, thus raising their interest in sharing the bread-winner role.
LV	Current policies do not directly address gender segregation, although they might indirectly influence the phenomenon. Included in these policies are education and vocational training programmes aimed at promoting higher education for women. One exception is a small-scale initiative to train unemployed women in male-dominated skills (20 women involved).	A heritage from the socialist past is women's wide access to the different fields of education and the different professions. However, they still have very limited access to top-ranked positions. Vertical segregation is the biggest problem. The objectives of publicly-funded training schemes do not include any gender perspective, and actually end up reinforcing stereotypes.	Focus on vertical rather than horizontal segregation. This also implies support to reconciliation of work and family life and stronger limitations on the long hours for leading managers and administrators. Redesign training policies in view of their effect on segregation. Include the issue of segregation perspective into the gender mainstreaming of policies.
MT	Policies are mainly aimed at increasing the labour market participation of women rather than addressing segregation.	Policy debates are dominated by the idea that reconciling work and family means improving conditions for women to do both. At the same time there is no public debate about how fathers can balance their economic and family commitments.	Challenge existing gender stereotypes by adopting a different view point on the sharing of paid and unpaid work. It is crucial both to change men's attitude to care and to make time for them to engage in care.
NL	The policy discussion is focused on increasing participation alongside reducing segregation, both horizontal and vertical. Regarding horizontal segregation, measures include pilots for girls in male occupations and increasing expertise among teachers and school managers. To tackle vertical segregation a target has been set to increase the share of women in higher management positions in the public sector to at least 25 % in 2011. For the private sector, the share of women in top positions should be 20 % in 2010. The issue of a possible quota for women in corporate boards is on the political agenda. In addition, there are several initiatives to increase the share of women in higher positions in education. The efficacy of job evaluation schemes to address the gender pay gap has also been addressed.	The main focus of policies on segregation in education is on women, while hardly any attention is given to the choices of men. While formulating targets is useful, most measures rest on the assumption that coercion is not useful. Coercive measures, such as the use of preferential treatment, are not discussed and there seems no sanction in case of non-compliance. The Working Group on Equal Pay (2006–07) concluded that the job evaluation system itself is not a cause of gender pay differences, rather the latter ensue from incorrect application of the system.	Make use of de-segregation policies as a tool to tackle skill shortages. In this respect attention should be given to the occupational choices of both men and women. Monitor the proper use of job evaluation systems in place.
NO	The country has a long tradition of dealing with gender equality issues, including segregation. Among recent measures feature a commission on equal pay, the action plan for gender equality in day-care services, programmes sustaining women in science and women in management, and the well-known quota for women's representation on company boards. Also, ongoing wage negotiations are targeting the reduction of the gender wage gap via a comparable worth strategy.	A wide spectrum of policies has been implemented to address de-segregation, but understanding the systemic nature of persistent gender segregation received little attention. Mere concentration on occupations may be restrictive. Research evidence shows that within establishments gender differences are usually small, since the main gender differences result from men and women working in different types of companies.	Increase wages in female-dominated occupations, especially when it is evident that job evaluation schemes do not lead to the closing of the gender wage gap. Carry out systematic research on the recruitment and selection processes of firms, as well as on the consequences of educational choices for career patterns. Use both quantitative macro-level evidence and qualitative studies.

