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**Agenda Item 8 : Classification and Perception: Gender  
Aspects of the SIC Code as a Classification Tool**

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# **Classification and Perception:**

## **Gender Aspects of the SIC Code as a Classification Tool**

### **- An Explorative Investigation of Gender Effects of the Swedish SIC Code**

**Summary:** The SIC Code as a classification tool of business activities partly determine what information can easily be access about women and men entrepreneurs. In a broader perspective, the access of information might affect how we conceive of entrepreneurs. One of the main gender differences consists in how detailed the levels of this hierarchical code are for activities with many women or men. The differences are more tangible in the trade and services sector than in the industrial sector.

It is, however, not only the classification in itself that is affected. There is a chain of events contributing to the differences, and the decision on how to classify is only the starting point. The effect is added to when the codes are allocated, a stage in which more women than men entrepreneurs are not allocated a code by mistake. In research, it is difficult to find the women, or business activities holding a large proportion of women are omitted for different reasons. The effects can be substantial as information and statistics based on the SIC Code is used for policy decisions on entrepreneurship matters affecting the conditions for the entrepreneurs.

The SIC Code is used in many circumstances – some of them unexpected. It is therefore difficult to appreciate exactly which effects the gender differences have. From an international perspective, it is strange that the gender aspects of the SIC Code has not been investigated before, as there is a lively debate on gender issues of statistics in most international organisations, such as the UN, the EU and the OECD.

This investigation has mainly targeted the Swedish SIC Code, but it still has international implications as the Swedish SIC Code is following the NACE Code of the EU, which in turn is dependent upon the ISIC Code of the UN. A more pervasive change to the system would need to start with the ISIC Code. For this to happen, it is important that the different countries stress this issue. It is also of great importance that the Statistical Bodies of different countries continue to work on managing the regular revisions to the national adaptations of the code in a way that minimizes the gender issues.

This paper is a summary of the findings in the more comprehensive research report “Classification and Perception - An Explorative Investigation of Gender Effects of the Swedish SIC Code as a Classification Tool of Industry”. The report has been written in collaboration between the Centre of Entrepreneurship and Business Creation at Stockholm School of Economics and the Swedish Agency for Economic and Regional Growth, the Nutek. The report R 2005:17 is available in English and can be ordered from [www.nutek.se](http://www.nutek.se) or this link which will take you directly to the webpage (in English) where the report can be ordered:

<http://publikationer.nutek.se/sb/d/493/a/1403.jsessionid=CF54BDA5736F18BA8870930B95ADE150>, alternatively you can order the report from [forlaget@nutek.se](mailto:forlaget@nutek.se)

## Introduction

The aim of the study was to investigate the Swedish SIC Code and any gender effects relating to how the SIC Code is formulated or used in connection with business statistics. The SIC - Standard Industrial Classification - is in Sweden administrated by a Government Agency, the Statistics Sweden, which is also producing a substantial part of the official statistics, and the code is allocated to individual companies by the Swedish Tax Authority.

The SIC Code system is a way of dividing different business or industry activities into categories. Production units, i.e. companies and places of work, are classified after the type of business activity conducted. A company could have several different types of activities and thus be signified by several different SIC Codes. The statistics based on the SIC Code encompasses both employees and entrepreneurs, but for the aims of this report, it is primarily the gender effects of the SIC Code on the entrepreneurs and the business statistics which is of interest<sup>1</sup>.

Each EU country has its own SIC Code which is feeding into the NACE Code of the EU, administrated by the Eurostat. The NACE, in turn, builds on the United Nation's code, the ISIC.<sup>2</sup> As the NACE code has just been revised, a process under which 30-40 larger items and approximately 80 questions on additional breakdowns or aggregations of classes have been on the agenda, the EU countries will have to follow. The previously 60 NACE divisions will be 87 in the new revision. In order to distinguish the NACE Codes from the ISIS Codes, the dot separating the NACE coding will be used also in the NACE Rev. 2.<sup>3</sup>

The use of the SIC Code is far more wide stretching and pervasive, sometimes in rather unexpected areas, than one would expect. National and local government, the National Tax Board, the Statistics Sweden and many researchers together with different interest organisations, the business sector and many others use the SIC Code. The code, naturally, should show that women and men are to be found in different industries; otherwise it would not reflect society. It is when the code adds to the gender differences and perceptions of gender in society that it becomes problematic, as the code then is a part of the re-production of gender patterns.

Women run 25-30 per cent of all business in Sweden,<sup>4</sup> and their share is increasing,<sup>5</sup> yet research shows that women are seldom thought of as entrepreneurs, not even by the women entrepreneurs themselves.<sup>6</sup> Further, the women's share of entrepreneurship<sup>7</sup> is not proportional to the number of women in society, and policy makers in most countries want to raise the number of entrepreneurs in general, and amongst women in particular.<sup>8</sup> Thus it is important that statistics on women's business activities are readily accessible and mirror their activities in an accurate way, for example through the use of the SIC Code.

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<sup>1</sup> Many researchers differ between entrepreneurship and the broader business or enterprise. In this study, entrepreneurship is used in a broad way to encompass all types of enterprise.

<sup>2</sup> <http://unstats.un.org/unsd>.

<sup>3</sup> [http://epp.eurostat.cec.eu.int/portal/page?\\_pageid=1073,1135281,1073\\_1135295&\\_dad=portal&\\_schema=PORTAL&p\\_product\\_code=nace-wgm-20050413](http://epp.eurostat.cec.eu.int/portal/page?_pageid=1073,1135281,1073_1135295&_dad=portal&_schema=PORTAL&p_product_code=nace-wgm-20050413).

