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**MEASUREMENT OF GENDER DISPARITIES WITHIN OTHER SUBPOPULATION
GROUPS**

Measurement issues and multiple discrimination: gender and ethnicity

Note by the Statistics Netherlands

Summary

In this paper the possible contribution of statistics and statistical offices in establishing the existence and levels of discrimination of groups, focusing on the combination of gender and ethnicity will be addressed. First some conceptual issues and basic principles with respect to measuring gender and ethnicity related inequalities will be addressed by introducing these issues from a statistical point view. Next to that, measurement issues and methodological prerequisites for the statistical assessment of discrimination will be explored. Finally, suggestions on a general strategy to produce internationally comparable indicators on inequality and discrimination will be presented.

I. INTRODUCTION

1. For many years gender equality policies have been kept rather separate from anti-discrimination policies on national as well as international levels. In spite of many points of similarity, this separation existed in various respects. Both topics were not only placed in different governmental portfolios but also promoted by different interest groups or Non Governmental Organisations (NGO). Looking back, one might also conclude that theory development, empirical research and statistics were likewise focussing on either one of these two topics. Considering all grounds of discrimination, for a long time, gender has been a policy area on its own and this generally more so than other grounds of discrimination. Without going more deeply into the question why this might have been so and when this has started to change, one might assess that currently most participants – policy experts as well as researchers - in both fields recognize similarities as well as overlap, thus opportunities for a joint approach.

2. One of the main advisory bodies on the EU-gender policy, the European Union Advisory Committee on Equal Opportunities for Women and Men, can serve as an example of this rapprochement¹. In its ‘Opinion on the gender dimension of the inclusion of ethnic minorities’, produced in November 2007, one of the main considerations is: “The strengthening of the gender mainstreaming measures towards inclusion of ethnic minorities and immigrants has a direct link with the protection of women’s fundamental rights and with the implementation of the international and European legal instruments against all forms of discrimination.” It is recommended to all actors concerned (European Commission, Member States and social partners) take or support initiatives directed at women of ethnic minorities, immigrants and refugees. Specifically, it is recommended also to include the gender dimension in statistics with respect to race and ethnic origin.

II. FROM INEQUALITY TO DISCRIMINATION

3. ‘Gender inequality’ is a very complex concept which can hardly be grasped without an extensive explanation. Gender has to do with various issues in the relations between women and men within specific social contexts (Hedman et al., 1996). Equality can also be interpreted in different ways, such as treating individuals alike, considering only those characteristics which are objectively relevant in that specific situation or looking after equal outcomes for individuals. Both aspects are present by understanding equality as ensuring equal chances for individuals to realize outcomes corresponding to their abilities or efforts (Makkonen, 2007).

¹ Nevertheless, in spite of the combination of various EU policy actions on exclusion and inequality under the general common denominator of the PROGRESS programme, the EU has started the European Institute for Gender Inequality next to the broadening of the mandate of Fundamental Rights Agency (as successor of the European Monitoring Centre on Racism and Xenophobia).

4. In each of these conceptual approaches of gender inequality, there is another dimension that is basic in understanding the inequalities in opportunities or outcomes between women and men: it is very important to be aware of the fact that these differences reflect only a very rough picture of the actual existing inequalities. It might appear that the outcomes of women in a specific social domain are only 90 per cent of those of men. But men and women as subgroups of the population are not homogeneous groups of people. In almost all types of subpopulations there is much within-variation. Thus, the same line of reasoning could be applied to other characteristics than sex. Analogously to different outcomes between men and women, differences in outcomes might exist between ethnic minority groups: imagine as an example that outcomes for ethnic minority persons might be 80 per cent of outcomes for ethnic majority persons. And this is also the mean disadvantage, neglecting the within variation.

5. One first step might be to look at the combination of both characteristics sex and age. Very often the actual outcomes (or opportunities) of persons having a combination of such characteristics are (systematically) lower than the outcomes of persons having only one disadvantageous characteristic. Then the outcomes of ethnic minority women would be reflecting the disadvantages to their being member of both groups with lower outcomes, coming close to what might expected accordingly, thus 90 per cent x 80 per cent = 72 per cent. This example is neither just fantasy, nor some anomaly, but common practice as can be seen in table 1 which shows some figures for ethnic minorities in the Netherlands. The outcomes of ethnic minority women (especially Turkish and Moroccan) are lower than outcomes of ethnic minority men as well as those of native women. See Table 1.

6. But assessing the disadvantages is only the first step. The next step consists of considering the question how these lower outcomes might indeed be ascribed to their just being a women or a member of the ethnic minority or if this difference might be explained. One possible explanation might be that the results are the effect of a third characteristic. It might turn out that the differential distribution of educational attainment in each of the groups might explain the apparent inconsistency of the outcomes for ethnic minority women. Indeed, education of ethnic minority women is actually rather low, but also within the same levels of educational attainment cumulative lower outcomes will still be found for ethnic minority women. I will come back to that later. Thus, for many reasons it is very useful to subdivide groups like men and women or ethnic groups according to other characteristics like age or education, when one is looking at differences in social outcomes. Such subdivisions might give more insight on other underlying variation: the differences in outcomes between women and men might be the result of a general lower level of outcomes of all women or might be explained by the much lower level of outcomes of a smaller subgroup of women. Of course, at some point it might also be that there is no alternative explanation and that one can only assess that those ethnic minority women obtain such lower level of outcomes.

7. Such explanations or interpretations of inequalities are only the first part of the story. Research efforts might clarify the dimensions of inequality and even how inequalities have originated. But another question concerns if inequalities are acceptable². The conclusion might be drawn that some inequalities should be reduced or even disappear, and that policy initiatives

² This question applies also to equalities which could be qualified as insufficiently justified.

should be undertaken to bring about such a change. One of the main decisions in this policy process should concern the question which characteristics are acceptable as justifications of inequalities. Discussions on the weights of various criteria and the need to modify justification schemes are a core issue in politics. As we all know, in this respect countries show large variation. But nevertheless more and more (but very slowly) the main criteria for acceptability of higher outcomes appear to be limited to acquired characteristics with specific relevance like the level of acquired knowledge and skills. Another justification criterion might be the significance of one's contribution to social processes.

8. In practice, one of the basic outcomes of political processes on the national and international level is that it is not possible to compile a limited list of acceptable justifications. It has proven to be necessary to specify various characteristics that are unacceptable - and thus should not be allowed - as justifications of inequalities. Situations in which characteristics like sex, age, racial or ethnic origin, religion or belief, disability and sexual orientation³ are applied as justifications of inequalities are disqualified as discriminatory acts and as infringements on someone's fundamental human rights. But we all know that actual characteristics like ancestry, age, sex or adherence to a specific religion are nevertheless in many countries still important criteria that justify better outcomes; and that even in many countries where discrimination is explicitly not allowed by law, discrimination is common practice in spite of the formal rules.

