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Towards a European Union Gender Equality Index

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Summary In order to monitor progress with respect to gender equality in European Union member states, indices are extremely useful. Existing indices are, however, not appropriate because they do not focus exclusively on gender (in)equality and have not been created to be used at the European level. Therefore a European Union Gender Equality Index is presented in this article. Based on the universal caregiver model as outlined by Fraser (1997), the index is composed of four dimensions: equal sharing of paid work, money, decision-making power and time. With regard to the applied methodology, the index is constructed in such a way that the value indicates the actual distance from a situation of full equality. The empirical results show that full equality is still a long way off. Finland, Sweden and Denmark display the highest overall performance, whereas the southern countries – Greece, Cyprus, Malta, Spain and Italy – perform rather poorly.

Key words European Union, gender equality, indices, monitoring

Introduction

Within the framework of the European Employment Strategy (EES), member states are committed to foster the three overarching and interrelated objectives of: full employment; productivity and quality at work; social and territorial cohesion. Within this context, equal opportunities between men and women merit particular attention and have a vital contribution. In more practical terms this means that member states are called on to tackle gender gaps and to take action to allow women and men to reconcile work and family life.

Yet the position of men and women still differs considerably throughout Europe (e.g. European Commission, 2006a; 2007), with some member states facilitating employment for all men and women, while others rely on a more traditional division of paid and unpaid work. The European landscape with regard to gender equality has also

changed because of the recent enlargement. Most new member states have quite a distinct history of work and family policy, but at the same time have undergone many changes over the last 10 years. In addition, policy towards equal opportunities differs, both in terms of focus and ambition.

Given this diverse context, an effective monitoring of gender equality, based on a common set of indicators, is key. These indicators could identify strong or weak aspects of a national situation and facilitate inter-country comparisons. Indicators could also monitor progress and play a vital role in signalling effective policy. In the ideal case, several indicators of gender equality could be combined in one single figure – a gender equality index – which identifies relative success in promoting equal opportunities, increased gender awareness and induces countries to take specific actions.

The importance of a gender equality index is also recognized by the European Union. In the policy

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document *The Roadmap for Equality Between Women and Men 2006–2010* (CEC, 2006) six priority areas for EU action on gender equality are identified. It is stated that progress with regard to gender equality recognizes better governance at all levels. Accountability in this respect is central. The Commission therefore plans to define a new ‘composite Gender Equality Index’ in order to monitor progress and assess the current state of affairs (p. 12).

Up until now several indices have been developed to measure gender equality. Indices that are often referred to are the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM) as developed by the United Nations Development Programme (e.g. UNDP, 2006). These indices, however, do not seem appropriate for use at the EU level since EU differences on these indices are too small to be meaningful. In addition, the GDI does not measure gender equality in itself but human development adjusted for gender inequality (Klasen, 2006a). Other indices were intended to compare gender equality within countries and therefore some are composed of very specific indicators that make them difficult to apply comparatively (e.g. Kjelstad and Kristiansen, 2001; Thermaenius, 2000).

The aim of this article is to fill the gap and present a gender equality index for the EU. In principle, a useful index should serve three main goals: to identify the extent of gender (in)equality at a certain point in time; to identify causes for (in)equality with a view to suggesting policies to reduce inequality; and finally, to enable the monitoring of the impact of these policies over time. A first step in the process is to review the literature on existing indices and to analyse how these indices have addressed conceptual and practical problems. Next we explore definitions of gender equality, and present the essential features of the EU index. Finally, we present the empirical results for a new European Union gender equality index.

Literature review

The UNDP was one of the first to develop indices that take gender (in)equality into account. Each year, the UNDP publishes the Human Development Report which contains information on the Human Development Index (HDI) (e.g. UNDP, 2006). Since 1995 UNDP has included the dimension of gender equality, resulting in the Gender-related

Development Index, GDI. The HDI includes three components (UNDP, 2006: 396):

- longevity (measured by life expectancy at birth);
- educational attainment (measured by adult literacy rate and combined primary, secondary and tertiary gross enrolment ratio); and
- access to resources needed for a decent standard of living (measured by the real GDP per capita).

The selection of these three components was based on two factors: their relevance and the availability of data. All three components measure primary but essential societal aspects of human development while the data are available and accessible on a continuous basis, so that long-term trends can be analysed. Performance on each dimension is expressed as a value between 0 and 1 by applying the formula: $(\text{actual value} - \text{minimum value}) / (\text{maximum value} - \text{minimum value})$.

The minimum and maximum values (‘goalposts’) are chosen for each underlying indicator. For example, with respect to life expectancy at birth, the maximum value is set at 85 years and the minimum value at 25 years. The HDI is the unweighted mean of the three measures with a maximum possible score of one.

The GDI is constructed from the same components, based on the assumption that equality between men and women could be measured by their scores on the HDI indicators. The aim is to rank countries according to both their absolute level of human development and their relative scores on gender equality. The various indicators are thus revalued by the extent of gender inequality with a substantial discount if inequality is high. Again, the maximum possible score on this index is one. Within a worldwide context, the European member states score high on the GDI: in 2006 Ireland had the highest GDI score (0.951), followed by Sweden (0.949) and the Netherlands (0.945). The EU member states (based on 25 members) with the lowest scores were Latvia (0.843) and Slovakia (0.853) (UNDP, 2006: 363).

In addition to the GDI, the UNDP has developed another gendered measure: the Gender Empowerment Measure (GEM). While the GDI measures gender equality in human development, the GEM specifically focuses on women’s opportunities. It captures gender (in)equality in three key areas (UNDP, 2006: 398):

- political participation and decision-making power (measured by women's and men's percentage shares of parliamentary seats);
- economic participation and decision-making power (measured by two indicators: women's and men's percentage shares of positions as legislators, senior officials and managers, and women's and men's percentage shares of professional and technical positions);
- power over economic resources (measured by women's and men's estimated earned income).