<sup>4</sup> The numbers differ depending on which statistics is used. The LFS gives 25% and the RAMS (which do not list all entrepreneurs) and the statistics for start-ups each state the higher percentage. The two first sources are from the Statistics Sweden and the last one from the ITPS.

<sup>5</sup> NUTEK B2003:7.

<sup>6</sup> Dareblom (2002), in Holmquist & Sundin (2002).

<sup>7</sup> In this report, entrepreneurship is used in a broad sense to encompass all forms of enterprise, including new start-ups, sole traders, family businesses and limited or listed companies. Researchers of the phenomenon of entrepreneurship often define the phenomenon of entrepreneurship in a more narrow sense to suit their particular aspect of study.

<sup>8</sup> See for example Holmquist (2001) or activities targeted towards women by Nutek or Almi. This is also a frequent topic on international conferences, see for example Delmar & Holmquist (2004) paper presented on the 2nd OECD conference of ministers responsible for small and medium-sized enterprises (SMEs) in Istanbul 2004.

## Method

As little or no prior research is done on the gender aspects of the SIC-code within the area of enterprise,<sup>9</sup> the study was exploratory by nature. The investigation encompassed a number of aspects that might be concerned with gender of the Swedish SIC Code. These include how the code is structured, the number of categories and the texts associated with the codes. Different statistical databases have been scrutinized and over 25 interviews conducted and the experiences the interviewees have contributed have been gathered in this report. A broad search was made, including search engines on the Internet and more specialized ones for research articles, in order to find who uses the code and in what contexts it is used.

## Gender and Entrepreneurship

Already in the Women's Convention adopted by the UN in 1979, it was stated that gender should not be the cause of restriction, differentiation or exception and that practices and prejudice based on notions of the subordination of one sex to the other should be abandoned, and that traditional gender roles should be changed in order to achieve equality.<sup>10</sup> In Sweden the Parliament has, based on the EU legislation<sup>11</sup>, introduced a special law on equality, the Equal Opportunities Act, the following of which is superintended by the Equal Opportunities Ombudsman. Based on this law, official statistics should be possible to divide by gender when individuals are concerned.<sup>12</sup>

In order for women and men to be equal, a part requirement is that they should be equally visible in the official statistics, and thus all official statistics relating to individuals should be collected, analyzed and presented as divided on sex. In addition, it should correctly mirror issues of equality and problems related to equality in society. The statistics should be presented in a user-friendly way.<sup>13</sup> In spite of all these good intentions, the official statistics still is not always dividable on sex, and this makes it difficult to study the extension and specifics of women entrepreneurship.<sup>14</sup>

However, the SIC Code is typically not regarded as official statistics in itself, but rather as a classification tool which generates information on which a considerable part of the official statistics concerning work and entrepreneurship is based.<sup>15</sup> Thus, in a way, the SIC Code could be claimed not to be party to the legislation. At the same time, it does not make sense to speak of official statistics in terms of being subject to this legislation while the basis for it - the categorization behind it - is not.

Everyday life is an arena for the politics of gender. No arena is neutral, and there should be neither a denial of, nor a flight from the problems it causes. The subject of gender and how different terms are defined are constantly questioned as different discourses and systems of knowledge are fighting over who has the right to define and interpret the world. Gender in the entrepreneurship context is no exception, and entrepreneurship in itself has been claimed to be male gender marked.<sup>16</sup>

Today, the formal regulations for running a company are the same for women and men,<sup>17</sup> but up until 1864 it was forbidden for women in Sweden to run companies and as late as

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<sup>9</sup> There are investigations on the SIC Code in its labour market aspect. See for example Acker et al (1992).

<sup>10</sup> UN Women's Convention (1979).

<sup>11</sup> Kyrö & Tyrväinen (2001).

<sup>12</sup> <http://www.jamombud.se/en/>; SCB, På tal om kvinnor och män. (2004).

<sup>13</sup> SCB. På tal om kvinnor och män. (2004); SFS Förordning (2001:100) om den officiella statistiken, <http://www.notisum.se/rnp/sls/lag/20010100.HTM>, 2005-04-24.

<sup>14</sup> Nutek R2005:4.

<sup>15</sup> Hagerlund, 2005-04-06.

<sup>16</sup> Ogbor (2000).

<sup>17</sup> Nutek, R2005:4.

1921 they could only do it with the permission of their guardians.<sup>18</sup> Women, then as now, were still entrepreneurial, but in different forms and perhaps also for different reasons.<sup>19</sup> The remaining hindrances lay in attitudes and notions of entrepreneurs, something that is reflected through research on entrepreneurship and in the statistics. Recent research show that women and men are often found in different areas of business and the gender differences from the employment sector is also visible in the entrepreneurship sector. However, when women and men are active within the same areas, there are few differences.<sup>20</sup>

The male gender mark on entrepreneurship has consequences also for related areas and for the research. Up until the 1980s the entrepreneurship research was conducted entirely from a male perspective, without any reflection on the matter.<sup>21</sup> In recent years, the research on women's entrepreneurship has gradually become more and more established.<sup>22</sup> The research shows that women are made invisible both when they run their own companies and when they do that together with their spouses or partners. Women are not seen as entrepreneurs, even when they run their own companies,<sup>23</sup> and to a certain extent, they do not even see themselves as entrepreneurs.<sup>24</sup> Thus, to help produce a more nuanced picture of women entrepreneurs and their business activities is an important part of an enterprise supporting approach.<sup>25</sup>

### **The SIC Code and Gender**

From a gender perspective, it is important that the SIC Code is not constructed in a way which affects the knowledge we can access of women and men entrepreneurs. These are factors to do with how the code is constructed as well as with how it is administrated and allocated together with how it is used when producing statistics or in what ways statistics is made available. It is also about how often women and men are allocated more "fuzzy" codes, typically containing the term "other", or how often they are exposed to a classification failure by not being allocated a code at all, together with how the describing texts of the activities are formulated.

