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SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs)

**PROMOTING ENTREPRENEURSHIP AND INNOVATIVE SMEs
IN A GLOBAL ECONOMY:
TOWARDS A MORE RESPONSIBLE AND INCLUSIVE GLOBALISATION**

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WOMEN'S ENTREPRENEURSHIP: ISSUES AND POLICIES



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

At the first OECD Conference of Ministers responsible for SMEs, hosted by the Italian government in Bologna, Italy, in June 2000, Ministers from nearly 50 member and non-member economies adopted the “Bologna Charter for SME Policies”. They envisaged the Bologna Conference as the start of a policy dialogue among OECD Member countries and non-Member economies and that it would be followed up by a continuous monitoring of progress with the implementation of the Bologna Charter. This dialogue and monitoring have become known as the “OECD Bologna Process”. The second OECD Conference of Ministers Responsible for SMEs, hosted by the Turkish Ministry for Industry and Trade, envisaged by Ministers at Bologna, provides an occasion to assess the impact on SMEs of new developments relating to globalisation.

This report is one of ten background reports prepared for the Istanbul Ministerial Conference, the theme of each of the ten reports being linked to a specific Workshop of the Ministerial Conference. Several earlier versions of the report were reviewed by the Working Party on SMEs and Entrepreneurship whose comments have been incorporated into the final version. Non member economies participating in the OECD Bologna Process have also had an opportunity to provide comments. This final report also sets out some policy messages and recommendations that have emerged from the preparatory work undertaken in the OECD Working Party for SMEs and Entrepreneurship. The wide variation in stages of economic development, institutional arrangements and political context across the economies participating in the Bologna Process, now more than 80, means that not all parts of specific policies and programmes are appropriate for all participants. The messages and recommendations outlined below provide material from which governments may choose to draw in promoting innovative SMEs in the global economy. In broad terms, these policy messages and recommendations elaborate on the themes developed in the Bologna Charter. Ministers will consider these and other recommendations in their deliberations at the Istanbul Conference.

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This report is issued on the responsibility of the Secretary-General of the OECD. Views expressed are those of the authors and do not necessarily reflect those of the Organisation or its member governments.

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Women's Entrepreneurship: Issues and Policies

EXECUTIVE SUMMARY

Women's entrepreneurship needs to be studied separately for two main reasons. The first reason is that women's entrepreneurship has been recognised during the last decade as an important untapped source of economic growth. Women entrepreneurs create new jobs for themselves and others and by being different also provide society with different solutions to management, organisation and business problems as well as to the exploitation of entrepreneurial opportunities. However, they still represent a minority of all entrepreneurs. Thus there exists a market failure discriminating against women's possibility to become entrepreneurs and their possibility to become successful entrepreneurs. This market failure needs to be addressed by policy makers so that the economic potential of this group can be fully utilised. While without a doubt the economic impact of women is substantial, we still lack a reliable picture describing in detail that specific impact. Recent efforts initiated by the OECD (1997, 2000) are responses to this lack of knowledge and have focused the attention of policy makers and researchers on this important topic.

The second reason is that the topic of women in entrepreneurship has been largely neglected both in society in general and in the social sciences. Not only have women lower participation rates in entrepreneurship than men but they also generally choose to start and manage firms in different industries than men tend to do. The industries (primarily retail, education and other service industries) chosen by women are often perceived as being less important to economic development and growth than high-technology and manufacturing. Furthermore, mainstream research, policies and programmes tend to be "men streamed" and too often do not take into account the specific needs of women entrepreneurs and would-be women entrepreneurs. As a consequence, equal opportunity between men and women from the perspective of entrepreneurship is still not a reality. In order for policy makers to address the situation the report makes a number of recommendations.

In order to realise the benefits of policy changes it is important to incorporate a women entrepreneurial dimension in considering all SMEs and growth policies (*e.g.* meeting women's financing needs at all stages of the business continuum; take-up of business development and support services; access to corporate, government and international markets; technology access and utilisation; R&D and innovation; etc.). Moreover this means periodically evaluating the impact of these measures on the success of women-owned businesses and exchanging good models and best practices, through cooperation with leading international organisations such as the OECD, European Union, APEC, UNCTAD and the ILO, in order to continually improve policies and programmes.

Better qualitative information and quantitative data and statistics are required to profile women entrepreneurs (demographic information, barriers to start-up and growth). This would also assist in promoting awareness of the role of women entrepreneurs in the economy. Using a frame of reference such as that developed in the report could be valuable for the analysis of this information.

It is observed that women entrepreneur networks are major sources of knowledge about women's entrepreneurship and they are increasingly recognised as a valuable tool for its development and promotion. Policy makers must foster the networking of associations and encourage co-operation and

partnerships among national and international networks and facilitate entrepreneurial endeavours by women in the economy.

Women's entrepreneurship is both about women's position in society *and* the role of entrepreneurship in the same society. Women are faced with specific obstacles (such as family responsibilities) that have to be overcome in order to give them access to the same opportunities as men. Also, in some countries, women may experience obstacles with respect to holding property and entering contracts. Increased participation of women in the labour force is a prerequisite for improving the position of women in society and self-employed women.

Key policy recommendations

- **Increase the ability of women to participate in the labour force by ensuring the availability of affordable child care and equal treatment in the work place.** More generally, improving the position of women in society and promoting entrepreneurship generally will have benefits in terms of women's entrepreneurship.
- **Listen to the voice of women entrepreneurs.** The creation of government offices of women's business ownership is one way to facilitate this. Such offices could have programme responsibilities such as providing women's business centres, organising information seminars and meetings and/or providing web-based information to those wanting to start and grow a business.
- **Incorporate a women's entrepreneurial dimension in the formation of all SME-related policies.** This can be done by ensuring that the impact on women's entrepreneurship is taken into account at the design stage.
- **Promote the development of women entrepreneur networks.** These are major sources of knowledge about women's entrepreneurship and valuable tools for its development and promotion. Co-operation and partnerships between national and international networks can facilitate entrepreneurial endeavours by women in a global economy.
- **Periodically evaluate the impact of any SME-related policies on the success of women-owned businesses and the extent to which such businesses take advantage of them.** The objective should be to identify ways to improve the effectiveness of those that should be retained. Good practices that are identified in this way should be disseminated and shared internationally.
- **Improve the factual and analytical underpinnings of our understanding of the role of women entrepreneurs in the economy.** This requires strengthening the statistical basis for carrying out gender-related cross-country comparative analyses and longitudinal studies of the impact of important developments and policies, especially over time.

The report finds that women entrepreneurs play an important role in the entrepreneurial economy, both in their ability to create jobs for themselves and to create jobs for others. In Europe (both European Union countries and other European countries), estimates indicate that there exist more than 10 million self-employed women. In the United States 6.4 million self-employed women provide employment for 9.2 million people and create significant sales. Using the United States ratio between the number of employees and self-employment it may be estimated that employed women in surveyed European countries could employ around 15 million persons. This is a conservative estimate.

Furthermore, self-employment represents one of the most important job opportunities for women. This seems to be a correct conclusion independent of what country or type of economy is observed. Self-employment represents an important job alternative for many women and perhaps especially for women in developing economies. It is also observed that in all countries women still represent a minority of those that start new firms, are self-employed, or are small business owner-managers.

However, the availability of data is still scarce. To begin with, definitional issues complicate data collection. Furthermore, some national systems prohibit statistics on the individual level, making gender

specific analyses impossible. Even in those few countries where data are available, important information on development over time (panel data) and for the whole population are missing.

Longitudinal data are needed to understand survival and growth among entrepreneurs (men and women), as well as time of entry and exit from business. This is especially important for women entrepreneurs, as (based on current knowledge) the obstacles and challenges they face change with their involvement in the entrepreneurial process. More precisely, as a woman evolves through the entrepreneurial process she will face different obstacles related to the specific stage she is in (opportunity identification, opportunity exploitation and resource acquisition for example). Depending on the nature of those obstacles, only certain categories of women will enter into business and succeed. Consequently, longitudinal data are also very important for monitoring the effectiveness and impact of programmes and initiatives. Currently, the general picture is still based on cross-sectional samples, even if both the scope and the breadth of data available have improved during the last few years.

The second part of the study using an Austrian-economic model of entrepreneurship analyses why women's entrepreneurship is still a relatively untapped economic resource. The model identifies the historically and culturally determined framework conditions (demand side) affecting entrepreneurship and the idiosyncratic prior experiences of enterprising individuals and potentially enterprising individuals (supply side). The model assumes that changes in demand conditions (*e.g.* technological, market, demographic, institutional and cultural developments) create opportunities that are not equally obvious to everyone, but are discovered and exploited because some individuals have an advantage in discovering specific opportunities. This advantage is provided by these individuals' access to idiosyncratic information and resources. An advantage generated by their prior experiences and their position in the social networks.

The report takes a closer look at how the gender belief system and personal motivation affect the self-selection of women from entrepreneurship (Demand side). From a supply side perspective the role of occupational closure, family policy, tax regime and access to information are investigated. In addition, the report investigates the specific obstacles facing women's entrepreneurship when engaged in the entrepreneurial process, *e.g.* lack of role models and social position and access to finance.

The major findings are:

- Independent of the way different studies have been conducted, women entrepreneurs are found to have an important impact on the economy, both in their ability to create jobs for themselves and to create jobs for others. Although the actual economic impact in most OECD member countries has not been assessed, women entrepreneurs have an important impact on the economy both by the number of small firms they are able to create and because a number of them are able to create growing firms.
- In all countries women still represent a minority of those that start new firms, are self-employed, or are small business owner-managers. Obviously, this economic resource, if not untapped, has not been successfully explored yet.
- Specific obstacles to women's entrepreneurship are: type of education, lack of role models in entrepreneurship, gendering of entrepreneurship, weak social status, competing demands on time and access to finance.
- Women's entrepreneurship must be examined both at the individual level (*i.e.* the choice of becoming self-employed) and at the firm level (the performance of women owned and managed firms) in order to fully understand the differences between men's and women's entrepreneurship.

- Women's entrepreneurship is dependent on both demand side (political and institutional framework, family policy and market sources) and supply side factors (the availability of suitable individuals to occupy entrepreneurial roles).
- In addition, women's entrepreneurship depends on both the situation of women in society and the role of entrepreneurship in that same society. Both the factors that affect the gender system and the factors that affect entrepreneurship in society are involved.
- In order to provide accurate statistics on women's entrepreneurship, a number of possible method biases need to be controlled

Women's Entrepreneurship: Issues and Policies

BACKGROUND

Women's entrepreneurship needs to be studied separately for two main reasons. The first reason is that women's entrepreneurship has been recognised during the last decade as an important untapped source of economic growth. Women entrepreneurs create new jobs for themselves and others and by being different also provide society with different solutions to management, organisation and business problems as well as to the exploitation of entrepreneurial opportunities. However, they still represent a minority of all entrepreneurs. Thus there exists a market failure discriminating against women's possibility to become entrepreneurs and their possibility to become successful entrepreneurs. This market failure needs to be addressed by policy makers so that the economic potential of this group can be fully utilised.

While without a doubt the economic impact of women is substantial, we still lack a reliable picture, describing in detail that specific impact. Recent efforts initiated by the OECD (1997, 2000) are responses to this lack of knowledge and have focused the attention of policy makers and researchers on this important topic. In order to effectively and efficiently address this topic, policy makers need more knowledge about women entrepreneurs. The aim of this report is to extend these efforts and to further enhance knowledge about how women's entrepreneurship affects economic growth and development.

The second reason is that the topic of women in entrepreneurship has been largely neglected both in society in general and in the social sciences (Brush & Hisrich, 1999; Holmquist & Sundin, 2002). Not only have women lower participation rate in entrepreneurship than men but they also generally choose to start and manage firms in different industries than men tend to do (Duchénaut, 1997; Franco & Winqvist, 2002; Reynolds & White, 1997). The industries (primarily retail, education and other service industries) chosen by women are often or have until recently been perceived as being less important to economic development and growth than high-technology and manufacturing. Furthermore, mainstream research, policies and programmes tend to be "men streamed" and too often do not take into account the specific needs of women entrepreneurs and would-be women entrepreneurs. As a consequence, equal opportunity between men and women from the perspective of entrepreneurship is still not a reality. To facilitate progress, more work needs to be done in order to:

- **Better understand the function of women's entrepreneurship in society and for economic development.** We know that women entrepreneurs play a non-trivial role in the economy, that they face challenges and obstacles different from those faced by men and that they will act differently. The larger the difference is between men and women in a society, the larger we can expect the difference to be between men and women entrepreneurs and the more different we can expect their relative contribution to economic development to be.
- **Better understand the impact of women's entrepreneurship in different economic contexts.** By contexts we mean both the economic level of development and the societal level of development when it comes to the role of women in society. For example, we know that women's entrepreneurship in transition and developing countries is qualitatively different from women's entrepreneurship in developed countries. For example the problems of Eastern Europe are different because these economies have gone through and are still undergoing changes to adapt to a market economy. These changes have also had important (and often

negative) effects on women's position in society (Stoyanovska, 2001). In these countries, women and men were, under the communist regime, supposedly equal in all aspects of society. However, with the fall of the communist regime structural inequalities between men and women became evident, coupled with the challenge to rediscover and learn the function of the market economy. This has put many women (often highly educated) in very difficult positions. In developing countries the combination of poverty, low levels of formal education and women having a very low social status creates special challenges for women engaging in entrepreneurship. In developed economies women have access to the same education and jobs as men, but important differences still exist and they seem to be shrinking at a very slow pace.

In this report, both the qualitative and quantitative roles of women's entrepreneurship in the economy will be investigated. Such a purpose is not without important challenges, as one of the major problems facing research today and consequently the ability to deliver sound policy advice is the lack of high quality data both at the national and international levels. Therefore, some time will be spent on what needs to be done in order to attain improved and more reliable estimates on the impact of entrepreneurship and in particular women's entrepreneurship, on economic development. These statistics must also be understood in order to form a reliable and informed basis for policy measures; we therefore offer an Austrian economic analysis of the current state of research on the topic of women's entrepreneurship. **Consequently, drawing on existing findings of earlier research, the work we have undertaken will highlight the links between women's entrepreneurship and growth and the policy implications of those links.**

The following report is structured as follows. In the next section, we examine the current literature on women's entrepreneurship and its link to economic growth. First we examine the empirical results linking entrepreneurial activities by women to indicators of economic growth. By entrepreneurial activities we mean those activities related to the establishment, management, growth and death of independent firms. Thus, we will here cover people's engagement in becoming self-employed and the management and growth of those firms. The reason is that there is a close relationship between self-employment, firm entry, firm survival, firm growth and economic growth. We now know that the more people who engage in starting new firms (transition to self-employment) the higher is the probability of having firms that will grow, even if the absolute majority of firms never achieve any growth at all. The more firm growth is achieved, the higher is the economic growth in the country (Delmar, Davidsson & Gartner, 2003; Reynolds, 1997). New firms are also better able to exploit innovations and therefore to out compete existing obsolete firms (Acs, Audretsch & Feldman, 1994; Murmann & Tushman, 2001). Indicators of economic growth are for example, GDP, and employment and sales achieved by this particular group. Second, we discuss the pros and cons of different methods (both data gathering and analyses) related to the measurement of women's entrepreneurship. Suggestions for improvement are proposed.

In the second section, we take a closer look at the research dealing with women's entrepreneurship. Based on existing research, we explore why women's entrepreneurship is different from men's entrepreneurship both in quantity and form. The argument is made for an Austrian-economic perspective (Kirzner, 1997; Schumpeter, 1947; Schumpeter, 2000 (1934); Shane & Venkataraman, 2000; Venkataraman, 1997). A fundamental feature of Austrian economics is that the market is an entrepreneurial driven evolutionary process. Entrepreneurship plays an important role in the discovery of knowledge and the turning of that knowledge into future goods and services through industrial innovations. Another fundamental feature of the market is the portioning of knowledge among individuals, such that no two individuals share the same knowledge or information about the economy. The key is that this knowledge is diffused in the economy and is not a given or at everyone's disposal. Hence, only a few know about a particular opportunity. This knowledge is idiosyncratic because it is acquired through each

individual's own experience and knowledge which include occupation, on-the-job routines, social relationships and daily life (Acs, 2002). It is this particular knowledge, acquired through personal experience, that leads to some profit-making insights. As women differ from men in their experiences because they hold different occupations, on-the-job routines, social relationships and daily life, they will also identify different opportunities and try to exploit them differently. Based on the conclusion from this literature review we offer an analytical tool to understand women's entrepreneurship in different economic contexts and how the situation for women's entrepreneurship can be ameliorated.

In the third and final section, we discuss the two previous sections from the standpoint of delivering policy advice. The advice goes along four different areas: the improvement of women's position in general, better possibilities to engage in entrepreneurship, better support for women's entrepreneurship and how to create better knowledge about women's entrepreneurship. Also, best practice policies for women's entrepreneurship in a number of countries are surveyed.

CREATING SYSTEMATIC KNOWLEDGE ABOUT WOMEN'S ENTREPRENEURSHIP

The scarce availability of reliable and valid data continues to be one of the key obstacles to understanding the challenges specific to women's entrepreneurship and their impact on economic growth. Sex-disaggregated statistics and sex-based policy analyses have become more widespread in recent years. Examples include the OECD Labour Force Statistics (2000) and the work of the Observatory of European SMEs (1996). Furthermore, a number of countries have – in response to the OECD 1997 Conference on Women's entrepreneurship – initiated efforts to obtain better statistics on the topic.

The section is structured in the following way. First we start by addressing research efforts made in different countries to assess the economic impact of women's entrepreneurship. Second, the different methods employed by various country specific-efforts and international efforts to measure entrepreneurship in general and women's entrepreneurship in particular are discussed. For example the GEM effort and the Observatory of European SMEs are addressed. Problems with differences in data collection and definitions will also be addressed. Third, we discuss the specific needs of research in order to better understand women's entrepreneurship and its economic impact. Issues related to better data, longitudinal data and international comparisons are discussed.

Assessing the economic impact of women's entrepreneurship

In this section we present several attempts to estimate women's entrepreneurship and in some cases its economic impact. A first attempt is to compare women firm owners with men firm owners in terms of relative shares and in some cases their respective ability to generate employment. A second attempt is to estimate the share of women that choose self-employment among other possibilities on the labour market such as being employed or an unpaid family worker. A third attempt is to compare women's and men's engagement in trying to start new firms and their ability to do so.

Table 1 shows an overview of available assessments of women's entrepreneurship and its economic impact. Several observations can be drawn from the table. First, data and statistics on women's entrepreneurship in different economies are still hard to find. Second, definitions and data collection methods among countries tend to differ somewhat, making straightforward comparisons more difficult. Third, but perhaps most important, women's entrepreneurship has an important economic impact and all reviewed studies indicate that their importance is growing. However, since all studies are relatively recent it is difficult to say anything specific on the long-term development and the speed of change.

