

Men and Male as the Norm?

A Gender Perspective on Innovation Policies in Denmark, Finland and Sweden



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– A Gender Perspective on Innovation Policies  
in Denmark, Finland and Sweden

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# Preface

The research programme, *'Internationalisation of regional development policies – Needs and demands in the Nordic countries'* was commissioned by the Nordic Council of Ministers in the spring of 2005.

The aim of this programme is to undertake research on key issues, where it has been identified that new knowledge is needed, and where such knowledge could be seen to benefit the development and implementation of regional development policy in the Nordic countries.

The basis for the research programme is its Nordic character. Research should lead to new knowledge both for the academic world and for the world of policy and practice. Projects should add 'Nordic value', i.e. they should produce knowledge of relevance for several regions and countries across *Norden*. The research should moreover be comparative and collaborative across at least three Nordic countries or self-governed areas.

Three themes of high priority for the research programme have been identified; *'regional governance'*, *'innovation and regional growth'*, and *'demography and labour migration'*.

In addition to these priorities two additional crosscutting themes were also defined; *'the enlargement of the EU and the challenges for Nordic regional development policies'* and the broad topic of *'the three dimensions of sustainable regional development'*; i.e. social, economic and environmental sustainability.

The research programme has been launched in two rounds. In the first round during the spring of 2005 it was decided to fund five projects. These will be reported during the spring and summer of 2007. In the second round during the spring of 2007 it has been decided that a further five projects will be funded. These will be reported in 2009. All project reports are published in this publication series dedicated to this programme. At the end of the programme, a synthesising report will also be produced where the most important findings are discussed.

*Nordregio* wishes to thank the Nordic Senior Official Committee for Regional Policy and the Nordic Council of Ministers for providing this unique opportunity to develop new research-based knowledge and for encouraging cooperation and the exchange of ideas between Nordic researchers.

*Nordregio* would furthermore like to thank all of the involved research teams and the programme's Steering Committee for their continuing contributions to the Nordic discourse on regional development.

Ole Damsgaard  
Director

Margareta Dahlström  
Coordinator of the research programme

# Author's Preface

The field of innovation policies caught my interest around five years ago when I was involved in writing a report for the then rather newly established Swedish Governmental Agency for Innovation Systems (Vinnova) together with Daniel Hallencreutz and Per Lundequist. In that report we argued the importance of considering gender issues in the context of innovation. We also took the first steps to including a gender perspective when dealing with innovation policies. Doing research on gender in the context of entrepreneurship in the course of writing my PhD dissertation made me realise that talk on innovation and economic development in society seemed to be “gender blind”. This blindness was expressed through representations of economic activities – including work, entrepreneurship and education – as gender neutral, even though these activities and the people performing them to a large extent can be described by their gendered character. Men and sectors of the economy where men work were that way put forward when gender was not analysed, implying and creating a male norm. Since then, the striking injustice in this practice and the intriguing research question for me has been: How and why are women and their economic activities most often subordinated in economic development policies?

A grant from Nordregio's research programme, *Internationalisation of regional development policies – needs and demands in the Nordic countries*, made it possible for me to spend approximately six months digging into the innovation policies of Denmark, Finland and Sweden, deepening my understanding of the gendering of these policies in this study. I would like to thank the steering group for helpful comments and discussions. A special thank you to Margareta Dahlström, Nordregio, for administering the research programme and organising fruitful and pleasant project meetings!

To obtain the research grant I had to involve a reference group for the project. This was indeed a great thing to do, since it put me into contact with three helpful and insightful researchers. Thank you so much to Christina Scholten, Sirkku Wallin and Lars Winther for reading drafts of this report, helping me to improve it with their kind advice, eager questions and comments, and even coming to Uppsala to share their thoughts with me!

Last, but not least, I want to thank all the people at the Centre for Gender Research, Uppsala University for creating the nicest and most supportive possible institutional context for the writing of this study. It is so great to be at a place where a gender perspective, whatever that means, is accepted and used by everybody! A particular thank you goes to those who helped me improve the research application, and to those who helped me at my last seminar, and also to Riitta Mertanen for keeping track of the administrative and economic material related to this project!

Uppsala, May 2007

Katarina Pettersson

# 1. Introduction

Innovations are increasingly seen as one of the main ways to enhance economic growth and thereby creating prosperous nations and regions. Innovation policies often stress the creation of new products in non-linear processes involving actors like universities and public agencies, beside firms. Innovation policies aim at supporting different processes of creating innovations through various measures. Enhancing and supporting innovation is one of the key approaches within regional and economic developmental policies in the Nordic countries (see, e.g., The Danish Government, May 2006; The Danish Ministry of Economic and Business Affairs, 2006; The Swedish Ministry of Industry, Employment and Communications, 2006; The Finnish Ministry of Finance, 2006). Innovations are similarly seen as one of the drivers behind economic growth and creating a competitive European Union (EU) and it is stressed in the so-called Lisbon Agenda (The European Commission, 2005).

This is a study of policies aimed at enhancing innovation in a gender perspective in Denmark, Finland and Sweden, the three Nordic Member States of the EU. Gender research in general has analysed and studied different aspects of the gendered character of society and has shown that gender is created in various ways in practically every societal field and situation. Research on regional policy and innovation policy in a gender perspective has also revealed that gender is created in these policy contexts (cf. Blake and Hanson, 2005; Forsberg, 2005, Pettersson & Saarinen, 2005; Rees, 2000; Rönnblom, 2005). Hence, there is reason to believe that concurrent innovation policies in Denmark, Finland and Sweden are formulated in societal contexts marked by gender and that they therefore create gender. But how gender is produced is the question pursued in this study.

This is an important question because, if innovation policies do not take into account the gendering of society and social relations, there is a risk of the promotion of men and male as the policy norm. This includes a risk that the understanding of the innovation processes is disturbed, since the social relationships and involved societal processes are not accounted for in an appropriate way. In addition, there is a risk that only certain people, e.g., highly educated men in technical sciences, or men entrepreneurs, are supported by innovation policies. This, in turn, can lead to other people not being seen as important for the development of innovations, the economy and society – nor as important to support.

One indication of recognition of the gendering of society is the policy of gender mainstreaming, which is an obligation of all EU policies (Commission of the European Communities, 1996), and also in the national policies of Denmark, Finland and Sweden (The Danish Minister for Gender Equality, 2007; The Finnish Ministry of Social Affairs and Health, 2005; Prop. 2005/06:155). Gender mainstreaming means to analyse what implications a certain policy has on gender equality and try to avoid a gender bias. But the question is whether gender is mainstreamed in innovation policies in Denmark, Finland and Sweden.

## Aim

The aim of this study is to analyse Danish, Finnish and Swedish innovation policies in a gender perspective. This includes a two-fold process of, on the one hand, analysing *if* gender equality is mainstreamed into innovation policies and, on the other hand, to analyse *how* gender is constructed in innovation policies. The first part of the aim implies analysing whether a gender perspective is used and how it is formulated and used. The latter part of the aim includes an analysis of the gendering of the policies, answering the question of what gendered norms are created. I have posed and pursued the following overarching research questions following the two-fold analysis:

- Is gender equality mainstreamed into innovation policies in Denmark, Finland and Sweden?
- How is gender created in the latest innovation strategies in the respective countries I investigate? This question can be answered by asking, e.g., the following analytical questions:
  - Who, in a gender perspective, is seen as an important actor in the processes of creating innovations? And who is not seen as important?
  - What kind of knowledge is promoted as important in innovation policies? And, traditionally, who has that knowledge in gendered terms?
  - What sectors of the economy, in a gender perspective, are considered important on which to build innovation and competitiveness?

To meet this aim, I discuss in this first chapter, the gender perspective I use and the method – mainly textual analysis – that I develop. In the second chapter I briefly describe what innovation policies are about and in the third chapter I describe the Lisbon Agenda, where it is obvious that gender equality mainstreaming is an obligation. I also analyse the national reform programmes following the Lisbon Agenda in Denmark, Finland and Sweden to see if gender is mainstreamed. In the fourth chapter I describe the development of innovation policies and the ministries, governmental agencies and councils that are involved in innovation policy work at the national level in Denmark, Finland and Sweden. The main focus here is also to analyse if gender is mainstreamed in innovation policies. In the fifth chapter a more thorough analysis of the three latest innovation policies in Denmark, Finland and Sweden is performed, including an investigation of whether gender is mainstreamed and in addition how these strategies construct gender. In a concluding chapter I argue that gender should be mainstreamed and incorporating gender in innovation strategies transforms the perspective on innovation.

## Gender Perspective

Gender research has analysed the gendered character of society and shown that gender is created in a range of social processes, situations and areas. Innovation policies make up an area of society where one can thus expect gender to be created in one way or another, e.g., through the promotion of certain knowledge as important for innovation processes and by perceiving of certain actors as important for innovation. Analysing innovation policies in a gender perspective implies viewing innovation policies in a perspective other than that in which it is usually seen. Often the perspective used is one focusing on the best way of enhancing innovation to create economic growth or national or regional development. Thus, a gender perspective means viewing the landscape of social and economic development from a slightly different angle – seeing other things and thus setting innovation policy in the context of a gendered society. This context of gender can include the recognition of gender segregation in education, science and academia (cf. Husu, 2001; Högskoleverket, 2005), of the labour market and unpaid work (cf. Forsberg, 2000; SCB, 2006) and of entrepreneurship (cf. Ahl, 2002; Pettersson, 2002).

Most gender researchers, including me, view gender as a social construction. This implies that gender is socially, historically, and spatially constructed and not given by nature (cf. Gemzö, 2004; Gothlin, 1999; Hirdman, 1988; Hirdman, 2001; Kulick, 1987). What is seen as typically masculine or feminine traits, behaviours or activities varies among different times, places and discourses. How gender is constructed, performed and sustained, and sometimes changed, however, varies as does the extent of subordination of women. McDowell (1999) describes what she conceptualises as feminist scholarship in the following manner:

“The key aim of feminist scholarship in general is to demonstrate the construction of and significance of sexual differentiation as a key organising principle and axis of power, as well as crucial part of the constitution of subjectivity, of an individual’s sense of their self-identity as a sexed and gendered person” (McDowell, 1999, p. 8).

She goes on to explain that gendering as a key organising principle builds on the assumption of a categorical difference between men and women. Hence, the social construction of gender is built on a binary division that is also hierarchical. So, women and men, the feminine and masculine, are, while being created as opposites, also constructed in relation to each other (Hirdman, 1988; Hirdman, 2001; Reichert, 1994). This implies the simultaneous construction of the masculine and the feminine, even though one is put “on top” of the other. The masculine is not only the opposite of the feminine, but the marginalisation of the feminine is a prerequisite for making the masculine superior (Holgersson, 1998). The binary division between men and women has long-lasting roots in Western philosophy and a list of gendered distinctions following Gemzö (2004), and McDowell (1999), can look like this:

man	woman
the masculine	the feminine
reason	non-reason
active	passive
independent	dependent
intellect	body
subject	object
public	private
outside	inside
work	home
production	consumption
power	lack of power

These binaries then structure the society and are constantly worked and reworked in areas like politics, policies, education, the labour market, the economy and in the home. These findings of gendered divisions of society, and its different areas, is sometimes conceptualised in terms of gender equality or perhaps rather inequality. Gender (in)equality can be said to consist of two dimensions: a qualitative and a quantitative (SCB, 2006). The former concerns whether all people’s – women’s and men’s – knowledge, experiences and contributions to the development of society are made use of and if they are allowed to influence the development. Gender equality also includes a quantitative dimension whereas a distribution of women and men within the range of 40/60 percent is taken as gender equal, and where the goal of gender equality is 50/50 percent (SCB, 2006). The quantitative dimension of gender equality is important, but at the same time it is important that discussions on gender are not reduced to only concern this issue. This is sometimes the case and the proposed solution to the problem of gender equality is then to add, and complement, with women instead of changing or discussing changed power relationships (Rönnblom, 2002). It is, however, not only the quantitative dimension of gender equality that is debated, but also the qualitative dimension. The issue of changing power relationships and letting women’s contributions and experiences influence the societal development and in some areas vice versa, is sometimes grounded on the condition that men and women are different and separate, and that they have totally different experiences or abilities. The question is whether that is a fruitful perspective in gender equality work, since the objective of that work is that people ought to be treated and visible, etc., equally, regardless of gender (Mark, 2000).

## Gender Mainstreaming Policy

The research findings – that society is marked by gender and often by unequal power relationships between men and women – have also been observed by women’s organisations and by policy makers. The strategy chosen by many policy actors, e.g., the United Nations, the EU and a range of nations like Denmark, Finland and Sweden, to recognise this gendering and investigating how proposed policies influence the gender equality, and also seek to change unequal power relations between men and women, in policy and governmental organisations is *gender mainstreaming*. This is a study of innovation policies in a gender perspective. Since so-called gender mainstreaming is an obligation in all EU countries, it is obviously interesting for me to look into the question: Is gender mainstreamed in innovation policies in Denmark, Finland or Sweden?

Gender mainstreaming as a policy method is mainly an outcome of the 1995 UN Conference on Women in Beijing, where this approach to reaching gender equality was adopted. Gender mainstreaming is a rather new form of feminist politics (Walby, 2005). Within the EU, gender mainstreaming has been on the agenda since 1996 and the Member States are obliged to adopt this approach (Commission of the European Communities, 1996). The latest EU definition of gender mainstreaming is summarised as: “Incorporating equal opportunities for women and men into all community policies and activities”, and it is stressed that gender mainstreaming is not (only): “the implementation of specific measures to help women” – but rather – “systematically examining measures and policies and taking into account such possible effects [on the respective situation of men and women] when defining and implementing them”

([www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07). In the European Community Treaty (Article 2 and 3(2)), it is likewise stated that promotion of equality between men and women is a task of the European Community and that the EU should aim to eliminate inequalities, and to promote equality, between men and women in all its activities ([ec.europa.eu/employment\\_social/gender\\_equality/legislation/ectreaty\\_en.html](http://ec.europa.eu/employment_social/gender_equality/legislation/ectreaty_en.html), 13/03/07).

Gender is also obliged to be mainstreamed in all policies of Denmark, Finland and Sweden, which is stated in the latest gender equality policies in the respective country. In the latest Danish strategy for gender equality gender mainstreaming is part of the work for gender equality (The Danish Minister for Gender Equality, 2007): “gender is part of all policy areas. This means that every minister and every public authority is responsible for incorporating the gender aspect and gender equality work in their respective policy areas” (The Danish Minister for Gender Equality, 2007, p. 11, my translation). Finnish gender equality policy is also to be mainstreamed. It is, among other things, stated that: “The implementation of the action plan requires commitment of the Government and the ministries, and of the agencies and institutions under the ministries and various actors” (The Finnish Ministry of Social Affairs and Health, 2005, p. 2). The gender mainstreaming approach is also the point of departure in Swedish gender equality policies, as: “gender equality is a question in almost all areas of society” (The Swedish Ministry of Trade, Industry and Communication, 2006, p. 5, my translation, see also Prop. 2005/06:155).

Research shows that gender mainstreaming is performed in differing ways and unevenly throughout Europe implying different constructions of gender and gender equality. Rees (2005) defines gender mainstreaming as: “the promotion of gender equality through its systematic integration into all systems and structures, into all policies, processes and procedures, into the organisation and its culture, into ways of seeing and doing” (Rees, 2005, p. 560). This is a slightly more detailed definition than the one of the EU and it also stresses the different arenas and processes of gender mainstreaming. In her discussion, Rees places gender mainstreaming in relation to two other broad approaches to gender equality in the European Community, roughly characterising three time periods: the 1970s, 1980s and 1990s and onwards. The first period is characterised by equal treatment, with Rees’ word taken as *tinkering*, which focused on individual rights and legal remedies. The second approach used in

the 1980s is called *tailoring* and is characterised as focusing on group disadvantage and special projects and measurements. Currently, gender mainstreaming is the approach in use and captured by Rees in the term *transforming*, marked by a focus on systems and structures that give rise to group disadvantage, and that integrate gender equality into mainstream systems and structures.

Gender equality policy is increasingly analysed as constructing gender in itself (Rönblom, 2004; Rönblom, 2005) as Rees (2005) also does by conceptualising it in terms of the different approaches of tinkering, tailoring and transforming. Interesting questions posed in this regard are: Are women seen as the problem, the people in need and lacking resources, knowledge or abilities in gender equality policy formulations? Is gender equality considered a problem due to unequal power relationships between men and women or is it seen as a representational problem, where numbers are the problem and complementing is the solution? According to Rönblom (2002), the perspective on men and women as separate and diverse is most often grounded in an understanding of them as biologically different and, in turn, this biological determination is viewed as given. The proposition that “women give birth to children” in that view is taken as a biological reason to women’s and men’s sometimes separate abilities and activities, e.g., in the labour market and other forms of work. But this biological, essentialist perspective on gender inequality is not particularly fruitful in a discussion on gender equality. A perspective that implies that men and women are separated and active in partly different ways and have somewhat differing abilities due to prevalent power structures is, in my view, a more productive perspective from a gender point of view; and it is this kind of perspective that I apply in this study. A power perspective on gender inequality stresses the importance of equal power for men and women to shape the society and their lives.

The first two approaches, tinkering and tailoring, in Rees’ view, builds on a liberal feminist perspective, where male as norm is still accepted. The focus is put on measures helping women to better equip themselves in the competition with men, but not questioning that the rules of the game were not designed for women in the first place. Instead, gender mainstreaming is focused on changing mainstream policies, and builds on a relational perspective on gender where recognition is given to differences among women, and among men. It also deconstructs power relations and seeks to redistribute power, and: “Hence gender mainstreaming moves away from accepting the male, or rather dominant version of masculinity as the norm. It needs to challenge systems and structures that privilege this dominant version” (Rees, 2005, p. 559). The EU is pursuing all three approaches and they are still in use at the same time. Rees argues that since it will take considerable time to put gender mainstreaming into effect, it is still essential that equal treatment and positive action are developed and used (cf. Forsberg, 2005). In Rees’ view, all three can lead to gender equality in their own right, but equal treatment and positive action can also be tools of the gender mainstreaming approach. One can conclude that gender mainstreaming is performed in a pursuit of creating gender as a meaningless concept, since the goal of gender equality is nothing less than a society that is not structured according to gender binary divisions. A society where gender is not a category of ordering and subordination, however, is largely unknown to us and therefore can be hard to imagine (cf. SOU 2005:66).

## Material and Methodology

Studying policies on innovation is not an easy task, since there is a huge amount of research and policy documents on this subject, even though a gender perspective on this issue is unusual.<sup>1</sup> Another reason for the difficulty of investigating innovation policies is that this policy area is in constant change – new policies and reports keep coming out at a persistent pace. The administrative structures that seek to support and enhance the innovative potentials in the investigated countries are also, in some ways, in change at the moment (see, e.g., Lähteenmäki-Smith et al., 2006; The Danish Ministry of the Interior and Health Care, 2006; [www.sou.gov.se/ansvar](http://www.sou.gov.se/ansvar), 17/01/07). My way of handling the fact that there is a great amount of policies on innovation has been to make accounts of the central innovation policy in the EU – the so-called Lisbon Agenda – and overviews of innovation policies in the respective countries I study. The search for innovation policy actors and their policies was performed on the Internet, via the search engine Google ([www.google.se](http://www.google.se)), by search functions on various ministries' and governmental agencies' home pages on the Internet, and in addition by reading policy documents in turn pointing out innovation policy actors. 52 policy texts and 18 homepages on the Internet, found in Appendix, are analysed. I analyse whether gender is mainstreamed in these innovation policies and how explicit paragraphs on gender are constructed in a gender perspective.

To both pose and answer the research questions in this study I work with a model for textual analysis in relation to the theories on gender, following Hellspong & Ledin (1997) (that I have previously worked with, see Mattsson & Pettersson, 2006; Pettersson, 2006; Pettersson, 2002). The part of their model I am mostly inspired by is *the textual contexts* and *the content of the texts*. Hellspong & Ledin suggest that an analysis of a text's context is necessary to understand why a text is produced and why it is formulated as it is. Analysing the contexts of the texts implies putting them into the linguistic and social backgrounds to try to understand why they are formulated in the way that they are. An analysis of texts' contexts is necessary to understand why a text is produced and why it is formulated as it is. This means to put innovation policies against the backdrop of gender constructions and gender mainstreaming policy – looking at whether gender is mainstreamed and how gender is created in the policies.

The analysis of the contents of the texts aims at answering the overarching questions: What is the text about? With what eyes – in what perspective – is it looking at the subject of which it speaks? From a gender perspective I thus use some tools that support this analysis and those are in Hellspong & Ledins' words termed: *themes*, *propositions* and *perspectives*. Analysing the themes implies what the macro and micro themes in the texts are about. This is important to analyse since the thematic of a text often mirrors the underlying discourse. To analyse the themes, however, does not give much at hand about the contents of the text. To take a closer look at the content, the *propositions* that the text makes about the themes have to be analysed, using questions like: what does the text want to say?

In order to analyse the gender mainstreaming of the policy actors' homepages and in the policies they produced, I searched them for words that can, in one way or another, indicate explicit discussions on gender and gender equality, indicating the theme of gender issues. The words I use in the search are: *gender*, *equality*, *man*, *men*, *male*, *woman*, *women* and *female* when the texts are published in English, and the Swedish and Danish equivalents (cf. Mörtberg & Bue, 2004). It is, of course, not obvious that the mentioning of, e.g., the word “women” implies that a gender equality perspective is mainstreamed or even present at all. Therefore, I also perform close readings and interpretations of the passages in the policies where these

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<sup>1</sup> A search in the national Swedish library catalogue (Libris, [websok.libris.kb.se/websearch/form?type=simple](http://websok.libris.kb.se/websearch/form?type=simple), 27/09/06) give 6763 hits on the concept “innovation”, 836 on “innovation policy” and three hits on “innovation policy, gender” 27<sup>th</sup> September 2006.

words are mentioned – from a gender perspective – thus making analyses of the propositions and presuppositions on gender issues.