The SIC Code, in the way it is constructed, holds some inherent differences in how industries with many women respective men are conceived of, and there are obvious differences in how detailed the levels are for different industries. The percentages beneath is the share of women or men within a certain sector or division in Sweden, unless otherwise stated. The percentages should be seen in the light of that there are approximately 25% women entrepreneurs and 75% men entrepreneurs in total in Sweden.<sup>26</sup> It is likely that there will be similar tendencies in other countries. Among these effects are:

#### **OVER-ARCHING GENDER OBSERVATIONS FOR THE SIC CODE**

- Statistics on the number of women and men entrepreneurs are only available from the Statistics Sweden at a division level, even if more detailed statistics could be ordered at a cost. Broad investigations will often use the division level. This is problematic as many business activities with a lot of women have only one or a couple of divisions under which a broad array of activities are aggregated. Thus it the information at a division level often is more detailed for activities often conducted by men than for activities often conducted by women.

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<sup>18</sup> [http://www.sttidningen.se/html/f-a\\_artikel.whtml?id=248&subid=234](http://www.sttidningen.se/html/f-a_artikel.whtml?id=248&subid=234)

<sup>19</sup> Holmquist & Sundin (2002).

<sup>20</sup> Nutek R2005:4.

<sup>21</sup> Holmquist & Sundin (2002).

<sup>22</sup> Nutek R2005:4.

<sup>23</sup> Nutek R2005:4.

<sup>24</sup> Dareblom in Sundin and Holmquist (1989); Büniger, (2004).

<sup>25</sup> Nutek R2005:4.

<sup>26</sup> The numbers vary somewhat between investigations, but the 25-75% are the most frequently stated shares.

Three of the sectors with the most women (H-Hotels & Restaurants with 34% women, M-Education with 45% women and N-Health services with 66% women) and one men dominated sector (F-Construction with 92% men in Sweden) out of a total of 17 sectors, holds only one division (that is, there is a wide variety of business activities grouped together). This implies that all the activities in this division might be analyzed together for investigations using statistics on a divisional level only, which is common with broad investigations, such as for example mappings of all the entrepreneurial activities in Sweden. In the latest revision of the NACE Code, the H and N sectors will be split into two subsections. This is a slight improvement, even if it is not enough and the Education sector with 45% women entrepreneurs in Sweden will continue to have only one sector.

- There is a clear tendency for women to more often than men have their business activities classified by some code holding the term “other”. This is true both for the industry (with 30% women out of the 0.8% of the total number of companies) and the services business activities (with a massive 82% women out of the 5.4% of the total number of companies), but the tendency is stronger in the services sector than in the industry sector. According to Torbjörn Israelsson, Head of the Unit for Demographic Analysis and Gender Equality at the Statistic Sweden, the risk with the “Other” label is that different types of activities could be sort of lost or forgotten when they are in this group instead of being in what Israelsson calls “a proper group”.<sup>27</sup>

#### LANGUAGE ASPECTS ON CLASSIFICATION

- There are virtually no language aspects, semantic or syntactic, on the SIC Code texts to be found. Words sometimes have direct gender valour, as in calling the same occupation for two different things in order to specify whether it is a woman or a man who is conducting it. For example, we differ between a Steward and a Stewardess, or we might call a nurse a nurse to mean a woman and add “male” before nurse to mean a man. This might be an effect of that either sex has previously dominated a certain activity, and as the other sex is moving into this activity there is as need for differing between the two. As the SIC Code it not a classification of occupations but of the activities carried out by people, sometimes having an occupation, sometimes being employed and sometimes being entrepreneurs, this problem is on the whole avoided. It is the activities that are classified, not the occupational roles, and the labels on activities are less gender marked than are many occupations. There might be some more indirect effects of language, though. Some words in our language are connected to women’s activities and others to men’s activities, or to how women and men are supposed to be. Examples of this could be that words carrying a semantic feature of femininity, such as being receiving, passive, caring or similar are used to a greater extent for women dominated activities and words carrying a semantic feature of being dominant, active and competitive or similar are used to a greater extent for men dominated activities. In scrutinizing the code texts I have not been able to find any such instances.

#### ADMINISTRATIVE EFFECTS ADDING UP TO THE SIC CODE GENDER ASPECTS

- There are some 51,000 companies in Sweden that have not been allocated a code by mistake, corresponding to almost 6% of the total population of 493,070 companies in 2005. Women are more often than men found in this group.<sup>28</sup> 10% of the women’s total number of companies and 7% of the men’s total number of companies do not have a SIC Code.<sup>29</sup> Another way to compare is to say that women run 35% of the unclassified companies, and men 65%. This should then be compared to the number of companies run by women and men, 25% respective

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<sup>27</sup> Israelsson, 2005-04-25.

<sup>28</sup> Hagerlund, 2005-04-06.

<sup>29</sup> Calculations are based on the RAMS, Statistics Sweden. For exact calculations, please see the main report.

75%. When the comparison is done in this way, it is obvious that the companies run by women more often are not allocated a SIC Code than would be expected based on the total number of companies run by women. The number of companies without a SIC Code are on the decrease as the Tax Authorities and the Statistics Sweden are working with improving this issue. The majority of the companies missing a SIC Code are solo companies (companies with no employees).