Again, UNDP intentionally chose a set of broad indicators for which data are relatively easy to gather. In order to be consistent with the methodology applied in the GDI, the weighting of components is calculated in a similar way. Again, the maximum score is one. In general the values of the GEM are lower than those of the GDI. Moreover, the ranking of the EU countries is more dispersed. In 2006 Sweden had the highest score (0.883), followed by Denmark (0.861). Lowest scores were found for Malta (0.493) and Hungary (0.560) (UNDP, 2006: 367).

The indices of UNDP were the first to measure human development and gender equality and have proven to be extremely important in raising awareness. They also induced a substantial amount of discussion, on the political and policy relevance of the index, the validity of the index and the reliability of the data used. An important conceptual shortcoming of the GDI, for example, is that the scores are strongly positively related to per capita GDP: the GDI increases as countries get richer. However, countries with high levels of gender equality but low absolute levels of well-being score low on the GDI. Therefore, a main criticism of the GDI index is that it does not measure gender equality in itself, but a combination of gender equality and levels of achievement. A similar argument applies to the GEM (e.g. Dijkstra and Hanmer, 2000; Dijkstra, 2002; Klasen, 2006b). An index which claims to measure gender equality needs to do just that, independent of the absolute level of socio-economic development, since a high degree of gender inequality is an ethical problem in itself and should be highlighted.

The second main shortcoming for EU states is the fact that the UNDP indices were developed to compare countries on a worldwide basis. This is also clearly reflected in their choice of indicators:

longevity, educational attainment and GDP. For an index of EU countries, these indicators are not very useful as intra-EU differences are small. This can be exemplified by the difference in GDI scores for the 177 countries of 0.67 between the highest and lowest scores in Norway and Niger respectively (0.962 and 0.292), while the intra-EU difference between Ireland and Latvia is just 0.108.

Furthermore, besides the conceptual problems, some operational problems also exist for these measures, an example being the differences in variance of the indicators used in the construction of the overall index. When the variance of indicators differs, the indicator with the largest variance has the strongest weight in the overall index: income in the case of the GDI (Dijkstra, 2002). Taking their critique on the GDI and GEM into account, Dijkstra and Hanmer (2000) and Dijkstra (2002) developed indices which specifically measure gender (in)equality. These indices are, however, intended for worldwide comparison and not for intra-EU comparison.

In conclusion, a new European measure of gender equality should be developed which ideally meets the following requirements. The index should comprise indicators that, taken together, represent all relevant dimensions of gender equality in Europe. In addition, the index should measure gender (in)equality and not some combination of absolute well-being and (in)equality. Finally, the construction of the overall index should be such that there is no unintended weighing of factors.

Defining gender equality

The next step in the process of creating the gender equality index is to find an acceptable definition of gender equality. Gender equality is a complicated term with diverse dimensions and many layers of meaning. It may refer to a formal equality concept, centring on equal starting points, or the achievement of equal results. Defining gender equality in terms of equal results seems more ambitious, as the focus shifts from procedures to outcomes, asking not where people start out, but where they end up. Furthermore, the association of gender equality with equal results is not without difficulty. Within feminist literature there has been a strong debate about the one-sidedness of the 'equality' approach if this implies women becoming equal to men. Instead a 'difference' approach advocates treating women differently in so far as they are different from men,

since equality strategies based on the male as norm may in fact disadvantage women. For example, it is by no means obvious that women's position is strengthened by having to work as many hours in paid employment as men. Egalitarians on the other hand have argued that a difference view relies on essentialist notions of femininity, thereby reinforcing existing stereotypes and the current organization of labour and care (Fraser, 1997).

An interesting attempt to go beyond the equality and difference debate has been made by Nancy Fraser. Fraser, quite deliberately using the term 'equity' instead of 'equality', conceptualizes 'gender equity' as a complex idea: '[t]his means, breaking with the assumption that gender equity can be identified with any single value or norm, whether it be equality, difference or something else' (Fraser, 1997: 26). Based on this notion, she unpacks the idea of gender equity as a compound of seven distinct normative principles, namely: anti-poverty, anti-exploitation, income equality, leisure time equality, equality of respect, anti-marginalization and anti-androcentrism. She then argues that current models of gender equity – whether the American model of incorporating women into the workforce or the European model of compensating women for time spent on care – do not meet all seven conditions of gender equality. Therefore, she proposes 'a third way' to reach gender equality, which she calls the universal caregiver model based on women's current life-patterns as the norm for everyone. As a result men should change their lifestyles and should be induced to behave more like most women, i.e. they should work less and should take on more care responsibilities. Indeed, '[t]he trick is to imagine a social world in which citizens' lives integrate wage earning, care giving, community activism, political participation and involvement in the associational life of civil society – while also leaving time for some fun' (Fraser, 1997: 48).

This vision may not be very practical and it certainly does not translate very easily into quantifiable indicators for country comparisons. In addition, not everyone may agree with the emphasis on equal sharing. However, the universal caregiver model makes clear from the very outset, that gender equality implies a change in the lives of both women and men through promotion of greater equality in the distribution of paid and unpaid work. It also indicates that an equal distribution of paid and

unpaid work is not enough. A full concept of gender equality should also take into account the political dimension and refer to assets like time and income (see also Folbre, 2006). Following this approach, the term gender equality used in this article refers to an equal sharing of assets and is conceptualized rather broadly as an equal sharing of paid work, money, decision-making power and time.