	Current policies	Highlights/comments from the expert	Check list from the expert
PL	The issue of gender segregation does not hold centre stage in academic, policy or societal debates. At the same time, related policies such as the recent diffusion of flexible forms of employment in the attempt to foster reconciliation of work and family may have an indirect impact on the phenomenon.	Despite the fact that flexible employment is ever more in demand by women, full-time open-ended jobs remain most desirable for employees. Flexible working schedules are associated with lower pay and access to social protection.	Raise awareness of segregation and support research on the issue. Facilitate a better matching between education and training. Provide guidance to young women in education, encouraging atypical choices. Balance the responsibilities for care and unpaid labour between women and men and improve childcare services.
PT	De-segregation policy mainly uses the fiscal leverage. Financial support is provided to balance the sex composition of occupations, and it is monitored on an annual basis. A Prize for Equality of Opportunities amounting to 10 % of the cost of creating the enterprise is given to firms where at least 60 % of the occupations do not accrue to the same sex. Incentives are also provided to promote self-employment and female entrepreneurship. Reconciliation policies are also relevant, and there is an important public investment in care services (crèches, homes for the elderly, etc.)	What is lacking is a holistic perspective on gender equality. Moreover, segregation policies suffer from discontinuities. For example, the efforts to balance the sex composition of occupations have been interrupted since 2002. Also, incentives for women to become self-employed can be problematic in a context of widespread informal and precarious labour. Investment in care services may reinforce sex segregation in the care sector but may also create the conditions for women to take up market work more frequently.	Address the high level of the gender pay gap and gender segregation in the labour market, especially in the private sector. This should be done by the state and the social partners. Create new and effective incentives for enterprises that enforce action plans for equality; these plans should be mandatory for enterprises entering tenders for public procurements. Extend fathers' rights in the workplace and not simply 'encourage' men to take care of children.
RO	Gender segregation is not a subject of policy debate, despite the fact that gender equality is becoming a matter of concern, and that this marks a change of perspective in comparison with the pre-transition period.		Promote greater awareness by engendering the public agenda, not just only the political agenda. Create an institutional framework and a monitoring system for the implementation of policies in support of women. Foster reconciliation of work and private life.
SE	After decades of reports and policies, sex segregation in the labour market is still on the agenda and new measures are continuously introduced. The government has commissioned three major reports or investigations in the last 10 years, respectively in 1998, 2003 and 2007 on different aspects of segregation. A key issue in the perception of the public or in the policy debate are women in decision-making positions, female entrepreneurs and women in science and technology. The Equal Opportunity Act regulates the practical implementation of gender equality and has been repeatedly amended. Policies have been implemented in all areas — from education and training to job evaluation, management of skill shortages and so on.		Rectify the imbalance in the classification of occupations: male-dominated occupations are much more detailed. Explore possibilities to enhance competence and skill in caring occupations in order to attract both men and women. In addition, and drawing on the 2004 inquiry on segregation: stimulate boys' and men's interest for the social sector in order to meet the skill shortage there and to further gender equality; the national agency for education should set up courses to stimulate interest in technology and science among boys and girls; unemployed men having discontinued education should be allowed to take part in these courses.
SI	Segregation is discussed mainly in connection with the gender pay gap, and only recently (NRP, 2006) it was singled out as a policy issue in its own right. However, scholarships encouraging boys and girls to enter fields which are dominated by the opposite sex are an example of specific provisions. Additional measures that have bearing on segregation include well-developed childcare services whereby women can afford to be highly involved in the labour market.		Develop indicators for monitoring equal opportunities in education. Provide guidance for girls and boys in school and out-of-school activities where the opposite sex predominates. Promote further education and professional training of teachers and counsellors employed in secondary schools, for they are the ones who can guide choices. Sustain women in science. Encourage men to share unpaid and care responsibilities at home.

	Current policies	Highlights/comments from the expert	Check list from the expert
SK	The problem of horizontal and vertical gender segregation is not among the issues frequently discussed by policymakers or in academia. Public awareness of the problem is also rather low.	Gender stereotypes are not being questioned. Even the education system remains very traditional and basically perpetuates old behavioural models. Policy monitoring is such that is does not ensure the effective implementation of policies in the labour market.	Raise awareness of segregation in the population at large and among employers. Build up organisations responsible for implementation of principles of gender equality. Reinforce the capacity of bodies/organisations in charge of monitoring developments in the labour market.
UK	The problems of occupational gender segregation have been recognised in the UK policy debates since the 1970s. Currently there is the so-called General Duty on Gender in the public sector: since 2007 all public authorities have a statutory duty to: (a) have due regard to the need to eliminate unlawful discrimination and harassment, and (b) to promote equality of opportunity between men and women; the government's quantified targets ('public service agreements'); and the government action plan developed in response to the recommendations of the Women and Work Commission.	There are many initiatives, but they lack coordination. Moreover few of them address the issue of changing the culture and system of work organisation within male-dominated areas. The reformed and extended vocational training system is reinforcing existing patterns of segregation. There is too much reliance on supply-side measures targeted at women's career choices, training opportunities and work-family reconciliation rather than measures to address undervaluation of female-dominated job areas and to improve job quality.	Accompany de-segregation in the labour market by de-segregation of the education and vocational training system. Improve the recruitment, retention and advancement of women in male-dominated sectors. Promote equal value and reduce gender inequalities in wage structures. Promote continuity of women's employment careers. Tackle vertical segregation, low pay in female-dominated areas, create more promotion ladders and ensure that these new pathways do not become monopolised by men.

B. TECHNICAL APPENDIX

Box B.1. Measures of segregation

The Karmel and MacLachlan (1988) index (IP) is defined as

$$IP = \frac{1}{N}\sum_i \left| \left(1 - \frac{M}{N}\right) M_i - \frac{M}{N} F_i \right|, \text{(B.1.1)}$$

where N is total employment, M and F stand for the number of men and women in employment, and the subscript *i* denotes the i_{th} occupation or sector. The index ranges from 0 in the case of complete equality to twice the male share of employment multiplied by the female share (2*M/N*F/N) in the case of complete dissimilarity. The absolute maximum for the index is 0.5 (50 if expressed in percentage), and it is reached when the female and male shares are equal. Although the index has the advantage of taking direct account of the female share of employment, this may turn into a disadvantage when comparing values over time, since the level of segregation may increase solely because women's employment has increased.