These overviews and analyses of innovation policies can be seen as making up the contexts of a more narrow choice of one national strategy on innovation in each of the investigated countries, produced by the respective Governments or governmental agencies in Denmark, Finland and Sweden. I read and interpret these three innovation strategies in a close, detailed way in order to analyse them in a gender perspective. This, in addition to answering the question of whether gender is mainstreamed and how gender is created in the paragraphs where gender is also explicitly mentioned, means to analyse how gender is created in an implicit way by the choice of promoting some actors, some knowledge and some sectors of the economy as important, and others as not important. I analyse the themes and propositions of these policies. Connected to the propositions are *presuppositions*, implying what the premises of the texts are, which I also interpret. The presuppositions can say a lot about the gender construction of the texts and they can consist of what is silently presupposed to be known and accepted by the readers. The perspectives used in a text concern from what stand-point the text looks at the world. This includes an analysis of metaphors of the policies, since this indicates a comparative perspective in the text. In addition to this textual analysis I also analyse the images in and the forms of the strategies, including interpreting towards what kind of readership the strategies are directed.

The three policies I analyse in this more detailed way are (also in Appendix): The Danish *Progress, Innovation and Cobesion Strategy for Denmark in the Global Economy – Summary* published in May 2006 by the Government (in English). This so-called globalisation strategy seems to be a sort of umbrella document to Danish regional policy and also in regard to the anchoring of the Lisbon Agenda in Denmark. The strategy is produced by the Government, but it is the result of a process involving the so-called *Globalisation Council*. The process around producing the globalisation strategy is described in more detail in chapter 5. Regarding Finland I analyse the policy document *Science, Technology, Innovation*, published in October 2006 by the Science and Technology Policy Council of Finland (in English). This is a review of the science and technology policy that make up an analysis of past developments and proposals for the future. The Swedish *Innovative Sweden – A Strategy for Growth through Renewal*, published in 2004, produced by the Ministry of Trade, Industry and Communication and the Ministry of Education, Research and Culture (in English) is the latest national strategy on innovation policy in Sweden, even though it was published in 2004.<sup>2</sup> The choice of these three texts is influenced by the following factors:

- Topicality – all of the texts are the latest published national strategies.
- Influential political bodies produced the texts (the Government in Denmark and the Ministry of Industry, Employment and Communications and the Ministry of Education in Sweden and the Science and Technology Policy Council of Finland).
- The strategies concern the national level.
- They are referred to in other policy documents.<sup>3</sup>

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<sup>2</sup> However, the topicality of this strategy is indicated in the latest regional policy strategy, published in December 2006, where there is continued support for the former Government's strategic development policy in some key sectors of the economy as pointed out in *Innovative Sweden* (the Swedish Ministry of Trade, Industry and Communication, 2006, p. 13, see also the Swedish Ministry of Trade, Industry and Communication, 2005).

<sup>3</sup> An important feature of the Danish globalisation strategy in this regard, pointing at its importance, is that the members of the Globalisation Council producing it has signed a framework agreement on mutually binding partnerships, so that they contribute to the implementation of the strategy in practice – even though it is underlined that this final product is the responsibility of the Government alone. In the Danish version of the strategy there is even a copy of the signed partnership agreement (The Government, June 2006, p. 156-157). The Government is to monitor the implementation process each year. The implementation is also to be performed regionally and locally in Denmark through two initiatives. First, EU-funding will focus, during the 2007-2013 period, on local and regional growth and industrial

- They are referred to as important in other accounts (cf. Gergils, 2006; European Commission, 2006a; European Commission, 2006b; European Commission, 2006c).

In the coming chapters of the study I analyse whether gender is mainstreamed in innovation policies in Denmark, Finland and Sweden. First, however, I briefly discuss the history of innovation policy and research in the next chapter.

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development by encouraging education, entrepreneurship and a strengthening of the innovation and research. Second, partnerships will be forged between the regional growth forum and the state, which are to include the setting of concrete goals on regional industrial development. The globalisation strategy encompasses a range of initiatives that are to be performed regionally and/or locally. Some are to be co-financed by EU-funding.

## 2. A Brief History of Innovation

In this chapter I briefly outline innovation policy. The answer to the question of how to define what innovation policy is, of course, depends on who you ask, but a very basic understanding of innovation policy is that it is a complex of economic growth policy, research and education policy and industrial policy aimed at enhancing innovation through the support to various actors and organizations, and the creation of good conditions and building grounds. However, what innovations are and how their creation is best supported, of course, varies. Innovation policies in Denmark, Finland and Sweden are not formulated or performed in a conceptual or political vacuum. Instead they are highly influenced by different contexts like policy formulations in the OECD (Organisation for Economic Co-operation and Development) and the EU, and developments in research and theories on economic growth and development. Creating an overview of the contexts of the analysed innovation policies in more detail is a rather tricky task, since there are so many discussions, views and definitions on innovation and such a range of policies on innovation. As Uhlin (2006) writes: “Today the concept of innovation system is very much present in all kinds of contexts concerning economic growth, regional development and societal planning” (Uhlin, 2006, p. 124).

Miettinen (2002) argues that the idea of *innovation system* was developed by researchers in the latter half of the 1980s to formulate a useful concept for policy design. This concept took on a life of its own, being used in public debate and in a number of policy programmes for economic development and growth. In Finland it was used in national growth plans in the end of the 1980s and is often seen as the explanation of the Finnish economic wonder in the 1990s, whereas Finland recovered from the economic crisis in the beginning of the 1990s. Uhlin (2006) (following Miettinen, 2002) points out that the idea of innovation systems rapidly became accepted also in the other Nordic countries. In Denmark there was a national study of the national innovation system in the so-called DISCO-project (*Det Danske Innovationsystem*, [www.ebst.dk/publikationer/rapporter/innovationssystem/ren.html](http://www.ebst.dk/publikationer/rapporter/innovationssystem/ren.html), 06/02/07). In Sweden the Agency VINNOVA (Swedish Governmental Agency for Innovation Systems), was created. The agency was created to enhance and support innovation and innovation systems in Sweden.

In addition, Miettinen argues that the OECD and the EU have played important roles in legitimising the notion of innovation system. The OECD produced two influential reports at the end of the 1990s that built on seminars and workshops. Civil servants participated in these seminars and workshops, and made way for the concept into the policy context of their respective ministries and agencies. The OECD reports are self-referential and largely build on unpublished material or other OECD material, which is not possible to examine according to Miettinen. The scientific articles referred to are confined to the fields of economics, and no references are made to social science or humanist articles. Thus, there is little evidence of a scientific substance of the systems part of the innovation systems approach. However, according to Uhlin, the concept “innovation system” became: “a scientifically grounded ideology for economic growth” (Uhlin, 2006, p. 124).

### Changed Perspective on Economic Growth

The interest in innovations also stems from changes in views on economic growth. Structural changes in the economy and economic crises during the 1970s lead to the view that Keynesian demand-driven economic development was limited. Instead, theories focusing on, e.g., such technical changes as drivers of economic development, cyclic views of economic development connected to innovations and the importance of institutional contexts of economic development, were resurrected and developed (Benner, 2005; Nilsson & Uhlin,

2002). Within the policy field there was also a need for new understandings of economic development, since the policies seeking to support economic development in the period after the Second World War were built on Keynesian theory. In addition, notions on globalisation – a change of economic processes in the context of an increased international trade and an increase in transnational co-operation and the development of ICT – influenced new theories and policies on economic development.

Since the 1990s, research on innovations has increased, related to the new and reawakened theories on economic development. Innovations are, in these views, briefly concluded, seen as central to economic growth and development. Economic growth is thus considered of as created when firms in systems or collaborations or related together with other firms and actors, like universities and authorities, develop new products or processes – innovations – that sell well. The structures of related actors are conceptualised in terms of, e.g., *innovation systems* (as mentioned above), *national system of innovation* (Freeman, 1995; Lundvall, 1992) *innovative processes* (SOU 2003:90), *economic clusters* (Porter, 1990), and *triple helix* ([www.vinnova.se/vinnova\\_templates/Page\\_327.aspx](http://www.vinnova.se/vinnova_templates/Page_327.aspx), 06/02/07).

Central to the idea of innovation driven economic growth is that collaboration and learning processes influence innovation capacities and, in turn, economic development. Firms are not seen (entirely) as rational economic actors working autonomously in the market, but rather as path-dependent, working in particular institutional settings with relationships and collaborations with other firms and actors. The idea is that economic competitiveness is not explained by low costs for production factors like work, capital and natural resources but rather the ability to learn and be creative. The importance of trust and geographic proximity as factors supporting learning and the exchange of knowledge is also stressed. In this view, innovations are not seen as the result of planned or predictable linear processes starting with (basic) research. However, as Benner (2005) argues, research is largely focused on processes within innovation policies and systems of innovation are, in that regard, seen as structures that can commercialise university research, connecting the public knowledge system with private enterprise.

It is obvious that there is much research and many policies produced that cover a range of aspects in regard to innovation.<sup>4</sup> A Swedish governmental investigation (SOU 2003:90) resulted in a tentative structuring of the international research literature on innovation. This indicates the breadth and vastness of this research field that might also, to some extent, be mirrored in innovation policies. The categories of publications in the presented innovation literature include innovation, hotbeds creating innovations (except systems and structural approaches), systems and structures, dispersion, benefits and effects of innovations, theories on innovation, legal aspects, and learning and knowledge management. These, in turn, encompass many examples of different approaches. Following the above discussion one can conclude that there are many contexts considered when analysing innovation policies.

In the next chapter I describe the EU context of the Lisbon Agenda striving for more growth and jobs in the EU through innovation, influencing innovation policies in Denmark, Finland and Sweden. I look into whether gender mainstreaming is an obligation of the Lisbon Agenda and the required national reform programmes to be produced by all EU Member States, and if gender is mainstreamed in the Danish, Finnish and Swedish reform programmes and how gender is created in the paragraphs explicitly mentioning gender.

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<sup>4</sup> The direct links between research and theories on innovation on the one hand and policies on the other, however, are not always obvious, as discussed by Miettinen (2002). In that regard, innovation and related words are concepts that can be filled with meaning dependent on, e.g., the context and actor giving it meaning (cf. Hellspong & Ledin, 1997; for an equivalent discussion on the cluster concept see Malmberg, 2000; Pettersson & Saarinen, 2005).

### 3. The Lisbon Agenda – More Growth and Jobs and Gender Mainstreaming?

Through the discipline imposed by the competition policy and the internal market the EU has become highly influential in relation to the formulation of the complex of innovation, economic growth and regional policies in the respective Nordic countries, though it is particularly influential in the EU Member States (Denmark, Finland and Sweden). One policy clearly influencing innovation policies is the so-called *Lisbon Agenda*, which was launched in 2000 with the goals of creating more growth, more and better jobs and better governance. The overarching or quantified headline goals were that by 2010 average economic growth in the EU should be 3%, with 20 million new jobs having been created between 2000 and 2010 ([europa.eu/rapid/pressReleasesAction.do?reference=MEMO/06/23&format=HTML&aged=0&language=EN&guiLanguage=en](http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/06/23&format=HTML&aged=0&language=EN&guiLanguage=en), 12/09/06).

The Lisbon European Council identified two profound new developments worthy of consideration in the drive to enhance economic development and create more jobs, namely, *globalisation* and the growing importance of *information and communication technologies* (ICT). The favourable economic outlook at that period made these goals seem tangible (The Lisbon Special European Council, 2000). By 2005, however, after a period of persistent economic sluggishness, the Lisbon Agenda's mid-term review, led by former Dutch Prime Minister Wim Kok, noted that attaining that goal was now "highly unlikely". This was primarily due to weaknesses in the European labour market, which created such difficulties as an insufficient number of jobs being created in the services sector, significant regional imbalances, a high rate of long-term unemployment, a shortage of women participating in the labour market and demographic trends ([europa.eu/scadplus/leg/en/cha/c10241.htm](http://europa.eu/scadplus/leg/en/cha/c10241.htm), 29/08/06).

The 2005 re-launch of the Lisbon Agenda entitled, *Working together for growth and jobs - A new start for the Lisbon strategy* (The European Commission, 2005) focuses on action instead of quantified targets. Only two quantified targets remain; an employment rate of 70 percent and a three percent share of GDP to be devoted to research and development by 2010. The policy priorities of more growth, more and better jobs and better governance remain. In addition, a whole range of measures to be used by the member countries in reaching these priorities is forwarded, even though the panoply of goals and reporting processes is lessened. Innovation is evidently high on the Lisbon Agenda.

To stimulate *more growth* the Commission intends to:

- Make the EU more attractive to investors and workers by building up the internal market, improving European and national regulations, ensuring open and competitive markets within and outside Europe, and by extending and improving European infrastructures.
- Encourage knowledge and innovation by promoting more investment in research and development, facilitating innovation, greater use of information and communication technologies (ICT) and the sustainable use of resources, and by helping to create a strong European industrial base.

*More and better jobs* are to be created through:

- Attracting more people to the employment market and modernising social protection systems. The Member States and the social partners must implement policies to encourage workers to remain active and dissuade them from prematurely leaving the

work world. They must also reform the social protection system to achieve a better balance between security and flexibility.

- Improve the adaptability of the workforce and business sector, and increase the flexibility of the labour markets to help Europe adjust to restructuring and market changes. Simplifying the mutual recognition of qualifications will make the mobility of labour easier throughout Europe. The Member States should remove all restrictions in this area as quickly as possible.
- Invest more in human capital by improving education and skills. The Commission intends to adopt a community lifelong learning programme.

*Better governance* is to be created through a clearer and more effective sharing of responsibilities. The Commission has also proposed to simplify coordination with fewer and less complex reports (The European Commission, 2005).

Gender is not mainstreamed into the text re-launching the Lisbon Agenda, the concept “gender” is only mentioned once and the same goes for the concept “women”:

“Moving people from unemployment or inactivity back to employment and giving incentives to stay longer in the workforce all require the modernisation of social protection systems. The huge potential of women in the labour market remains to be fully exploited. Social partners should be committed to further eliminate the gender pay gap” (The European Commission, 2005, p. 26).

The words are both mentioned in relation to the labour market – one in a more positive mode, seeing women as a potential for increasing economic growth, and hence not focusing so much on positive developments for the women themselves. The other envisions a more problematic situation of women being paid less than men for their labour. There are no further elaborations on the gender pay gap or women’s situation in and outside the labour market. No statistics or other facts are presented.

A stronger partnership between the European Commission and the Member States is also demanded in the new Lisbon Agenda. The Member States are therefore obliged to submit *National Reform Programmes* outlining how, through their national policy strategies, they are implementing the Lisbon Agenda. There are twenty-four integrated guidelines for growth and jobs that clearly state the prominence of efforts on innovation. One section of the guidelines focuses on: “the measures and policies that the Member States should carry out in order to boost knowledge and innovation for growth and to make Europe a more attractive place to invest and work” (The European Commission, 2005, p. 9).

Regarding gender issues, the guidelines say that: “Implementation of all relevant aspects of these guidelines should take into account gender mainstreaming” (The European Commission, 2005, p. 9). A slightly sharper instruction, making no reservations for not mainstreaming gender in instances of so-called relevant aspects, is found under the heading of employment policies: “gender mainstreaming and the promotion of gender equality should be ensured in all action taken” (The European Commission, 2005, p. 29). In addition, equal opportunities and combating discrimination are also declared as essential for progress in the context of labour policy reforms. One notable problematic issue is the focus on women, and other “groups”, scarcely represented in many EU countries’ labour markets, as a “reservoir of unused labour”, as in the following citation: “Notwithstanding the recent increase to 63.0 percent in 2003, the still relatively low employment rate indicates that Europe has a reservoir of unused labour. The scope for further improvements is thus considerable, notably amongst women, young and older workers” (The European Commission, 2005, p. 12).

The male as norm characterising the labour market and the employed is apparent, in a gender perspective, in the EU view and cannot be said to enhance or promote gender equality. Instead it puts women and others in a disconnected position from the labour market since they are not represented as currently present there. Women are also perceived as a

group, which is not the case regarding men. Since women often make up at least half of the population it is hard to understand the view of them as a group. Additionally, women are represented as if they do not really belong in the labour market, since a reservoir can either *be* or *not be* used depending on whether or not it is greatly needed. Interesting to note is that the verb *reserve*, closely related to the noun *reservoir*, has the synonyms *set aside*, *put to one side*, *keep back*, *hold back* and *store* according to the MS Word synonym function. This clearly supports the interpretation made of women and others as subordinated – thereby creating men as the norm – in the EU guidelines' perspective of the labour market and employment (cf. McDowell & Sharp [eds.], 1999, p. 26). Even though the gender perspective is not mainstreamed into these guidelines in themselves, it seems clear within the policy area of employment that gender mainstreaming should be performed in the national reform programmes of the Member States.

The national programmes are after their submission discussed at subsequent spring European Council meetings. After the first round in October 2005 the Commission published their findings on these national reform programmes into the report, *Time to Move up a Gear*, the European Commission's (2006d) Annual Progress report on Growth and Jobs. Three main policy areas were highlighted in the instructions for the national programmes: *macro-economic* and *micro-economic reforms* and reforms concerning *employment*. Based on an assessment of the national programmes four actions are suggested to develop the national reform programmes:

- Investing more in knowledge and innovation.
- Unlocking the business potential, particularly of small and medium sized enterprises.
- Responding to globalisation and ageing.
- Moving towards an efficient and integrated EU energy policy.

## Education, Innovation and Competition in Denmark

The Danish reform programme – *The Danish Reform Strategy Contribution to EU's Growth and Employment Strategy (The Lisbon Strategy)* (The Danish Government, October 2005) – in short, points to the following essential forthcoming social and economic challenges in Denmark:

- Improve people's ageing, through decreased public debt and higher employment figures by the employment and integration of weaker groups in the labour market.
- Ensure that the benefits following globalisation pay, flexible markets, higher quality in educational systems and a rise in the number of educated young people, and better quality higher education and research.
- Strengthen the framework for increased productivity in the private sector through tougher competition, better co-operation between the public educational system and the research community, enhancement of innovation and entrepreneurship and better regulation and infrastructure.
- Ensure the best possible value for users of the public sector where modern management will be supported by the deployment of new technology, free choice and will increasingly be subject to competition.

The Danish Government also underlines that a number of reforms are either being planned or undertaken: the structural reform, a welfare reform, the Globalisation Council initiative, and the realisation of lifelong learning and education for all and is obviously aiming at the enhancement of innovation (The Danish Government, October 2005).

Regarding gender issues, the Danish national reform programme does not mainstream gender, as is true for the EU guidelines, but the latter document is clearly more elaborate on gender equality than is the Danish programme. In Denmark the goal of a 70 percent overall employment rate and 60 percent for women is met and in the programme, and the reasoning on this issue is positive: “The Danish labour market has a favourable starting position. Denmark has an employment rate that is already higher than the joint EU objective of 70 percent, partially because of the high participation of women in the labour market” (The Danish Government, October 2005, p. 35).<sup>5</sup> The employment rate of women is presented in a table, and in 2003 (the figure presented) it was 70 percent. It is also mentioned that the Government focuses on breaking down the gender-divided labour market, since the employment rate of women is high. How this breaking of the gender division, which seems to be a rather massive and extensive task, is to be performed is not specified. No data on this issue is presented. The EU guidelines on labour supply and a life-cycle approach to work are also cited, whereas it is evident that gender gaps in pay and unemployment are to be reduced and that the Danish Government plans: “promoting a better balance between work and private life by providing, for instance, accessible and affordable childcare facilities and care for other dependents” (The Government, October 2005, p. 38).<sup>6</sup> No direct measurements on how this is going to take place are presented in the reform programme. Thus, gender is not mainstreamed in the Danish strategy on national reforms for growth and jobs in following the EU definition ([www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07) and/or Rees’ definition (2005).

Following the EU instructions, the Danish reform programme has been followed up in a first progress report, which takes into consideration results from the EU evaluation: *Danmarks nationale reformprogram 2006 – første fremskridtsrapport – Bidrag til EU’s vækst- og beskæftigelsesstrategi (Lissabon-strategien)* (The Government, October 2006). There is a continued focus on the four challenges (cited above). One effort made, seen as meeting them, is a so-called welfare agreement which is said to be a broad political agreement on pensions, the labour market and a globalisation fund that is going to be used as support for investments in research, education, innovation and entrepreneurship. The welfare agreement is based on three elements: the work of the Welfare Commission (see The Danish Government, April 2006), the globalisation strategy, and a report from a so-called three-party-selection, from the Government and the labour market partners, on lifelong learning.

Regarding gender, it is not mainstreamed into the progress report, but it is interesting in a gender perspective to note that, concerning gender equality, a range of initiatives in coming to terms with gender inequalities in the labour market are presented (seemingly following commands from the EU on special efforts for raising the employment of older people, immigrants, the young and women).<sup>7</sup> One initiative is the passage of a law on large private companies to set up gendered statistics on wages. A follow-up instruction on the promotion

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<sup>5</sup> The EU guideline 17 is also partly cited in this context in the following way: “EU Guidelines: High employment: Policies should contribute to achieving an average employment rate for the European Union (EU) of 70 percent overall, of at least 60 percent for women and of 50 percent for older workers (55 to 64) by 2010, and to reduce unemployment and inactivity (...) (Guideline no. 17)”. (The Government, October 2005, p. 26).

<sup>6</sup> Two points in the EU guideline 18, concerning these issues, are formulated like this: “resolute action to increase female participation and reduce gender gaps in employment, unemployment and pay; better reconciliation of work and private life and the provision of accessible and affordable childcare facilities and care for other dependants (The European Commission, 2005, p. 30).