#### OBSERVATIONS OF EFFECTS OF CLASSIFICATION ON STATISTICS

- If we return to the companies missing a SIC Code for a moment, we will see how the effect is added up in a later stage of the process. In the RAMS statistics, the division 00 – SIC Code unknown, constitute as much as 8% of the total number of companies encompassed. This is an example of the effects adding up as the classification passes the stages of allocation and becoming statistics (the RAMS excludes certain types of activities and in this process it adds to a gender effect at a prior stage). The missing codes together with allocations of the wrong code and large aggregates contribute to a view among researchers that statistics based on the SIC Code is not always accurate and the SIC Code not always is an effective enough system of classification. In turn, this poses a risk that instead of using the SIC Code and official statistics based upon it, other systems, together with sources of statistics which are not encompassed by the gender legislation of the official statistics are used.
- The different statistic registers are selective in what they take up. In one instance (RAMS- which is based on administrative sources) a men dominated division (90 – Sewage and refuse disposal, sanitation and similar activities) in an otherwise women dominated sector (O – Other community, social and personal service activities) is not taken up at all. This shows that when men are a minority in a women dominated division, they could be subject to the same mechanisms as women as a minority.
- For a considerable share of the Swedish statistics, there is a tendency to stop dividing by sex at a certain age. Typically, when people are running companies after the age of 65, which is the retirement age in Sweden, sex divided statistics is no longer available, and sometimes there are difficulties obtaining this even by special order.
- The published official statistics on Start-Ups is generally divided by sex, but on a much aggregated level for the SIC Codes. Also other factors are to aggregate. One example is age for which there are only two categories, under or above 30 years of age.

#### CLASSIFICATION GENDER EFFECTS FOR RESEARCH

- What is striking when going through the statistics based on the SIC Code, is that very few of the factors which might give researchers valuable information on how entrepreneurship conducted by women and men functions are readily available in the official statistics. This is information that policy makers in turn would need in order to optimize the business conditions in society. What type of information are researchers, policy makers and government funded organisations supporting for example start-ups requiring, missing or finding difficult to obtain? These are aspects of entrepreneurship which might provide an increased understanding of entrepreneurs and their conditions motivations and include production value generated, growth ambitions and number of employees, rationale or reason for starting a company, level of education, part or full time, financing, exit and bankruptcies, legal form, co-entrepreneurs, regional spread, risk aversion, innovation and pro-activity. This information is often only obtainable by large aggregates or by special order, or it might not be dividable by sex at all. Sometimes, the only way for researchers to obtain this type of information is by

conducting their own surveys. For further information on availability on statistics in Sweden, please see the full report, which this paper is based on.

- Statistics on other matters of interest than the number of companies, such as number of employees or production value generated for different SIC Codes, is not part of the official statistics and thus seldom dividable on sex. When statistics divide by sex could be ordered (at a cost), often, it is nevertheless only obtainable down to a division level. Sometimes this is due to the fact that many investigations cover a sample of the population only. This sample is often too small to allow a more detailed level than the division level with a necessary statistical certainty.

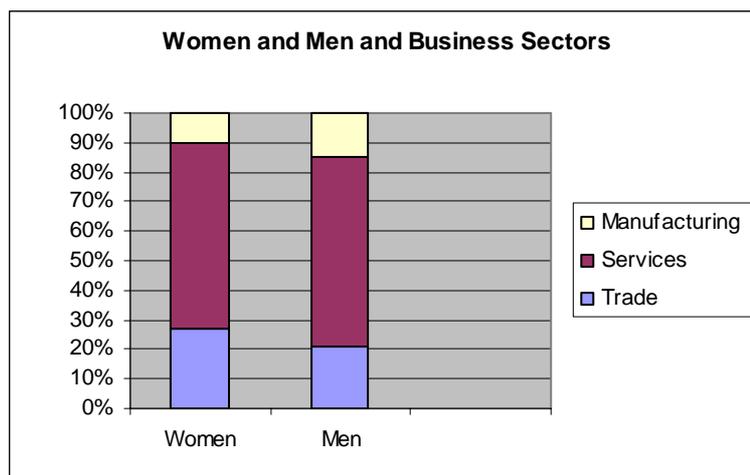
### A Sector Approach

If we return to the classification stage, there might be other gender aspects which could be seen by dividing the SIC Code into its industrial part and its trade and services part.

A general problem is that the SIC Code does mirror the historical development. Thus, it has, at least in the past, primarily been an industrial classification. Nowadays, it includes services as well. Still, the SIC Code is considerably more detailed for industrial activities than for services, which constitute a problem.<sup>30</sup> The SIC Code could be said to have a lag problem. This becomes obvious when studying what type of work is coded to the most detailed level. The manufacturing or industry sector is coded to a greater extent than are the services and trade sector. One reason is that large parts of the manufacturing sector have been with us for a long time, whereas many, if not all, service concepts are of recent date.

Naturally, it is not meaningful when producing statistics to have a certain code if there are only a few activities that could be classified to belong to a specific code. Too few occurrences in a certain code would also generate statistical problems. On the other hand, a limit will be reached when a certain group of activities within a code has grown to need its own new code. The types of products that have been around for a long time are not as affected by the time lag and they are divided into specific codes at a much more detailed level than newer activities. This is not the case with many services which might both be of a later date and more difficult to categorize as they are less tangible and transparent than are the industrial sector. However, there are also services that have been with us for a long time.