Essential features of the index

Besides fundamental issues of an adequate definition and encompassing dimensions, there are also some practical requirements that a new gender equality index has to fulfil. First, it can be argued that an index should stimulate countries to pay more attention to gender equality (including attention to data collection on gender sensitive issues). This implies that the index should not simply be a ranking of countries scoring more or less, but should identify the extent of (in)equality at a point in time, by revealing how far (or close) a member state is towards achieving a gender-equal society. The actual index-score might lead to research on the causes of inequality aimed at policies to reduce it. The indicators selected should therefore be practical, easy to read, meaningful and consistent while allowing easy monitoring of current trends and facilitating inter-country comparison.

Political relevance also implies that the gender equality index should take into account the gender equality indicators within the context of the European Employment Strategy (e.g. European Commission, 2006b). Although somewhat smaller in scope and not explicitly targeted towards measuring gender (in)equality, these indicators play an important role in the European social debate and it seems important that the new gender equality index engages with the current efforts to reinforce equal opportunities.

Another important consideration with regard to the index is that it should be both feasible and reliable. For inter-country comparison, it is therefore important that an index takes into account the availability of harmonized statistics. In addition, it appears sensible to limit the number of indicators, as a large collection of indicators could obscure salient developments.

Finally, the index should be based on 'outcome indicators' (dependent variables) and independent

(or instrumental) indicators should not be included. When trying to monitor the extent of gender (in)equality, dependent and independent variables should not be used within the same framework. Childcare facilities and flexible working time arrangements, for example, are important provisions in order to promote women's full participation. They should, however, be treated as instrumental (independent) variables and not variables which can be treated at the same level as labour market participation or decision-making power. If they are, there is a real danger of double counting and of overestimating differences.

The index: dimensions, subdimensions and indicators

Given the importance of a broad approach to gender equality, we have chosen four dimensions that together should cover the relevant aspects of civil life, namely: equal sharing of paid work, equal sharing of money, equal sharing of decision-making power, and equal sharing of unpaid time. Each dimension includes two subdimensions and these are translated into indicators. The aim was to use the most recent data but this proved to be problematic in some areas so the data used to calculate the index refer to 2005 wherever possible.

The reasons for choosing *equal sharing of paid work* as the first dimension are obvious. Paid work is an important precondition of economic independence and as such is an indispensable dimension in any gender equality index. Moreover, paid work is the core of the European Employment Strategy (EES). The dimension is broken down into two subdimensions: participation and unemployment. Participation refers to the employment level. High employment rates are an important European goal and several employment-based indicators have already been adopted to monitor progress in the EES (European Commission, 2006b). The subdimension is measured by the difference in employment rates between women and men in percentage points, measured in head counts, using harmonized data from the European Labour Force Survey (ELFS) 2005. The second subdimension refers to unemployment. Lowering the unemployment rate is also an important policy goal of the EU. The absence of a gender gap in unemployment suggests equal access to the labour market, enabling both men and women to participate in wage earning. Countries

will be scaled on the gender unemployment gap, calculated as the difference in unemployment rates between women and men in percentage points, again using data from the ELFS 2005.

The second dimension is the *equal sharing of money*. An equal society should be based on the principle of equal pay for work of equal value, which ideally should result in similar earnings for men and women. In addition, a gender-equal society should prevent high poverty rates among women with 'feminine' work patterns. Despite differences in labour market behaviour, both men and women should be capable of providing for their own living costs. This dimension is also broken down into two subdimensions: pay and income. Pay is operationalized by the gender pay gap and calculated as the difference between men's and women's average gross hourly earnings as a percentage of men's.¹ Again, this corresponds to one of the European Union's key indicators and as such is firmly incorporated in the EES. However, reliable and timely data on pay are not always available and here we use harmonized data from the 2002 Structure of Earnings Survey. Unfortunately, the data refer only to employees in the private sector. With regard to the subdimension of income, the absence of gender poverty gaps seems an important precondition for any society seeking gender equality. In addition, poverty is included in the primary EU indicators of social exclusion and poverty (European Commission, 2006c). Poverty data are, however, notoriously complex. The gender poverty gap for all households is, for example, often calculated under the presumption of an equal sharing of income between men and women. This technique may result in 'hidden' gender differences due to an unequal distribution within families (Cantillon and Nolan, 2001). In addition, it is well known that single households are a vulnerable group, especially female-headed ones. Thus, here countries will be scaled on the absolute poverty gender gap for single households, calculated as the proportion of female-headed single households under the low-income threshold minus the male proportion of such households. The low-income threshold is set at 60 percent of the median equivalized income per person within each member state. The data come from the Statistics on Earnings and Living Conditions and refer to the years 2002–04.

The third dimension refers to *equal sharing of decision-making power*. This dimension is not only

in line with the international literature (e.g. the GEM), but also with developments at the EU level. A goal of the EU is to achieve a balanced participation of men and women in the decision-making process which, in their words, is 'increasingly recognized as a requirement for democracy, as well as having a positive outcome for society, in that different ideas and values will be fed into the decision-making process, leading to results which take into account the interests and needs of the whole population' (European Commission, 2000: 1). The dimension is broken down into two subdimensions: political power and socio-economic power. For the political subdimension, countries will be scaled on the equal sharing of political power, based on the gender gap in parliament (lower house). This gap is calculated as the difference in the share of women and men in parliament. This subdimension is in line with one of the three indicators of UNDP's GEM and with (one of) the EU indicators on women in decision making. An important data source in this respect is the Inter-Parliamentary Union, an international organization which continuously monitors data on the share of women in parliaments. We have used data referring to the situation at the end of 2005. With regard to socio-economic power, the countries will be scaled on the gender gap among legislators, senior officials and managers (as covered by International Standard Classification of Occupations [ISCO] category 1). This subdimension refers to 'top' (supervisory) occupations; included are legislators, senior officials, among others from organizations such as trade unions and charitable organizations, and corporate and general managers.² It provides information on the 'ceiling' at the socio-economic level and as such covers vertical segregation. The gender gap is calculated as the difference between the share of women and men in ISCO1. The data come from the 2005 ELFS.