<sup>7</sup> In addition, there is *A Roadmap for equality between women and men 2006-2010* published by the European Commission (2006e), where it is noted that: “The gender dimension of the Lisbon strategy for jobs and growth must be strengthened” (European Commission, 2006, p. 3). The European Council has also adopted a *European Pact for gender equality* considering this gender equality road map proposed by the Commission ([www.eu2007.bmas.de/EU2007/Navigation/English/Equal-opportunities/european-pact-of-gender-equality.html](http://www.eu2007.bmas.de/EU2007/Navigation/English/Equal-opportunities/european-pact-of-gender-equality.html), 13/02/07). This pact is referred to in the Danish Progress report on the Lisbon Agenda.

on gender-equal wages is also said to be under way. Another initiative concerns childcare where it is noted that all parents, despite status in the labour market, have the right to this service. Beginning 1<sup>st</sup> July 2006 all municipalities are to provide a “guarantee of care” for children older than six months. There is also a maximum limit of how large a share of the cost for childcare that the parents are to pay. This will be lowered and child allowances will be increased for children under the age of three years. Another initiative concerns the cost for parental leave, which has, to some extent, been carried by the employer. The norm marking parental leave is women, as is obvious in the following citation: “In the future there will be fewer implications for an employer to employ a co-worker who is or will become pregnant” (The Danish Government, October 2006, p. 54, my translation). The citation points at the creation of parental leave as solely an issue concerning the ones who are, or possibly will become, pregnant; that is women. In addition, one can note the presence of an employer’s perspective. Parental leave is discussed in relation to the consequences of a change in responsibility for costs rather than (positive) effects for the employed, even though this change may influence the perspective on women in the labour market. A problem underlying this reasoning seems to be that employers are hesitant to employ women – which, then, is a problem of gender inequality in Denmark.

In 2005 *A Commission of Family and Working Life* was put in place to map and analyse the needs of the “modern family” regarding the construction of the labour market, public and private service provision and what is called a “more flexible society”, whereas the reconciliation of work, private and family life is promoted. Another initiative in the progress report concerning the promotion of gender equality in the labour market is a focus on women as managers, where it is noted to ensure that organisations recruit the best talents among men *and* women in the future welfare society. The share of women as managers in private businesses is currently not satisfying. A study carried out on women and management is said to indicate that more women as managers give better results and this is the ground for a collaborative effort between the parties in the labour market to enhance having more women as managers.

A policy document on women’s and men’s education and jobs (The Danish Minister for Gender Equality, 2006) is also mentioned in the progress report. In this policy, efforts are presented regarding coming to terms with the gendered division of the labour market into a sphere for women and a sphere for men, focusing on young people’s educational and employment choices. They are, however, not presented in the progress report. Additionally, gender equality is also mentioned as a horizontal goal of regional growth policy, with a focus on innovation, entrepreneurship, use of new technology and the development of human resources, in the progress report.

## Balancing Ageing through Innovation and Productivity in Finland

In the Finnish National Reform Programme eleven priorities are identified. Three concern the *macro-economic level*:

- To achieve economic stability and sustainable public finances, the key measures are those related to the ageing population and a pension reform launched in 2005.
- To curb public expenditure.
- To secure welfare services and increase public sector productivity.

The *micro-economic reforms* suggested in the Finnish reform programme (The Finnish Ministry of Finance, October 2005) highlight a number of structural changes to increase competitiveness and productivity. This will be done through supporting knowledge and

innovation and, by promoting entrepreneurship, creating better functioning markets, improving communication and transportation networks, and supporting an energy and climate policy that supports sustainable development. With respect to *employment policy*, the goals are to raise the rate of employment and to improve the functioning of the labour market. The key measures concern the need to extend labour market careers, to improve incentives in the tax and benefit systems and to balance the demand and supply of labour.

Gender cannot be concluded as mainstreamed in the Finnish reform programme (cf. Rees, 2005, [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07) but gender equality issues are touched upon a few times. On one occasion there is an impression of gender equality as a goal of the programme, which is not obvious in other parts of the text. The gender equality goal is also sidestepped, since the focus is put on equal treatment of people of different ages: "Apart from the goal of improving gender equality, another aspect that has received increasing emphasis in recent years is the equal treatment of workers of different ages" (The Finnish Ministry of Finance, October 2005, p. 20). Gender is also mentioned in relation to raising the employment rate: "The Government of Finland has set itself ambitious targets for raising the employment rate: those targets can only be reached if employment levels increase in all gender and age groups as well as in different regions and if exclusion from the labour market can be effectively prevented" (The Finnish Ministry of Finance, October 2005, p. 20). It is in this context noted that this goal cannot be met unless the labour policy is developed; to only focus on growth policy is not enough. It is also mentioned that Finland already exceeds the EU targets for 2010 on employment rates for women and older workers, since women's employment rate was 65.5 percent in 2004. The fact that this is a rather low figure, e.g., in a Nordic comparison, and that there can be other problems of gender inequalities in the labour market is not taken into consideration in any way other than that the programme mentions that the reconciling of work and family life will be promoted through the Government's equality programme and through the equal pay programme. What findings and efforts these programmes include, in order to promote gender equality, are not elaborated on in the reform programme.

The Finnish reform programme has been followed up in a first progress report (The Finnish Ministry of Finance, October 2006). The progress report concludes that the reform programme has been carried out as planned and that no significant changes have been required by the EU. However, it is underlined that the progress report places greater emphasis on bolstering local Government finances, enhancing the innovation system and improving the functioning of the labour market, than the original programme. The programme is also said to be tied more closely to Finland's new structural funds strategy.

The progress report does not elaborate on gender equality to any greater extent than in the programme of 2005. The concept of gender equality is, however, stated earlier and slightly more broadly in the following citation, making explicit the relationship between gender equality and economic and social policy, and that gender equality is a key task: "A key task for economic and social policy is to ensure that the reforms required to maintain sustained competitiveness can be implemented smoothly and that they contribute to people's welfare, create new jobs, strengthen social cohesion, enhance gender equality and improve the state of the environment" (The Finnish Ministry of Finance, 2005, p. 11). This broad perspective cannot be concluded as used in the report other than in a very implicit way. Hence, gender mainstreaming is not performed in the Finnish progress report (cf. Rees, 2005; [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07). However, it is mentioned that the first year of the reform programme promoted equality and social cohesion under the heading of specific successes. But, this is not further described or explained so it is unclear if it is *gender* equality – or another form of equality – that is implied. No further discussions on gender (in)equalities are performed in the report, even though the so-called employment indicators presented in an appendix are divided according to gender.

# More Employed and Improved Business Climate in Sweden

In the *Swedish National Reform programme for Growth and Employment 2005-2008* the former Swedish Government presented its priorities in juxtaposition to the European Commission's twenty-four point reform programme (The Swedish Government, October 2005). The three dimensions of sustainable development are mentioned as an "opening" to the programme. In short, the major goals and reforms concerning the macro-economic situation, the Swedish Government points out, are full employment and increased prosperity through high and sustainable growth. The preconditions for that are low inflation, strong public finances and demand to gear the economy to full capacity utilisation. In the micro-economic area, the challenges posed by globalisation, economic integration and structural changes, and how they can be met, depend on access to knowledge, product development, flexible and efficient work organisation and efficient, environmentally compatible production processes. A high level of labour market participation and a large number of worked hours are prerequisites for the Swedish welfare model. The challenges in the area of employment policies include meeting the future demographic changes while taking into account regional differences. Other challenges mentioned include reducing the number of long-term unemployed, making it easier for men and women to join and re-enter the labour market, and cutting the sick leave absences from the labour market.

Gender equality is touched upon in relation to employment policy and unemployment among women and men with a foreign background, as well as the young and disabled. But gender cannot be concluded as mainstreamed in the programme (cf. Rees, 2005; [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07), even though there are rather elaborate discussions on gendered divisions of challenges and efforts regarding employment policies. In the context of the EU guideline on achieving full employment, improving quality and productivity at work and strengthening social and territorial cohesion, it is stated that gender equality is important for stimulating employment and greater social cohesion. In addition, in relation to the EU guideline of promoting a lifecycle approach to work, there is a paragraph on *Equal opportunities for men and women*. The fact that the employment rate in Sweden for men and women exceeds the goals of the Lisbon Agenda is not taken as a reason to not discuss gender inequalities, as is clear in this citation:

"A number of important gender-related differences remain, for example, regarding working conditions, income, sickness absence and career opportunities. If employment opportunities for women are to be increased, gender equality must gain ground in the home, in the labour market and in society in general" (The Swedish Government, October 2005, p. 49).

The efforts presented in the Swedish programme include a proposal to increase the ceiling for parental benefits (to encourage men to use their entitlement to parental leave), a commission on parental leave, and affordable childcare. One notable detail is also that in the Swedish programme the use of a gender perspective is mentioned, as The Social Insurance Office has been requested to draw up a plan for the incorporation of a gender perspective into the application of sickness insurance.

In September 2006 a general election took place in Sweden. The election results saw a change in Government, with the Alliance for Sweden forming the new Government. The new Government subsequently presented a revised Swedish Reform Programme for Growth and Jobs 2006 to 2008, within the framework of the European Strategy for growth and jobs (The Swedish Government, October 2006). The major goals in respect to the *macro-economic situation* include meeting long-term demographic challenges and promoting economic growth by increasing the labour supply, employment opportunities and the number of hours worked

in the business sector and maintaining sustainable public finances. The key to safeguarding welfare is to overcome exclusion in the labour market and to create more jobs and enterprises. The key goal for the *micro-economic* realm is to become the world's best country for starting and running a business. To meet the challenges posed by globalisation Sweden has the competitive advantage of producing knowledge-intensive goods and services. This can be promoted by creating a better business climate, developing a sound innovation policy, and strengthening Swedish research. The challenges faced in the area of *employment policy* include the need to reduce unemployment and the problem of exclusion in the labour market. Labour market policy thus aims at having more people of working age employed, "making it worthwhile to work" and simpler to take on new employees.

In this revised programme there are quite a few instances where gender-related terms are used. There are quite a lot of gendered statistics on underemployment (3.8 percent men and 7.5 percent women) and unemployment (7.1 percent of the men are and 6.5 percent of the women). However, gender equality is not mainstreamed in the revised programme (cf. Rees, 2005; [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07). The term women is mostly mentioned in relation to discussing efforts of promoting women's entrepreneurship by supporting it through business advice, increased knowledge on women entrepreneurs, and by making it easier to start and run a business within the welfare sector. In addition there is, as in the previous programme, a particular section with the heading *Equal opportunities for men and women* where it is mentioned that "women and men still do not have equal opportunities" (The Swedish Government, October 2006, p. 53). The solution presented to meet this situation is a reform of family policy, including a so-called gender equality bonus in parental insurance, a voluntary municipal child-raising allowance and childcare vouchers. In addition, efforts to allow a greater scope for buying domestic services and free universal preschool to be expanded to include three-year-olds are presented. From a gender perspective it is not elaborated on how these efforts promote gender equality (cf. UNT 16/03/07).

In the next chapter I make an account of the recent developments of current Danish, Finnish and Swedish innovation policies. I analyse if gender equality is mainstreamed into them. I also lift up the studies pursuing discussions on gender issues, discussing them in a gender perspective.

# 4. Gender Mainstreaming in National Innovation Policies?

## Denmark – Gender-Blind Quest for an Innovative Society

The Danish developments of and administrative structures concerned with innovation policies are not wholly easy to grasp, partly because the Danish governance and governmental system have been in a state of change since the beginning of the 2000s. There is also a plethora of actors involved, in one way or another, in innovation and growth policies – ministries, agencies and councils on the national and regional levels. In the following section I try to sort out some of the threads in the fabric of Danish innovation policies to contextualise the globalisation strategy analysed in this study.

Innovation policy in Denmark has developed since the 1980s when a technology development programme was launched. This programme focused on technical innovation and this focus continued through the early 1990s. In the mid 1990s a broader approach defining development areas, which included all private economic activity, was adopted in the so-called DISCO-project, which was initiated by the Industry and Trade Development Council and was in effect from 1996-1999 ([www.ebst.dk/publikationer/rapporter/innovationssystem/ren.html](http://www.ebst.dk/publikationer/rapporter/innovationssystem/ren.html), 06/02/07). In the beginning of the 2000s the policies started focusing more on framework conditions instead of sector and technology-specific efforts (Hedin et al., forthcoming).

The year 2002 seems to be a starting point for a new approach to economic growth and related issues since it followed the year of the election of a new liberal Government after a Social Democrat Government period (The Danish Government, January 2002; The Danish Government, May 2002). The ambitious goal of this growth policy was that Denmark become the best place to work and live, a goal to be reached through increased: “growth in the industry” (The Government, January 2002, p. 5) and a move from creating good conditions for running companies in Denmark to a focus on: “growth and renewal in our society” (The Danish Government, May 2002, p. 5).

Under the Ministry of Economy and Business Affairs there are several governmental agencies. The one presumably most closely linked to innovation and growth policy, the *National Agency for Enterprise and Constructions Division for Research and Analysis* (FORA). This agency presents itself as having the mission of enabling decision makers to make fact-based decisions that take into account the current and future challenges faced by private enterprises by linking the current state of knowledge to policy making. FORA has published reports on so-called user-driven innovation (e.g., within the fashion industry), innovation monitors, entrepreneurship indexes, cluster studies and case studies of companies or business climates in particular places ([www.foranet.dk/Om%20FORA/Mission.aspx](http://www.foranet.dk/Om%20FORA/Mission.aspx), 14/02/07). A quick look at the reports shows that there is nothing on gender and/or gender equality issues and no report concerning gender issues as its main theme, judging by the titles.

Gergils (2006), who has a more narrow perspective focusing on research for innovation, points out the period after the new Government took office as characterised by a more focused strategy on innovation. This focusing also took place through the creation of *The Ministry of Science, Technology and Innovation* in 2002. The Ministry of Economics and Business Affairs, which is not investigated by Gergils, however, kept the responsibility for general conditions for the industry and for promoting entrepreneurship, themes clearly connected to innovation in Denmark (Hedin et al., forthcoming). The Ministry of Science, Technology and Innovation, as is obvious by its name, has innovation as one of its fields of responsibilities together with education, research and ICT. On its homepage the Ministry

presents innovation as crucial for firms' growth and development and, in turn, the Danes' wealth and welfare. The Ministry is to ensure good framework conditions for firms' research and development and the access to knowledge created within universities and research institutions, through knowledge dispersion, researcher mobility and commercialisation of research results ([videnskabsministeriet.dk/site/forside/innovation](http://videnskabsministeriet.dk/site/forside/innovation), 06/02/07).

There are many policy documents published by the Ministry of Science, Technology and Innovation, around 30-50 per year from 2000 to 2006, available on the ministry's homepage. An overview of the titles and summaries indicates many publications concerning ICT, in one way or another, different educations, some touch upon bio-technology and others are evaluations ([videnskabsministeriet.dk/site/forside/publikationer](http://videnskabsministeriet.dk/site/forside/publikationer), 13/02/07). Only a few publications address gender, and they therefore form a kind of parallel to the mainstream policy and activities of the ministry. The following reports address gender in relation to innovation policy:<sup>8</sup>

A document on research communication to children, *Vild med viden! – rapport fra arbejdsgruppen vedrørende forskningskommunikation til børn og unge* (The Danish Ministry of Science, Technology and Innovation, August 2005), concludes that it is of importance to know of research for children in order to understand society. Regarding gender equality, it is noted on one page (p. 10) that there are alarming differences concerning girls' and boys' perceptions of natural science, whereas girls have a very negative view. However, there is no follow up in the rest of the report, as no further gendered differences regarding education, or research, are mentioned.

Gendered differences in research are the main focus of the document: *Bringing All Talent into Play – More Women in Science* (The Danish Ministry of Science, Technology and Innovation and the Minister for Equality's Think Tank on More Women in Research, June 2005). The first sentence in the report is: "There are too few women researchers in Denmark" (The Danish Ministry of Science, Technology and Innovation et al., June 2005, p. 1), which is perceived as causing problems in regard to cultivating talent. Even though more than half of the students at universities are women, only one in ten professors is a woman. It is noted, however, that there are gendered differences among the students since few students in the natural sciences are women, hence there is a small number of women from which to recruit researchers. It is concluded that attraction, development and retention of women in research is needed to enhance innovation and competitiveness in Denmark: "The recruitment of more women to research will be a considerable asset and an important part of the renewal process that universities and research-based enterprises have to go through to enhance innovation and competitiveness" (The Danish Ministry of Science, Technology and Innovation, June 2005, p. 1).

How to come to terms with the problem of a lack of women in research is examined through the report, based on discussions in the think tank – which had fourteen members (9 women and 5 men). The recommendations are made with a focus on young women and competition in recruitment, which is seen as a prerequisite in order to employ the most talented and to have the research community's approval of legitimate processes. They are divided according to different target groups, and the recommendations directed to politicians are: make agreements with public research institutions on increasing the share of women in

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<sup>8</sup> In addition, science policies in the European Union: *Promoting excellence through mainstreaming gender equality* prepared for the European Commission by the independent ETAN Expert Working Group on women and science, 2000, is put on the publication list for 2000. The report *The Ageing Society 2030 – Report by the Steering Group for strategic foresight on the ageing society 2030* (The Danish Research Agency, March 2006) mentions gender as a dimension of social cohesion, and suggests further research on gender differences regarding, e.g., life expectancy (women live longer than men) and pension savings (men save more due to more favourable employment conditions). A positive foresight of the political engagement in gender equality issues is presented in the report, however, the focus is entirely put on women as actors of gender equality.

research; implement research programmes that promote talented young women and; adjust framework conditions and create better possibilities for maintaining contact with the workplace while on leave. The recommendation targeted at heads of research institutions and enterprises is: define objectives on recruitment and gender equality including the formulation of policies ensuring that the financing of maternity leave is not left to the individual research teams; in addition there is a management toolbox recommended for research institutions and enterprises including, e.g., tools for creating attractive research environments, mentor systems and to encourage women to get research management experience early on.

The aim of the documents *Flere og bedre ingeniører – Baggrundsanalyse* and *Flere og bedre ingeniører – Anbefalinger* (The Danish Ministry of Science, Technology and Innovation, May 2005a; May 2005b) is to discuss efforts in educating more and better engineers in Denmark to ensure that Denmark can continue being in the forefront of the high-tech society. It is argued that growth and welfare are created through innovation and development and that engineers play a crucial role in enhancing this in Danish companies. More well-educated engineers are said to be needed and, in addition to their skills of innovation and development, one employed engineer is said to lead to the employment of five other employees in a small and medium-sized firm. The importance of engineers for the development of the industry is concluded as great, not the least since the Danish industry consists of many small and medium-sized enterprises.

Regarding gender equality, it is underlined that engineer education is dominated by men, since 23 percent of students in engineer education are women. It is also noted that among the employed engineers in Denmark, in 2001, eleven percent were women. There is an optimistic tone in underlining the increase from three percent women in 1983, which is, judging from the most current figures, rather hard to understand. This is a finding that is followed-up in the propositions, whereas one is formulated as ‘more women’, another one is to increase the recruitment of students, and the last one is to stop the fall-out from engineer educations. According to the reports, more women can be attracted through the creation of new engineer education, focused on medicine and technology; architectural engineering and/or innovation and design, which has been the case in the Technical University of Denmark, where 50 percent of the students in these educations have been women.

In the report *Status, strategi og perspektiv i dansk kønsforskning* (The Ministry of Science, Technology and Innovation, November 2002) on gender research in Denmark, based on a conference arranged by the previous Ministry of ICT and Research in 2002, one point made is the need for more research on gender and gender equality, whereas gender mainstreaming and gender equality are said to mark official Danish policy. In the preface the invitation to the conference is cited, and it is, in a gender perspective, interesting to note that gender research is perceived of as innovative in this context, since it continuously asks new questions and provides new answers. This perspective, however, seems to be an exception in the context of innovation policy in Denmark.

One of the notions of the Ministry of Science, Technology and Innovation is the promotion of Denmark as an appealing country in which to live and work. Under the heading of *Work in Denmark* there are three sets of arguments for the advantages of working and living in Denmark presented on the homepage: quality, comfort and economy. The presentation under quality says:

“Many say that they find that there is a good balance between family and working life because there is both relatively much time available for the family and good opportunities for professional challenges at work. Danish employers generally respect their employees family life, and many workplaces offer you the opportunity to adjust your working hours so that you can pick up your child from the childcare” ([www.workindenmark.dk/Family](http://www.workindenmark.dk/Family), 13/02/07).

This citation indicates an understanding of Denmark as gender equal, since the qualified people to be attracted to Denmark are just represented as men. Men are perceived as the

ones picking up children from day-care, etc. There is, however, no further discussion on gender equality in Denmark making it possible to see if this understanding is reflected in the statistics.

The Ministry of Science, Technology and Innovation was yet again reorganised in May 2006 in order to enhance innovation, research, education and ICT and for the Ministry to have an active role in the implementation of the globalisation strategy. The reorganisation meant a change of the organisation within the ministry. The essential institutions in the ministry's realm after the reorganisation are: *The Danish Agency for Science, Technology and Innovation* (DASTI), seven *Approved Technological Service Institutes* (*Godkendt Teknologisk Service Institut, GTS*), Danish National Advanced Technology Foundation (*Højteknologifonden*), and *Innovation Milieus* (*Innovationsmiljøer*) according to a document called *Videnskabsministeriets nye organisation, 2006*. These actors seem to be clearly focused on research and technological innovation in Denmark even though the administrative structure is hard to overview.

DASTI is responsible for research, innovation, secretarial services to independent councils and the Danish representation in international operational organisations ([fist.dk/site/english](http://fist.dk/site/english), 13/02/07). The perspective on innovation of DASTI is closely linked to research; research funding, researcher mobility, regionalisation of research and innovation, commercialisation of research, innovation policy, EU research policy, and interaction between knowledge institutions and the business community.

Under DASTI there is yet another level of administration where the *Danish Council for Technology and Innovation* is present. The council's work consists of two parts. One is to advise the Minister of Science, Technology and Innovation about technology and innovation policy. The other is to administer the initiatives given to the council by the Minister. The latter includes initiatives on Innovation Consortia, Approved Technological Service, Industrial PhDs, Knowledge Pilots (*videnpiloter*), Networks of High Technology, Technology Transfer, Business Incubators, Innovation environments, Regional growth environments, and a Regional ICT initiative ([fist.dk/site/english/councils-commissions-committees/the-danish-council-for-technology-and-innovation](http://fist.dk/site/english/councils-commissions-committees/the-danish-council-for-technology-and-innovation), 16/02/07). There is nothing on gender on their homepage.<sup>9</sup>

The above-mentioned bodies and actors mainly work on innovation policies on the national level. There are also regional and local actors involved in performing and developing the Danish innovation policy. There is yet another actor working in the field of regional development, growth and, to some extent, innovation policy, *The Danish Ministry of the Interior and Health*, which, during 2006, published a governmental white paper (*Regionalpolitisk redegørelse 2006 – regeringens redegørelse til Folketinget*, June 2006a) (together with *Regionalpolitisk redegørelse 2006 – Analyser og Baggrund*). Regional competitiveness, in this context, is driven by four elements according to: human resources, entrepreneurship, innovation and information- and communication technology. Gender equality is not mainstreamed in any of these regional development policy documents, and only once is a term related to gender equality mentioned, whereas it is mentioned as a horizontal goal in relation to the EU regional policy and the Lisbon Agenda.