### Number of women and men entrepreneurs shown by business sector, Sweden



Source: *The Nutek and the Statistics Sweden: "FVOV 2002"*

As shown in the chart above, most of the entrepreneurs are active within the service sector, holding 63 per cent of the women and 64 per cent of the men entrepreneurs. 27 per cent of the women and 21 per cent of the men are found within the trade sector. The remaining

<sup>30</sup> Blomqvist, 2005-04-25.

part, the by far smallest one, is the industry sector with 10 per cent of the women and 15 per cent of the men.<sup>31</sup> That the services sector is becoming increasingly important to an extent where it is actually beginning to outrun the industry sector, is no news to the statisticians.<sup>32</sup> Neither, is there a dispute over the importance of gender issues amongst statisticians, and the Swedish statisticians are working hard on living up to the decree from the government: "Improving gender statistics is a never-ending on-going process, which should follow the social development in the country and at a global level. The long-term goal must be to incorporate a gender perspective in the whole national statistical system. The short-term objective should be to strengthen users and producers awareness of the needs for improvements through compilation, analysis and dissemination of available statistics reflecting gender issues in the country."<sup>33</sup>

Nevertheless, there are some still outstanding gender issues to the SIC Code and a few of these are captured above in a more over-arching analysis of the SIC Code. If we move into a somewhat more detailed level and compare different aspects within the industry as well as within the services/trade sector, what more could be discovered?

### **A Comparison within the Industry Sector**

In order to understand how well the industrial side of the SIC Code mirror the sexes, I have investigated some of the most polarized industrial codes where women and men tend to dominate. For some industries, women have been very active for a long time, such as the manufacturing of foods and the textiles industry, which there is little left in Sweden and which is the only manufacturing industry where there are actually more women than men entrepreneurs. I have also looked at the men dominated manufacturing industries, such as the manufacturing of woods, basic metal, machinery, metal products and electricity, water and waste. For all these areas of the SIC Code within the manufacturing industries, there seem to be quite a lot of divisions as well as detailed group SIC Codes.

I have found that even if some of the areas are more detailed in their coding than others, there is no consistent pattern showing that manufacturing industries with many women or men are more detailed. To the extent that there are differences, there seem to be good reasons for this, such as a more complex manufacturing process or the use of several types of material that need to be handled in different ways. It is reasonable that there are more divisions to the textile industry as there are more materials demanding different manufacturing techniques, than to the woods industry with similar processes to different kinds of wood for example. There could also be administrative reasons on a society level for dividing for example mining into energy and non-energy generating minerals, as it might be important to be able to keep statistics over a country's ability to maintain its own energy supply in case of a crisis.

The only tendency I have observed is that there are 30 per cent women in the 36+37 - Other manufacturing divisions. This is very close to the average of 29 per cent women, but in the light of there in several of the industry divisions being as little as around 15 per cent women, this I would claim, is still a gender issue, even if it is far from as notable as the similar effect within the services sector.

### **A Comparison within the Services and Trade Sector**

The services and the trade sector is, in contrast to the industrial sector, an area where there are some very obvious differences between women and men dominated lines of business. That women entrepreneurs are more often than men found under codes labelled "other" is the most obvious observation, but there are also some other gender issues. The numbers that I will now use to prove my point are not even part of the official statistics at a five digit level, in itself a problematic issue, even if they are available by order from the Statistics Sweden and could then be divided by gender.

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<sup>31</sup> Bünger (2003:7).

<sup>32</sup> Nutek's yearly report 2005.

<sup>33</sup> Sundström. Working paper No. 6 (2004) Conference of European Statisticians.

For translators, a business activity with 65 % women, there is only one SIC Code on a division as well as on a detailed group level. It is not only translators who are included in this detailed group: SIC Code 74850, but also a number of other business or office service. The descriptive text of this division is “Other business activities”, thus, the translators are not even visible in the descriptive text at this level.

The translators, regardless which topic area they are specialized in (with very disparate areas of specialization running from literature to technical to legal and so forth) are grouped together. The translators are also grouped together with activities that require little or no qualifications, such as photocopying and sending out post. Neither does it seem to matter which technology is used in the translation work, such as whether it is translation of a film or of documents. Interpreters and language consultants are also encompassed by the same code.<sup>34</sup>

In another, more male dominated line of business in the services sector, there are very many divisions as well as detailed groups. Specific activities are often included in the descriptive texts also at a division level. The codes I have looked at in this example include 50101-3, 50201-4, 50301-2, 50400 and 52740. These are all to do with services of vehicles or parts of vehicles. When servicing motor vehicles, it seems to be of importance whether it is a motorbike, a car, a bus or a lorry that is of interest.

Further, it matters which part of the motor vehicle which is of concern, that is, whether it is the service of a car air conditioning system, varnishing of car bodies, mending of wind screens, car washing facilities, charging of batteries and even whether it is a *simple* car motor reparation or a more *complete* overhaul of the motor. There are also different detailed groups for sales of special vehicles, cars and motorbikes, and whether the sale is done as a distributor or retailer.

**Table showing a number of codes for male dominated services to do with motor vehicles, whereas the women dominated translation service only have one code.**

2003 SIC Code	Descriptive Text	Men				Women				Total
		Entre-preneurs	Ltd.	Total	%	Entre-preneurs	Ltd.	Total	%	
#50101	Sale of lorries, buses and special vehicles	33	30	63	81	3	12	15	19	78
#50102	Sale of passenger motor vehicles	562	634	1196	86	41	154	195	14	1391
#50103	Trade with caravans etc.	25	76	101	80	3	23	26	20	127
#50201	Non-specialized maintenance of motor vehicles	3167	1367	4534	92	161	244	405	8	4939
#50202	Bodywork repair, painting and glazing of motor vehicles	483	273	756	90	26	56	82	10	838
#50203	Installation and repair of electrical motor vehicle eqpm	71	56	127	89	4	12	16	11	143
#50204	Tyre service	159	233	392	85	8	59	67	15	459
#50301	Wholesale of motor vehicle parts, (not for motorbikes)	90	137	227	80	8	50	58	20	285
#50302	Retail sale of motor vehicle parts, (not for motorbikes)	159	229	388	85	13	55	68	15	456
#50400	Sale, maintenance and repair of motorcycles	177	158	335	87	15	35	50	13	385
#52740	Repair of household/personal articles, including car radios	324	164	488	81	75	39	114	19	602
*74850	Secretarial and translation activities	515	83	598	35	993	94	1087	65	1685
<b>Total</b>		5765	3440	9205	81	1350	833	2183	19	11388

Source: Statistics based on a detailed group level from RAMS 2003 obtained by order from the Statistics Sweden 2005-06-03.