The index of dissimilarity (ID) measures the sum of the absolute difference in the distribution of female and male employment across occupations or sectors. Like the IP index, it assumes that segregation implies a different distribution of women and men across occupations or sectors: the less equal the distribution, the higher the level of segregation. Using the same symbols as above, the ID is defined as:

$$ID = \frac{1}{2}\sum_i \left| \frac{M_i}{M} - \frac{F_i}{F_i} \right|, \text{(B.1.2)}$$

and varies between 0 and 1 (0 and 100 if expressed in percentage). The value of ID is sensitive to the number of employment categories (occupations or sectors) because it tends to increase with the detail of the classification adopted. However, this increase is non-linear and tapers off after about 20 categories (*). Although it is possible to standardise the ID with respect to the number of occupations, this is unnecessary for the present report, since at least 20 categories will be used and comparisons will be made employing the same classification for all countries and over time.

Hakim (1993) identified female-dominated, male-dominated and mixed occupations by taking the within-occupation share of women and adding or subtracting 15 decimal points from the mean share for all women in employment. Female-dominated occupations are those where the share of women exceeds their mean share in employment + 15 %; conversely for male-dominated occupations. Mixed occupations are comprised in the ± 15 points' interval around the mean. We are aware that, although the confidence interval of ± 15 % may serve as a rule of thumb for present-day European economies, it may need rescaling for countries where women's employment is much lower or higher than the European average. For the sake of transparency, however, we retain the ± 15 percentage points' criterion in Chapter 1, while we adopt a more flexible approach in the following chapters (see the note to Table 5 for details).

(*) There is no exact relationship between the number of employment categories and the value of ID. Anker (1998) identifies the following empirical relationship that holds for the (large) set of countries included in his worldwide study of segregation: 0.061*ln(235/X), where X is the number of categories actually used.

Box B.2. The use of Gini and Somers' D to measure vertical segregation

The Gini index is very popular for measuring distributional inequality and lends itself naturally to the analysis of unequally distributed occupations or sectors (e.g. Silber, 1989; Lampard, 1994). Blackburn et al. (1994) used the Gini index to measure segregation in the following notation:

$$G = \sum_{i=2}^{n} \left[\sum_{1}^{i-1} F_t / F \sum_{1}^{i} M_t / M - \sum_{1}^{i} F_t / F \sum_{1}^{i-1} M_t / M \right] \text{(B.2.1)}$$

where: n is number of occupations, i denotes the i_{th} occupation and t denotes an occupation included in the cumulative total. F_t and M_t stand for the number of women and men in occupation t, F_i and M_i for the number of women and men in occupation i, F and M for the total number of women and men in the labour force ($\sum F_i$ and $\sum M_i$). The best way to interpret Gini index is to relate it to the Lorenz curve (segregation curve) that obtains by mapping the cumulative proportion of the male labour force against the cumulative proportion of the female labour force after ordering occupations by the ratio of female to male workers ($F_i / M_i \geq F_{i+1} / M_{i+1}$). In case of no segregation, the Lorenz curve coincides with the main diagonal (a straight line) and the Gini coefficient is equal to 0. In case of positive amounts of segregation, the Gini coefficient measures the area comprised between the main diagonal and the Lorentz curve.

Blackburn et al. (2001) showed that the Gini coefficient can be expressed in terms of the Somers' D statistics. It is the maximum value of D for a 2 x n table involving two sexes and n occupations ordered from most female to most male. Following Blackburn et al., formula B.1.2 can be rewritten as:

$$G = (1/FM) \sum_{i=2}^{n} \left[\sum_{1}^{i-1} F_t (\sum_{1}^{i-1} M_t + M_i) - (\sum_{1}^{i-1} F_t + F_i) \sum_{1}^{i-1} M_t \right] = (1/FM) \sum_{i=2}^{n} (M_i \sum_{1}^{i-1} F_t - F_i \sum_{1}^{i-1} M_t) \text{ (B.2.2)}$$

