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**GENDER EQUALITY IN EDUCATION,  
EMPLOYMENT AND ENTREPRENEURSHIP:  
FINAL REPORT TO THE MCM 2012**

# **Gender Equality in Education, Employment and Entrepreneurship: Final Report to the MCM 2012**

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## EXECUTIVE SUMMARY

1. Gender equality is not just about economic empowerment. It is a moral imperative, it is about fairness and equity, and includes many political, social and cultural dimensions. Gender equality, however, is also a key factor in self-reported well-being and happiness across the world.

2. In the aftermath of the Great Recession, there is now an urgent need to focus on the economic case and on how changes in the labour market might provide better economic opportunities for both men and women. The OECD Gender Initiative (Box) was developed as an integral part of the wider policy-quest for new sources of economic growth; greater gender equality and a more efficient use of everyone's skills are an important part of the answer. It is true that many countries around the world have made significant progress towards gender equality in education in recent decades. Today girls outperform boys in some areas of education and are less likely to drop out of school than boys. But, the glass is still half-full: women continue to earn less than men, are less likely to make it to the top of the career ladder, and are more likely to end their lives in poverty.

### The OECD Gender Initiative

Building on its expertise, in 2010 the OECD launched a Gender Initiative to examine existing barriers to gender equality in Education, Employment and Entrepreneurship (the "three Es") with the aim to improve policies and to promote gender equality in the economy in both OECD and non-OECD countries alike.

The OECD Gender Initiative presented its initial findings in the Gender Report published in May 2011 for the 50th Anniversary Meeting of the OECD Council at Ministerial Level in Paris. In addition, a special report on gender equality in the three Es in OECD countries in the Pacific Rim and other APEC countries was prepared for the APEC Women and the Economy Summit (WES) held in September 2011 in San Francisco.

On 8 March 2012, the OECD launched the Gender Data Browser ([www.oecd.org/gender](http://www.oecd.org/gender)) with 16 key indicators focusing on gender gaps in OECD countries and the key partner countries. In the course of 2012, the browser will be developed into a one-stop gender data portal which will show the relative standing of countries on the various dimensions of gender inequality in the three Es with the aim to monitor progress over time.

The OECD would like to thank the European Union and U.S. Department of State for their financial support to the OECD Gender Initiative.

3. The challenge of delivering long-term strong and sustainable economic growth that benefits *all* can only be met if best use is made of all available resources. Leaving women behind means not only forsaking the important contributions women make to the economy but also wasting years of investment in education of girls and young women. Making the most of the talent pool ensures that men and women have an equal chance to contribute both at home and in the workplace, thereby enhancing the well-being of both men and women, and more generally to society.

4. Mainstreaming the gender perspective at all levels of policy is one aspect of efficiently enhancing gender equality. Public gender agencies that are visible with a sufficiently strong mandate, appropriate analytical tools, reliable evidence and resources are needed to combat discrimination and enhance gender equality. Such gender equality policies are most likely to be effective if both men and

women are being seen to actively promote such efforts: male and female role-models are useful in breaking stereotypes in gender roles. Effective mainstreaming, however, requires careful monitoring.

5. This report from the OECD Gender Initiative is designed to inform, share policy experiences and good practices, and help governments promote gender equality in education, employment and entrepreneurship. It looks at the state of play from a gender perspective across all three issues, whether inequalities exist, how and why they have developed, and which obstacles need to be overcome to move towards greater equality. It offers policy advice to governments as to how they can create a more level playing field.

6. Much of this advice is aimed at alleviating concerns around the experience of women and girls and removing the obstacles to equal participation in the economy, but gender equality is not just about the empowerment of women. This study also looks at why in many countries more success at school for girls has gone hand in hand with less success for boys in some subjects, why fathers may find it difficult to take full advantage of family-friendly policies and what can be done to improve matters.

7. A greater sharing of paid and unpaid work is also about changing norms, culture, mind-sets and attitudes. Such changes take time, but policy has a role to play in raising public awareness of gender biases in society and promoting change.

### **The Economic Case for Gender Equality**

8. Increased education accounts for about half of economic growth in OECD countries in the past 50 years, and that has a lot to do with bringing more girls to higher levels of education and achieving greater equality in the number of years spent in education between men and women.

9. Greater educational equality does not guarantee equality in labour market outcomes, however. If high childcare costs mean that it is economically not worthwhile for women to work full-time, if workplace culture penalises women for taking a break to have a child or provide for elderly relatives and as long as women continue to bear the main brunt of unpaid household tasks, childcare and caring for ageing parents, it will be difficult for them to realise their full potential in paid work. In developing countries, if discriminatory social norms enhance early marriages or limit access to credit for women, the significant gains made in educational attainment for girls may not lead to increased formal employment and entrepreneurship.

10. The issues are complex and tackling them successfully means changing the way our societies and economies function. Men and women have to be able to find a work-life balance that suits them, regardless of family status or household income. Sharing childcare responsibilities can be difficult in a culture where men are considered uncommitted if they wish to make use of parental leave, and mothers are sidetracked from career paths. And if good-quality affordable childcare is unavailable, it may simply be impossible for many parents, especially those on low incomes, to work full-time and take care of their families.

11. Well-thought-out policies can help in such transitions, but further action needs to be carefully considered to be sure that future change is as positive for growth and social outcomes as increased education has proved to be. For that, change of general economic, labour market and entrepreneurship policy may be required, but in the case of gender, one important challenge for policy makers is to overcome a lack of comprehensive and reliable information in some key areas.

12. In developing countries, the economic empowerment of women is a prerequisite for sustainable development, pro-poor growth and the achievement of all the Millennium Development Goals (MDGs). Gender equality and empowered women are catalysts for multiplying development efforts. Investments in gender equality yield the highest returns on all development investments.

## **Education**

13. Most countries around the world have won the battle to provide universal primary education, but the picture is much more mixed at secondary and higher education levels, while policy also needs to keep a firm eye on ensuring the continuous improvement of the quality of education.

14. Girls are still less likely than boys to even start secondary education in Western, Eastern and Middle Africa and Southern Asia. Enrolment is less of a problem in OECD countries, where education is generally compulsory up to age 15-16. But boys are more likely to drop out before completing secondary education, particularly in the high-income countries.

15. As a result, in many countries across the world younger women are increasingly better educated than young men in OECD countries. In reading skills, for example, boys lag behind girls at the end of compulsory education to the equivalent of a year's schooling, on average, and are far less likely to spend time reading for pleasure. Boys are ahead in mathematics but the gender gap is small compared to reading.

16. And yet girls are still less likely to choose scientific and technological fields of study, and even when they do, they are less likely to take up a career in these fields – a concern given skills shortages in the workplace, the generally more promising career and earnings prospects in these fields, and the likelihood of positive spillovers from more skilled workers in these fields to innovation and growth.

17. Such decisions are taken very early in life in OECD countries, so one answer should be to focus more work on gender stereotyping and attitude changing at a young age. Gender stereotyping frequently takes place in subtle ways at home, in schools and in society. If primary teachers are mainly women, and secondary teachers, particularly in the sciences, are predominantly men, what messages are boys and girls getting about adult life? And if text books give examples of female nurses and male engineers, if teachers themselves project their beliefs about girls' and boys' abilities in mathematics or reading, what attitude towards these subjects will children form? But changing gender stereotypes in school is only part of the equation; attitudes are also determined by what happens at home. The family setting is one of the strongest influences on gender role development, as it is at home where children receive their first lessons about what it means to be a boy or a girl in the society.

18. In developing countries, poor families may not be able to afford to send all their children to school and boys may come first when deciding which child to keep in education. Certainly when primary schooling is made free, girls' attendance rises. But it is not just a question of school fees, there are items such as uniforms and school meal costs too – support in these areas can help get girls into schooling and keep them there through secondary education. Some countries have also raised school attendance of girls through programmes that give a financial reward to families for sending girls to school. Prolonged schooling also cuts down on early marriage. And education is the gift that keeps on giving – mothers who have had schooling place higher value on education for their own daughters.

19. So to reap the best economic and social return on education investment, it is important to find out just exactly why there exist gender differences in attitudes towards reading and mathematics, and then find ways to reverse this imbalance. But in the developing world, the first focus must be on getting, and keeping girls in school, ensuring that schools and associated transport are safe and that sanitary facilities are provided.

## **Employment**

20. The transition from education to paid work is a crucial moment which lays the foundation for many of the inequalities encountered in the labour market throughout women's working lives. More women have entered the workforce in recent years, but often experience more difficulty in finding a first

job, earn less than men and are more likely to work part-time. Furthermore, the choices young women and men make in fields of study perpetuate gender segregation in the labour markets, with women under-represented in the business sector and concentrated in health, welfare, educational and administrative areas of work.

21. These gender differences exist to a large extent because women still bear the brunt of the unpaid but unavoidable domestic tasks of daily life, such as childcare and housework. In less developed countries, young women are more likely than men to be neither in employment nor in education or training, and when they enter the labour market, women are more likely confined to the most vulnerable jobs, frequently in the informal sector.

22. Employers play a crucial role as workplace support and family-friendly workplace practices can contribute to better possibilities to combine work and family responsibilities for men and women, resulting in a smaller gender pay gap. But only if both men and women use these opportunities. Part-time or temporary work may sound attractive in the short-term to help juggle work and family commitments, but this can be a costly long-term choice for women in terms, not just of salary, but also pension entitlements and savings and job security.

23. But irrespective of family commitments, many female professionals find it difficult to climb the career ladder. In fact, inequalities increase the higher up the pay scale you go, so that while on average in OECD countries women earn 16% less than men, female top-earners are paid on average 21% less than their male counterparts. This suggests the presence of a so-called “glass ceiling”. Women are also disadvantaged when it comes to decision-making responsibilities and senior management positions; by the time you get to the boardroom, there are only 10 women for every 100 men. The Norwegian experience shows that quotas can be effective in improving the gender balance at board level. However, the overall economic consequences of mandating quotas have yet to become clear. In the meantime, a range of tools can be used to achieve this goal, including target-setting, compliance with corporate governance codes and, in any case, monitoring and publication of progress.

24. Tensions between work and family life are at the heart of the employment puzzle when it comes to gender. Families with young children need affordable childcare if parents are to work. If childcare eats up one wage so that there is little or no financial gain from going out to work, parents (most often mothers) are less likely to seek a job.

25. But how people manage life at home also plays a large part in this equation. Many systems still implicitly regard child-rearing as mainly a mother’s responsibility, and wherever you look women are doing more unpaid work than men, regardless of whether they have full-time jobs or not. Among couples where both partners work, women spend more than two hours per day extra in unpaid work, and even among female-earner couples men only do as much housework as women. The types of housework also differ: men tend to garden or engage in house maintenance, while women are more likely to cook and clean.

26. Governments across the world have an important role to play in promoting gender equality, not just by monitoring the gender dimension when crafting and evaluating policies, but also by ensuring equality of opportunity in the public service with the government acting as a role model for other employers.

27. Governments have indeed made great efforts in many countries to promote and legislate policies to help parents reconcile work and family life, such as paid parental-leave entitlements, public childcare facilities and family-friendly work conditions. But the fact remains that it is primarily women who take advantage of family-friendly policies such as flexible working arrangements, perpetuating the stereotypical



idea that family responsibilities beyond managing money are a woman's affair and obstructs a more efficient use of women's labour force potential.

28. Business too needs to think about the effect of their corporate culture and working practices. If women are good for business, why do so few make it to the top, and why do so many simply give up trying? Are employers making it easier for men and women to share domestic and family responsibilities *outside* the workplace – are men who take their parental leave in full seen as uncommitted to their careers and passed over for promotion, for example?

29. Workplace practices such as very long office hours, requiring workers to commute long distances, and 24/7 availability for shift work are hard to combine with family life. But workers who take up part-time work or teleworking arrangements are often penalised in their career and earnings progression. Change is not always easy, and it takes time for fundamental attitudes to shift in response to changing realities. But our economies need all the available talent to ensure a sustainable and prosperous future, and we need to find the right balance of responsibilities at home and at work to deliver better lives for everyone.

### **Entrepreneurship**

30. Despite women's increased participation in the labour market over the past half-century, they remain substantially underrepresented as entrepreneurs. When asked, fewer women than men say they would prefer to be self-employed. When they do choose to become entrepreneurs, more often than men, they cite a better work-life balance and/or economic necessity as the main motivation for starting a business. At times of high unemployment, women-owned businesses make a key contribution to household incomes and economic growth. Entrepreneurship is equally important in developing countries for job creation, innovation and growth. Fostering entrepreneurship is a key policy goal for governments in all countries; there are shared expectations that high rates of entrepreneurial activity will bring sustained employment creation. Moreover, thriving new enterprises can boost the development of new products, production processes and organisational innovations.

31. But while more women are undertaking salaried work, the number of woman entrepreneurs is changing little in OECD countries. And when women do start businesses, they do it on a smaller scale than men and in a limited range of sectors, often at low capital intensity. On average one-third of self-employed men have employees, while this is only one-fifth for self-employed women. In emerging and developing countries, women often represent the majority of business owners without paid employees in the informal sector. Overall, women earn far less: gender gaps in median earnings among the self-employed are often around 30 to 40% compared with an average of 16% across OECD countries in terms of salaried jobs. Even when enterprises in the same size class and industry are compared, women-owned businesses have other features that are associated with lower sales, profits and labour productivity. Two key differences between male and female entrepreneurs help explain these relatively low returns: women start their enterprises with limited management experience, and they devote much less time to their business than men. In OECD countries, 22% of self-employed women work less than 40 hours a week, while this is only 10% for self-employed men.

32. The proportion of women-owned businesses is currently stuck at around 30% of the total in OECD countries, and seems to 'plateau' at around the same level in developing countries which have started from low levels. There is a clear need to provide more and better information about entrepreneurship as an attractive career option, both for young women in school and for women who are outside the labour force and considering starting work. About a quarter of women starting businesses in Europe gave as their reason for returning to work that their children were old enough for them to work again.

33. Women are also less likely than men to borrow money to finance their business. There are several reasons for this. Women might be charged higher interest rates and asked for more guarantees, as they often have shorter credit histories, less operating capacity and collaterals. Although evidence is scant, some lenders might charge women more because they have biased expectations about women's capacity to meet their debt obligations. It may also be that women are not asking for money because they are afraid of refusal or because they are not optimistic about the growth potential of their businesses. In a number of developing countries, the gap is narrowed by an array of microcredit and other financing arrangements targeted specifically at women and often administered by international agencies or NGOs. But this is no substitute for equal treatment of financing requests from men and women entrepreneurs by the regular financial institutions and banks.

34. One of the main challenges when considering how to boost women's entrepreneurship is the lack of solid and reliable data on this and other questions, hence the need to collect more gender-specific data in this area.



## KEY FINDINGS

### ECONOMICS, SOCIAL NORMS and EMBEDDING GENDER EQUALITY POLICY

- Increased education accounts for about half the economic growth in OECD countries in the past 50 years.
- Greater gender equality in education boosts female labour force participation and economic growth.
- Improving female labour market outcomes is needed to ensure strong, sustainable and balanced economic growth in the future.
- Persistent discriminatory social institutions and cultural norms restrict the economic and social role of girls and women in most countries across the world.
- Public gender agencies often lack visibility, authority and resources to effectively advance gender equality across the "whole of government".

### EDUCATION

- Enrolment in primary education is near universal in many countries, but particularly in high-income countries boys are more likely to drop out of secondary education than girls, and younger women are increasingly better educated than young men.
- Girls outperform boys in reading but lag in mathematics, although the gap is smaller, and differences in attitudes explain an important part of these gender differences.
- Girls have strong academic aspirations and expectations in terms of high-status employment but there are systematic gender differences in careers aspirations in occupational areas at both tertiary level and in vocational training.
- In many low-income countries, young women are more likely to be neither engaged in paid work nor in education or training than young men.

### EMPLOYMENT

- Female employment participation has generally increased, and gender gaps in labour force participation have narrowed, but occupational segregation has not improved, gender pay gaps persist and women are still under-represented at more senior job levels, especially among managers and in company boards.
- Formal childcare support is particularly important for raising female employment levels and for achieving more gender equality throughout the working life.
- Women do more unpaid work than men in all countries and the gender gap increases with the arrival of children.
- Women often work part-time as it facilitates combining work and family responsibilities, but this frequently comes at a cost to their long-term career and earnings prospects.

### ENTREPRENEURSHIP

- Women are less keen than men on starting their own business and women entrepreneurs continue to be a minority in all countries.
- Enterprises owned by women are significantly smaller and less represented in capital-intensive sectors, and these and other factors tend to penalise them in terms of sales, profits and labour productivity.
- Women entrepreneurs rely substantially less than men on loans, both for start-up and for financing their activities.

## KEY POLICY MESSAGES

### GENERAL PUBLIC POLICY

- Increase both the quantity and quality of data by gender and improve evaluation of public policy.
- Strengthen the capacity of governments to apply a gender-responsive approach throughout the public financial management cycle and enhance gender-impact assessments.
- Reform legal frameworks and ensure their enforcement to remove any obstacles towards gender equality, prohibit discrimination, combat all forms of pay discrimination, uphold the notion of equal pay for work of equal value, and provide economic support and incentives for individuals, families and communities to change discriminatory attitudes.
- Countries should set realistic targets for women in senior management positions in the public service.

### EDUCATION

- Get girls more interested in mathematics and science and boys more interested in reading in OECD countries, for example by removing gender-bias in curricula where needed and raising awareness of the likely consequences of choices regarding fields of study and occupations for career and earnings developments among male and female graduates.
- Encourage women who have completed their STEM studies to work in science fields by means of internships and apprenticeships.
- Make schools safer and more affordable for girls in developing countries.

### EMPLOYMENT

- Provide good-quality affordable childcare for all parents and paid maternity leave for mothers in employment. Encourage a more equal sharing of parental leave, also by reserving part of the paid leave entitlement for the exclusive use by fathers.
- Remove disincentives to paid work created by taxes and benefit systems and ensure that work pays for both parents.
- Address cultural barriers and stereotypes about the role of women in society, business and the public sector.
- Countries should introduce targets and measures to monitor progress on female representation on boards of listed companies.

### ENTREPRENEURSHIP

- Ensure that policies for women-owned enterprises target not only start-ups and small enterprises, but encourage and support growth ambitions of all existing firms.
- Promote comprehensive support programmes targeting women-owned enterprises in high-tech sectors.
- Ensure equal access to finance for male and female entrepreneurs.

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**PART 1: GENDER EQUALITY, THE ECONOMIC CASE, SOCIAL NORMS AND PUBLIC  
POLICIES**

## CHAPTER 1.1: THE ECONOMIC CASE FOR GENDER EQUALITY

### Key findings

- Increases in educational attainment account for around half of the economic growth in OECD countries over the past 50 years.
- Greater gender equality in education attainment has a strong positive effect on economic growth.
- Improving female labour market outcomes is needed to ensure continued economic growth in future.

35. Greater gender equality in economic opportunities contributes to stronger and more sustainable economic growth. Investing in formal education and training increases the skill-set of individuals throughout their lives and increases employment and entrepreneurial opportunities for both men and women. It increases labour productivity and the available talent pool, which provides businesses with greater opportunities to expand, innovate and compete, which in turn provides Governments with additional tax revenue and social security contributions that are much needed in view of population ageing.

### Gender equality in educational attainment: is it just a matter of time and income?

36. Investment in human capital improves the economic and social opportunities of young individuals, thereby helping to reduce poverty and foster technical progress. In addition to the direct effects of education on economic participation, education also affects other societal outcomes such as child mortality, fertility, personal health outcomes, and greater investment in the education and health of future generations. In this context, investing in women's human capital is key to economic growth and social cohesion, especially in developing countries where the gender gap in education is still large, and thus the economic gains from educating girls may be substantial (Barro and Lee, 1994 and Schultz, 2002). In countries in which poverty and gender inequality are higher, as for example, in African countries, a greater and urgent effort is required to actively and more effectively engage women in economic, social and political life (OECD, 2007a). Good practice in pro-poor growth is about addressing social justice and higher economic returns as mutually supportive goals (OECD, 2009a and 2011a). Gender equality in investment in education gives both men and women the means to contribute to a better society.

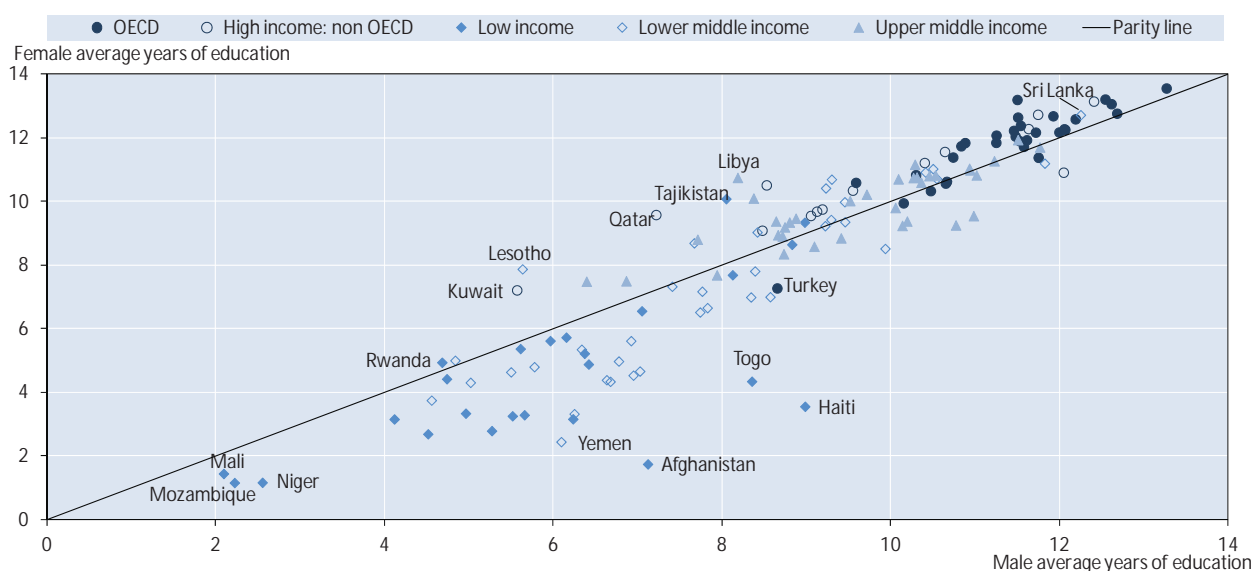
37. Gender equality is also a key driver of the degree of self-reported well-being and happiness across the world and life satisfaction increases over time as gender equality increases (Veenhoven, 2011 and 2012). However, there is concern that the double burden of paid and unpaid work makes it more difficult for women to achieve a similar degree both in "satisfaction at home" and "satisfaction at work" (Stevenson and Wolfers, 2009).

38. In a global comparison there is a strong positive association between the level of development of a country and educational attainment – a proxy for the level of human capital – for both men and women. Figure 1.1.1 plots the level of educational attainment by gender: high-income countries in the top right-hand corner with the highest level of education for both men and women. A number of countries are located above the diagonal line suggesting young women have higher levels of educational attainment than young men. By contrast, in poorer countries the attainment rate is much lower and women are strongly “disadvantaged”. A similar picture could be shown for an older cohort of men and women (age 45-54). However, compared with the previous generation gains in educational attainment have been made by women in general, and these gains have been largest in lower and middle income countries; in terms of years of schooling developing countries are catching up.

39. The positive association between income and education can work both ways: it may reflect the positive effect of greater investment in education on countries' economic growth, but also be related to the fact that richer countries invest more in human capital. In terms of gender equality, an increased demand for human capital fosters incentives to invest more in women in whom hitherto investment was relatively small, and whose skills are on average identical to those of men. Growth and technological change can endogenously trigger further female education and empowerment which in turn feeds back into economic development (Doepke *et al.*, 2011). This suggests that with economic development female educational attainment will tend to expand as it did historically in developed countries. However, social institutions and norms (*e.g.* early marriage, gender roles - Chapter 1.2) as well as education and labour market policies may strongly affect the process of generating greater economic opportunities for women and economies as a whole.

**Figure 1.1.1. Educational attainment is key to economic development**

Average number of years of education for 25-34 year olds by gender



Note: Educational attainment is measured here as the years spent in education. Countries are grouped based on the World Bank Income Classification system.

Source: Barro and Lee (2010).

40. A large body of theoretical and empirical analysis exists on the link between investment in human capital and economic growth. Recent empirical evidence conducted for this report strongly suggests a strong positive effect of human capital accumulation and economic growth *and* a further positive influence of a more equal distribution of education between the genders (Annex to Part 1 – A1.1). To test the relationship in an internationally comparative perspective the empirical analysis is based on a human capital augmented growth model in which output per capita is a function of the propensity to accumulate both physical and human capital, the population growth rate, the level and growth rates of technological and economic efficiency. The model is estimated using pooled cross-country time series data covering 30 OECD countries over the 1960-2008 period (Bassanini and Scarpetta, 2002 and Arnold, Bassanini and Scarpetta, 2011). The model is also further augmented to include the effect of gender inequality in educational attainment on growth (Annex to Part 1 – A 1.1).<sup>1</sup> The main findings are as follows:

<sup>1</sup> The analysis requires a long time series on educational attainment as in Barro and Lee (2010). Educational attainment is expressed as years of schooling completed, which, however is a weak proxy of the progress in the quality of

- Confirming recent studies, the empirical evidence suggests high returns to investment in education: one extra year of average education (corresponding to a rise in human capital by about 11%) would lead to an average increase in output per capita by around 9%.
- The general growth model suggests that the increase in educational attainment accounted for around 50% of economic growth (on average 2.1% per annum for the 30 countries from 1960 to 2008), of which over half is due to increased female educational attainment.
- Moreover, greater equality in the accumulation of human capital has an additional and significant positive effect on economic growth.

### Labour market effects

41. The growth models allow for an assessment of the overall effect of education and gender equality on long-run economic growth, but do not allow to identify the mechanisms at work; *i.e.* the positive employment and productivity effects associated with higher levels of education and reduced gender gaps and/or the effects of female education on fertility rates and the old-age dependency ratio. Moreover, in addition to greater labour force participation by women, a better allocation of female workers across occupations and economic sectors can further contribute to growth. For example, Hsieh *et al.* (2011) suggest that between 17 and 20% of US economic growth between 1960 and 2008 might be due to the changing allocation of underrepresented groups in the workforce, including women.

42. The potential effect of increasing (female) education on growth, in the past and in the future, is perhaps nowhere more evident than in considering the Korean experience (Box 1.1.1). However, in other countries too, there is a strong economic case for a more effective use of female labour supply.

#### Box 1.1.1. The Korean economic transformation: can women continue the miracle?

From a very poor country in 1950 with GDP per capita at less than USD 50, Korea has developed into a regional and global industrial powerhouse with per capita GDP rising to exceed USD 27000 in 2011. This remarkable transformation is related, among other things, to the introduction in the 1960s of a sharp policy focus on investment in education and family-planning policies to curb birth rates, which fell from 6 children per woman in 1960 to 1.15 in 2009. The trend to have fewer children facilitates greater (public and parental) investment per child which in Korea as in many other countries is then often spread equally among boys and girls (*e.g.* Behrman *et al.*, 1986, Kornich and Furstenberg, 2010, and Shin, 2009). At present, young Korean women are as well educated as their male peers (Chapter 2.1).