This is not a singular example that I have happened to find. There are more such examples. One of the starting points for this study was that in a previous Nutek report it was found that the SIC Codes for services which were male dominated would be more detailed than services dominated by women. The example specified was that there were different SIC

<sup>34</sup> Nutek (R2005:4)

Codes for male dominated services such as the mending of inner tubes to tyres for bicycles, motorbikes, mopeds and scooters were splitted from the mending of inner tubes to tyres for other vehicles, whereas everyone working in a maternity clinic had only one code.

Further one example is that taxi driving services, which is male dominated, are divided into no less than 17 different detailed groups, ranging from bicycle, hoarse, boat, air and car taxis, taxi deliveries, interest organisations for taxi drivers, phone switchboard services for taxi, school transport, and fellow societies for taxi drivers.<sup>35</sup>

### **Who Uses the SIC Code?**

There is a multitude of users of the SIC Code and its international counterparts. Among them we find a broad number of instances internationally as well as nationally, ranging from organisations such as the UN, the EU and the OECD, different statistical agencies, researchers, policy makers, interest organisations and different companies. When using a search engine as the Google and the Swedish term for the SIC Code, "*SNI-kod*" there were 180 hits. For the NACE Code, the corresponding number was 40,400 and for the ISIC Code 907. Specialized search engines for academic texts in journal databases (such as the ABI Inform Global / Proquest) generated 220 hits on the "SIC Code" 270 on the "NACE" and only 24 on the "ISIC".

The SIC Code is very pervasive in expected as well as in unexpected areas. Governmental and policy issues, regional government issues, workforce and employment issues, environmental issues, business and industry issues, a wide variety of research topics, meta-research on classification effects (other aspects than gender only) The SIC Code and the Statistics Sweden. The most surprising use of the SIC Code found was a research study on children's play where the code had been used to identify the different professions including pedagogical guidance for children.

### **Alternatives or Complements to the SIC Code**

Even though the SIC Code is by far the most pervasive system for classification in Sweden,<sup>36</sup> there are also a number of competing or complementary systems. Some of the users of these systems are companies that use other systems in order to get a greater understanding or statistics over what different competitors or customers are doing. Certain systems have a greater emphasis on products than do the SIC Code. As these systems often are more detailed (the TED system for example has eight digits). From the 1<sup>st</sup> of July 1996 the CPV code should be used in all official procurement according to an EU directive. The government has specified that 95% of the buying should be done electronically when the county councils and the municipalities are doing their buying. In Sweden, these procurements are worth 15-20 per cent of the GNP; in the EU it is worth 550 milliard EURO.<sup>37</sup>

This is not an exhaustive list of alternative or competing code systems, but they give a sense for what type of information is missing in the SIC Code. From a gender perspective, there are both good and bad sides to these alternative systems. A negative aspect would be that these systems, unlike the official statistics based on the SIC Code, are not encompassed by any decrees or legislation outlining that it should be possible to divide by sex. The positive aspect might be that it could be easier to find products and services by both women and men entrepreneurs and additional information about their companies in these systems.

### **What are the Effects of the Gender Bias?**

The effects of the gender biased identified falls into primarily three categories: The effects on research, the effects on policy on entrepreneurship and the effects for individual entrepreneurs.

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<sup>35</sup> <http://www.foretagsregistret.scb.se>

<sup>36</sup> Blomqvist, 2005-04-25.

<sup>37</sup> DN, Per Mortensen, 96-11-28.

Conducting research, as most other things, is subject to financial restraints. As it is costly to retrieve data, many researchers are forced to compromise. One such compromise could be to run statistical queries on a less detailed level than the researcher might wish for, were the ordered statistics not so expensive.

When it comes to broad investigations the limit is very often set to a two digit level, as it more often than not would be prohibitively expensive to go down to a more detailed level. The largest investigation of women's enterprise done in Sweden<sup>38</sup> build on R&D data, as it was impossible to obtain information based on gender in the enterprise statistics. This investigation was done in 1989, and still today it is difficult to obtain detailed level information where gender is a variable. This means that it is difficult to gain knowledge of women as entrepreneurs as a group in order to compare with for example men as entrepreneurs.

The categorisation carried out through classifying activities according to the SIC Code to a certain degree determine what the research is taking up. Official statistics is an important source of data and how it is organised will affect what it is possible to study. One example is that data on entrepreneurship is taken from the business statistics, making for example corporate entrepreneurship, which could also be seen as a form of entrepreneurship, invisible.

The effects on the research carry over to the policy makers as they base many of their decisions on the entrepreneurship research. In the instances when the SIC Code does not reflect the sexes accurately, the policy makers will either be unable to find the needed information, or they will form their decisions on less than optimal information. In particular, it is important for policy makers to know how the level of entrepreneurship can be raised and how the conditions for the entrepreneurs could be improved in order for companies to grow and generate tax incomes and work opportunities to society.