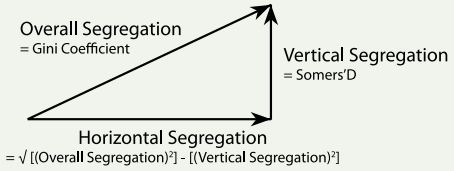
In order to calculate Somers' D, pairs of men and women are first ordered by the femaleness of their occupations. Thus if a woman is in occupation i and a man is in occupation i + j (i ≤ j ≤ n – i) the woman is in the occupation with the higher proportion of women and the man is in a more male occupation. This pair is considered to be ordered 'consistently' with segregation. Similarly, if a man is in occupation i and a woman is in occupation i + j they form an 'inconsistently' ordered pair. Note that pairs of men and women in the same occupation are ignored. Let P denote the number of all pairs 'consistently' ordered and Q the number of 'inconsistent' pairs. In this case, P includes all pairs of a man and a woman where the occupation of the woman has a higher proportion of workers who are women than does the man's occupation; Q includes pairs where the reverse holds.

$$P = \sum_{i=2}^{n} \left\{ M_i \sum_{i}^{i-1} F_t \right\} \text{ and } Q = \sum_{i=2}^{n} \left\{ F_i \sum_{i}^{i-1} M_t \right\} \text{ (B.2.3)}$$

From B.2.3 obtain $D = \dfrac{P - Q}{FM}$ (B.2.4)

The expression obtained in formula B.2.4 for Somers' D can be shown to be identical to the one in formula B.2.2 which stands for the Gini coefficient. Thus when the criterion used to rank occupations is degree of femaleness, Somers' D measures overall segregation. When a different criterion to rank occupations is used, such as wage per hour or prestige, Somers' D measures segregation in terms of the chosen criterion, i.e. vertical segregation. The mathematical relationship among vertical, horizontal and overall segregation can be expressed as shown in the figure below.

Figure B1. The mathematical relationship of segregation components



Source: Blackburn et al. (2001, Figure 1).

Box B.3. The decomposition of the ID index

The index of dissimilarity of Duncan and Duncan is defined as

$$D_t = \left(\sum_i \left| u_{i,t} - f_{i,t} \right| \right) / 2 \quad \text{(B.3.1)}$$

where

$f_{i,t} = F_{i,t} / \sum_i F_{i,t}$, $F_{i,t}$ = number of women in occupation or sector i, year t (B.3.2)

$u_{i,t} = U_{i,t} / \sum_i U_{i,t}$, $U_{i,t}$ = number of men in occupation or sector i, year t (B.3.3)

The difference in the value of the index between two dates $(D_1 - D_0)$ can be decomposed into a weight, a share and a residual effect. D_t can also be written as:

$$D_t = \left(\sum_i \left| \eta_{i,t} z_{i,t} - p_{i,t} \omega_{i,t} \right| \right) / 2 \quad \text{(B.3.4)}$$

Where:

$p_{i,t} = F_{i,t} / \sum (U_{i,t} + F_{i,t})$ is the share of women in occupation or sector i, year t;

$\eta_{i,t} = (1 - p_{i,t}) = U_{i,t} / (U_{i,t} + F_{i,t})$ is the share of men in occupation or sector i, year t;

$z_{i,t} = (U_{i,t} + F_{i,t}) / \sum_i U_{i,t}$ is the weight of occupation or sector i, year t, in total male employment; and

$\omega_{i,t} = (U_{i,t} + F_{i,t}) / \sum_i F_{i,t}$ is the weight of occupation or sector i, year t, in total female employment. If year 0 is the reference year, then:

$$(D_1 - D_0) = W_{1,0} + P_{1,0} + R_{1,0} \quad \text{(B.3.5)}$$

Where:

$W_{1,0} = \left(\sum_i \left| \eta_{i,0} z_{i,1} - p_{i,0} \omega_{i,1} \right| \right) / 2 - \left(\sum_i \left| \eta_{i,0} z_{i,0} - p_{i,0} \omega_{i,0} \right| \right) / 2$ is the weight effect

$P_{1,0} = \left(\sum_i \left| \eta_{i,1} z_{i,0} - p_{i,1} \omega_{i,0} \right| \right) / 2 - \left(\sum_i \left| \eta_{i,0} z_{i,0} - p_{i,0} \omega_{i,0} \right| \right) / 2$ is the share effect; and

$$R_{1,0} = \left(\sum_i \left| \eta_{i,1} z_{i,1} - p_{i,1} \omega_{i,1} \right| \right) / 2 - \left(\sum_i \left| \eta_{i,0} z_{i,1} - p_{i,0} \omega_{i,1} \right| \right) / 2 +$$

$$+ \left(\sum_i \left| \eta_{i,0} z_{i,0} - p_{i,0} \omega_{i,0} \right| \right) / 2 - \left(\sum_i \left| \eta_{i,1} z_{i,0} - p_{i,1} \omega_{i,0} \right| \right) / 2$$

is the residual or interaction effect.

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