Following the January 2007 implementation of the structural reform in Denmark, six new *Regional Growth Forums* (*Regionale vækstforum*) – one in each region and one on Bornholm – were established at the regional level in addition to five new regions. The policy documents

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<sup>9</sup> In addition to these governmental institutions there are also many types of so-called councils connected to the Government, besides the Globalisation Council. There is also *The Innovation Council*, which was formed in October 2003. There are also five *regional innovation councils*, one in each region ([www.innovationsraadet.dk/indhold.asp?id=205](http://www.innovationsraadet.dk/indhold.asp?id=205), 14/02/07). There is a so-called *Growth Council* that will, among other things, offer advice to the Ministry of Economic and Business Affairs regarding future growth policies ([www.foranet.dk/Projekter/Igangv%C3%A6rende/Data/Danmarks%20V%C3%A6kst%C3%A5d.aspx?lang=en](http://www.foranet.dk/Projekter/Igangv%C3%A6rende/Data/Danmarks%20V%C3%A6kst%C3%A5d.aspx?lang=en), 31/08/06). However, it is beyond the scope of this study to analyse these councils and their publications.

that influenced the new Danish regional policy structure are the globalisation strategy and the Lisbon Agenda ([www.ebst.dk/Politikogstrategi](http://www.ebst.dk/Politikogstrategi), 13/04/07). The aim of the regional growth forum is to provide a meeting place for the representatives of industry, knowledge and educational institutions, labour market representatives, and local and regional governmental agencies. The growth forum has, as one of its main tasks, responsibility for making *Regional Industrial Strategies (regionale erhvervsstrategier)*, including action plans, to develop the respective regions' growth and business development. The industrial strategies should be grounded in the specific industrial structure of the respective regions and in their strengths and demands. The focus here is put on innovation, education, business start-ups, and the use of new technology, tourism and peripheral areas.

Gender is not mentioned as an obligation in the law on regional industrial development (*Lov nr. 602 af 24. juni 2005 om erhvervsfremme*), and it is not mainstreamed in any of the six regional industrial strategies prepared by the regional growth forum (Bornholms Vækstforum, 2007; Vækstforum for Region Hovedstaden, 2007; Vækstforum for region Midtjylland, 2007; Vækstforum for Nordjylland, 2007; Vækstforum Sjælland, 2007; Vækstforum Region Syddanmark, 2007). In fact, the only strategy even mentioning a gender-related term is the one produced by the regional growth forum Midtjylland, where "women" is mentioned twice and men once. Women are mentioned once in relation to programmes on women entrepreneurship, and once, together with the use of the term men, as a criterion against which projects applications to the growth forum are to be measured: "In addition, ensuring equal opportunities for men and women and movement in the labour market will be considered as a criteria" (Vækstforum for Nordjylland, 2007, p. 46, my translation).

To conclude the analysis in this chapter, innovation policy has developed in Denmark since the beginning of the 2000s by, in particular, the Danish Ministry of Economics and Business Affairs and the Danish Ministry of Science, Technology and Innovation (created in 2002 and reorganised in 2006). One striking feature of the innovation policy in Denmark is the volume of policy documents and innovation policy actors, which underline the fact that innovation is high on the political agenda. Globalisation and innovation are concepts increasingly focused on in the policy documents since the liberal Government took office in 2001. There is a shift in the policy following the change of Government from a goal of growth in industry to the goal of growth and renewal of the whole of society. The Ministry of Economics and Business Affairs applies a perspective on innovation focusing on the whole society and "everybody" as potentially innovative. Who is – or is not – encompassed by the description of "everybody" in a gender perspective will be more elaborately discussed in the next chapter.

Gender is not mainstreamed into innovation policies, either in the broader perspective on economic development pursued by the Ministry of Economics and Business Affairs, or by the Ministry of Science, Technology and Innovation. In addition, none of the ministries, governmental agencies, and regional bodies, involved in producing innovation policies, mainstreams gender in their work judging by searching their homepages for goals, missions and activities. However, the Ministry of Science, Technology and Innovation mentions gender equality issues in some policy publications, but it can be noted that those publications seem like a small and parallel activity to the mainstream activities of the ministry. Moreover, there are formulations in the analysed policies indicating that gender inequality is not perceived as a problem in the Danish policy on economic development and innovation. The fact that women have high labour market participation, and that the Lisbon goal in this regard is fulfilled by Denmark, is seen as an indication of gender equality – it is even seen as a strength. Even when gender inequality is elaborated on, in a more developed way, there is often a positive perspective for the future, where things will be better by themselves, as no efforts are presented for coming to terms with the inequalities. However, this is sometimes counterbalanced by one or two documents stating that many efforts are needed to reach gender equality. In many instances the gender equality perspective focuses on women, implying that gender inequality is a problem of women, and that women are the ones to act

in order to solve such problems as, e.g., too few women in science or too little interest in natural science (cf. Wahl et al., 2001, p. 174). Women and girls are also somewhat viewed as lacking what it takes to be successful or an asset in the context of innovation policy (cf. Rönnblom, 2005).

The next chapter takes a closer look at the globalisation strategy, which both the Ministry of Economics and Business Affairs, and the Ministry of Science, Technology and Innovation were involved in producing along with a range of other actors. What has happened with the gender equality issues in this strategy? Are the previously published policy documents, touching upon gendered binary divisions and gender inequalities, referred to and accounted for in the globalisation strategy? First, though, I describe the developments and analyse the gender mainstreaming of Finnish and Swedish innovation policies respectively.

## Finland – An Innovative Wonder Focusing few Women in Research

In accounts of Finland, innovation policy is often presented as a success. Finland fell into an economic depression marked by, e.g., high unemployment after the fall of the Soviet Union in the beginning of the 1990s. But the economic situation of Finland turned into what has been perceived as a success through what is described as radical policy steps – even though the level of unemployment is still rather high. The development of high-technology, the company Nokia, and related increased exports of high-technology, and the EU-membership (in 1995) are often credited with contributing to the positive development of the Finnish economy – as does the country's determined innovation policy (European Commission 2006b; Gergils, 2006; Hedin et al. forthcoming).

The main advisory actor responsible for innovation policy is the Science and Technology Policy Council, working under and chaired by the Prime Minister. The Science and Technology Policy Council of Finland advises the Council of State and its ministries in important matters concerning research, technology and their utilisation and evaluation. The Science and Technology Council is responsible for the strategic development and coordination of Finnish science and technology policy as well as of the national innovation system as a whole ([www.minedu.fi/OPM/Tiede/tiede-ja\\_teknologianeuvosto/?lang=en](http://www.minedu.fi/OPM/Tiede/tiede-ja_teknologianeuvosto/?lang=en), 26/02/07).

The council has published reviews on science and technology policies approximately every third year, beginning in 1987. In the review of 1990, the council, for the first time, launched the concept of national innovation system, making Finland the first country to adopt this concept as a basic category in relation to science, technology and innovation policy, according to Mietinen (2002). The two latest reviews, aside from the review analysed in this study, are: *Review 2000: The Challenge of Knowledge and Know-how* (The Finnish Science and Technology Policy Council, 2000) and *Knowledge, innovation and internationalisation* (The Finnish Science and Technology Policy Council, 2003).<sup>10</sup>

In the review of 2000 the focus is set on the development of knowledge and know-how and their utilisation. The reviews begin with a discussion of the role of the public sector in relation to science, technology and innovation policy. The council states that since 1990 the perspective has been set on science, technology and innovation of the national innovation system, but in this review the focus is on co-operation between the public and private sectors – the producers and users of new knowledge. It is perceived as important that business enterprise, universities, research institutes and the public administration function well together. In the view of the Science Technology Policy Council, the role of the public sector includes the promotion of competition policy, the dismantling of unnecessary regulations and the liberalisation of international trade as well as encouragement of innovation, through

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<sup>10</sup> The earlier reviews are: The Finnish Science and Technology Policy Council, 1987; 1990; 1993; 1996.

the development of the administrative and regulatory structure. It also stresses the role of the public sector as providing good framework conditions for the enterprise. In addition to the focus on co-operation between sectors, increased levels of education and improved conditions for research are mentioned, and the development of entrepreneurship is also seen as important. New growth areas need to be developed along with efforts to improve the condition for ICT industries – which is promoted as the most important sector of the economy.

In the 2000 review, gender equality is mentioned once in the context of promotion of the ICT-industry:

“Promoting the development of the information industries and their positive economic and employment impact will require further development and expansion of education in this field. It is necessary to improve the implementation of gender equality in both education and employment” (The Finnish Science and Technology Policy Council, 2000, p. 11).

Women are in focus a couple of times in the review, but men are not mentioned at all, hence gender is primarily perceived as women. Gender is not mainstreamed in the review (cf. Rees, 2005; [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07). In the review women are perceived as making up a recruitment base for the ICT industry if they study math and science. It states: “The desired enlargement of the recruitment base will be possible if women in secondary education acquire better knowledge in mathematics and sciences and increasingly apply to these fields in higher education” (The Finnish Science and Technology Policy Council, 2000, p. 11). In this citation women are clearly represented as lacking the knowledge perceived as most important for the ICT industry. This kind of makes women responsible for the problems of inequality in higher education, even though the review also states that 60 percent of all 1997 higher education graduates were women. However, this is turned into a problem of women since the text is formulated in the following way: “their relative share in technical fields was only 16 per cent” (The Finnish Science and Technology Policy Council, 2000, p. 11). It does not elaborate on the fact that men are overrepresented in these fields, and that they are underrepresented in other fields. The review also concludes that: “Success in development requires promoting women’s participation in particular” (The Finnish Science and Technology Policy Council, 2000, p. 26). From a gender perspective this is a great goal, but an explanation of why this is important is not presented and no efforts to promote women’s participation are discussed in the review.

The review of the Science and Technology Policy Council published in 2003 concludes that the main challenge in the context of global competition and growing internationalisation is to keep Finland attractive to business and jobs and as a general living environment. A lesson learnt in the Finnish 1990s is, according to the review, that success in creating innovations through technological development and business know-how, is a key factor in meeting the challenges. It is also stressed that *social innovations* are needed to prevent societal and social development from diverging from economic and technological development. Three main goals are stated in the review: to develop education and career prospects in research and to develop research; to strengthen social and technological innovation; and to develop innovation financing. The concept of social innovation is, in the context of reviews, to my knowledge, presented here for the first time, and it is noted that Finland does not have a clear development strategy for social innovation. But what is meant by social innovation? The answer is that social innovations are seen as being the result of the use of research, and thereby improved knowledge, within the public administrative system. Even though it in a gender perspective seems positive that use of research and knowledge in the administrative system is emphasised, the perspective on social innovation can be questioned. The discussion on social innovation seems confined to the realm of the public sector, as is clear in the following citation:

“With regard to innovative activity, business enterprises are primarily responsible for economic development based on technological and other innovations, while the public sector has to take care of societal development based on social and other innovations” (The Finnish Science and Technology Policy Council, 2003, p. 15).

Economic development – the key goal of innovation policy – is, according to the citation, only based on technological innovations in business enterprises. In the review 2000, despite the talk on co-operation between sectors, it is not imagined that social development can be perceived as a base for economic development. Instead, a distinct drawing of a boundary between the private and the public sectors is enacted in this citation. This boundary, in a gender perspective, is highly gendered since it is drawn between male and female dominated sectors of the economy. In addition, the boundary seems thicker from the point of view of the women dominated public sector, since it is underlined that a central task for the public sector is to maintain prerequisites for innovation, e.g., creative innovation environments, but not the other way around. Hence, the so-called economic sector dominated by men is not perceived as dependent for its success on the public sector.

Gender is not mainstreamed in the Science and Technology Policy Council’s review of 2003. It is, however, discussed to some extent, particularly in relation to education and higher education, and according to the review, focus in the debate has highlighted the need to enhance girls’ interest in mathematics: “girls make up 60 percent of the upper secondary school pupils in Finland, but only 30 percent of them opt for advanced courses in mathematics. The corresponding figure for boys is over half” (The Finnish Science and Technology Policy Council, 2003, p. 24). This under representation of women is also said to mark higher education in technology, while generally fifty percent of the students and 45 percent of the PhDs are women. The perspective focuses on women and their lack of interest in natural sciences and mathematics. Interesting and unusual in a gender perspective, the review has a parallel discussion on men’s under representation among students in education, health and veterinary sciences, and psychology. In health science it is underlined that men only make up 10 per cent. According to the review, special attention has been given to the fact that few comprehensive school teachers are men, since 70 percent are women. However, there are no suggestions of efforts described for improving gender equality within the area of education.<sup>11</sup>

The two ministries mainly involved in innovation policy in Finland are *The Ministry of Education* and the *Ministry of Trade and Industry*. The former handles matters related to education, science policy, universities and polytechnics, and the *Academy of Finland*. The Academy is the foremost financing source organisation in research ([www.minedu.fi/OPM/?lang=en](http://www.minedu.fi/OPM/?lang=en), 16/02/07). The Ministry of Education has published extensively – the publication list presented on the home-page covers the years 1997-2007 and there are between five and 35 publications per year. An analysis of the titles and summaries, however, shows that they concern issues related to, e.g., higher education, life long learning and specific higher education but nothing directly on innovation or gender.<sup>12</sup> In relation to innovation policy, however, the following two policy documents of overarching character, are of particular interest in describing this context. Moreover, both of them, to some extent, discuss gender equality issues.

The education system of Finland is presented in the document *Education and Science in Finland* (The Finnish Ministry of Education, 2006). The priorities are to enhance and raise the level of education among the population and in the labour force. Gender equality issues

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<sup>11</sup> Besides the reviews, the Science and Technology Policy Council (by way of the Government) has published a few other reports. It can be noted that The Science and Technology Policy Council, 2004 contains a so-called SWOT-analysis (Strengths, Weaknesses, Opportunities, Threats) which mentions as a strength that there is there is a high proportion of women among researchers and PhDs by international standards.

<sup>12</sup> Not all of the publications are available in English (or Swedish). However the titles are always presented in English. This has made it possible for me to gain a brief insight into the themes of the reports.

are only touched upon on a handful of occasions in the document, and can thus not be said to be mainstreamed (cf. Rees, 2005; [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07). It is mostly elaborated on in the part of the text dealing with research where Finland is said to have actively promoted equality in all sectors of society. In addition, women are said to have been in the majority in higher education since the 1970s and that the number of women PhDs has steadily increased. Where the current number is and from what level the increase has occurred is not described. Besides, Finland is promoted as a pioneer country for women researchers:

“Finland is one of the pioneer countries in the development of women’s research careers within the European Union. The number of women working in the R&D sector has risen steadily. In 2003, women accounted for about one third of all research personnel and about half of university research staff. The proportion of female professors in Finland is among the highest in the European Union” (The Finnish Ministry of Education, 2006, p. 43).

A positive representation of women’s situations regarding research is made in the text. However, the fact that women make up one third of research personnel does not, in a quantitative gender perspective, count as gender equal. In this context it would also have been useful to have more elaborated descriptions of these issues; including gendered statistics e.g., indicating how high (or low) the level of women professors is.

*Education and Research 2003-2008 Development Plan* (The Finnish Ministry of Education, 2004) is, as is obvious in the title, a plan for education and university research. The plan takes as its points of departure, the statements that the level of education is high, that Finnish research is highly valued internationally and that the Finnish innovation system has been rated high in several international reviews. The key challenges are the ageing of the population and raising the level of employment through what is called a flexible education system.

Regarding gender equality, some gendered differences in education are mentioned in the plan, e.g., that among younger people more women than men have an education, while among older generations men are better educated than women, and that the adult education participation rate is higher for women than men. An effort mentioned is the encouragement of immigrant girls and women in education and training. Throughout the plan it is emphasised that: “Equal opportunity in education underpins Finnish welfare. Everyone should have an equal right to education and training according to their abilities and special needs” (The Finnish Ministry of Education, 2004, p. 19). But in what respects – gender, class, ethnicity – equal opportunities are implied is it not further developed.<sup>13</sup>

The other ministry involved in innovation policy – the Ministry of Trade and Industry – takes care of matters related to industrial and technology policy. Under its auspices the governmental agencies the *Finnish Funding Agency for Innovation and Technology* (Tekes), and the *Technical Research Centre of Finland* (VTI) are involved in innovation policy. The Ministry mentions innovation in relation to technology. Under the heading of *Technology and Innovation Policy 2007-2011* five areas of interest are mentioned: technology funding, innovation environment – which includes the development of innovation in the service sector – centres of excellence, sectoral research, and internationalisation ([www.ktm.fi/index.phtml?l=en&s=1045](http://www.ktm.fi/index.phtml?l=en&s=1045), 05/03/07). The publications by the ministry are published in Finnish, and do not seem to concern innovation policy to a large extent – and

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<sup>13</sup> Also of interest regarding gender equality is the Ministry of Education’s Gender Equality Plan (The Finnish Ministry of Education, 2002). This, however, focuses on gender equality and the prevention of discrimination based on gender within the ministry as an organisation and employer, and not on gender mainstreaming – the policies produced by the ministry. One can perhaps say that the work in relation to the gender equality plan has had little impact on the policies produced by the ministry since they do not mainstream gender, even though they, to some extent, mention gender.

do not concern gender – judging by the description and titles in Swedish ([www.ktm.fi/index.phtml?l=en&s=11](http://www.ktm.fi/index.phtml?l=en&s=11), 05/03/07).

According to its own presentation, Tekes is the main public financing and expert organisation for research and technological development in Finland. Tekes finances industrial R&D projects as well as projects in universities and research institutes. In particular, Tekes promotes innovative, risk-intensive projects. The objective of Tekes is to promote the competitiveness of Finnish industry and the service sector by assisting in the creation of world-class technology and technological know-how. *Technology programmes* are used by Tekes to allocate funding, networking and expert services to areas that are important for business and society. According to the home page, they support approximately 30 different sectors ranging from automation to wood technologies, each related to several technology programmes and publications ([www.tekes.fi/eng/](http://www.tekes.fi/eng/)).

Regarding gender, the latest annual review, *Tekes Annual Review 2005*, does not mention anything concerning gender equality. A possible, but indirect, connection to gender equality is the mentioning of a social policy objective, whereas technology and innovation are said to be aimed at contributing to societal well-being and: “directly supporting the attainment of social and environmental policy objectives” (Tekes, 2005, p. 8). Effects on these goals are also said to be evaluated in project applications to Tekes.

VTT, according to its own presentation, is an expert organisation, with the objective to develop new technologies, create new innovations and increase customer’s competitiveness. The mission is formulated in the following way: “VTT produces research services that enhance the international competitiveness of companies, society and other customers at all stages of their innovation process. VTT thereby creates the prerequisites for growth, employment and wellbeing” ([www.vtt.fi/vtt/toiminta\\_ajatus.jsp](http://www.vtt.fi/vtt/toiminta_ajatus.jsp), 07/03/06). In the latest VTT review, gender is not mainstreamed and there are no explicit concepts related to gender (VTT, 2006).

There are also innovation policies focusing on the regional level in Finland. The Finnish Ministry of the Interior is responsible for regional development in Finland and administers two regional innovation policy efforts: the *Centres of Expertise Programme* and the *Regional Centre Programme*. The Centre of Expertise Programme (CoE) was launched in 1994 and ran until the end of 2006. During the new programme period 2007-2013 the CoE programme has the goals of, among others, creating cluster-based innovations and supporting specialisation between the regions to create internationally competitive competence centres. In December 2006 the Government decided to approve 13 nationally significant clusters of expertise and 21 CoEs. The chosen clusters and CoEs are located within 13 sectors of the economy ranging from energy technology, forest industry and nano-systems to well-being, tourism and living – not focusing entirely on technology. There is nothing on gender equality in the descriptions or presentations of CoEs; hence gender is not mainstreamed.

The *Regional Centre Programme (RCP)* was launched in 2001 as an effort focusing on medium-sized and smaller urban centres in relation to the CoE programme focus on bigger city regions, and it lasted until the end of 2006. It was implemented in 34 regions. In the continued programme, 2007-2010, emphasis is put on urban areas and it is stated that they have a double role – on the one hand as enhancers of economic growth and as strong centres for the national innovation system and on the other hand as “engines” for the development of the centre regions themselves (The Finnish Ministry of Finance, 2007). Gender is not mainstreamed and there is nothing on gender equality in the descriptions or presentations of the RCP.

To conclude, the innovation policy in Finland puts a strong focus on the development of education, higher education, research on high-technology and technology. Economic development, in a globalised and internationalised world, is perceived as mainly explained by technological innovations in private enterprises. Sectors other than the high-tech industry are sometimes promoted and the development of the term “social innovation” has taken place in Finland. Innovation policy seems prioritised by the Government since there is a special

body, the Science and Technology Policy Council, producing technology and innovation policy and informing the Government, and the State Council on these issues. Besides, the influence is marked by the Prime Minister chairing the council. In comparison to Danish innovation policy the Finnish also seem more focused and, at least at the national level, kept within the Government system rather in a governance structure of partnerships and councils of different kinds. The focus expressed, e.g., through the promotion almost entirely of technology and high-technology research may be problematic in a gender perspective, since knowledge in these areas is masculinely coded and since mostly men work with this knowledge and in sectors of the economy related to technology.

Regarding gender, it is clearly not mainstreamed in Finnish innovation policy. Gender equality issues are – the few times they are actually mentioned – primarily touched upon in the reviews of the Technology Policy Council. That is positive, since this council is described as the most influential body working on innovation policy in Finland (Gergils, 2006). However, even though gender equality is touched upon by this influential body, it is problematic in a gender perspective that it is not mainstreamed into the council's reviews. On the few occasions when gender equality is discussed it is made in relation to education and higher education. It primarily represents women as the problem of gender equality; first, because they are in focus even though boys and men are mentioned on occasion as under represented among students in education and health, etc.; and second, since women are perceived as lacking knowledge or interest in natural science and mathematics (cf. Rönnblom, 2005; Wahl et al., 2001). The perspective on gender (in-)equality is sometimes very positive, e.g., representing Finland as a pioneer country regarding women's research careers. This positive view is reinforced by taking it as given and not taking the figures seriously, clearly indicating quantitative inequalities, and not presenting the whole picture of women's situations in research in Finland, e.g. by not stating how large – or rather limited – the proportion of women among the professors are or discussing their situation in a qualitative gender perspective, e.g., analysing their access to power.