The fourth and final dimension of the gender equality index refers to *equal sharing of time*. The assumption is that in a truly gender-equal society every citizen can participate in a balanced manner in all spheres of life—work, care and leisure. Since time spent on paid labour is already covered by the first dimension 'equal sharing of paid work', this fourth dimension refers to the rather heterogeneous concept of unpaid time. This is a significant dimension of gender equality not only because an equal distribution of unpaid time must be seen as a major

precondition for an equal distribution of paid work, but also because an equal distribution of unpaid work should be perceived as an emancipatory goal in itself. The equal sharing of time, therefore, refers to both the time men and women spent on care activities and their involvement in leisure time. Preferably, a subdimension measuring (the difference in) the involvement of men and women in unpaid caring activities should be rather broad. That is, it should refer to caring time for children, elderly people and dependent others. However, reliable, harmonized data on time-use are (again) rather scarce (e.g. Juster and Stafford, 1991; Aliaga and Winqvist, 2003). In particular it seems difficult to measure care 'inputs' like the time devoted to the direct care of dependents (Folbre, 2006). In this study we use data from the European Community Household Panel (ECHP; year 2000) that refer either to care spent on children or care spent on others. Since care for children is often the most time-intensive, the subdimension refers to this type of care. The age-category 20–49 is chosen since here the burden of care-activities is largest. As in the calculation of the gender pay gap, the gender gap in caring time is calculated as the difference between the average number of hours per week spent providing care for children by men and women aged 20–49 as a percentage of the male average.

The second subdimension is leisure. Each individual should have a certain amount of leisure and gender equality should include the absence of gender gaps in this respect. Unfortunately, there are no harmonized data for all 25 EU member states on leisure. Not all countries conduct time-use studies and, if available, the population and/or the method of research may differ. The 'best' source is a Eurostat publication containing a compilation of time-use studies of 14 EU countries which follow, to a large extent, harmonized guidelines issued by Eurostat (Aliaga, 2006). Since leisure is an essential subdimension of the index, the data of the 14 countries are used to estimate a weighted EU-average for the countries for which data on leisure are not available. Again using the same methodology, we have calculated the gender gap in leisure as the difference between the average time per day spent on leisure by men and women as a percentage of the average time per day spent on leisure by men in the age group 20–74. Leisure in this respect refers to 'free time', which includes TV; video; socializing; reading;

Dimensions	Subdimensions	Indicators
Equal sharing of paid work	Labour force participation Unemployment	Gender employment gap Gender unemployment gap
Equal sharing of money	Pay Income	Gender pay gap Gender poverty gap among single-headed households
Equal sharing of decision-making power	Political power Socio-economic power	Gender gap in parliament Gender gap in ISCO1
Equal sharing of time	Caring time Leisure	Gender gap in caring time for children Gender gap in leisure time

Figure 1 Composition of the EU Gender Equality Index

sports; resting; hobbies and games; volunteer work and help; entertainment and culture; and other specified leisure. The data refer to the years 1998–2003. Figure 1 summarizes the composition of the EU Gender Equality Index.

Calculating the index

When calculating the composite index, it has to be taken into account that indicators are measured on different scales. In order to combine the scores in a composite index, the actual values on the indicators have to be standardized in such a way that all indicators are given more or less the same weight. Several (statistical) methods are available. In this case the actual values have been standardized by applying the min-max methodology used for calculating the GDI and GEM indices. The calculation is:

$$\text{standardized value} = (|\text{actual value } x_1| - \text{minimum value } x_1) / (\text{maximum value } x_1 - \text{minimum value } x_1)$$

The actual value refers to a national score on the indicator, for example a gender gap in unemployment of 4 percentage points (e.g. women 8%, men 4%). As gender equality is conceptualized as the absence of gender gaps, positive or negative gaps are treated in the same way. Therefore, the absolute value of the gender gap is taken. The maximum (the optimal case) refers to the theoretical maximum value in the case of full equality and always has the value 0, indicating the absence of gaps.³ The minimum (the worst case) refers to a situation of inequality. As there is no natural benchmark in this respect, the minimum value is set at a level which is a little below the actual minimum value within the sample of EU countries. This fixed minimum is

treated as a baseline (or ‘goalpost’ in the words of the UNDP). The assumption is that the actual value will not go beyond this minimum. The standardized value on an indicator has a maximum of 1, which corresponds to a situation of equality. Elaborating on the example mentioned above, the empirical data of Table 1 indicate that the highest unemployment gap among the member states is 9.2 percentage points. In this case the minimum value for unemployment is set at 10 percentage points and the standardized value is: $(4-10) / (0-10) = 0.6$. The advantage of this min-max method is that the standardized value can be interpreted as a distance from equality. In addition, comparisons over time are possible by applying the same values for the minimum. When choosing the minimum values it is important to take into account differences in variance of the indicators (see above). As all indicators should have more or less the same weight in the overall index, the minimum value is chosen so that the variances of the indicators are comparable.

The overall composite index has been calculated by simply adding the standardized scores and dividing the total score by the number of indicators. On a few subdimensions, data are lacking for some countries. For these countries the average EU score is inserted.