We have found few studies that actually estimate the economic impact of women's entrepreneurship. These studies define women's entrepreneurship as firms owned and managed by women. In Canada, The Prime Minister's Task Force on Women Entrepreneurs (2003) has assembled statistics from Statistics Canada on women entrepreneurs. They find that there is more than 821 000 Canadian women entrepreneurs and they contribute to an excess of CAD 18 109 million to the economy annually. Between 1981 and 2001, the number of women entrepreneurs increased 208%, compared with a 38% increase for men. However, average annual sales for women-owned firms are significantly lower. In 2000, women-owned SMEs averaged CAD 311 289 in sales, compared with 654 294 in sales for firms owned by men. In the United States the latest analyses from the US Census Bureau estimate that women owned and

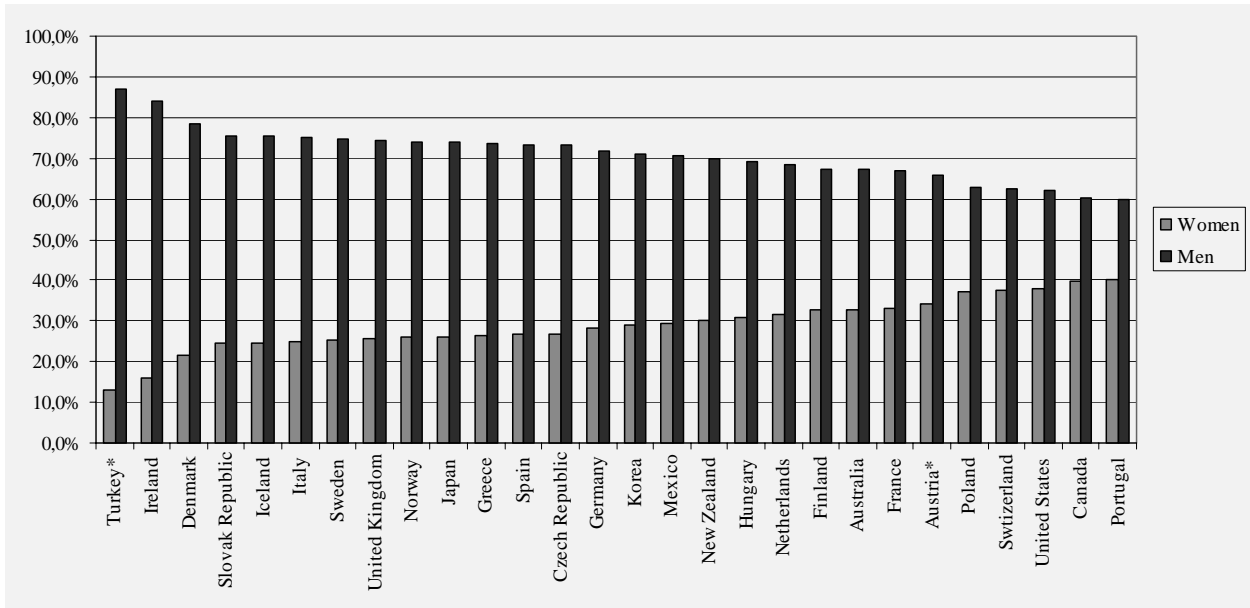
managed firms represent 28% of the 23 million firms (amounting to 6.4 million) and they provide employment for 9.2 million people. That represents 9% of all employed in the private sector. There are a total of 1.03 million women-owned businesses in Germany. Women-owned and managed businesses having annual turnover of at least Euro 16 620 number 522 000, represent 18% of the total in this group, and provide jobs for 2 million employees (Kay *et al*, 2003). Both the rate of women entrepreneurs and their economic impact is quite similar in both these economies. In Sweden, we can observe that the entry size for new firms differs between men and women. Women have on average 0.6 full time employees and men have on average 1.7 full time employees. Furthermore, while women-owned businesses have been smaller than their male counterparts, the difference in size seems to be diminishing. Examining other countries such as the United Kingdom and Korea, we can observe that women represent a growing part of the self-employed (26% of all self-employed in the UK in 1999) and that they represent an important part of the small business population (36% of all firms in Korea in 2001). Therefore, based on these results, we can conclude that at least for these countries (and there is no evidence of the contrary for any other country) that women's entrepreneurship represents an important economic strength that is able to generate both substantial sales and employment for themselves and others.

Table 1. Economic impact of women entrepreneurs

Country	Economic impact	Year	Source
Canada	<p>There are more than 821 000 women entrepreneurs and they contribute to an excess of CAD 18 109 billion to the economy annually.</p> <p>Between 1981 and 2001, the number of women entrepreneurs increased 208%, compared with a 38% increase for men.</p> <p>Average annual sales for women-owned firms are significantly lower. In 2000, women-owned SMEs averaged CAD 311 289 in sales, compared with 654 294 in sales for firms owned by men.</p>	2003	The Prime Minister's Task Force on Women Entrepreneurs Report and Recommendations
Germany	<p>There are a total of 1.03 million women-owned businesses in Germany. Women-owned and managed businesses having annual turnover of at least Euro 16 620 number 522 000, represent 18% of the total in this group, and provide jobs for 2 million employees.</p> <p>Their turnover is in total €232 billion, appr. 6% of the overall turnover or 11% of the turnover gained by owner managed firms.</p>	2000	Kay, <i>et al</i> (2003)
Sweden	Women start 28% of genuinely new firms and employ on average 0.6 full time employees compared 1.7 for men.	2001	(ITPS, 2002)
South Korea	Women owned and managed firms represent 36% of all firms (n= 1.1 million).	2001	Korean National Statistics office Korea Federation of Small Business
United Kingdom	Women represent 26% of the 3.2 million self-employed (n= 824 659)	1999	Carter, <i>et al</i> (2001)
United States	Women owned and managed firms represent 28% of the 23 million firms (n= 6.4 million) and they provide employment for 9.2 million people. That represents 9% of all employed in the private sector.	2002	US Census

The OECD has gathered data from member economies on numbers of self-employed (OECD, 2003). Figure 1 shows the frequency distribution of men and women employers and own account workers for a number of countries for 2000. The table is in ascending order beginning with lowest share of women self-employed (Turkey) to the highest (Portugal). There is substantial variation among the economies in the relative share of women self-employed compared to men self-employed. Still in all economies, women self-employed represent a minority of the self-employed. Turkey has the lowest share with 13% and Portugal the highest share with 40%. At the top end of the distribution we also find the United States and Canada which have 40% and 38% self-employed women respectively. However, most economies have between 22% (Denmark) and 33% (Austria) self-employed women.

Figure 1. Women and men self-employed in 28 OECD economies in 2002



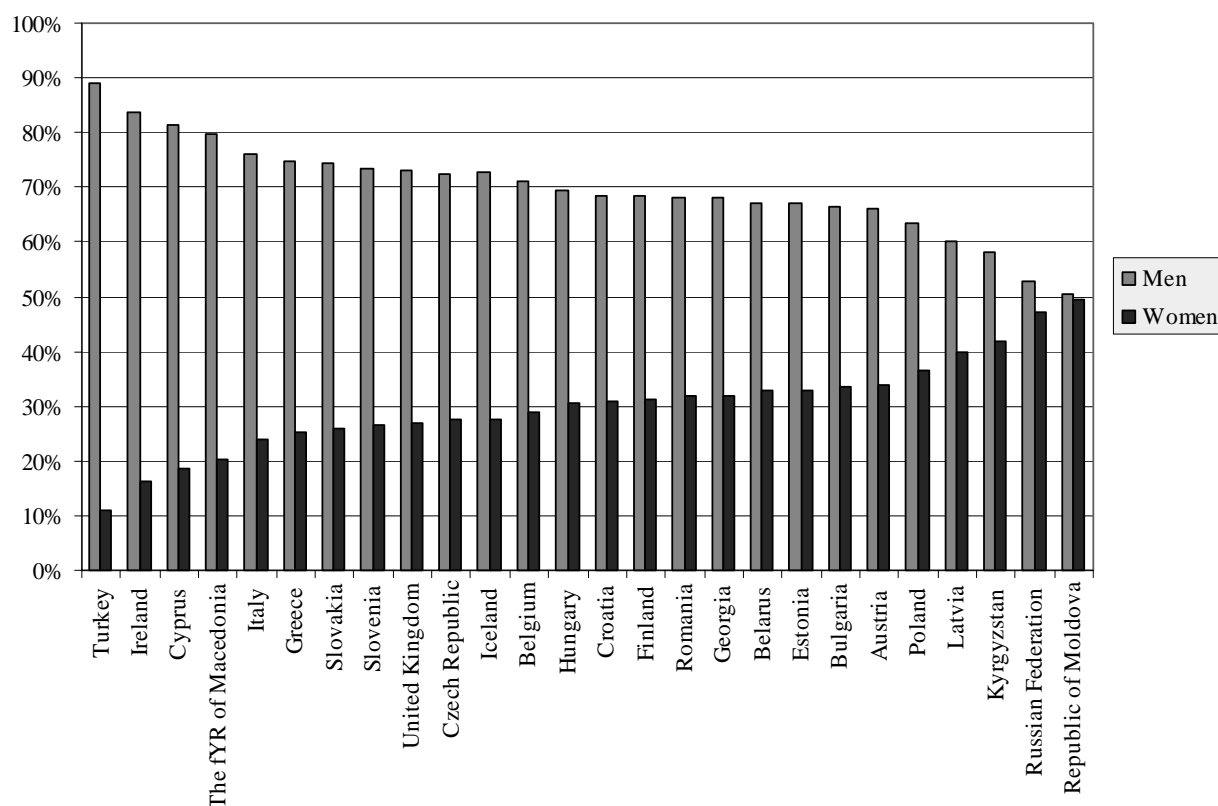
Note: *=2001 data.

Source: OECD (2003) Annual Labour Force Statistics.

The United Nations Economic Commission for Europe also has similar data that can allow estimation of the importance of women's entrepreneurship. Figure 2 shows the frequency distribution of men and women employers and own account workers for a number of countries for 2000. The table is in ascending order beginning with the lowest share of women employers (Turkey) and own account workers to the highest (Republic of Moldavia). While there are some small differences between Figures 1 and 2, the rank ordering of the countries included in both data bases are the same. Table a.1 in the Appendix displays the percentage share and the total number of employers and own account workers for 29 European countries.¹ While we cannot assume that every firm included represents an independent firm, we can surely assume that the absolute majority represents privately held independent firms, thus making the available data relatively reliable for our purposes of establishing the importance of women's entrepreneurship. In all countries surveyed, women represent a minority of the employers and own account workers, but there are important variations among the countries. The lowest shares of women employers are found to vary between 15% and 19% and the highest shares vary between 29% and 35% when excluding the extreme cases at both ends (which might be unreliable). In total, for the 28 countries that have data available for year 2000, we find close to 10.1 million women employers and own-account workers. Hence, women employers and own account workers represent a substantial part of the entrepreneurial economy. However, we are still unable to estimate their economic impact in terms of employment, achieved sales, or GDP growth.

1. Canada is included in the table provided by the United Nations Economic Commission for Europe. The reason is unknown to the authors, but the values have not been used in the reported calculations in the main text.

Figure 2. Women and men employers and own account workers in 26 European countries 2000



Source: United Nations Economic Commission for Europe Gender Statistics Database (<http://www.unece.org/stat/gender.asp>).

A similar attempt has been made by the Asia-Pacific Economic Cooperation (APEC) (Chun, 1999). Table 2 summarises the share of employers and own account workers in nine APEC countries. Basically the same pattern can be observed here as in the European countries. Women entrepreneurs represent a minority of those self-employed (assuming a base rate of 50% women). However, the average is somewhat higher in these countries (30%) than in the European countries (27%) surveyed by the United Nations Economic Commission for Europe. Moreover, the APEC study draws the following conclusions. In Canada and in the United States where there exist historical data, they find that the growth in the number of women-owned firms exceeds overall firm growth by 2:1 and 1.5:1 respectively. At least in these countries, the economic impact of women-owned firms is increasing at a rapid rate. However, women owned firms are much more likely to be micro firms, employing less than 5 people (and in many cases are non-employed).

Table 2. Female employers and own account workers as in percentage of total employers and own account workers in the APEC region

Country	1990	1996	1998
Australia	32.4	32.7	32.2
Canada	34.1	33.2	34.4
Indonesia			31.0
Japan	30.9	29.0	29.4
Korea	27.3	28.9	27.2
Mexico	13.7	25.9	27.6
New Zealand		29.1	31.8
Philippines			34.0
United States	33.2	37.2	37.1

Note: The percentages for the United States differ between Table 1 and Table 2 because of definitional changes made by the Census Bureau. In particular, publicly-traded women-owned firms and firms in which women had 50% ownership were removed. The Census Bureau now includes majority-owned, privately-held women-owned firms.

Sources: Chun (1999).

A third attempt to assess the economic impact of women's entrepreneurship is offered by the International Labour Office (ILO). More specifically, ILO has also tried to estimate women's ability to create employment for themselves and for others in some developing economies in Africa. Because census type data is almost impossible to rely on and because the infrastructure does not allow for random sampling, they have used convenience samples. Nevertheless, the chosen approach still leads to substantial evidence that even women living under very difficult conditions can have an important economic impact by creating new employment through firm growth. Employment which is created by these women is often directed towards other women. For example, in Zambia (ILO, 2003c), a sample of 118 women entrepreneurs owning 144 firms (some of the interviewed had more than one firm) were interviewed. They provided employment for 1 013 persons of which 973 were full-time employees. This represents an average of 8.2 full-time employees per firm. In Tanzania (ILO, 2003b), 128 women entrepreneurs were interviewed. They provided full-time employment for 752 persons, which corresponds to an average of 5.9 persons per firm. In Ethiopia (ILO, 2003a), 123 women entrepreneurs were interviewed. They provided employment for 852 persons, of which 596 were full-time employed. This corresponds to an average of 4.8 full-time employees per firm. In short, despite the methodological problems encountered which affect the possibility to draw any conclusions about the population as a whole, the results strongly indicate that women entrepreneurs can expand their firms and that they can represent an important source of economic development.

Another way of examining the role of women's entrepreneurship is to estimate the percentage share of the female workforce that is self-employed. In Table 3, we present an overview of a few selected Asian countries. The table shows the relative distribution of different labour status groups. In the reviewed countries, which are all developing economies, we can observe that self-employment represents a very important alternative for women in order to gain income. However, there is an important country variation where 84% of the female labour force is estimated to be self-employed in Nepal compared to 8% in Bangladesh. Even if we cannot estimate their economic impact for their respective countries, we can conclude that they play an important role in providing resources for themselves and their families. This is of social and economic importance to their respective economies.

Table 3. Self-employment for women in selected Asian countries
(percentage)

Category	Nepal (1991)	Thailand (1993)	The Philippines (1990)	Pakistan (1992)	Bangladesh (1995-96)
Employer	0.36	0.80	–	1.20	0.10
Self-employed	83.69	18.20	31.20	42.40	7.60
Employee	11.69	31.40	46.10	34.20	8.70
Unpaid family worker	3.54	49.60	22.70	22.20	77.40
	100.00	100.00	100.00	100.00	100.00

Source: Karim (2000), page 40.

Statistics on women self-employed in Latin American economies are provided by Saavedra (2001). The author tries to estimate wage differentials in three Latin American economies (Argentina, Brazil and Costa Rica) and, as part of that analysis, estimated rates of self-employment. Table 4 shows the statistics for the three economies. We can see that self-employment (including domestic servants) represents an important option for women in the concerned economies. However, Saavedra (2001) finds that women working in the salaried sector earned more than women working in the self-employment sector. We can also see that self-employment is clearly less important for women in Argentina and Costa Rica, than for women in Brazil. Moreover, self-employment among women increased over the measurement period in Brazil, but decreased in Argentine and Costa Rica.

Table 4. Female Participation, Employment and Unemployment in Argentina, Brazil and Costa Rica
(percentage)

	Argentina		Brazil		Costa Rica	
	1988	1997	1989	1995	1989	1995
Employed women	37.4	37.1	42.3	46.3	56.7	57.7
<i>Salaried</i>	72.6	74.4	59.3	51.8	71.0	71.0
<i>Self-employed</i>	23.5	20.4	36.2	41.7	23.0	20.8
Other	3.9	5.2	4.5	6.5	6.1	8.2
Unemployment rate	6.5	17.4	3.8	9.3	4.4	5.7
Overall participation rate	40.0	44.9	43.9	51.0	59.3	61.1
Out of labour market	60.0	55.1	56.1	49.0	40.7	38.9

Source: Saavedra (2001), page 26.

We can conclude that there exists a variety of ways of measuring women's entrepreneurship, both at the individual level (number of self-employed) and at the firm level (number of firms owned by women and their economic impact). Independent of the way different studies have been conducted, we find that women entrepreneurs have an important impact on the economy, both in their ability to create jobs for themselves and to create jobs for others. In Europe (both European Union countries and other), estimates indicate that there exist more than 10 million self-employed women and in the United States 6.4 million self-employed women provide employment for 9.2 million people and create significant sales. Using the United States ratio between number of employees and self-employment the self-employed women in surveyed European countries would create jobs for about 15 million persons. This is a conservative and somewhat insecure estimate due to data limitations. Independent of what country or type of economy is observed, self-employment represents an important job alternative for many women, and perhaps especially for women in developing economies. Also we can observe that in all countries women still represent a minority of those that start new firms, are self-employed, or are small business owner-managers. Obviously, this economic resource, if not untapped, has not been successfully explored yet. The reason for this will be discussed later on. It is also still difficult to estimate the actual economic impact of this group. In the next section we will discuss possible solutions to this problem.

Creating better knowledge for the future

Taking a historic perspective (that is going back ten years), we can conclude that statistics on women's entrepreneurship have become somewhat more easily available. That is, they used to be virtually inexistent. Yet, there is still important work to be done in order to fully understand the economic impact of this group. Data has become available on the sex distribution of the self-employed, but we still lack reliable and available data for the majority of countries when it comes to achieved sales, employment, growth and survival. Hence, we have still to understand the dynamic of women's entrepreneurship.

In relation to the dynamics of entrepreneurship, we can also conclude that we are dealing with two different levels of analysis. The first level is concerned with women being or becoming self-employed and is related to self-employment as a career choice among other available options. This level of analysis is related to women participation in the labour force and what they choose to do. Questions related to women's entry in and exit from self-employment are major questions here. The second level of analysis is at the firm level. That is, once women have engaged in business activities, how well will they perform relative to men in terms of survival and growth of their respective firms. Both levels of analysis have to be taken into consideration in order to understand what is happening and why.

The different levels need to be considered for different reasons. First, we have concluded that women entrepreneurs in terms of self-employed represent a minority of all self-employed. There must therefore be important selection mechanisms that make women not choose self-employment as a career alternative. The reasons behind this need to be explored. Second, once women become self-employed they still face selection forces that lead their firms to have lower probabilities to survive and grow (even if the differences seem to be diminishing in a number of countries). Why this is so needs to be researched. Although the choice of becoming self-employed and the performance of the firm are interrelated factors they need to be treated separately. A possible scenario may be that the only difference between men and women entrepreneurs is at the level of engaging in entrepreneurship (becoming self-employed). Due to different reasons explored later on in this study, women are less probable to engage in self-employment, and once they have done so the firms they have created may have the same probability of survival and growth than the firms created by men. In this scenario, the difference between men and women is the probability of engaging in entrepreneurship, not the performance or survival of the firm founded. Another possible scenario is that women are both less probable to engage in self-employment than men and that

their firms have a lower probability of survival and growth than firms created by men². In this scenario, obstacles may exist at both levels (engaging in self-employment and firm performance). These problems may be related to each other or not. That is that the probability of engaging in self-employment will also influence the probability of firm growth and survival later on. The probabilities are conditional. It is also possible that the probabilities are unrelated, *i.e.* what happens at the individual level will not influence firm performance. Current theory suggests that the probabilities are conditional, but carefully designed studies have been conducted to estimate the relationships.

Independent of the scenario, in order to really understand what drives women's entrepreneurship and what are the consequences for the economy, we must study both levels to gain a better understanding. There are several issues worth discussing:

- What sex-disaggregated information should be gathered? (Discussing what is needed without considering country specific limitations to data collection.)
- What methods should be used to gather data?
- How can data from different countries be compared?