Another way of describing this is to say that it is production rather than re-production which has been the base for the formation of the SIC Code. The re-productive work is traditionally thought of as being a female area and it has often been unpaid and thus omitted in the official statistics. The Code adds to making the re-productive work invisible, for example through putting more stress on productive industries than on industries of more re-productive kind such as services. Thus, it is very serious that the strongest gender effects of the SIC Code were found within the services sector. There are many women in this sector and the women's part of entrepreneurship is seen as low in comparison with other European countries. To improve the conditions for this group could thus be seen as vital in order to increase the production value and employment rates through more enterprises.

Sub-optimal policy decisions on conditions for entrepreneurship naturally have an effect on the individual entrepreneur. In addition, if it is more difficult to find women entrepreneurs in the statistic (which would be a likely consequence of there being fewer but broader categories for women than for men) it might be more difficult for customers and distributors to find these companies for example in the Business Register. There might also be an identity effect of the SIC Codes, where "fuzzy" codes could contribute to a weaker entrepreneur identity for women.

### **Problems / Colleague Statisticians' observations**

In order to gain experience from experts and different users of statistics, I have interviewed 25 people in holding varying positions.

One of the main concerns has been the conflict between the need for regular revisions of the code and the need to keep as intact time series as possible. Some of the interviewees I have spoken with advocate that the changes to the code should be done at more frequent intervals to reflect the fast speed of change primarily to the services and new technology areas. The GNP comparisons might be affected and new classifications make it difficult to compare with how it has been in the past. Sometimes it is factors external to the

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<sup>38</sup> Sundin & Holmquist (1989).

construction or splitting of codes that cause problems. One example could be when new legislation is passed. Say for example that a new Social Services Act is passed, resulting in that a lot of people are doing a certain type of new activities. This could have a great effect on the statistics and the comparability.<sup>39</sup> Similar case could be if the Government decides to privatize certain activities or a monopoly, such as the Swedish monopolies for selling alcoholic beverages and pharmaceutical preparations.

Others point out that the system perhaps should be rethought and changed all together as the SIC Code emerged in a time when the industry was the norm and when it was mainly men who worked outside of the home. The argument is that the SIC Code then would build on a male norm and a male dominated work life and that the women dominated activities were simply added to an already existing male norm.<sup>40</sup>

One fundamental problem is that today we might need to use the SIC Code for other reasons than it was once made for. The SIC Code has not been constructed to be a system for classification of the companies themselves [or of the entrepreneurs], or of their products. It is a classification of what are the results of the economical activity.<sup>41</sup> That is, it is more of a macro level tool for the economy of the society than a micro level tool for research, for example on entrepreneurs. The SIC Code might be an instrument for the Government to supervise, plan for, support and compare different economical activities. It is also a way to compare internationally.

Increasingly, we might need to be able to get other types of information, though. One proof of this is that the SIC Code is already used in research for gaining knowledge on the entrepreneurs and their companies in ways which the code is not really designed for. That there is a number of other business information companies offering alternative or complementary ways of classification, is in turn proof of that the SIC Code does not fulfil the varying needs of today (see further beneath).

From a gender perspective, the fact that the SIC Code is grouping together very different types of activities makes it difficult to answer the question what is it that men and women do? "Even if they are in the same sector, they might not be doing the same things."<sup>42</sup> Further one such example is that different levels of education are mixed together. "What women and men do in a certain area, for example within the restaurants men might be found as chefs and women as coffee shop owners, but how would we know if the code groups them all together, if the code is not finely enough split to distinguish between different aspects which might be of interest?"<sup>43</sup>

Further, the SIC code in itself does not show any difference in size between different companies with the same SIC code. The same code is used for companies serving a local, national or international market. For example, if the SIC Code for restaurants is used, all restaurants will show up, from big international chains down to the smallest hot dog stand. Another problem consists of the speed of change. "There is a tendency that all new occupations and business activities which tend to emerge with an ever increasing speed are not capture by the code system which is only updated every five years or so."<sup>44</sup> Neither does the SIC Code provide information on whether the companies are run actively or passively. "The companies can be passive and there might not be any business activities going on, yet they have a SIC Code and it is not possible to tell the difference between an active and passive company."<sup>45</sup>

One of the greatest research problems in connection to the administration of the SIC Code is that there it difficult for researchers to know how the SIC Codes are decided. "When a company has several business areas, it would be interesting to know how the SIC Code is decided as there does not appear to be an unambiguous way of classifying companies and

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<sup>39</sup> Blomqvist, 2005-04-25.

<sup>40</sup> Johansson, 2005-04-22.

<sup>41</sup> Blomqvist, 2005-04-25.

<sup>42</sup> Johansson, 2005-04-22.

<sup>43</sup> Andersson, 2005-03-29.

<sup>44</sup> Bertilsson, 2005-04-14.

<sup>45</sup> Blomqvist, 2005-04-25.

for companies with several different work activities, there is no way of knowing how large a part is due to each activity. It would be good if we could have an easy way of distinguish between homogenous and heterogeneous companies with regards to their work activities in the SIC Codes.”<sup>46</sup>

Another problem is that people are getting tired of enquiries. “This poses a risk not only to not getting the data we need, but also to the correctness of that data. Perhaps one solution is data sharing and the increased efficiency of different systems. There are ways of getting information from different systems that we already have, and we have to use these systems in a more efficient way, to be able to make the process more automatic. There are many technical solutions that are feasible, and this might provide a source of information that would be met with less resistance, even if it were costly. Concerns of the risk of the statistics being negatively affected by people getting tired of enquiries and questionnaires are raised, and a more automated collecting at a reasonable cost is one of the challenges.”<sup>47</sup>

### **Problems with Attitudes to, or Knowledge of Gender Aspects**

When interviewing different people who are in some way or another working with or using the SIC Code, I have noted that the attitude to asking into gender issues with the code have been very different. Some people see it as self-evident that most things have a gender aspect, and thus does not find the idea strange that this should be the case with the SIC Code also. They welcome the initiative too look into the gender aspects, and they might also reflect upon gender issues themselves when working with the code or with statistics generated from it. They have shared these reflections with me so that I have been able to include them in this report.