Country scores and ranking

Country scores on the dimension equal sharing of paid work

Table 1 provides a ranking of the European countries on the basis of the paid work indicators. This is done in two steps. First, the scores on the two indicators are standardized according to the min-max methodology. Second, the

Table 1 Ranking of 25 EU member states on the dimension equal sharing of paid work

	<i>Gender employment gap^a (2005)</i>	<i>Gender unemployment gap^a (2005)</i>	<i>Participation, standardized score Max = 0 Min = 41</i>	<i>Unemployment, standardized score Max = 0 Min = 10</i>	<i>Overall score on equal sharing of paid work</i>
Sweden	-4.0	-0.2	0.90	0.98	0.94
Finland	-3.8	0.4	0.91	0.96	0.93
Lithuania	-6.7	0.1	0.84	0.99	0.91
Latvia	-8.3	-0.4	0.80	0.96	0.88
Denmark	-7.9	0.9	0.81	0.91	0.86
Estonia	-4.9	-1.7	0.88	0.83	0.86
Slovenia	-9.1	1	0.78	0.90	0.84
Hungary	-12.1	0.4	0.70	0.96	0.83
United Kingdom	-11.7	-0.8	0.71	0.92	0.82
Austria	-13.4	0.6	0.67	0.94	0.81
The Netherlands	-13.5	0.7	0.67	0.93	0.80
Germany	-11.6	1.4	0.72	0.86	0.79
France	-11.2	1.8	0.73	0.82	0.77
Portugal	-11.7	1.9	0.71	0.81	0.76
Slovakia	-13.7	1.7	0.67	0.83	0.75
Ireland	-18.6	-0.6	0.55	0.94	0.74
Belgium	-14.5	1.9	0.65	0.81	0.73
Poland	-12.1	2.5	0.70	0.75	0.73
Cyprus	-20.8	2.1	0.49	0.79	0.64
Luxembourg	-19.6	2.4	0.52	0.76	0.64
Czech Republic	-17	3.3	0.59	0.67	0.63
Italy	-24.6	3.9	0.40	0.61	0.51
Spain	-24	5.2	0.41	0.48	0.45
Malta	-40.1	2.2	0.02	0.78	0.40
Greece	-28.1	9.2	0.31	0.08	0.20
Standard deviation			0.20	0.20	

Note:

^a The gender (un)employment gap is calculated as the difference in (un)employment rates between women and men in percentage points.

Source: European Commission (2006b).

scores on the subdimensions are added and divided by two. This calculation results in the 'score on the paid work dimension', see the last column of Table 1. Sweden, Finland and Lithuania have the highest scores. Yet while the two Scandinavian countries have relatively high scores on both subdimensions, the high score for Lithuania is related to its favourable employment performance. At the other end of the ranking is Greece with a rather low score of 0.20. Malta and Spain also have fairly low scores. For Malta, this is mainly related to a poor employment performance.

Country scores on the dimension equal sharing of money

Table 2 provides a ranking of the European countries on the basis of the money indicators. The scores are calculated on the basis of the same methodology as Table 1. Hungary and Luxembourg score rather favourably with Cyprus, Spain and Slovakia at the lower end. It should be noted that, particularly in the field of pay, the scores are rather low, with gender gaps rising to more than 30 percent in the United Kingdom. Apparently, equal pay for men and women is still a long way off. The gender poverty

Table 2 Ranking of 25 EU member states on the dimension equal sharing of money

	<i>Gender pay gap^a</i> (2002)	<i>Gender poverty gap single households^b</i> (2000–04)	<i>Pay, standardized score</i> Max = 0 Min = 30	<i>Income, standardized score</i> Max = 0 Min = 27	<i>Overall score on equal sharing of money</i>
Hungary	14.6	-1	0.52	0.96	0.74
Luxembourg	18.9	0	0.38	1.00	0.69
Finland	18	-1	0.41	0.96	0.69
France	17	2	0.44	0.93	0.68
Sweden	15.3	4	0.50	0.85	0.68
Slovenia	11.1	8	0.64	0.70	0.67
Denmark	20	-2	0.34	0.93	0.63
Belgium	17.1	5	0.44	0.81	0.63
Portugal	19.6	3	0.36	0.89	0.62
Lithuania	17.3	-6	0.43	0.78	0.61
Czech Republic	24.7	0	0.19	1.00	0.60
Latvia	20.7	5	0.32	0.81	0.57
The Netherlands	23.6	-3	0.23	0.89	0.56
Poland	14	-12	0.54	0.56	0.55
Italy	18.9	9	0.38	0.67	0.52
Germany	25.6	6	0.16	0.78	0.47
Estonia	26.7	6	0.12	0.78	0.45
Austria	26.4	9	0.13	0.67	0.40
United Kingdom	30.3	6	0.01	0.78	0.39
Malta	24.6	12	0.19	0.56	0.37
Ireland	26.3	11	0.14	0.59	0.36
Greece	25.5	14	0.16	0.48	0.32
Slovakia	29.2	-13	0.04	0.52	0.28
Spain	25	18	0.18	0.33	0.26
Cyprus	28.1	26	0.08	0.04	0.06
Standard deviation			0.17	0.23	

Notes:

^a The gender pay gap is calculated as the difference between men and women's average gross hourly earnings as a percentage of men's average gross hourly earnings.

^b The gender poverty gap is calculated as the difference between the proportion of female-headed single households under the low-income threshold and the proportion of male-headed single households under the low-income threshold.

Sources: Gender pay gap: Eurostat, Structure of Earnings Survey 2002; Gender poverty gap: European Commission (2006c).

gap among single households shows considerable variation: from -13 in Slovakia to 26 in Cyprus. A negative gap implies that the poverty rate is lower among female-headed single households compared to male-headed households. This is the case in seven countries.