The first question is related to what we know about the involvement in self-employment of women compared to other career alternatives and what we need to know about the small business sector when it comes to the sex of the entrepreneur. First, there is the question of understanding why self-employment is or is not a career option for women. Second, there is the question of establishing the economic importance of this group of entrepreneurs. Third, if this is seen as an important group (either for economic reasons or for societal reasons), how can policy makers best support or encourage women to enter into self-employment assuming that they will respond differently both quantitatively and qualitatively from men? Fourth, how can policy makers best support or encourage existing women entrepreneurs, assuming that they will respond differently both quantitatively and qualitatively from men entrepreneurs? As we argue in the second major part of this study, there are good reasons to believe that women will act differently and that women entrepreneurs and potential women entrepreneurs might need different changes in the economic system in order to optimise their economic contribution to society. In order to offer the best possible support (direct or indirect) we need first of all better knowledge about women entrepreneurs.

Individual level

It is suggested in this report that the following data should be gathered on a regular basis. It is important to be able to track the participation of women and men in the labour force in order to determine the absolute and relative involvement of the two sexes in self-employment. Self-employment functions at this level of analysis as an indicator of entrepreneurship, because it can be considered as a prerequisite to entrepreneurship. In other words, if there is no self-employment at all, there will be no entrepreneurship. These individual level data have to take into account both the level of education and the industry affiliation of the individuals beside basic variables such as age and income level. This is important because labour force participation represents an important base rate for involvement in entrepreneurship.

Education and industry affiliation or job experience are important because they represent the kind of knowledge a person has access to and the kind of opportunities available to her. Research has quite

2. A third possible scenario is that women are as probable as men to engage in self-employment, but that the firms they create have a lower probability of survival than the ones created by men. However, none of the available studies suggest such a scenario as probable. The final scenario is that there are no differences between men and women.

strongly shown that most people start firms in industries where they have worked previously (Brüderl, Preisendörfer & Ziegler, 1992; Phillips, 2002; Romanelli, 1989). That is, the higher the number of women participating in the labour force the higher the probability that they will also engage in self-employment. Also where in the economy they are employed is important. For example, the Swedish labour market is highly segregated and most women work in the public sector; the demand for entrepreneurial initiative where their competence is needed is small as the market is a state monopoly (Delmar & Davidsson, 2000a). Also, as in most economies, there are large differences in education between men and women. Women are in general underrepresented in science and technology related fields and overrepresented in the humanities. This means that women will be less present in industries where a formal education in science and technology is required and overrepresented in other fields. Thus we would expect fewer women engaging in entrepreneurship based on technological innovations.

If the labour market is segregated, then entrepreneurship will also be segregated. Women and men will only engage in entrepreneurial activities where they have some previous experience and knowledge. Thus very much of what is observed when studying the firm and industry level can be traced back to the function of the labour market. This has to be considered when trying to explain differences between women's and men's entrepreneurship. An unanswered question is to what extent is the difference between men's and women's probability to engage in entrepreneurial activities related to the fact that access to information and knowledge and to opportunities are segregated because of differences in industry and educational affiliation.

Obviously the career history of men or women are of great importance since the career history represents the way knowledge has been accumulated and how experience has been gained. The focus here is rather on tracking individuals over time so that cross sectional effects can be differentiated from time related effects. Career histories focus on transitions into and out of significant events, such as employment, self-employment, education and being unemployed. Information on career history allows researchers to understand the changing context within which individuals engage in entrepreneurial activities, as well as the role that entrepreneurship plays in people's careers (Davis & Aldrich, 2003).

Such information allows us to understand how long people on average stay self-employed, how many spells of self-employment they have in their career and whether or not self-employment leads to a better life situation or not (important social and financial benefits). These are important questions to address because they are closely related to the opportunities that are exploited and how, as well as the status entrepreneurship has in society (financial and social benefits derived from entrepreneurship). Such research enables the researcher to answer questions on whether or not people tend to repeat their behaviour. If entrepreneurship is perceived by the general population as something positive, then we can expect more people with different backgrounds to engage in entrepreneurship, not only once but several times. Thus entrepreneurial experience becomes a prevalent feature of society. If on the other hand entrepreneurship is perceived as something negative then we can expect fewer people to engage in entrepreneurship, and generally restricted to specific backgrounds (that is, coming from a social group where entrepreneurship is highly regarded) and perhaps only try it once because the entrepreneurial experience does not lead to any significant social and financial benefits.

For example, a recent study conducted in Sweden on the science and technology labour force's career history and its involvement in self-employment showed that of those engaging in self-employment 30% only stayed one year self-employed and very few repeated the experience over the eleven year period studied (1990-2000) (Delmar, Sjöberg & Wiklund, 2003). About 12% of the science and technology labour force was at any time engaged in self-employment compared to 10% for the total labour force. At least for this group (which is seen as a very important source of entrepreneurship), other career alternatives had a better return. This study indicated important differences between men and women in their willingness to engage in entrepreneurship even when education and the effect of base rates were controlled for.

Entrepreneurship or self-employment is episodic and people frequently move back to other forms of employment (Carroll & Mosakowski, 1987).

In short, differences at the individual level must also be considered by policy makers interested in understanding and encouraging women's entrepreneurship. We still lack information about how base rate effects in the labour force really affect engagement in entrepreneurship. We have also shown that it is not enough to only consider levels of self-employment, but there is also a need to consider whether not individuals engage in several spells of self-employment, the duration of those spells and the benefits related to self-employment. The choice to become self-employed is related to knowledge and experience related to the labour market coupled with available opportunities, therefore we need to consider the dynamics of self-employment to better understand why and how women differ from men in self-employment. This has not only implications for the individual but also for the firms created.

Firm level

This paper argues for the need for data on women's small business ownership to be gathered on a regular basis. With the exception of Germany and the United States, it is still not known what the actual economic impact of women's entrepreneurship is in most OECD member countries. However, it is known that they create jobs, substantial sales and that self-employment represents an important career alternative for many women. There is a need to gather data on ownership by sex in the small business sector, sales achieved and employment. These data are central in order to be able to assess the size (employment and sales) distribution of women owned firms versus firms owned by men.

Yet this is not enough to accurately assess the development of women's entrepreneurship in general as there exist a number of specific problems related to the nature of women's entrepreneurship. To start, industry is central because there exist significant differences in relation to where men and women establish their firms (Brush *et al.*, 1999; EC, 2002). Women are most likely to start in the service sector, especially in industries like retail, healthcare and education. The characteristics in terms of average firm size and age and innovativeness are dependent on industry, thus a careful analysis of women's entrepreneurship must also control for industry differences. Industry affiliation is therefore central to be able to assess how women's entrepreneurship affects the economy and if there are any differences between the two groups. However, these data can only partly address the issues discovered in the research literature related to women's entrepreneurship.

Based on current knowledge, particularly concerning developed economies, women represent a rapidly growing group in the small business sector (Brush *et al.*, 1999). One reason that women's entrepreneurship is rapidly growing is that it has started from a relatively small base rate. Moreover, we have reason to believe that women owned firms differ in their performance from the performance of men owned firms. Depending on which economy is studied we can expect differences in the probability of survival, probability for firm growth and probability in achieving financial returns. For example, we know that in the European Union, firms owned by women are significantly more likely to have no employees compared to firms owned by men (Franco *et al.*, 2002).

Let us address the issue of the growing population first as it has an important impact on the assessment of firm performance. If we have a rapidly growing group in a population, that group will automatically have some properties that the rest of the population will not have. In the case of the small and medium sized firm sector, this group of firm will be on average younger and smaller than the rest of the population and therefore suffer from liabilities of age and smallness (Aldrich & Auster, 1986a; Stinchcombe, 1965). Basically they will as a group, have a higher probability of failure than older, larger and longer established firms. These liabilities have been well established in research and have been proven valid for a number of countries and economic settings. This means that women-owned firms in general

may have, compared to the existing population, a higher probability of failure. Not because they are owned by women, but because they are in general young and small firms. Therefore in order to know if there is a sex bias present we need to control for age, size and industry of the investigated firms. Only, when we can correctly control for these three variables simultaneously can we seriously advance our knowledge in the field.

This means that we need information about when firms are created, that is their entry in the industry. If we control for age, we can also follow cohorts of firms and see how they develop in terms of survival, growth and financial performance. Then we can more correctly estimate the exact impact of the potential sex bias.

Obviously another problem arises as soon as firm age is introduced as an important control variable. The problem is related to the mode of entry of the new firm into the industry. In a register a firm may appear as new, but that may not necessarily reflect what has happened in reality. There are different mode of entries and they have different effects on survival chances. De novo entries are real entries in the sense that the firm has not existed previously and can therefore be said to be fully exposed to liabilities of newness and smallness. This can be compared to some mergers and acquisitions that might appear as new entrants in register data or entrants coming from a different industry. They do not suffer the same liabilities as different kind of resources have already been created and can be transferred to the “new” firm. Also the entrepreneur need not necessarily have started the firm herself. She (or he) can have bought or inherited the firm. Obviously, the mode of entry and acquisition differs in various degrees from the classic independent start-up. Data register must therefore in the best possible way also control for the mode of entry.

Firm age also implicitly involves firm exit and the same discussion as in the previous paragraph can almost be repeated. If women entrepreneurs differ from men entrepreneurs, they will also probably differ in how they choose to terminate their firm and exit from the industry. There is almost no research on this area (at least to the author’s knowledge), but if we know that so many other factors differ between the two groups, we can assume that this is also the case for firm exit and termination. It is here important to know what different modes are used. For example, are women more prone or not to file for bankruptcy, or have they a lower probability to sell their firm and if so why? These are important questions since the options available to the entrepreneurs in terms of exit are important for their probability to first engage in entrepreneurship at all. Entrepreneurs who believe that they will be able to “harvest” from their firm once they choose to do something else are more probable to engage in entrepreneurial activities than those that do not believe they will be able to “harvest”.

Legal form is important, because it tends to reflect the growth probability of the entrepreneurial opportunity to be exploited and access to resources controlled directly or indirectly by the founding entrepreneur(s). More growth-oriented entrepreneurs controlling more resources tend to choose incorporation over other forms of ownership. As women and men differ in the kind of opportunities they will exploit, they also tend to choose different modes of ownership.

Hence, in order to more carefully assess the role of women entrepreneurs relative to men entrepreneurs, sex-disaggregated data on business ownership must at least contain the following variables: legal form, industry, firm age, firm size (employment and size), mode of entry and mode of exit. We have here only discussed the need for variables on the firm level.

This brings us to our second question: What kind of methods should be used to assemble data? There are two main forms of data: census or register data and sample data. These kinds of data can be further divided in longitudinal data (repeated measures over time across a number of variables) and cross-sectional data (single measurement across a number of variables). These data can be collected specifically to answer a question (primary data) or for a general purpose (secondary data). The source of these data can

either be the firm themselves or come from different registers. All combinations are possible and lead to different pros and cons in terms of cost effectiveness and data quality. Unfortunately the two are often in opposition to each other. We will discuss some of the most frequently used choices.

Before we depart into a more detailed discussion, we will once more flag that one of the most important achievements considering the data and statistics available at the present, would be to start with conducting large country-specific cross sectional surveys in order to establish the economic role of women entrepreneurs. Cross sectional national surveys are important, because they enable the description of the women business owner population (characteristics and impact) and the identification of important challenges and barriers to growth- especially how they may differ for women and men. Only after this has been done, is it worth trying to design more advanced studies. Simple random sampling is still one of the most cost effective and accurate ways of examining a phenomenon.

Considering the discussion above, sample size becomes a crucial question as the needed breakdowns by sex, industry, firm age and firm size rapidly lead to statistical power problems when estimating different relationships due to small sub-samples. Basically, with smaller sample sizes, estimates become more difficult to evaluate as the probability of error increases. For example, the Observatory of European SMEs (European Commission, 2002) effort – while having other very important merits – has too small a sample to say anything definitive and detailed about women’s entrepreneurship. The Observatory of European SMEs relied on a sample of 3 025 SMEs in total for all member countries. Because, women entrepreneurs represent a relatively small group (22% of the surveyed firms or 665 firms), there is very little left in terms of statistical power after separating out, for example, the effects of country and industry. This makes the analysis substantially less reliable.

When it comes to existing register data, we tend to encounter a number of particular problems. In many countries, for example it is legally impossible to gather data on the individual level (for example data on owners’ sex), which makes it impossible to have sex disaggregated data. Other countries cannot gather data for the smallest firm sizes. This gives a biased estimate of women entrepreneurs’ involvement in the economy, as we can expect them to be more present in the smallest size categories. A related problem concerns what a firm needs to do in order to be included in a register. In the United States, for example, a firm can be active for a long time before being included in an official register. Hence, we have introduced a survival bias, where we miss a number of firms that enter and exit before they are registered. There exists some controversy as to what extent this actually represents a problem or not (Aldrich, 1999; Carroll & Hannan, 2000; Delmar & Shane, Forthcoming). If we assume that on the one hand the survival chances are at that stage randomly distributed, then we will still obtain a representative population. If on the other hand, survival chance is systematically distributed, we will observe a biased population relative to the true population of firms. These are of course well-known problems, but have particular effects for the study of women entrepreneurs.

One answer would be then to rely on primary data, which tend to work best when using a cross-sectional design. However, we have made a long argument that more data using repeated measures are needed in order to estimate the dynamics of women’s entrepreneurship. Here, sampling becomes a problem. If we follow the same sample over time we will encounter problems with increasing mortality due to non-responsiveness. If we sample a different population every year, we cannot test for different relationships and only get yearly estimates (which still represent an important advance relative to the current situation).

Considering both cost effectiveness and data quality, using register data while trying to correct for known problems seems to be the best current alternative. Correcting for known problems we mean more specifically to try to collect better data taking into consideration the present discussion. The use of carefully collected register data, where it is possible to track a firm from one year to the next, from its entry

until its exit, enables us to use longitudinal research designs (Wooldridge, 2002). The use of longitudinal designs allows us to follow the life of the single firm in relation to the population of firms. Thereby we can gain insight into when in their existence and why certain types of firm (such as women owned firms) are most probable to encounter problems and what kind of problems they encounter. This is the only way to satisfactorily answer many of the difficult issues related to women's entrepreneurship, among other subjects.

Related to our third question, how data from different countries can be compared with each other, is the issue of defining what is meant by women's entrepreneurship. A woman-owned firm is often defined as firm where a woman owns more than 50% of ownership. This is a clear-cut definition, but hides two major problems: first the special case of the family business and secondly, mixed sex owners. Family business represents one of the largest groups of firms. In most family businesses, the husband and wife manage the firm together, but equity might not be divided equally. Often for reason of external legitimacy, the husband has the majority ownership, but the couple considers the firm as their joint asset and both often work to an equal extent in the firm. Not taking into consideration the number of family managed firms will therefore undermine the estimate of how many women are active as entrepreneurs. The same problem is encountered when we think about mixed-sex owners. Many firms today start as a team effort. Same sex teams tend to dominate but mixed-sex teams are frequent (here assuming that there is no spouse relationship) (Ruef, Aldrich & Carter, 2003). Depending on the distribution of ownership the woman will either be a majority owner or minority owner, but the firm is still led by a team that shares responsibility for management. Adding the question of publicly vs. privately held firms complicates matters even more. In a publicly held firm a person can still have a minority ownership and still retain the power over the firm. Hence, definitional issues are problematic as they can severely bias our estimates and they often tend to underestimate the actual rate of women engaged in entrepreneurial activities.

Taking a more international approach and considering international comparisons, differences in definition and availability of data make comparisons problematic as with all other international comparisons. This is not a unique problem and two reactions are often encountered. The first being that this is the best information we have available and it is better than nothing. International comparisons therefore have a value. The second being that data differ so much from each other that any form of comparison is irrelevant and thus we cannot compare one country with another. We have to admit that we are closer to the first reaction than to the second, but much can be done to achieve both better comparisons and to develop arguments around why comparisons are still worth making. The following argument can be made about country comparisons. Measuring country is like measuring any kind of entity, *e.g.* as individuals. All measures have reliability problems and these problems can be estimated so what actually needs to be done is to pay better attention to the inherent measurement error in comparing countries and try to estimate that error (*cf.* reliability measures). Hence statistical theory needs to be further applied in these settings. Second, country comparisons are often based on aggregate data, which often makes it impossible for researchers to disaggregate data from different countries in order to find more comparable data. For example, if one country only gathers data on the manufacturing sector and the other on both the service sector and manufacturing sector, but only report total number, comparisons are problematic. If instead, data are disaggregated then the researcher can compare one country's manufacturing sector with another. This is a simple example, but as soon as more variables are utilised, then problems also tend to multiply. The only possibility is that the available data should be as disaggregated as possible.

Furthermore, women's entrepreneurship is part of the SME sector. As Storey (2003) points out, even the definition for this sector is not common to all countries. In the United States, a business is defined as small if it has less than 500 employees whereas in the countries of the European Union, a business is considered to be small or medium sized if having less than 250 employees. This provides the basis for even more confusion and difficulties when undertaking cross-country comparisons.

More problematic is that different countries altogether report different data as can for example be seen in Table 1. Sweden has at the moment no data on women owner-managers, but has for a number of years provided data for newly started firms that are sex disaggregated. Other countries like Germany and United States have rather focused on women's participation in the small business sector. In these cases comparisons are difficult to do and the only solution is to decide which type of statistics and data should be reported in order to international comparisons possible.

Consequently, important problems remain. To begin with, definitional issues complicate data collection. A woman may be considered to be an entrepreneur if she has started a business alone or with other women, or is someone who is a principal in a family business or partnership, or is someone who is shareholder and manager in a publicly held company (cf. OECD 1997). Furthermore, some national systems prohibit statistics on the individual level, making gender specific analyses impossible. Even in those few countries where data are available, important information on development over time (panel data) and for the whole population are missing.

Analysis

Both at the individual and at the firm level we have argued for the need to observe changes over time. Longitudinal data are needed to understand survival and growth among entrepreneurs (men and women) as well as time of entry and exit from business. Entrepreneurship is about dynamic changes at the level of the firm, the industry and the economy. Statistical analyses must take this into account. This is especially important for women entrepreneurs, as (based on current knowledge) the obstacles and challenges they face change with their involvement in the entrepreneurial process. Depending on the nature of those obstacles, only certain categories of women will go into business and succeed. Currently, the general picture is still obtained from data based on cross-sectional samples, even if both the scope and the breadth of data available have improved during the last few years.

There are several important benefits to using panel data when studying the dynamic changes related to entrepreneurship. The major advantage is the possibility to differentiate among age, cohort and period effects (Diggle, Liang & Zeger, 1994). By following an individual or a firm over time we can separate the effects related to the fact that the individual or the firm ages and changes its properties over time (age effects) and the effects related to being part of different birth cohorts (cohort effect) (Blossfeld & Rohwer, 1995). For example, as an individual or firm ages they tend to change their behaviour and performance. Younger individuals have higher career mobility and can for example be expected to move more rapidly between self-employment and other labour force status than older individuals. Younger firms have a higher probability for failure than older firms, but are at the same time more innovative.

Cross-sectional data are not able to take into account the fact that processes are dependent on their historical setting. For example, in addition to resources available to the individual (age, education self-employment experience, etc.) there are at least two ways in which a changing labour market structure affects the choice of becoming self-employed. The first is that people become self-employed in different structural contexts. It has often been assumed that these specific historic conditions at the point of entry into self-employment have a substantial impact on people's performance as self-employed and the firm they create (*i.e.* firms created during the Internet boom compared to firms created during a recession as in the beginning of the 1990s). This is what is called the cohort effect. The second way that changing labour market structures influence self-employment is that it improves or worsens the prospects of self-employment at a given time (or the survival probabilities of existing firms). For example, in a favourable economic situation with low unemployment, there will be a relatively wide range of entrepreneurial opportunities to exploit. This kind of influence is generally called a period effect (Balgati, 2001; Blossfeld *et al.*, 1995). With longitudinal data age, cohort and period effect can be identified based on substantively

developed measures for these concepts and that these effects represent central mechanisms in entrepreneurship that must be distinguished.