9. In many direct interactions, it might be very clear when persons are treated different and experiencing disadvantage because of characteristics which are not allowed as justification for such differential treatment. But that conclusion is very often not self-evident in many other situations when the inequality can only be assessed by indirect comparisons (e.g. individual compensation for specific efforts, such as work). Also when sex or ethnicity are not considered as acceptable justifications of differences in social outcomes, such inequalities between women and men or between ethnic groups do still exist. As mentioned before, these might be explained (partly) by underlying differences in characteristics that actually do justify unequal outcomes (like educational attainment). Only when no underlying compositional differences can be assessed which might justify the differences in outcomes, the situation could be qualified as discrimination.

10. If in our example the inequality experienced either by women or by ethnic minority persons could not be justified otherwise, it might be attributed to discrimination by sex, or by ethnicity respectively. Ethnic majority women or ethnic minority men might draw such a conclusion. Considering the equivalent situation of the ethnic minority women, it is less clear what they see as the reason of this unjustified inequality: will they attribute the inequality to their sex, to their ethnicity or to both? One of the decisive factors is their reference group. When comparison of their outcomes takes place with reference to both ethnic majority women and ethnic minority men and it becomes clear that their outcomes are less than both those groups, then the conclusion might be that their sex as well as their ethnic background contributes cumulatively to their disadvantaged position. Various variants of such cumulative positions are occurring.

³ These characteristics are explicitly mentioned in the EU equal treatment directives.

III. DEFINITIONAL ISSUES OF DISCRIMINATION

11. After introducing discrimination in the previous section as a specific type of inequality because of the lack of social justification, here are some definitional issues of various concepts related to discrimination⁴. Out of many variants of definitions will be used the one, formulated by Craig (2007) in which all crucial elements are very clearly indicated. For that reason this definition is very useful as a tool to assess the quality of data sources, especially by evaluating if discrimination has been measured adequately.

12. Craig's model to define discrimination encompasses four essential elements which help to establish the concept:

- (a) an individual or group is in comparison, treated or affected differently than the comparator;
- (b) the difference is disadvantageous to the individual or group;
- (c) the difference in treatment or effect is causally linked to a characteristic of the individual or group protected by anti-discrimination legislation; and
- (d) there is no exception or justification permitting the difference in treatment or effect.

13. Compared to many other definitions, Craig prefers to link the concept directly to existing legislation which excludes mentioning specific characteristics as justification for difference in treatment or effect.

A. Multidiscrimination

14. The concept of discrimination is not restricted to individuals or groups where the causal linking of the difference in treatment or effect refers to only one characteristic, but is easily applicable to individuals or groups having two or more characteristics (grounds) to which disadvantage might be attributed. Recently, more understanding is demanded for the specific problems of victims of discrimination on more than one ground⁵.

15. Generally very different names were in use for this situation and its various modes. Makkonen (2002) has done a rather successful attempt to create some conceptual clarity, but without proposing a distinct term for an unequivocal all-inclusive concept⁶, for which will be introduced here 'multidiscrimination'. When the disadvantaged person is a woman from some ethnic minority group, the following variants of multidiscrimination might occur:

⁴ See also Olli & Olsen (2007). As participant in the project Common measures for Discrimination I owe much to the discussions that took place within this international project.

⁵ Illustrated e.g. by the first European conference on Multiple Discrimination, which was held in Elsinore, Denmark on 6-7 December 2007

⁶ Makkonen suggests the same expression 'intersectional discrimination' for one specific type as well as for the sum of all types of discrimination which result from discrimination experienced on more than one ground.

- (a) Multiple discrimination, when she suffers discrimination from either sex or ethnicity on different times. The comparator will depend on the relevant ground of discrimination: either men either members of the ethnic majority.
- (b) Compound discrimination, when she suffers discrimination on both grounds at one particular instance, adding to each other and thus having more effect (e.g. lower level of outcomes) than both ethnic minority men and ethnic majority women. Theoretically this should be the result of comparison with all others at the same time, but who actually will be the comparator in this situation is less clear.
- (c) Intersectional discrimination, when she suffers discrimination in which both grounds interact concurrently, resulting into specific outcomes which are not experienced by either ethnic minority men and ethnic majority women; one could think of particular stereotypes or the disadvantageous consequences of specific cultural practices.

16. The same types of multidiscrimination might also be described by using the concepts comparative and membership group, originating from the classical reference group theory. In the case of multiple discrimination, her comparison group will depend on the relevant ground of discrimination: either men either members of the ethnic majority and the same holds for the membership group (either women or ethnic minority companions). Compound discrimination demands to consider also ethnic minority men and ethnic majority women as comparative reference group, and the selection of the actual membership group might be a strategic choice between these same two groups. The comparative reference of compound and intersectional discrimination will be equal, but the membership group is defined uniquely by the intersection of sex and ethnic minority. Only ethnic minority women are experiencing similar effects of discrimination.

B. Typologies of discrimination

17. When considering the measurement of discrimination, it is necessary to give attention to some typologies of discrimination, which are generally applied and have far reaching implications for measurement methods as well as interpretation (Olli & Olsen, 2006). The first typology consists of objective and subjective discrimination.

17. *Objective discrimination* is discrimination that is established based on criteria that are unrelated to subjective experiences. For example, less pay for the same or comparable work is an example of objective discrimination. As such, objective discrimination is about unjustifiable differences in outcomes. Very often objective discrimination is assessed by the use of statistical data on outcomes and other relevant characteristics of the relevant population: the size of the measured disadvantages result from analyses in which neutralisation of the effects of underlying alternative explanations is aimed for⁷.

⁷ For this concept one often uses the term '*statistical discrimination*' but this term is also used in a more specific meaning in economic theory to explain human capital decisions (introduced by Arrow in 1972).

18. *Subjective discrimination* refers to the experience by the person of being discriminated (himself); it's also often mentioned '*experienced discrimination*'. Often subjective and objective discrimination will go hand in hand, but they do not need to: a person might not notice that he or she is subjected to discrimination; or he/she may falsely believe that discrimination occurs or is inherent in a specific situation. Complaints handled by equality and anti-discrimination bodies or court cases often start with the victims' subjective experience of discrimination, and the relevant bodies proceed to establish the degree of objective discrimination in legal terms.