Country scores on the dimension equal sharing of decision-making power

Table 3 presents the ranking of the European countries on the decision-making power dimension. From the Table it appears that there is an equal

sharing of neither political nor socio-economic power. The largest gender gap in parliament is found in Hungary (the share of women in parliament is 9.1%, implying a gender gap of 81.8%), followed by Malta, Italy, France and Slovenia. Sweden has the smallest gap, the share of women being 45 percent, with Finland, Denmark and the Netherlands following. The share of women among legislators, senior officials and managers is particularly low in Cyprus and Malta. Two new member states score best on this subdimension: Lithuania and Latvia (shares of women in ISCO1 of 43.1% and 43% respectively). On the overall dimension

Table 3 Ranking of 25 EU member states on the dimension equal sharing of decision-making power

	<i>Gender gap in parliament^a (2005)</i>	<i>Gender gap ISCO1^b (2005)</i>	<i>Political power, standardized score Max = 0 Min = 90</i>	<i>Socio-economic power, standardized score Max = 0 Min = 75</i>	<i>Overall score on equal sharing of decision-making power</i>
Sweden	-9.4	-36.5	0.90	0.51	0.70
Spain	-28	-36.0	0.69	0.52	0.60
Lithuania	-56	-13.8	0.38	0.82	0.60
Finland	-25	-40.0	0.72	0.47	0.59
Latvia	-58	-13.9	0.36	0.81	0.58
Belgium	-30.6	-37.1	0.66	0.51	0.58
The Netherlands	-26.6	-48.5	0.70	0.35	0.53
Austria	-32.2	-45.6	0.64	0.39	0.52
Denmark	-26.2	-50.6	0.71	0.32	0.52
Germany	-36.4	-43.8	0.60	0.42	0.51
Estonia	-62.4	-25.3	0.31	0.66	0.48
Portugal	-57.4	-30.9	0.36	0.59	0.48
United Kingdom	-60.6	-30.5	0.33	0.59	0.46
Poland	-59.2	-34.4	0.34	0.54	0.44
France	-75.6	-26.1	0.16	0.65	0.41
Slovakia	-66.6	-38.3	0.26	0.49	0.37
Slovenia	-75.6	-31.3	0.16	0.58	0.37
Czech Republic	-66	-40.3	0.27	0.46	0.36
Ireland	-73.4	-37.1	0.18	0.51	0.35
Hungary	-81.8	-30.2	0.09	0.60	0.34
Luxembourg	-53.4	-53.8	0.41	0.28	0.34
Italy	-77	-34.6	0.14	0.54	0.34
Greece	-74	-46.7	0.18	0.38	0.28
Cyprus	-67.8	-72.2	0.25	0.04	0.14
Malta	-81.6	-68.0	0.09	0.09	0.09
Standard deviation			0.24	0.18	

Notes:

^a The gender gap in parliament is calculated as the difference in the share of women in parliament and the share of men in parliament.

^b The gender gap in ISCO1 is calculated as the difference in the share of women in ISCO1 and the share of men in ISCO1.

Sources: Gender gap in parliament: Inter-Parliamentary Union; Gender gap in ISCO1: Eurostat, Labour Force Survey.

equal sharing of decision-making power, Sweden scores rather favourably, followed at some distance by Spain and Lithuania, while Malta and Cyprus are at the other extreme.

Country scores on the dimension equal sharing of time

Table 4 provides a ranking of the EU countries on the subdimensions care activities and leisure. Denmark has the smallest gender gap in time spent on care activities. In this country the

gender gap in care intensity is 71 percent. Given the way the gender gap is calculated, this implies that men should increase the amount of time spent on care activities by 71 percentage points in order to be equal to women. Denmark is followed by Finland (gender gap of 80%). The largest gender gap is found in Greece; here the gender gap is 531%. In other words, Greek men should increase the amount of time spent on care activities by five times in order to be equal to women. Large gender gaps are also displayed by Spain and Ireland. It should be noted, however,

Table 4 Ranking of 25 EU member states on the dimension equal sharing of time

	<i>Gender gap in care intensity^a (2000)</i>	<i>Gender gap in leisure^b (1998–2001)</i>	<i>Care activities, standardized score Max = 0 Min = 540</i>	<i>Leisure, Standardized score Max = 0 Min = 25</i>	<i>Overall score on equal sharing of time</i>
Denmark	- 71	9.0	0.87	0.64	0.76
Finland	- 80	8.5	0.85	0.66	0.76
The Netherlands	- 204	5.4	0.62	0.78	0.70
Germany	- 290	7.4	0.46	0.70	0.58
United Kingdom	- 290	7.4	0.46	0.70	0.58
Sweden	- 290	8.2	0.46	0.67	0.57
Belgium	- 282	11.4	0.48	0.54	0.51
Czech Republic	- 290	13.7	0.46	0.45	0.46
Cyprus	- 290	13.7	0.46	0.45	0.46
Luxembourg	- 290	13.7	0.46	0.45	0.46
Malta	- 290	13.7	0.46	0.45	0.46
Slovakia	- 290	13.7	0.46	0.45	0.46
Estonia	- 290	16.7	0.46	0.33	0.40
Poland	- 290	17.1	0.46	0.32	0.39
France	- 279	18.6	0.48	0.26	0.37
Latvia	- 290	18.9	0.46	0.24	0.35
Austria	- 412	13.7	0.24	0.45	0.35
Portugal	- 406	13.7	0.25	0.45	0.35
Hungary	- 290	20.1	0.46	0.20	0.33
Slovenia	- 290	20.4	0.46	0.18	0.32
Ireland	- 472	13.7	0.13	0.45	0.29
Italy	- 338	19.8	0.37	0.21	0.29
Lithuania	- 290	23.6	0.46	0.06	0.26
Greece	- 531	13.7	0.02	0.45	0.24
Spain	- 489	18.1	0.10	0.28	0.19
Standard deviation			0.19	0.19	

Notes:

^a The gender gap in care intensity is calculated as the difference between the average number of hours per week spent on providing care for children by men and women aged 20–49 as a percentage of the average number of hours per week spent on providing care for children by men aged 20–49.