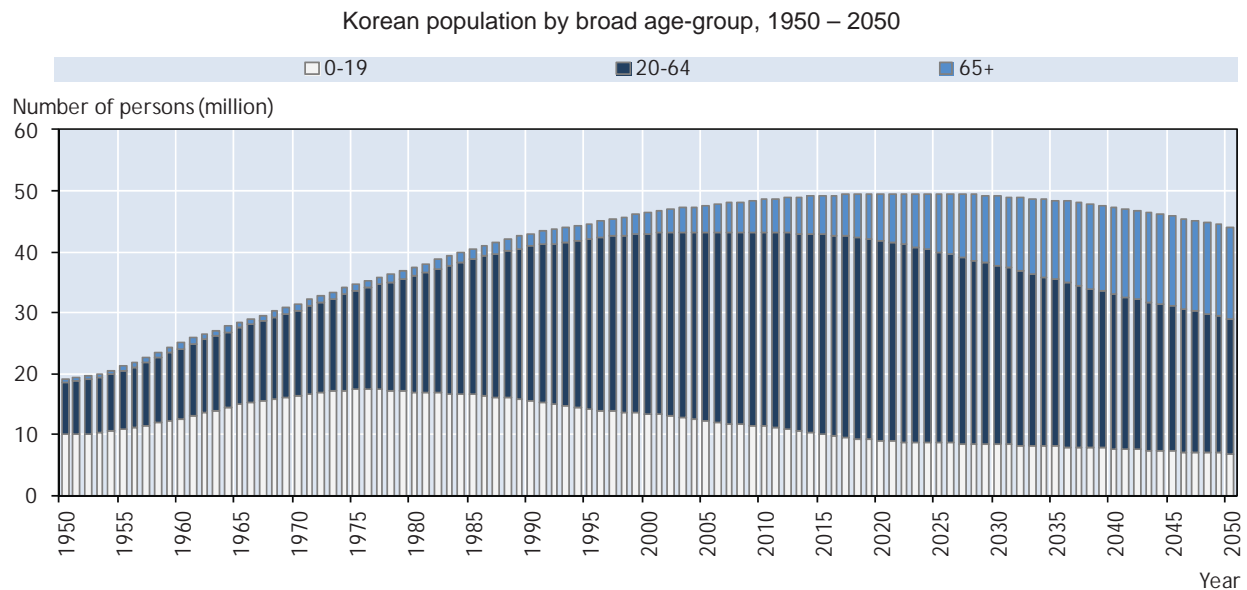
However, the Korean labour market has not kept pace with the rapid change in female educational attainment rates: female labour force rates are about the same now as they were 20 years ago. Men spend little time helping women with household chores (Chapter 3.7) and married women are still expected to leave their job upon childbirth (Kim, 2010). Women's position in the labour market is poor as indicated, for example, by the large gender pay gaps and the limited number of female managers (Chapters 3.1 and 3.3). Korean policy is moving to further strengthen work/life balance policies such as parental leave and childcare supports, but as long as workplace cultures involve long working hours, socialising after work, and a seniority-based payment system which punishes women for leaving their job on childbirth, social policy reform will have relatively little effect.

In the past, Korea's growing working population has contributed to strong economic growth. However, as from 2018 the working-age population is projected to decline and Korea's demographic dividend will start to erode. Korea will need to use its human capital more effectively to face the challenge of a potentially dwindling pool of paid and unpaid workers in a country which traditionally has experienced little immigration. Korean men will have to do more at home, Korean women will have to be in the paid workforce more often, and Korean workplace practices will have to become more family-friendly.

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educational attainment as measures by the OECD Education database. Nevertheless, even with this minimum-level indicator, the importance of greater gender balance in educational attainment is confirmed.

**Figure Box 1.1.1. Korea has used its demographic dividend for strong growth up till now, but needs to make better use of its female workers to avoid a shrinking labour force and economy**



Source: OECD (2012a), OECD Demography and Population database.

43. Figure 1.1.2 shows the effects that narrowing gender gaps in labour market participation may have on the potential size of the labour force. These projections consider three different scenarios of labour market participation by men and women over the next 20 years and their effect on the total labour force:

1. A no-change scenario: Male and female participation rates remain at their 2010 levels over the whole period.
2. Convergence in participation rates: The male participation rate remains constant at its 2010 level, while the female participation rate increases over the period to the male participation levels in 2030.
3. Convergence in intensity of labour market participation: This scenario accounts for the difference in usual working hours between the genders and assumes that the male participation rate remains constant at its 2010 level, while the female full-time equivalent participation rate (see notes to Figure 1.1.2) increases to equal the full-time equivalent rate for men by 2030.

44. Ageing populations combined with decreasing fertility rates mean that many countries are expected to face a shrinking labour force over the next 20 years. The projected decrease would be particularly severe (over 10%) in the Czech Republic, Germany, Japan, Poland, the Russian Federation, the Slovak Republic and Slovenia under the assumption of constant male and female labour force participation rates (Annex Part 1 - Figure A 1.1.1).

45. The convergence scenario projecting gender equality in labour force participation rates is projected to have the largest effect in Brazil, Chile, the Czech Republic, Greece, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Poland, the Slovak Republic and Spain. The projected increase in the size of the labour force exceeds 10% by 2030, as there are currently large gender gaps in participation in these countries (Annex Part 1 - Figure A 1.2.1).

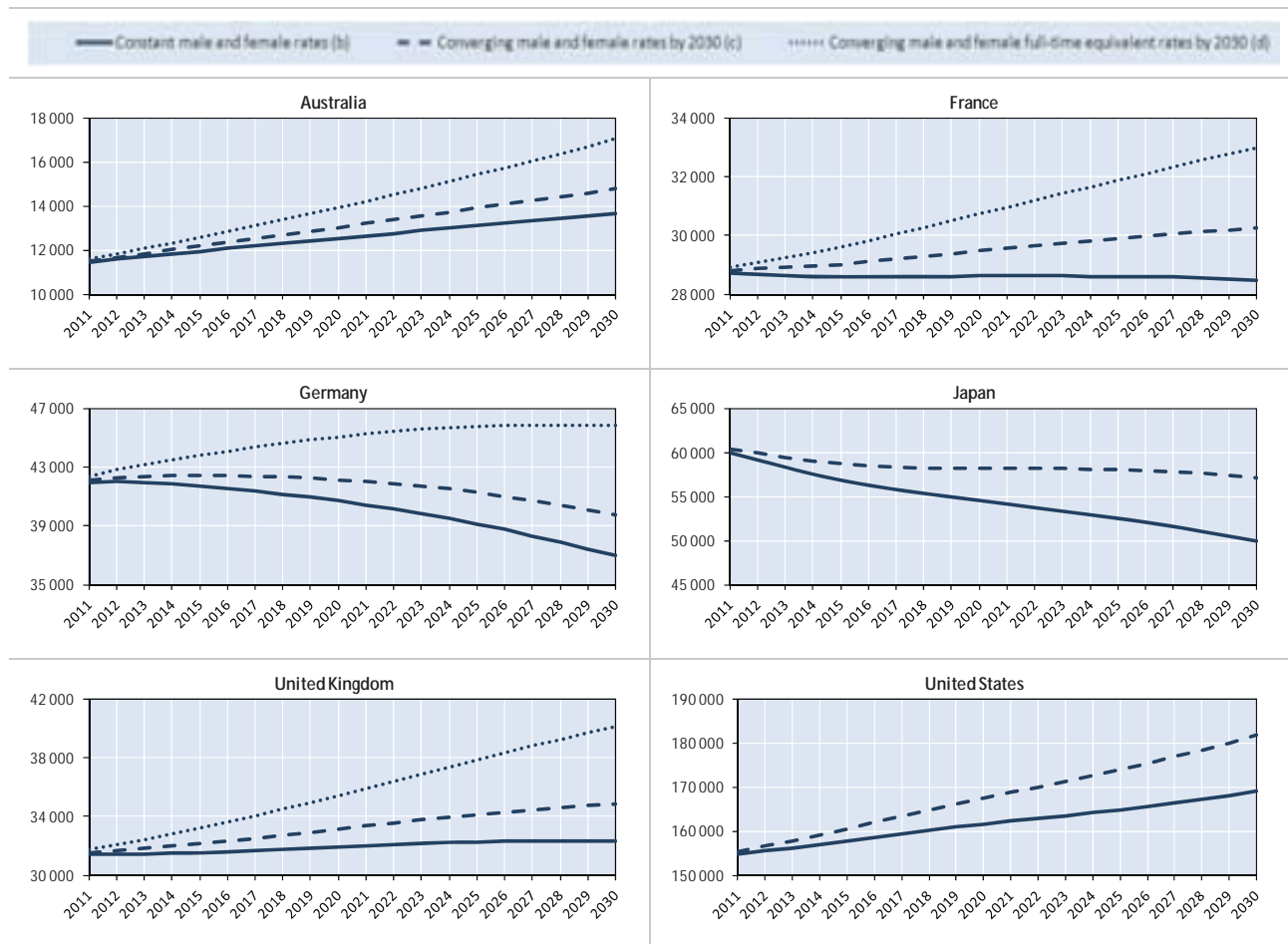
46. Figure 1.1.2 also illustrates the further effect of convergence in the intensity of labour force participation. Significant additional increases in the labour force are projected under this scenario for Australia, Austria, Belgium, Germany, Ireland, Luxembourg and the United Kingdom. In these countries more than 30% of employed women work part-time; labour force gains are potentially even higher in the Netherlands and Switzerland where the incidence of part-time employment is highest among OECD countries (Annex Part 1 - Figure A 1.2.1).

47. Of course, the projections involve making certain assumptions regarding future population patterns that may not materialise. Nevertheless, the projected scenarios clearly illustrate the size of the potential female labour force and its effect in counteracting the decline in labour supply resulting from the ageing of populations. In this context, a key challenge for both government and employers is to promote working conditions and pay that make being in work more attractive to women in the future. At the same time, ageing populations will also increase the demand for long-term care (OECD, 2011b). In many emerging economies, *e.g.* China, the fulfilment of family obligations such as caring for aging relatives is a priority for women regardless of their personal career ambitions. In China this issue is of particular concern due to the prevailing one-child policy which, amongst other things, means that such care obligations cannot be shared between siblings (Hewlett and Rashid, 2011). There needs to be greater gender equality in both paid and unpaid work participation and paid and unpaid workplace practices will have to become more efficient to meet the demand for formal and informal labour.



**Figure 1.1.2. The effect of converging participation rates between men and women on the size of the labour force<sup>a</sup>**

Projected number of persons aged 15-64 in the labour force, thousands, 2011-2030



- a. The labour force projections are based on population projections for persons aged 15-64 years as reported by the OECD Demography and Population database. For the remaining OECD countries not included in this chart please refer to the Annex to Part 1
- b. No-change scenario: The projected size of the total labour force aged 15-64 years, if the labour force participation rates for men and women remain constant from 2011 to 2030 at the rates observed in 2010.
- c. Convergence in participation rates: The projected size of the total labour force aged 15-64 years, if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the rate for women shows a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 rate for men by 2030.
- d. Convergence in intensity of labour market participation: The projected size of the total labour force aged 15-64 years, if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the full-time equivalent rate for women shows a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 full-time equivalent rate for men by 2030. The full-time equivalent rate is calculated as the labour force participation rate, multiplied by the average usual hours worked per week by all employed men and women respectively, and divided by 40.

Source: OECD Secretariat's calculations based on OECD (2012a), OECD Population and Demography database, and OECD (2012b), OECD Employment database.

## CHAPTER 1.2: WHY SOCIAL INSTITUTIONS MATTER FOR GENDER EQUALITY

### Key findings

- Across the world, persisting gender gaps in education, employment and entrepreneurship are related to discriminatory social institutions, defined as laws, social norms and practices which restrict the economic and social roles of girls and women.
- Across the OECD, countries with higher levels of discriminatory attitudes towards women's employment also have a greater gender gap in employment rates.
- For many developing countries, poorer education and subsequent labour market outcomes for women and girls are related to the prevalence of early marriage.

48. While recent decades have seen unprecedented numbers of girls succeeding in education, women entering the paid workforce and running successful businesses, patterns of gender inequality continue to persist. Social institutions can help explain what is stopping women and girls from achieving equal outcomes in areas such as education, employment, business, health and political participation (IFC, 2011; Jones *et al.*, 2010; North, 1990; OECD Development Centre, 2007 and 2010; and, World Bank, 2011). Social institutions set the context for whether decisions, choices or behaviours are deemed acceptable or not in a society. Social norms and attitudes play a key role in defining gender relations, for example, the division of paid and unpaid work or discriminatory practices such as early marriage, which influence social and economic outcomes for women and girls in developing countries. Too often, policy interventions addressing gender inequalities are designed without taking account of discriminatory social institutions, and consequently fail to tackle the underlying drivers of gender inequality.

### A snapshot of discriminatory social institutions in OECD and non-OECD countries

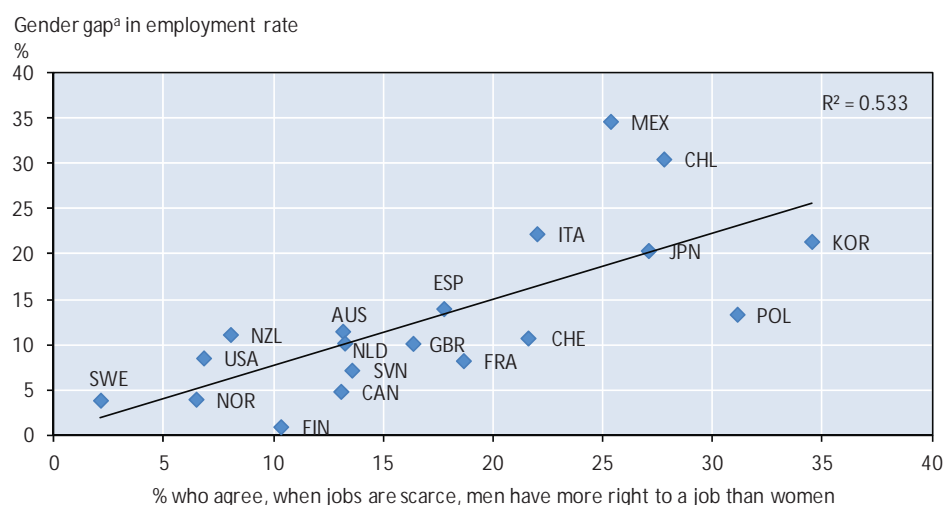
49. Figure 1.2.1 presents data for OECD countries on attitudes towards women and men's employment when jobs are scarce. This data provides a rough indication of discriminatory social norms which reinforce the role of men as the primary breadwinner and female employment as secondary. Across OECD countries, on average 10.3% of survey respondents agree that men are more entitled to a job than women when jobs are scarce. Swedes and Norwegians appear to have the least discriminatory attitudes while about one-third of Poles and Koreans appear to think that men have more rights to a job than women when labour demand is weak. Furthermore, Figure 1.2.1 suggests that the higher the percentage of respondents who find that men have more right to a job than women, the greater the gender gap in employment rates. It appears that discriminatory attitudes towards women's employment have an effect on employment outcomes, and should be considered when designing policy interventions aimed at achieving gender equality in economic participation. While countries may have anti-discrimination laws in place, there should be a continued focus on shifting underlying attitudes.

50. Non-OECD countries have made great gains in achieving gender parity in primary school enrollment, but gender gaps in secondary schooling persist, particularly in Sub-Saharan Africa and South Asia (Chapter 2.1). Discriminatory social institutions help to explain why girls leave school prematurely which contributes to persistent gender gaps in both educational and economic participation more generally. The OECD Social Institutions and Gender Index (SIGI) is a composite measure of discriminatory social institutions across non-OECD countries capturing laws, social norms and practices in five areas: Discriminatory Family Code, Restricted Physical Integrity, Son Bias, Restricted Entitlements and Resources and Restricted Civil Liberties. One SIGI-variable is 'early marriage' as measured by the percentage of women aged 15-19 who are married, which often represents the practice of girls being forced

into or entering into marriage before adulthood because of discriminatory social norms regarding the status of women in the family and the reproductive role of women. Early marriage disproportionately affects young girls, who are much more likely to be married than young boys (UNICEF, 2005). The prevalence of early marriage varies greatly across developing countries. Survey data nearest to 2009 indicate that the highest prevalence of early marriage is in the Democratic Republic of Congo (74%), Niger (62%), Afghanistan (57%) and Congo (56%). The practice varies amongst regions (Figure 1.2.2.), with South Asia exhibiting the highest regional average (33%), followed by Sub-Saharan Africa (30%). The prevalence is the lowest in Eastern Europe (10%) and Central Asia and East Asia and the Pacific (10%).

**Figure 1.2.1. Discriminatory attitudes towards women's employment are related to women's employment**

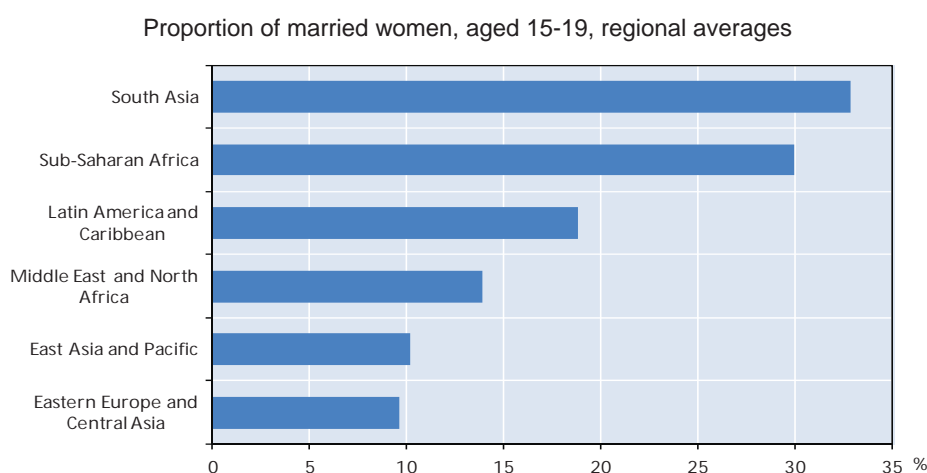
Gender gap in employment rates and discriminatory attitudes towards women's employment, OECD countries



a. This gender gap is the difference between male and female employment rates.

Source: World Values Survey Association (2009), World Values Survey 2005 and OECD (2012c), OECD Family Database.

**Figure 1.2.2. The incidence of early marriage varies across regions**



Source: OECD (2009b) Gender Institutions and Development database.

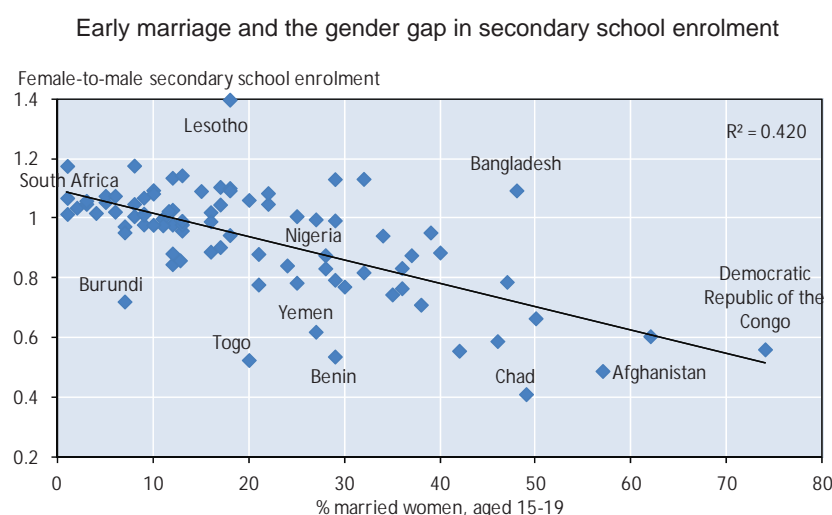
### Box 1.2.1. Missing women: a demographic crisis stemming from discrimination against daughters

The phenomenon of 'missing women' due to sex-selective abortions and female infanticide has attracted growing attention in recent years. This phenomenon which is a particular problem in South Asia, China and parts of the Caucasus and Western Balkans, is rooted in social norms preferring sons over daughters due to the view that sons represent a lifelong economic support while daughters are typically considered an economic burden (UNFPA, 2007). Klasen and Wink (2003) argue that increasing access to sex-selective abortions is a factor as well as restrictive family planning policies such as China's one child policy. In the absence of gender discrimination, values of the child-sex-ratio should fall below 105, as a result of higher child mortality among boys. China's most recent census found that the sex-ratio for newborns was over 118 (Hudson, 2011). Using data from the 2011 Census in India, after adjusting for excess mortality rates in girls, the estimates of the number of selective abortions of girls rose from 3 to - 6 million in the 2000s. Jha *et al.* (2011), suggest the problem is becoming increasingly prevalent amongst the middle class which suggests that missing women cannot be attributed to poor socio-economic status. The rising number of 'missing' women and girls in some countries presents a potential demographic crisis, where skewed sex-ratios may have serious social consequences with men unable to find female partners which could lead to social unrest, sexual violence and increased trafficking of girls and young women.

51. Girls suffer negative consequences from early marriage on a number of dimensions. For example, early marriage of girls serves to limit their access to education which therefore also has a flow-on effect to economic opportunities (UNICEF, 2005). Marrying young can lead to high rates of adolescent fertility, higher rates of infant mortality, poor maternal health and increased vulnerability to HIV (Bruce and Clark, 2004 and Jones *et al.*, 2010). Early marriage can also have negative inter-generational effects as children are less likely to be educated or immunised if their mother has not been educated (World Bank, 2011).

52. Figure 1.2.3 shows the relationship between early marriage and the female-to-male ratio of secondary school enrolment. Countries with a lower prevalence of early marriage are more likely to have reached gender parity in secondary school enrolment. For example, in South Africa, 3% of women aged 15-19 are married and the country has a female-to-male secondary school enrolment ratio of 105%. By contrast, in Chad, 49% of women aged 15-19 are married and the country has a female-to-male secondary school enrolment ratio of 41%. The relationship between early marriage and the female-to-male secondary school enrolment ratio also holds true when the country income level is taken into account.

**Figure 1.2.3. Early marriage is related to the gender gap in secondary school enrolment**



Source: OECD (2009b), Gender, Institutions and Development Database and UNESCO (2012a), UNESCO Education database.

53. The causal relationship between early marriage and education is complex. Bates *et al.* (2007) and UNICEF (2005) found that access to formal education itself is a critical factor in delaying the age of marriage for girls. However, Lloyd and Mensch (2008), found that almost 30% of those young women who left secondary schooling before completion in Chad and Nigeria cited early marriage as the main reason. The persistence of the gender gaps in secondary education in Sub-Saharan Africa and South Asia where early marriage rates remain high, indicates that discriminatory social institutions need to be addressed to enable girls to fully reap the benefits of education (Ambrus and Field, 2008).

### **Can policies change discriminatory social institutions?**

54. Although rigorous evaluations of policy interventions to address discriminatory social institutions are limited, a three-pronged approach is emerging from the literature. Firstly, legal reform, including the harmonisation of laws, to ensure equality before the law for women and men and the prohibition of discriminatory practices is a critical first step for changing discriminatory social norms and practices. An enabling legal and policy environment has long been identified as critical to improving women's economic and social outcomes (OECD Development Centre, 2010 and World Bank, 2011). For example, Tunisia introduced changes in the personal status law in 1993, establishing a minimum age of marriage and providing men and women with mutual obligations during marriage – the first country to introduce such reforms in the Middle East and North African region. These reforms induced changes in norms regarding women and men's roles in the family and society and have been accompanied by an increase in the age of marriage for women (OECD Development Centre, 2010).

55. Secondly, economic support and incentives for individuals and families can change behaviour and ultimately shift attitudes. The introduction of paid leave entitlements on a 'use it or lose it basis' for fathers in a number of OECD countries has led to men increasing their parental leave days (OECD, 2011c). An example of an economic incentive in a developing country context is the *Apni Beti Apna Dhan* programme in India, which provides cash incentives to girls and their families that are conditional on the daughters remaining unmarried until age 18. Initial evaluation results suggest this programme helped parents increase their investment in their daughters' human capital (Sinha and Young, 2009).

#### **Box 1.2.2. Housing support for vulnerable women and children in Brazil**

*Minha Casa Minha Vida* (my house my life) is a means-tested housing programme to support low-income families into secure housing. The programme offers support with financing home purchases as well as housing costs, and it aims to extend the 1 million homes already provided, to make available an additional 2 million houses and apartments by 2014. This is a federal programme delivered in partnership with states and municipalities, and eligibility criteria vary in rural and urban areas by income ([www.minhacasaminhavidacom.br](http://www.minhacasaminhavidacom.br)).

At the initiative of President Dilma Rousseff, the programme aims to address the issue of men leaving the family and selling properties without providing for women and children. One of the conditions for support is that registration of the property is made 'preferably' on behalf of the woman, also because women are more likely to have custody of children. The programme, its application (to what extent is the 'preferable condition enforced'?) and its effect on women outcomes and behaviour (how might this programme affect behaviour of women in case of domestic violence?) is yet to be evaluated.

56. Finally, long-term change ultimately requires a shift in public attitudes to change discriminatory social institutions, and to address the gap between laws and practice. Interventions such as public awareness programmes or community mobilisation activities can be effective. For example, the USAID 'Safe Age of Marriage' programme in Yemen uses community education to tackle attitudes about early marriage. Initial results of the programme found an 18% increase in awareness of the benefits of delaying marriage, with a 34% increase in those agreeing that delaying marriage would increase educational opportunities and a 19% increase in those agreeing that it would increase employment opportunities.

**Key policy messages**

Closing the gender gaps in education, employment and entrepreneurship requires governments to introduce policy interventions to shift discriminatory social institutions, which are often based on deep-seated social norms and gender stereotypes. This requires a multifaceted approach, including:

- Reform of formal and informal legal frameworks and the harmonisation of laws to provide equality for women and men and the prohibition of discriminatory and harmful practices. Examples include reform of Family Codes towards equality in marriage and inheritance and legislation criminalising domestic violence.
- Economic support and incentives for individuals, families and communities to change behaviours and to address discriminatory attitudes. For example, by supporting parents to invest the educational participation of their daughters as well as their sons.
- Community mobilisation, awareness and empowerment initiatives to change discriminatory attitudes, social norms and practices, through for example, media campaigns reinforcing the value of daughters.

### CHAPTER 1.3: EMBEDDING GENDER EQUALITY IN PUBLIC POLICY

#### Key findings

- Limited government accountability, lack of awareness and a lack of capacity within the public service to carry out assessments of impacts of various policy choices on men and women are among the barriers towards more effective gender equality policies.
- Public agencies supporting gender equality play an important role in mainstreaming gender considerations in policy development and service delivery, but often face challenges of visibility and authority to effectively pursue a coherent government approach in advancing gender equality across policy areas and levels of government.
- The availability of gender-disaggregated data varies across policy areas, and hampers the public ability to undertake robust analysis of gender effects of policy decisions and make informed policy choices.