19. Next to these two categories, sometimes *perceived discrimination* is mentioned here as separate category, which is closely related to subjective discrimination. It refers to the experience of someone who observes that other persons are discriminated without being himself victim of discrimination.

20. Another relevant typology consists of direct discrimination and indirect discrimination. The recognition of the possibility of indirect discrimination in the EU-directives⁸ is considered as very important for judicial practices, because resulting outcomes might be qualified as discriminatory without being the result of applying explicitly unacceptable allocation criteria.

21. *Direct discrimination* occurs when differential treatment is directly connected with a person's association with one of the protected categories (as mentioned in anti-discrimination legislation). It involves the less favourable treatment on prohibited grounds of an individual compared to someone else in comparable circumstances. The difference in treatment may, however, be justified if objective and reasonable explanations are given and if the differential treatment is proportionate to the legitimate aim pursued. Both the justification test and the proportionality test must be fulfilled in order for the treatment not to amount to discrimination.

22. *Indirect discrimination* occurs when measures, such as a provision, criterion or practice, appear to be neutral, but has a disadvantageous impact on a particular group of people identified e.g. on race or ethnic origin.

23. One last concept that should be mentioned shortly because of its frequent use is *systemic discrimination*, which stems from organisational, administrative or cultural structures. This kind of discrimination may be detected in processes, attitudes or behaviour which amount to discrimination through prejudice, ignorance, thoughtlessness or stereotyping, expressed or manifested in jokes, conversations, attitudes or actions of individuals throughout an organisation or other structure. The two forms of discrimination explained above as direct and indirect discrimination include systemic discrimination or may be reflected as systemic discrimination.

⁸ Council Directive 2000/43/EC of 29 June 2000 implementing the principle of equal treatment between persons irrespective of racial or ethnic origin ('Racial Equality Directive') and Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation ('Employment Equality Directive').

IV. RISK GROUPS AND THEIR CATEGORIZATION

24. As mentioned before, discrimination could be assumed in theory when persons receive different treatment or effects which are not justified by specific allocation criteria. In practice, discrimination takes place when the conclusion is sufficiently strong that disadvantages have been suffered by persons or groups having different characteristics along specific dimensions, like racial or ethnic origin, religion or belief, disability, age, sexual orientation (and sex) which are specified as discrimination grounds. For each of these grounds of discrimination one might specify which groups of people are at risk of being discriminated against within different contexts on the basis of that ground. For each of these risk groups one might assess the size of the risk to become a victim of discrimination. In this way, one might specify which population groups can be qualified as having a high discrimination risk⁹.

25. Legislation hardly provides any information on the classification of persons. Thus, starting from the specification of the grounds of discrimination, there is a measurement and classification challenge. This challenge has national as well as international dimensions. In practice, the task to measure and classify the groupings of racial or ethnic origin has proven to be very difficult, while the equivalent problem with respect to sex (women versus men) has met not too many obstacles. It should be noted that there is no consensus on the concept of racial and ethnic origin. Generally the notion is that race and ethnicity are social constructs based on observable characteristics (skin colour, dress-code, diet, name) that have acquired social meaning (Banton 1983; Blank et al 2005). The social meaning given to these classifications activates beliefs and assumptions about individuals in a particular category. The categorisation can create a social reality, regardless of a person's physical characteristics, that can have real consequences. In Table 2.1, the matrix of Harris (2002)¹⁰ is useful as an example to illustrate the complex social construct of race and ethnicity.

	ANCESTRY	PHYSICAL CHARACTERISTICS	CULTURE
Internal	I know that my background is X	I know that I look X	I know that I feel/act X
Expressed	My background is X	I look X	I feel/act X
External	He/she has a X ancestry	He/she looks X	He/she acts X He/she thinks he/she is

⁹ According to the formal approach one should account for the fact that the risk is above zero for everybody, and that disadvantaged persons might also be e.g. a man from the ethnic majority population. But in many research projects this is no common practice. It might be considered as a difficulty of statistical approaches of discrimination that such special cases will generally be overlooked.

¹⁰ Reproduced from Olli & Olsen (2006)

26. Each of the cells in this matrix can be interpreted as contributing to the identification of interacting persons as someone at risk of being discrimination¹¹ and thus as underlying basis for the measurement and classification as such.

27. In international expert meetings¹² self-identification is generally considered as the appropriate way to collect data on ethnic classification. It allows individuals to express their own ethnic or racial identity. Others will argue against self-reporting of identity. They believe that if official statistics are used to monitor discrimination and enforce equal treatment, this data should reflect the observers' report of an individual ethnicity. After all, people are more often discriminated against on the basis of observers' beliefs – irrespective of their self-definition. Data sources with different measurement concepts like these are largely incomparable. Another even more important source of incomparability will be the dissimilarities between classes of racial and ethnic origin. The differences between classifications as a whole or variation in specification in parts of them might have well-considered causes (such as: this minority group is too small to measure and should only be classified as part of some aggregate grouping), but the result is still incomparability when other sources are using other guidelines.

28. How might it be possible to have international comparable research projects on racial or ethnic origin considering these classification problems? Recommendations from several projects - like the Common Measures for Discrimination project (Olli & Olsen, 2006) or the BPI-project (2008) - are pointing in more or less the same direction: do not try to reach international consensus on the full specification of these classifications. For national purposes it is very important to specify the grouping dimensions and to harmonize measurement as well as classifications as far as possible in as many data sources as possible. For international purposes it might often be sufficient to make clear that the classification concerns racial or ethnic origin and next to that, it might be useful to agree on some general or basic principles like the number of groupings (possibly depending on the size of the population group and/or the sample size) and maybe on the use of two or three measurement methods (self-identification as well as ancestry related methods). Considering that the specification of discrimination is formulated as grounds and not as specific groupings, international comparison might take the shape of unspecified instances of those grounds. Recently the BPI-study has presented some recommendations on the procedural steps that might be taken as preliminary stages to such an approach.

V. MEASUREMENT TOOLS

29. Assuming that decisions on the choice of risk populations have been taken, conditional under international agreement on the minimum requirements, it should become clear which methods and measurement tools will be used to assess the level of discrimination. Just as the decision on the risk populations, the preferences on measurement design and the types of data collection will be strongly affected by common practices in countries. Some countries depend

¹¹ One might also use this matrix as a tool to classify the mutual (rightly or wrongly assumed) images of actors in interaction situations: one actor might assume that the other looks X, while the other actually is not doing that.