^b The gender gap in leisure is calculated as the difference between the average time per day spent on leisure by men and women as a percentage of the average time per day spent on leisure by men, age group 20–74. Numbers in italic refer to EU average. With respect to leisure, the average is based on 14 countries (see also main text). In addition, Eurostat provides national data on Denmark and the Netherlands and, although not fully comparable, with the harmonized data, these national data are included in the calculation of the index. Imputing the EU average for Denmark and the Netherlands results in only a minor changes in the order of countries with respect to the dimension Equal sharing of time and the overall index.

Sources: Gender gap in care intensity: Eurostat, ECHP, own calculations; Gender gap in leisure: Aliaga (2006).

that data are lacking for a substantial number of member states. Unfortunately this is also the case for the subdimension leisure. The Netherlands does best in this respect, followed by the United Kingdom and Germany. The gender gap in

leisure is largest in Lithuania, followed by Slovenia, Hungary and Italy. In the overall ranking of the time dimension, Denmark and Finland perform best, while Spain, Greece and Lithuania are at the lower end.

The overall index

In the overall index, scores on all indicators are combined. The index is calculated as the sum of the scores on the subdimensions divided by the number of indicators. Table 5 presents the overall ranking of the EU member states on the basis of this index, with Finland at the top and Greece at the bottom of the ranking. On the basis of these overall scores, it seems possible to cluster the EU member states in three groups, based on their high, medium or low scores on the gender equality index. The first cluster, with scores of 0.60 and higher, includes the countries of north-western Europe, with the Scandinavian countries – namely Sweden, Finland and Denmark – displaying the highest overall performance. The second cluster, with scores between 0.45 and 0.60, includes most countries of mid- and central Europe including France, Germany, Poland, Austria and the Czech Republic. The third and final cluster, with countries scoring below 0.45, comprises most of the southern European countries including Italy, Spain, Malta, Cyprus and Greece.

There are, however, clear outliers. Atypical cases from northern Europe are the UK and Ireland. Both countries score very low on the pay dimension and the scores on political power are not very favourable either. In addition, Ireland scores rather unfavourably with regard to the equal sharing of care activities (although an exact ranking on this dimension is complicated due to the lack of data). As a result, the overall score for the UK and in particular Ireland is rather poor. Portugal is also an atypical case. Whereas the other southern European countries demonstrate low scores, Portugal combines relatively high scores on participation, unemployment and income, with medium scores on pay and socio-economic power, generating a medium score on the overall gender equality index. Table 5 also indicates that the dispersion in gender (in)equality does not change considerably with the entry of 10 new member states as most of them have moderate scores.

Summary and conclusions

Equal opportunities between men and women is a complex issue with many dimensions. An effective

monitoring of the current state of affairs depends on the development of a common set of indicators, signalling strong or weak aspects of a national situation and facilitating the process of evaluation and assessment. Indices, which combine several indicators of gender equality in one single figure, are extremely useful in this respect. However, the well-known UNDP indices such as the GDI and GEM are not appropriate since they do not focus exclusively on gender (in)equality and were developed to compare countries on a worldwide rather than European basis. In this context, the development of a European gender equality index should be seen as an important instrument to promote gender equality.

As an alternative to the UNDP indices we have developed a European Union Gender Equality Index (EUGEI), which is composed of four dimensions. The vision of gender equality that lies behind the choice of the indicators is the universal caregiver model as outlined by Nancy Fraser (1997). In this vision, gender equality implies a change in the lives of both women and men through the promotion of greater equality in the distribution of paid and unpaid work. It also indicates that a full concept of gender equality should take into account the political dimension and an equal sharing of assets. As a result, the term ‘gender equality’ used in this article is conceptualized rather broadly as an equal sharing of paid work, money, decision-making power and time.

The relevance of the index, its feasibility and reliability depend to a large extent on the choice of indicators and the availability of comparable harmonized data. Reliable data sources are scarce, however, especially in the field of earnings, income and time use. In our case, the lack of harmonized European time-use studies proved to be a serious impediment. Extension of harmonized databases beyond the relatively well-charted field of paid employment is absolutely essential in order to produce reliable figures and monitor progress. In principle it should be possible to calculate the index over time in order to monitor progress and to compare, for example, the state of affairs in 1998 with 2005. Yet the lack of comparable, harmonized data on a yearly basis prohibits such monitoring.

With regard to the choice of subdimensions and indicators, it has to be taken into account that some are more sensitive to economic conditions and/or

Table 5 Overall ranking of 25 EU member states on the European Union Gender Equality Index