The next chapter takes a closer look at the latest review made by the Science Policy Technology Council. What has happened with the gender equality issues in this review? Is the focus still on women in relation to education and higher education? First, however, there is a description, and analysis, of the Swedish innovation policy.

## Sweden – An Innovation Agency using a Gender Perspective

Innovation policy in Sweden is not as up-to-date as in the other countries investigated in this study, at least not judging by the date of the publication of the latest innovation strategy *Innovative Sweden* in 2004. The two ministries involved in innovation policy in Sweden are the *Ministry of Enterprise, Energy and Communications* (previously the *Ministry of Industry, Employment and Communications*) and the *Ministry of Education*. One can note that there is no ministry in Sweden with innovation in its title like in Denmark and there is no council corresponding to the Finnish Science and Technology policy council. Instead, it is *The Swedish Governmental Agency for Innovation Systems* (Vinnova) that is the main actor within the field of innovation policy.

There are not many Government bills, white papers or published reports related directly to innovation policies. But in 2001 a governmental bill on research, development and innovation was published (The Swedish Government, Prop. 2001/02:2). In it the Government presents its principles for developing research and development within what is called the national innovation system. A starting point for this bill is a discussion on the importance of knowledge in developing the society economically, culturally and socially. Questions on education, R&D and innovation are therefore focused. A systems perspective on innovation is applied, whereas innovation is seen as the result of different actors'

collaboration. Innovations are discussed as not only technical products, but also as changed organisation and market renewal. Gender is not mainstreamed in the bill and the only occasion a gender-related word is mentioned is in the context of research, whereas it is said that the proportion of women has to be increased at all levels of research.

In the latest Government bill on research policy, *Forskning för ett bättre liv* ('Research for a better life') (Prop. 2004/05:80) innovation policy is also in focus. The starting point for the position of the Government is to create opportunities for mustering of strength and ensure support for high quality international research through financing strong research environments. Particular efforts are presented regarding research in medicine, technology and research supporting a sustainable development. In addition, so-called strategic areas like gender research, research on education and design are pointed out as important to develop. The infrastructure for research is also said to be supported and means to support future research to qualify them are to be implemented.

Gender and gender equality is in focus to a relatively large extent in the bill, e.g. the term gender equality is used around 25 times, and the term gender 80 times. Still, it is not mainstreamed following Rees (2005) or the EU definition ([www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07), but in a comparison to many other policy documents in Denmark and Finland analysed in this study, it is extensively mentioned. In the bill it is overarchingly stated that gender equality work within research is prioritised. The goal is that governmental agencies and bodies that assess research applications are to have gender equal representation and that they are to make gender neutral assessments. If there is gender imbalance among research applicants in a certain scientific area the government expects the agencies to investigate and come to terms with the causes of inequalities. Regarding the strategic effort on gender research, it is said to enrich research and increase its quality. According to the bill, it is necessary to use a double strategy regarding gender research; integrating it in different research areas as well as developing it as its own research area. Gender research within medicine, science and technology is underlined as important, not the least in applied research, since it can add new knowledge. Gender research is also said to provide knowledge on how to reach a gender equal society and insights on obstacles to improvements. The chapter in the bill mainly focused on innovation policy (chapter 8 *Forskning, innovation och hållbar tillväxt*) however contains nothing on gender.

In the Government white paper, *Innovativa Processer* (SOU 2003:90), the innovative activities of county councils and municipalities, the R&D that they use, and how they can have a role in the development of local and regional systems of innovation are investigated. This is a rather unusual perspective in comparison to the other analysed policies in this study. It is underlined that the process part of innovation is in focus and that not only technical inventions are innovations. The white paper ends with a handful of suggestions of efforts, e.g., to stimulate innovative processes in schools, health care and infrastructure through a programme of financing; the establishment of a highly qualified pool of experiences; the establishment of new regional competence centers and two research centers with focus on innovative processes including PhDs; developing the so-called third task in research through portfolios of experiences; and the establishment of an Innovative Sweden Agency.<sup>14</sup>

Gender equality is not mainstreamed in the white paper, but the terms gender equality and women are mentioned on a few occasions. The first time is in relation to ideas that could be focused on in a follow-up study on innovative processes in county councils and municipalities and the latter in the case studies in the white paper of projects carried out by county councils and municipalities.

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<sup>14</sup> To my knowledge, none of these efforts has been put into practice, but one parallel of the white paper was the launch of a research programme on innovative municipalities, county councils and regions in 2003 (*Innovativa kommuner, landsting och regioner*) where Vinnova, Trygghetsfonden and the Swedish Association of Local Authorities and Regions, financed nine research projects (see Strömberg [red.], 2005).

In a governmental report (The Ministry of Industry, Employment and Communications, 2005) the airline and space industry is the focus as part of an innovative Sweden in a new industrial perspective, instead of a defence policy. Women are mentioned once in the report, in a question asking how this industry can best stimulate higher education and skilled work opportunities for women and men. Gender is not mainstreamed in the report.<sup>15</sup>

The main national actor of Swedish innovation policy is not the ministries, but Vinnova. Following a governmental bill on the development of Swedish industrial policy (Prop. 1999/2000:71; see also Prop. 1999/2000:81) the Swedish administrative system encompassing innovation policy was restructured and in January 2001 Vinnova was created with the aim of promoting growth and prosperity throughout Sweden, and the particular area of responsibility comprises innovations linked to research and development ([www.vinnova.se](http://www.vinnova.se), 22/03/07). This meant that questions of research and development of technology were transferred to Vinnova from *The Swedish Agency for Economic and Regional Growth* (Nutek), which was given some new tasks. The system for financing research in Sweden was also reorganised at the same time.

Vinnova has as its vision the development of Sweden as a leading growth country. They present their task as supporting innovations linked to research and development through funding so-called needs-driven research that is said to be required by the business and industrial sector, and to strengthen networks that are a necessary part of this work. Vinnova has financed a range of research projects and published extensively on innovation and innovation policy within the areas of information and communications technology, services and IT implementation, biotechnology, working life, product realisation, materials, transportation, knowledge of innovation systems, strong research and innovation environments, research institutes, commercialisation, research and innovation in small companies and international co-operation. (see [www.vinnova.se/vinnova\\_shop/StartPageShop\\_\\_\\_\\_\\_568.aspx](http://www.vinnova.se/vinnova_shop/StartPageShop_____568.aspx), 22/03/07).

There are some Vinnova activities and publications on gender equality and gender perspective – many more than in Danish and Finnish innovation policies. There have been activities related to gender equality, particularly within the area of working life, while many of the other areas of Vinnova's interest seem highly focused on technology. Of particular interest in a gender perspective is the study of Vinnova's R&D in a gender equality perspective (Vinnova Report 2006:02). This report begins with the question of how Vinnova can take gender equality into consideration in its choice of activities through focusing on research areas where there are many women. As a background it is also mentioned that women make up 20 percent of the applicants, and equally 20 percent among those successful in getting funding. The study concludes that it is easiest to formulate calls that correspond to women PhDs' competence within the areas of working life, biotechnology, services and IT implementation – and make an equal down-sizing of the areas of information and communications technology, product realisation, materials and transportation. The report also concludes that further studies of concepts like technology and economic growth are necessary, and thereby broaden the perspective on systems of innovation.

Equally interesting is the study investigating Vinnova's use – or rather non-use – of the gender equality directive from the Government (Vinnova Report 2006:01). The starting point for this study is also that only 20 percent of the people applying for R&D-funding from Vinnova are women. There is an assumption that there are so few due to the formulation of the advertised programme descriptions. Byrman analyses three programme descriptions and concludes that gender equality and a gender perspective have not had any impact on the texts, even though the Government's directive implies that Vinnova is to integrate these perspectives in their activities. The successful applicant is overarchingly described in the texts

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<sup>15</sup> There is one additional report published by the Ministry of Industry, Employment and Communications focusing on innovation: *Broadband for growth, innovation and competitiveness* (2006). No gender related term is used in this report.

as a technically well educated, middle-aged, for the most part Swedish man, with great networks. The texts also speak to men rather than women, through the bureaucratic, complex, information-dense, abstract and un-populated writing style. The conclusion made is that Vinnova should incorporate explicit formulations on gender, gender equality and cultural diversity to comply with the Government's directive to mainstream gender.

Besides these two reports, there are other research projects that have made use of a gender or gender equality perspective within Vinnova's realm (see Vinnova Report 2006:08). Within the so-called VINNVÅXT programme there has also been an effort to promote a gender perspective in the supported internationally competitive regional research and innovation projects. Three projects in 2003 were supported in their gender equality work, developing tools related to innovation policy ([www.vinnova.se/Verksamhet/Starka-forsknings--och-innovationsmiljoer/VINNVAXT/Programbeskrivning/](http://www.vinnova.se/Verksamhet/Starka-forsknings--och-innovationsmiljoer/VINNVAXT/Programbeskrivning/), 18/04/07). One of the projects, *ReFine* in Jönköping, gathered firms within the sectors of metal, wood and polymer. They report that, together with the gender equality expert at the county administrative board, they produced a gender equality strategy, a set of indicators was developed to be used in analyses, planning and evaluations, and a check list for ensuring a gender equality perspective (ReFine, 2004). Moreover, there is currently a research programme focusing on gender perspectives on innovation systems and gender equality (*Genusperspektiv på innovationssystem och jämställdhet*) including approximately ten research projects ([www.vinnova.se/Verksamhet/Arbetslivsutveckling/Genusperspektiv-pa-innovationssystem-och-jamstallldhet/](http://www.vinnova.se/Verksamhet/Arbetslivsutveckling/Genusperspektiv-pa-innovationssystem-och-jamstallldhet/), 18/04/07, also see Lindberg, 2006). There is also a research programme, developed by VINNOVA, Vårdalstiftelsen in collaboration with SALAR, focusing on health care and care during 2007-2011. There is no explicit focus on a gender equality perspective, but the choice of this focus can be interpreted as seeking to support a sector where many women work and where their knowledge is the building block for economic development ([www.vinnova.se/Finansiering/Utlysningar---forteckning/Pagaende-utlysningar/VINNVARD-2006-/](http://www.vinnova.se/Finansiering/Utlysningar---forteckning/Pagaende-utlysningar/VINNVARD-2006-/), 18/04/07). One of the first reports on gender and innovation policy published by Vinnova was Vinnova Report 2003:12, which argues that it is important to apply a gender perspective in studies on innovation systems and clusters, since there are knowledge gaps on the importance of gender structures in research on innovation systems and clusters. A second part of the aim was also to show a gender perspective can be integrated into policy work on innovation systems and economic clusters. It is argued that factors like the horizontally and vertically gender segregated labour market and the gendered perspective on entrepreneurs and entrepreneurship ought to be taken into account when making and researching innovation policies.

From 2002-2005 there was also a programme for clusters and systems of innovation launched and carried out by Vinnova, Invest in Sweden Agency (ISA), Nutek – abbreviated as Visanu. In this program gender equality was to be integrated under the conceptual umbrella of sustainable growth. Gender equality was discussed as a potential driving force for growth and employment and some seminars were arranged. In addition, five different equality projects (of 31 total projects) were carried out within the framework of regional processes: IGIS in Lycksele; AB Måltidsupplevelser in Grythyttan; the Georange mining and mineral cluster in Västerbotten (Georange); Hälsoteknikalliansen ('The Health Technology Alliance') in Halland and Stockholm Bio Region (Visanu 2005:13). The gender equality work had different foci in the various projects and mostly consisted of educational efforts. There was also a gender perspective analysis of two of the projects – IGIS and Georange performed (Emma Resurscentrum, 2004a; Emma Resurscentrum, 2004b); a so-called balanced scorecard was in addition developed in the Health Technology Alliance-project. Lindberg (2006) notes that the systems of innovation in the program, which were entitled to support for their regional processes, were mainly male dominated. She also underlines that they were pointed out before the question of gender equality was considered. In addition, the gender equality measures were directed to the innovation systems as organisations, e.g., counting men and women within them, rather than looking at what sectors of the economy

were chosen for support as innovation systems (e.g., men or women dominated). Gender equality cannot be said to be mainstreamed into Visanu following Rees (2005) or the EU definition ([www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07) despite the ambitions to do so.<sup>16</sup> This is also noted in the report on mainstreaming of gender (Visanu, 2005:13).

At the regional level innovation policy is clearly one objective of the regional growth programmes (*regionala tillväxtprogram*) (RGP). Each county administrative board or municipal co-operation body has been tasked by the Government with creating its strategy for regional growth in regional growth programmes (a continuation of the former *Regional Growth Agreements* initiated in the mid-1990s). The RGP's are approved by central Government and are its main instrument in the new regional development policy approach that replaced traditional regional policy in 2001 (cf. Prop. 2001/02:4). The aim of the RGP's is to coordinate measures and actions taken to foster sustainable local labour market regions. Three strategic questions should be dealt with in the programmes: labour supply, entrepreneurship, self-employment and the "entrepreneurial climate", and systems of innovations and clustering. They are also obliged to integrate a sustainable perspective with respect to economic, social and ecological sustainability (The Swedish Ministry of Industry, Employment and Communications, 2002). The mid-term performance evaluation of the RGP's for the period 2004-2007, was presented to the Government in July 2006 by *The Swedish Institute for Growth Policy Studies* (ITPS). One finding was that only a few programmes succeeded in integrating the issues of sustainability into the growth process. Environmental integration has seen the most concrete results while gender equality is often emphasised, though such usage is usually rhetorical in nature. As such, the integration of gender equality issues is lacking in connection to growth and development— and, hence, not mainstreamed (ITPS, A2006:013, see also Forsberg, 2005; Hudson & Rönnblom, 2002; Pettersson, forthcoming; Rönnblom, 2005).<sup>17</sup>

Concluding the discussion on Swedish innovation policies one can say that lately a gender perspective has been promoted within the business of Vinnova and also by other actors. This is exceptional in comparison with Denmark and Finland. But perhaps even though a gender perspective and gender equality issues are discussed in relation to innovation policies, gender is not mainstreamed. Consequently, gender seems to be placed in discussions parallel to the mainstream discussions – one example is that gender is promoted by the Vinnova department of working life, rather than in Vinnova's overall R&D, revealed in the analyses made in their own reports. This can also be conceptualised as gender as an "add on" (cf. Rönnblom, 2005). One conclusion that can be made regarding the gender equality perspective is thus that it is primarily used and developed in interesting ways in special reports and policy documents. On the one hand, it is very positive that these documents are written and knowledge on gendered binary divisions in the context of innovation and growth elaborated on. On the other hand, it is problematic that the issue of gender equality is dealt with in particular documents put aside in the margin of innovation and growth policy.

The next chapter will take a closer look at the Danish globalisation strategy, the latest review made by the Finnish Science Policy Technology Council and the Swedish innovation strategy. What has happened with the gender equality issues in these strategies? Is gender mainstreamed in them? Are the previously published policy documents, touching upon gendered divisions and gender inequalities, referred to and accounted for?

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<sup>16</sup> Gender equality was also discussed in Visanu 2005:9. In Visanu 2006:2 there was also a focus on children's play and learning, a sector where many women are employed and where at least some of the knowledge can be seen as traditionally female-marked knowledge, but a gender perspective is not mainstreamed in this report.

<sup>17</sup> There are some regional efforts on innovation policies and gender, see, e.g. Region Skåne & Länsstyrelsen i Skåne (2005); Hejdenberg (2004).

# 5. Men and Male as the Norm in Innovation Policies

In this chapter I analyse whether gender is mainstreamed in the latest innovation strategies in Denmark, Finland and Sweden. I also make an analysis of how gender is produced within the innovation strategies, through analysing who, in a gender perspective, is seen as an important actor in the processes of creating innovations and who is not, and what kind of knowledge is promoted as important and who traditionally have that knowledge in gendered terms. Moreover, the following questions are answered: What sectors of the economy, in a gender perspective, are considered as important on which to build innovation and competitiveness? What sectors are not seen as important? But, first, a short introduction to the analysed strategies.<sup>18</sup>

## Introduction to the Innovation strategies

The three innovation strategies analysed in this chapter were produced under different circumstances, the Danish strategy being the result of a partnership process in the so-called Globalisation Council, the Finnish strategy being the product of a council directly under the Government – both in Denmark and Finland chaired by the respective Prime Minister, and the Swedish strategy being produced by two ministries. The strategies analysed in this study are, to some extent, different from each other regarding content, and especially style and form. The Danish and Swedish texts are printed in colour and contain drawings and photographs. They are laid out in a different manner from the Finnish one since the propositions made are much more outspoken by the use of summaries, bullets, and fact-boxes. They seem directed towards a broader readership.

The Danish globalisation strategy – *Progress, Innovation and Cohesion Strategy for Denmark in the Global Economy* – was the result of the work in the Globalisation Council taking place during April 2005-June 2006. In its Trend Chart on Innovation in Denmark 2004-2005 (The European Commission, 2006a), the European Commission underlines this council being the most recent and influential innovation policy actor. In April 2005 a selection of ministers was formed focusing on Denmark in the global economy, with the aim of production of a vision and strategy on the development of Denmark into a leading growth, knowledge and entrepreneurial society. This work was to be advised by the Globalisation Council which had 26 representatives in the council. In the Globalisation Council fourteen meetings were arranged. In the strategy it is concluded that the council's meetings generated a debate in Denmark and that the discussions provided an extremely valuable contribution to the globalisation strategy. The council was chaired by the Prime Minister, the deputy chairman was the Minister of Economy and Business Affairs. The ministers for science, technology and innovation, of education and of finance are also members of the council. In the globalisation strategy the focus is set on education, research and innovation, a desire to create greater opportunities for self-employment, especially in growth sectors, and, more generally, on change and renewal. Co-operation with other countries and cultures is also seen as being important. The overarching goal, which the strategy's 350 initiatives are set out to meet, is that: Denmark should be the most competitive country in the world by 2015.

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<sup>18</sup> In the remainder of this chapter the analysed strategies will be referred to as DK (The Danish Government, 2006, *Progress, Innovation and Cohesion Strategy for Denmark in the Global Economy*), Fin. (The Finnish Science and Technology Policy Council, 2006, *Science, Technology, Innovation*) and Swe. (The Swedish Ministry of Education and the Ministry of Industry, Employment and Communications, 2004, *Innovative Sweden*), to save space.

Concerning Finland I analyse the strategy and review *Science, Technology, Innovation*, by the Science and Technology Policy Council of Finland. The Technology Policy Council of Finland is chaired by the Prime Minister and the other members are the Minister of Education and Science, the Minister of Trade and Industry, the Minister of Finance, and possibly up to four other ministers appointed by the Council of State ([www.minedu.fi](http://www.minedu.fi), 17/10/06). Gergils (2006) underlines that the Technology Policy Council of Finland is the most central policy body for the Finnish innovation policies. Even though it has no formal decision-making power, but rather an advisory role, the fact that the Prime Minister chairs this council and, due to the involvement of other ministers implies a high degree of influence on the policies and resource allocation. The goal of the Finnish innovation strategy is: “to ensure sustainable and balanced societal and economic development... grounded in the high level of education of the population as well as increasingly wide-ranging development and application of knowledge and expertise” (Fin., p. 2).

The Swedish strategy that I analyse is *Innovative Sweden* produced, in a more traditional governmental way, in comparison to the production of the Danish and Finnish strategies, by the Swedish Ministry of Education and the Swedish Ministry of Industry, Employment and Communications (2004). The overarching vision of the Swedish strategy is: “for Sweden to be Europe’s most competitive, dynamic and knowledgebased economy, and thus one of the world’s most attractive countries for investment by large and small knowledge-based enterprises” (Swe., p. 14).

## No Gender Mainstreaming

In this study I analyse innovation policies in a gender perspective, one part of fulfilling this aim is to analyse if gender is mainstreamed in innovation policies. Following Rees’ (2005) definition of gender mainstreaming – systematic integration into all systems and structures, into all policies, processes and procedures, into the organisation and its culture, into ways of seeing and doing – and the EU definition ([www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07) of systematically examining measures and policies and taking into account such possible effects on the respective situation of men and women when defining and implementing them – gender equality is *not* mainstreamed in the analysed innovation policies in this study.

The only strategy explicitly addressing gender equality is the Danish one, which mentions this expression once. It takes place in a rather fuzzy way in the beginning of the strategy. The passage is formulated in the following way:

“Denmark is a society based on a shared belief in democracy, with open exchange of views and dialogue. It is important to allow room for diversity and the individual’s right to freedom as well as duty to accept responsibility. It is important to strive for equality between men and women. Denmark has a tradition for distinguishing between religion and politics. These are the fundamental values upon which the Danish society is built, and values which should be retained” (DK, p. 9).

In this passage of the strategy it is said that it is important to strive for equality between men and women.. But it is taken as a kind of starting point that striving for gender equality is presently the case in Denmark and has already resulted in a gender equal society. Hence, there are according to this strategy no problems of gender inequalities that need to be solved by gender equality policy, e.g., gender mainstreaming. There are no descriptions on inequalities in Denmark, or how remedies or efforts to come to terms with them can be performed. This is also the case in some of the innovation policies analysed in the previous chapter. This interpretation of gender inequality as a non-problem is reinforced by the notion of gender equality as respect for an individual person’s choice in the globalisation strategy. Gender inequality, then, is not considered a problem of unequal power relationships

between men and women, but rather as an issue of diversity and individual rights – if seen as a problem at all.

The Finnish and Swedish strategies do not explicitly address the issue of gender equality by using that terminology or by having a description of a gender equality perspective in the strategies. But, there are terms related to gender and possibly gender equality mentioned a few times in both the strategies – in the Swedish strategy gender is mentioned once, women five times and men four times – and in the Finnish strategy gender is also mentioned once and women four times (the term men/man are never used). How the use of these terms can be interpreted in a gender perspective will be shown in the following part of this chapter.