Another advantage that is closely related to entrepreneurship is the presence of contextual processes at different levels (Aldrich, 1979, 1999). Entrepreneurship researchers have often observed the influences of contextual processes at different aggregation levels. Contextual process effects refer to situations where changes in the group contexts themselves influence the dependent variable (entry into self-employment or firm performance). For example, the decision to enter into self-employment of an individual may be conceptualised as being dependent on changes in resources at the individual level (*e.g.* social background, education, experience, etc.), the success of the firm in which she is employed (*e.g.* expansion or contraction of the organisation) at the intermediate level and changes in the business cycle at the macro level. The survival of a firm may be conceptualised as being dependent on changes in resources at the firm level (available financial and human resources, routines, intellectual property rights, strategy, etc.) the relative success of the industry in which the firm is active (*e.g.* expansion or contraction of the industry) at the intermediate level and changes in the business cycle at the macro level. As we will see later, the Austrian economic model used in this study assumes that women's entrepreneurship is a multilevel system. Cross-sectional data do not provide an adequate opportunity for the study of such influences at different levels.

Moreover the introduction of a time factor gives researchers a stronger inference for causality. The possibility to observe an event before an outcome, gives the researcher a relatively better ability to argue for causal inference. This is normally very difficult with cross-sectional data if the researcher does not rely on a very strong theory, which is seldom the case in entrepreneurship.

Summary

To summarise this section, with the exception of Germany and the United States, we still do not know what the actual economic impact of women's entrepreneurship is in most OECD member countries. However, available data independent of how they measure women's entrepreneurship point to the conclusion that women's entrepreneurship represents an important economic resource that more fully developed could have a strong impact on economic development.

As we still lack a reliable and detailed account of women's entrepreneurship and its relationship to economic growth, further research is needed. We have argued that women's entrepreneurship must be examined both at the individual level (*i.e.* the choice of becoming self-employed) and at the firm level (the performance of women owned and managed firms) in order to fully understand the differences between men's and women's entrepreneurship. Furthermore, we suggest that a data register for more longitudinal analysis should be constructed, as it is the only way to examine the process of entrepreneurship – particularly, as current theory argues that entrepreneurship is a multilevel phenomenon.

BUILDING AN ENTREPRENEURIAL SOCIETY BASED ON EQUAL OPPORTUNITY

A Risk and Reward Framework for Women's Entrepreneurship

This section reviews previous research undertaken on women's entrepreneurship. We depart from the previous work from Duchénaut's report to the OECD (1997), but also different conferences held by the OECD on the subject (*e.g.* OECD, 2000). The section will demonstrate how and why women's entrepreneurship is a distinct feature of entrepreneurship. Based on the roles men and women are expected to have in society, individuals – based solely on their sex – will generally choose to work differently (choice of education employment vs. self-employment, sector in the economy) and will consequently have a different impact on the economy. The review will be based on the three different stages of the entrepreneurial process, in order to better understand the specific obstacles and challenges faced by women:

- The general population (participation in the labour market, family responsibilities, gender beliefs, political and ideological context);
- The establishment of the new firm (growth ambitions, resource acquisition, industry choice); and
- The early development of the new firm (profitability, growth in sales and employment and survival).

These three stages will be analysed from a women's entrepreneurship perspective to establish if there are differences; where there are differences; and what are the consequences of those differences for economic growth. More specifically we are interested in the transition an individual makes. First, the choice of becoming self-employed, second the gathering of resources in order to establish a new independent firm and thirdly the survival and performance of this new firm on the market. Related to this process, we can then ask how women differ from men in the different stages of the process. What factors at the societal, economic and individual level affect how women enter entrepreneurship (and how they affect the nature and volume of women's entrepreneurship) and how this is connected to economic growth? Obviously economic growth is both a cause and an effect with respect to the nature and volume of women's entrepreneurship realised in an economy (Wennekers & Thurik, 1999). Economic growth can be measured in a number of ways: job creation, change in GDP (per capita), innovation, economies of scale, level of education and capital accumulation. Hence, women's entrepreneurship will take on relatively different aspects if it is displayed in developing economies, economies in transition or in developed economies.

Before we deal with the different aspects of the entrepreneurial process, we start with discussing how women's entrepreneurship can be understood as a scientific research endeavour. Thereafter, we describe the framework conditions affecting women's entrepreneurship. We define these conditions in terms of demand and supply side conditions. Having described the conditions, which women and women entrepreneurs in particular face, we then review what this means for women entrepreneurs in their day-to-day life when trying to start, or manage a firm, or both.

Gender, economic theory and entrepreneurship

Women's entrepreneurship deals with both the situation of women in society and the role of entrepreneurship in that same society. We are therefore dealing both with the factors that affect the gender system and the factors that affect entrepreneurship in society. While entrepreneurship and the gender system have been widely researched, they have been mainly researched separately. Relatively little attention has been directed towards women's entrepreneurship. Actually, the research that has been carried out in the domain of women's entrepreneurship has not come as a response from the research community as a poorly understood and theoretically interesting phenomenon. Rather the research that has been conducted on women's entrepreneurship comes as a reaction from different policy institutes (such as different national government agencies, European Union, ILO, UNIDO and the OECD) needing better information in order to initiate measures to support women's entrepreneurship coupled with the intrinsic motivation emanating from individual women researchers in the field. Both researchers and different policy institutes have now started to recognise that the gender system as anywhere else in society plays also an important role in shaping entrepreneurship and economic growth.

Depending on which economy is studied between 15% to more than 35% of business owners are women. Furthermore, due to the function of the gender system, women's entrepreneurship spans different economic sectors than men's entrepreneurship. One would expect a greater interest in this phenomenon. However, research until present does not reflect this. Research can be said to be either gender-neutral or gender-biased and pays little attention to the specific needs of women entrepreneurs (Brush *et al.*, 1999; Brush, 1992; Holmquist, *et al.* 2002) despite the fact that the research body on women's entrepreneurship has been and is still growing. This is also our first conclusion; women entrepreneurs are largely invisible and marginalised in mainstream entrepreneurship research.

Nevertheless, what knowledge can we gather from entrepreneurship research in order to understand women's entrepreneurship? Some important results tend to come back regularly and seem to have a solid base for support in the empirical literature (Aldrich, 1999). First, the knowledge and the resources needed to create and to manage a new firm are culturally embedded and historically specific (Granovetter, 1985; Sorensen & Audia, 2000; Uzzi, 1997). Their availability reflects societal conditions at a particular historical conjuncture and thus certain kinds of firms cannot be founded (by certain types of persons) before their time. Thus, both the firms created and the persons creating them resemble each other within a specific historical era (Carroll, *et al.* 2000; Phillips, 2002) and following the same logic, differ from each other across eras. That is, the same types of entrepreneurs tend to create the same type of firms because they fulfill the stereotypes of who is supposed to start firms and which firms are supposed to be started.

Secondly, knowledge and resources are differentially available across environmental contexts. That is, the firms created in a specific context characterised for example by a generally high level of self-employment and plentiful resources will differ from a context with low levels of self-employment and scarce resources. As men and women differ in their access to resources, knowledge and societal position, we can therefore assume (and have empirically proven) that women start and manage firms in different ways than men do. Basically, women have access to fewer resources, less knowledge and have in many countries a lower societal position than men. Moreover, these differences seem to be very difficult to change over time.

Hence, the theoretical framework of this report is inspired by an Austrian-economic [Kirzner, 1997; Schumpeter, 2000 (1934)] model of entrepreneurship which identifies the historically and culturally determined framework conditions (demand side) affecting entrepreneurship and the idiosyncratic prior experiences of enterprising individuals and potentially enterprising individuals (supply side) (Shane, 2000; Shane *et al.*, 2000; Venkataraman, 1997). Entrepreneurship is here defined as the study of sources of

opportunities, their identification, exploitation and consequences for the economy³. Together these four components form the entrepreneurial process and provide a general model to understand how women enter into self-employment and business, how they exploit opportunities and what the consequences of women's entrepreneurship are for the economy.

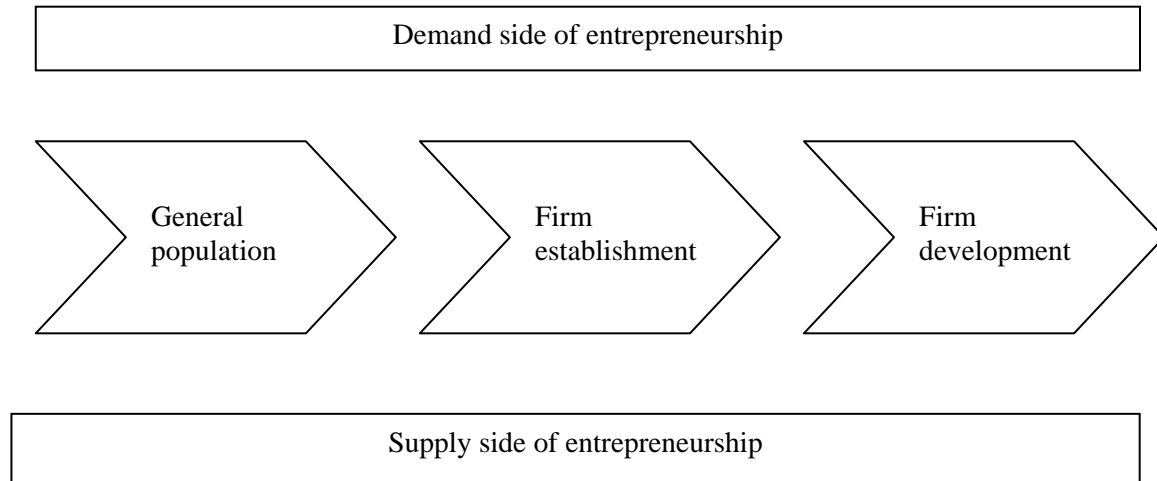
The present model assumes that changes in demand conditions (*e.g.* technological, market, demographic, political, institutional and cultural developments) create opportunities that are not equally obvious to everyone, but are discovered and exploited because some individuals have an advantage in discovering specific opportunities. This advantage is provided by these individuals' access to idiosyncratic information and resources. An advantage generated by their prior experiences and their position in the social networks.

Entrepreneurial opportunities are not equally obvious to everyone, but the model assumes that they are equally available to anyone with the experiences and the knowledge of discovering them. Opportunities are themselves unstructured and advantages and disadvantages of opportunities are largely dependent of idiosyncratic individual differences in personal experience and education (Casson, 1982). Hence, a focus on women's entrepreneurship as a country specific and gendered phenomenon suggests that the interaction between the demand and supply side of entrepreneurship may be important variables in the Austrian-economics inspired model of women's entrepreneurship, because women will learn to act in accordance with the demands of society on them and they will only be able to discover the opportunities that their shared experience as women allow them to do.

Figure 2 illustrates the model used, where we can observe how demand and supply conditions shape the development of the entrepreneurial process. Hence, the model's purpose is to capture the dual nature of entrepreneurship as process and product. Thus it facilitates the work of the researcher or analyst to interconnect and evaluate the different aspects of entrepreneurship and women's entrepreneurship in particular. It allows us to understand how entrepreneurship both affects and is affected by the surrounding conditions (demand and supply side) and how the entrepreneurial process evolves over time (from individuals recognising opportunities to exploiting them more or less successfully in independent firms), but also how changes or the lack of changes in selection are retained in the system. That is, why only certain kinds of opportunities are discovered and by whom (variation in the entrepreneurial process); what are the selection criteria (*i.e.* competition, institutional forces) that lead to selective elimination of certain types of opportunities (selection in the entrepreneurial process); why some selection processes are retained and are difficult to change (retention process in the entrepreneurial process); and how these processes are linked to each other. It is our view that the entrepreneurial process is to be seen as an iterative sequence of variation, selection and retention embedded in the history and culture of society (Aldrich, 1979, 1999; Baum & Rowley, 2002). More specifically, the reason women's entrepreneurship is different from men's entrepreneurship is that culture and history have attributed women a different role in society and that specific conditions have a strong and deep impact on the entrepreneurial process.

3. Exploitation of entrepreneurial opportunities is here meant as the establishment of an independent business. However, entrepreneurial opportunities can also be exploited in existing organisations or on the market through licensing for example.

Figure 2. Demand and supply side effects on the entrepreneurial process



Three important questions can be generated from this introduction to research on women's entrepreneurship: *First, what are the causes for these differences and how do they affect the entrepreneurial process? Second, why do these differences still prevail in almost all countries? Third, why are these differences so persistent despite the work that has been done on gender equality during the last decades?*

Supply and demand side of women's entrepreneurship

The entrepreneurship literature as well as the literature on sex segregation can be classified into two schools: one examining the supply-side processes and the other examining the demand-side processes (Correll, 2001; Thornton, 1999). The supply-side school focuses on the availability of suitable individuals to occupy entrepreneurial roles. That is, what are the processes by which men and women move differently into various activities associated with entrepreneurship? For example we know that women entrepreneurs tend to exploit opportunities in some specific industries such as education and health care rather than manufacturing. Behaviour is assumed to be intentional, but is limited by the demands made by society. We here focus on the effect of human capital (Becker, 1964), norms (DiMaggio, 1997) and family-related factors (Lin, 1999; Loscocco & Leicht, 1993) and the interaction among them.

The demand-side school focuses on the number and nature of the entrepreneurial roles that can be filled. That is, the processes such as statistical discrimination, internal labour markets and the gendering of jobs that affect the kind of entrepreneurial opportunities which are offered to women in comparison to men. More specifically, the demand side can be developed as three major framework conditions to gender inequality: political and institutional framework, family policy and market sources (George & Baker, Work in progress; van der Lippe & van Dijk, 2002).

The main focus from both schools has so far been on the career choice (becoming self-employed) and the later stages (firm establishment, survival and growth) of the entrepreneurial process have not been investigated with the same scope and depth. The reason is that research on career choice is far more developed when it comes to understanding the differences between men and women. Studies on women business owners and how it affects firm performance in terms of survival, growth and profitability are far less abundant and are still in their infancy. Few such studies rely on large sample or random samples and follow firms over time. They are (as is the case for much of the entrepreneurship literature in general)

dominated by convenience samples of a cross sectional nature and case studies. It is therefore difficult to draw any general conclusions and the conclusions that can be drawn can only be tentative. However we will come back to this research later and we will first deal with the choice of becoming self-employed and the processes affecting that choice.

Supply side of entrepreneurship

In this section we will investigate the processes by which men and women move differently into various activities associated with entrepreneurship. Behaviour is assumed to be intentional, but is limited by the demands made by society (Aldrich, 1979, 1999). We focus here on the effects of norms, motivation and family-related factors and the interaction between them. Based on our Austrian-economic model we argue that depending on the idiosyncratic experience of individuals some people will be at an advantage discovering some specific opportunities. This advantage is provided by the prior experiences of these individuals and social networks generated by these experiences. How individuals choose education and career paths has therefore an important effect on whether or not they will become entrepreneurs and what kind of opportunities they will discover and exploit because differences in education and work experience lead to different idiosyncratic experiences and enable them to identify only certain types of opportunities. For example, a person who has worked all her life as a teacher is more likely to identify an opportunity related to her teaching experience than to identify an opportunity related for example to aeronautics or computer science.

Gender belief systems. It is important to understand that the gendering of the labour market and entrepreneurship has its source in the way in which men and women move into various activities associated with different kinds of work. These supply processes are important because the supply networks (based on experience and knowledge) are segregated and lead people to have different probabilities to discover opportunities of different natures. Since men and women seem to freely make career-relevant decisions that will carry them generally into substantially different occupational (and experience) directions it is important to examine these early stages in the supply-side process and ask why men and women make the choices they make.

Corell (2001) based on a large panel data set from the US shows how gender differences in the perception of specific competence (*e.g.* entrepreneurial competence or mathematical competence) influence young women's educational decisions (and later career paths). The career choice process occurs throughout the life cycle as individuals make a series of decisions that have occupational consequences. These gender differences in the selection of activities that constrain occupational choices often occur earlier in the life cycle when different education paths are to be pursued. For example, women are known to choose to a lesser degree to pursue a career in engineering or the physical sciences leaving them at an obvious disadvantage when it comes to having the ability to discover technology-based opportunities.

In most economically developed countries, the process by which young men and women move differently into activities relevant to careers in engineering and the physical sciences is not dependent on class as men and women tend to be equally distributed across social classes and attend the same schools. Instead cultural beliefs about gender and needed competence influence the movements of young men and women along educational and careers paths leading to becoming entrepreneurs. Gender has to be seen as a multilevel system in order to understand these voluntary choices where cultural beliefs lead to biased self-assessments.

Gender is a multilevel system that consists not only of roles and identities, but also includes ways of behaving in relation to one another at the interactional level and cultural beliefs and distribution of resources at the macro level (Ridgeway, 1997; Risman, 1998). The multilevel nature of this system allows processes that contribute to the reproduction of gender inequality at the macro, micro and interactional

levels to occur simultaneously. Thus the gender system is overdetermined and represents a powerfully conservative system (Ridgeway & Smith-Lovin, 1999). Cultural beliefs about gender (so called gender beliefs) are the component of gender stereotypes that contain specific expectations for competence and knowledge acquisitions. It is this component with its specific expectations of competence that presents special problems for gender equality. Gender beliefs are also cultural schemas for interpreting or making sense of the social world. As such, they represent what we think “most people” believe or accept as true about the categories of “men” and “women”. In most countries men are widely believed to be more competent than women, except when performing feminine tasks. As we will see below, substantial evidence indicates that entrepreneurship is stereotyped as a “masculine task”. Even individuals who do not personally believe that men are more competent than women are likely aware that this belief exists in the culture and will expect others will treat them according to it. This expectation has been shown to modify behaviour and bias judgment.

Many studies have shown that people in general view entrepreneurship as masculine and perceive entrepreneurship to be a male domain (DiMaggio, 1997; Holmquist *et al.*, 2002). It has been argued that the self-employed as a group are male dominated, consistently conservative in their political ideology and voting behaviour, highly individualistic politically, being strongly against big government and anti-union (Aldrich, Zimmer, & Jones, 1986c). Research on gender beliefs also shows that a collective (such as small business *men*) struggles to self-name, self-characterise and claim social prerogative. Such concerns underscore the politics of identity (Cerulo, 1997). From that perspective, it seems logical that women cannot or will not identify with the group of self-employed and the group is perhaps not interested in women joining them. Also both the work task and the work description related to entrepreneurship such as leadership, high commitment, risk taking, performance and achievement orientation, independence, flexibility, sense of adventure and aggressiveness do not define entrepreneurship as a task that can be seen as “feminine”.

Some individuals probably also come to believe that men are better entrepreneurs, although young women have been shown to be less prone than young men to hold stereotypic views. If an a young woman believes that young men are better at entrepreneurship, she might view the competence needed to become an entrepreneur as inconsistent with a female gender identity, doubt her ability and reduce her interests in careers where entrepreneurship is an option. In this way, personally holding gender stereotypic views with regard to entrepreneurship would be sufficient to produce gender differences with regard to both educational choices and later on, entrepreneurial competence. However, personally holding a stereotypic belief is not necessary. Instead it is only necessary that individuals believe that others hold these gendered beliefs with respect to entrepreneurship. This leads to the conclusion that independent of whether gender beliefs are personally endorsed or internalised as other people’s expectations, they often lead to biased self-assessments of competence (Correll, 2001; Greenwald & Banaji, 1995).