¹² E.g the Durban declaration and programme of action which stem from the UN World Conference against Racism, Racial Discrimination, Xenophobia and Related Intolerance held in South Africa in 2001. <http://www.un.org/WCAR/durban.pdf>

largely on the use of registers while in other countries large surveys are common practice while registers are hardly available in general, and maybe not at all for data on ethnic groupings.

30. When in some country registers or census-like surveys are available containing the relevant information on risk populations and social outcomes, in some degree the measuring objective discrimination might be within reach. Without using surveys it will be hardly possible to measure subjective discrimination; only if registration practices are highly developed and if victims are very much inclined to report experiences of discrimination and if also sophisticated methods are available to link these data sources and to ascertain that these assumptions are valid, one might attempt to estimate experienced discrimination from register data.

31. When only surveys are available as data sources, the rather low relative frequency of discrimination experiences together with small sizes of high-risk populations might cause complications: the sample size of surveys might be too small to produce reliable estimates of either objective or subjective discrimination, assuming that measurement instruments (e.g. validated questions or scales) are available and applicable. The relative frequency of reportable discrimination will generally not impede the measurement of perceived discrimination, but then the validity of the measured discrimination will be the more serious problem. An advantage of surveys with large samples could be that both objective and subjective discrimination could be measured in the same survey.

32. Next to the use of surveys and population registers more data sources and research methods could be used to assess the prevalence of discrimination. Experimental designs in laboratory settings could be designed to measure discrimination: very specific questions on various aspects of discrimination could be examined under very strongly controlled conditions. The disadvantage is generally that unless almost unlimited resources are available, the small variability in conditions and the small scope of the research problem restrict highly the generalisability of the results. Situation testing is very much akin to this approach and might be qualified as an experimental design in a field setting. Examples are to study how the chances of people who only differ in the relevant risk group characteristic, will differ in applications to jobs or in admittance to restaurants or clubs. Although experimental methods like these are unequivocally measuring discrimination and thus very valid, they can only be applied to a small range of situations where discrimination might occur.

33. Registers of complaints and legal cases might also be considered as data sources of discrimination. When persons consider themselves (or even others) as victims of discriminatory treatment and take action to report this incident somewhere (NGO or police), this should be considered firstly as subjective experienced discrimination. One of the consequences of the investigation of the facts of the incident might make the discrimination more and more objective. One might say that recognition of discrimination in court or in mediation between complainant and accused implicates objectification of the experienced discrimination.

A. Measuring objective discrimination

34. When the objective is to measure the level of objective discrimination the approach is more or less the same when either registers or (large) surveys would be used. One should define the outcomes to be measured and decide which alternative explanations could account of different outcomes of the relevant high risk groupings and the reference groups. Actually, this

implicates that in order to know which explaining elements should be excluded one should have a theoretical model (and measurement model) which explains how the specific outcomes might be attained. One might say that the objective is to compare the following models:

$$Y_y = f(x_1, x_2, \dots, x_i, x_r) \quad (1)$$

$$Y_n = f(x_1, x_2, \dots, x_i) \quad (2)$$

35. In both models one tries to explain the outcome Y by the relevant elements x. In (1) there appears to be a significant effect of the risk group characteristic x_r which might justify the conclusion that discrimination has some effect on the outcomes, while in (2) the risk group characteristic x_r is considered to be irrelevant. In practice complete specification and perfect measurement are illusions, from which it follows that support of model (1) by the available evidence from registers or surveys justifies only very tentative conclusions. Generally, this uncertainty is presented by the expression that the differences in outcomes between the risk groups can be partly ascribed to non-discriminatory factors. The composition of various risk groups with respect to factors which allow different outcomes, might be different. But not all differences in outcomes between risk groups can explained and partly these differences can only considered as an unexplained rest, which might for the time being be interpreted as possibly related to discriminatory treatment.

36. The analyses with respect to multidiscrimination might be very similar when it can be assumed that the same alternative explanatory factors might be used in the model. This might be a strong assumption, but to illustrate the analytic approach to multidiscrimination I hold to that assumption here.

$$Y_y = f(x_1, x_2, \dots, x_i, x_r, x_s, x_{rs}) \quad (3)$$

37. The model to be tested might be expanded by two factors, one representing the second discrimination ground (e.g. sex next to ethnicity) and another representing the interaction between both discrimination grounds. Multiple discrimination can be represented as the model, in which $x_{rs}=0$ because not both factors are effective in the same situation; compound discrimination can be represented by the model in which $x_r \neq 0$, $x_s \neq 0$ and $x_{rs} \neq 0$, thus both grounds as well as their interaction are effective; and finally, intersectional discrimination might be represented by the model in which $x_r=0$ and $x_s=0$ while $x_{rs} \neq 0$ because the experienced discrimination is qualitatively different from what might be experienced by non-intersectional groups.

38. Various statistical analytical approaches could be applied to test the models. One well-developed example is the decomposition method developed by Oaxaca for measuring wages discrimination. The method as modified by Fairlie to be applied on dichotomous dependent variables was used in the analyses of various socio-economic indicators in a study in the Netherlands on ethnic discrimination in the labour market (Dagevos et al., 2007). The results of the analyses can be directly presented as the share of the difference compared to the reference group which can be explained by specified variables together with the unexplained share of those differences (figure 1). In this analysis the researchers decided that the determinants of participation to the labour market for women are so much different from those for men that they could not account estimating a common model, For that reason they estimated the models for

women and men independently which should be taken into account in the interpretation of the figure.

B. Subjective discrimination

39. The problems in measuring subjectively experienced or perceived discrimination are different from those in measuring objective discrimination. Applying standard methodological approaches to evaluate the quality of the measurement tools by assessing their reliability and validity would be the adequate path to follow. The core problem with respect to subjective discrimination has not so much to do with the measurement quality, but particularly with the question if the opinions or the reported experiences are actually veracious¹³.

40. The respondent reporting experienced or perceived discrimination is also the source of information on the relevant discrimination ground. Analogously we might say that the qualification of the reported discrimination incident as some specific type of multidiscrimination is fully dependent on the respondent, assuming that the researcher had taken care of the possibility to report various types of multidiscrimination in the measurement instrument. With respect to the measurement of multidiscrimination, it might be important to include measures of the frequency of experienced discrimination related to specific grounds.

C. Measurement tools: an overview

41. With respect to the use of the main measurement tools of discrimination to estimate the size (and maybe also the impact) of discrimination, which I introduced and discussed shortly, particularly two questions are relevant as evaluation criterion: 1) does the tool allow us to assess the occurrence of discrimination unequivocally; 2) does the tool permit to generalise the measurement results. The answers to these questions are very dependent on the degree to which the researcher can control the composition of the sample or population as well as the degree to which the researcher can control the range of situations in which discrimination might be assessed as present. In the Scheme 1 in Annex it has been presented the measurement tools, which were mentioned above, along those dimensions.