## Representations of a Seemingly Gender Neutral Everyone

An interesting question in a gender perspective is how people are described and represented in the innovation policies. Who is seen as an important actor in processes of creating innovations? How should this person be in the best – and most innovative – of worlds? An overall reading of the three strategies shows that there is not often talk directly on people or people as actors, but rather indirectly through representations of sectors of the economy, ministries, partners in the labour market, firms, schools and universities as actors (cf. Pettersson & Saarinen, 2005). There are, however, some instances where people are actually the focus, where I have made interpretations using a gender perspective. Some of these instances talk about everyone and some about more specific groups of people. All three analysed strategies, at some instances, explicitly mention that “the whole society”, “everybody” and “we” need to be more innovative. It can be noted that this is more obvious and frequent in the Danish and Swedish strategies and less in the Finnish one. In the Danish and Swedish strategies people, everybody, and we, are more directly addressed, like in the following Swedish request: “Together we will maintain and extend Sweden’s advantage” (Swe., p. 1). This is seemingly an inclusive way of representing actors, but it also places the responsibility of solving the problems of lack of innovation and competitiveness on these people – rather than on, e.g., the politicians, civil servants, firms, universities, and labour market partners. Surprising in this regard are the many instances of directly addressing children in the Danish strategy, which can be interpreted as putting them in a position of being responsible for innovating Denmark, and as appealing to their parents to act according to the view that the future lies in the hands of our children.

The placing of responsibility on everybody and “we” is reinforced by differences in style in the papers presenting the innovation strategies. The Danish and Swedish strategies are written and presented in more popular ways. The texts include summaries, clear structures of the themes and propositions made, bullet point lists of the propositions made, fact boxes – explaining concepts and summarising discussions and key initiatives – as well as photographs and images printed in colour on almost every other page. The style of the Finnish strategy is less popularised, containing no summaries, no bullet points, no conceptual explanations or figures. The Danish and Swedish strategies, therefore, seem more attuned to an audience of well-informed “common people”, even though they also include many efforts and propositions that are to be carried out by politicians, civil servants, enterprises, etc., while the Finnish strategy seems more focused on a rather well-informed professional audience of politicians, civil servants and managers of universities and academic institutions. These different ways of addressing people underlines that the Danish and Swedish strategies aim at innovating the whole society, which is also explicitly said, an example of which can be found in the following citation: “the Danish society should be transformed” (DK, 2006, p. 6).<sup>19</sup>

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<sup>19</sup> This focus on renewal of “our society” in Denmark, was as noted above, visible already in the strategy *Vækst med vilje* (The Danish Government, May 2002), which presents a slight shift in comparison to the

These writings also produce a view that hardly anything is good enough as it is, except possibly gender equality which is, as discussed above, taken as a given and seen as a non-problem. The Finnish strategy promotes a more limited – perhaps more scientifically grounded – innovation perspective focusing on the industry, the educational systems and research. But how is the representation of the whole society, everybody and we, performed in the innovation strategies? The Danish strategy in the following citation speaks of everyone:

“Denmark should be a country where everyone is optimally equipped to unfold their abilities and create prosperity for themselves and others. A country that has a global outlook and plays an active role in the world community. A country where everyone participates in the renewal process and where everyone shares in progress and cohesion” (DK, p. 8).

In the Finnish strategy a formulation on everybody can be read into the following citation: “the policies must promote the development of the entire society” (Fin., 2006, p. 6). These representations, however, cannot be interpreted as promoting everybody as an asset on which the societies should build innovativeness; an interpretation of the texts’ other representations of people show that many of them are very much perceived as lacking the prerequisites and abilities for developing an innovative society. The explicit representation of everybody is probably most obvious within the Swedish strategy when it presents innovative people as a measure to meet challenges and become more innovative, for example, in this statement: “In the global knowledge society it is increasingly important to make the best use of people’s initiative and competence in order to strengthen countries and companies competitiveness” (Swe., 2004, p. 38). But how do the strategies represent “we”, the whole society, and everybody, in a gender perspective – is it all inclusive or are some people represented as lacking and others as well-resourced and as assets in the pursuit of developing innovative societies?

## Not Everybody is Perfect

The Danish strategy starts off in a rather positive way stating that Denmark has a good starting point regarding people, since: “the vast majority of people participate actively in the labour market and in the community” (DK, 2006, p. 9). But, this positive image of people in Denmark is somewhat erased as school children are presented as not being able to read well. Many pupils in secondary are also said to drop out and too few students are reported as going abroad. People are represented as having no higher education and too few people in Denmark are said to have interaction with other countries. In addition, the people in Denmark are represented as not engaged enough in life-long learning and they are said not to participate enough in adult education. The people living in Denmark, then, are represented as lacking in many respects, the strategy in a demanding tone also says, “Everyone should be able to adapt and keep pace with new demands” (DK, p. 34).

In the Finnish strategy, where there are overall fewer instances of representing people explicitly, there is a positive point early in the strategy saying that: “the increasing number of people continuing their active work careers longer than before is a positive signal” (Fin., p. 6). On another occasion graduate students in Finland are seen as not entrepreneurial enough, even though Helsinki students are promoted as better off in this regard than students in other parts of the country. Researchers in Finland are seen as not having enough contacts abroad. Besides, the number of Finnish researchers working abroad must, according to the strategy, be increased. Regarding the Finnish students and employees, they are said to be more encouraged to try out various career alternatives and various forms of

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first text published on growth policy by the new Government *Promoting Competitiveness* (The Danish Government, January 2002) which focused on growth in the industry.

entrepreneurship, and to combine entrepreneurship with paid work. The actors explicitly addressed in the Finnish strategy are not everybody, but rather students, researchers and, to some extent, entrepreneurs. It is obvious that, even though they are in focus at least in some respects, they are represented as lacking what it takes to be innovative, since they are perceived as not entrepreneurial enough, not educated enough and not moving abroad to a great enough extent.

One problem-formulation directly focusing on people in the Swedish strategy is that the labour force is not skilled or mobile enough, and that it does not have enough capability to change. In particular, the people are lacking technical and scientific skills. An ageing population, implying that the proportion of older people in the population is increasing, is quite drastically expressed in the following way: “fewer and fewer people will have to support more and more” (Swe., p. 10-11). According to the strategy, this challenge needs to be met by higher labour force participation, more hours worked, greater renewal and productivity in health and care, implying that the (potential) labour force is not participating enough in the labour market and that they work too few hours. Globalisation also implies that firms compete in a global market, but geographically proximate collaboration is also increasing, according to the strategy. This means that to meet this challenge, people need to meet and communicate: “developing, conveying and using knowledge and technology” (Swe., p. 11). This can be read as not performed enough today. Other shortcomings of people in Sweden are that they are not mobile enough and limited to too small labour markets: “If people are not limited to small labour markets it will be easier for individuals to find employment and for employers to find staff” (Swe., p. 38). Neither are the Swedish people seen as willing or able to try new things. In addition they are not considering starting and running their own businesses to a large enough extent. In this context, as previously mentioned, it is underlined that both women and men should regard this as possible and natural, implying that this is not the case at present. The Swedish strategy also says that: “Measures will be taken to promote creativity and awareness of enterprise among young persons” (Swe., p. 42) implying that young people are not entrepreneurial enough. In the Swedish strategy some people are seen as lacking skills, mobility, capacity, a will to participate in the labour market, not making use of knowledge and technology as well as being uninterested in entrepreneurship.

Findings parallel to the ones made in my analysis, on the representations of a seemingly inclusive everybody, are also made by Ali-Yrkkö et al., (2006), who looks at the construction of citizens in Finland in Finnish innovation policies, however not from a gender perspective. At a first glance the strategies seem to encompass and rest upon the resources that everyone – all citizens of Finland – make up. But a detailed analysis reveals that the citizens are not considered in this positive view, as:

“There are too few Finns altogether. The existing ones are too old and too expensive (salaries, pensions, care for the elderly), they do not have enough children, they study too long on the one hand, and not long enough on the other. They also lack entrepreneurial spirit, creativity and flexibility. Rather, the Finns are, for example, suspicious, intolerant, envious and slow” (Ali-Yrkkö et al., 2006, p. 54).

My analysis in this paragraph can be concluded as the terms everybody, all people and the entire society, used in the innovation strategies, despite their seemingly inclusive connotations actually does not imply that everybody is seen as an asset on which to build innovativeness or competitiveness, as many people are represented as lacking in different respects. These representations of the people lacking can also be interpreted as producing an image of who is seen as an asset and as able in the innovative society.

The Danish innovation strategy can be concluded as promoting primarily those who work actively in the labour market and are active in society, and moreover the ones literate, skilled, adaptable and who keep pace, who go abroad, have an higher education, interact with other countries and cultures and who are life long learners as the ones on which Denmark needs to build innovation and economic development to be succesful in a globalised world.

The Finnish strategy promotes people working longer in the labour market and employees trying out various careers and becoming more entrepreneurial as assets. Besides, those entrepreneurial (graduate) students, educated entrepreneurs and researchers working abroad are represented as what Finland needs, however never very explicitly.

The Swedish strategy emphasises that people who are technically and scientifically skilled, mobile, capable of change, who know foreign languages, who work long hours, are productive and renewing, developing and using technology and being entrepreneurial are the people needed in order to be innovative and competitive. The question is how the lacking and the well-resourced people, respectively, further are represented in a gender perspective? This is the question pursued in the next section of the study, by analysing how men and women are represented in the innovation strategies.

## Gendered Actors – Men as Well-Resourced and Women as Lacking?

The Danish innovation strategy, text-wise, represents everyone in a gender blind perspective, since there are no explicit descriptions of gender equality or gender in the Danish innovation strategy, or usage of gendered terms, despite the one instance. This is analysed above and the analysis reveals the view of the text as there are no problems of gender inequality in Denmark, building on a presupposition that men and women in Denmark are gender equal. In turn, gender is perceived as having nothing to do with innovation, economic growth and/or competitiveness. However, another story is revealed when analysing one of the pictures represented in the globalisation strategy. On page six in the strategy there is a drawn image of a map of Denmark. Inserted into the map – within its borders – there are juxtaposed photographs of people: four children and four grown-ups: two girls, two boys, two men, and two women. This image, in a quantitative gender equality perspective, indeed seems gender equal enough.

But, when one takes a closer look at the representations of the people, using a gender perspective, it is clear that they are structured according to traditional gendered binary divisions. The two men are represented as active presumably in paid work – one wearing a builder's helmet and a blue sweater and the other one looking intensely at something he holds in his hands (possibly a tool) wearing a rather crinkled blue jeans shirt. They can be seen as clearly representing masculinity in terms of “the engineer”, “the constructor” or “the hard hat” (cf. Helms Mills, 2005). One of the boys is also active: writing, concentrated, with a pencil in a schoolbook, or on a paper. The other boy child is cuddling his mother and he smiles and one of the women is hence represented as a mother embracing her son, clearly enjoying it, since she is smiling and looking down at him, or possibly having closed her eyes. The other woman is smiling looking straight into the camera, and the two girls also smile looking into the camera over their shoulders as they are walking, with their schoolbags on their backs. The women and girls perhaps do not seem passive, but they are not directly concentrated on or active in paid work or in learning at school. Beside the traditional representation of a woman as a mother, they represent a classical image of women and girls as a kind of pleasant decoration. To conclude the analysis of this picture it is obvious that the men/boys are taking part in building a competitive Denmark working hard and educating themselves, while the women/girls are not represented as well-resourced to build on or active in the creation of an innovative Denmark. In addition, the different positionings of the men and the women – in particular the woman as mother – place men as the breadwinner of the family and women as care giving and nurturers of the children in the home. Since this picture represents a map of – a future vision – of Denmark it implies that the men are the breadwinners, and assets and well-resourced people on whom to build the future.

Who the more well-resourced people are in the Swedish strategy is revealed by an analysis of the instances where women and men are explicitly mentioned. When the strategy looks at people in more detail there seems to be some awareness that there are gendered and also other divisions among people. This is especially evident in the following citation found at the very end of the strategy:

“Sweden has a unique asset in the diversity that exists in our society, but we currently fail to make adequate use of the available skills and competence. Today many people are excluded from the labour market or are engaged in tasks that do not match their skills. This is an enormous waste of resources and is highly unsatisfactory for the individuals affected. It also creates a divide between different groups in society. A vital challenge for Sweden’s employers in the public and private sectors is, therefore, to recognise and make better use of people’s skills, regardless of gender, age or origin” (Swe., p. 43).

The citation points to the gendering of issues extensively dealt with in the rest of the strategy – and the implicit saying is that the available skills and competences are not made use of because women, older people and non-ethnic Swedes are not seen as skilled and hence not employed in skilled jobs or employed at all. Placing the citation at the very end of the strategy makes it appear downplayed and marginalised, and in Rönnblom’s (2005) term, an “add on”. The gender perspective used on this occasion – in a gender perspective an interesting seed of a thought – but unfortunately has no bearing on the rest of the strategy. Had it been placed at the beginning of the strategy, and taken seriously throughout, the Swedish innovation strategy would probably have been transformed. In addition, there are a couple of other seeds of a gender perspective in the same paragraph at the very end of the strategy: “Efforts are needed to encourage the development of workplaces where both women and men are able to reach their full capacity and where new ideas, which can lead to new working methods and products, are stimulated” (Swe., p. 42). This formulation indicates that there are gendered differences regarding the possibility of development in the labour market, or at least in the workplace and regarding whose ideas are stimulated and taken as new and innovative. In another citation a parallel indication of gendered differences is mentioned, but not developed: “Better use must be made of the full range of skills, experience, contact networks and cultures and the diversity among women and men in our society” (Swe., p. 43). When juxtaposing these citations to an occasion when women and men are explicitly mentioned as entrepreneurs, an indication that women are lacking what it takes to be entrepreneurial is found: “it is important that both women and men regard it as positive and natural to set up and run their own companies and business ventures, and that attitudes towards failure change” (Swe., p. 40).

In the next section of the study I seek to answer the following questions: Who is perceived as well-resourced and an asset to building economic development and innovation? Who is seen as skilled, possessing the “right” knowledge for an innovative society? Who is seen as entrepreneurial? What kind of knowledge is promoted as important in innovation policies?

## Knowledge as Masculine Knowledge

Knowledge in different forms is not surprisingly promoted as one of the most important resources for innovation and in all of the three strategies analysed in this study. This is also the case in the innovation policies analysed in chapters 3 and 4, whereas education, higher education and research are seen as prerequisites for developing innovations and the economy.

The Danish globalisation strategy focuses on knowledge in a rather general perspective. However, even though it says: “People’s knowledge, creativity and efforts are the key to utilising the opportunities that globalisation offers us” (DK p. 7), some people are clearly represented as lacking. The actors, promoted as important and as assets within discussions of higher education and research, are talented, bright students and researchers, who should

produce: “top level research and be among the top performers at turning research results into new technologies, processes, goods and services” (DK. p. 22). The way the students and researchers are represented, in terms of gender, is very implicit since no quantitative reviews of the current situation are given and since no discussions of women or men, or gendered structures within the universities are performed.

However, the Danish universities are marked by gender which is obvious looking closer at some figures presented by the Minister of Gender Equality. In Denmark the share of women completing so-called bachelor exams is 55 percent, in longer higher educational programmes 53 percent, and in research education 36 per cent. Within these gendered differences there are also variations between disciplines. One extreme is a longer educational programme within the field of defence where women make up one per cent. Another extreme is the longer educational programme on pedagogy where women make up 82 per cent. In research education on natural science and technology – which is, to some extent, focused in the innovation policies – the share of women is 26 and 28 percent respectively. The research education dominated by women is agriculture (56 percent) and artistic (57 percent) ([www.dst.dk/Sites/KVM/Uddannelse/Hoejeste\\_fuldf.aspx](http://www.dst.dk/Sites/KVM/Uddannelse/Hoejeste_fuldf.aspx), 27/10/06). Moreover, the share of women professors in Denmark is barely 10 percent (The Danish Ministry of Science, Technology and Innovation et al., June 2005; *Forskning & Framsteg*, nr 4, 2006). Engineering education is also dominated by men, since they make up 67 percent of the students enrolled in these programs, as described by the The Danish Ministry of Science, Technology and Innovation (May 2005a).

The globalisation strategy does not pursue the fact that there are too few women researchers in Denmark and that more of them are needed to enhance innovation and competitiveness. This is the conclusion made in the report *Bringing all Talent into Play* (The Danish Ministry of Science, Technology and Innovation et al., June 2005). The proposition of more women in engineering education through increased recruitment, stopping fall-out and creating new engineering education, made by the Ministry of Science, Technology and Innovation (May 2005a) is not included in the globalisation strategy. Thus, one can conclude that there is a great risk of creating men and male as the norm when not taking seriously these gendered binary divisions, enacted in the institutions and procedures of the production of knowledge.

In the globalisation strategy both knowledge subjects like science, engineering and ICT – and knowledge like health – are presented as important to develop in the innovation strategy. An interpretation of pictures in the strategy can, however, indicate the gendering of the knowledge promoted as most important to develop. There are some pictures illustrating the strategy where both men and women are represented as university students and researchers. Three researchers are seen in one picture and they all wear white laboratory smocks, indicating that the knowledge seen as most important to develop is natural science. In addition, they are depicted as running, which can be interpreted as representing research as a kind of racing competition.

Science and technology are subject areas of innovation, knowledge, education and research very much dominated by men. The concepts of technology and science are also intrinsically intertwined with social constructions of masculinity (Connell, 1996). The relationship between technology and masculinity, among other things, has to do with the gendered binary divisions where the mind is primarily associated with men and masculinity and the body with women and the feminine. Some researchers point at the Greek philosophers' separation of mind from body and masculine from feminine, whereas the masculine mind was put in a superior position. This reasoning was developed by Descartes who gave the separation between masculine and feminine a prominent position in Western thinking (Hirdman, 2001; McDowell, 1999). These gendered divisions are also highly present today. The image of the engineer as a man who personalises technology is e.g., discussed by Mellström (1999). In addition, there are discussions that indicate that the concepts of

excellence and expertise connotes men as researchers and their knowledge (cf. Barwa & Rai, 2003; Berner, 1996; SOU 2005:66).

To picture the Danish researchers as developing scientific knowledge in white laboratory smocks can hence be interpreted as promoting men as the most important actors in the Danish innovation policy and masculine knowledge as the most important knowledge in creating innovations (cf. Blake & Hanson, 2005).

However, as noted above, the people most directly addressed as actors and explicitly focused on within the Danish strategy are children. The masculine gendering of children is performed through the representation of boys as the most well-resourced and as active, and is indicated by picture in the Danish strategy analysed above. Even though it is stated that: "Pupils in the primary and lower secondary school system should be top performing within the four core subject areas: reading, mathematics, science and English" (DK, p. 10), there is also a statement saying that: "The main subjects of science/technology and physics/chemistry should be strengthened in regard to content and scope" (DK p. 11), reinforcing the interpretation of pupils as boys and the most important knowledge as masculine. This can be related to the proposition made in the report *Vild med viden!* (The Danish Ministry of Science, Technology and Innovation, August 2005), where girls are said to have a negative view of natural sciences and boys do not. How these gendered differences effect the promotion of science, technology, physics and chemistry, and vice versa, is not discussed in the globalisation strategy.

A drawn picture illustrating who is perceived as a top-performing and well-resourced pupil also clearly depicts a boy. The head of the smiling boy is opened like a lid, and inside the head – and even piled up outside of it – there is "knowledge". The knowledge is symbolised by pictures of tools – two screw drivers, two hammers and a pair of scissors – and by screws, by letters and a couple of symbols – @ and § – which symbolise technical, computer related and legal knowledge. There is also a girl pictured on the page before the boy. However, she is not depicted as filled up by knowledge, but rather represented as smiling on her way to school. Yet again, as in the picture of the Danish map, the girl is represented as a kind of pleasant decoration rather than a knowledge-filled person, an asset, especially when set in direct relation to the image of the boy.

The gendering of choice in education, which is emphasised in the Danish Gender Equality strategy (The Danish Minister of Gender Equality, 2006), however, reveals another image: 64 percent of the girls and 47 percent of the boys complete secondary school.<sup>20</sup> In addition, it is concluded that girls often choose the same education as their mothers, and boys as their fathers, implying that 28 percent of the boys, and 8 percent of the girls, take an education leading to craftsmanship or technical education. There is also an ethnic dimension to the divisions in education whereas around 35 percent of the boys with ethnic backgrounds other than Danish, and 71 percent of Danish ethnicity, finish a practical education (*erhvervsfaglig uddannelse*). The figures for girls are around 45 percent (other than Danish ethnicity) and 74 percent (Danish ethnicity). This gendered educational division in turn leads to continued gendered divisions in the labour market (The Minister of Gender Equality, 2006).

The primary objective of the Finnish strategy is to develop the entire society of Finland, but the focus is primarily set on the development of higher education, science and research. Following this is a conclusion that: "A key challenge is to intensify top-quality research and innovations in the fields that are most crucial for the national economy" (Fin., p. 7). The knowledge very much in focus in the Finnish strategy is so-called top-quality research and expertise, produced within the university system consisting of universities and polytechnics, and by R&D institutes in different sectors. The Science and Technology Policy Council also states that their task is to: "review the renewal and growth potential of the researcher

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<sup>20</sup> There is a big difference in comparison to the figures mentioned in the Globalisation strategy here. Maybe it has something to do with the definition of education for younger people (*ungdomsuddannelse*) and in the second case upper secondary education (*gymnasial uddannelse*).

community in the production and application of new knowledge” (Fin., p. 7). The view in the Finnish innovation strategy is that innovations are created in innovation systems. This is not as obvious in the Danish and Swedish strategies, and, as noted above, these focus on innovating the whole societies, while the Finnish strategy is more focused on, and limited to, the innovation system in Finland. The strategy explains how the system is supposed to work:

“An innovation system functions well when it 1) ensures sufficient human resources and broad-based renewal of the knowledge base; 2) enhances the creation and accumulation of new scientific and technological knowledge and expertise, also bringing knowledge and know-how created elsewhere efficiently to the use of domestic parties; and 3) strengthens the ability to introduce and exploit knowledge and expertise, also promoting the production, dissemination, and commercialisation of innovations” (Fin., p. 29).