	Participation	Unemployment	Pay	Income	Political power	Socio-economic power	Care activities	Leisure	Composite index score
Finland	0.91	0.96	0.41	0.96	0.72	0.47	0.85	0.66	0.74
Sweden	0.90	0.98	0.50	0.85	0.90	0.51	0.46	0.68	0.72
Denmark	0.81	0.91	0.34	0.93	0.71	0.32	0.87	0.64	0.69
The Netherlands	0.67	0.93	0.23	0.89	0.70	0.35	0.62	0.78	0.65
Belgium	0.65	0.81	0.44	0.81	0.66	0.51	0.48	0.56	0.61
Latvia	0.80	0.96	0.32	0.81	0.36	0.81	0.46	0.24	0.60
Lithuania	0.84	0.99	0.43	0.78	0.38	0.82	0.46	0.04	0.59
Germany	0.72	0.86	0.16	0.78	0.60	0.42	0.46	0.70	0.59
United Kingdom	0.71	0.92	0.01	0.78	0.33	0.59	0.46	0.70	0.56
Hungary	0.70	0.96	0.52	0.96	0.09	0.60	0.46	0.20	0.56
France	0.73	0.82	0.44	0.93	0.16	0.65	0.48	0.26	0.56
Portugal	0.71	0.81	0.36	0.89	0.36	0.59	0.25	0.45	0.55
Slovenia	0.78	0.90	0.64	0.70	0.16	0.58	0.46	0.18	0.55
Estonia	0.88	0.83	0.12	0.78	0.31	0.66	0.46	0.33	0.55
Luxembourg	0.52	0.76	0.38	1.00	0.41	0.28	0.46	0.45	0.53
Poland	0.70	0.75	0.54	0.56	0.34	0.54	0.46	0.32	0.53
Austria	0.67	0.94	0.13	0.67	0.64	0.39	0.24	0.45	0.52
Czech Republic	0.59	0.67	0.19	1.00	0.27	0.46	0.46	0.45	0.51
Slovakia	0.67	0.83	0.04	0.52	0.26	0.49	0.46	0.45	0.47
Ireland	0.55	0.94	0.14	0.59	0.18	0.51	0.13	0.45	0.44
Italy	0.40	0.61	0.38	0.67	0.14	0.54	0.37	0.21	0.41
Spain	0.41	0.48	0.18	0.33	0.69	0.52	0.10	0.28	0.37
Malta	0.02	0.78	0.19	0.56	0.09	0.09	0.46	0.45	0.33
Cyprus	0.49	0.79	0.08	0.04	0.25	0.04	0.46	0.45	0.32
Greece	0.31	0.08	0.16	0.48	0.18	0.38	0.02	0.45	0.26

policy development than others. The unemployment level, for example, can change rather rapidly because of economic growth or policy change making the gender unemployment gap relatively volatile. In contrast, the gender division of care seems to be much more policy-resistant. If both subdimensions are considered side by side, an improvement in the more slowly changing indicator may be absorbed by deterioration in the more sensitive indicator, while in principle, from a longer-term perspective, the country may have developed towards a more gender-equal society. These considerations emphasize the need for a careful selection of subdimensions and indicators. Debate may also arise because of the operationalization of the subdimensions. In the text, we have already referred to the complexities with regard to the actual measurement of the equal sharing of poverty. However, relatively simple subdimensions such as equal sharing of paid work are also not without debate, as the participation rates can be measured in headcounts or in full-time equivalents. In this respect, it should be noted that in the current design each indicator only weighs an equal eighth of the overall score and changing the actual content of an indicator may not always have major implications for the overall index. Measuring gender gaps in full-time equivalents, for example, has only a modest effect on the overall ranking of EU member states.

With regard to the applied methodology, it should be taken into account that the index as developed in this article focuses on gender equality, measured as the absence of gender gaps with regard to the distribution of paid labour, money, power and time. Gender gaps are standardized in such a way that the values indicate the actual distance towards a situation of full gender equality. It gives no indication whether the actual inequality refers to a 'negative' gender gap (that is, a gap to the disadvantage of women), or to a 'positive' gender gap. Another issue refers to the assessment of developments over time. For example, trends may be difficult to evaluate because the gender gap in, for example, pay can be reduced through an increase in the hourly wages of women or through a decrease in male hourly wages. In short, without information on the background and context, the effectiveness of equal opportunities policy cannot be measured in terms of reduced gender gaps. A score on the gender equality index should therefore not be seen as a final answer, but rather as an encouragement to further research.

Finally, with regard to the results, it appears that full gender equality is still a long way off. The maximum value of EUGEI is 1, which corresponds to a situation of complete gender equality. However, the maximum score does not exceed 0.72, and six countries score below 0.45. The Scandinavian countries of Finland, Sweden and Denmark display the highest overall performance, whereas the southern countries of Greece, Cyprus, Malta, Spain and Italy perform rather poorly. It should be noted that the distance from a situation of complete gender equality differs significantly over the subdimensions. With respect to unemployment, almost all countries score rather well. In contrast, relatively low scores are found for the pay subdimension. Other indicators that highlight a large gap to full equality are care and leisure, although the scores may be distorted by lack of data. From a policy perspective this implies that there is still a world to win if the equal distribution of paid and unpaid work is taken seriously. Full gender equality implies a radical change in the organization of working life, and tackling traditional forms of specialization. Women today often combine paid and unpaid work, albeit with great difficulty. A true gender-equal society should ensure that men do the same, while re-arranging the institutional mix of provisions so as to eliminate the difficulty and the strain.

Notes

- 1 The gender pay gap indicates how many percentage points the earnings of men have to decrease in order to be equal to those of women. From a gender equality point of view it seems more correct to use the earnings of women as a reference point, indicating how many percentage points the earnings of women have to increase in order to be equal to those of men (see Plantenga and Remery, 2006). However, in this article we have chosen to follow the EU definition of the gender pay gap.
- 2 One might argue that legislators are counted twice in this dimension. Yet members of parliament are an important indicator of political power. In addition, they are only a very small fraction of ISCO1. Including them has no impact on the ranking whatsoever.
- 3 For most indicators this results in a rather straightforward calculation of the gender gap. In the case of decision-making power, however, it seems to make more sense to take the share of women in parliament and ISCO1 as such and to define the maximum value (case of equality) as 50%. However, in order to be consistent with the overall methodology, we chose to calculate

gender gaps in terms of the difference between the male and female shares and use a maximum of 0. Note that both methods result in the same z-scores.

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