57. The ability of governments to develop evidence-driven, responsive and inclusive policies is a fundamental element for achieving genuine gender equality in OECD countries. Officially, the responsibility of government agencies to appropriately address issues of gender inequality and gender mainstreaming into policies and programmes was embedded in the 1995 Beijing Platform for Action as endorsed by 160 governments (UN, 1995) as well as in many national constitutions (*e.g.* Canada, Egypt, Germany, India, the Russian Federation, South Africa and Turkey) and other legal and policy provisions.

#### Defining gender equality and gender mainstreaming

**Gender equality** describes the absence of obvious or hidden disparities among individuals based on gender in terms of opportunities, resources, services, benefits, decision-making power and influence (see WIKI GENDER).

**Gender mainstreaming** is a process of assessing the implications for women and men of any planned action, so that the gender perspective becomes an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes (see WIKI Gender). It encompasses the ability to anticipate the potentially differential impact of policy actions on women and men as well as the ability to design policy actions that are not “gender-blind”, but “gender-sensitive”. Policy actions are gender-sensitive if they recognise the potentially different interests and needs of women and men based on their potentially different social experiences, opportunities, roles and resources.

58. Yet, despite these governmental commitments, gender gaps still persist and Figure 1.3.1 gives an overview of barriers to a more effective pursuit of gender mainstreaming and gender equality policies (see above for the definitions). Countries report as most important barriers:

- limited accountability mechanisms<sup>2</sup> across government agencies to advance gender equality and mainstreaming, which require a clear definition of authorities and responsibilities across different public bodies, mechanisms to ensure compliance as well as consequences for non-compliance;

<sup>2</sup>

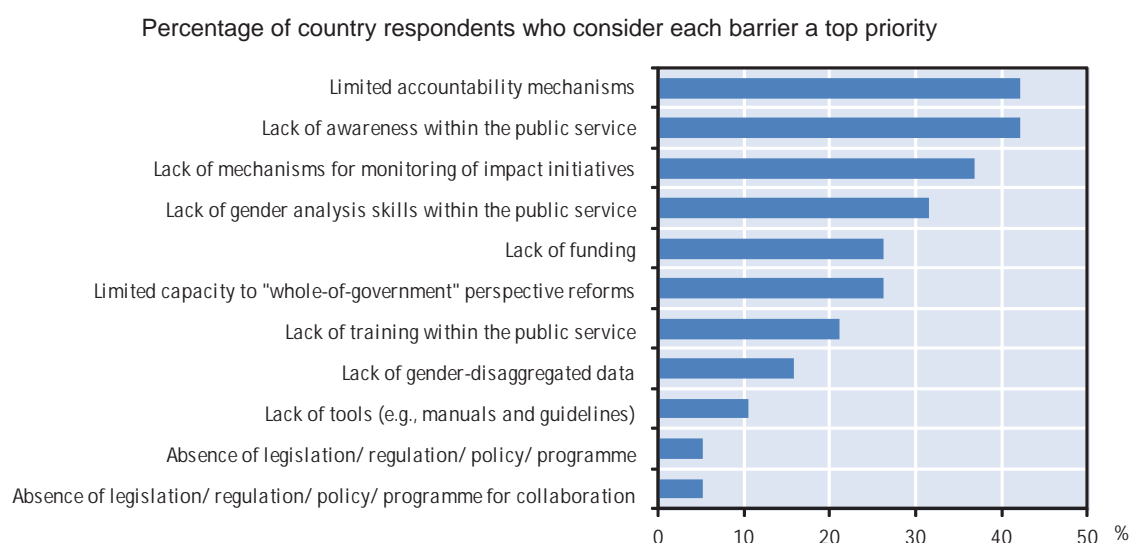
OECD (2011d) defines accountability as an “Obligation to demonstrate that work has been conducted in compliance with agreed rules and standards or to report fairly and accurately on performance results vis-à-vis mandated roles and/or plans. This may require a careful, even legally defensible, demonstration that the work is consistent with the institution’s mandate or contract terms.”



- a lack of awareness within the public service of possible differential effects on men and women of various policy options;
- a lack of monitoring mechanisms to evaluate the effect of gender equality initiatives.

59. Furthermore a coordinated governmental approach is often missing to deal with gender inequalities across various policy areas and levels of government. Ireland, Norway, Spain and Switzerland list limited accountability mechanisms for gender equality commitments made by governments as their top concern, while the Czech Republic, Israel, Luxembourg and Mexico note the lack of awareness of the need to mainstream gender considerations into the policy process as their key challenge (OECD, 2011d).

**Figure 1.3.1. Barriers to an effective pursuit of gender mainstreaming and gender equality policies**



Source: OECD (2011d), Survey on National Gender Frameworks, Gender Public Policies and Leadership

60. These barriers may constitute a significant impediment to reaching de facto gender equality. The evidence suggests that designing coherent and co-ordinated policies towards gender equality calls for a three pillar approach: 1) strong public institutions and mechanisms to ensure accountability for fulfilling gender equality and mainstreaming commitments; 2) tools for evidence-based and inclusive policy-making, accounting for potentially differentiated effects on women and men; and, 3) effective monitoring mechanisms and reliable gender-disaggregated evidence for making informed policy decisions (OECD, 2011d and 2011e).

### **Public institutions, incentives and accountability measures for gender equality**

61. Many OECD and non-OECD countries have put in place a range of institutional mechanisms to support the development of policies that aim to address gender inequalities and enable governmental accountability for closing gender gaps. These include focal points or public agencies supporting gender equality and mainstreaming efforts, which are often located within the public administration and often have a broad remit of government-wide policy-making responsibilities to: (OECD, 2011d) report to the parliament on the state of gender equality (87%); provide expert advice on the effect of policy on women (83%); conduct policy research (65%); make policy recommendations to other ministries (83%); monitor the implementation of public gender initiatives (61%); and, conduct analysis of effects on men and women of different policy options as part of the policy-making process (48%).

62. These agencies frequently act as a catalyst facilitating the actions by other government bodies and can influence legal reforms in ways that promote gender equality. For example, Mexico's National Women's Institute participated in the development of a National System for Equality between Women and Men, a body coordinating 42 federal agencies in gender concerns, and helped draft the National Programme for Equality between Women and Men 2008-2012.

63. The gender-related institutional settings differ widely across countries. Data shows that OECD countries are experimenting with different institutional models to test what works best in their country context: there seems to be no common trend across countries regarding the institutional set-up or a model fitting each country. Regardless of the type of institutional structure, the agencies in charge of the gender equality portfolio may face issues related to lack of the authority, visibility and leverage to effectively pursue a "coherent government approach" towards gender equality across various policy areas (Figure 1.3.1):

- *Single ministries or agencies.* 37% of OECD countries established stand-alone gender equality ministries or agencies, which ensure high visibility of gender issues and often have access to cabinet submissions thus facilitating integration of gender considerations into policy decisions (e.g. Belgium, Chile, Korea, Luxembourg, New Zealand). However, if funding and authority is lacking, this organisational framework may contribute to the marginalisation of gender issues while limited "ownership" by other public agencies may hamper their focus on gender issues.
- *Units in the centre of government.* 9% of OECD countries have established gender institutions in the centre of government (e.g. the office of the head of the government or state) to facilitate co-ordination, monitoring, policy development and accountability at highest government level (e.g. Israel and the United States). However, if there is no designated minister for gender equality, this option may curtail visibility of gender issues in Cabinet and beyond.
- *Combined portfolios.* In 54% of OECD countries gender equality issues are paired with other portfolios in a ministry (e.g. the Czech Republic, Germany, Greece, Finland, Ireland, Norway, the Slovak Republic, Spain, Sweden, and Switzerland, but also in Morocco and Tunisia). To be effective, this organisational framework requires strongly co-ordinated and coherent policy development and implementation. Also, frameworks that combine gender equality with family and/or children's affairs may risk defining women narrowly in their roles as mothers and caregivers.

64. In addition to these focal points within the administration, some countries have established parliamentary committees charged with responsibility for addressing gender matters (e.g. Belgium, Finland, Greece, Korea, Mexico and Spain); independent commissions overseeing gender equality issues (e.g. Australia, Belgium, Israel, Luxembourg and New Zealand); human rights commissions, (e.g. Australia, Ireland, Mexico and New Zealand) and "ombuds-offices", (e.g. the Czech Republic, Finland, France, Germany, Greece, Mexico, Norway and Sweden) to oversee the implementation of gender initiatives and to keep gender concerns on the policy agenda. Some of these bodies also consider complaints related to violations of economic and social rights of both men and women, including in relation to equal pay for equal work or equal access to education (OECD, 2008a, for a detailed overview of measures against labour market discrimination).

65. However, the use of institutional control, reporting or enforcement mechanisms to ensure the overall implementation of gender equality legislation and regulations varies between countries and can vary between levels of government. Less than half of OECD countries systematically report to parliaments

or other high level bodies on the implementation of laws aiming to reduce inequalities and gender-discrimination or results of assessments of gender impacts – even though most agencies in charge of gender equality are vested with this responsibility (OECD, 2011d). While audits or inspections also exist, they are very rare. The integration of targets for the implementation of gender-relevant policies into managerial performance objectives is not a common practice, and often not meeting gender equality targets has no or limited consequence to the institution at hand (OECD, 2011d).

### Developing tools for evidence-based policy making

66. Building awareness and understanding among policy-makers of potentially differentiated effects of policy choices on men and women is key to effective and evidence-based policies in various domains (Figure 1.3.1). Even seemingly gender neutral policy decisions can have differential effects, whether intentional or not, on the ability of women to become equal participants in society, by making it more difficult for them to find employment, gain an education, start a business, meet the needs of their family, or ensure their human rights. For example, a workplace regulation that permits parents to take leave to care for a sick child applies to both parents, but is more likely to affect women as primary caregivers (Chapter 3.7).

67. In this context, Gender Impact Assessment (GIA) is a key policy tool providing policy-makers with detailed and systematic information about the potential differential effects of laws, policies and regulations on men and women. Israel, for example, reports that several GIAs showed that sports for men and boys were found to enjoy a greater subsidy than sports for women and girls at national and local level (Swirski, 2011). GIAs can also help understand who will benefit from a particular set of policy options and can promote policy coherence by making transparent the trade-offs inherent in public policies. The EU defines a GIA as “a process to compare and assess, according to gender-relevant criteria, the current situation and trend with the expected development resulting from the introduction of the proposed policy” (EC, 1997). This analysis can be conducted during the law and regulatory design stage (*ex-ante*) and/or during the stage of impact evaluation of the implemented laws, regulations and programmes (*ex-post*). For example, in Sweden a regulation stipulates that a gender impact analysis must be carried out for policy proposals potentially affecting gender equality by a “committee of enquiry”, which extensively analyses the proposal and prepares a report before submission to Parliament for decision. In the case of Spain, following the adoption of the Act for Effective Equality between Women and Men, gender impact analyses are required for regulations and for plans of specific “economic, social, cultural and artistic relevance” submitted to the Council of Ministers.

68. While many OECD countries use some form of assessment of gender impacts of policy choices (e.g. Finland, Korea, New Zealand, Switzerland, Sweden, Turkey and the United Kingdom), the extent and depth of its application differ across countries. GIAs have yet to become routine steps in public policymaking. For example, while it is well-embedded into the law-making process of OECD countries (84%), fewer countries require GIAs as part of the development of government policies (68%) and programmes (74%), which are developed within the executive branch of government (OECD, 2011d). GIAs are also less common when evaluating the impacts of legislation, policies and regulations (*ex-post* assessment). Whether a GIA is carried out *ex-ante* or *ex-post*, the availability of sex-disaggregated data is necessary for high quality analysis (OECD, 2011e and 2011g).

69. Overall, OECD countries report that the introduction of GIAs has increased awareness and dialogue on gender issues amongst policy-makers which is contributing to issue awareness, agenda-setting practices and higher quality discussions. For instance, a gender analysis assessment on the drafting of a new Finnish law for occupational health and safety brought up the need to reconsider the foundations of what was included under occupational safety and risks (OECD, 2011e and 2011g).

***Monitoring mechanisms and a gender-disaggregated evidence base for policy making***

70. Limited mechanisms to monitor the implementation of the legal framework and governmental gender equality strategies were identified by OECD countries among key barriers for addressing inequalities and advancing women's de facto equality. Indeed, less than half of the surveyed OECD countries report to systematically measure, evaluate and monitor the performance of gender-relevant legislation and policies (OECD, 2011d).

71. Limited monitoring and measurement practices tend to be linked with limited capacity of ministries to define the need for data disaggregated by gender and to disaggregate the existing statistics, which is essential for monitoring.

**Box 1.3.1. Gender-responsive budgeting**

Gender responsive budgeting (GRB) is arguably the best known form of Gender Impact Assessment. GRB inserts a gender perspective at all stages of the budgetary cycle: it aims to avoid "gender-blind spending" and improve the effectiveness of government programmes by identifying gender-disproportionate consequences (Council of Europe, 2005). Several OECD and non-OECD countries (e.g. Egypt, Morocco, Nepal, Rwanda; OECD, 2010a and 2011f) have experimented with some form of gender budgeting over the past decade. In some countries, gender budgeting now has a legal basis, for example in Austria, Belgium, Egypt, Korea, Spain and Mexico. The Federal Government of Austria introduced a legal requirement to undertake gender-responsive budgeting, by amendment of the Federal Constitution in 2009. Other countries have opted for a more flexible legal approach, as for example, Norway, which issued guidelines to ministries for a gender-sensitive analysis of their respective budgets. OECD, (2011d), shows that GRB is still in its early stages: about half of OECD countries "always" or in "some cases" require GRB at all levels of government – 47% of countries at central government level (e.g. Belgium, Finland, France, Israel, Korea, Mexico, Norway and Spain), 42% at regional level (e.g. France, Germany, Korea, Mexico, Spain and Switzerland) and 52% at local levels of government (e.g. the Czech Republic, Finland, Germany, Israel, Mexico, Korea, Spain and Switzerland).

72. A thorough gender analysis cannot be performed without gender breakdowns in data collection (Swirski, 2011). While some OECD countries require all data collected by government bodies to be disaggregated by gender (e.g. Israel since the 2008 Statistics Law; Swirski 2011), capacity issues were reported among the top barriers for developing a sufficient gender-disaggregated evidence-base for making inclusive policies and monitoring their impacts by over 40% of OECD countries participating in the survey. Looking at data collection across sectors, the recent OECD survey results suggest that 74% of countries "always" collect gender-disaggregated data on education, 58% on social protection, 63% on general public services and only about 40% in the areas of health, public order and safety, economic affairs, recreation, culture and religion (OECD, 2011d). Yet, the availability of these data is essential to understand the effect of various policy decisions and to develop evidence-based solutions that are responsive to the needs of citizens, both men and women. For example, disaggregating data collection and public policy analysis on participation in politics or community life, housing ownership, use of public transport or income patterns by gender can help inform and develop better, more responsive, policies for better lives.

### **Box 1.3.2. Gender statistics and the Busan partnership for effective development co-operation**

Many countries are making concrete efforts to improve their gender statistics, recognising that better information is vital to make advances towards gender equality. However, bringing gender issues into statistics is more complex than simply disaggregating data by sex. In fact, gender statistics should be able to “adequately reflect problems, issues and questions related to women and men in society” (Beijing Platform for Action; para 206(a)). The development of gender statistics thus requires a comprehensive strategy, accounting for: a) a focus on subject areas where women and men do not enjoy the same opportunities, b) concepts, definitions, methods and tools that adequately reflect the diversities of women and men in society, taking into account stereotypes and cultural factors that might produce gender biases; c) effective instruments to communicate findings to policymakers, civil society and other stakeholders. The mainstreaming of gender perspectives in statistics can improve the whole statistical system, pushing it to describe more accurately the activities and characteristics of the whole population (UNECE, 2010).

Despite progress, much remains to be done. In a number of areas of critical interest for policymakers, gender data and indicators are still insufficient or lack comparability across countries. Co-ordination among international agencies and strong ownership by statistical institutes (of both developing and high-income economies) are key to address these gaps. The dialogue between producers and users of gender statistics should also be strengthened, in order to ensure that high-priority policy issues are addressed first and that requests for new data are backed by sufficient funding, since many countries are facing serious fiscal constraints. The harmonisation and analysis of gender statistics in the three dimensions of Education, Employment and Entrepreneurship (“the three Es”) is a central element of the OECD Gender Initiative. In coordination with the InterAgency Expert Group on the Development of Gender Statistics (IAEG-GS), the Gender Initiative has selected key indicators on gender differences in education and employment, drawing on existing compilations and on datasets developed by

At the 4th High level Forum on Aid Effectiveness (Busan, 29 November-1 December 2011), organised by the OECD and the Government of Korea, participants recognised that gender equality and women's empowerment are critical to achieving development results and a prerequisite for sustainable and inclusive growth. Participants also agreed to accelerate and deepen efforts to collect, disseminate, harmonise and make full use of data disaggregated by sex to inform policy decisions and guide investments, ensuring in turn that public expenditures are targeted appropriately to benefit both women and men.

To support the implementation of the Busan gender equality commitments, the Evidence and Data for Gender Equality (EDGE) initiative was launched in Busan. Led by UN Women and the UN Statistical Division, this is a dynamic partnership of UN member countries, the World Bank, OECD and others which aims to improve the availability and use of statistics that capture gender gaps in economic activity. It capitalises on the May 2011 OECD Ministerial Council Meeting on development which called on international organisations to agree on a harmonised set of gender equality indicators to measure progress in education, employment and entrepreneurship for presentation at the Busan HLF-4. The resulting EDGE indicators are part of the broader “minimum set of gender indicators” as supported by the IAEG-GS under the aegis of the United Nations, which includes indicators on access to media, education, health, public life and decision making, and human rights.

The objective of EDGE is to build national capacity and strengthen national systems to collect data on critical areas of women's empowerment. The areas selected for initial focus are education, employment and entrepreneurship and asset ownership. Activities will include the development of a database for international data compilation covering basic education and employment indicators, the development of standards and guidelines for entrepreneurship and asset ownership indicators and related pilot data collection in 10 countries.

73. Many OECD countries have already taken steps to strengthen their information-capacity, including the introduction of formal requirements for gender disaggregation and the incorporation of a gender perspective within national statistical legislation (58% of respondents including Germany, Israel, Korea, New Zealand, the Slovak Republic and Spain), setting up gender statistical units in national statistical agencies (53% of respondents including Belgium, Chile, the Czech Republic, Norway, the Slovak Republic and Sweden), systematic identification of gaps in availability of gender-disaggregated data (42% of respondents including Mexico, Finland, Spain, France and the US) and establishing horizontal coordination mechanisms to determine gender-disaggregated data needs (42%, including Australia, Greece, Switzerland and the US). Yet more efforts are required to close the de facto gap to ensure a comprehensive evidence-base for inclusive and responsive policies to address remaining inequalities and achieving inclusive growth.

**Key policy messages**

Governments have made significant progress, but still need to do more to develop, monitor and evaluate public policies to make gender policies more effective. In particular, they need to strengthen:

- The capacity, skills and mechanisms for regular impact monitoring and evaluation of gender initiatives, including the systematic collection of relevant gender-disaggregated data in all policy areas.
- Enhance the integration of gender impact assessments into the design, implementation and evaluation of laws, policies, regulations, programmes and budgets in a systematic and comprehensive manner.
- Strengthening incentives as well as compliance and accountability measures for effective implementation of gender equality and mainstreaming initiatives across government bodies.

**PART 2: GENDER EQUALITY IN EDUCATION**



## CHAPTER 2.1: KEEPING YOUNG GIRLS AND BOYS IN SCHOOL

### Key findings

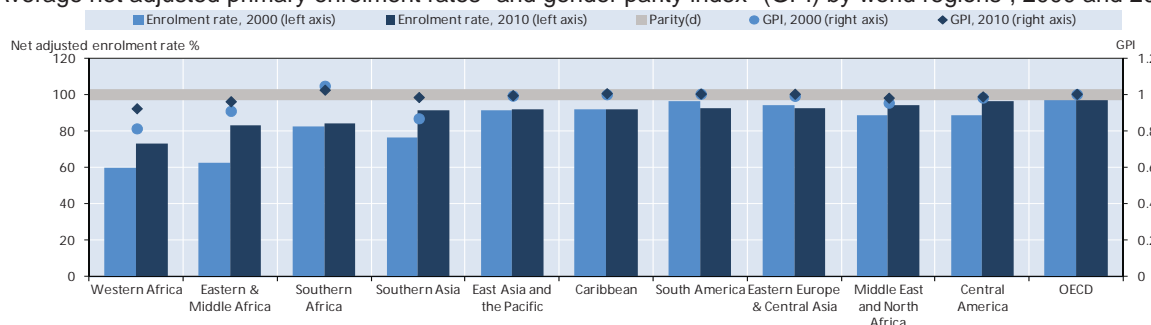
- Enrolment in primary education is near universal in many countries, and gender gaps have closed in the majority of countries across the world, except in some countries mainly located in Southern Asia and Sub-Saharan Africa.
- Enrolment in secondary education varies considerably across countries. In Eastern, Middle and Western Africa and Southern Asia, teenage girls are less likely than boys to stay in school. By contrast, especially in high-income countries, boys are more likely to drop out of secondary education than girls.
- Considering attainment rates of upper secondary education among OECD countries, the greatest gains were made by young women in Iceland, Korea and Spain compared with their male peers, while young Portuguese women have the largest comparative advantage.

### Who is in school?

74. With many countries mandating schooling from around age 6 onwards, primary school enrolment is nearly universal in most regions in the world. Yet, in Western Africa the primary enrolment rate is barely 70% and in Southern Africa and Eastern and Middle Africa, it is only slightly above 80%. Moreover, regional averages mask inequality within regions. In Eastern and Middle Africa, for example, Eritrea and Djibouti have primary enrolment rates of 34% and 44%, respectively, compared with 98% in Burundi and Madagascar.

75. Out of the 154 countries for which net adjusted primary school enrolment data are available in 2010, about 112 countries have reached "gender parity": there are as many girls as boys in primary schools. But Figure 2.1.1 shows that, despite marked progress in Western, Eastern and Middle Africa and Southern Asia, gender gaps in primary school participation persist in these regions. The ten countries with the highest gender inequality in primary education are all found in these regions, with Benin, the Central African Republic, Niger, Pakistan and Yemen topping the list.

**Figure 2.1.1. Gender gaps in primary education still persist in some geographic regions.**  
Average net adjusted primary enrolment rates<sup>a</sup> and gender parity index<sup>b</sup> (GPI) by world regions<sup>c</sup>, 2000 and 2010



a. Adjusted primary net enrolment rate (NERA): Total number of pupils of the official primary school-age group who are enrolled at primary or secondary education levels, expressed as a percentage of the corresponding population.

b. Gender Parity Index (GPI): Ratio of female to male values of a given indicator.

c. Country groupings are defined in the Annex to part 2. Regions are ordered by increasing 2010 enrolment rates.

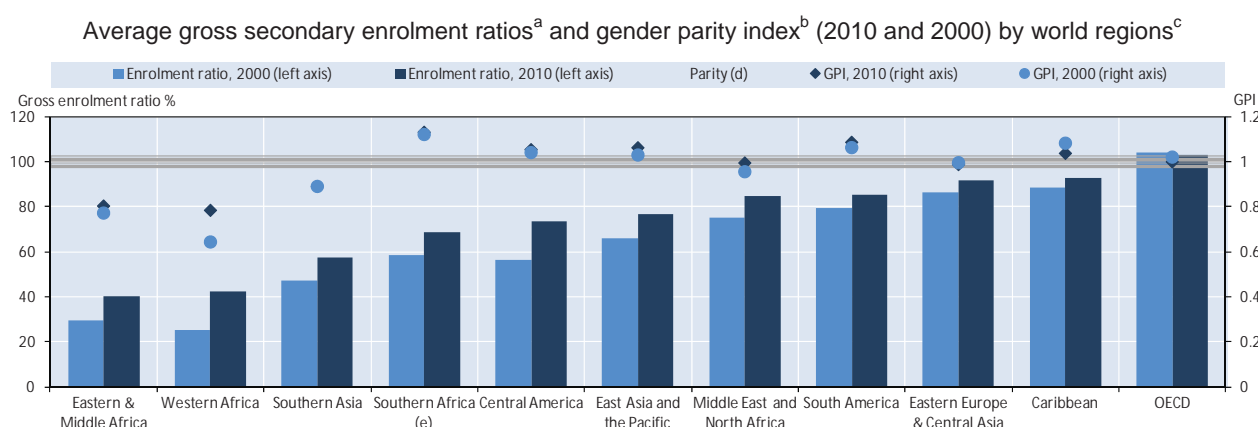
d. According to the definition used by the UN Department of Economic and Social Affairs, countries are considered in gender parity when the Gender Parity Index (GPI) is between 0.97 and 1.03.

Source: UNESCO (2012a), UNESCO Education database

76. Compared with enrolment rates in primary education, relatively fewer girls and boys attend secondary education and enrolment rates vary significantly between the more and less economically developed regions. Compulsory schooling until age 15-16 means that almost all children of this age attend secondary school in OECD countries. In Western, Eastern and Middle Africa, only 4 out of 10 children are enrolled in secondary education.

77. Despite the gains made in the past decade in reducing the gender disparities in secondary enrolment, girls are still less likely than boys to enroll in secondary education in Western, Eastern and Middle Africa and Southern Asia (Figure 2.1.2). Across the world, the number of countries where either girls or boys are more likely to be in secondary education is broadly even. Girls are 'disadvantaged' in regions with low overall enrolment rates, whereas in regions with higher secondary education enrolment rates such as South America, Central America and Southern Africa - boys are more 'disadvantaged' than girls. As girls' educational expectations rise at a faster pace than those of boys, so does their academic performance. Once they have gained access to higher education, women exceed men in grades, evaluations and degree completions (UNESCO, 2012b).

**Figure 2.1.2. In secondary education girls are disadvantaged in regions with low overall enrolment rates**



- Gross enrolment ratio (GER): Total enrolment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school year. GER can exceed 100% due to the inclusion of over-aged and under-aged pupils/students because of early or late entrants and grade repetition.
- Gender Parity Index (GPI): Ratio of female to male values of a given indicator.
- Country groupings are defined in the Annex to part 2. Regions are ordered from lower to higher by increasing 2010 enrolment ratios.
- According to the definition used by the UN Department of Economic and Social Affairs, countries are considered in gender parity when the Gender Parity Index (GPI) is between 0.97 and 1.03.
- The very high GPI value in Southern Africa is due to Lesotho (1.38) and Namibia (1.18) where the gross enrolment rate in secondary education in 2010 was low for both boys and girls (for instance, in Lesotho the male and female secondary net enrolment rates were 39% and 54%, respectively).

Source: UNESCO (2012a), UNESCO Education database.