Others might not have thought so much about it, or they might think that the SIC Code, as a classification of activities have little to do with gender. “A code (just a set of four digits) cannot mirror the historical/cultural aspects of an economic activity. This cannot even be done in the heading and in the description of the activity. Data collected on the basis of a classification reflect/mirror these aspects, and this is the reason why you can see, e. g. more women in the education section.”<sup>48</sup>

### **An International Perspective**

There are a number of different SIC Code systems in use internationally, such as the NACE Code of the EU, the NAICS Code used in the US, Canada and Mexico, the JSIC Code of Japan and the ANZSIC Code of Australia and New Zealand. Many countries and international organisations are trying to adapt their systems to the standard of the ISIC Code.<sup>49</sup> These are all hierarchical code systems, striving to towards compatibility with each other. Even if they are far from being in total accordance, there are keys to translate between codes, and between different versions between different revisions of the same code system. In addition, many of the developing countries are in a process of building up their statistical systems, and just as it is important that the already established codes enable comparisons, so it is for the emerging code systems.<sup>50</sup>

To judge by what is taken up in different working papers and presentations on the international statistics conferences, apart from harmonization issues, gender seem to be a prioritized subject at present. It is even claimed to be one of the priority subject areas in the world today for measuring economic and social development. Issues of gender equality are increasingly recognized as essential to the process of sustainable development.<sup>51</sup> It is said that: There is an extensive support at an international level for promoting gender statistics work. Organisations such as the UN, the Economic Commission for Europe (ECE), the EU, the Organisation for Economic Co-operation and Development (OECD) and the World

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<sup>46</sup> Eliasson, 2005-04-19.

<sup>47</sup> Lindner, 2005-05-26.

<sup>48</sup> Zoppe, e-mail 2005-06-13.

<sup>49</sup> <http://unstats.un.org/unsd/>.

<sup>50</sup> Lindner, 2005-05-26.

<sup>51</sup> Sundström. Working paper No. 6 (2004) Conference of European Statisticians.

Bank all find this work important and they work actively to continuously improve a fair and useful representation of gender in statistics.<sup>52</sup>

One of the reasons as to why it is considered important to ask into gender issues is that women entrepreneurship is developing rapidly in terms of both numbers and turnover around the world. In an era of global economic integration, this significant economic and social development is of growing interest to policy makers worldwide.<sup>53</sup> At the same time, there have also been critical voices on the degree of co-operation among international organisations: “On the international level, there is a need for a more advanced co-operation in the field of gender statistics. Lack of a common strategy among international organizations could be one reason for too little co-operation. To implement a gender approach in the production of statistics should facilitate the development of gender sensitive indicators.”<sup>54</sup>

Even if there might be ample of debate and investigations on the statistics, there is still a lot to be done. Among 21 European countries together with the US and Canada, only two countries had a Gender Statistics unit, 18 had a Gender Statistics Focal Point. The interaction with other Statistical departments of these units varied, with the highest interaction with the Social/Demographic Statistics and Dissemination Units being the highest. Very few interacted with the Methodology Unit or the Agricultural Statistics. A little bit less than half interacted with the Economic Statistics.<sup>55</sup>

There have also been expressions of surprise over all the excuses being brought up as soon as a more pervasive changes to the code system is discussed: “Every time the issue of making women’s activities more visible is taken up, it is said to be impossible, and a number of reasons are given for that. It is too expensive or we are tied to the international standards. It is important to think over what the code system is used for, and what it should be used for, and how it can be used. What are the losses of not changing the system? That is a question which is seldom posed, as we are always talking about how impossible it is.”<sup>56</sup>

From an international perspective, it is strange that the gender aspects of the enterprise side of the SIC Code has not been investigated before, as there is a lively debate on gender issues of statistics in most international organisations concerned. At the same time, some of the statisticians at the statistical agencies who I have interviewed do not think that there are any gender issues to the SIC Code. They see it as gender neutral, as something that only take into consideration the actual business activities and no background factors. But, there are also many statisticians who do not only notice gender effects, but who also regard changes from this aspect as necessary.

As the national SIC Codes are following the NACE Code of the EU, which in turn is dependent upon the ISIC Code of the UN, a more pervasive change would need to be initiated in an international co-operation and start with the ISIC Code. For this to happen, it is important that individual countries bring up this issue to discussion. At the same time, it is not also very important that the national statistical agencies in the different EU countries continue to work on managing the regular revisions to the code.

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<sup>52</sup> Sundström. Working paper No. 6 (2004) Conference of European Statisticians.

<sup>53</sup> [http://www.oecd-istanbul.sme2004.org/women\\_entr.htm](http://www.oecd-istanbul.sme2004.org/women_entr.htm)

<sup>54</sup> Sundström. Working paper No. 6 (2004) Conference of European Statisticians.

<sup>55</sup> [http://www.unece.org/stats/documents/2004/10/gender/313,11,UNECE Gender Statistics Website. 2005-05-30.](http://www.unece.org/stats/documents/2004/10/gender/313,11,UNECE_Gender_Statistics_Website_2005-05-30)

<sup>56</sup> Johansson, 2005-04-22.

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