Why is the gender beliefs system then so difficult to change? Much of the answer resides in the fact that young women and men are constantly exposed to mixed gender-setting (as both families and schools are today gender-mixed) where they are on a daily basis exposed to the dominant culture belief. It is therefore difficult to offer resistance to dominant culture beliefs because of daily exposure. For example, alternative gender beliefs systems, such as the present day “girl power” phenomenon, are pitted daily against hegemonic gender beliefs. Thus, even individuals who are exposed to alternative gender beliefs in their families likely have daily exposure to hegemonic gender beliefs (Correll, 2001).

To sum up this section, we have shown one of the mechanisms by which gender beliefs systems constrain the early development as well as the later development of career relevant choices for men and women. We have argued that gender beliefs bias self-perceptions of competence. This is important in those societies characterised by achievement orientation as the United States and most Western economies. Thus, shared cultural beliefs do not only channel individuals into particular careers based on what others believe,

but also they lead individuals to self-select into occupational relevant activities. This implies that that the gender-segregated labour force will be reproduced partially through the different and seemingly voluntary choices men and women make.

Motivation of women entrepreneurs. Because women have different demands on them than men they also have different priorities and motivation when starting firms. Women still have the major responsibility for family and children, which means that they have fewer possibilities to be flexible with their day-to-day time management. Therefore they are more prone to start home-based businesses and they are more prone to start part-time businesses.

When looking at the overall reasons to start businesses, research has not found any substantial differences between men and women. There have been long arguments with regard to the sample sizes and the scientific rigour of these studies, but the overwhelming impression over time is that there are only minor differences if any (Carroll, *et al.*, 1987; Carter, Anderson & Shaw, 2001). This concerns both personality characteristics as risk-taking to motivational factors as specific reasons to start. Furthermore, recent research has severely questioned the predictive ability of stable individual characteristic such as personality traits when it comes to entrepreneurship (Delmar, 1996, 2000; Gartner, 1988). Women and men start firms because they want to achieve job satisfaction, independence and to support themselves and their families.

However, we can observe differences in terms of growth motivation between men and women, where women have lower growth ambitions than men. This result has been observed both in the United States (Carter, 1997) and in Sweden (Wiklund, Davidsson & Delmar, 2003). The results are stable across industries and over time.

To sum up we have seen that women tend to self-select from self-employment because they do not perceive that they have the competence needed to start and manage firms, that entrepreneurship is often perceived and portrayed as a male occupation. The lack of perceived competence will also diminish the motivation of women as the perception of competence and motivation are closely related to each other. If they decide to start firms they will to a higher degree choose to start more part-time and home-based firms in order to balance professional responsibilities with family responsibilities. Saying this, it is also necessary to remember that individual women may well act differently, that is some women will always behave in a non-typical way, resembling men in their pattern of behaviour.

Demand side of entrepreneurship

The demand-side school focuses on the number and nature of the entrepreneurial roles that can be filled. That is which are the processes such as statistical discrimination, internal labour markets and the gendering of jobs that affect the kind of entrepreneurial opportunities offered to women in comparison to men. More specifically, the demand side can be developed as three major framework conditions to gender inequality: political and institutional framework, family policy and market sources (George *et al.*, Work in progress; van der Lippe *et al.*, 2002).

Political and institutional framework conditions such as occupational closure and occupational segregation will inhibit women's entrepreneurship because closure and segregation will suppress women's ability to discover all entrepreneurial opportunities as many opportunities are correlated with occupation. Occupational closure (Cahill, 2001; Davies, 1996; Witz, 1990) is defined as the *de jure* or *de facto* exclusion of specific groups of people from particular lines of work. There exist abundant (historical and present) examples from almost all countries, including OECD countries. For example, women were for a long time not allowed to participate in the armed forces or it was not until 1983 that all professions were open to women according to the law in Sweden and in France to mention but two OECD countries.

De jure occupational closure. De jure occupational closure has declined drastically and continues to decline in most economically developed countries. However, in many developing countries, strong legal prohibitions still prevail on women entering particular professions and occupations. Unfortunately, we can observe that in many countries – particularly when religious doctrines are incorporated in the system – such closure is increasing. Current examples exist from many countries in Africa and in Asia. Both developing economies and economies in transition have generally very segregated labour markets. For example, Monk-Turner and Turner (2001) argue that South Korean business groups, due to government ties and monopoly powers, exercise substantial influence on their labour markets by persistent patterns of gender-discrimination in employment practices. Rhein (1998) also reports widespread gender-based employment discrimination in both the government and private sectors in Russia and argues that lack of political will to combat these issues has made the situation worse. In line with these arguments, some analysts suggest that discrimination in labour markets in emerging economies creates disincentives for investment in developing female talent (Kingdon, 1998), as the human capital produced is improbable to ever be fully utilised. Hence, women are not provided equal opportunity to develop their technical skills as they work with their male colleagues. Occupational closure creates a structural framework of gender inequality. By confining women's roles in economic development or by hindering access to occupations, governments indirectly discourage entrepreneurial behaviour.

De facto occupational closure. However, even in economies where there does not exist any legally endorsed occupational closure, *occupational segregation* still exists and has important effects on women's ability to start and manage firms (de facto occupational closure). Occupational segregation accounts for most of the gender gap in earnings at the macro level, but contextual association decreases the relative earnings of all women, not just women employed in female-dominated occupations (Cotter, DeFiore, Hermsen & Marsteller Kowalewski, 1997). This means that all women are better off working in a gender-integrated labour market and all men are better off working in a gender-disaggregated labour market, all other things being equal. Moreover, occupations are highly skewed in all countries when examined at the level of the organisation. Women are much less probable to be promoted than their male counterpart in almost any organisation examined (Smith, 2002). Women have for example less access to top management position or to leading positions within academia. For example, in the EU, the proportion of women students is slightly higher than for men students (52% women in 1999), but women make up only 25% of higher education professors and less than 33% of public researchers (Eurostat, 2001). This means that women will be less able to develop both management experience and professional networks of high quality. Hence, they will also access less information and fewer resources than men, which are the basic components of successful opportunity recognition and exploitation.

This means that the human capital accumulated by women is less valued than the human capital of men, because they tend to work in different sectors. Furthermore the earning potential of women is lower, leading to a lower probability of accumulating savings. So even if the participation of women on the labour market has increased during the recent decades, they still earn less and have lower savings. Furthermore women run a higher risk of being unemployed thus making it very difficult for them to be economically independent. In the EU countries, the average unemployment rate was 8.6% for women and 6.9% for men in 2002 (Franco & Jouhette, 2003). Women are also to a higher degree part-time employed. This means that the net worth of women is generally lower and their ability and possibility to generate income is lower as well. Knowing that personal savings is the preferred way to invest capital in a new firm – based on the financial pecking order theory – (and private equity is most often also required by other financiers), this diminishes women's probability of both being able to exploit their own human capital and being able to control the resources needed to exploit it.

Considering male decision power, crowding effects and normative expectations about women's role, we cannot expect any rapid changes. Relatively recent estimates indicate that with the current pace of change it would take 80 years before the United States' labour market is fully integrated (Cotter *et al.*,

1997). If we consider small business and self-employment as yet another labour market we can conclude that – while we do not know if there is a gender gap in earnings from self-employment – it still represents a highly segregated market where changes in terms of gender equality are still far from rapid. Even if rapid relative increases can be observed, we have to remember that they often stem from a relatively low point of departure. Furthermore, women and men enter different industries and as industries affect the probability for firm performance and survival, we can expect that women owned firms will differ from men owned firms in terms of performance and survival.

Furthermore, actions against de facto closure receive less public support than actions against de jure closure in most developed economies. This can in part be explained because occupational gendering is perceived as partially the outcome of differences in the sorts of work that men and women choose freely to pursue (compare with the above discussion about supply factors). So we can conclude that de facto closure tends to, to some degree, replace de jure closure to occupation. If economies in development follow the same pattern as developed economies, we cannot expect much pressure to also remove de facto closures (even when de jure closure is removed).

Family policy and child care. When comparing women's entrepreneurship (and employment in general) one cannot neglect the role of family policies because there are significant cross-national differences and women still have the main responsibility for raising children. The basic assumption is that a family-friendly policy has a positive effect on women's employment and self-employment because it allows women to more freely manage their time and still to have an active career. Indicators that are normally used are the level of public child-care, parental leave arrangements and other financial child-related support.

How these patterns of family policy are related to women's possibilities to enter the labour market and subsequently to enter self-employment is far from straightforward as many of these policies are related to the political system in general. For example, countries low in entrepreneurship (and in women's entrepreneurship as well) such as Finland, Denmark and Sweden provide universal provisions for publicly supported childcare and maternity leave, whereas Australia, the United Kingdom and the United States (countries experiencing high levels of entrepreneurship in general and increasing levels of women's entrepreneurship specifically) neither provide government paid leave nor have adopted policies that guarantee access to childcare. Since transition economies, during their period under communist regimes were confronted at an early stage with problems of women who had to both act as employees and caregivers, these countries introduced professional childcare and parental leave arrangements early. Although parental leave arrangements have become less generous and the availability of childcare facilities has decreased, transition economies still have some of the best provisions for working women (van der Lippe *et al.*, 2002).

Thus, even if family policies have proved to influence the employment behaviour of women with small children they are also closely related to the political regime of the country. Sweden, Finland and Denmark have invested heavily in constructing a social-democratic welfare state where the responsibility for child caring is to be divided between the family and the public sector, whereas in more liberal and more conservative countries as the United Kingdom, Australia and the United States, childcare is treated more as a private concern and the responsibility of individual families. High levels of childcare provisions in the social-democratic approach often accompany high levels of women's employment (but low levels of women's entrepreneurship), yet in the liberal countries this is definitely not the case. Generally, international studies (*e.g.* Childcare, 1996; OECD, 1995) on work-family issues focus on state regulations for realising provisions and the policies of individual firms have not been subjected to the same amount of research. Market initiatives as well as extended families may play a similar role in the implementation of work-family arrangements (van der Lippe *et al.*, 2002). Therefore, we cannot conclude that official policies

for childcare have a direct effect on women's participation in the labour force and on entrepreneurship, at least in transition economies and in developed economies.

Also with increasing industrialisation, the issue of women's rights to childcare becomes more important. Prior to industrialisation, work and child caring tasks can be performed more or less simultaneously. In many developing countries, non-mechanized agricultural tasks and piecework can be combined with child supervision with relatively little danger to the child or marked loss of economic productivity. As industrialisation and development progresses, childcare and economically productive work becomes increasingly incompatible. In developed countries, work sites are usually some distance from home and work schedules lack the flexibility required by children. The presence of children at the work site, whether an office or a factory, would jeopardize productivity. Moreover, mechanical and electronic equipment may pose considerable danger to younger children. Therefore, women (as it is women who typically care for children) who wish to work make alternative arrangements for the care of the children. Women in developed countries are choosing both strategies (Brewster & Rindfuss, 2000).

With greater availability of childcare, women would increase their time and resources availability for any form of participation in the labour market, including entrepreneurship. The right to childcare allows women to better control not just over whether to have children or not but also when to have children. Availability of childcare enables women to manage a work career and motherhood and thereby allow some women to create windows of time in which they can meet the time intensive demands of entrepreneurship. Hence, the right to childcare is of central importance, especially for developing economies.

Unemployment benefits and social security. In most European countries and in other developed economies, people in the labour market are eligible for some kind of compensation if they are or become unemployed. Here the self-employed often have an important disadvantage if they are not able to secure private insurance. In most countries, the self-employed, should their firm fail, are not eligible to receive unemployment compensation as would someone that is employed. This increases the inherent uncertainty related to engaging in entrepreneurship as failure in self-employment has more drastic financial consequences than becoming unemployed from waged work. The alternative cost becomes high if we also consider that most entrepreneurs have to invest their own savings in the firm in order to start it. If the firms fail, the self-employed not only loses an income, but also risks losing a substantial amount of their savings. A person employed becoming unemployed will only lose a part of his or her income as he or she become eligible for unemployment benefits. Because women have in general a higher responsibility in most economies to provide for the family's basic needs, we can assume that the lack of a social safety net for women would they fail as entrepreneurs represents a significant barrier to entering into self-employment.

Tax regime. The type of tax regime available affects the (net) income of individuals and also the percentage of women active on the labour market. This has an impact on entrepreneurship in general because income is the major source for individuals to raise savings that are then transformed into equity when a firm is established. With a low income, it is difficult to save money and hence the probability of becoming an entrepreneur diminishes as well. The relationship between income, net worth and the propensity to engage in entrepreneurship is well documented in a number of countries such as Sweden (Delmar *et al.*, 2000a), United Kingdom (Cressy, 1996) and the United States (Aldrich, 1999; Reynolds *et al.*, 1997). The higher the ability to save money and to dispose of it, the higher is the probability to enter self-employment. As a consequence a tax system – as in the social democratic countries – with a high tax burden will diminish people's opportunities to save money and then to invest it as equity.

However, while highly debated, it has been impossible to show in a clear-cut way that the tax regime of a country has an effect on either entrepreneurship or on women participation in the labour market. The OECD concludes in a report on tax effects that the actual magnitude of the labour response to marginal taxes is, after more than 20 years of analysis, still the subject of debate among researchers

(OECD, 1994). The problem is that the willingness to engage in entrepreneurial activities is dependent on a number of different taxes and that within one tax system there can be taxes that both encourage and discourage entrepreneurship.

Sweden is a good example, because it is recognised as a high tax country in terms of income taxes, but relatively low in terms of corporate taxes. The high income taxes are negative, because the individual has less available income and thus is less able to accumulate the savings needed to start a firm. This is a barrier to entrepreneurship. At the same time, the difference between income taxes and corporate taxes works as an incentive to entrepreneurship, as the individual has greater ability to manage his or her flow of income through an independent firm. Tax evasion or management is one of the major reasons to start a firm and leads in most cases to firms with no employees. Moreover, taxes related to firm harvesting (either by selling the firm or letting a younger generation inherit the firm) are high and in combination with other taxes function as a barrier to firm growth. Thus, tax systems are often so complex that it is difficult to say anything clear apart from saying that a transparent system which is easy to understand for would-be and existing entrepreneurs is preferable, as well as a tax system that allows the accumulation of personal savings used to invest in new firms.

Market structure. Sources of inequality can also be sought in other places besides in the functioning of the labour market and in the legal and institutional framework. Related framework conditions that have been mentioned already are the effect of education and access to information. We have already discussed that the choice that young men and women make in terms of education has long lasting effects on what is going to be their respective probability of becoming entrepreneurs and to discover certain types of opportunities. We have more specifically discussed the effect of educational choice in areas related to mathematics, natural sciences and technology. In the following section we will explain why these areas are of specific concern to entrepreneurship and economic development.

A basic assumption of our model is that people are surrounded by entrepreneurial opportunities but their discovery is conditioned on their respective differences in their work and educational experience and by the social networks, both personal and professional, in which entrepreneurs are embedded. However, opportunities are not evenly distributed across society or industries. Some industries will offer fewer opportunities than others because they are growing, whereas other industries contain less opportunities because they are retracting due to technological development in competing industries or because they are under state monopoly (as much of transportation, education and healthcare is or has been until recently in many countries) and hence not all educational or work experience provide the same valuable preparation for opportunity recognition.

It can be argued that in economies in transition and in developing economies all market inefficiencies and failures in infrastructure represent an entrepreneurial opportunity and are therefore more easily identified by anyone participating in the economy. We will discuss the specific case of developing economies in the next section. This is not to say that entrepreneurship represents a solution to the problem. On the contrary, entrepreneurship may represent a hindrance to general development as the entrepreneurial rent resides in exploiting the failure of the market rather than in correcting it as has often been assumed in economic theory. For example, the profits from black markets come mainly from them being black and we cannot assume that the most successful entrepreneurs exploiting this market failure would want it in any other way in the short term. As Baumol (1993) points out, the exploitation of many entrepreneurial opportunities only generates personal value, but no social value. Examples of entrepreneurial opportunities that are not productivity enhancing include crime, piracy and corruption.

Nevertheless, problems with infrastructure and market inefficiencies are less prevalent in developed economies and offer fewer opportunities. Technological change and scientific developments instead represent the set of entrepreneurial opportunities on which developed economies depend. These

opportunities are more tacit compared to the opportunities in developing economies and in transition economies, in the sense that their discovery is dependent on the acquisition of scientific knowledge or work experience. Without this kind of experience, these opportunities will remain invisible. In most economies we have witnessed a number of important technological changes in the recent decades that have shaped both business life and life in general. The ICT boom, the rise of biotechnology, life sciences, nanotechnology etc. are just a few examples of technological changes that have led to substantial entrepreneurial opportunities, for those that have been trained in science, medicine or engineering. Moreover, large sums of money are spent on a yearly basis from both public and private stakeholders to support the commercialisation of these innovations. This money is often directed towards new ventures as they have been proven to be efficient and effective vehicles of technological and economic change.

Employment in technology intensive industries and especially in those occupations requiring knowledge and understanding of technology normally demands a formal education or training in mathematics, natural science or engineering. In most developed economies where attendance in post-secondary education is as high (or even higher) for women as for men – as we have seen previously– only a minor share of those taking a degree in the above mentioned fields are women. As mentioned earlier, in the European Union the proportion of women students is slightly higher than for men students (52% women in 1999), but women make up only 25% of higher education professors and less than 33% of public researchers. However, the proportion of female researchers in the EU is 12% in engineering and technology, 23% in the natural sciences and 33% in medicine (Eurostat, 2001). Moreover, in Sweden only 6% of patents granted in 1998 were submitted by women (Nutek, 2001). One of the specific reasons for this is the gendering of education (see the section entitled Demand side). Nothing indicates that women if they engage in scientific training would be less capable than men in fulfilling expectations.

This difference in training creates a deep-seated barrier for women to gain the needed experience and networks in many of the industries in which scientific and technological progress repeatedly create new entrepreneurial opportunities. Public government policies such as the European Commission's Equal Programme are aimed at diminishing this kind of gender inequality. This would hasten the development of increased numbers of women well-placed to recognise entrepreneurial opportunities as they evolve around technological innovations and developments. Actions targeted at eliminating gender inequality in the technological domain will probably have the strongest effect in developed economies as they have relied more on technological development as a motor for economic growth than economies in development or economies in transition.

Access to information. In a similar vein to the previous section is the question of people's equal right to access basic information. Having access to information represents the starting point to be able to identify an entrepreneurial opportunity, the more unique and exclusive the information a person has, the higher the probability that a viable and profitable opportunity can be identified. Their equal access to information is crucial if we want men and women to create, manage and expand new independent firms.

However, access to information is not equal in all countries because in many countries women do not even have access to basic education. This is especially a problem in underdeveloped economies, where social structure and economic problems deprive women of basic education. Illiteracy among women is often substantially higher in these types of economies than for men. (Karim, 2000; Mayoux, 2001). For example, the rate of literacy is 43% for women and 55% for men in Bangladesh. This has important consequences for women's possibilities to become self-employed. Illiteracy excludes them almost totally from entrepreneurship as they have fewer possibilities to access information through which they could identify and assess different entrepreneurial opportunities. Also, their relative ability to exploit an opportunity is severely hampered. Not being able to read, write and count subjects an individual to two risks: first a higher probability of being financially exploited by others and second a higher probability of having to operate in the informal sector.