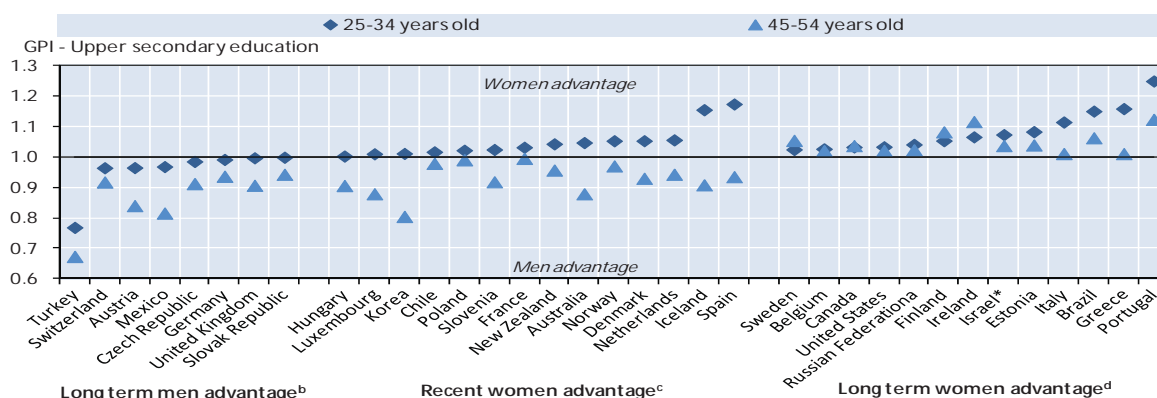
78. Many developing countries have been successful in raising enrolment rates, but it is not clear to what extent this has improved learning. There is evidence which suggests that programmes which increased school participation, including 'deworming' programmes (Miguel and Kremer, 2004), providing school-meals (Vermeersh and Kremer, 2005) and textbooks (Glewwe, *et al.*, 2009) do not improve test scores. In fact, greater participation, if not accompanied by improvement in quality of education and higher attention to children with weaker academic backgrounds, could potentially reduce test scores because of overcrowded schools or negative peer effects. Evidence from the Southern and Eastern African Consortium for Monitoring Education Quality (SACMEQ) on 15 Southern and Eastern African countries suggests that policies which stimulated enrolment have neglected the effect that quality in education may have on gender equality in learning achievement, especially in rural schools and lower socio-economic groups. In fact, while gender equality in Grade 6 of primary school enrolment in the period between 2000

and 2007 has improved in many SACMEQ countries, the size and the direction of gender differences in learning (with girls performing better in reading whilst lagging boys in mathematics) has remained stable, with improvements only observed in urban areas and among higher Social Economic Status (SES) groups (Saito, 2011). The PASEC (Programme d'Analyse des Systèmes Educatifs des Pays de la CONFEME) evaluations carried out in 11 French-speaking African countries also confirms that girls are less successful than boys in science-based subjects. Sy (2011) found that the quality-factors that affect girls' achievement include: female teachers, school location, class size, and teacher absenteeism. Language, ethnicity and family socio-economic background tend to compound gender inequality in learning. The use of the language of instruction at home has a positive effect on student performance (Ouane and Glanz, 2010).

79. Considering attainment rates of upper secondary education by gender across OECD countries, it appears that young women generally do at least as well as young men, except in Turkey. Comparing attainment in upper secondary education of younger (25-34 years old) and older (45-54 years old) men and women Figure 2.1.3 identifies three groups of countries. In the first group, the proportion of younger and older women with at least upper secondary education is less than for their male peers ("long term male advantage"); in the second group, the proportion of young women who have completed at least upper secondary education was in 2009 at least as high as for young men ("recent female advantage"); and, in the third group of countries both younger and older women are more likely than men to have completed at least upper secondary education ("long term female advantage"). Among the countries, where the proportion of women aged 45-54 with at least upper secondary education is lower than for men of the same age (the first two groups in Figure 2.1.3), progress in closing the gender education gap was particularly pronounced in Australia, Iceland, Korea, Mexico and Spain (see Chapter 1.1 on Korea). In 2009, the proportion of women with at least upper secondary education was considerably larger than among men in Brazil, Greece, Iceland, Italy, Portugal and Spain.

**Figure 2.1.3. In most OECD countries, young women are more likely to have completed upper secondary education than young men**

Gender Parity Index<sup>a</sup> (GPI) for the percentage of population that has attained at least upper secondary education by age, 2009



Note: Countries are ordered by increasing GPI value for 25-34 years old within each of the three groups long-term male advantage; recent female advantage; and long term female advantage.

\* The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

a. Gender Parity Index (GPI): Ratio of female-to-male values of a given indicator.

b. Long-term male advantage: GPI smaller than one among both 25-34 and 45-54 years old.

c. Recent female advantage: GPI smaller than one among 25-34 years old and greater than one among 45-54 years old.

d. Long-term female advantage: GPI greater than one among both 25-34 and 45-54 years old.

Source: OECD (2011h), Education at a Glance 2011.

### *Addressing gender gaps in education*

80. Existing gender gaps in educational outcomes are related to a mixture of economic and socio-cultural factors, including the costs and benefits of education, social norms and gender roles, discriminatory institutions, and personal safety. These factors are interrelated which often makes it difficult to distinguish causes and effects and/or provide immediate and targeted policy responses.

81. The costs of schooling are both direct - school fees, cost of books, uniforms, and transportation – and indirect - the opportunity cost of having children in education rather than engaged in economic activity. While the direct costs are the same for boys and girls, the indirect costs vary with the prevailing gender roles. As shown by the Understanding Children's Work project statistics ([www.ucw-project.org](http://www.ucw-project.org)) on child labour and household chores, boys' opportunity costs of schooling are the foregone earnings of child work in the labour market or in the family business. Apart from foregone earnings, the opportunity costs of schooling for girls also concerns caring for younger siblings and unpaid domestic activities. These effects can be important. For example, women and girls are often responsible for collecting water which, depending on distances in rural areas and/or waiting times, may take up to 4 to 5 hours per day. Increasing access to water, for example, can thus have a large effect on girls' enrolment in school.

82. In the past few decades, tuition fees for primary education have been eliminated in many countries. But other education costs may still pose barriers to participation. Kenyan parents, for example, have historically had to purchase school uniforms that cost about USD 6, accounting for a substantial proportion of the per capita income of USD 34 (Glewwe and Kremer, 2006). Other interventions targeted to encourage enrolment of children from poor families are school-meal programmes, flexible schooling models for working children, school-based malnutrition and health interventions, financial subsidies, scholarships and conditional cash transfers (Box 2.1.1).

83. Policies aimed at reducing the direct and indirect costs of education have a larger effect on girls. This is because in poor families more girls than boys are at the margin of choosing between some schooling and no schooling and the reduction in education costs would tilt the balance towards schooling. In countries where free primary education has been introduced, the gender gap in enrolment has declined as a result. Most of the countries around the world have school-meal policies, although in countries where the need is the greatest, such as Africa and India, coverage is lowest (WFP, 2009). These programmes encourage poor households to send girls to school even when girls are not specifically targeted. In India, for example, the introduction of school meals contributed to an increase in the years in primary school for girls, but not for boys (Dreze and Kingdon, 2001), while in Ethiopia girls changed from participating in agricultural work to domestic activities to reconcile school participation with unpaid work commitments (Haile *et al.*, 2011). A randomised school-based "deworming" programme has also been found to be cost-effective. As the programme reduces the sickness incidence and stimulates parents to send their children to school, it is associated with significantly higher school participation rates, especially among girls and younger children (Edward and Kremer, 2000).

84. The benefits of education might also be different for boys and girls. The returns from education are the individual's gains in terms of economic outcomes (*e.g.* better job, better salary) and social outcomes (*e.g.* better health, higher social cohesion). Given limited financial resources parents might prefer to invest in boys' education over girls to provide them with the skills needed to get a decent job in the labour market and to enable them to get married. Although a growing literature suggests that mothers' education has strong social returns in terms of reducing child and maternal mortality, increasing children's education and reducing gender inequality among siblings, parents usually do not take into account the effect that their daughters' education would have on future generations. In poorer contexts, parents are more likely to consider more immediate effects that a marriage can bring such as expanded family wealth or care provided by daughter-in-laws at old age. In determining how much to invest in their children's education, parents do not account for wider social benefits, which underlies the rationale for public investment in education.

### Box 2.1.1. Conditional vis-a-vis unconditional cash transfers

In addition to general education policy, conditional cash transfers (CCTs) have also been introduced to build human capital through increased school participation. The success of cash transfers in Latin America in raising educational participation is often attributed to their conditionality, *i.e.* cash is received by households only if certain behavioural requirements are met (Behrman *et al.*, 2011).

In these cases, CCTs provide incentives to the demand-side (students and parents) to overcome their lack of motivation and participate in schooling while CCT policy was backed up with the provision of services to the target population. However, when low-school attendance is not largely related to a lack of motivation among parents and students, but grounded in supply-side constraints (a lack of basic service provision as in many developing countries), conditionality may not be an effective tool in raising school attendance.

There are also differences across countries in the extent to which conditionality is applied. The Brazilian *Bolsa Familia* programme provides benefits to low-income households - with a monthly per capita income lower than half of a national minimum salary – and children of school age (6 to 15 years). In the case of *Bolsa Familia* payments are only conditional on services for education and health being delivered to children in the family. By 2010, the programme was reaching 13 million beneficiary families (over 17 million children and adolescents of school age). The transfer amounts to a maximum of USD 112 per month to families conditional on children's school participation (for at least 85% of school days) and family members' utilisation of health care services. The application of eligibility criteria in Brazil is 'soft': in case of non-compliance the grant is not withdrawn, instead social services are called into the family to assess the situation (Hanlon *et al.*, 2010).

Before the introduction of *Bolsa Familia* the net secondary enrolment rate in 2000 was 71% for girls and 66% for boys, compared with 86% and 78%, respectively, in 2008 (UNESCO, 2011a). Soares *et al.* (2010) assert that *Bolsa Familia* increased the likelihood that a 15-year-old girl will remain in school by 19 percentage points, and the largest gains occurred in the historically disadvantaged northeast region, where enrolments have risen by 11.7 percentage points. Moreover, programme evaluation shows that effects at primary school age are limited, and mainly concern the participation of older children.

Some CCTs are explicitly "gender sensitive". For example, *Oportunidades* pays higher cash transfers towards girls than boys, and differences in support rates increase with grade level in order to reduce the relatively high drop-out rates for girls after primary school in rural areas of Mexico. Within two years of its implementation *Oportunidades* contributes to the 9.3 percentage point increase in enrolment rates for girls in secondary school (from a base of 67%). Another example is the Conditional education transfer (CET) programme for poor families implemented in Turkey since 2003. As for the majority of CCTs, the CET targets mothers and transfers the cash into their bank accounts (<http://www.unicef.org/turkey/sy11/ge45.html>). The CET also provides a higher amount of assistance towards girls relative to boys for both primary and secondary school students to increase girls' participation in education (payments also vary with the age and the number of children in a household). The CET did not significantly affect primary school enrolment but had a noticeable effect on secondary school enrolment and attendance, subject to regional variation (Adata and Hoddinott, 2007 and ADB, 2008).

The South African *Child Support Grant* (CSG) is a means-tested benefit grant. Over the years, there has been a gradual age extension, and from 2012 children up to the age of 18 are eligible for the grant, and about 60% of all children receive the grant. The current grant amount is R240 (about USD 34) per month and in 2010 9.4 million children were benefiting from CSG. Until recently CSG was an unconditional cash transfer, however, since 2011 CSG receipt is conditional on providing proof of regular school attendance twice a year (Lund, 2011). The CSG can provide additional cash for children's uniforms or meals and, hence, can increase children's school participation. However, its impacts have been most visible on female labour force participation and children's nutrition.

The recent introduction of conditionality in South Africa is debatable. Enrolment rates at primary and secondary school level for both girls and boys are relatively high, and remaining problems with school attendance are largely related to gaps in education services in rural areas rather than motivation among students or their parents. In this context, conditionality imposes an additional bureaucratic layer, and since the corresponding databases and infrastructure to monitor and enforce the conditionality are not in place, school attendance requirements remain 'soft': it is not clear that introducing conditionality under these circumstances will be effective. Nevertheless, it serves as a policy signal confirming the importance of education, and may provide some reassurance to donors and tax payers.



85. The greater labour market opportunities for boys explain their higher school drop-out rates, although at different educational levels, in OECD and non-OECD countries. Irregular attendance, poor school performance and dropout among adolescents is a growing concern in many OECD countries, particularly for boys. In OECD countries, on average 73% of girls complete their upper secondary education in time compared with only 63% for boys, and the gender gap in this regard exceeds 15% in Israel and Norway (OECD, 2011h). However, gender differences in completion rates are largely related to school performances and differences in socio-economic background: boys drop out because they do worse than girls throughout the schooling period, and more boys from low-income households are affected (Falch, *et al.*, 2010). In OECD countries boys and girls from lower socio-economic background or who belong to vulnerable social groups are twice as likely to be low performers and at higher risk of dropping out (OECD, 2012e). School drop-out among boys is also of concern in Abu Dhabi, but here the lack of motivation to pursue education is related to the fact that they are practically assured of a career in the military, police or family businesses, so the incentives to pursue higher education are limited (OECD, 2012d). Policies to prevent dropping out and support re-entering education concern a wide range of measures, including providing: high quality early education; tailored individual support to students when needed; and, education and training opportunities that are attractive to boys. These measures are especially relevant for boys and girls from a disadvantaged background (Council of the European Union, 2011 and OECD, 2011h)).

86. Policy needs to continue to address the issue of unequal access to primary and secondary education and where necessary design tailored policies for regional and local levels, to address the needs of all students, including those living in remote rural areas. Additional investments in schooling may well be most efficient if they are made in conjunction with investments in a range of other services addressing health and care issues. Policies aimed at improving the quality of schooling, tackling poor school infrastructure, teacher shortages, and teacher absenteeism are important to increase the returns to education and boost educational enrolment. As shown by the recent OECD study, *Equity and Quality in Education*, quality and equity in school is not a problem confined to developing countries. In OECD countries, almost one in every five students does not reach a basic minimum level of skills, and students from disadvantaged socio-economic backgrounds are twice as likely to be low performers (OECD, 2012e). Countries have to ensure that education, particularly vocational education, is relevant to labour market needs and that there are not incentives in place that make it convenient for students to drop out from education too soon.

87. Increasing awareness among families and children of the benefits of education can be a successful and cost-effective policy to increase school attendance and reduce drop-out rates with little cost to the public purse. A randomised evaluation done by the Poverty Action Lab on Madagascar found that providing information on returns to education for adolescents who finish primary school increased attendance by 3.5 percentage points (Nguyen, 2008). Also, Handa (2002) showed that raising adult literacy will have a larger effect on primary school enrolment rates than providing cash support to households: adult literacy campaigns are nearly 10 times more cost-effective than the cash transfer.

### Box 2.1.2. Aid focused on gender equality in education

**OECD DAC donor countries focus a high share of their aid in the education sector on gender equality – higher than in other sectors. Donors should ensure that aid focused on gender equality in the education sector makes it easier for girls to remain in school, by, for example, supporting a "girl-friendly" school environment.**

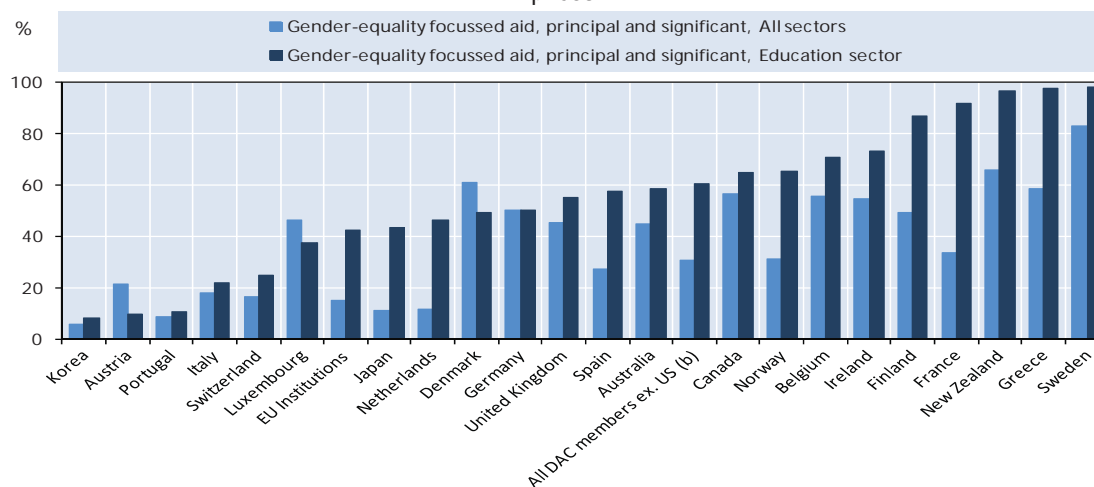
Aid flows from OECD Development Assistance Committee (DAC) donor countries totalled USD 129 billion in 2010, the highest level ever, and an increase of 6.3% over 2009. This represents about 0.32% of the combined gross national income (GNI) of DAC member countries.

In the education sector, aid targeting gender equality and women's empowerment more than doubled in 2009-10 compared to 2004-05, with a total of USD 4.7 billion (annual average commitments). This represented close to 20% of total gender equality-focused aid by DAC members in 2009-10.

The Figure below shows, in 2009-10, on average 60% of all DAC members' aid (excluding the United States) in the education sector was principally or significantly focused on gender equality - a proportion substantially higher than that of aid focused on gender equality in all sectors combined. With very few exceptions, the proportion of individual DAC members' gender equality-focused aid is higher in the education sector than in all sectors combined. For most DAC members, at least 50% of aid in the education sector addressed gender equality concerns, either as a principal or significant objective; in countries such as Greece, New Zealand and Sweden, almost all aid to education focused on gender equality.

**Figure Box 2.1.2. A high share of OECD DAC donor countries focus their aid in education sector on gender equality**

Shares of gender equality-focussed aid by donor country in education and all sectors<sup>a</sup>, 2009-10 commitments, 2009 prices



Note: (i) The largest providers of assistance in the education sector in 2009-10 were France, Germany, the United States and the EU institutions (more than USD 1 billion on average per year); by contrast, Austria, Denmark, Finland, Greece, Luxembourg, Ireland, Italy, New Zealand, Portugal and Switzerland allocated less than USD 200 million on average per year to the education sector in 2009-10. (ii) Countries are ordered by increasing share of gender equality-focussed aid in Education.

a. 'All sectors' refer to all sector allocable aid: Education, health, water, government, other social sectors, and all productive sectors, including those cutting across different sectors.

b. In the case of the United States, the gender equality marker – the OECD/DAC system for measuring gender equality focused aid – was assigned in 2009 based on a text search through project descriptions (using terms such as "girl" or "woman"); resulting data is not comparable with those reported by other donors. The United States has reviewed how it collects gender equality marker data and determined that for the sake of reliable and valid reporting, it will significantly modify the methods. The year 2010 will be a transition; no data will be reported while the United States is implementing an improved data collection procedure for the gender marker. The United States anticipates that reporting will resume for 2011 flows under the new methodology.

Source: Calculations based on the DAC Creditor Reporting System dataset.

The main recipient regions of gender equality-focused aid in the education sector in 2009-10 were Sub-Saharan Africa which received 31% of total aid to education targeting gender equality, followed by South and Central Asia with 16%, Far East Asia with 12% and North Africa with 10%. The remaining regions received 5% or less of total aid in the education sector focused on gender equality.



88. Getting girls into school and improving their educational outcomes requires policies designed to tackle the root causes of gender inequality in education including violence against women (UNESCO, 2011a). A "girl-friendly" school environment can help get girls into school and lower the barriers to their progression through the educational system (UNESCO, 2011a). Evidence from Africa, Asia, and the Middle East countries suggests that sexual harassment and other forms of gender-based violence may affect girls' school enrolment or may lead to increased rates of school drop-out (Morrison *et al.*, 2007). Safe travelling to school, female restroom facilities, a balance between male and female teachers are all perceived as important to facilitate girls' enrolment. To deal with violence against women, NGOs around the world have used instruments like mass-media campaigns, including radio and television, and community-based education. The most important lesson learned from past experiences is that programmes need to focus on changing the attitudes and behaviours of young men. Several programmes that promote nonviolence among men and boys in developing countries – such as *Program H* in Brazil, *ReproSalud* in Peru, and *Men as Partners* in South Africa—have shown promising results (Guedes, 2004 and Pulerwitz *et al.*, 2004). Hiring more female teachers has also proven to have a positive impact on girls' attendance. The evaluation of a randomised programme in India, for instance, has found that hiring additional female teachers increased girls' attendance by 50% (Glewwe and Kremer, 2006). Violence against women and gender norms about sexuality put both girls and boys at increased risk of HIV infection. Appropriate measures in the schools and in the communities to raise awareness on the risk of HIV infection are crucial. Social norms and discriminatory institutions such as early marriage and mothers' inability to have much to say over family economic resources which are prevalent in some regions might hinder children and particularly girls' access to education.

#### Key policy messages

Gender gaps in educational participation are related to a mixture of economic and socio-cultural factors, which often require a comprehensive, multifaceted policy approach. In particular, these approaches in developing countries could include:

- Reducing the direct and indirect costs of schooling by decreasing or eliminating school fees, and the provision of school materials, uniforms and meals.
- Ensuring that the relatively high share of development aid which is focussed on gender equality in the education sector supports girls' completion of schooling, including supporting a "girl-friendly" environment by providing safe travel to school and separate restroom facilities.
- Local infrastructure and institutional capacity need to be taken into account when deciding on the CCT conditions. Usually, the quality and availability of education and complementary services is best in urban areas, while service support is most lacking in remote areas.
- To reduce "drop-outs" in all countries, raise awareness of the benefits of education using different targeted messages for boys and girls, and increase the returns to education by improving the quality of schools, teachers and curricula and their labour market relevance.

## CHAPTER 2.2: WHO'S GOOD AT WHAT IN SCHOOL?

### Key findings

- At age 15, girls outperform boys in reading in every PISA participating country and economy. The reading performance gender gap is equivalent, across OECD countries, to one year's worth of schooling. In mathematics, boys outperform girls in some countries and economies but differences are generally smaller. In science, gender differences are small and there is no consistent pattern across countries.
- Students' attitudes play an important role in shaping gender differences in academic performance observed in mathematics and reading and gender stereotypical attitudes towards these subjects arise early on.
- Gender gaps are much more prominent among low- and high-achieving students. In reading, there are many more boys lacking basic skills than girls, while in mathematics boys are more likely than girls to be among the best performing students.

89. Concern about gender differences in education throughout much of the twentieth century focused on the disadvantage and underachievement of girls. More recently, however, the underachievement of boys in reading and the underachievement of girls in mathematics have become the focus of policy attention (OECD, 2009c). Figure 2.2.1 illustrates the gender gaps in reading, mathematics and science performance for all PISA 2009 participating countries and economies.

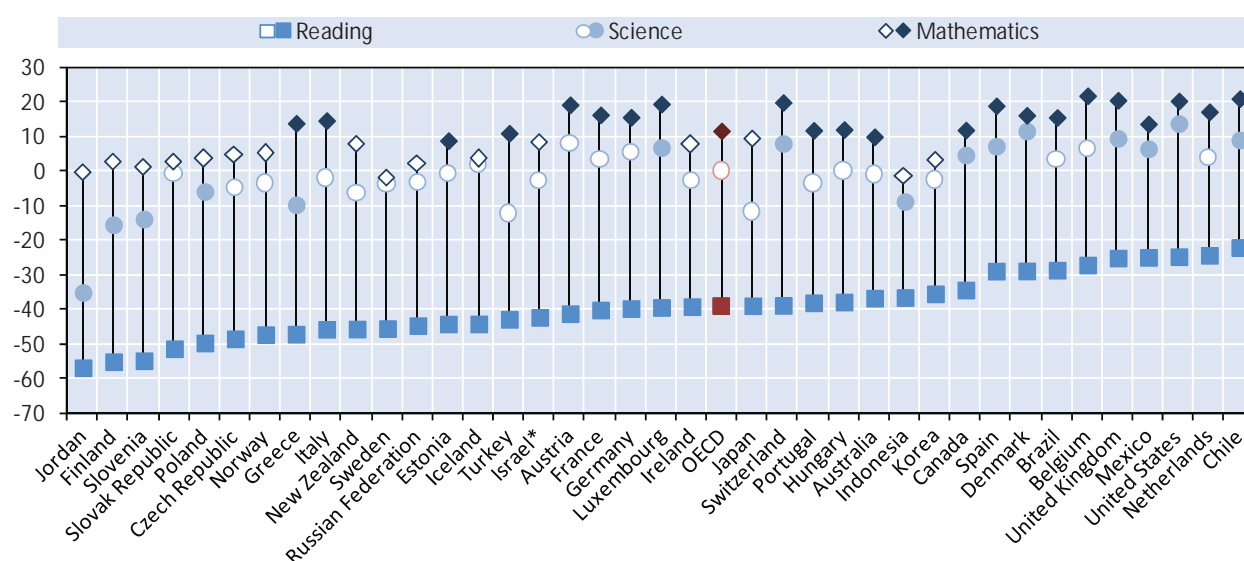
90. In the PISA 2009 reading assessment, girls outperform boys in every participating country by an average, across OECD countries, of 39 PISA score points which is equivalent to roughly one year of formal schooling (OECD, 2010b). However, the gap is much wider in some countries than in others. With the exception of Denmark, northern European countries have above-average gender gaps (Guiso *et al.*, 2008). Gender differences in East Asian countries tend to cluster just below the average, with Korea showing a gap of 35 points.

91. In 23 of the 34 OECD countries that participated in PISA 2009, boys perform better in mathematics than girls, and gender differences in these countries vary widely. However, on average, the gender gap in mathematics performance tends to be much smaller than those in reading performance. The largest gender differences are observed in Belgium, Chile, the United Kingdom and the United States, with an advantage of 20 score points or more for boys. Gender differences in science performance tend to be small, both in absolute terms and when compared with the large gender gap in reading performance and the more moderate gender gap in mathematics performance. In 2006, when science was the main focus of the PISA assessment, gender differences were observed in two of the science processes being assessed: identifying scientific issues and explaining scientific phenomena. Across OECD countries, girls scored higher in the area of identifying scientific issues, while boys outscored girls in explaining phenomena scientifically (OECD, 2007b).

92. The PISA 2000 and 2009 surveys both focused on reading, student attitudes and engagement in reading activities. This provided the opportunity to analyse trends over that period for 38 countries, including 26 OECD countries. The gender gap in reading performance did not narrow in any country between 2000 and 2009 and the performance difference between girls and boys widened in seven countries.

**Figure 2.2.1. Girls significantly outperform boys in reading but boys tend to perform better than girls in mathematics**

Difference in PISA score points (boys' scores minus girls' scores)<sup>a</sup>, 2009<sup>a</sup>



Note: Countries are ordered by decreasing gender gap in PISA reading scores.