42. Considering this overview one might arrive at the pessimistic conclusion that measuring discrimination by using those tools is a mission without any hopeful perspectives, because all measurement tools are too limited to provide an unequivocal assessment of the state of affairs. I prefer the more optimistic conclusion that all these various tools are available to shed some light on different aspects of the problem: we should look for optimising strategies by which we can combine these different partial views together to get nearer to the full picture. One important element of any such strategy is the maximal harmonisation of the measurement of background characteristics as recorded or measured in either registers or surveys (Olli & Olsen, 2006).

¹³ This problem might also be qualified as a validity problem.

VI. AIMING FOR INTERNATIONAL COMPARABILITY

43. Although many imperfections might cling to the strategy which was designed in the last section, it might nevertheless bring us closer to the ultimate aim of assessing the size and impact of discrimination in the national context. The aim to achieve international comparability in some degree seems still completely out of reach. One is inclined to draw the conclusion that the accumulation of incomparabilities is too difficult to overcome: next to the differences between countries with respect to risk groupings and their classifications, other aspects are incomparable as well. The outcomes and their relevant allocation criteria are different; legislation and procedures vary in many respects as well as the tools to measure these outcomes or to assess experienced discrimination; the opportunities to complain on discrimination are dissimilar and so on. Thus, how would it be possible to think of any comparability of any indicator on the inequality for specific risk groupings on some discrimination ground in different country?

44. Before any attempt to bring international comparability closer, it should be acknowledged that there are so many complexities to be surmounted, that only anticipating to take some small steps in a very long route can be hoped for. And these first steps are the most difficult ones, because they include the choice of a specific direction. So our ambitions should be modest: the loss of some information should not trouble us when this might enlarge the chances to produce somewhat more comparability.

45. The main starting point lies in the apprehension that the objective should be the comparability of indicators of inequality which should:

- (a) Be as independent as possible from measures of absolute levels (multiplicative inequality measures are less sensitive than 'subtractive' inequality measures);
- (b) Make it easy to interpret inequality measures as much as possible as discrimination indicators;
- (c) Implicate only low requirements on the knowledge of users to interpret the indicators as well as their (in)comparability.

46. It is possible that the use of an odds ratio indicator might fulfil all requirements summed up above. As an illustration, table 2 is a reinterpretation of table 1, presenting inequalities by giving the shares of persons in favourable conditions, to a table containing odds ratios (OR's). Odds are chance relations defined as $p/(1-p)$, where p stands for the chance that some condition is valid (e.g. persons receiving some specific outcome), while $(1-p)$ stands for the chance that the condition is invalid (persons not receiving that outcome). Odds ratios reflect the relative size of odds expressed as the quotient of two odds.

47. By using binary presentation of outcomes (e.g. being either or not deprived), one might indicate the situation of a specific population group (e.g. native men) by its odd $6/(100-6)=0.0638$. The same can be done for native women: $21/(100-21)=0.2658$. The next step would be to compute the ratio of both odds (which will be 4.16) as an indicator of the disadvantaged position of native women and thus as indicator of the relative inequality of women compared to men. In the same way the odds ratio's might be computed for all populations groups compared to native men, who are used as reference group.

48. It is very easy to conclude from the computed odds ratio's that almost all groups have a disadvantaged position¹⁴ in comparison to native men at all four domains. Not only the inequality of each of the groups compared to native men is clearly visible, but it's also possible to interpret the much larger disadvantage suffered by women of foreign origin as multiple inequality.

49. The variation of the inequalities in the table cannot be accounted for directly by the foreign origin itself. Various other explanations might and should be considered as possible explanations before the differences could be attributed to characteristics like sex and foreign origin themselves, which actually are not allowed as justification for differences (because just that is qualified as discrimination). In table 3 showed an example of such an analysis in which OR's have been computed for the ESS 2002 and 2004 survey samples, held in 26 European countries.¹⁵

50. For the total pooled sample the odds ratio's were computed with respect to 'not having a paid job (1+ hours)' related to the dimensions sex (women/men) and foreign origin (native, western, non-Western)¹⁶. In the simplest model 1 the odds ratio's have been computed without accounting for any other factor, just as in table 2. The relative position of western and non-western men is not significantly different from native men, while the relative disadvantage of women compared to native men with respect to employment is clearly visible. There's no multiplicative inequality visible. The small value of the Nagelkerke R^2 (only 2,4 per cent) suggests that many other explaining factors will be relevant to account for the existing variation.

51. The models 2 to 5 are stepwise extended versions of the same model by adding age (model 2), level of education: higher or lower (model 3), urbanisation of the domicile (model 4) and the presence of young children in the household (model 5). The odd ratio's for sex and foreign origin in each model are clearly changing after adding variables to the model. The most extended model 5 is explaining substantially more employment variation (Nagelkerke R^2 =25.4 per cent). After taking account of the alternative explaining effects by adding them to the model the disadvantages attributable between risk groups are actually larger than in the simple model. The largest differences are those between men and women while those between native/western

¹⁴ To facilitate the interpretation of OR's as disadvantage the percentages NOT having a paid job were used in the computations. One might even use the product of the paid job OR's of native women and Turkish/Moroccan men (5.48 and 6.44) compared to the actual OR's of Turkish respectively Moroccan women without a paid job as reason to raise questions why the inequality appears to be higher than to be expected from both the inequalities visible for native women and men of foreign origin.

¹⁵ The European Social Survey [ESS] is a biennial cross-sectional survey that monitors Europe's social attitudes, social beliefs and values and how they change over time. Most fieldwork for Round One of the survey took place in 2002 and fieldwork for Round Two took place in 2004. In the first round of the survey a total of twenty-two countries participated, including all European Union member states. This increased to twenty-six countries in Round Two.

¹⁶ For these analyses micro data were used, but another attractive feature of logistic analysis is that it might also be applied on aggregated data (on the condition that cumulative breakdowns of the dependent variable are available for all explaining variables).

origin versus non western origin are much smaller. The multiple disadvantaged positions of non-western women is also clearly visible.

52. For the issue here at stake, it is especially relevant to conclude that the same type of inequality indicator (OR-ratio) might be used to characterise the remaining inequality after taking account of other relevant variables, which comes very near to the need for an indicator of discrimination.