If a person is not able to fully assess what is happening around her or him and that she or he need to rely on others for this, then this person runs an important risk of being exploited. This is unfortunately the case for many women entrepreneurs in developing economies, both in Africa and Asia. The combination of high levels of illiteracy and low social position exposes women to a high risk of exploitation and violence. On a daily basis, women entrepreneurs are exploited because they are not able to protect their venture in any kind of effective way from others. One reason may be that they are still not able to own property and property is controlled by either their husband or another male family member. A closely related problem here is the informal sector, which in many developing economies is large and dominated by women. The informal sector is unregulated, highly competitive, based on low-level technology and small scale. Basically, illiterate women are pushed into this sector because they have no alternative. The only experience and education they have comes from their traditional role as a woman. As a result, when they go into business they find themselves involved in types of activities which are extensions of those roles. Many women work in bakeries, restaurants kiosks, poultry farming and simple textile and jewellery manufacturing (de Groot, 2001). They enter the informal sector as unskilled because they lack education; and the usual lack of inputs such as credit, supplies, new technology and being outside a regulated market, in combination with a low social position, all lead to important negative effects on the probability of the firm to survive (Karim, 2000).

Obstacles to women's entrepreneurship

In the previous section, we discussed the position of women and women's entrepreneurship in particular from the perspective of different framework conditions. In the present section, we will review in more detail the specific obstacles that are posed to women's entrepreneurship when it comes to the entrepreneurial process itself. As the entrepreneurial process (the establishment of the firm and its possible growth) is assumed to be path dependent, initial financing and continued financing for growth become related issues.⁴ Hence, the outcome of the entrepreneurial process is sensitive to the effect of a wide range of initial conditions, but also to the contingent events in altering these conditions over time. Therefore, it is not enough to review the general conditions that affect women's entrepreneurship, but it is also necessary to review how these different conditions actually translate into different barriers women might meet when being engaged in the entrepreneurial process.

This section is divided into four different parts: general obstacles to women engaging in entrepreneurship (opportunity recognition and willingness to start firms); specific obstacles to start-ups (assembling necessary information, financial and human resources to start a firm); specific obstacles to managing a small firm; and specific obstacles to growing firms.

General obstacles

The lack of role models in entrepreneurship. There exists a strong connection between the presence of role models and the emergence of entrepreneurs (Shapiro & Sokol, 1982) and women as they historically have not been present as entrepreneurs in general lack close role models. Role models are persons that by their attitudes, behaviours and actions establish the desirability and credibility of a choice (in this case becoming an entrepreneur) for an individual. Furthermore, the influence of role models is

⁴ A process is considered path dependent when the outcome of the process is not determined by any particular set of initial conditions (like being a woman or highly educated). Rather, a process that exhibits path dependency is one in which outcomes are related stochastically to initial conditions and the particular outcome in any given "run" of the process depends on the choice and the outcomes of intermediate events between the initial conditions and the outcome. This means that there is no determinate outcome; rather that the final pattern depends on the particular choices that happen to be made in the sequence (Goldstone, J.A. 1998).

gender related. That is, an individual will be more influenced by another individual of the same sex, as one's aspirations and choices tend to be more influenced by persons of the same sex (Deaux & LaFrance, 1998). This is a result that has been replicated in different countries and employing different methods.

An example of the importance of role models is the well-known fact in entrepreneurship research that children of self-employed parents are over-represented among firm owners and those trying to start a business. There also seems to be some evidence suggesting that whereas occupational inheritance declines with economic development, it still persists at a high level among self-employed or entrepreneurs. We know that the success of the self-employed parent is of central importance to the child's perception of entrepreneurship as a career option. In particular, individuals who are children to parents perceived as being successful as entrepreneurs are more likely to choose entrepreneurship as a career than individuals who perceive their parents as being less successful or have parents who are not self-employed (Davidsson, 1995; Delmar & Gunnarsson, 2000b; Scherer, Brodzinski & Wiebe, 1991).

Furthermore, the influence of self-employed parents is gender specific, *i.e.* a son is more likely to become self-employed if the father was self-employed, than a daughter would be. For example, based on Dutch data, de Wit & van Winden (1989) found that having a self-employed father strongly influenced the man's decision to become self-employed. In keeping with this observation, Dunn and Holtz-Eakin, (1995) also found when analysing the Longitudinal Survey of Labour Market Experience from the United States that fathers influenced sons and mothers influenced daughters. The same pattern has been observed in Sweden where women entrepreneurs also are shown to have a much higher rate of mothers working independently than men entrepreneurs had (Delmar *et al.*, 2000b).

Another example is that a high number of those starting up new firms, also come from the same industry where they worked previously, but also that they come from smaller firms. Smaller firms provide the potential entrepreneur with abundant opportunities to observe and learn how a small firm is managed. Small firms therefore represent important fields of experience and training, where potential entrepreneurs can acquire both the motivation and the ability to manage a small business herself in the future.

According to Bandura's Social Cognitive theory, role models create interest and critical experience. This basic argument has been adapted to career choice behaviour by Lent, Brown and Hackett (1994). The theory specifies that interests, academic and career choice options and performance and persistence in educational and occupational options are influenced by the person's self-efficacy and outcome expectations. Personal factors, learning experiences and contextual background have an effect on a person's self-efficacy. Self-efficacy is proposed as a mediating factor between the predicting factor and the criteria variable. In terms of self-employment, a person chooses to become self-employed because he or she feels confident in that area; this confidence leads to an interest in self-employment. The person's confidence is shaped by his/her contextual factors such as ethnicity, age, gender, support system and past learning experiences. Specifically, acculturation, family socio-economic background and family involvement influence self-efficacy.

Perceived self-efficacy has been proposed as a central concept in entrepreneurship (Boyd & Vozikis, 1994) because it is proximal in nature and has been proven to be associated with initiating and persisting in achievement-related behaviours such as business settings (Wood & Bandura, 1989). Perceived self-efficacy has been found to be positively related to the intention of starting one's own business and exploring new opportunities (Chen, Gene Greene, & Crick, 1998; Krueger & Dickson, 1993; Krueger & Dickson, 1994).

From this perspective then, parents function as carriers of values, emotions and experiences towards self-employment. More specifically, self-employed parents provide the child (whether adult or not) with plenty of vicarious experience. Vicarious experience is the second best way of learning, after

individually enacted mastery experiences. Vicarious experience affects self-efficacy because it enables the person to judge one's perceived capabilities in relation to the attainment of others. Working in a small firm enables a person to gain both mastery experience and vicarious experience. The mastery experience comes from learning and mastering the trade and the vicarious experience from observing the management of the small firm.

The greater the assumed similarities between the role model and the observer, the more persuasive are the role model's successes and failures. If people see the role models as very different from themselves, their perceived self-efficacy will not be heavily influenced by the model's behaviour and performance. Hence, parents (of the same gender) are persuasive as role models because the child can assume close similarity.

Lack of experience. All stages in entrepreneurship are dependent on relevant experience, from the identification of opportunities to the execution of running a business. Human capital theory posits that individuals with more or higher quality human capital achieve higher performance in executing relevant tasks (Becker, 1975). Human capital refers here to the knowledge and skills that assist people in successfully discovering and exploiting opportunities (cf. Davidsson & Honig, Forthcoming; Snell and Dean, 1992).

Depending on their levels of human capital, individuals differ in their ability to discover and exploit opportunities. People have access to different information and process it differently depending on idiosyncratic knowledge and preferences (Shane, 2000). Therefore, the ability to discover and exploit opportunities depends largely on previous education and work experience. We have shown that because of both demand and supply factors, women lack the experience needed to identify and exploit opportunities.

Human capital theory posits the positive association between an individual's human capital and the likelihood that he or she discovers an opportunity because greater human capital provides individuals with more knowledge that can assist them in identifying opportunities and knowledge of ways to best exploit opportunities once discovered, thus increasing chances of opportunity discovery and reducing the cost of exploitation. However, the decision of whether or not to exploit an opportunity involves weighing the value of the opportunity against the costs of exploiting it and comparing this to the outcomes of other possible courses of action (Shane & Venkataraman, 2000). That is, because people have other work alternatives, there is an opportunity cost associated with the exploitation of an opportunity. Highly educated individuals with relevant experience are likely have many career options other than going into self-employment.

Here, recent research on developed economies has identified a potential problem when it comes to women's entrepreneurship: highly educated women seem to choose other career options than self-employment and entrepreneurship. Entrepreneurship is therefore relatively more dominated by unskilled women or very skilled and already wealthy women. Skilled women must therefore become more attracted to entrepreneurship. If women are relatively less skilled than their male counterparts, *ceteris paribus*, then the firms they will create will have a lower probability of survival and growth than firms created by men.

Individuals with more experience may be more likely to discover opportunities and be better suited for exploiting them once discovered, but the incentives for taking action and starting a new firm may be small unless the potential value of the business opportunity is substantial, because they have several other career options. This suggests that while the ability of discovering and exploiting business opportunities in independent businesses may be generally high among highly educated and skilled women, the incentives for doing so may be small unless the potential value of the business opportunity is substantial.

Lack of relevant networks and of societal position. Women have in general a lower social position than men, which affects the kind of networks they can access or are part of. There is evidence to prove that women are less involved in networks than men are, and their type of network is different. For business it is as important to have weak-tie networks as strong-ties (Aldrich & Zimmer, 1986b; Burt, 2000; Granovetter, 1985; Granovetter, 1973). The strong and personal networks that women traditionally engage in are well suited to purposes linked to the family related tasks that may prove to be a hindrance in the marketplace (Lin, 1999). Thus, women differ to men in the kind of networks they use and in the social capital available to them through the network. Women have therefore less access to critical resources, support and information needed to successfully start and manage a new firm compared to men.

Why then is the social position so important? The person's social position determines and is determined by the social networks she has access to. Social networks are both *structures* and *processes*; structures that describe how individuals are connected to each other and processes describing the interaction between the individuals in the network (Larson & Starr, 1993). The role of networks is that of providers of information, possibilities and support (cf. Granovetter, 1973). The network structure is defined by the information and resources that are available, but also by the interpersonal structures mediating the information and the resources. The importance of the entrepreneur's social network structure has been increasingly acknowledged as one of the most important factors explaining the creation and the success of a new venture. The significance of the social network in entrepreneurship rests on the fact that interpersonal interaction differs both quantitatively and qualitatively everywhere (Aldrich *et al.*, 1986b; Johannisson, 1988; Johannisson, 1998; Malecki, 1994).

Moreover, networks are important because our actions are shaped by our social context, consisting of the system of individuals with whom we interact. Research has shown the importance of social support through role models and close private relationships with people in the small business community (Hansen, 1995; Matthews & Moser, 1995) and through case studies has tried to describe the process leading to new venture creation (Birley, 1985; Hansen, 1995; Larson *et al.*, 1993). Hence, the individual's network provides the emotional support, social persuasion and vicarious experience, which are central to whether or not a person engages in entrepreneurship and does so successfully. For example, some of the most important impacts of the social network are the socialisation process, the ability to practice and observe small business activities at close range and the provision of positive (or negative) role models with regard to entrepreneurial behaviour. These can serve to strengthen the sense of self-confidence in behaviours related to the entrepreneurial domain. Furthermore, the social network provides different useful resources for both the aspiring and practising entrepreneur in the form of instrumental and financial assistance; such as experience, know-how, encouragement, financing and idea generation (c.f. Lye, 1996; Ramachandran & Rammarayan, 1993).

Social network theory has as its objective to explain how status is attained in society or how social capital can be utilised to achieve personal goals (Adler & Kwon, 2002; Lin, 1999). The process by which individuals mobilise and invest resources defines status attainment. There are two important types of resources here: (i) personal resources possessed by the individual which he or she is free to use and (ii) social resources, which are accessible through one's direct and indirect network ties. Together they form a person's social capital, *i.e.*, the sum of resources accessible to a person directly through strong ties and indirectly through weak ties.

The theory stipulates that two processes determine the relationship between the status attainment of an individual (*e.g.* succeeding in becoming an entrepreneur) and his or her social resources. The first process focuses on the *access* to social capital. The individual's human capital (experience, education), initial position (parental status, prior jobs) and the individual's social ties (*e.g.* extent of ties) are supposed to determine the extent of the resource available to the individual through his or her network. The second process focuses on the *mobilisation* of the social capital in the process of status attainment, in this case

becoming an entrepreneur; the use of social contacts and the resources provided by the network. The combination of access to social capital and the willingness to mobilise those resources will determine the status of the individual.

Relating to the previous discussion about the importance of role models and parents in particular, one study has specifically dealt with how the individual's initial position (*i.e.* status of parents) affects the start-up and the subsequent performance of the established business (Aldrich, Renzulli, & Laughton, 1997).

As we have previously mentioned, Aldrich *et al.* (1997) assert that parents can provide their children with two types of resources: (i) entrepreneurial capital and (ii) financial capital. These resources can be seen as part of both personal and social resources depending on the degree of control that the adult child can exercise. In order to examine which resources were provided, Aldrich *et al.* interviewed 229 small business owners. They found that children of the self-employed did benefit from higher financial and physical capital. Owners whose parents were self-employed obtained capital from them and/or had them as co-owners to a much greater extent than did owners without self-employed parents.

Lack of wealth. A prerequisite for starting a firm is to have capital in terms of financial assets and in terms of relevant knowledge assets. Women's position in society has led to a lack of assets in both these aspects. The constraints of family obligations make it harder for women to take on work on a full time basis and to engage in a career. This in turn decreases the range of possible work opportunities for women, leading to jobs in lower paid sectors. Being a part-time worker with low pay is not a good basis for creating personal wealth.

Once more we can observe large country differences where in the more developed economies, women on average earn less than men *ceteris paribus* and also control less wealth compared to developing economies where women may not even control the money they earn. For example, both legal and cultural obstacles in countries like Bangladesh, Mali, or Senegal, make it impossible or at least very difficult for women to save enough money to start a firm or reinvest money into the growth of the firm, because at any moment a male family member (husband, brother, brother-in-law) can confiscate the accumulated capital for no other reason than that he is allowed to, and there exists no protection for women in the respect (de Groot, 2001; Mayoux, 2001). One also has to point out that there have been important positive initiatives to ameliorate women's legal position and rights to property. However, there are important time lags between political changes and these changes becoming effective and accepted by society at large.

Availability of financial capital is crucial to the entrepreneurial process. Entrepreneurs and potential entrepreneurs prefer to invest their own money in their ventures. If they can choose to first involve only their own money and following this, loans, and finally, external equity as venture capital. This order is known as the financial pecking order (Myers, 1984; Myers & Majluf, 1984). In short, entrepreneurs (or firms in general) will first draw on the funds that are the cheapest and proceed to more and more expensive funds. Obviously, the perceived availability of capital to invest in a firm also determines what kind of opportunity the entrepreneur is ready to engage in. Entrepreneurs with lower amounts of financial resources will opt for a less capital intensive opportunity, whereas entrepreneurs with larger amounts of financial resources will opt for more capital intensive opportunities (which often have a higher growth potential). Hence, if women have less (or no) access to capital they will opt for opportunities with less growth potential.

Also, even if they would choose to pursue a capital intensive opportunity even though they do not control the necessary resources they will experience trouble finding external financing. The reason is that most investors will only invest if the entrepreneur can match the investment made with their own resources or some kind of collateral. Thus the lack of capital leads to several effects. First, entrepreneurs with no or

few financial resources will opt for less capital intensive, less growth oriented opportunities and those that still choose to pursue a more capital intensive opportunity will not get external financing. Second, applying the evolutionary reasoning of our model, those that control the most resources will also be those with the highest probability of identifying and successfully exploiting opportunities with growth potential. In this scenario, we would observe an evolution over time where women become over time more and more alienated from entrepreneurship if they do not get access to more financial resources.

Competing demands on time. Another recurring obstacle for women to engage in entrepreneurship is the perceived lack of time or competing demands on time. Because women are responsible for so many different domestic chores and the raising of children, they do not have enough free time to develop either their entrepreneurial skills to become entrepreneurs or to develop an existing business. The lack of free time does not allow them time to travel to support institutions, banks and other finance houses for advice and information on credit, to attend training programmes to acquire skills, or to seek out better customers or suppliers. This lack of free time has been observed in a number of studies across different countries: for example Bangladesh (Karim, 2000), Côte d'Ivoire, Ethiopia, Mali, Morocco, Senegal and Zimbabwe (de Groot, 2001), or Sweden (Holmquist *et al.*, 2002). The results suggest that lack of time is a barrier for most women, in most economies, independent of the level of development.

Obstacles specific to starting new firms

External finance and sex discrimination. In general, women have lower personal financial assets than men. This means that for a given opportunity and equally capable individual, women must secure additional resources compared to men in order to exploit the opportunity because they control less capital. A question that has developed into its own sub-field in the women's entrepreneurship literature is if women have a harder time getting finance than men for the same business opportunity. Several results stand out from different literature reviews (Brush, 1992; Carter *et al.*, 2001; Carter & Rosa, 1998).

First, it is very difficult to construct studies that are actually able to tease out whether refusal to offer finance is actually based on sexual discrimination. Sexual discrimination occurs when an action is taken based upon the sex of the person. That is, in this case women have a lower probability to receive external funding because of their sex. However, as we have shown previously as women in general lack human and financial capital and that their opportunities are related to their idiosyncratic experiences it is difficult to separate out if they are discriminated against because of their sex, or because of lack of human and financial capital. If it is the latter, then the financial institution has not discriminated against a person based on his or her sex. The financial institution has just tried to optimise its loan portfolio based on those that probably have the highest chance to make a firm survive and prosper. Results from different studies have therefore been mixed, but some results tend to come back.

Second, four areas have been identified as potential or real problems for women when it comes to financing: a) women may be disadvantaged in raising the initial capital to start a new firm; b) collateral needed for external financing may be above the wealth level of most women; c) finance for an existing firm may be less available, because women are less likely than men to penetrate informal financial networks; d) women entrepreneurs' relationship with different financial institutions might suffer because of gender stereotyping and discrimination (Carter *et al.*, 2001; Storey, 1994).

Third, results indicate that women still perceive a negative attitude from financial institutions such as banks and other lending institutions. This negative attitude, it is argued, arises due to two possible reasons as discussed in the literature: a) women are not viewed as entrepreneurs due to the attitudes formed by traditional gender roles; b) women engage in industries that the financial institutions are not used to handle (as personal services, care, etc.). Also in the personal networks and the family it is harder for women to find financial resources to start a business.

Fourth, in many countries especially in developing economies, women still have important problems to obtain finance because of their weak social position, or that they are not even allowed to seek finance as individuals and that husbands or brothers must seek it in their place instead (Mayoux, 2001). In these countries, there exists an obvious and important barrier to women's possibilities to externally fund their businesses. Moreover, research carried out in developed economies indicate that there still exists a barrier to women obtaining external finance, but that this barrier is diminishing as financial institutions become more aware of gender issues and start to consider women entrepreneurs as a possible source of income (Kay *et al.*, 2003).

A specific solution for solving women's difficulties for obtaining financing has been microfinancing. Microfinance is a financial institution that has become exceptionally popular especially in developing economies (even if there are such programmes in the European Union and the United States).⁵ The aim is that much poverty can be alleviated by providing financial services to low-income households. These institutions are committed to serve clients that have been excluded from the formal banking sector. Almost all who borrow do so to finance self-employment activities and many start by taking loans as small as USD 70, repaid over several months or even a year. Only a few programmes require borrowers to put up collateral, enabling potential entrepreneurs with few assets to escape positions as poorly paid wage labourers or farmers. These institutions have also proven able to reach poor individuals, particularly women that have been difficult to reach through alternative approaches. Microfinance appears therefore to offer a "win-win" solution, where both financial institutions and poor clients benefit (Morduch, 1999).