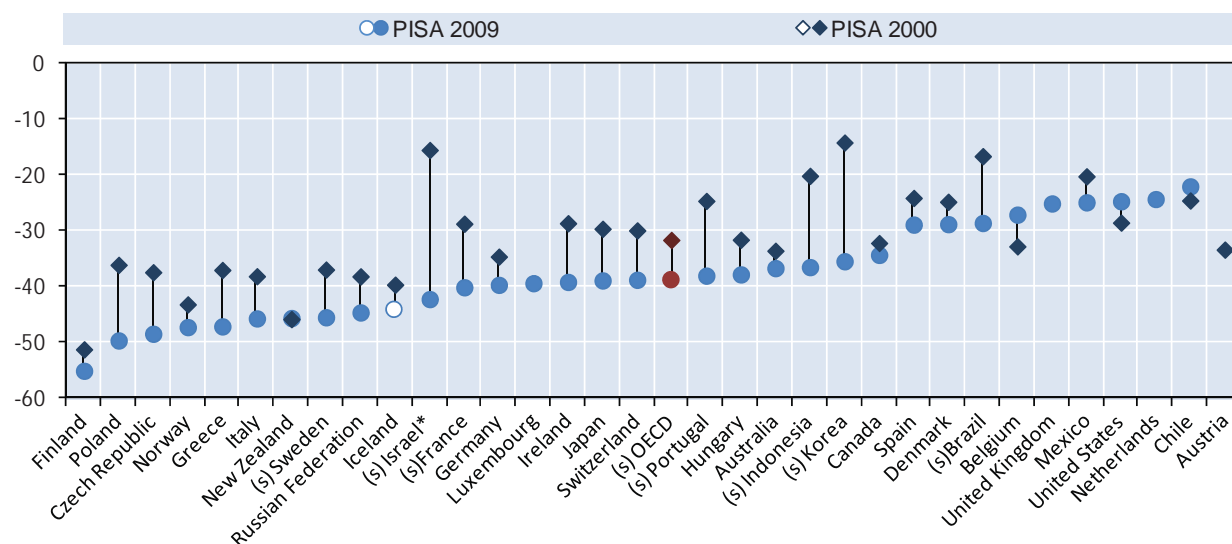
\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

a. Non-statistically significant gender differences in scores are marked in white.

Source: OECD (2009d), PISA 2009 Database.

**Figure 2.2.2. Girls' advantage in reading performance has not changed over time**

Difference in PISA score points (boys' scores minus girls' scores)<sup>a</sup>, 2009 and 2000



Note: Countries are ordered by decreasing gender gap in PISA reading scores.

a. Non-statistically significant gender differences in scores are marked in white.

s Gender gap in reading in 2009 was statistically significantly different from the reading gender gap in 2000.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

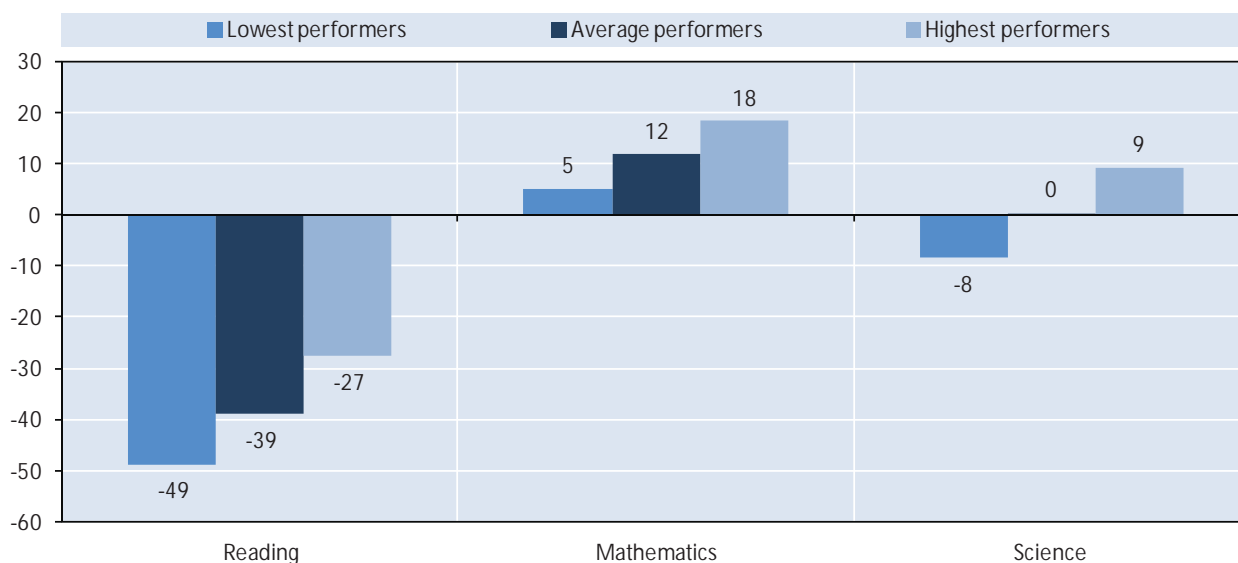
Source: OECD (2009d), PISA 2009 Database.

93. Average differences in performance between boys and girls mask much larger gender differences between the lowest and the highest performing students. In reading, the gender gap is much larger among

the lowest performing students: many boys lack basic reading skills but only a few girls are not able to read texts and comprehend what they read (Figure 2.2.3). In mathematics the gender gap is negligible when looking at the lowest performing students, but increases to up to almost 20 score points, an equivalent of around half-a-year of formal schooling, for the best students. Thus, while the number of 15-year-old girls and boys struggling with mathematics is similar, boys outnumber girls among students with the highest proficiency levels in mathematics. Gaps in science are generally smaller, but here also girls outperform boys among the lowest performing students, while there are more boys among 15-year-olds with the highest levels of proficiency in science.

**Figure 2.2.3. The gender gap in reading is largest among the lowest performing students**

Difference in PISA score points (boys' scores minus girls' scores) by performance level, 2009



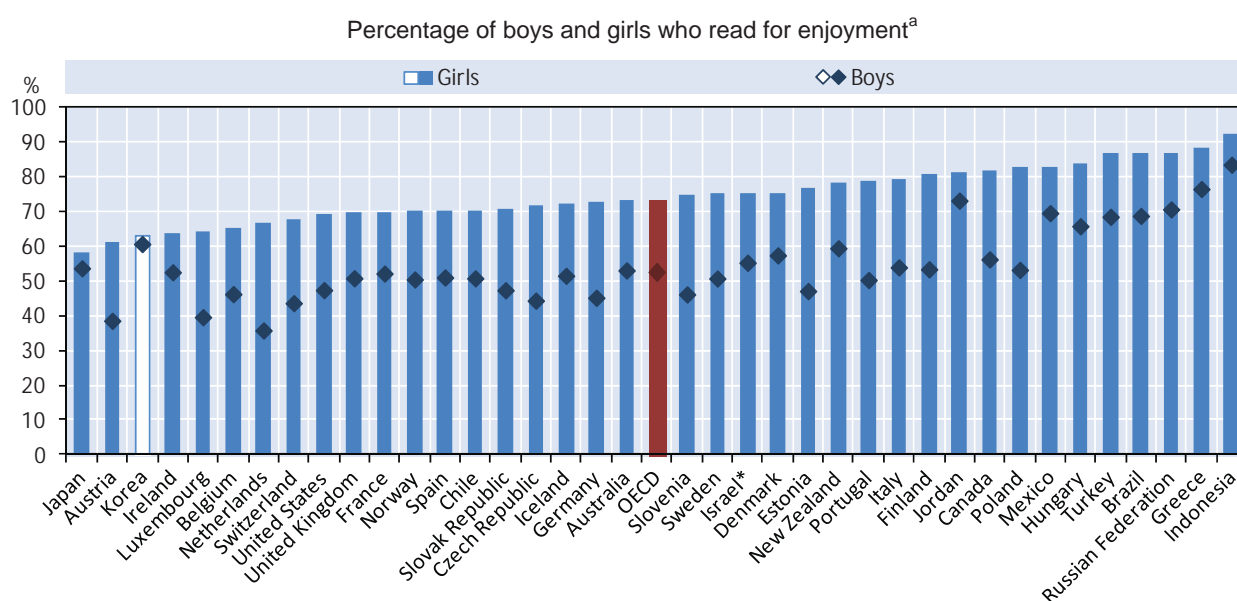
Source: OECD (2009d), PISA 2009 Database.

94. Gender differences in performance relate closely to gender differences in student attitudes and behaviours towards reading (OECD, 2004a, 2007b and 2010c). Girls are more likely to enjoy reading and to read for their own enjoyment (Figure 2.2.4). The gender gap in attitudes towards reading and in the reading habits of boys and girls has, on average, widened between 2000 and 2009, mostly because of a sharper decline among boys than among girls (OECD, 2010d). Boys and girls not only differ in their propensity to read, but also in the types of reading materials they favour: girls are significantly more likely than boys to read long and complex texts such as fiction and non-fiction books, while boys are more likely than girls to read comic books (OECD, 2010c). Boys not only are less likely to read for enjoyment and to value reading as an activity, they are also less confident readers and see themselves as having lower reading skills than girls (Baker and Wigfield, 1999).

95. Boys show higher interest and abilities in digital reading than in print reading (OECD, 2011i). Although girls still outperform boys in digital reading, the gender gap is narrower than it is in print reading. Among boys and girls with similar levels of proficiency in print reading, boys tend to have stronger digital navigation skills and therefore score higher in digital reading. This could be exploited to start a “virtuous cycle” through which more frequent reading of digital texts by boys would result in better digital reading proficiency which, in turn, would lead to greater enjoyment of reading and better proficiency in print reading, as well. Parents, educators and policy makers should also take note of girls’ weaker skills in digital navigation. Without those skills, students will find it more difficult to make their way in the digital age.

96. In mathematics, as early as the first year of primary school, girls rate their own ability as lower than that of boys, even when their actual performance does not differ from that of boys (Fredericks and Eccles, 2002 and Herbert and Stipek, 2005). Both young boys and girls exhibit gender-stereotypical attitudes towards mathematics (Cvencek *et al.*, 2011). Unlike the position in mathematics and reading, gender differences in science performance cannot be traced back to gender differences in attitudes, motivation or confidence (OECD, 2009c). Even in the absence of performance differences in mathematics and science, 15-year-old girls and boys are not likely to expect to enter similar occupations: few girls in fact expect to enter fields such as engineering and computing (Sikora and Pokropek, 2011).

**Figure 2.2.4. Girls are more likely than boys to enjoy reading**



Note: Countries are ordered by increasing percentage of girls who read for enjoyment.

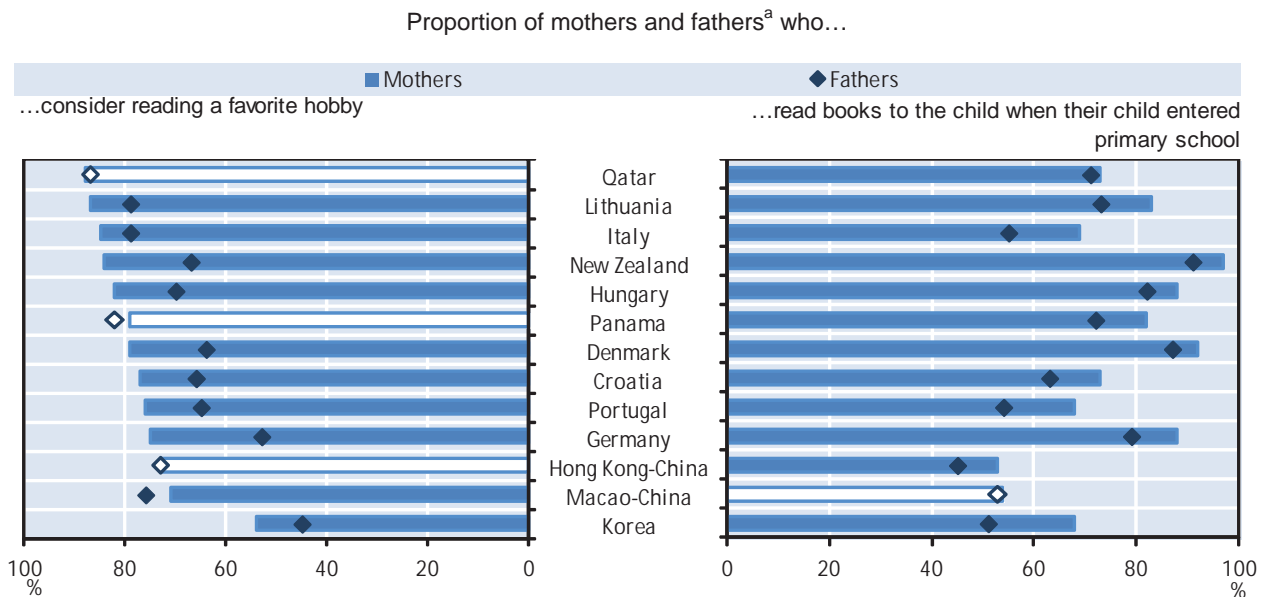
\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

a. Non-statistically significant gender differences in scores are marked in white.

Source: OECD (2012 c), PISA 2009 Database.

97. PISA reveals that parental reading with their child as their child enters primary school is highly associated with reading performance in the teenage years (OECD, 2010e). Paternal involvement may be particularly important for boys, as it could help change their perceptions and attitudes to reading. Yet, across countries, fathers are less likely than mothers to read to their child as their child enters primary school and they are less likely than mothers to hold positive attitudes towards reading (Figure 2.2.5). Whether at home or school, providing boys with the kinds of books that appeal to them is an essential strategy for motivating boys to read (OECD, 2010c). Teachers can diversify their class reading lists and library collections in order to appeal to the reading tastes of boys as well as girls. Appealing to boys' tastes can be accomplished by simply engaging them in discussions about the material they enjoy reading. Finding the right books for children and parents to read together can significantly influence boys' perception of reading.

**Figure 2.2.5. Fathers are less likely than mothers to read to their children or hold positive attitudes towards reading**



Note: (i) This chart is based on data collected through the Parental Questionnaire which was administered in 14 countries (Poland is excluded from the chart, since Poland's survey did not include the question on parental engagement). (ii) Countries are ordered by decreasing proportion of mothers who consider reading a favourite hobby.

a. Non-statistically significant differences between mothers and fathers are marked in white.

Source: OECD (2009c), PISA 2009 Database.

98. Turkey improved its mathematics performance between 2003 and 2009: boys improved by 21 score points while girls improved by 25 score points. In reading, boys improved by 17 score points while girls improved by 27 score points. All this was achieved at a time when the enrolment of girls in education increased markedly (OECD, 2010d).

99. Several projects implemented in Turkey addressed equity issues. The Girls to Schools Now campaign that started in 2003 aimed to ensure that 100% of girls attended primary school (ages 6-14). Since 2003, textbooks for all primary-school students have been supplied free of charge by the Ministry of National Education. More recently, a *Complementary Training Programme*, begun in 2008, tried to ensure that 10 to 14-year-olds acquire a basic education even if they have never been enrolled in a school or if they had dropped out of school.

100. The gender gap in reading increased by 20 score points in Korea, mainly because of a marked improvement in girls' performance that was not matched by a similar trend among boys. The percentage of top performers increased among girls by more than nine percentage points, while among boys it rose by slightly less than five percentage points (OECD, 2010d). Overall, the average reading performance improved only among girls, while it remained at similar levels among boys. The improvement in girls' performance was recorded not only in reading, but also in other assessment areas covered by PISA and other international or national studies.

101. Since 2000, a more female-friendly science and mathematics curriculum has been gradually introduced in Korea. For instance, women who were scientists or engineers were promoted and thus became good role models for girls, more gender-neutral language was used in textbooks, and learning materials that were considered to be more interesting for girls were introduced in science teaching. At the same time, national assessments such as the NAEA were redeveloped to better monitor how girls and boys

acquire skills differently and to use formats that girls prefer, including, for example, a constructed response-item format. On the other hand, the trend may also be explained partly by changes in the society. Over the past few years, the family structure in Korea has changed as the number of children per household has decreased rapidly and the number of single-child families increased. While traditionally girls from larger families were unlikely to get a good education, sociologists note that parents in Korea today tend to value educating their children a great deal, regardless of gender. Smaller families along with new opportunities and incentives for learning may also help to explain this trend.

#### **Key policy messages**

- Teaching of STEM subjects should be made more interesting to girls by, for example, reducing gender-stereotyping in textbooks, emphasising female role models, and greater use of learning materials that appeal to young girls.
- Boys' interest and abilities in digital reading could be exploited to start a "virtuous cycle" through which more frequent reading of digital texts would result in better digital reading proficiency which, in turn, would lead to greater enjoyment of reading and better proficiency in print reading as well.
- Parents and teachers can instill a sense of pleasure in reading among boys by providing them with access to reading materials (such as comic books) that boys find interesting. By gradually building a habit of reading among boys, longer and more complex texts such as fiction and non-fiction books can be introduced.



## CHAPTER 2.3: GRADUATED FROM SECONDARY SCHOOL: WHAT NEXT?

### Key findings

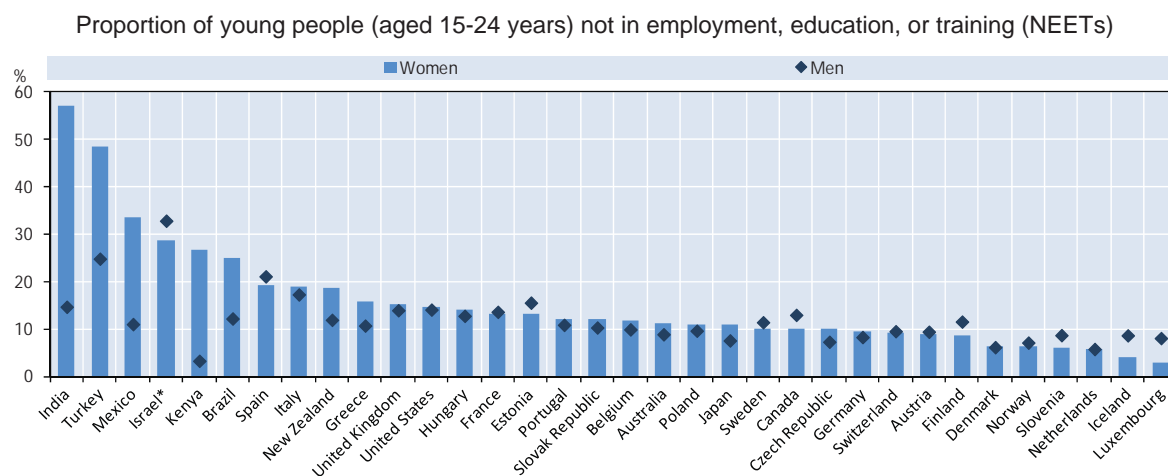
- In many low-income countries young women are more likely to be neither employed nor in education or training (NEET) than young men.
- For young women the likelihood to be NEETs increases with age. In OECD countries this is often related to increased duration of education participation while in developing countries it is frequently associated with early marriage and child bearing.
- In general, NEET-rates decrease with higher levels of education. However, in some countries, especially in rural areas, low NEET-rates are explained with high participation in informal employment and bad quality jobs.

102. Across the world there has been marked progress in terms of school participation and greater gender equality in education (Chapter 2.1). However, the school to work transition continues to pose many challenges, and in particular in low- and middle-income countries young women are far more likely than young men to be neither employed nor in education or training (NEET). Failure to overcome other barriers which prevent women to perform as well as men in the school to work transition (for example, Chapters 1.2, 2.1 and 3.8) can have lasting effects on poverty and social exclusion over the life course.

103. Youth exclusion from the job market incurs enormous personal and social costs – in terms of social exclusion, increased crime, mental health problems, violence, conflicts and drug taking – as well as economic costs – lack of savings and aggregate demand, loss of investment in education, and reduced contributions to social security systems. Youth make up approximately one-fifth of the total population in many regions including the Middle East, Sub-Saharan Africa, North Africa, and South Asia and further increases are expected in the next 5 years in South Asia and Sub-Saharan Africa (ILO, 2010). Being Female and youth in developing countries is a double burden. Economic crisis may further exacerbate youth women difficulty in find a job. The economic crisis have bring the largest ever cohort of unemployed youth. While youth unemployment rates have proven more sensitive to economic shocks than adult rates, young women have shown higher difficulty than young men in finding work (ILO, 2010). The World Bank identified 33 developing countries, mostly in sub-Saharan Africa, where women and girls in poor households are particularly vulnerable to the effects of the global economic and food crises. In these countries there is a high risk that the financial crisis will reverse progress in gender equality and women's empowerment (World Bank, 2009a).

### Entry into the labour market is more difficult for young women than for young men

104. In many OECD countries NEET rates for boys and girls aged 15-24 are below 15% and do not show significant gender differences (Figure 2.3.1); there is also no clear gender pattern in youth unemployment rates (ILO, 2012a). However, in some OECD countries, such as Mexico and Turkey, NEET rates for girls are much higher than for young men, and comparable with those of non-OECD countries such as, for example, Brazil, India and Kenya.

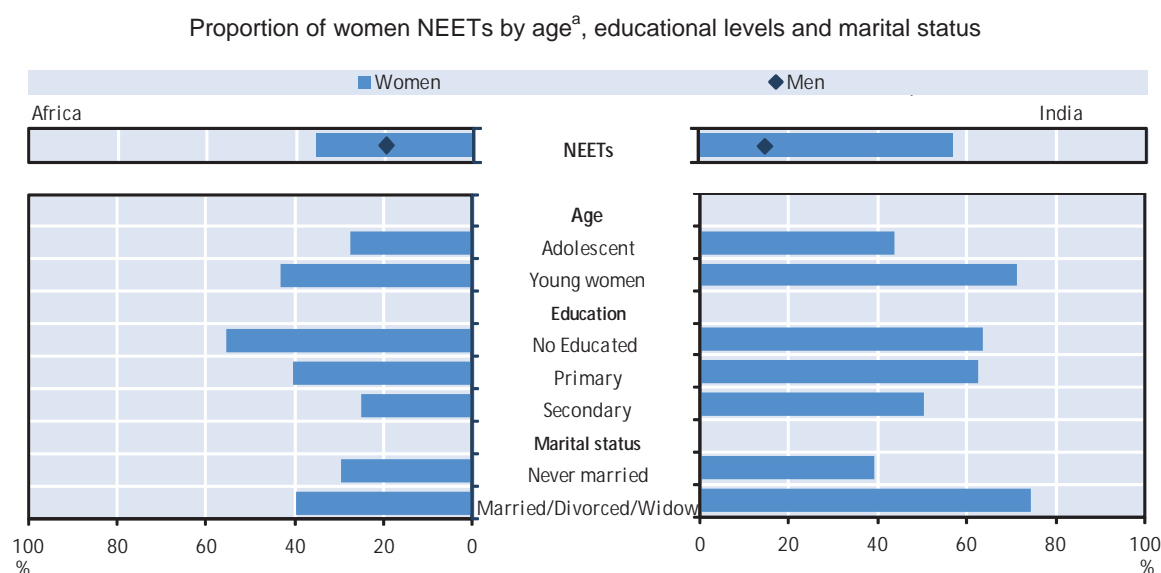
**Figure 2.3.1. In low and middle income countries NEET rates for women can be relatively high**

Note: Countries are ordered by decreasing proportion of young women who are NEETs.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD's estimates based on OECD (2011h), Kenya estimations based on DHS (2008), Indian estimations based on DHS (2005/6).

105. Figure 2.3.2 shows that gender differences in NEET rates can be substantial in non-OECD countries. For example, in India the NEET rate for young men aged 15-24 is 15% but at 57% India has an extremely high proportion of young women who are neither in education or employment; in African countries the NEET rate for young men is about 20% while it is 35% for young women.

**Figure 2.3.2. Married, less educated, young women aged 20-24 are more likely to be NEETs in Africa and India**

a. Young women are between 20 and 24 years old, and adolescents are between 15 and 19 years old.

Source: OECD calculations based on Gallup World Poll (2009/10) for African countries and DHS (2005/06) for India. African analysis includes 27 countries.

106. The likelihood that girls continue studying or engage in an economic activity decreases as they enter their early 20s. This result is found, with different degrees, across countries including the OECD.

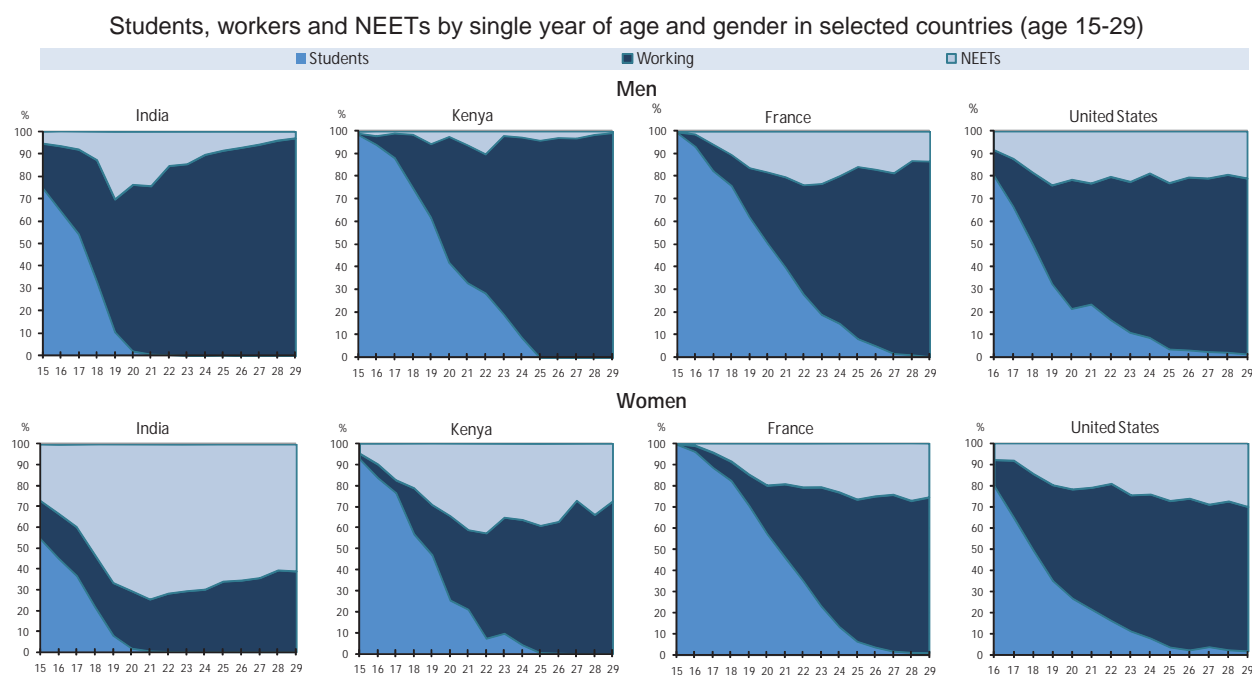
However, while in OECD countries this is often driven by increased participation in education, in developing countries it is frequently related to early marriage and caring responsibilities. Indeed, Figure 2.3.2 also shows that young women who are married are more likely to be NEET than unmarried women of the same age, particularly in India. Figure 2.3.2 also suggests that NEET status does not vary that much with marital status, but this masks important regional variations. In North Africa the NEET rate was around 64% for married women and 40% for unmarried women.

107. A lack of qualifications also proves to be an important barrier to female labour force progression. Figure 2.3.2 shows that NEET-rates for women in Africa decrease with higher levels of education, while in India, there does not seem to be such a link at national level. In urban India where there are more job opportunities, female NEET-rates decrease with higher education levels, but in rural areas, where a high proportion of the population with a very low level of educational attainment lives, young women often are in informal and domestic work which is often not counted as 'employment'. The India example illustrates how important both education and decent job opportunities are in providing "empowering opportunities" to young women (Chapter 3.10 and Francavilla *et al.*, 2008).