53. One could also apply the same procedure for other, but similar risk group characteristics on the dimension ethnicity. When foreign origin is not used but instead of that an alternative measure, viz. the answer on the question whether one is belonging to some (unspecified) ethnic minority group, the same stepwise procedure could be used. Model 6 and 7 present the simple and the final model: the simple model 6 shows actually differences between women and men, but not along the ethnic minority dimension, while the final model 7 shows differences along both dimensions and also cumulative effects for ethnic minority women. The same has been illustrated for the dimension citizenship as well as for the dimension 'combined minority' which is actually the product of the three other variables (yes = non-western + non-citizen + belonging to ethnic minority). The effects of both last variables are less strong but in the same direction. See table 3.

54. Considering the results of these analyses on the pooled data set, one could also imagine that OR's could be computed for different countries having different definitions/ measurement methods of the risk group variables within the dimension reflecting some specific discrimination ground (like here race/ethnicity), for different outcome variables (like not having paid work in this analysis) and for various degrees of correction of alternative explaining variables. It would be naïve to assume that direct and full comparability might have been reached then, but the method might provide signals that have a certain degree of plausibility and comparability. Table 4 illustrates the possible result for the countries in the ESS by using the same ethnicity characteristic (confirming belongingness to some ethnic minority). The same simple and final models of the pooled ESS-data were also applied here for the separate countries.

55. The relation between belonging to an ethnic minority and not having paid work is varying among countries. Especially among men there is hardly any significant difference. This might partly be caused by the small numbers of observed persons describing themselves as belonging to minorities in the relatively small ESS-samples (varying from some 500 to 5000)¹⁷. Only in Denmark and Czech Republic significant less men from ethnic minorities have paid work than the rest of the population, while the inverse situation exists in Greece and Poland: in those countries significant more ethnic minority men have paid work. After taking account of the earlier mentioned explaining variables, the picture is still more or less the same apart from the fact that the Netherlands have taken the place of the Czech Republic.

56. The pattern for women is more consistent and differences are significant for more countries. In many countries minority as well as non-minority women have higher chances to be

¹⁷ Another factor might also be the selectivity of the response: lower response of social excluded or isolated groups might cause bias with respect to information on participation on the labour market.

without paid work (compared to the reference group of non-minority men) almost everywhere and in quite a lot of countries multiple inequality is visible. In the greater part of countries the correction by the multivariate model has small rising effects for the OR's of non-minority women, but larger effects for the OR's of minority women and thus increases of the multiple inequality. The consistency in the pattern might partly be attributable to shared norms on gender roles in non-minority as well as minority populations and the cumulative effect for minority women might be the result of more traditional views on gender roles. One might wonder in which degree this will be experienced as multiple discrimination. For that reason having paid work might be less adequate as general indicator of inequality or discrimination.

57. As an illustration the simple model OR's are also presented for 'perceived' discrimination as measured in the ESS¹⁸. Non-minority women hardly more often perceive discrimination against themselves than non-minority men, apart from Sweden and Iceland. The ethnic minority women as well as men describe themselves much more often as discriminated group but on this measure there seems to be hardly any multiplicative effect for ethnic minority women. Poland is an exception by the small share of ethnic minority women, perceiving discrimination. The missing relations between these OR's and the OR's with respect to paid work, especially among non-majority women, might indicate some doubts on the adequacy of having paid work as an indicator for multiple discrimination. It might also bring to light that it is common to interpret 'discrimination' as an ethnicity-related more than a gender-related practice.

VII. CONCLUSION

58. After some introductory explanation on several basic concepts related to discrimination as a specific manifestation of inequality, I have discussed some measurement problems of these concepts. Measuring the prevalence and size of discrimination is only possible when a number of strong assumptions have been fulfilled, especially when international comparability is the objective. In this paper I have proposed a general strategy to measure inequality, also its discriminatory variant, although some losses of information have to be accepted in this strategy. Information on the absolute level of social outcomes and detailed information on the degree of inequality have to be accepted as the price to pay to avoid the incompatibility of concepts and the incomparability of classifications.

59. The general principle is:

- (a) Target values of outcomes should be derived from policy objectives which can be used to dichotomize goal variables in data sources. Inequalities between risk populations might then be assessed by considering the proportion of each risk population above and below this target value. When the target value might be interpreted as a real threshold value, this enlarges the policy relevancy, but it might be a rather arbitrary value along the outcomes dimension (e.g. the median value in the population)¹⁹;

¹⁸ This is done by the question: Would you describe yourself as being a member of a group that is discriminated against in this country.

¹⁹ Setting a target value might be possible on national as well as international level (e.g. in the indicator subgroups on labour market or on social policy). Because of the problems of

- (b) Circumnavigating the (international) incomparability of the specific risk groupings by allowing undefined categories along the dimension related to some specific ground of discrimination (e.g. race or ethnicity). On the national level harmonised measurement of risk grouping in various data sources is nevertheless very strongly recommended, but harmonisation between register data and survey data might also be too difficult to achieve on national level;
- (c) The possibility to circumnavigate the international exact definition and measurement problems of the inequality criterion (outcome or experienced discrimination etc.) by using only some unspecified (binary) national indicator which might be explained as threshold indicator of inequality in general. Some internationally harmonised indicator would be preferable, but is not necessary. Having paid work yes/no might have been an example, but is probably not fully adequate as indicator of outcomes because it has too many relations with other elements like cultural norms (e.g. gender roles);
- (d) Using the OR's in inequality analysis might open the opportunity to use them as proxy indicators of discrimination by taking in account relevant alternative explanations of inequality; OR's reflecting the remaining inequality attributable on some binary criterion comprehend some basic comparability for different models; one should hold to the condition that the explaining elements in the model should be mentioned to give opportunity to the users to facilitate interpretations and thus raising plausibility of the underlying model²⁰;
- (e) Using OR's does not necessarily require the use of microdata: an attractive feature of logistic analysis is that it might also be applied on aggregated data (on the condition that cumulative breakdowns of the dependent variable are available for all explaining variables).

60. The use of OR's in this strategy goes together with some loss of information (e.g. more details in the outcome criterion) compared to more sophisticated methods like Oaxaca-based methods. But it is an acceptable price of more simplicity and more easily attainable comparability. In spite of the fact that the illustration of the general principle described here met some complications because of the use of 'having no paid work' as outcome indicator and the small sample sizes of the ESS-data on country level, I hope that the illustration of the approach has been sufficiently and clear. After some investments in searching better candidates as outcome criterion on inequality (in available data sources), more tests in the near future might (and will surely) show the advantages of using this approach as a tool to produce signals of (changes in) inequality and discrimination.

international incomparability in this respect limitation (for the time being) to only national target values, thus national indicators, is suggested in this context.