However recent research indicates that the great expectations related to microfinancing might not be realised. There is very little empirical support for the claims that this is a solution to poverty and microenterprising (Milgram, 2001; Morduch, 1999). Microcredits help fund self-employment activities that most often supplement income from borrowers rather than drive fundamental shifts in employment patterns. Microfinancing rarely generates jobs for others and the success has been especially limited in regions with highly seasonal income patterns and low population densities. Moreover, critics argue that microfinance fails systematically to reach the poorest, to enhance women's status and to treat the social causes (as opposed to the symptoms) of poverty. This is an important gender issue as poverty is multidimensional. It is not only about having inadequate income or income below the poverty line. It is also about the inability to maintain a specified level of well-being due to hierarchies of class and gender and external market forces (Milgram, 2001). The conclusion is that microfinance might help women entrepreneurs by providing finance, but in the same time it does not solve the demand side problems (*e.g.* status and market conditions) related to women's entrepreneurship. This makes long term changes less probable if microfinance is not coupled with other action related to social conditions as well.

Obstacles specific to managing a small firm

So far in our analysis we have emphasised that women and men have different access to entrepreneurial opportunities. These differences can be explained in terms of in the fundamental discrepancy in the primary roles of women and men, and of the profound impact of the gendered work structure. We have reviewed the factors explaining this in terms of, *inter alia*, educational and industrial segregation. However, what happens to the women that overcome these barriers when it comes to education, experience and wealth and who are actually managing a firm?

Research once more points out that the differences remain both on the behavioural level and on the level of financial outcome (personal earnings and firm revenues). Women business owner-managers in general both act differently and obtain lower revenues than men.

5. Examples of well-known programmes are the pioneering Grameen Bank in Bangladesh, The Banco Solodario (BancoSol) in Bolivia and the Bank Rakyat in Indonesia.

Studies on women entrepreneurs show that women have to cope with stereotypic attitudes towards women on a daily basis. Business relations as customers, suppliers, banks, etc. constantly remind the entrepreneur that she is different, sometimes in a positive way such as by praising her for being a successful entrepreneur even though being a woman. Employees tend to mix the perceptions of the manager with their images of female role models leading to mixed expectations on the woman manager to be a manager as well as a “mother”. The workload associated with being a small business manager is also not easily combined with taking care of children and a family. However, even if the revenues are somewhat smaller, women entrepreneurs feel more in control and happier with their situation than if they worked as an employee (Loscocco *et al.*, 1993).

The special case of the family business. Women have been shown by many studies to be heavily engaged in family businesses, often taking an invisible role. When spouses have a business together, business and private life are mixed and intertwined. In such situations women tend to take a back-seat position engaging in those tasks that are in line with traditional female roles. This pattern has been found in such knowledge intensive industries, as law firms as well as in more service oriented industries such as retail (Holmquist *et al.*, 2002).

Obstacles specific to growing firms

A specific problem of women entrepreneurs seems to be their inability to achieve growth especially sales growth (Du Rietz & Henrekson, 2000). As discussed previously, lack of motivation might be a contributing factor. Basically, women because of having a greater day-to-day responsibility for the family have less time to invest in the development of their firms.

Another previously addressed issue is finance and as stated previously, the entrepreneurial process is somewhat dependent on initial conditions. In other words, as women often have a difficult time to assemble external resources, they start less ambitious firms that can be financed to a greater degree by their own available resources. This also has consequences for the future growth of the firm. Basically, firms with more resources at start-up have a higher probability to grow than firms with fewer resources. By resources is meant here societal position, human resources and financial resources. This initial endowment in the firm is therefore of great importance for firm survival and especially for firm growth (Brüderl & Schussler, 1990; Cooper, Woo, & Dunkelberg, 1989; Cooper & Dunkelberg, 1987; Fichman & Levinthal, 1991).

Two explanations can be offered. The first is that the initial endowment gives the firm a better chance to get established and to survive the first turbulent years. This enables the firm to establish routines and competencies needed to then engage in growth. Here, the human capital and the social position are central to the process. The second explanation relies more on the effect of rapid penetration of the market due to financial resources. In this scenario, a new firm with a higher endowment (more financial resources) starts ahead of other similar new firms. Therefore it can more rapidly penetrate the market and attract more customers and financiers when needing to finance the expansion of the firm. This consequently leads to both higher survival rates and more rapid and substantial growth. The explanations are complementary, but point to the importance of how initial conditions related to the founders (human capital and the sex), the nature of the opportunity and which resources can be attracted early on. As we have seen, women are disadvantaged from the beginning, which makes it less probable for them to “catch up” with men-managed firms.

Despite that many women entrepreneurs face growth barriers, they are still able to achieve substantial firm growth. We have seen examples of that both in a number of developing economies (Ethiopia, Tanzania and Zambia) surveyed by the ILO, as well as in more developed economies such as the United States. In the United States, the ability of women entrepreneurs to achieve firm growth and attract

venture capital has now become so important that it has become a topic for systematic research (Gatewood, *et al.*, 2003). Furthermore, this development has led to the creation of networks of women angel investors, to the creation of women's venture capital fora (Springboard Enterprises), to training of women and minority venture capitalists (the Kauffman Fellows Programme), to women-owned businesses being certified and trained to become suppliers to Fortune 500 companies (Women's Business Enterprise National Council, known as WBENC) and to the creation of the Women President's Organization (WPO) for high-growth women CEOs. Thus women's entrepreneurship is not only about micro enterprises as is often assumed.

Summary

To sum up this section on building an entrepreneurial society on equal opportunities we have used an Austrian-economic model to analyse why women's entrepreneurship differs from men's entrepreneurship. We have focused on the general framework conditioning women's entrepreneurship from a demand and a supply side perspective. We have identified a number of problems defining women's position in the work life context in particular. Thereafter we have examined the entrepreneurial process to determine how these framework conditions create barriers specific to women entrepreneurs. In this section, we have treated women entrepreneurs and would-be entrepreneurs as a separate group from men's entrepreneurship. However, it is important to point out that while the differences reported exist, women as a group are also extremely heterogeneous. They differ from each other in terms of education, work experience, age, social class, ethnicity, religion and country of residence. Therefore effective policy work has to take into account both what it means to be a woman and an individual with idiosyncratic experiences. This discussion is further developed in the next section.

DEVELOPING POLICY RECOMMENDATIONS

Major findings

This study addresses an important but neglected topic by investigating the role of women's entrepreneurship in the economy. The purpose is fourfold. First, based on published research, we try to estimate the economic impact of women's entrepreneurship. Second, based on this assessment of the current situation in relation to needs we have to better understand this topic, we suggest a number of ways to improve data and statistics on the topic. Third, we develop an Austrian economic model to understand how women's entrepreneurship differs from men's entrepreneurship. Fourth, based on the major findings in this study we develop a limited number of policy recommendations. The major findings are:

- Independent of the way different studies have been conducted, we find that women entrepreneurs have an important impact on the economy, both in their ability to create jobs for themselves and to create jobs for others. They have an important impact on the economy both by the number of small firms they are able to create, but also because a number of them are able to create growing firms.
- In all countries women still represent a minority of those that start new firms, are self-employed, or are small business owner-managers. Obviously, this economic resource, if not untapped, has not been successfully explored yet.
- We still do not know what the actual economic impact of women's entrepreneurship is in most OECD member countries.
- Women's entrepreneurship must be examined both at the individual level (*i.e.* the choice of becoming self-employed) and at the firm level (the performance of women owned and managed firms) in order to fully understand the differences between men's and women's entrepreneurship.
- Women's entrepreneurship depends on both the situation of women in society and the role of entrepreneurship in that same society. We are therefore dealing both with the factors that affect the gender system and the factors that affect entrepreneurship in society.
- The quantitative and qualitative aspects of women's entrepreneurship are dependent on both demand side (political and institutional framework, family policy and market sources) and supply side factors (the availability of suitable individuals to occupy entrepreneurial roles).
- We find specific obstacles to women's entrepreneurship: type of education, lack of role models in entrepreneurship, gendering of entrepreneurship, weak social status, competing demands on time and access to finance.

Key policy recommendations

Based on these findings, policy measures to support women's entrepreneurship can go along some different lines. Policy makers can:

- Increase the ability of women to participate in the labour force by ensuring the availability of affordable child care and equal treatment in the work place. More generally, improving the position of women in society and promoting entrepreneurship generally will have benefits in terms of women's entrepreneurship.
- Listen to the voice of women entrepreneurs. The creation of government offices of women's business ownership is one way to facilitate this. Such offices could have programme responsibilities such as providing women's business centres, organising information seminars and meetings and/or providing web-based information to women who are already entrepreneurs and who have important insights into the changes needed to improve women's entrepreneurship.
- Incorporate a women's entrepreneurial dimension in the formation of all SME-related policies. This can be done by ensuring that the impact on women's entrepreneurship is taken into account at the design stage.
- Promote the development of women entrepreneur networks. These are major sources of knowledge about women's entrepreneurship and valuable tools for its development and promotion. Co-operation and partnerships between national and international networks can facilitate entrepreneurial endeavours by women in a global economy.
- Periodically evaluate the impact of any SME-related policies on the success of women-owned businesses and the extent to which such businesses take advantage of them. The objective should be to identify ways to improve the effectiveness of those that should be retained. Good practices that are identified in this way should be disseminated and shared internationally.
- Improve the factual and analytical underpinnings of our understanding of the role of women entrepreneurs in the economy. This requires strengthening the statistical basis for carrying out gender-related cross-country comparative analyses and longitudinal studies of the impact of important developments and policies, especially over time.

The role of policy makers when supporting women's entrepreneurship

According to the Austrian-economic perspective, which frames this report, two processes are of special interest to policy makers wanting to support entrepreneurship, women's entrepreneurship and economic growth (Metcalf, 1994):

- The process that decides the variation in the number of different entrepreneurial opportunities that can be exploited. This process is known as *variation*. Differently stated, that as many people with different backgrounds would have the opportunity to discover and exploit an entrepreneurial opportunity. The higher the variation on the market, the higher is the probability of new innovations and business opportunity to be introduced and exploited.
- The process that changes the relative economic weight between different competing entrepreneurial opportunities. This process is known as *selection*. Selection processes must be monitored so that they with their internal logic do not lead to a concentration of resources and

information that reduces the possibilities for future variations and development. In the absence of an effective competitive mechanism, selection will lead to a concentration of resources and information. Therefore, competition within and between markets (existing and new) must often be monitored to mitigate monopolistic tendencies.

Basically, it is a question of dynamism and how competition leads to economic development and growth that can be understood as an interaction between variation and selection. Variation in entrepreneurial opportunities and individuals exploiting them leads to selection, where new opportunities come to compete with existing ones. Different positive and negative feedback processes in turn define which variations are selected that is, those opportunities which survive and prosper. Policy makers consequently have two goals:

- To contribute to variation (that is, as many opportunities as possible should be tested on the market).
- To secure that the selection mechanisms over time do not diminish the variation in entrepreneurial opportunities.

In other words, policy makers should aim to encourage that as many entrepreneurial opportunities as possible are tested on the market, while at the same time the selection processes do not evolve in such a way that the creativity and competition that leads to variation is hampered. For example, selection processes may lead to only one type of firm and entrepreneurial opportunity being selected for survival and consequently entrepreneurs learn to only exploit this type. This can be expressed as only certain parts of the population engaging in entrepreneurial activities (*e.g.* only rich men with a high education), that only some types of firm can grow (*e.g.* ICT firms at the end of the 1990s), or that an industry is favoured in terms of resources attracted (*e.g.* venture capital being attracted by firms in biotech and life sciences), which in turn attracts entrepreneurs (fitting the stereotypic profile of what represents a successful entrepreneur). The political focus is then no longer to try to solve a market imperfection or optimise output relative to a specific goal. It is instead about stimulating the exploitation of new entrepreneurial opportunities. This means that policy makers should pay special attention to how the market functions in terms of selection and variation of entrepreneurial opportunities.

This means specifically in this case, in which way does society and the market disfavour the entrepreneurial opportunities identified and exploited by women? In order to accomplish this, more knowledge is needed about the economic impact of this group and where in the entrepreneurial process this group is negatively selected relative to men entrepreneurs. This means creating better knowledge and so as to change the present situation, change the dominant selection forces and increase variation in order to increase women's participation in the entrepreneurial process.

Increase the abilities of women to participate in the labour force

Women's entrepreneurship is both about women's position in society and about entrepreneurship. We have presented substantial research evidence that being of the female sex still represents a substantial disadvantage in all of the economies surveyed. Women have a relatively weaker position than men in society. Of course important variation exists among countries and the relationship between equal opportunities and entrepreneurship is not always straightforward. We have seen that in many countries, especially in developing economies, women are pushed into entrepreneurship, because they do not have any other alternative. In these cases, the weak position of women in society combined with a weak economy leads to high rates of entrepreneurship. This can be compared to more developed economies that have lower rates of entrepreneurship because women have other options that are at that particular time, better suited to their needs and their beliefs of what they are able to do and not able to do.

The advice seems therefore to be that in developing economies, work needs to be focused on improving women's rights in society so they can start to access education, personal income and the possibility of controlling their own life. Work on creating better possibilities for women entrepreneurs and would-be entrepreneurs can also be engaged, but the major benefits will be achieved when equal opportunities apply to all sectors of the economy. Only then can variation be optimised. In other words, it is about changing the economy from push incentives to pull incentives to entrepreneurship. In transition economies and in developed economies, it is more a question of opening up yet another option for women in which they can invest. Work must here focus more on creating better possibilities for women entrepreneurs and would-be entrepreneurs. Hence, further work to increase the pull incentives to entrepreneurship for women.

Once again different economies face different challenges here. In developing countries the main challenges are related to eliminating poverty and related problems such as lack of basic education and poor health. This is a specific challenge for many Asian, African and Latin American economies. Women are often those who have to take the greatest responsibility and support to change their situation (such as microfinance and education) has shown to have larger positive effects on economic development than the same support when directed to men. One reason is that it gives women the opportunity to create their own income through self-employment.

Closely related to economic development and self-employment in these countries is the role of the informal sector (Gallaway & Bernasek, 2002; Heemskerk, 2003). Women are disproportionately represented in this sector. This is problematic as the general perception is that of the informal sector being an inferior alternative to the formal sector for employment and self-employment. Hence, women run the risk of being marginalised in this sector. The informal sector can be described by small competitive firms, petty retail and services, labour intensive methods, free entry and market determined factor and product prices (Todaro, 2000). A pragmatic view is that the informal sector provides the poorest and most marginalised people who cannot access the formal sector with opportunities to earn an income. The argument is that, given barriers to participation of women in particular in the formal sector, promoting and supporting their involvement in informal sector activities is an important survival strategy for them and their families. However, the informal sector is often an inferior alternative to formal sector employment or self-employment in terms of earnings, security and protection from exploitation regarding labour standards, lending terms and other contractual arrangements (Gallaway *et al.*, 2002). One reason that women are pushed into the informal sector is that the formal sector does not allow them to combine household work with waged work. It is therefore important for countries with a large informal sector to initiate activities that allow women to enter the formal sector. This means specifically to accommodate women's needs for infant and child care and access to formal education. Child care leads to a smaller burden in the form of household work. Better education leads to higher human capital and a higher probability to identify and exploit valuable entrepreneurial opportunities, because they both access information and resources. We have seen that such initiatives will lead to more women being able to become self-employed in the formal sector and thus also create more earnings for themselves and their families.

Another challenge that most economies face today is the economic role of ethnic minorities and the role the women play there. This specific challenge has been identified by for example Canada, the European Union, New Zealand and the United States. This is a problem that transition economies and developing economies also share. For example, Russia, Brazil and Israel have large ethnic minorities. Women of ethnic minorities are often marginalised in the economy and self-employment often becomes a viable opportunity. It is, however, difficult to give any specific suggestion here because the status of economic minorities is highly heterogeneous within an economy. Some ethnic minorities enjoy a high social and economic status, whereas other minorities have a low social and economic status. Some ethnic minorities, because they come from an entrepreneurial culture, are overrepresented among small business

owners, whereas other ethnic minorities are heavily underrepresented in the same category. Furthermore, there exist important generation differences within the same ethnic group. The younger generation has become more integrated and less interested in sharing the traditions and culture of the parent generation. All this affects the distinctiveness of the type of entrepreneurship compared to other more dominant forms of entrepreneurship. Ethnic minorities differ along a number of dimensions such as political, social, cultural and economic status. All these dimensions will influence the entrepreneurial opportunities the women coming from these minorities can identify and exploit. Therefore, successful policy initiatives have to take into consideration the specific needs of the ethnic minorities they try to support.

Listen to the voice of women entrepreneurs

The creation of government offices of women's business ownership is one way to facilitate this. Such offices could have programme responsibilities such as providing women's business centres, organising information seminars and meetings and/or providing web-based information to those women that are already active as entrepreneurs. Women, who are already entrepreneurs, have important insights into the changes needed to improve women's entrepreneurship. Their voices need to be heard both because of their knowledge, but also because such policy actions also indicate that they represent a valuable and legitimate group of entrepreneurs.

Different economies have different possibilities to solve such problems based on their economic, cultural and political status. For example, the United States has solved this challenge by creating a government office of women's business ownership, with programme delivery responsibilities such as women's business centres, informational seminars and meetings and/or web-based information for women who want to start/grow a business. This also means encouraging the formation of a publicly funded, private-sector membership advisory group on matters related to women's entrepreneurship, to give women entrepreneurs and their organisations an official voice in policy and programme development decisions affecting women's entrepreneurship. Canada has also chosen this solution. Other countries like most European Union countries have refrained from such solutions and have emphasised different private and public initiatives. Many of these initiatives are examined in detail in the section on best practices.

Incorporate a women's entrepreneurial dimension in considering all entrepreneurship related policies

Creating entrepreneurship capital for women. The concept of *Entrepreneurship Capital* extends that of Social Capital, with a particular focus on creating a society where entrepreneurship thrives. Entrepreneurship Capital spans a broad spectrum of social, political, legal, cultural and business values and is shaped by a diverse set of policy instruments, including education, training and taxes. We have seen that the lack of a strong social position for women in combination with a weak general interest in entrepreneurship have a very negative effect on women's entrepreneurship. This was perhaps best exemplified by the Gem study where the correlation between entrepreneurship in general and women's entrepreneurship is extremely high. That is, any country that is serious about supporting women's entrepreneurship must also be serious about supporting entrepreneurship. If entrepreneurship is important and opportunities are abundant then all members of society will profit. This leads to an increase in the absolute number of entrepreneurs (the relative share between men and women entrepreneurs may remain the same in a short term perspective). Hence encouraging entrepreneurship is crucial to women's entrepreneurship.

It is therefore important to consider how the creation of new SME-related policies will affect women's entrepreneurship. For example, with the increased importance of knowledge intensive entrepreneurship with its roots in natural sciences and engineering, more and more policies are developed to support entrepreneurship in that area. However, we also know that women are under-represented among

those educational groups. This means that the promotion of knowledge based entrepreneurship without incorporating a women's dimension will lead to even stronger sex segregation. Policy makers therefore need to consider how women entrepreneurs can also be attracted to exploit knowledge intensive opportunities from natural sciences and engineering.

The role of education and training for women. Some governments are trying to promote entrepreneurial behaviour throughout the educational system or through different programmes directed at cultivating entrepreneurial capabilities. The creation of university chairs and the operation of virtual firms feature among recent efforts to inculcate entrepreneurial behaviour in graduates. The impact of such measures is difficult to estimate, but our research review suggests that women's lack of both specific and general human capital relative to entrepreneurial activities is one of the major barriers to their increased engagement in entrepreneurship.