#### *Transition from school to work: the missed opportunity for girls*

108. Figure 2.3.3 illustrates the education, work and NEET experience by age for selected countries. It shows a similar trend for boys and girl NEETs in France and the United States across ages but also shows that girls in India and Kenya are much more likely to be NEET from a very early age.

**Figure 2.3.3. Adolescence is when boys and especially girls are at a higher risk of dropping out of school**



Source: OECD's estimates based on Kenya DHS (2008); India DHS (2005); France LFS (2009); CPS (2009).

109. Adolescence is a decisive time for boys and girls everywhere, but while in less developed countries boys enter the labour market, adolescent girls usually leave school and become NEETs taking up the burden of household unpaid work and missing their chance to enter the labour market. In OECD countries, girls tend to stay in school for longer, and boys are likely to leave school earlier than girls. For example, in France and in the United States young women are of age 24 are at least as likely to participate

in formal education as young men of the same age. However, as women approach the time of family formation they are increasingly more likely to be NEETs than their male counterparts.

### *The role of policy*

110. Fostering youth employment opportunities is vital for economic development across the globe, and investment in schooling is key (Chapter 2.1). However, quality of schooling in developing countries often leaves much to be desired (Box 2.3.1). Too many children graduate from school without gaining the basic skills in literacy and numeracy which are essential for labour market participation and progression. The youth literacy rates remain extremely low, especially for girls, in countries such as Benin, the Central African Republic, Chad, Guinea or Sierra Leone (UNESCO, 2009). MENA countries also still lag still behind many other regions in achieving adult literacy rates (72% for the period 2005-2008) especially for women (who account for about 65% of the region's illiterate population). Nevertheless, progress has been considerable as youth literacy rates far exceed adult literacy rates (UNESCO, 2010).

111. Because of the gender segmentation of the labour market and social-cultural institutions young women have much more difficulty finding suitable work than young men. Jobs that require travelling for long hours, for example, are not compatible with care commitments or prevailing social norms.

112. Training programmes can help in promoting girls' and boys' transition from school to work especially when tailored to local socio-economic conditions. Successful training programmes include (World Bank, 2012a): life skills trainings (leadership, management of income and budgets, employee rights), employability skills training (interpersonal and other basic job skills, particularly those identified as constraints for young women), and basic business skills training (development of a business plan, financial management, and marketing). Other initiatives to promote the school-to-work-transition include: job-placement support, providing access to micro-credit and/or savings accounts, and small-group learning.

113. The World Bank Youth Employment Inventory shows that of 291 programmes in 84 countries only 15% actively promote the inclusion of young women (Betcherman *et al.*, 2007). The *Adolescent Girls Initiative* (AGI) promoted by the World Bank is currently implemented in seven countries: Afghanistan, Jordan, Laos, Liberia, Nepal, Rwanda and South Sudan. This initiative is a public-private partnership and programmes are tailored to the local context (World Bank, 2010b). The AGI does not focus on low-paid stereotype trades (*e.g.* Flower-arranging or sewing - Levine *et al.*, 2009), but instead on making non-stereotypical trades attractive to women (*e.g.* electricians, masons, and mobile phone repair technicians). In some countries support programmes include: improvement of child care and transport services, placement and counseling services, financial incentives to recruit young women, job vouchers to incentivize firms to hire new graduates with no experience, and/or awareness campaigns to reach poorer, less educated and more vulnerable girls. All AGI-programmes are piloted and scaled up only if they have been found to be effective upon evaluation (World Bank, 2011).

### Box 2.3.1. Improving schools for better education for children: tailored country reviews to promote reform

The OECD has increased its efforts to promote effective education reforms across OECD member and partner countries ([www.oecd.org/edu/improvingschools](http://www.oecd.org/edu/improvingschools)). As part of these efforts, the OECD has developed tailored education policy country reviews which address the specific challenges of a country's education system.

In 2008, the OECD provided a tailored review to help **Mexico** improve the quality of its education system. Some of the challenges faced by the Mexican education system include a lack of capacity, an unclear distribution of responsibilities across a decentralised system; and trying to accomplish a more effective distribution of resources across schools, along more institutionalised ways of consensus-building. The key recommendations, presented in two reports, can be summarised as follows:

- *Develop and consolidate teacher career paths:* define effective teaching, and attract, recruit, prepare, evaluate and develop a higher quality teaching force.
- *Improve school effectiveness:* define effective school leadership, professionalise training and appointment of directors, build instructional leadership capacity in and across schools, enhance school autonomy, ensure funding for all schools, and strengthen social participation.

In **Norway in 2010/11** the OECD undertook a review to find ways to strengthen lower secondary education. At this level of education Norway faces a number of challenges including low engagement and motivation of students, insufficiently prepared teachers and a governance arrangement that does not necessarily fit in with a decentralised education system. The key recommendations from the review are outlined below:

- *Align policy design and implementation across different levels of governance*
- *Raise the status of teaching and improve teacher performance:* improve initial teacher education, raise salaries to attract high quality candidates, ensure continued skills and professional development of teachers.
- *Improve school capacity:* develop a national strategy to strengthen schools' capacities, enhance instructional leadership, and support the transition from primary to lower secondary school by creating a culture of students' self-assessment and feedback for improvement.

Further work with Norwegian policy makers and stakeholders (OECD Seminar for Leaders in Education Improvement) resulted in the design of a specific action plan to improve lower secondary education in Norway.

In **Iceland**, upper secondary educational attainment amongst youth has decreased in view of a high dropout rate. Dropout rates seem to be related to the education system failing to address students' needs and while there ought to be more career and professional development opportunities. The recommendations include:

- *Support transition into upper secondary education:* ensure that curriculum across education levels does not overlap, strengthen guidance and counselling of students in lower secondary education and improve the capacity of schools to adapt to students' specific learning needs.
- *Strengthen the link between vocational education and the labour market:* encourage social partners (employers and unions) to send a message to students that education is important, raise the status of vocational training programmes and incentivise schools to recapture drop out students.
- *Support teaching quality:* increase the attractiveness of the teaching profession for example through providing career and professional development opportunities.
- *Promote a governance system focused on support and capacity building for schools:* achieve collaboration between various stakeholders including teachers' unions and ministries.

114. However, learning opportunities for youth depend on the structure and development of the labour market. A study on seven cities in West Africa shows that for those employed in the informal sector the returns from vocational schools are marginal. The main forms of vocational training, on the other hand, are traditional apprenticeships and on-the-job training, where the latter is dominated by women (Nordman and Pasquier, 2012). In South Africa, government training programmes have had limited success in helping youth with no job experience. To help reduce youth unemployment, the government is proposing a youth employment incentive which is a wage subsidy to facilitate entry of young workers in the unionised formal sector where entry wages are relatively high.

115. In many countries policies on the supply sides alone will not be sufficient to guarantee decent jobs for young men and women. For example, adequate industrial policies including investment in labour-intensive industry, technology and infrastructure are required, especially in rural areas. Policy approaches need to foster job opportunities for youth through creating a good investment climate and removing barriers to competition including land and credit market imperfections.

#### **Key policy messages**

Adolescence is a critical period where a successful school to work transition can reap dividends for life, and in developing countries in particular young women face a high risk of leaving education without entering the labour force. The issue requires an integrated, multi-sector policy approach addressing areas including, education, labour market, migration, family programmes, social and cultural norms. Key policy interventions include:

- Facilitating the transition from school to work by ensuring a solid educational base, offering high quality education, establishing better links between the education sector and employers and providing extensive labour market information.
- Promoting gender sensitive vocational training programmes that are tailored to the local context, focus on making non-stereotypical trades attractive to women and include placement and counselling services. Such programmes need to be piloted and evaluated before being scaled-up.

## CHAPTER 2.4: SCIENCES VERSUS HUMANITIES

### Key findings

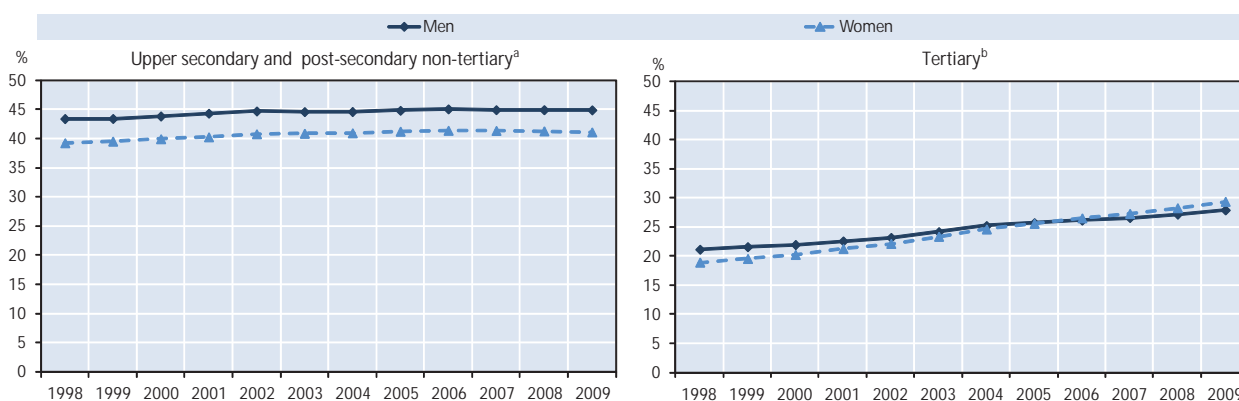
- The choices of post-secondary institutions made by boys and girls (especially given that girls typically aspire to higher education levels) exacerbate the gender differences in fields of study.
- The shaping of attitudes of girls and boys towards subjects starts early in life.
- Improving school quality for children from disadvantaged socio-economic backgrounds can in itself stimulate an increased entrance of girls into science-related fields of study.

### Women have made more gains than men in post-secondary education

116. Arguably one of the greatest transformations in education to have occurred in OECD countries over the past few decades is the increased participation of women in tertiary education. Figure 2.4.1 shows that graduation rates for both upper secondary education (including programmes in post-secondary non-tertiary education) and tertiary education have been increasing among men and women across OECD countries. However, the proportion of women who have completed tertiary education has grown most rapidly. The increase in upper secondary education attainment is similar for men and women, but the proportion of men is slightly higher (by 4 percentage points). This is due to a higher proportion of men in the post-secondary non-tertiary education programmes. If these programmes were excluded, young women (25-34 age cohort) are actually more likely to complete both secondary and tertiary education than their young male counterparts (OECD, 2011c).

**Figure 2.4.1. Today women are more likely to obtain a tertiary degree than men,**

Proportion of men and women aged 25-64 years with upper secondary or tertiary degrees across 27 OECD countries, 1998-2009



a. Include graduates from upper secondary (ISCED 3C [long programmes]/3B and 3A) and post-secondary non-tertiary education (ISCED 4).

b. Include Tertiary-type A and advanced degrees.

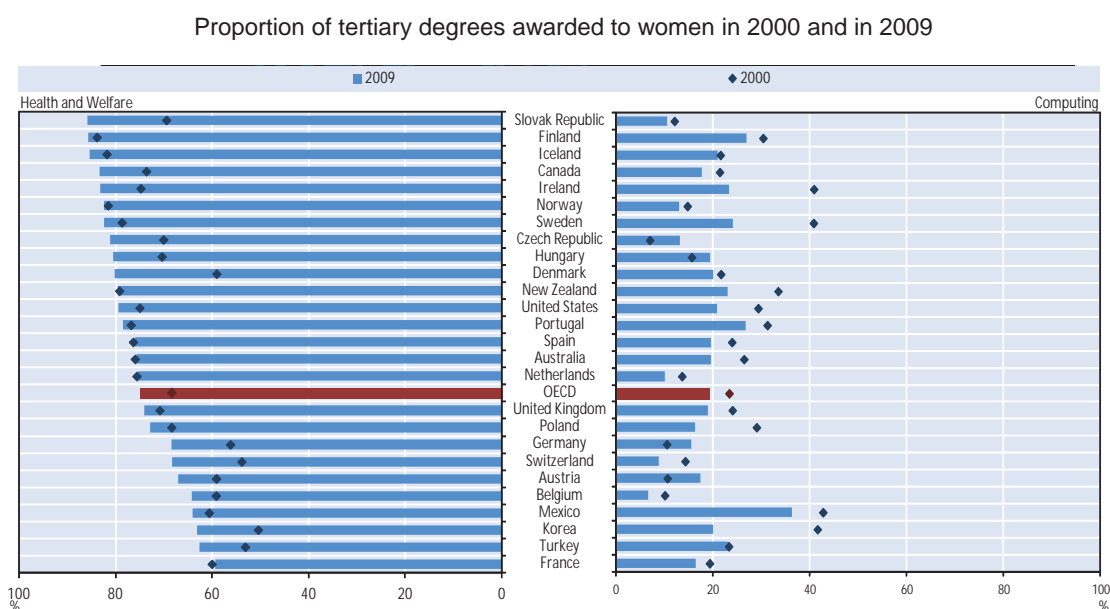
Source: OECD (2011h), Education at a Glance 2011

117. Participation trends in higher education reveal a reversal in the gender gap. For example, in 2005 the average share of female students was 54% in the OECD area as compared with 46% in 1985. If this trend continues, at the aggregate level in 2025 there will be some 1.4 female students for every male, and in Austria, Canada, Iceland, Norway, and the United Kingdom there could be almost twice as many



women in tertiary education as men (Table A.2.2.1 in the Annex to Part 2). Even if the differences in the level of education acquired by men and women are diminishing, differences in the type of education (such as the field of study) remain large. Women are still mostly underrepresented in STEM (Science, Technology, Engineering and Mathematics) fields, and even though more women are completing science degrees than before (such as biological and agricultural sciences), it is often found that they continue to be dramatically underrepresented in computing and engineering – subjects that are most in demand by the labour market. This is observed in both OECD countries and other regions (Box 2.4.1). Figure 2.4.2 clearly shows that women are a minority amongst computer science graduates but that they dominate health and welfare degrees. The proportion of female graduates in computer science degrees for most OECD countries has been decreasing. The largest drop in the proportion of female graduates in this area is observed in Korea, Ireland and Sweden. This is due to a considerable increase over the years in the number of male graduates while there was only a limited increase in the number of female graduates in computer science degrees in most OECD countries. On the other hand, across all OECD countries more women entered health-related degrees in 2009 than in 2000. The increase is particularly pronounced in Denmark and the Slovak Republic.

**Figure 2.4.2. More women enter health related degrees but remain underrepresented in computer science degrees**



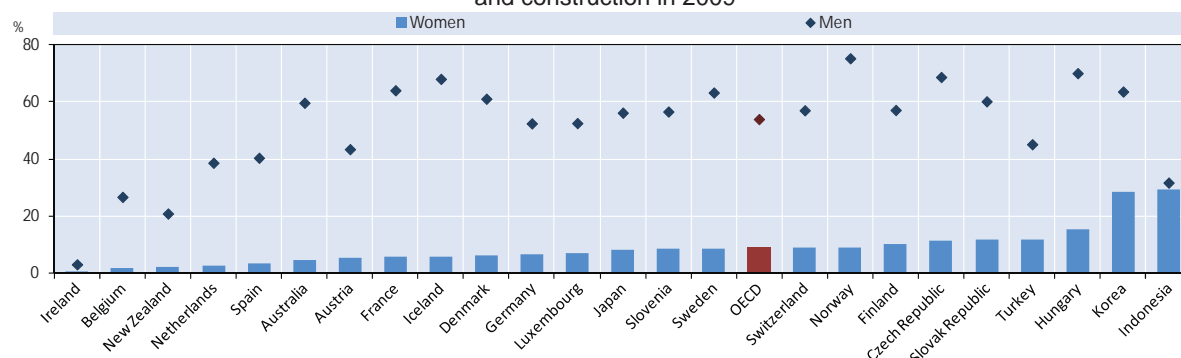
Note: The countries are ranked in descending order of health and welfare graduates in 2009.

Source: OECD (2011h), Education at a Glance 2011.

118. Gender differences are observed not only at the higher education level; they are even more marked for vocational training programmes. For example, for most OECD countries more than one boy in two but less than 10% of girls graduate from vocational programmes in the fields of engineering, manufacturing and construction (Figure 2.4.3). The exceptions are Korea and Indonesia where the female graduation rates from engineering vocational programmes were 28.6% and 29.1%, respectively. There is hardly any difference between male and female graduation rates for Indonesia. The lack of a distinct gender difference in subject choices is also observed at the tertiary level in Indonesia (OECD, 2011c).

**Figure 2.4.3. Gender differences persist in the completion of “technical” vocational programmes**

Proportion of women and men who completed upper secondary vocational programmes in engineering, manufacturing and construction in 2009



Note: Countries are ranked in ascending order of female graduates.

Source: OECD (2011h), Education at a Glance 2011.

#### Box 2.4.1. Gender differences in subject choices at tertiary level in MENA countries and China

Despite existing gender disparities in some Middle East and North Africa (MENA) countries in terms of enrolment rates at the secondary (and sometimes primary) level of education, tertiary enrolment of young women has been growing and often exceeding that of young men (UNESCO, 2011b). Female tertiary enrolment rates rose from 42% in 1999 to 51% in 2009 in the region (UNESCO, 2012a), and exceed male rates in Algeria, Jordan, Kuwait, Lebanon, Qatar, Saudi Arabia, Tunisia and the United Arab Emirates (WEF, 2011).

However, similar to OECD countries distinct gender differences in the fields of study at the tertiary level are still observed. The Table below shows the female share in total enrolment. For nearly all presented countries, women are notably over-represented in the humanities and arts subjects as well as in education (except Morocco). Except for Jordan and Saudi Arabia, young women are also the majority of university students in health and welfare and science (in most countries). However, women are significantly under-represented (less than one-third of students) in engineering, manufacturing and construction subjects, and as is in most OECD countries this is related to attitudes. For example, OECD (2010b) shows that 15-year-old girls in Jordan have better scores in mathematics than boys.

**Table Box 2.4.1 Tertiary education: Female Share in Total Enrolment by Field of Study in selected MENA countries, School Year Ending in 2007**

	<b>Educa- -tion</b>	<b>Humanities and arts</b>	<b>Social sciences, business and law</b>	<b>Science</b>	<b>Engineering, manufacturing and construction</b>	<b>Agriculture</b>	<b>Health and welfare</b>	<b>Services</b>
Algeria	69%	75%	59%	61%	31%	47%	60%	29%
Bahrain	51%	83%	70%	75%	21%	n.a.	85%	69%
Jordan	84%	63%	39%	51%	29%	54%	48%	53%
Lebanon	94%	67%	52%	53%	24%	54%	68%	53%
Morocco	38%	52%	50%	41%	29%	38%	67%	48%
Oman	63%	69%	43%	56%	23%	74%	66%	n.a.
Palestinian Authority	70%	65%	40%	46%	30%	18%	57%	31%
Qatar	85%	85%	65%	68%	25%	n.a.	76%	n.a.
Saudi Arabia	73%	73%	53%	59%	2%	23%	44%	n.a.
United Arab Emirates	92%	76%	55%	55%	29%	74%	80%	30%

Source: UNESCO 2010

In China also a highly disproportionate number of females choose the humanities over the science track in high school which consequently affects their subject choices at tertiary level. The preference for humanities subjects is unlikely to be driven by girls' abilities in science and mathematics, since in urban areas (except for the upper end of the score distribution in some areas) girls score as well as boys in these subjects. The gender differences in performance in rural areas are small. Moreover, except for the upper end of the score distribution, young women tend to do as well as young men in the science track. There are a disproportionate number of young girls in high school who choose humanities over science, and this choice is irreversible. However, the evidence suggests that the science track increases female students' chances to pursue studies at university or in elite higher education institutes (Loyalka and Maani, 2002).

119. Girls and boys might choose different fields of education because of differences in their personal preferences and different expectations about labour-market outcomes (OECD, 2011h). For example, young women are more likely to plan an intermittent participation in the labour force and, hence avoid fields (such as the sciences) requiring a high level of on-the-job training, long working hours and where time taken out of work can be very costly (OECD, 2011c). Moreover, women might choose fields that allow for more flexible work arrangements which enable them to combine better work and catering for children and elderly relatives; this can be the case in certain medical professions. This partly explains the trend towards the 'feminisation' of the health and education sectors.

120. The different subject choices might also be driven by differences in performance in reading, mathematics and science at secondary level. However, gender differences in educational choices appear to be related to student attitudes (such as motivation and interest) in studying a particular subject rather than to their ability and school performance (Chapter 3.3). These attitudes are formed early in life and are undoubtedly influenced by traditional perceptions of gender roles, as well as wide acceptance of the cultural values associated with particular fields of education (Kane and Mertz, 2011 and OECD, 2009c). Further insights into the possible factors influencing choices made by students can be obtained from the PISA longitudinal surveys (Box 2.4.2).

#### Box 2.4.2. What determines gender differences in subject choice?

Understanding the factors that shape gender differences in subject choice is important to explain the educational choices of young men and women. New research undertaken with PISA longitudinal studies in a number of countries allows one to better understand the determinants of gender differences in the field of study in post-secondary education. Depending on the national education system, choices of subjects by boys and girls are considered at tertiary level and in vocational training programmes (VT).

Girls are more likely to enter tertiary education than boys. The individual attributes of students play a role in determining whether they are in science or in arts subjects. Typically high grades in the last year of secondary school or high mathematics scores influence girls' choices of science-related subjects. This relationship, on the other hand is not strong for boys. Young women are more likely to aspire to professional careers (OECD, 2009c) and thus at university entry are more likely to choose courses in which they have a comparative advantage. In Australia, for example, young men associate science courses less with university entry and more with VT career pathways in science such as apprenticeships. Since access to VT courses is not generally based on academic merit, performance in mathematics at age 15 has no significant effect on their choice of science courses. Evidence for the Czech Republic shows a similar pattern: girls with high grades at secondary level choose to enter university while boys are more likely to pursue vocational education in a technical or science-related field. In Switzerland, students are also choosing post-secondary science courses based on their mathematics scores (Bergman *et al.*, 2012, *forthcoming*). As in Australia and the Czech Republic, the segregation of subjects that are taught by various institutions influences the gender differences in subject choices (Matějů *et al.*, 2012, *forthcoming*; and Polidano and Ryan, 2012, *forthcoming*).

In some countries, the socio-economic background might also play a role in the choices of field of study. For example, in Uruguay girls' lower economic status influences their choice of humanities subjects at the tertiary level (such as teaching and arts). This type of occupation seems to be a preferred way to an upward social mobility among girls from middle and lower classes (Fernandez *et al.*, 2012, *forthcoming*).

The analysis generally does not find significant effects of maternal and paternal education on the field of study. However, for certain countries parental occupation is associated with certain choices. In Switzerland, the highest occupational status of parents seems to be an important predictor of whether students take science-based as opposed to arts-based degree programmes, but the result is only significant for vocational training. In the case of Uruguay, for example, if the mother worked as a teacher the probability of choosing a humanities career decreased significantly for girls and diminished the likelihood that young men would choose medicine and social work professions. Fathers in engineering professions did not seem to influence the choices of girls and boys, whereas fathers that worked as teachers, lawyers or administrators discouraged boys from humanities but encouraged them to enter law, behavioural sciences and economics (Fernandez *et al.*, 2012, *forthcoming*).

#### Policy interventions to address gender differences

121. Reducing gender disparities in post-secondary education is an important prerequisite for a further decrease in gender inequality in the labour market (Jacob *et al.*, 2009 and Mavriplis *et al.*, 2010). The issue of gender disparities in subject choices is of concern because it affects women's occupational opportunities (Chapter 2.5), reduces their future earnings potential and underutilises available human capital (OECD, 2011c). Given an increasing knowledge-driven global economy and raising competition for speed in innovation, the full utilisation of the available stock of skills in a population should be any government's priority.

122. Gender differences in subject choices are deeply rooted within cultural norms and are seen across different socio-economic levels. Changing students' attitudes and behaviours might therefore be particularly challenging, requiring major efforts from parents and teachers to change the stereotyped notions of what boys and girls excel in doing and what they enjoy doing. Interventions should start early on in life. A Canadian study, for example, shows that the highest interest in science is found among students aged 12-13 and that the interest declines dramatically as students grow older (Ipsos, 2010). The decline in science as children progress through school is confirmed by a study of 4000 children in the United Kingdom which shows that science lessons are inspiring to 42% of nine-year-olds compared with 38% of

12-year-olds and 35% of 14-year-olds (Parvin and Porter, 2008). OECD (2008b) found that interest in science and technology appears in primary school and remains stable until the age of 15 after which it declines. It is crucial that teachers embed mathematics and science activities in contexts that are interesting to both boys and girls and connect mathematics and science activities to careers in ways that do not reinforce existing gender stereotypes of these careers (IES, 2007).

123. A positive attitude towards a subject (be it reading or mathematics) is also related to positive teacher-student relations since interactions with teachers help shape the relative cognitive development and intellectual engagement of boys and girls (OECD, 2010f). Moreover, students tend to learn more when they feel that their teachers are taking them seriously since it strengthens their confidence and performance. In addition, students who are better informed about what will help them learn tend to perform better (OECD, 2009c). Hence, it pays having highly qualified teachers who address gender-specific attitudes within the classrooms. Teacher graduate training programmes have proven to be effective in raising the quality of teaching in Turkey (OECD, 2011h). Within the existing teacher training framework, one could also include a gender awareness course. The policy effectiveness of introducing single-sex schools which are generally considered to increase girls' confidence and benefit their ability to learn mathematics which then increases their likelihood to enter science degrees at tertiary level, is not supported by data (Kane and Mertz, 2011).

124. With an eye on girls' future entry into the labour market, support in raising their interest in mathematics and science-related subjects can be achieved via cooperation with the private sector as well. Introducing work-related learning to high-school students and explaining what subjects are required for the various career options can enhance students interest in particular subjects (Crowley and Niesr, 2008).

#### **Key policy messages**

- Attracting girls to typically male fields of study and vice versa needs to start early both in schools and at home.
- Teacher training programmes need to include courses that raise awareness about potential gender stereotypes.
- Government, schools and the private sector need to explore cooperation strategies such as information or career fairs in schools for both parents and students to raise the interest of girls in science-related subjects and of boys in humanities and arts-related subjects. Improving quality of teaching staff and materials can further enhance academic motivation and learning outcomes of boys and girls.