²⁰ Moreover it is simply possible to extend the explanation of the indicators by giving more information on the analytic procedures, e.g. by showing the size of the effects following the introduction of other variables in the stepwise regression it is possible to inform users on the relevance of alternative explanations of the inequalities.

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VII. ANNEX. TABLES AND FIGURES REFERENCED IN THE TEXT

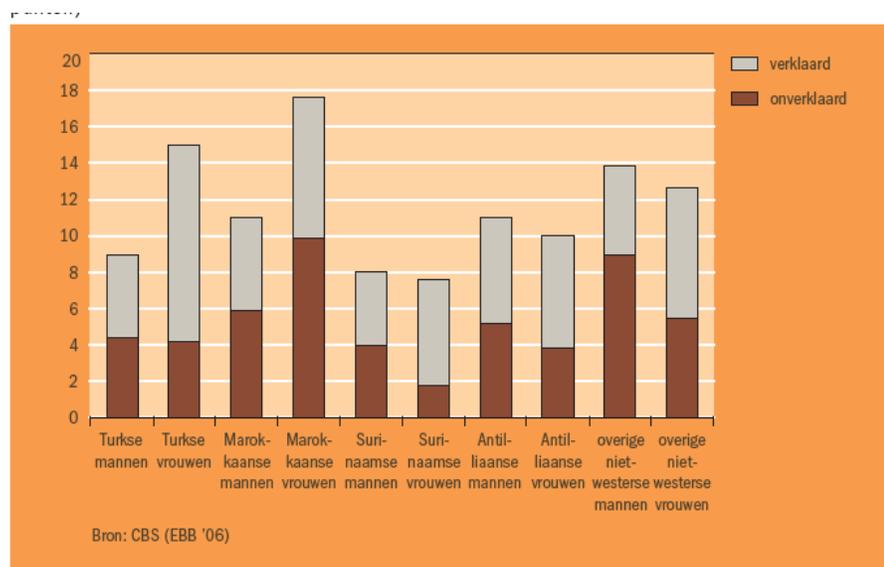
Table 1. Percentages persons in various socio-economic conditions by sex and foreign origin, 2004/2006)

	Paid job (12+ hours)		Dependent on benefit		Unemployed		Deprived	
	m	f	m	f	m	f	m	f
Native	76	58	14	13	3	6	6	21
Turks	57	30	27	32	12	21	25	56
Moroccans	53	23	30	28	15	23	32	57
Surinams	65	55	20	25	11	14	17	23
Antillians/ Arubans	60	51	21	28	16	18	15	28

Deprived = low educated + no paid job + low income

Source: Keuzenkamp & Merens (2007)

Figure 1. Unemployment differences between men with native and foreign origin and between women with native and foreign origin, divided in the explained (grey) and the unexplained (red) part (independent analyses for men and women, 2006).



Source: Harris 2002

Scheme 1. Measurement tools

Data source	Control on risk population	Control on range of situations and events	Valid assessment as discrimination	Possibility to generalise
1) Laboratory experiments and situation testing	Yes	Yes	Yes	Only to specific situations
2) Outcomes via registrations and population surveys	Yes	Partly, by using explicit specification in data collection	Partly	Conditional on specification and measuring other relevant allocation criteria
Surveys on experienced discrimination	Yes	Partly, by using explicit specification in data collection	No	Many doubts on relation between reported experiences and actual frequency discrimination
Surveys on perceived discrimination	No	No	No	Very many doubts on relation between reported perceived incidences and actual frequency discrimination
Complaints and legal cases	No	No	Yes	No

Table 2. Odd ratio's of persons reflecting relative inequalities in various socio-economic conditions by sex and foreign origin, 2004/2006)

	Paid job (12+ hours)		Dependent on benefit		Unemployed		Deprived	
Native	1.00	2.29	1.00	0.92	1.00	2.06	1.00	4.16
Turks	2.39	7.39	2.27	2.89	4.41	8.59	5.22	19.94
Moroccans	2.81	10.60	2.63	2.39	5.71	9.66	7.37	20.77
Surinams	1.71	2.59	1.54	2.05	4.00	5.26	3.21	4.68
Antillians/ Arubans	2.11	3.04	1.63	2.39	6.16	7.10	2.76	6.09

NB: Native men are used as reference population

Table 3. Odd ratio's reflecting relative inequalities in employment by sex and foreign origin.

	men	women	Nagelkerke R2
Model 1 (simple)			0,024
native	1,000	1,714	
western,	0,919	1,588	
non-western	1,020	1,563	
Model 2 (+ age)			0,131
Native	1,000	1,716	
western,	0,945	1,628	
non-western	1,290	1,940	
Model 3 (+ age + education2)			0,197
Native	1,000	1,716	
western,	0,996	1,740	
non-western	1,263	1,972	
Model 4 (+ age + education + urban)			0,201
Native	1,000	1,710	
western,	0,967	1,693	
non-western	1,211	1,888	
Model 5 (+ age + education + urban + young child at home)			0,254
native	1,000	1,900	
western,	1,001	1,942	
non-western	1,315	2,280	
Model 6 (simple)			0,023
not belonging to ethnic minority	1,000	1,701	
belonging to ethnic minority	0,955	1,651	
Model 7 (+ age + education + urban + young child at home)			0,253
not belonging to ethnic minority	1,000	1,881	
belonging to ethnic minority	1,139	2,627	
Model 8 (simple)			0,024
Citizen	1,000	1,694	
non-citizen	0,692	1,367	
Model 9 (+ age + education + urban + young child at home)			0,253
Citizen	1,000	1,878	
non-citizen	0,799	1,924	
Model 10 (simple)			0,023
not minority (combined)	1,000	1,701	
minority (combined)	0,955	1,651	
Model 11 (+ age + education + urban + young child at home)			0,253
not minority (combined)	1,000	1,888	
minority (combined)	1,086	2,118	

NB: native, non-ethnic, citizen or non-minority men are reference population

Table 4. Odd ratio's reflecting relative inequalities in employment by sex, belongingness to ethnic minority and country.