Clearly scientific and technological knowledge and expertise are promoted as the most important knowledge to be produced within the innovation system, even though the first sentence seems more inclusive since human resources are mentioned. What is perceived as important knowledge and expertise regarding innovation can already be evidently seen in the title of the strategy – *Science, Technology, Innovation*: science and technology. What is important knowledge is also apparent in the kind of special treatment the VTT is given in the text:

“VTT is a special case among the Government R&D institutes. As VTT is the largest research institute in the Nordic countries, its significance as an expert organisation in applied technological research and development of technology is exceptionally important” (Fin., p. 18).

Even though VTT is described as changing from being a technology developer into an innovation developer the focus is still on technology: “In accordance with this, resource increases are allocated to strategic basic technological research; to market prediction and analysis, new technologies, and competitiveness of enterprises; and to the conceptual development of technology, services, and business” (Fin., p. 18).

Representing the Finnish well-resourced researchers as encompassing and developing technical and science knowledge can be interpreted as promoting men as the most important actors in Finnish innovation policy and masculine knowledge as the most important prerequisite in creating innovations (cf. Blake & Hanson, 2005).

As I have shown above, the explicitly represented actors (beside governmental agencies and enterprises, etc.) in focus for the Finnish innovation strategy are researchers, rather than the entire society. But, as the interpretation of the explicit sections of the strategy on the actors reveal, some researchers are seen as lacking. At the same time, the representation of some of the actors as lacking creates a norm – the well-resourced researcher who is seen as an asset. This is particularly evident when interpreted in direct relation to what kind of knowledge and expertise is promoted as the most important of the Finnish innovation system. The well-resourced researcher is one who produces top-quality research and expertise in science and technology. In a gender perspective it is obvious that the well-resourced actor of the Finnish innovation strategy is a male researcher.

Gendered terms are used on five occasions in the Finnish innovation policy. The term gender is mentioned once, and women four times. All the occasions are made in the context of discussing higher education and research in Finland. In comparison to the earlier reviews on innovation policy made by the Science and Technology Policy Council, the gender equality perspective or gender perspective in the latest strategy seems even more limited since there were also discussions on education for children, even though they are short, and more figures on the general shares of girls and women in education and research presented. The issues once raised are not followed up on (The Science and Technology Policy Council, 2000; The Science and Technology Policy Council, 2003). On the first occasion where women are mentioned in the review of 2006 it is done in a positive manner, whereas an increase of women researchers in Finland is noted:

“The number of research personnel in Finland has grown rapidly. Currently, almost 80,000 people are employed in the research sector, whereas 10 years ago the figure was less than 50,000. The increase is explained by increased research funding; the research volume more than doubled from 1995 to 2005. At the same time, the educational level of personnel has been improving steadily and the proportion of women in research has grown” (Fin., p. 25).

How large a proportion of women make up researchers in Finland is not stated, and neither is the growth rate of their share. That there is a perceived problem of too few women in research can be seen as pointing at the fact that researchers, to a large extent, are men in Finland, reinforcing the interpretation of the well-resourced researcher as male. This masculinisation of the actors is further performed in the next citation, where the terms gender (for once) and women are mentioned. The perspective on the gender distribution and women’s possibilities for careers in the academy views these as problematic: “In some fields, the gender distribution of students and researchers has remained quite skewed and obstacles to women pursuing research careers have not entirely been successfully removed” (Fin. p. 26). This again indicates that the well-resourced, obvious researchers are men. In addition, it can be noted that no suggestions are made on how the gender related obstacles are to be removed, even though other suggestions on how to strengthen human resources and to meet educational needs are stated.

On the next occasion when women are mentioned, the focus is yet again on their research careers, though placing more responsibility for the problem on the women themselves rather than on the obstacles: “From the standpoint of research careers, the most serious problems are... women’s slow progress in research careers” (Fin., p. 28). The creation of men and male as the norm is reinforced by the fact that the gendered terminology in the strategy primarily uses the term women. This places women at the centre of the discussions on gender and as responsible for problems of gender inequalities. Women are, in this way, also implicitly represented as lacking the ability to progress in research careers, even though it is also said that there are obstacles to women’s careers (at least in some fields). This focus on women, when it comes to gender equality issues is, as I have shown above, the common way of dealing with these issues in Finland – at least in the context of innovation policies.

The few statements on gender inequalities in research, in the Finnish innovation strategy, and women’s under representation in research can be mirrored by reading the Finnish strategy on gender equality (Ministry of Social Affairs and Health, 2005). In the latter it is concluded that women have one fifth of all top positions in universities in Finland – which means that men make up four-fifths of the top-positions. This mirroring exercise thus supports the interpretation that the well-resourced researchers in the innovation strategy are men. At the same time, among the lecturers and full-time teachers, a majority are women. Another figure in Finland reveals that 45 percent of the doctorates are women (in 2001) which indicate a significant growth. They are, however, unevenly distributed across disciplines and in the academic hierarchies, since they are well represented at the initial stages of research careers but not in the later ones. In all three countries investigated in this study, the share of women completing higher education is higher than that of men (The European Commission, 2002). Universities are thus, as the (rest of the) labour market, characterised by horizontal and vertical gender segregation (Högskoleverket, 2005).

In Finland the share of women completing exams was 62 percent in 2005 ([www.stat.fi/til/yop/index\\_sv.html](http://www.stat.fi/til/yop/index_sv.html), 27/10/06) but they only make up 20 percent of Finland’s professors (*Forskning & Framsteg*, nr 4, 2006). The gendered structuring of leadership and of what disciplines women and men dominate are hard to change, and it is noted that academia is highly resistant to change. Universities, and the women within them, are also marked by historic ballast, since it is only about a hundred years since they were opened to women (Högskoleverket, 2005). This gendering of academia and higher education, and gender inequalities producing obstacles, are factors not discussed further in the Finnish innovation strategy. On the level of the EU there has been concern about the under-representation of women in scientific careers and the waste of women’s skills and knowledge

through the “leaky pipeline” which entails that women drop-out of scientific careers at every level in disproportionate levels. One reaction to these problems was the initiation of the Helsinki Group on Women and Science, discussing and exchanging measures and policies to encourage women’s participation in scientific careers and research (European Commission, 2002). Universities can thus be said to be permeated by notions of gender, even though academia often is seemingly gender neutral.

In a table at the end of the Finnish strategy a so-called SWOT-analysis (strengths, weaknesses, opportunities and threats) of the global environment of the policy is presented.<sup>21</sup> The reasoning made earlier in the review on a skewed gender distribution in higher education and research and obstacles to women’s research careers, is not referred to in this context. Instead, the perspective is very positive and the earlier problems are now perceived as a strength, since women’s proportion in research is seen as high in an international comparison. The strength is formulated as: “A high proportion of women among researchers and PhDs by international standards” (Fin., p. 43). This statement does not, in my view, challenge the interpretation of the well-resourced researcher seen as an asset in the innovation strategy as a man.

In the Swedish innovation strategy, knowledge is obviously also promoted as an important asset for developing an innovative Sweden, as in the vision of the strategy: “Our vision is for Sweden to be Europe’s most competitive, dynamic and knowledge based economy” (Swe., p. 14). The use of the term knowledge in the Swedish strategy not only encompasses knowledge produced by research, since it is also stressed that education in school, and even pre-school, and so-called life-long learning is needed in developing Sweden into an innovative country. The focus in those contexts is that pupils should meet the targets and common objectives, but in addition to broad knowledge a high degree of specialisation should also be developed. Yet another example of the promotion of the importance of knowledge is the following citation that also indicates what kind knowledge is perceived as most important: “To build a firm foundation for a sound innovation capacity in the business and public sectors, a strong, specialised knowledge base is needed” (Swe., p. 13). The perspective on knowledge seems broader than in the Finnish strategy, but when there are specifications made regarding what knowledge is most important, in the Swedish strategy, the focus is set on science and technology as in the following citation:

“It will be crucial for future Swedish competitiveness that there are enough people with technical and scientific skills. A large proportion of the major expansion of higher education in recent years has taken place in science and technology. This has led to a significant increase in the number of higher education graduates in these areas. To enable this development to continue, there must be sufficient numbers of interested applicants with good basic skills from upper secondary education. Greater efforts are therefore being made to attract interest in technology and science” (Swe., p. 17-18).

Following this reasoning there is an effort presented that is to promote good mathematical skills and an interest in studies in science and technology. In addition, the Swedish strategy aims at getting more people to study technology and natural sciences. The following citation clearly states that, but there is also a slight opening towards other forms of knowledge:

“Further efforts are needed to get more people to study technology and natural sciences. An interest in mathematics should be encouraged throughout the education system, from pre-school to higher education, and mathematics teaching developed so as to focus upon its practical importance in working and daily life. Compulsory schools should be encouraged to profile themselves in the natural sciences and technology and teachers given opportunities for skills development. More innovative and attractive courses need to be set up in the borderlands between areas such as technology, design, civics, the humanities and science” (Swe., p. 19).

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<sup>21</sup> This is a SWOT-analysis which is reproduced in this review, and which was, to my knowledge, originally published in The Science and Technology Policy Council, 2004.

The conclusion can be made that the knowledge seen as most important in the Swedish innovation strategy has masculine connotations (cf. Blake & Hanson, 2005). There is, in turn, a male-centred engineer-ideal present in the Swedish innovation strategy, which is, in a historical perspective, clearly perceived as important in Swedish policy discussions on technical innovation and industrial development, but also in policies developing the Swedish society as a whole (cf. Mellström, 1999). It can also be contextualised against the background of the following figures: In Sweden the share of women active in higher education was 60 percent 2005. During 2005, women took 45 percent of the research education exams. In Sweden there are also differences in what disciplines men and women complete in their higher educational programmes (The Ministry of Trade, Industry and Communications, 2006). In addition, the share of women professors is far from gender equal, since in Sweden it is 14 percent (*Forskning & Framsteg*, nr 4, 2006). In a report it is concluded that women are “unhitched” in academic careers. Men have a double chance, compared to women, to become professors. Among the men who complete a research education, eight percent became professors in a 12 year period, as compared to only four percent of the women (Högskoleverket, 2006).

In the Swedish strategy, the actors encompassing the most important knowledge – technology, mathematics and natural science connoted as masculine – are also represented as men, perhaps more implicitly than explicitly. When relating the promotion of the most important knowledge as technical and scientific to the representations of some actors as lacking, e.g., the ones not skilled or mobile enough, not making use of technology and knowledge and not considering starting and running their own businesses to a large enough extent, the lacking are implicitly represented as women. This is particularly evident in the part of the Swedish strategy representing the innovative people – the well-resourced perceived as assets in developing an innovative society. Innovative people are said to take initiative, being skilled and believing in themselves, in the following way: “Companies and business ventures are set up, develop and succeed thanks to innovative individuals who believe in their own and other people’s abilities and potential for development” (Swe., p. 40). These are characteristics and abilities often connected to the representation of entrepreneurs and entrepreneurship, and the most innovative people are often represented as entrepreneurs (cf. Schumpeter, 1934). This is also the case in the Swedish innovation strategy as stimulating entrepreneurship and enterprise is presented as an important effort.

There is, in the Swedish strategy, a notion of differences regarding who is more likely to set up a business and who is not, as discussed above. As noted, there are no descriptions of the gendering of entrepreneurship in quantitative terms or of the concept of the entrepreneur in qualitative terms. These are, however, highly gendered and in a quantitative perspective one can see that men are overrepresented among entrepreneurs since 75 percent of them are men and 60 percent of the new entrepreneurs are men. Furthermore, the concept of an entrepreneur implies a man and since the activities encompassed by the label of entrepreneurship often denotes masculine activities and characteristics like risk-taking, adventurous, and being “self-made” (Ahl, 2000; Pettersson, 2002). In turn this positions women entrepreneurs as invisible and it is often represented in line with myths that women’s entrepreneurship is a new phenomenon, it is delimited and is only found in the business of hairdressing, which is not proven right by research. Instead, women entrepreneurs are marked by diversity (Sundin & Holmquist, 1989). In the innovation strategy the statistics on entrepreneurship are not gendered. And in line with the implicit construction of women as lacking and men as well-resourced, the male centered focus on entrepreneurs is reinforced by the strategy’s own discussion on women, older people and non-ethnic Swedes as non-skilled.

To conclude this section, innovation is very much focused on the development of and sometimes commercialisation of knowledge. But not all kinds of knowledge are appreciated as equally important to develop or build on in the context of innovation. There is an obvious gender dimension in this regard. The perception of the “right” and interesting knowledge in an innovation perspective is most clearly expressed in the Swedish and Finnish innovation

strategies. Nevertheless, the Danish globalisation strategy also focuses on knowledge, but in a more general and possibly more inclusive perspective. In all the analysed innovation strategies much weight is put on education, higher education and research to be and/or become innovative and competitive. There are, however, slight differences also in this regard as the Danish strategy puts more weight on education in school, and the Finnish on research. The Swedish strategy is somewhere in between these positions, focusing on both education and research. The people very much perceived as well-resourced and as assets to building economic development and innovation are top performing researchers, pupils in school and innovative entrepreneurs. They are clearly connoted as men since they are seen as top-skilled and possessing the “right” – scientific and technical – knowledge for an innovative society (cf. Blake & Hanson, 2005), as well as by way of being represented as risk-taking entrepreneurs and mobile labour (cf. Pettersson & Saarinen, 2005). In their study, Ali-Yrkkö et al., (2006) conclude that the adult male is the norm in Finnish innovation policies, since there is this creation of undesired and desired characteristics among the actors discussed. The innovation strategies analysed in this study does however not to a large extent explicit focus on actors of the innovative societies, as noted above. This is also the case when promoting certain sectors of the economy as particularly important to develop and support – and, in turn, on which to build an innovative society. These sectors are in focus in the next section of the study.

## Defining Male Dominated Sectors of the Economy as Strong

In the innovation strategies, not all sectors of the economy are seen as equally important for building innovation and competitiveness. What are seen and promoted as so-called strong sectors are very much related to the representations of certain knowledge – technical and scientific – as the “right” and most important knowledge in the innovation strategies. The Danish strategy does not point out any specific sectors of the industry as particularly important to develop, other than by way of focusing, to some extent, on certain areas of knowledge as more important. There is to some extent a broader recognition of different sectors, as in the following citation:

“Denmark’s public sector institutions should be among the most innovative. They should focus on developing new ideas that can be translated into providing better service to citizens and companies” (DK, p. 28).

In the Finnish strategy some focus areas are pointed out as important for developing innovation: “The strong sectors of the Finnish economy – the forest industry, the metal industry, and ICT – must retain their position” (Fin., p. 9). The Finnish strategy also stresses the importance and focus of the development of new so-called promising areas: biotechnology, new materials, software, knowledge-intensive services, the entire well-being cluster, and nano-technology. In addition, new initiatives connected to culture and leisure time are promoted as equally important. In the end of the strategy an effort is discussed to create so-called *Strategic Centres of Excellence Schemes* that will build on co-operation between the public and private sectors. Five subject areas in which concrete measures are identified clearly mirroring the so-called strong sectors, but also including other ones:

“These areas are: 1) energy and the environment (e.g., environmentally friendly energy production), 2) metal products and mechanical engineering (e.g., moving machinery and vehicles as well as manufacturing and automation technology), 3) the forest cluster (e.g., comprehensive exploitation of materials such as wood and its derivatives as well as intelligent products), 4) health and well-being (e.g., well-being of the elderly and development of individualised medical care and diagnostics), and 5) the information and

communication industry and services (e.g., services and products of the future information society)” (Fin., p. 40).

In the Swedish strategy the sectors of the economy that are clearly pointed out as “the backbone” of Swedish exports are some that have a long history like the forestry, paper and pulp industry, vehicle manufacturing, mining, the steel industry, telecommunications and pharmaceuticals, which “have long been the backbone of Swedish exports” (Sweden, p. 5). Other industries are said to have grown out of new technological advances or the encounter between new and old activities. And:

“Sweden lies well to the fore in a dozen or so important new areas, such as information technology, microelectronics, biosciences, equipment and assistive devices for use in health care and care of the elderly, and vehicle and traffic safety. Sweden is also a leader in delivering holistic solutions in the environmental and energy area and displays top-notch skills and creativity in areas such as music, design and food” (Swe., p. 5-6).

Despite some focus on new sectors of the economy it is underlined that:

“In absolute terms, however, it is Sweden’s traditional basic industries and engineering industry that create the most value growth. By virtue of their size, these industries will continue to dominate Sweden’s economy for the foreseeable future” (Swe., p. 6).

The gendering of the often so-called strong sectors is predominantly masculine by way of this focus on knowledge connoted as masculine and also through the fact that they are male dominated sectors in the labour market. The horizontal gender segregation of the labour market – which implies that men and women to a large extent work in different sectors of the economy – is not discussed in the innovation strategies. Figures from the Minister of Gender Equality in Denmark, however, reveal that the Danish labour market is gender segregated, since a total of 60 percent of all Danes are employed in jobs dominated almost exclusively by women or by men. Over 90 percent of the employed in nursing, care and crèches are women while in the fishing sector and in the jobs of carpenter/joiner, men make up over 90 per cent. Women especially work in care and office-related jobs, and according to the minister most often in positions characterised by routine procedures. Men, by contrast, are typically employed in the private sector or the state sector, in the areas of skilled trades, IT and technical science, in jobs characterised by development opportunities and in managerial positions (The Danish Minister for Gender Equality, 2006).

The splitting of the labour market in two parts is also the case in Finland, whereas most women work in what are thought of as “women’s fields”, while most men work in “men’s fields” according to the Ministry of Social Affairs and Health (2006). Of the whole workforce, only about 15 percent worked in fields with a roughly equal number of women and men in 2003. One third worked in fields where the majority of those employed (at least nine out of ten) were the same gender, i.e., in female- or male-dominated jobs. According to the Ministry men’s fields are typically industrial, while the women tend to be in caring or commercial fields. This horizontal gender segregation of the labour market is also the case in Sweden since 80 percent of men work in the private sector while women are equally employed in the private and public sectors. Of the 30 occupations employing most people in Sweden only five can be regarded as gender equal in a quantitative perspective (SCB, 2006).

There are some exceptions to the focus on sectors creating innovation and competitiveness in technology in the analysed innovation strategies, whereas, e.g., the service sector and industry in the sectors of tourism, health and well-being are mentioned as important. This is the case in the Finnish strategy as the service sector is also seen as a key developmental target, since its significance in the economy and employment is growing. It is also mentioned that the export of services has increased rapidly and that in 2005 it was worth 9.7 billion euro – which counted for 40 percent of the foreign trade surplus.

However, one can question the positioning of these sectors in the strategies since they are primarily perceived as a kind of support for the technical industry, which is put in a superior position like in the Finnish strategy: “Business services support the R&D and innovation and

promote the renewal and internationalisation of the other sectors. These services have an increasing role in transferring technology and competence within and between sectors and clusters” (Fin., p. 9). In the Swedish one: “The biggest international expansion has occurred in the service sector, which frequently has strong ties to Swedish manufacturing” (Swe., p. 4). The so-called new sectors are represented as having a supportive role and are not seen as innovative in their own right. In addition, in the Swedish strategy the promotion of the public sector with what is seen as outstanding services, systems, environmental friendly transportation and education is, in the efforts presented, very much boiled down to the use and development of new technology. The public sector is also seen as problematic since it must be renewed and more efficient through the use of new technology and also innovation in the working organisation. This is also the case in the Finnish strategy whereas the productivity of the public sector is perceived as necessary to develop competitiveness, and it is seen as enhanced by innovation: “Growth of productivity is necessary in both the public and private sectors and particularly in the area of services” (Fin., p. 4).

Although it is sometimes underlined as a process transforming the whole of Denmark and Sweden, as noted above, innovation is also very often represented as a technical good. In the Danish strategy there is a very implicit understanding of what an innovation is, perhaps following the approach of renewing the whole society. The innovative, well-resourced actors are represented as men, besides the representation of technical and scientific knowledge as the most important. These representations place a rather narrow focus on innovation, which is exemplified in the following citation: “Denmark should be among the best countries at transforming new research results and knowledge generated by research and educational institutions into new technologies, processes, goods and services” (DK, p. 26).

As I have shown, the perspective in the Swedish strategy is also, to a large extent, narrowed down to men as actors and masculine knowledge as important, even though there is a broad approach to innovation in the opening of the Swedish strategy, in the following citation: “A good climate for innovation establishes conditions in which knowledge and enterprise will lead to new goods and services, or new methods of production. Innovation is frequently based on research and development, but it is often also a matter of recombining existing knowledge into new patterns” (Swe., p. 1).<sup>22</sup> This is also the case in the Finnish strategy, even though it mentions social innovation. However, this is done in a way that does not foresee social innovations as a potential for business and economic development: “Social innovation in itself is seldom the object of business activities alone” (Fin., p. 25).

Innovations leading to business activities and, in turn, economic development are primarily perceived as technological innovations in business enterprises, and social innovations are not seen as innovations in their own right. One point reinforcing this interpretation is the fact that the perceived difference between innovation and social innovation is created by the concept of social. In the next section of this chapter I analyse how the metaphoric in the analysed innovation policies recreate and reinforce men and male as the norm.

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<sup>22</sup> Interesting in this context is what has happened with the Swedish innovation strategy, since it was published comparatively long ago. What sectors of the economy are and have been promoted and/or supported since the publication of *Innovative Sweden*? Two answers to these questions are found in The Swedish Ministry of Industry, Employment and Communications, 2005 and in the new strategy on regional development (The Swedish Government, 2006). In the first mentioned Swedish document, *Innovationsystem – samspel för ökad kunskap och tillväxt*, a council for innovation policies in Sweden is mentioned (this, however, seems to never have been formed). There is also mention of a strategic program for so-called key industrial sectors and they are: the sectors of metallurgy, forestry and wood, car production, pharmaceuticals and biotech, and information and communications technology. In 2004 a strategic sector specified was the aircraft and space industry. One can see that what sectors were focused on following the *Innovative Sweden* were the sectors of the economy dominated by men, building on masculine knowledge. This is also the case within the context of the new regional development policy, where the same sectors are mentioned.