## CHAPTER 2.5: GETTING THE JOB YOU STUDIED FOR

### Key findings

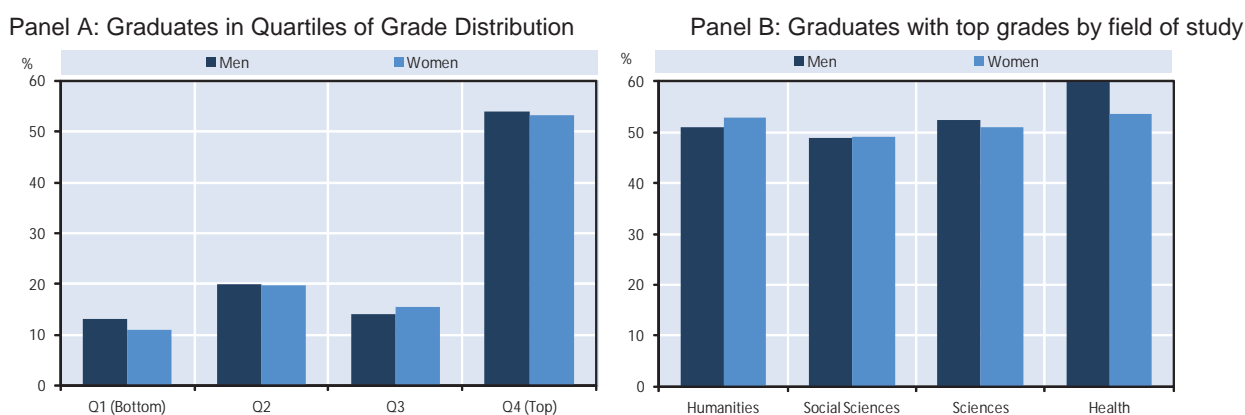
- There are no significant gender differences in performance amongst university graduates.
- Linkages between choice of field of study at university level and occupation become strong and significant *within* professional and technical occupations. The effect may be stronger for men than for women, since even when women pursue STEM studies they are not likely to end up working in the field.
- Girls' decisions to pursue careers in certain professions seem to be driven by factors other than skills.

125. In most OECD countries young women are now at least as likely as men to complete university education. However, as described in the previous chapter, there are still systematic gender differences in the choice of field of study, and this disparity may well affect the different sectors and occupations in which men and women work and other gender differences in labour market outcomes (*e.g.* Chapters 3.1 and 3.3).

### No gender disparities in performance at tertiary level

126. Despite systematic gender differences in subject choices at tertiary level, both men and women have a very similar performance when graduating. Figure 2.5.1, Panel A shows that it is hard to discern gender differences in performance across subject areas; or it must be that there are slightly more men than women amongst graduates with lowest grades. Figure 2.5.1, Panel B shows that the proportion of top performing women is very similar across fields of study, while men show a little bit more variation in this regard. Men and women have a very similar performance upon graduating in sciences or in social sciences. In humanities, women perform slightly better, while men have the edge in the health area. Nevertheless, the overall trends suggest that as with the transition from secondary to tertiary education (Chapter 2.5), systematic gender differences in occupational choices do not arise because of differences in academic performance and/or ability.

**Figure 2.5.1. Women and men perform equally well at the tertiary level**



Note: Panel A and Panel B show the proportions of graduates on a pooled sample of all tertiary graduates in the surveyed countries. Source: Flabbi (2011) using REFLEX dataset which surveys 1999/2000 graduates from higher education (ISCED 5A, equivalent to B.A. or Masters) that have about 5 years of experience since leaving higher education in 14 OECD countries.

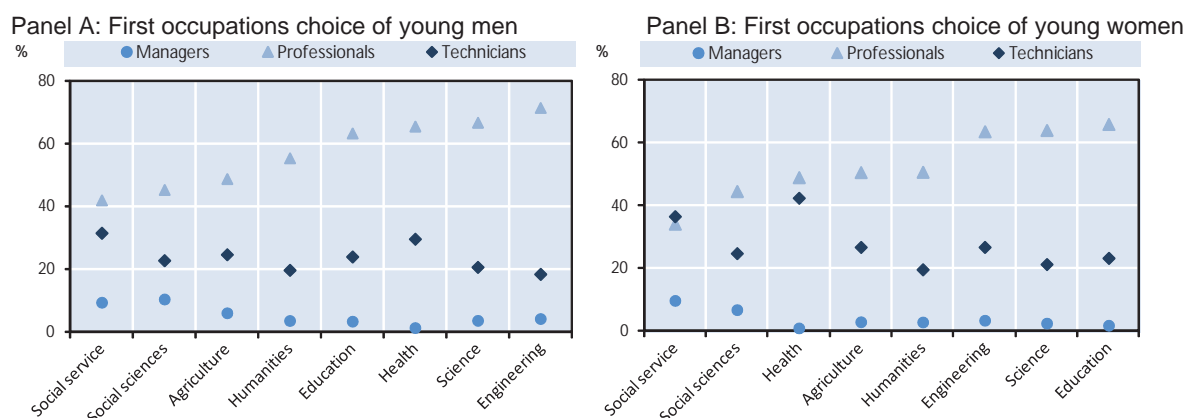
127. These broad trends, however, mask differences across individual countries. For example, in Japan and the United Kingdom, the proportion of graduates with top grades is around 10 to 15% lower than for men, while in Estonia, Italy and the Netherlands it is the other way around (Flabbi, 2011).

### Asymmetries by gender still persist in the transition from university to the labour market

128. Even though there are systematic gender differences across fields of study, most of the tertiary graduates work as professionals or technicians, which implies that for university graduates the choice of field of study does not affect the differences in the occupational choice made by men and women within the first 5 years since graduation. Figure 2.5.2 depicts the distribution of university graduates from different fields of study across three occupational categories: managers, professionals and technicians. Both male and female undergraduates tend to start their careers in a skilled occupation: at least 50% of graduates are employed either as a professional or as a skilled technician, regardless of their field of study.

129. There are some gender differences. For both men and women the lowest proportion of professionals is observed amongst graduates from social services studies, whereas the highest proportion is amongst the engineering graduates for men and education graduates for women. Also, more men than women work in professional positions while more women than men work as technicians. Moreover, among those graduates who take on a managerial position upon completing their studies the proportion of men (9.7%) is almost twice the proportion of women (5.7%).

**Figure 2.5.2. Male and female graduates start their career in a skilled occupation**



Note: The depicted occupations (*i.e.* managers, professionals and technicians) correspond to ISCO-88 major groups (one-digit): 'Managers' are those who advise on policies, formulate laws and represent the government. 'Professionals' category includes teachers, science and social science professionals. 'Technicians' apply technical, artistic and scientific concepts and teach at certain educational levels (also refer to <http://www.ilo.org/public/english/bureau/stat/isco>). Fields of study are grouped into 8 categories as shown in the chart (also see notes to Figure 2.5.1).

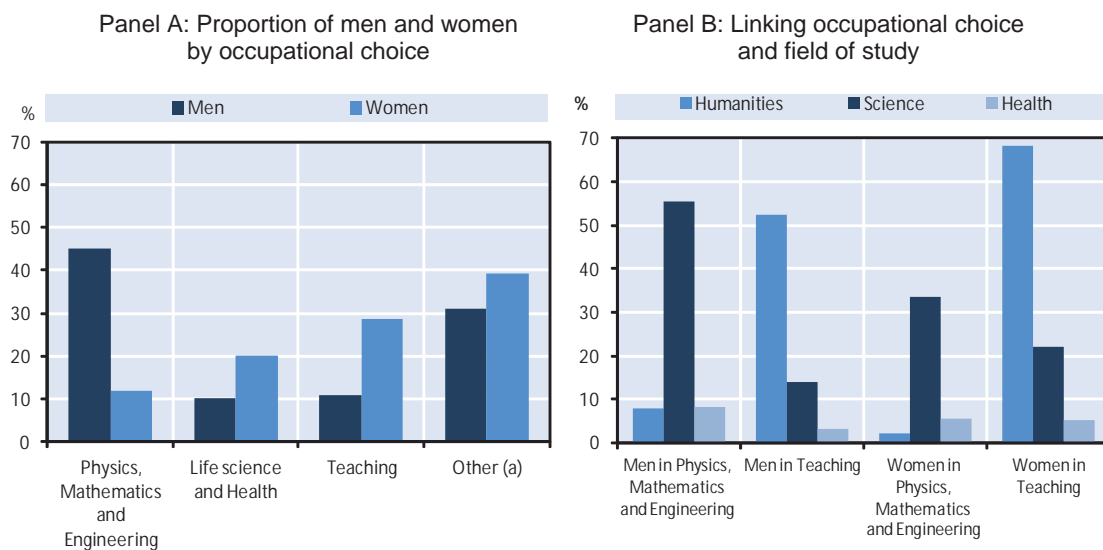
Source: Flabbi (2011).

130. However, when looking within the broad groupings of professionals and technicians, the correlation between field of study and occupation becomes significant. Figure 2.5.3, Panel A shows the proportion of professionals and technicians within four occupational sub-categories. More than 40% of men work in jobs related to physics, mathematics and engineering while this applies to just over 10% of women. Moreover, almost 30% of women are in the teaching profession compared with only 12% of men. These overall trends in occupational segregation are confirmed at the country-level too.

131. In OECD countries teaching (especially at the lower levels of education) is dominated by women. The OECD Teaching and Learning International Survey (TALIS) found that, on average, almost 70% of lower secondary school teachers were women. On the other hand, education management is left to a large extent to men. Moreover, women were also more likely to teach language and arts (79%) and human sciences (57%) rather than teach mathematics and science (49%) (OECD, 2012f). This segregation within the teaching profession is a concern since it further reinforces existing gender stereotypes amongst students.



**Figure 2.5.3. The mapping between occupational choice and field of study is strong for professionals and technicians**



Note: First job chosen after graduation.

a. 'Other' includes professions such as business and legal professionals, creative professionals, finance and sales associate professionals.

Source: Flabbi (2011).

132. Figure 2.5.3, Panel B links the field of study and the choice of a career in physics, mathematics and engineering or in teaching. Almost 70% of the female graduates who studied humanities work as teachers compared with about 50% of the male graduates. About 55% of the male graduates from the science field work as professionals in physics, mathematics and engineering as opposed to 33% of the female graduates. Hence, even if women choose STEM subjects they are less likely to pursue a science career than men despite the lack of gender differences in performance. These choices could be related to preferences or girls' considerations of future family obligations, although these attitudes and behaviours are partly influenced by existing gender perceptions at home, amongst peers and teachers. There may also be a historical influence since women have been concentrated in the non-manual sector of employment. The presence of socio-cultural factors is emphasised by the fact that gender segregation in employment expectations of youth is present already at the age of 15 years in countries with different economic contexts and education systems (OECD, 2012f).

133. PISA findings show that although girls expect higher status employment compared to what is typically expected by boys, on average in OECD 5% of girls expect a career in engineering and computing compared with 18% of boys. Also, more girls than boys expect a career in health and medicine (OECD, 2012f). This is consistent with the increasing number of women health graduates (Chapter 2.4). Hence it is important to communicate to girls at an early age that occupational status expectations are related to subject choices since an occupation in engineering or computer science is more likely to give a career rise.

### Is gender mismatch of skills a reality or a perception?

134. The mismatch between girls' aspirations and their actual achievements is a consideration since well-educated women often end up in jobs where they do not use their full potential and skills. In addition to loss of talent, OECD findings show that over-qualification and over-skilling reduce job satisfaction and increase the likelihood of on-the-job search which is likely to reduce productivity (OECD, 2011k).

135. Certain fields of study are associated with a higher incidence of over-qualification. For instance, just over 10% of workers with qualifications in personal care services and teaching are over-qualified in their job compared with almost 30% for those with social studies training (Quintini, 2011). These occupations are usually dominated by women, which could imply that women are more likely to be over-qualified in their current jobs. Nevertheless, Quintini (2011) did not find any difference across gender in the likelihood of over-qualification although women are more likely to be under-qualified than men. This could partly be driven by women's perceptions of their own abilities. For example, Flabbi and Tejada (2012) show that women more frequently declare to be under-qualified for the job, and in particular for those competencies where the differences between men and women are significant. The mixed and in some instances counter-intuitive evidence on gender differences in skills assessment points to the need for further research in this area (Box 2.5.1).

#### **Box 2.5.1. A survey of adult skills**

The mismatch between workers' skills on the one hand, and job requirements on the other has been an ongoing concern of policy-makers in the fields of education and employment. Since government investment in education and training is usually large, both unused and misused human capital is a considerable waste of investment. In particular, systematic gender differences in educational and occupational choices are a concern due to an increasing polarisation of skills in modern economies: highly skilled workers are needed for technology-related jobs and low-skilled workers are hired for services that cannot be automated such as personal care. This has consequences for women since they are over-represented in low-skilled sectors (such as the caring sector) and, hence, are being pushed into low paying jobs. There is general agreement that the long-term trend in skills need is towards jobs that require more education and cognitive skills (OECD, 2012g). Hence, to avoid a further marginalisation of women in the labour market a better understanding of how skills are acquired and matched or mismatched for both men and women throughout their working lives is essential.

The new data that is being collected through the OECD Survey of Adult Skills (the Programme for the International Assessment of Adult Competencies or PIAAC) provides a good avenue for such an investigation since it will measure skill (across age groups) along with indicators on the extent to which skills are used at work (OECD, 2012g). This will allow new insights into consequences for gender differences in occupational choices and may suggest new ways of how to encourage boys and girls to move away from traditional choices.

#### **What can government do to change career stereotypes?**

136. Supporting young people at school with careful guidance for further study and at university with career advice that challenges stereotyped assumptions (*e.g. carrefour des métiers* in France) can assist in encouraging 'atypical' educational and occupational choices among young men and women. Other initiatives that try to address the 'early in life' roots of segregation include motivational events or educational programmes. For example, the UK-wide WISE (Women Into Science and Engineering) campaign aimed to encourage young women to study mathematics and physics and to consider careers in the areas of science, engineering and construction, which may have contributed to a doubling the percentage of female engineering graduates from 7% in 1984 to 15% in 2009 (EC, 2009a). Given the importance of female mentors for keeping young women in STEM careers, the U.S. Department of Energy created a mentoring programme that matches female college students with successful employees of the Department (White House Council, 2012).

137. While many similar initiatives primarily encourage girls to enter male areas of work, there are also initiatives also encourage boys to enter female areas of work such as teaching or caring. Some examples include information campaigns such as the parallel information campaigns 'Girls' Day' and 'New pathways for boys' in Germany and educational events like 'National Future Day' in Switzerland. Some of these initiatives directly involve private firms (EC, 2009b). The involvement of employers in delivering education programmes helps students to have a smoother transition from education into the labour market (EC, 2010a; IET, 2007; Lord and Jones, 2006; and, Mann, 2012).

**Key policy messages**

- Promoting early work experience through education programmes, internships and apprenticeships could encourage women, particularly those who successfully completed their studies in the STEM areas, to work in the *science fields*.
- Careful career guidance and counselling at universities can help young men and women in better matching their acquired skills when choosing a career path.
- The OECD Survey of Adult Skills can help to build a data system that allows assessing available skills at the national level, inform national skills policies and minimise skills mismatch in the economy.

## CHAPTER 2.6: FINANCIAL EDUCATION CONTRIBUTING TO FINANCIAL EMPOWERMENT

### Key findings

- Current evidence suggests that women typically have lower levels of financial knowledge than men and lower levels of confidence in their financial skills.
- Women need to be able to plan even more carefully than men for their retirement and health care expenditures, due to longer life expectancy.
- Both men and women have a need for more tailored information, knowledge and skills development in order to efficiently address financial issues, make effective and confident financial decisions and take advantage of income generation opportunities.

138. In the aftermath of the global financial crisis policy makers have recognised financial literacy as an essential life-skill (OECD, 2009e). The growing policy attention stems from a number of factors, including the transfer of a broad range of financial risks from governments and corporations to individuals, the increasing complexity of financial markets and the increasing numbers of newly active consumers and investors in the financial sphere who need support and protection beyond that provided through regulation.

139. Financial education has therefore become an important complement to market conduct and prudential regulation, and improving individual financial literacy is now a long-term policy priority in many developed and developing countries. The potential gains from financial education are large. Academic research shows that higher levels of financial knowledge are associated with a range of beneficial behaviours and positive outcomes, such as careful budgeting, controlled spending, planning for retirement and accumulation of wealth, and ability to understand the benefits of participating in financial markets (for example, Hilgert *et al.*, 2003; Lusardi and Mitchell, 2007, Perry and Morris, 2005; van Rooij *et al.*, 2011; and, Stango and Zinman, 2009).

### Defining financial education

Financial education is the process by which individuals improve their understanding of financial products and concepts; and through information, instruction and/or objective advice develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being and protection (OECD, 2005a).

140. Women must be sufficiently financially literate for a number of reasons. First, women need to be able to more effectively participate in economic activities and financial decision-making in their households and communities. This includes being able to access and choose appropriate financial services to protect themselves and their families, as well as to develop entrepreneurial activities (Part 4 of this report). This especially becomes a concern due to an increasing number of sole parent households which are more likely to be female-headed. Governments and development organisations have thus attempted to increase women's empowerment by improving their financial literacy as a means to successfully start and manage small-scale or micro-enterprises. Examples of such programmes are found in countries as diverse as Australia – as a development activity for low-income countries (Australian Government, 2009), Canada – for aboriginal women entrepreneurs (AANDC, 2010), Lebanon (Hung *et al.*, 2012), and Uganda (Nordic Consulting Group, 2011). Further examples of how countries address gender differences in financial literacy are outlined in Box 2.6.1 below.

### Box 2.6.1. Addressing gender differences in financial literacy

Various countries, both among developed and developing ones, have acknowledged the need to address the financial literacy of women and girls by studying their specific needs and implementing financial education programmes targeted to various subgroups of women.

As a first step to help women build their financial security, Australia conducted in 2008 the Women Understanding Money research campaign with a view to identifying the needs of women and girls. Analogously, the New Zealand Commission for Financial Literacy and Retirement Income is undertaking research about women's future retirement prospects in the country as part of an approach to address women's lower retirement outcomes.

Several other countries are engaged in the development of programmes exclusively or mainly targeting vulnerable women and girls. For example, the Canadian National Initiative for the Care of the Elderly (NICE) holds money management workshops for low-income older women in Vancouver, Montréal and Toronto, and the Money Advice Service in the UK delivers a Parents' Guide to Money to expectant mothers to reinforce their confidence in financial decisions and enhance their financial knowledge and skills.

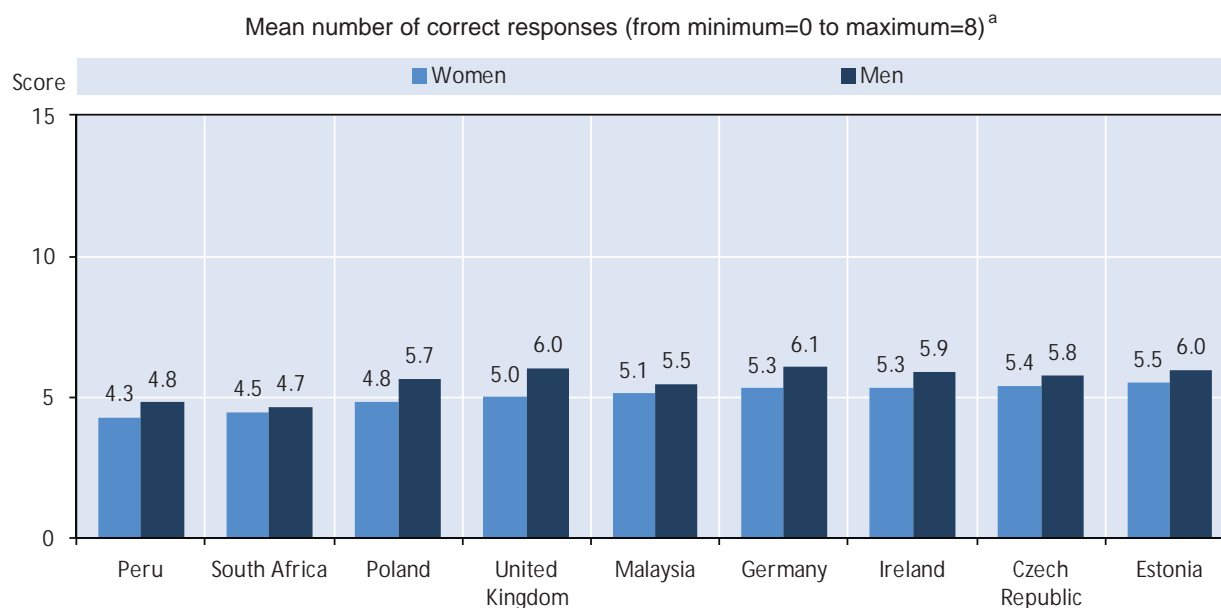
Moreover, OECD countries also fund financial literacy programmes for women in developing countries. The UK Department for International Development (DFID) financed financial literacy training for girls and young women in rural areas of Zambia, and contributed to funding a Population Council programme delivering financial education training and access to saving products to adolescent girls in Kenya and Uganda. Similarly, the Canadian International Development Agency (CIDA) is supporting financial education initiatives with a focus on female micro-entrepreneurs both in Pakistan and the Philippines.

141. Women are also more likely to take primary responsibility for childrearing, make important decisions about allocation of household resources and take a lead role in the education of their children on financial matters. This is an important issue given that the financial literacy of students is strongly correlated with the education of their mother (Lusardi *et al.*, 2010).

142. The potential benefit from knowing the current levels of financial literacy amongst women and addressing any shortfalls has so far not been widely recognised by policy makers. A recent survey of countries in the OECD International Network on Financial Education (INFE) found that just 8 of the 27 countries that responded recognised that the financial literacy of women and girls was an important issue (Hung *et al.*, 2012). There is also little attention paid to the issue by academics and therefore limited research evidence at this stage. Nevertheless, it is possible to draw on existing survey data in order to identify differences in levels of financial literacy by gender and the associated policy issues.

### Women have lower levels of knowledge and confidence on financial issues

143. Short tests of financial knowledge around the world have shown that women have lower levels of financial knowledge than men (Lusardi and Mitchell, 2011, report evidence from studies on eight countries - Germany, Italy, Japan, the Netherlands, New Zealand, the Russian Federation, Sweden and the United States). These findings are largely confirmed by the responses to a set of 8 knowledge questions used in the OECD/INFE financial literacy measurement survey. Hung *et al.* (2012) includes a test of basic financial numeracy, understanding of terms such as inflation, understanding the time value of money and the effect of compound interest rates. Figure 2.6.1 shows that in all countries, the test scores of women are somewhat below those of men.

**Figure 2.6.1. Women have slightly lower levels of financial knowledge than men**

Note: (i) Sample size ranges from 993 in Estonia to 3112 in South Africa (ii) Countries are ranked by increasing level of women's financial knowledge.

a. Differences are significant at the 5% level for every country.

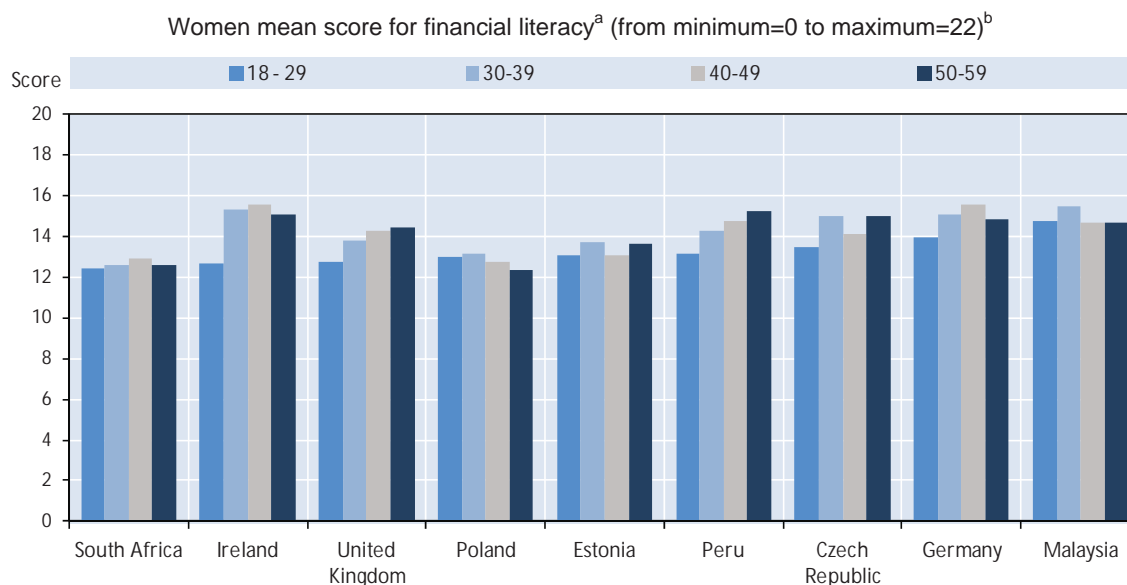
Source: Atkinson and Messy (2012).

144. Women are also more likely than men to say they do not know the answer to a financial knowledge question rather than attempt to answer it (Lusardi and Mitchell, 2011), and have been shown to have lower levels of confidence in both their knowledge and their ability with complex financial issues (Australian Government, 2008). Evidence suggests that gender difference in levels of confidence about financial knowledge start in school (Capital One, 2009, reports evidence about the United States). The combination of lower levels of knowledge and a lack of confidence means that women are less likely to feel capable when dealing with financial issues, services and their providers and therefore do not necessarily grasp potential opportunities for income generation through entrepreneurship or investment; or fail to apply for credit to develop their business potential (Morcos and Sebstad, 2011).

145. There is a wide range of factors influencing women's generally lower levels of financial knowledge among which the socio-cultural context as well as access to financial services play a prominent role. For example, the level of women's involvement in deciding long-term financial investments and related choices of products in the households or women's financial dependency on their husbands partly shapes their understanding of financial issues.

### **Financial education could start at school**

146. Financial education is a complex process which involves affecting individual's attitudes, knowledge and behaviour with a view to support more savvy financial decisions (OECD, 2005a). Existing evidence shows that young people have lower levels of financial literacy than older generations: Figure 2.6.2 illustrates this finding amongst women. They also show that people with a higher level of income and education have a higher level of financial literacy (OECD 2012h). The 2012 PISA exercise and its new financial literacy option is a first international attempt to provide more detailed evidence on 15-year-old children's level of financial knowledge and ability to apply this (OECD, 2010g).

**Figure 2.6.2. Young women typically have lower levels of financial literacy than older generations**

Notes: (i) See notes to Figure 1 (ii) Countries are ordered by increasing female financial literacy for 18-29 years-old.

a. This score combines knowledge, behaviour and attitude.

b. Differences are significant at the 5% level for the Czech Republic, Germany, Ireland, Peru and the United Kingdom.

Source: Atkinson and Messy (2012).

147. Against this backdrop, quality financial education in schools has the potential to bridge the income, gender and age gaps and influence students' financial attitude and present behaviours (Elliot *et al.*, 2010). This explains why a number of OECD and non-OECD countries, including for example Australia, the Czech Republic, Germany, Japan, New Zealand, South Africa, Spain and the United States have introduced financial literacy in their school curricula. This includes building knowledge, confidence and skills to tackle issues such as money transactions, managing and planning finance, risk and reward and financial landscape. 23 out of 38 countries surveyed by the OECD/INFE had some form of financial education in schools in 2011 (OECD, 2012i). The OECD and its INFE are about to complete a 3-year project which will provide specific guidance to policymakers to help them efficiently overcoming challenges to be addressed when introducing and developing financial literacy in schools and will also include the development of learning framework for financial education (OECD, 2012j).