By general human capital we mean access to basic education (in developing economies) as well as the sex discrimination in science and technology (in developed economies). In both cases, women tend to lack the skills and experience that lead them to a higher probability of identifying entrepreneurial opportunities with a high potential of survival and growth. In developing economies we now know that the natural science and engineering sector has become increasingly important for economic growth. Unfortunately, women are largely excluded from this sector.

Entrepreneurship is about the identification and the exploitation of the opportunity. People will only engage in entrepreneurship if they believe they have the skills to exploit the opportunity. We have shown that an important reason why so few women engage in entrepreneurship is because they believe that they lack the necessary skills. They lack the specific human capital based on experience from starting and managing small firms. Hence they need to gain more experience and knowledge to develop confidence in their entrepreneurial skills. Developing programmes to develop women's mastery and vicarious experience of entrepreneurship is probably one of the most effective ways to achieve change at least from the supply side.

Facilitating entry, growth and exit of women-owned businesses. One of our basic arguments is that effective policy work for women's entrepreneurship both involves work with the demand and the supply side of entrepreneurship. The more general framework conditions relate to political, legal and tax structures and the policy instruments from the demand side of entrepreneurship. Countries where political stability with democracy, free markets and a strong legal institution have been present for a long time also tend to have the highest levels of entrepreneurship. Furthermore, lower taxes combined with a high general income level seem to have a positive effect on women's entrepreneurship.

In the Appendix we present a table of examples of best practice policies from a great number of OECD countries including countries from the EU. We have seen that in order to enable women to engage in entrepreneurial activities, specific initiatives are needed to educate society about the value of women's entrepreneurship. This means informing women about the potential benefits of entrepreneurship, but equally important to inform the market of the value and importance of women's entrepreneurship. If the market does not recognise the potential economic value of women entrepreneurs, these women will still have a difficult time to attract needed resources and have an impact on the market. Basically it is not enough for policy makers to improve the supply side of entrepreneurship; they also have to invest heavily in the demand side of entrepreneurship as well. Also, it should be noted that most entrepreneurship policies are promoted as being "gender neutral" (*i.e.* equally accessible to and supportive of both women and men), yet in reality they sustain the prevailing relations between women and men and their unequal access to decision-making, resources and opportunities. Consequently, they are effectively "gender blind" and serve to strengthen – albeit largely inadvertently – the prevailing gender-based inequalities.

More specifically for women's entrepreneurship, it is perhaps more important to change attitudes to women and entrepreneurship. Many still picture women entrepreneurs as doing only retail and simple manufacturing with very little growth potential, or just focusing on education and health care. Many of these industries as a result of having a large number of women entrepreneurs are also perceived as potentially less valuable by investors. This is only one part of the picture. We can also observe women entrepreneurs that have created highly successful firms and we have shown that even if most do not grow substantially (like most men), as a group they create substantial growth in employment and sales. We can also see that the industries women tend to enter by tradition such as health care and education also are industries that have recently become industries with a great number of high growth firms (Davidsson & Delmar, 2003). Therefore, selection forces have to be changed so that entrepreneurial opportunities generated by women have a higher probability to enter different markets and succeed. This means that different actors on the market need to learn about and also recognise the idiosyncratic experience that women can bring to the entrepreneurial process. Policy makers can make an important contribution here by recognising the economic value of industries having many women entrepreneurs. However it has to be pointed out that these changes probably will be as slow as the very slow changes we can observe in society in general when it comes to equal opportunities between the sexes. De facto closures are very difficult to change. An important step is to create better knowledge and awareness about women in general and women's entrepreneurship in particular.

Promote the development of women entrepreneur networks

We have observed that networks are major sources of knowledge about women's entrepreneurship and are increasingly recognised as a valuable tool for its development and promotion. Policy makers must foster the networking of associations and encourage co-operation and partnerships among national and international networks and facilitate entrepreneurial endeavours by women in the economy. In the section that follows we examine critically why best practices in different countries succeed. One major reason, *ceteris paribus*, is that they provide a platform for women to meet entrepreneurs (both women and men) and to learn and gain knowledge about becoming and being an entrepreneur. By network we refer here to exchange of valuable information in order to become a more competent entrepreneur. That is a person with a higher probability to identify and exploit a valuable entrepreneurial opportunity.

Table a.2 in the Appendix displays some examples from best practice initiatives in 15 different OECD and European Union countries. The purpose of the table is to analyse why some initiatives to promote women's entrepreneurship are perceived as highly successful. The table shows when the different initiatives were created and how they work on a broader as well as on a more detailed level. Information is also given about the identity of the target group and finally, different success factors are described.

Most of the programmes focus both on would-be and existing women entrepreneurs, but they choose many different channels to reach their customers. Some of the initiatives are web-based, others have only one office (often with a regional focus) and others have great number of offices and are nationwide wide. The majority aims at providing better information and knowledge to women. This is done through different courses and consultant programmes. Women empowerment is also a recurring subject. Here mentoring and different networking activities are the focus. Few work with different solutions to financial problems such as micro loans. Only one organisation (The United States Office of Women's Business Ownership) states explicitly that they work with lobbying, while many say they work with different awareness programmes.

Several important and critical observations can be made. The first one concerns the age of the different initiatives. Except in the cases of France, Spain and the United States, all initiatives have been created during the 1990s. This indicates that in most countries, initiatives directed specifically towards

women entrepreneurs are relatively recent. Women's entrepreneurship has only been recognised as a policy issue in most countries during the last decade. One factor that seems to define the success of the initiative seems to be how long it has been active. The longer it has been active the more successful it also seems to be. Of course, there exists a survival bias, as less successful initiatives are terminated more rapidly. The point is that with longevity, an initiative can make an impact over time and it is also possible to evaluate what the consequences of the initiative are.

Another success factor is the resources available to the initiative. The more resources the initiative has the higher the probability it will have to achieve a desired effect. By resources we mean both human and financial resources. Human resources from the perspective of highly motivated (which is not always the same as highly skilled) individuals are seldom a problem, but financial resources are scarcer. Many initiatives have only access to few resources and hence have little actual ability to make a difference.

The ability to recognise that women represent a highly heterogeneous group and the ability to target some or many of the subgroups with a tailored programme is a highly successful strategy. Being able to offer a tailored programme to the right group where women feel that they have actually learned something and that their needs are taken seriously is crucial. Also there is a need for these initiatives to be renewed over time, in order to attract both new and older users. Hence, the perceived and the actual quality of the initiative are central.

Yet another identified success factor is the ability to create legitimacy for the effort outside the few already converted. Successful programmes have been able to create respect and legitimacy for their effort outside the normal sphere of end-user and policy makers. They have been able to market their initiative to be important and worthwhile for the whole of their society or region, making their impact stronger. At the same time they also achieve a high visibility, which makes it easier for them to secure further financing.

To sum up, we can conclude that most programmes focus on the supply side of entrepreneurship, specifically speaking, empowering and educating women entrepreneurs and would be entrepreneurs. Information dissemination and lobbying is present among many of these initiatives, but seem to be of second order. Lack of resources or lack of knowledge might be reasons for this. Success comes from the ability to recognise women as a heterogeneous group and to offer tailored information. Access to long-term resources is crucial as well as the ability to gain legitimacy in society at large. Then and only then, when these initiatives have legitimacy, access to long term resources, access to information and the ability to tailor the information to the specific needs of women, do these initiatives become efficient and represent an important asset to promote women's entrepreneurship.

Periodically evaluate the impact of any SME-related policies on the success of women-owned businesses and the extent to which such businesses participate.

The objective should be to identify ways to improve the effectiveness of those SME-related policies that should be retained. Good practices that are identified in this way should be disseminated and shared internationally.

This recommendation is related to the recommendation on incorporating a women's entrepreneurial dimension in considering all SME-related policies. It differs as it focuses on the impact of existing policies and on the long term evaluation of new policies. Not only do we need to develop a women's entrepreneurial dimension when designing new policies, but we also need to assess the impact of current policies. It is likely that a number of policies have a differential impact on women's versus men's entrepreneurship. Those effects have to be considered and when necessary, changed.

The evaluation of programmes and policies are central in order to learn what works and what does not work. However, it is often difficult to evaluate the impact of policies if the goals are not clear and achievable. It is important for policy makers to state what is to be achieved when seeking to know which policies are effective and efficient. Moreover, resources have to be set aside to enable the long term follow up of firms participating or being affected by different policy initiatives (Storey, 2003). Obviously, good practices need to be disseminated and shared internationally. Therefore, international fora need to be created where policy makers can on a regular basis meet and share information on good practices related to women's entrepreneurship.

Improve the factual and analytical underpinnings of our understanding of the role of women entrepreneurs in the economy

The first step is to create better information about women on the labour market and women's entrepreneurship in particular. Despite the recent developments reported here, we still have a lack of information about the economic impact of women entrepreneurs. At the moment, we know that independent of the nature of the economy observed women represent a substantial part of the entrepreneurial part of the economy. However, they still are underrepresented relative to men and can therefore be said to represent an untapped resource.

In order to better utilise this resource, we need to know why women are underrepresented. We have identified possible problems that need to be addressed using an Austrian-economic perspective to analyse existing research on the topic. However, these problems vary both in scope and scale depending on the economy observed and the only way to more effectively address the issue of women's entrepreneurship and the associated problems is to learn about the country's specific characteristics relative to this subject.

This means establishing statistics for international comparison and designing procedures to gather relevant information. We have argued that in order to successfully address the problems related to women's entrepreneurship, one has to consider the different problems related to entry, survival, growth and termination of firms. Therefore, not only must the economic impact of this group be assessed, but also the development of these firms relative to other similar firms.

Conclusion

In this study we have assessed the importance of women's entrepreneurship. From an Austrian-economic perspective we have analysed the characteristics of women's entrepreneurship and offered a set of policy recommendations. As we still do not know enough of the entrepreneurial process and women we have argued that better knowledge about the economic importance of women's entrepreneurship and their particular strengths, weaknesses and opportunities, is central. As low rates of women's entrepreneurship are both related to the status of women and the status of entrepreneurship, we have suggested that increasing the abilities of women to participate in the labour force and generally to improve the position of women in society and generally increase the possibility to engage in entrepreneurship is central. However, more targeted initiatives are also needed to support women entrepreneurs and would be entrepreneurs.

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APPENDIX

Table a.1 Employers and own account workers, sex distribution

Country	1980	1990	1995	2000	2001
1 Armenia			96 514		
			35 440		
			131 954		
2 Austria			266 500	261 100	
			139 100	134 500	
			405 700	395 600	
3 Belarus				51 229	
				25 150	
				76 379	
4 Belgium		436 334	417 905	399 559	386 720
		146 632	166 418	161 685	155 576
		582 966	584 323	561 244	542 296
5 Bulgaria		191 200	206 900	280 200	245 500
		101 800	107 700	141 000	128 000
		292 900	314 700	421 400	373 600
6 Canada	961 800	1 251 900	1 376 800	1 555 000	1 514 800
	309 900	522 200	663 000	823 100	760 300
	1 271 600	1 774 200	2 039 900	2 378 100	2 275 100
7 Croatia				190 000	197 000
				86 000	86 000
				277 000	283 000
8 Cyprus		42 153		48 586	48 531
		9 868		11 177	12 031
		52 021		59 763	60 561
9 Czech Republic			405 710	494 008	500 233
			156 877	188 310	189 032
			562 585	682 318	689 265
10 Estonia		8 600	26 000	32 000	30 000
		2 400	8 900	15 700	13 000
		11 100	34 800	47 700	43 000
11 Finland				208 000	199 000
				95 000	95 000
				304 000	294 000
12 Georgia				410 595	424 640
				193 645	209 244
				604 240	633 884
13 Greece	583 050	1 026 306	1 034 149	954 738	921 966
	75 025	266 225	255 966	322 455	316 518
	658 075	1 292 531	1 290 114	1 277 191	1 238 484
14 Hungary			244 000	265 000	257 300
			108 000	116 000	114 800
			352 000	381 000	372 100
15 Iceland		18 600	19 500	19 900	19 200
		5 700	6 200	7 600	7 000
		24 300	25 700	27 400	26 300

Country		1980	1990	1995	2000	2001
16 Ireland	Men		227 200	227 700	245 300	246 000
	Women		30 600	37 700	48 200	45 900
	Total		257 800	265 400	293 500	291 900
17 Israel	Men			179 500	189 000	
	Women			39 900	59 400	
	Total			219 400	248 400	
18 Italy	Men			3 650 449	3 678 437	3 690 380
	Women			1 087 256	1 158 751	1 169 978
	Total			4 737 705	4 837 188	4 860 358
19 Kyrgyzstan	Men				248 082	
	Women				177 210	
	Total				425 292	
20 Latvia	Men			63 100	62 800	61 600
	Women			34 100	41 800	37 400
	Total			97200	104 600	99 000
21 Poland	Men	2 146 000	2 166 000	2 070 000		
	Women	1 438 000	1 341 000	1 185 000		
	Total	3 584 000	3 507 000	3 255 000		
22 Portugal	Men			685 100		
	Women			453 000		
	Total			1 138 100		
23 Republic of Moldova	Men				227 979	246 258
	Women				223 531	227 380
	Total				451 509	473 637
24 Romania	Men		1 534 406	1 775 941		
	Women		1 119 373	832 079		
	Total		2 653 779	2 608 021		
25 Russian Federation	Men		980 294	2 715 617	2 267 090	
	Women		467 359	2 438 146	1 850 767	
	Total		1 447 653	5 153 765	4 117 857	
26 Slovakia	Men		103 600	122 100	129 200	
	Women		34 100	42 400	46 100	
	Total		137 800	164 400	175 200	
27 Slovenia	Men		91 406	73 500	79 197	
	Women		57 447	26 634	29 086	
	Total		148 851	100 134	108 283	
28 The fYR of Macedonia	Men				65 003	72 792
	Women				16 357	20 435
	Total				81 359	93 226
29 Turkey	Men	5 219 000	5 541 000	5 461 000	5 402 000	
	Women	514 000	515 000	677 000	739 000	
	Total	5 733 000	6 056 000	6 138 000	6 142 000	
30 United Kingdom	Men	2 437 898	2 548 619	2 306 693	2 344 620	
	Women	788 573	812 643	851 299		
	Total	3 226 472	3 361 262	3 157 992	3 170 082	

Source: United Nations Economic Commission for Europe Gender Statistics Database (<http://www.unece.org/stat/gender.asp>).

Table a.2 Examples of best practice form the EU countries and some OECD countries

COUNTRY	GERMANY	FRANCE	SPAIN	UNITED KINGDOM
Name	Online Kurs zur Existenzgründung von Frauen (Online Course for Female Enterprise Starters)	FGIF Fond de Garantie pour la Création, la Reprise ou le Développement d'Entreprises à l'initiative des Femmes	EmpresariasNet	Women Into the Network (WIN)
Start	1998	1989	1983 (restructured 1997)	1999
Work procedure	On-line web-based	Garantie funding and due diligence	62 offices and on-line	Networking and empowerment
Target group	Women being or considering self-employment	Unemployed women	Women being or considering self-employment	Women contemplating and having started a business
Aim	Knowledge improvement	To help unemployed women to create their own employment	Network support	To learn and raise awareness of the needs of network and information
Mean	based on four modules: 1) Basic orientation, business planning, implementation promotion models 2) Cost and accounting	Micro loans and support	Micro credits Family and career counselling Consulting and training	Courses Promote and share best practice Diversified channels of communication
Factors of success	Easy to navigate depending on personal needs Exercise to test knowledge Always available Well structured and renewed information	Long time focus Personal involvement Regional focus	Confidence in work delivered from both users and providers of resources Varity of programmes offered over time Different channels of communications	Women are a heterogeneous group (target the market) Reachable role models Active support from public and private sector High enthusiasm Well endowed Different channels of communications

COUNTRY	FINLAND	SWEDEN	ICELAND	ITALY
Name	Jobs and Society Women's enterprise agency	Affärsrådgivare för Kvinnor (Business advisors for women)	Audur I Krafti Kvenna (Creating wealth with women's vitality)	Sportello Fare Impressia (Enterprise creation shopo)
Start	1996	1993 (first project), 1997 (second project)	2000	1999
Work procedure	Mentorship	Business advisement	Events Self-confidence programmes	Help with 'red tapes'
Target group	Women starting up and after	Women starting up and after	Young girls and women in general	Women starting up and after
Aim	Knowledge improvement	Improve network and counselling to give better help to women as they are not normally taken seriously Going from side stream to main stream	To promote economic growth by tapping into an unknown resource for women	To create new business, especially craft
Mean	Training courses Mentoring International contacts	Electronic networks Awareness about gender segregation Evaluation of project	To make women visible by creating awareness ('women entrepreneur of the year') and networks for women	To reconcile family and work as women are still and foremost mothers Offer help at one single place
Factors of success	Working with small groups (not more than 12 persons) Specific courses Mix of short and long term courses Participants have to pay	It takes time to have an effect, but politicians want immediate effects Important to achieve support (political and financial) at the regional and local level Information to both women entrepreneurs and to business advisors	Comprehensive programme Well funded Great marketing A lot of heart	Target a homogeneous group Help is comprehensive and covers a number of areas

COUNTRY	NORWAY	PORTUGAL	GREECE	BELGIUM
Name	KIF Kvinner i Fokus (Woman in focus)	Apoio ao Empreendedorismo Feminino (Support of Female Entrepreneurship)	(Reinforcement of Female Entrepreneurship)	De Vliegende Ondernemer (The Flying Entrepreneurs)
Start	1999	Not available	2000	2001
Work procedure	Programmes for awareness and knowledge dissemination	Financial support to intermediary organisations	(Inexperienced) women considering self-employment	Provide relief activities to self-employed
Target group	Men and women in business	Potential women entrepreneurs	Women starting new businesses	Self-employed women and men
Aim	To encourage women participation in top level executive and entrepreneurship	Modernisation of business life (both small and large)	Increase the involvement of women in business activities in the whole country (regional development an important issue)	Enable self-employed to have a break in their work Provide flexibility
Mean	Four different programmes working in specific areas Data base over women executives	Intermediary organisations are expected to provide: Training Consultancy Information networks to women	Loans again business plans, Firms should be based on modern, innovative and sustainable businesses	'Flying entrepreneurs' that can fill in when the ordinary entrepreneur need a temporary leave (vacation, training, sickness, family matters) Training module for firm and individual developments
Factors of success	50% men and 50% women Demand Active networking Domino effect	Decentralized	Specific target Well endowed	High demand increase in a short time

COUNTRY	AUSTRIA	JAPAN	UNITED STATES
Name	Businessfrauencenter (The Business Woman Center)	Government Programme for female Entrepreneurs in Japan	Got it all! The United States Office of Women's Business Ownership
Start	1997	1999	1979 (1988)
Work procedure	Empowerment	Information	Training, information, financial assistance etc.
Target group	Women starting up and after	Women starting up and after	Women starting up and after
Aim	To be an information centre for woman (solo) entrepreneurs	Equal opportunities on the job market	Support women's entrepreneurship
Mean	Networking, empowerment and coaching	Manuals, seminars, consulting, network	Local training centers
Factors of success	Both general and tailor made training is offered Monthly fees guarantee commitment		Individual counselling, lobbying, long history, nation wide and local, good finance, specialized and targeted

Source: European Commission (2002). Good Practices in the Promotion of Female Entrepreneurship and the European Forum on "Female Entrepreneurship" March 28, 2003.