# Metaphors from the Masculine Worlds of Sports and War

The Danish innovation strategy's efforts to develop pupils as "top performers" within a so-called world top performing represents them very much in line with masculine metaphors from the world(-s) of sports and competition (cf. Connell, 1999; Connell, 2000; Mosse, 1996). According to Hellspång & Ledin (1997), a metaphor is a classic example of a comparative perspective in a text where one thing is in focus, while the glance rests on something else. In a metaphor two things from separate spheres are connected. The figurative part of the metaphor can transfer a positive connotation to the thing described by comparison. In addition, there are two more direct metaphors – saying, e.g., that "the sun is an orange" – and pale metaphors. According to my interpretation, the analysed innovation strategies mostly use the pale metaphors of strength, being strong, and being and becoming a winner.

A pale metaphor of this kind is clearly visible in the Danish visions for the future, since all overarching objectives in the strategy are to become world top level and top performing: world top level education, top performing knowledge society, top performing entrepreneurial society, and top performing innovative society. The essence of the efforts being that: "Denmark must have strong competitiveness power" (DK, p. 8). Globalisation and the creation of innovation and economic growth are metaphorically perceived as a kind of global competition. There are clearly many areas of society involved in this perceived competition – education, knowledge, and innovation – and the overarching "competitor" being the nation Denmark: "Denmark should be the world's most competitive society by 2015" (DK, p. 8). The interpretation of the well-resourced and top-performing actors in the Danish strategy as expressing a male norm, whereas men are seen as assets on which to build an innovative Denmark, is thus reinforced by this use of masculine metaphors in the strategy.

This is also the case with the Finnish and Swedish innovation strategies, which also make use of masculine metaphors. The Finnish strategy centers on the nation's strength and being strong, metaphors implicitly linked to masculinity, as in the following examples: "national strengths must be safeguarded for the future" (Fin., p. 2); "Finland's strength has been shown to be its success across many different sectors" (Finland, p. 5); "An innovation system is as strong as its weakest sector. According to the EU Innovation Scoreboard 2005, Finland does not have considerable weaknesses" (Fin., p. 29). The competitor is yet again the nation Finland.

The Swedish strategy is the most elaborate on the use of masculine metaphors. They can be categorised as metaphors from the world(-s) of sports and competition, and also from the subject area of the military and war. Yet again, underpinning the subtext of well-resourced men as assets in a masculine power-ridden competition between nations – and hence the male norm in these policies. The following examples, all from the first page of the Swedish strategy, should be confirmation enough of this interpretation: "we cannot sit back and assume that success will be automatic. Others are making an effort to catch up and overtake us" (Swe., p. 1); "This strategy aims to set an offensive agenda that highlights some priority areas where we in Sweden can improve the conditions for innovation and guard our lead" (Swe., p. 1); "Together we will maintain and extend Sweden's advantage" (Swe., p. 1).<sup>23</sup> Interesting to note in this context is the seemingly inclusive "we" and "us" in regarding the nation. But as the interpretation of the Swedish "everyone" and "people" in a gender perspective made clear above, this is mainly an "us" and "we" encompassing men.

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<sup>23</sup> The masculine metaphor is perhaps even more obvious in the Swedish formulation including alliteration: "Tillsammans ska vi värna och vässa Sveriges försprång" (Sweden, p. 1).

The metaphors used create a subtext to the innovation strategies saying that the nations – Denmark, Finland and Sweden respectively – are masculine “actors” filled with well-resourced men that work as assets in the processes of enhancing innovation and meeting globalisation, because the worlds of sports competitions and the military world the actors are most often represented as masculine. In this way, globalisation is perceived as a race between nations – or regions consisting of nations (the EU) – where there is only the position of being the best and the first one that seems to count. Even though there are goals of creating and enhancing welfare in the countries, the overarching visions are rather: more competitiveness in the race of globalisation between nations. Social constructions of nations place men and women in very different positions in relation to responsibilities and duties of the nations. Men are represented as actors of nations, and also as protectors of nations’ women and children. The women are first and foremost represented as reproducers of the nations’ members as both a cultural and a biological national group (Yuval-Davis, 1997). According to McClintock, women are therefore: “denied any direct relation to national agency” (McClintock, 1993, p. 62).

This can again be seen as underlining the interpretation of men as the well-resourced assets encompassing the right knowledge that innovative societies are going to be built upon. The metaphor of the gendered nations also includes the notions of continuous movement and struggle for the better position in a so-called globalised world and a better society – hence an unambiguous idea of progress built on the strength and knowledge of men. In this context it is interesting to turn to the pictures in the Swedish innovation strategy, as every chapter is illustrated by a full-page photograph of “nature”, growing plants, flowers and trees. Illustration-wise, the Swedish strategy is completely unpopulated. My interpretation of these pictures of nature – wild and tamed – is that the goals and efforts presented in the strategy, and the development of the world’s economy and Sweden’s economy perceived of in terms of globalisation, are represented as natural and inevitable. The presuppositions made in this regard are that there is nothing else one can do to meet globalisation than what is presented in this strategy. The progress idea, men and male as norm, are consequently reinforced and taken as given.

In this chapter I analysed the gendering of innovation policies. The analysis can briefly be concluded as: men and male are created as the norm in the three strategies analysed. In the next chapter I will conclude the analyses made in the whole of the study. I will also discuss that one explanation of creating a male norm in innovation strategies is that the economy, and perhaps, in particular, the so-called knowledge economy, is very much perceived as what men do. I also argue that a gender perspective changes this male centred perspective on innovation policies and the economy. A gender perspective – through, e.g., gender mainstreaming – can be used to transform the perspective on innovation policy.

# 6. Many a little Makes a Mickle – Gender Transforms the Perspective on Innovation

## Conclusions of the Study

The aim of this study has been to analyse Danish, Finnish and Swedish innovation policies in a gender perspective. This has included a two-fold process of analysing whether gender equality is mainstreamed into innovation policies and analysing how gender is constructed in innovation policies. Gender mainstreaming can be interpreted in many ways. One useful definition that I cited in the beginning of the study is presented by Rees (2005), where she writes that the approach of gender mainstreaming implies the promotion of gender equality through a systematic integration into – among other areas – policies and ways of seeing and doing (cf. [www.ec.europa.eu/employment\\_social/equ\\_opp/gms\\_en.html](http://www.ec.europa.eu/employment_social/equ_opp/gms_en.html), 13/03/07). The analysis made in this study of 52 innovation policy texts and 18 homepages on the Internet can be concluded as: gender equality is not mainstreamed in innovation policies in Denmark, Sweden and Finland – even though gender mainstreaming is supposed to be the policy tool of gender equality policy in the respective country, in all EU policies and also of the Lisbon Agenda.

Analyses of the innovation policies, however, reveal that there exists some discussions on gender related issues and gender equality. This is very positive, since there is then actually some material written down and hence some knowledge on gendered binary divisions, in the context of innovation and growth developed and elaborated upon. However, sometimes there are formulations in the analysed policies indicating that gender inequality is not perceived as a problem, even though gender is discussed. One example of this is the Lisbon Agenda guidelines where women are seen as a kind of reservoir in the labour market implying that men are the proper labour force – the norm of the labour market. Gender is also mentioned, but not seen as problematic, in the case of the Danish and Finnish policies on innovation, whereas the fact that women have high labour market participation, and that the Lisbon goal is, in this regard, fulfilled, is taken as an indication of a state of gender equality. The writing that Denmark is a gender equal society in the opening of the globalisation strategy is also one example of the view of gender issues as non-problematic and that needs no special treatment. Mainstreaming gender, however, takes more than just mentioning gender equality once.

Moreover, it is problematic that the writings on gender issues often perceive women and girls as lacking what it takes to be successful or an asset in the context of innovation policy. This indicates that gender inequalities and gender issues are primarily seen as a woman-issue and not as an issue of unequal power relationships between men and women.

It is also problematic that the issue of gender equality is dealt with in particular documents that are put aside and placed in the margin of innovation and growth policy, which is sometimes the case. This implies that gender issues are not seen as part of the context of growth and innovation policy, but rather of other contexts. The studies made on gender issues in relation to innovation policies – produced by the same ministries, governmental and other bodies that make the innovation policies – are, in this regard, often not made reference to in the latest innovation policies. My study, however, reveals that this could have been the case and that there is relevant information and discussions on gendered binary divisions that could have been documented and that could have helped gender mainstreaming. In Denmark, for example, there are several interesting studies on gender regarding higher education, research and the labour market. However, they are not accounted

for in the globalisation strategy, despite the fact that they concern education, research and the labour market – themes covered in the strategy to a large extent. This is likewise the case in Finnish innovation policy. In the Swedish case much of the work on gender and innovation, which actually do exist, has been produced after the latest innovation policy was published which made referring to them impossible. But there is a range of studies on women's entrepreneurship and the gendered divisions of the labour market that was published well ahead of 2004 and therefore could have been used in the innovation strategy.

Other research and studies on gendered binary divisions made by other ministries, agencies and researchers, are also not seen as important in discussions on the knowledge society or in innovation processes, despite the fact that gender research has shown that gender structure in virtually all areas of societies, like the labour market, higher education, entrepreneurship and unpaid housework. The innovation policy producers lack knowledge on gender; however this is not seen as a problem.

The result that gender is not mainstreamed in innovation policies is important to discuss, since it implies a risk of a disturbed understanding of innovation processes and adequate policy measures to support them. It also means that there is danger of a promotion of men and male as the norm in innovation policies, since if gender is not discussed and problematised this is a risk. This study proves that this warning is confirmed.

The making of gender in the analysed innovation policies implies that the themes and propositions presented as important for innovation and economic growth, in the context of the knowledge economy, are imbued by gender as an organising principle. The seeming promotion of "everybody", the "entire society" and "we", as assets in developing innovation and economic growth is, in that way, undermined since the focus, despite the use of these words, is placed on well-resourced men. This promotion also implies that everybody needs to take their responsibility in creating innovative societies. Particularly surprising is the focus on children as actors in the Danish strategy, but at the same time everybody is not perceived as an asset. Many people are seen as problematic in different respects and as lacking. In the Danish strategy they are perceived as lacking education of different kinds and also contacts abroad and with other cultures; in the Swedish strategy they are represented as lacking skills, mobility, capacity, a will to participate in the labour market, and they are perceived as not making use of knowledge and technology and uninterested in entrepreneurship. In the Finnish strategy they are represented as lacking what it takes to be innovative, since they are perceived as not entrepreneurial enough, not educated enough and not moving abroad to a great enough extent.

These representations of people as lacking can be interpreted as producing an image of who is seen as an asset and as able in the innovative society – well-resourced men. In the Finnish strategy, primarily in the form of top-quality researchers, in the Swedish one in the form of a male centred engineer-ideal and in the Danish as boys, pupils and bread-winning men. The resources these people, perceived as assets, possess, are primarily knowledge of technology and science, both connoted as masculine knowledge. Women are not seen as assets or possessing the right knowledge that is needed for the development of the economy, or society at large. In addition, not all sectors of the economy are seen as equally important to build innovation and competitiveness on in the innovation strategies. What are seen as so-called strong sectors is very much related to the representations of certain knowledge – technical and scientific – as the "right" knowledge in the innovation strategies. The promotion of men and masculine knowledge in these different and intertwined ways are, in addition, reinforced by the masculine metaphor centered on competition, strength and war made use of, particularly in the Swedish and Danish strategies. The production of gender in the studied innovation strategies can hence be seen as creating male and men as the norm.

## Avoiding Men and Male as the Norm

The analyses made in this study imply that the obligation to mainstream gender is not fulfilled, whereas the goals of innovation policy, e.g., to be the most competitive, dynamic and knowledgebased economies, is clearly put before the goal of gender equality (cf. Forsberg, 2005; Pettersson & Saarinen, 2005; Rees, 2000). The analyses also show that gendered divisions of the themes central in the discussions on innovation processes and the knowledge society – like education, higher education, research and the labour market – are not elaborated on to a large extent. But the question is whether the goals of innovation, economic development and gender equality are compatible: Is it possible to mainstream gender in innovation policies? The answer to this question is yes, but also that it probably requires a transformed perspective on economic development and innovation – and also e.g. on who are seen as assets and what kind of knowledge is seen as fruitful and “right” and what sectors of the economy are seen as “strong” or useful. At the same time, as it is difficult to perform this integration, it is necessary in order for policies to have effect and in order to build on all resources and knowledges that people possess. To by-pass a large part of the population – women – is unfair and does not seem feasible or economical, when aiming at the development of the whole society (cf. Braithwaite, 1999; Rees, 2000).

There is more than one reason explaining the making of men and male as the norm – the placing of men as actors and in a superior position – in the studied innovation strategies. Several of them have been elaborated on above, as the focus on male connoted technical and scientific knowledge as important knowledge and by the representation of sectors of the economy where many men work as strong and assets on which to build. Another reason is the representation of inventions and inventors as men. Even though innovation policies largely do not see a sole inventor as the explanation of innovation processes, that kind of perspective might explain the focus on men and male as the norm. According to Nyberg (1999), innovations and inventions have masculine connotations because women inventors have been made invisible, e.g., through men seeking patents for their inventions (cf. Barwa & Rai, 2003). The typical inventor is seen as a man, which explains why fewer women seek patents. Due to the horizontal gender segregation of the labour market there has been a belief that women cannot invent technical products, but rather things related to the home.

In addition to the perspective on inventors and inventions the view of what the economy is; what is economic and how economic development is performed and enhanced, can be seen as explaining the male norm and focus on men as assets. The social construction of the economy builds on a gendered binary division, whereas the production for exchange on the market is seen as the economy and other activities and relations are not. McDowell (2000) argues that the economy is defined as what men do and have traditionally been doing and that the actor – the economic man – is from the outset constructed as masculine. This construction implies a dichotomisation between, among other things, public and private, market and non-market and, as McDowell makes explicit: “This devaluation of the feminine and the valorisation of the masculine lies behind the construction of the economics” (McDowell, 2000, p. 499).

But how can the perspective on men and male as the norm be avoided in innovation policies? Rees (2005) concludes that gender mainstreaming has significant potential as a transformative strategy. Elsewhere it is argued that changing and rethinking gender divisions are no easy tasks, since they are so evasive and imbued in human relations. It is said that it: “requires nothing less than the reconstruction of Western knowledge itself: perhaps an even larger task than overturning of structural inequalities between men and women. But one, of course, depends on the other” (McDowell, 1999, p.13). However difficult a task a transformation of perspectives is, interesting suggestions exist made in the pursuit of transforming the views on the economy, mainly suggested by feminist researchers. In relation to the economic perspective there are, e.g., suggestions of incorporating what women often do and have done in the form of unpaid housework in accounting GDP – which is

undervalued in traditional accounting since only paid work is taken into account. These suggestions have hence concerned a kind of complementing of the monetary economy. But this way of complementing is not enough in the pursuit of transforming a perspective, since it does not really change the economic view of things. Even though it makes what women do visible and explains how social welfare is produced, this complementing view still conserves the view of the economy as a kind of separate whole that can be complemented (Cameron & Gibson-Graham, 2003).

Instead of this complementing Cameron, Gibson-Graham (2003) argue for a changed perspective on the economy to see the connections between the economy and gender equality, through feminising the economy. This strategy implies to open up the economy for differences – not by adding women to an untouched whole – but through deconstructing the economic whole and show that it is multiple, and not only capitalist and driven by profit-maximising economic men. This, in turn, also means that many forms of owning, organising, knowledge and drivers that workers and entrepreneurs encompass are made visible and accounted for. By viewing the economic landscape as a diverse landscape covering a whole range of capitalist and non-capitalist firms and businesses, building on a range of knowledges, the dichotomy of the economy in the form of economic versus non-economic is resolved. In line with that, another text by Gibson-Graham is suitable to cite:

“one might represent economic practice as comprising a rich diversity of capitalist and non capitalist activities and argue that the non capitalist ones had until now been relatively invisible because the concepts and discourses that could make them visible have themselves been marginalized and suppressed” (Gibson-Graham, 1996, s. xi).

A gender equal perspective on the economy and innovation processes means building on everybody – both men and women – as assets on which to build development. This includes seeing and making an account of many people, not only men workers, pupils, researchers or entrepreneurs; many kind of knowledges, not only technical and scientific knowledge from universities; many different kinds of sectors of the economy and different kinds of economic activities, not only technical businesses or large companies and many different kinds of innovations, not only technical goods, but also services originating from a longstanding, well-developed public sector (cf. Hedberg & Pettersson, 2006).

This transformed perspective on the economy and innovation processes broadens the base for innovation and economic growth since not only well-resourced men are seen as assets and accounted for, and since not only a limited knowledge on technology and science is seen as enhancing and developing innovations, as in a perspective creating and sustaining a male norm (cf. Pettersson & Saarinen, 2005). A reformulated perspective in this way can thus be conceptualised in line with the saying “many little makes a mickle” – making visible and using the whole range of actors, knowledge and activities present in the economic landscape as assets (cf. Pettersson, forthcoming).

This transformed perspective also in line with Rees (2005) means that the mainstreaming of gender includes that a gender perspective is integrated into ways of seeing and doing, into systems and structures, into all policies, processes and procedures, and into the organisation and its culture. An economic perspective on innovation, or development, hence does not have to take as its starting point men and male as the norm. At the same time, a transformed perspective on the economy – by mainstreaming gender – does not have to be non-economic, rather the other way around. A more inclusive perspective on the economic landscape, the different actors in it – men and women – the different knowledge to build on – not only technology and science – different transactions, ways of organising work and perform and substitute work can be more economic.



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## Appendix – Analysed policy texts and homepages

Country	Innovation Actor/Author (ministry, agency, council) (publication year)	Policy document etc.	Language
Denmark	The Government, May 2006	<i>Progress, Innovation and Cohesion Strategy for Denmark in the Global Economy – Summary</i>	Eng.
Denmark	The Government, April 2006	<i>Fremgang, fornyelse og tryghed – Strategi for Danmark i den globale økonomi</i>	Danish
Denmark	The Government, October 2005	<i>The Danish Reform Strategy Contribution to EU's Growth and Employment Strategy (The Lisbon Strategy)</i>	Eng.
Denmark	The Government, October 2006	<i>Danmarks nationale reformprogram 2006 – første fremskridtsrapport – Bidrag til EU's vækst- og beskæftigelsesstrategi (Lissabon-strategien)</i>	Danish
Denmark	The Government, January 2002	<i>Konkurrenceevnepakken – Vækst med vilje</i>	Danish
Denmark	The Government, May 2002	<i>Vækst med vilje</i>	Danish
Denmark	The Ministry of Economy and Business Affairs	Homepage ( <a href="http://www.oem.dk/sw184.asp">www.oem.dk/sw184.asp</a> )	Danish
Denmark	The National Agency for Enterprise and Construction's Division for Research and Analysis (FORA)	Homepage ( <a href="http://www.foranet.dk">www.foranet.dk</a> )	Danish
Denmark	The Ministry of Science, Technology and Innovation	Homepage ( <a href="http://videnskabsministeriet.dk">videnskabsministeriet.dk</a> )	Danish
Denmark	The Danish Research Agency, March 2006 (by way of the Ministry of Science, Technology and Innovation)	<i>The Ageing Society 2030 – Report by the Steering Group for Strategic Foresight on the Ageing Society 2030</i>	Eng.
Denmark	The Ministry of Science, Technology and Innovation, August 2005	<i>Vild med viden! - rapport fra arbejdsgruppen vedrørende forskningskommunikation til børn og unge</i>	Danish
Denmark	The Ministry of Science, Technology and Innovation and the Minister for Equality's Think Tank on More Women in Research, June 2005	<i>Bringing All Talent into Play – More Women in Science</i>	English
Denmark	The Ministry of Science, Technology and Innovation, May 2005a	<i>Flere og bedre ingeniører – Baggrundsanalyse</i>	Danish
Denmark	The Ministry of Science, Technology and Innovation, May 2005b	<i>Flere og bedre ingeniører – anbefalinger</i>	Danish
Denmark	The Ministry of Science, Technology and Innovation, November 2002	<i>Status, strategi og perspektiv i dansk konsforskning</i>	Danish
Denmark	The Ministry of Economy and Business Affairs	<a href="http://www.workindenmark.dk">www.workindenmark.dk</a>	Eng.
Denmark	The Danish Agency for Science, Technology and Innovation (DASTI)	Homepage ( <a href="http://fist.dk/site/english">fist.dk/site/english</a> )	Danish
Denmark	The Danish Council for Technology and Innovation	Homepage ( <a href="http://fist.dk/site/english/councils-commissions-committees/the-danish-council-for-technology-and-innovation">fist.dk/site/english/councils-commissions-committees/the-danish-council-for-technology-and-innovation</a> )	Danish
Denmark	The Government	<i>Lov nr. 602 af 24. juni 2005 om erhvervsfremme</i>	Danish
Denmark	The Danish Ministry of the Interior and Health, June 2006a	<i>Regionalpolitisk redegørelse 2006 – regeringens redegørelse til Folketinget</i>	Danish
Denmark	The Danish Ministry of the Interior and Health, June 2006b	<i>Regionalpolitisk redegørelse 2006 – Analyser og Baggrund</i>	Danish

Denmark	Bornholms Vækstforum, 2007	<i>Erbvervsudviklingsstrategi 2007 – 2010 Det unikke Bornholm Vækst via kreativitet og kvalitet</i>	Danish
Denmark	Vækstforum for Region Hovedstaden, 2007	<i>Partnerskaber for viden, vækst og velfærd erhvervsudviklingsstrategi</i>	Danish
Denmark	Vækstforum Sjælland, 2007	<i>Vækstforum Sjællands erhvervsudviklingsstrategi 2007-2010</i>	Danish
Denmark	Vækstforum Region Syddanmark, 2007	<i>Erbvervsudviklingsstrategi 2007 – 2012</i>	Danish
Denmark	Vækstforum for region Midtjylland, 2007	<i>Fornyelse og vækst i en international vækstregion erhvervsudviklingsstrategi 2007-2009</i>	Danish
Denmark	Vækstforum for Nordjylland, januar 2007	<i>Udkast vækst og balance erhvervsudviklingsstrategi og handlingsplan for Nordjylland</i>	Danish
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