Country	ethnic minority	paid work sec		paid work corr		ass discr	
		male	female	male	female	male	female
Austria	no	1,000	<u>1,391</u>	1,000	<u>1,657</u>	1,000	0,973
	yes	1,089	1,403	1,276	<u>1,836</u>	8,367	<u>4,469</u>
	Nagelker	0,009		0,249		0,058	
Belgium	no	1,000	<u>1,867</u>	1,000	<u>2,193</u>	1,000	0,773
	yes	1,360	<u>2,567</u>	1,567	<u>4,176</u>	9,488	<u>7,990</u>
	Nagelker	0,032		0,305		0,060	
Switzerland	no	1,000	<u>1,905</u>	1,000	<u>1,766</u>	1,000	1,352
	yes	0,850	<u>1,674</u>	0,837	<u>1,909</u>	14,350	<u>13,940</u>
	Nagelker	0,033		0,297		0,125	
Czech R	no	1,000	<u>1,800</u>	1,000	<u>1,820</u>	1,000	0,980
	yes	1,660	<u>2,960</u>	1,333	1,879	11,546	<u>11,182</u>
	Nagelker	0,030		0,329		0,069	
Germany	no	1,000	<u>1,459</u>	1,000	<u>1,505</u>	1,000	0,829
	yes	0,856	<u>1,892</u>	0,825	<u>1,723</u>	8,590	<u>9,535</u>
	Nagelker	0,013		0,286		0,079	
Denmark	no	1,000	1,316	1,000	<u>1,410</u>	1,000	0,967
	yes	2,315	<u>1,531</u>	3,272	<u>2,644</u>	6,417	<u>14,000</u>
	Nagelker	0,008		0,312		0,052	
Estonia	no	1,000	<u>1,398</u>	1,000	<u>1,640</u>	1,000	0,888
	yes	1,021	<u>1,543</u>	1,310	<u>1,737</u>	8,909	7,129
	Nagelker	0,010		0,351		0,181	
Spain	no	1,000	<u>2,220</u>	1,000	<u>2,834</u>	1,000	0,953
	yes	1,114	<u>3,480</u>	1,218	<u>7,111</u>	30,463	<u>18,043</u>
	Nagelker	0,053		0,332		0,147	
Finland	no	1,000	<u>1,328</u>	1,000	<u>1,464</u>	1,000	1,106
	yes	0,783	1,305	1,586	2,011	4,476	<u>8,545</u>
	Nagelker	0,007		0,314		0,012	
France	no	1,000	<u>1,318</u>	1,000	<u>1,428</u>	1,000	1,203
	yes	0,865	1,006	1,046	1,204	7,534	<u>6,439</u>
	Nagelker	0,005		0,110		0,047	
United Kingdom	no	1,000	<u>1,613</u>	1,000	<u>1,827</u>	1,000	0,743
	yes	0,808	1,421	1,018	<u>2,536</u>	5,315	<u>4,527</u>
	Nagelker	0,020		0,308		0,067	
Greece	no	1,000	<u>2,875</u>	1,000	<u>3,740</u>	1,000	0,864
	yes	0,392	<u>2,057</u>	0,529	<u>4,162</u>	38,594	<u>24,302</u>
	Nagelker	0,092		0,320		0,210	
Hungary	no	1,000	<u>1,667</u>	1,000	<u>1,820</u>	1,000	1,082
	yes	1,420	<u>5,538</u>	1,484	<u>6,748</u>	20,719	<u>11,921</u>
	Nagelker	0,024		0,119		0,134	
Ireland	no	1,000	<u>2,057</u>	1,000	<u>2,857</u>	1,000	1,081
	yes	1,247	<u>2,215</u>	1,806	<u>3,395</u>	6,580	<u>5,059</u>
	Nagelker	0,041		0,254		0,019	
Israel	no	1,000	<u>1,458</u>	1,000	<u>1,778</u>	1,000	0,966
	yes	0,897	<u>3,439</u>	0,851	<u>3,651</u>	4,424	<u>3,465</u>
	Nagelker	0,030		0,218		0,074	
Iceland	no	1,000	1,467	1,000	1,288	1,000	<u>2,665</u>
	yes	2,300	0,958	2,241	0,867	4,246	<u>8,491</u>
	Nagelker	0,012		0,212		0,053	
Italy	no	1,000	<u>2,211</u>	1,000	<u>2,586</u>	1,000	0,446
	yes	0,294	1,470	0,257	1,814	8,108	<u>20,269</u>
	Nagelker	0,053		0,235		0,069	
Luxembourg	no	1,000	<u>2,261</u>	1,000	<u>2,435</u>	1,000	0,924
	yes	1,226	<u>2,563</u>	1,445	<u>3,026</u>	5,628	<u>8,361</u>
	Nagelker	0,053		0,260		0,074	
Netherlands	no	1,000	<u>1,987</u>	1,000	<u>2,282</u>	1,000	1,112
	yes	1,238	<u>2,278</u>	2,803	<u>6,043</u>	8,730	<u>9,692</u>
	Nagelker	0,037		0,400		0,077	
Norway	no	1,000	<u>1,340</u>	1,000	<u>1,386</u>	1,000	1,070
	yes	1,023	<u>2,025</u>	1,390	<u>3,243</u>	6,993	<u>6,770</u>
	Nagelker	0,008		0,239		0,039	
Poland	no	1,000	<u>1,638</u>	1,000	<u>2,367</u>	1,000	1,174
	yes	0,485	<u>2,346</u>	0,453	<u>3,542</u>	3,289	0,641
	Nagelker	0,024		0,267		0,005	
Portugal	no	1,000	<u>1,644</u>	1,000	<u>1,829</u>	1,000	0,917
	yes	0,664	0,888	0,753	1,409	124,658	<u>17,705</u>
	Nagelker	0,021		0,295		0,175	
Sweden	no	1,000	<u>1,486</u>	1,000	<u>1,620</u>	1,000	<u>1,809</u>
	yes	0,791	1,790	1,427	<u>2,919</u>	12,020	<u>6,344</u>
	Nagelker	0,014		0,279		0,050	
Slovenia	no	1,000	<u>1,466</u>	1,000	<u>1,794</u>	1,000	0,894
	yes	0,671	1,591	0,620	<u>3,168</u>	2,316	<u>2,895</u>
	Nagelker	0,013		0,312		0,009	
Slovakia	no	1,000	<u>1,779</u>	1,000	<u>1,906</u>	1,000	0,904
	yes	1,233	<u>4,161</u>	1,128	<u>4,607</u>	5,705	<u>10,840</u>
	Nagelker	0,034		0,316		0,085	
Ukraine	no	1,000	<u>1,841</u>	1,000	<u>2,122</u>	1,000	0,441
	yes	0,898	<u>2,189</u>	1,011	<u>3,277</u>	7,815	1,213
	Nagelker	0,030		0,340		0,067	

underlined means difference from reference group p>.05

NB: paid work sec = simple model; paid work corr=extended model; ass discr=perceived discrimination