### Women's financial behaviour and long-term planning

148. A number of national studies in OECD countries and the OECD/INFE survey suggest that women may be better than men in short-term money management behaviours such as keeping an eye on their everyday expenditure (for example Atkinson *et al.*, 2006; Irish Financial Regulator, 2009; and, McKay, 2011). At the same time, evidence from some countries suggests that women may be less likely than men to make long-term financial plans. For example in the United States, over 50% of men, but only 45% of women, have set aside an emergency fund covering expenses for 3 months. Furthermore, 45% of men and 39% of women have tried to figure out how much they need to save for retirement (FINRA Investor Education Foundation, 2009). In the United Kingdom, on a composite measure of attitudes and behaviour relating to long term planning, women appear to be slightly worse at planning ahead than men even after taking into account explanatory factors such as income or working status (Atkinson *et al.*, 2006).



149. As women have to manage greater financial risks: they typically live longer than men, and often have lower life-time earnings, it is important that they are well-equipped to make long-term financial plans, including retirement planning. These issues will be explored in greater detail by the OECD in 2012/13.

150. In any case, the OECD/INFE survey also suggests that women are at least as likely, if not more likely, than men to have a positive *attitude* towards long-term financial planning. This suggests women should be receptive to well-designed policies that strengthen their knowledge and encourage behavioural changes which could further improve their overall financial well-being and that of their households.

#### Key policy messages

Differences in financial literacy and behavior by gender should be explored further, to gain a deeper understanding of the specific aspects of financial literacy that might negatively affect the financial well-being of women and design better targeted policy interventions. Given that financial literacy is a relatively new area of research, work in this area should focus primarily on:

- Gaining further insight in the gender differences in financial literacy and behaviours, by undertaking internationally comparable surveys using the OECD/INFE Financial Literacy Core Questionnaire for adults and the PISA Financial Literacy international option introduced in 2012 for 15-year-olds.
- Where needed, developing financial education programmes tailored to girls and women's needs and preferences building on the current state of knowledge and good practice identified by the OECD/INFE. This should include -but not be limited to- financial education in schools, in order to reach girls before they lose confidence in their abilities.
- Whenever financial education programmes are provided they should involve regular monitoring to identify any divergence in expectations, confidence or outcomes between male and female participants; and evaluate the programme's effectiveness.

**PART 3: GENDER EQUALITY IN EMPLOYMENT**

## CHAPTER 3.1: WHO IS IN PAID WORK?

### Key findings

- Female employment participation has generally increased, and gender gaps in labour force participation have narrowed, but in South Asia, the Middle East and North Africa gender gaps remain considerable.
- Mothers and women with low levels of educational attainment are least likely to be in paid work.
- Occupational segregation has not improved since the turn of the century.
- Women are still under-represented at more senior job levels.

151. Gains in female educational attainment have contributed to a worldwide increase in female labour force participation over the past decades (Chapter 2.1). This has contributed to a narrowing of the gender gap in employment outcomes in most countries. Nevertheless, despite significant improvements in women's position in the labour market, considerable gender gaps remain. Gender inequalities persist in working hours (Chapter 3.2), conditions of employment, occupations and sectors, and earnings (Chapter 3.3). Women continue to undertake a much higher load of unpaid work than men (Chapter 3.7), which then constrains their opportunities in paid work.

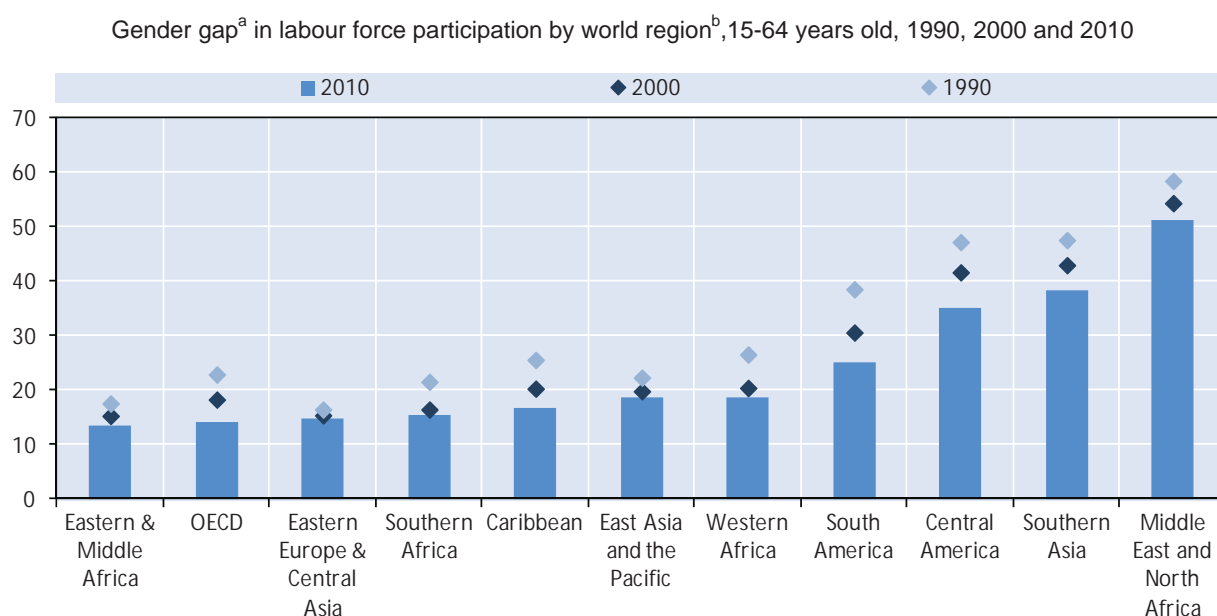
152. On average across OECD countries the gender gap in labour force participation narrowed by 9 percentage points between 1990 and 2010 (Figure 3.1.1). Outside the OECD, a more pronounced decline was observed in Central and South America, where labour force gender gaps narrowed by more than 12 percentage points. By contrast, in East Asia and the Pacific (reduction of 4 percentage points) or in Eastern Europe and Central Asia (reduction of less than two percentage points), progress was much more limited.

153. On average in the OECD in 2010, 65% of women were in the labour force up from 58% in 1990. However, there is considerable cross-national variation. In 2010, female labour force participation ranged from over 75% in China, the Nordic countries and Switzerland to below 50% in India, Mexico, South Africa and Turkey (Annex to Part 3 – A3.1).

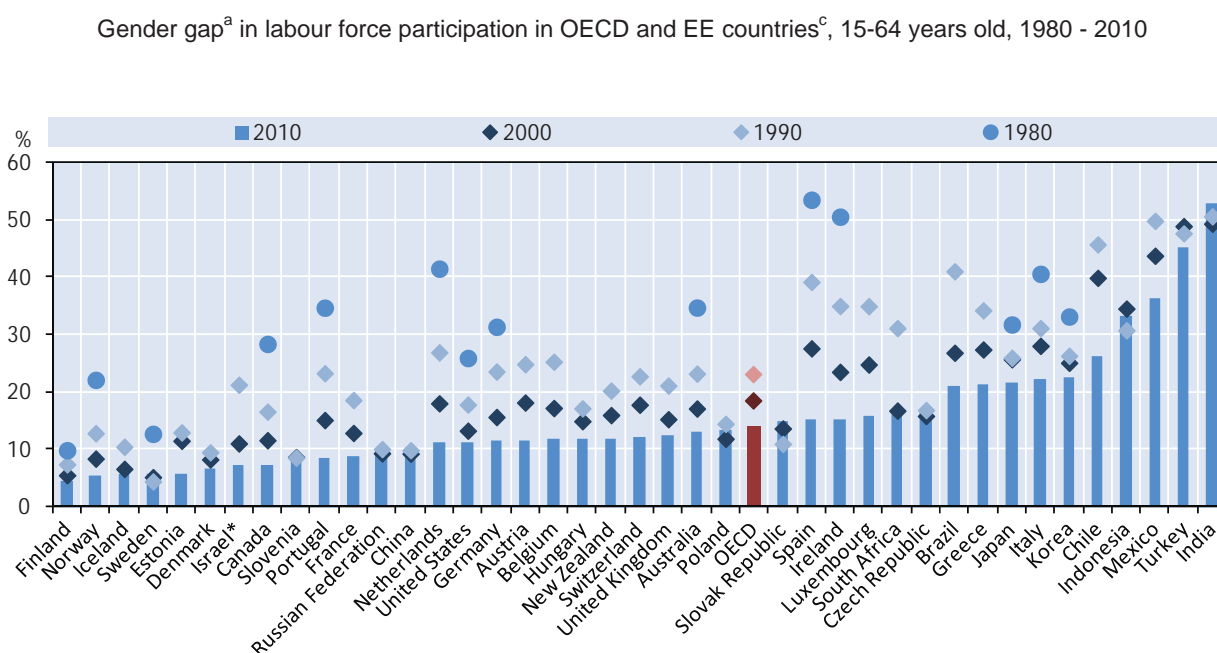
154. In non-OECD countries, gender gaps are noticeably high in Central America, Southern Asia, and the Middle East and Northern Africa (MENA). In these regions, gender gaps exceed 30 percentage points and female labour force participation is limited. Many governments are trying to facilitate female employment. Recently, India and South Africa have introduced measures to attract more women into their public work programmes (Box 3.1.1).

155. Today, in most regions around the world, workers are employed predominantly in the service sector, with women being over-represented in this economic sector (Table 3.1.1). In the OECD, services account for more than 80% of women's employment compared with 60% of men, with agriculture being the least important sector in terms of employment for both men and women. The latter also holds for the Caribbean and South America. However, in less developed regions, agriculture continues to be an important source of employment.

**Figure 3.1.1. A) Gender gaps in labour force participation have narrowed, but they remain significant in South Asia, the Middle East and North Africa**



**Figure 3.1.1.B) In the OECD, gender gaps in labour force participation vary widely across countries**



a. Difference between male and female labour participation rates for 15-64 years old.

b. Unweighted averages for countries in each region; Country groupings are defined in the Annex to part 2. Regions are ordered by increasing 2010 enrolment ratios.

c. Countries are ordered by increasing 2010 gender gap in labour force participation.

\*Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2012b), OECD Employment database and ILO (2012a), KILM indicators.

156. In fact, recent decades have seen a ‘feminisation of agriculture’, in many developing countries. In 2010, 58% of women compared with 52% of men in Eastern and Middle Africa worked in the agricultural sector, whilst in South Asia these proportions were 51 and 35%, respectively (Table 3.1.1). Women often remain marginalised in lower status, unskilled agricultural work, which is frequently unpaid (Jütting and Morrisson, 2009 and Jütting *et al.*, 2012). In general, women tend to be over-represented as contributing family workers and under-represented as employers. Discriminatory social institutions (Chapter 1.2) play a key role in explaining gender disparities in the agricultural sector.

**Table 3.1.1. Women are over-represented in the service sector**

Distribution of employment by sector, region<sup>a</sup> and sex, 2010<sup>a,b</sup>

	Women				Men			
	Agriculture	Industry	Services	All activities <sup>c</sup>	Agriculture	Industry	Services	All activities <sup>c</sup>
Caribbean	3	9	88	100	11	29	60	100
Central America	8	16	76	100	34	23	42	100
East Asia and the Pacific	31	12	56	100	33	20	46	100
Eastern & Middle Africa	58	8	34	100	52	14	34	100
Eastern Europe & Central Asia	23	14	63	100	23	30	47	100
Middle East and North Africa	21	7	72	100	12	29	58	100
<b>OECD</b>	5	12	83	100	6	34	60	100
South America	12	12	76	100	20	28	52	100
Southern Africa	12	11	77	100	21	26	53	100
Southern Asia	51	19	28	100	35	20	41	100
Western Africa	53	7	36	100	60	11	27	100

a. 2010 or most recent year, unweighted averages for countries in each region for which data was available after 2005.

b. See the Annex to Part 3 – A3.1 for more detail on the countries and years used to calculate regional averages.

c. Data for all activities may include also "activity not adequately defined", here not reported, Sum of agriculture, industry and services may therefore not correspond exactly to 100.

Sources: OECD (2012b), OECD Employment database; OECD Annual Labour Force Survey indicators, for OECD countries (excluding France, Luxembourg and the United States) and Brazil; and, ILO (2012a), KILM indicators, accessed January 2012 for France, Luxembourg, the United States and non-OECD countries (excluding Brazil).

### Box 3.1.1. Public work programmes through a gender lens

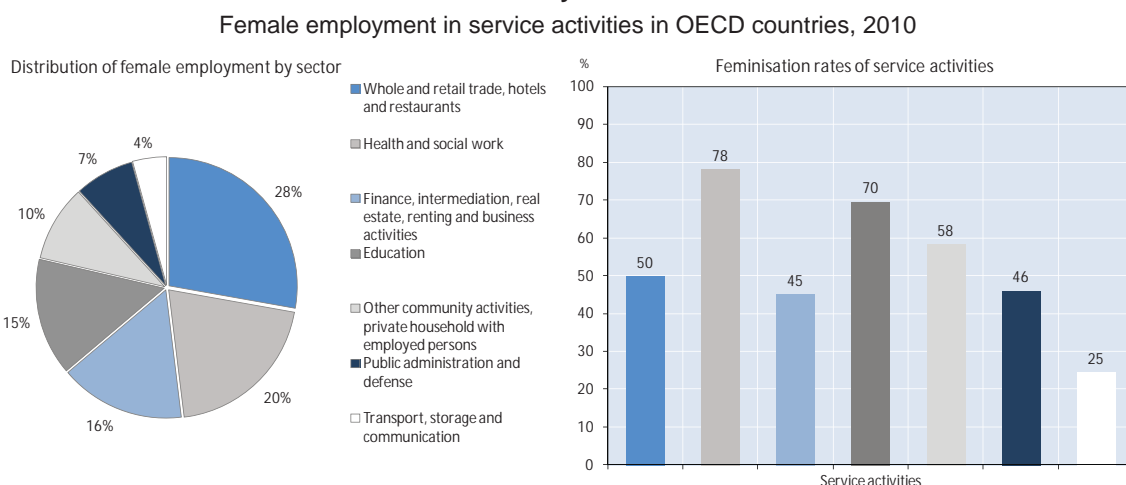
In a number of developing and emerging economies, public works programmes are used as instruments to deliver social protection to the working-age poor as well as a response to lack of labour demand. Early public works programmes suffered from low levels of female participation, but over time a range of approaches has been developed to increase female participation, for example, in the Indian National Rural Employment Guarantee Act (NREGA) and to some extent in the South African Expanded Public Works Programme (EPWP). Both programmes are important safety nets for women: on average, about 50% of NREGA beneficiaries and 63% of EPWP beneficiaries in 2010 were women.

High participation of women can be achieved through different means including the introduction of explicit quotas: one-third in the case of NREGA and a target of 40% in EPWP. NREGA also aims to promote women's participation in the workforce by setting equal wages for men and women; by allowing childcare facilities to be provided on worksites; and by requiring provision of work close to participants' homes (*i.e.* within a radius of 8 km from the place of residence). Women also have to be included in the monitoring and management of the scheme. As a result of NREGA's equal wage policy, women can earn higher wages: up to 60 Rupees (1.2 USD) more than in private rural employment (Holmes and Jones, 2011).

Yet, even though both public works schemes have high participation rates of women, there is scope for improvement. Mainly for reasons of technical capacity and cost (since the cost of employing exceeds the hourly wage), the South African EPWP has a very limited outreach. Moreover, to support women's economic opportunities, EPWP could be improved by legislating equal wages for both men and women and improving day-care opportunities by better linking the subsidised Early Childhood Development centres programme with the EPWP. NREGA is also criticised for high costs and low efficiency (Niehaus and Sukhtankar, 2009). The issue of corruption in NREGA has been widely debated since evidence in various districts shows that households with higher status in villages tend to have a higher propensity of participation in the programme (Liu and Deininger, 2010). Despite it being one of its design features, NREGA is also criticised for lack of day-care facilities at or near the work sites (Bhatty, 2006). However, both the South African and Indian programmes could benefit from allowing flexible working hours for women easing their time pressure and supporting their dual work and caring responsibilities.

157. A more detailed picture of the service sector shows that across the OECD on average, almost one in three women in service activities works in sales, hotels and restaurants (Figure 3.1.2). The feminisation rates (*i.e.*, proportion of women among workers in each activity) of the service sector tend to be high among most activities, except for transport, storage and communication. The highest feminisation rates are observed in health and community services (78%) followed by education (70%). There are, however, important differences across countries both in the distribution of female employment by sector and in feminisation rates (Annex to Part 3 – A3.1).

**Figure 3.1.2. Economic sectors with the highest feminisation rates include health and community services followed by education**



Source: OECD (2012b), OECD Employment database: excluding France, Luxembourg and the United States.

158. Women continue to choose different occupations than men (Chapter 2.5). In the 1990s, the development of new technologies and the change of work organisation were believed to be factors that could contribute to widening women's occupational choices (OECD, 1994). But Figure 3.1.3 shows female employment in Europe is concentrated in fewer occupations than for men, with gender differences varying across countries, and there has been little change over the last decade. Bettio and Verashchagina (2009) for Europe and Hegewisch *et al.*, (2010) for the United States corroborate that since the mid-1990s there has been little change in "horizontal segregation" – i.e. where a workforce is made up mostly of one gender, race, or other ascribed characteristic. In 2009, the greatest spread of female workers across occupations amongst European countries was observed in the Czech Republic, where ten occupations accounted for half of total employment. The comparably high level of diversification of female occupations in these countries may be related to the past communist regime, while the subsequent move to a market economy sometimes involved transformation to a more "traditional" model of economic segregation (Box 3.1.2).

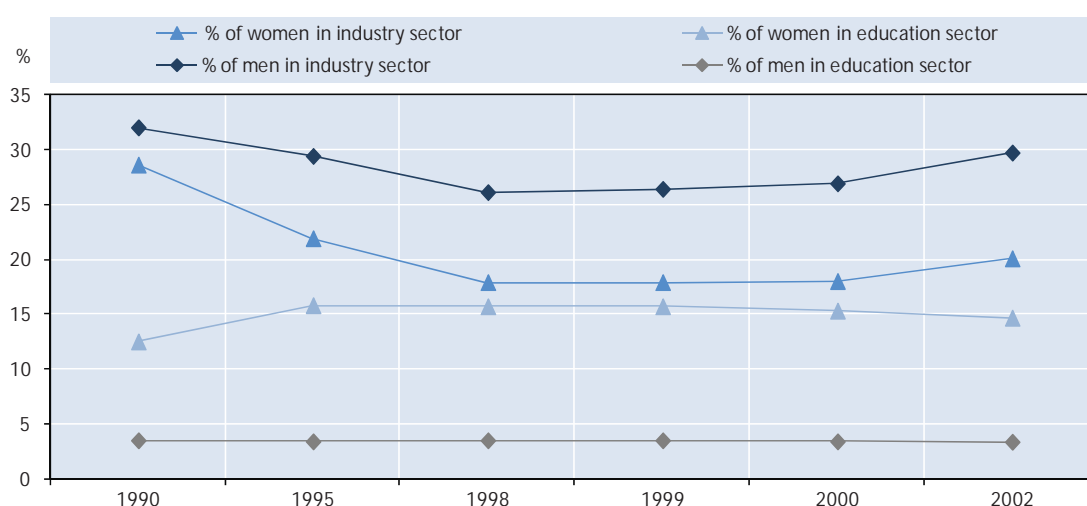
### Box 3.1.2. Effects of the economic transition on occupational segregation in the Russian Federation

The equality of men and women was one of the avowed objectives of the communist system and the policy of full employment applied to both men and women (including mothers). Due to the importance of the industry sector and prevailing labour demand, women were encouraged to a certain extent to take up physical and traditionally masculine jobs (Kamerman and Moss, 2009). Hence, officially at least, in the former Soviet Union horizontal gender segregation was considerably lower than in western economies.

However, during the transition period, in the early 1990s, the industry sector declined and both men and women moved out of this sector and other STEM- related professions (science, technology, engineering and mathematics) into other activities. The change was more visible for women, who left the industry sector more quickly than men did (see Figure), and moved into less 'prestigious' sectors with a traditionally high level of female concentration, including health care, social services and education sectors. Many men either left or combined their former employment with economic activities in the private sector (which partly took over state-owned enterprises in the industry sector).

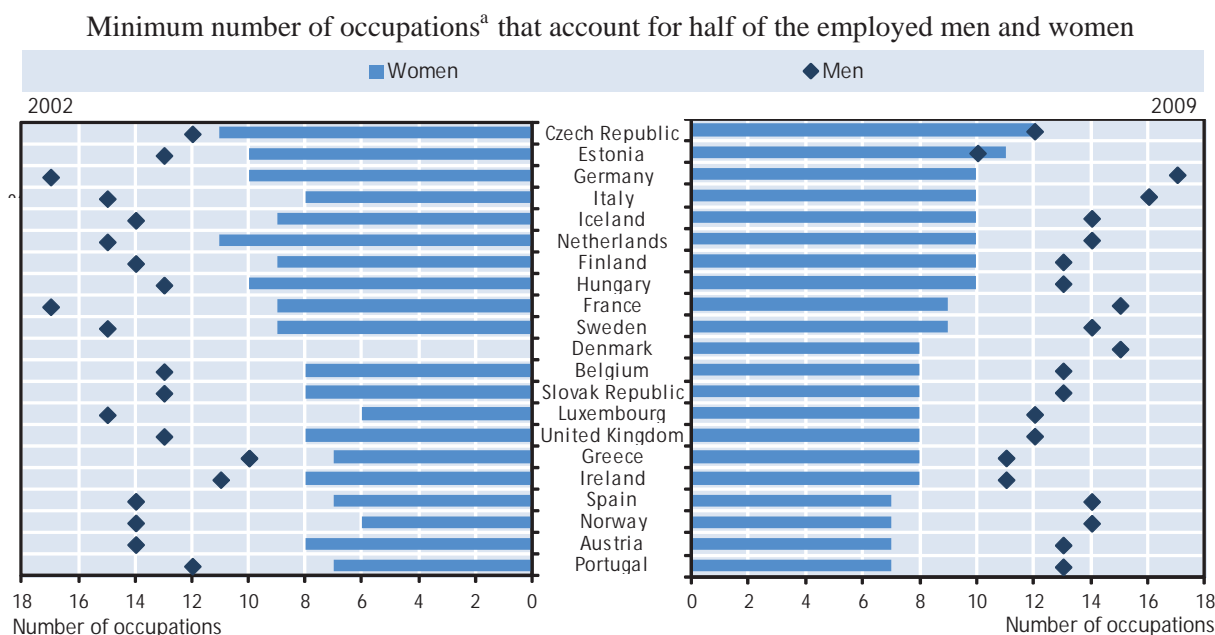
**Figure Box 3.1.2. During the transition period, many women left the industry sector and moved into traditionally female jobs.**

Change in the proportion of women and men employed in industry and education sectors



Source: Rosstat (2011).



**Figure 3.1.3. Female employment is concentrated in a limited number of occupations<sup>a</sup>: 2002-2009**

Notes: Countries are ordered by decreasing number of occupations for women in 2009.

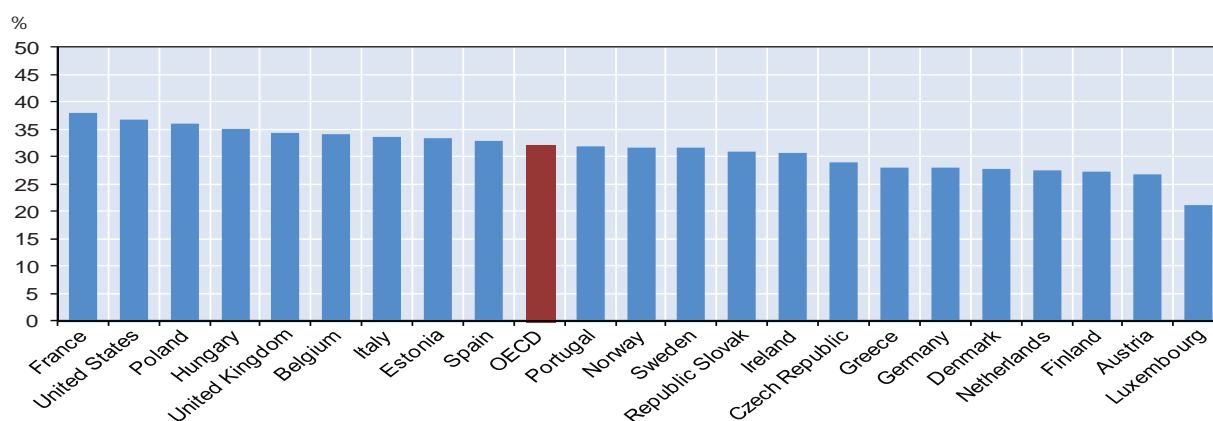
a. The 3-digit ISCO88 classification of occupations has been used, with a distinction of 111 occupations.

Source: Eurostat (2012a), EU LFS.

159. In addition to horizontal segregation, women across the world also face “glass ceiling” or “vertical segregation issues” – i.e. where opportunities for career advancement for a particular gender, race, or other ascribed characteristics, are narrowed. On average, in OECD countries for which information is available, less than one-third of managers are women, with small variations across countries (Figure 3.1.4). The proportion of female managers is highest in France, Poland and the United States (35%). The proportion of women with managerial responsibilities is lowest in Luxembourg (21%). Overall, women face many more obstacles than men to be promoted and reach top positions in the corporate world (Chapter 3.5).

**Figure 3.1.4. In the OECD, less than one-third of managers are women**

Proportion of women among staff with managerial responsibilities, 2007<sup>a</sup>



Note: Countries are sorted by the decreasing proportion of women among staff with managerial responsibilities.

a. March 2009 data for the United States.

Source: OECD (2012c), OECD Family database (indicator LMF1.6).

160. The evolution of female employment differs not only across regions and countries but also across age, education and family status. In all OECD countries, except Iceland and Sweden, mothers have lower employment rates compared with women aged 25 to 49 (OECD 2012c, indicator LMF1.2). Often during the prime years of family formation, women tend to reduce their work-participation while men maintain or increase hours of work. However, as children grow up and enter compulsory schooling (around age 6) women frequently re-enter the labour market or increase working hours from part-time to full-time (Chapter 3.2). Similarly, the number of children can play an important role in female employment decisions: in many countries, mothers with three or more children are significantly less likely to be in employment than mothers with one or two children (OECD, 2012c; indicator LMF1.2). These patterns differ across countries and are related to the availability of formal childcare supports and other family-friendly arrangements in the workplace (Box 3.1.3 and Chapter 3.8).

161. Women's transitions in and out of employment have noticeably changed over the past decades (Figure 3.1.5). Before 1990, on average, in the OECD, women's age-employment profiles showed a marked trough during the childbearing years (between ages 25 and 34). This trough has gradually smoothed as more women remain in the labour market after childbirth. Employment rates in OECD countries have increased for women of all ages, except for those in the youngest age group (20 to 24 years). Figure 3.1.5 masks the differences in age-employment profiles that exist across countries. In Nordic countries women's age-employment participation profiles often closely resemble those of men. In countries like the Czech Republic, Hungary, Japan, Korea and the Slovak Republic, a more traditional profile is observed, as mothers find it more difficult to combine work with family commitments. A fuller understanding of the factors influencing change in female and male employment patterns across age-groups and over time requires comparable and sufficiently detailed longitudinal datasets.

**Figure 3.1.5. More women are in paid work during the childbearing years than in the past**



Source: OECD (2012b), OECD Employment database.

162. Educational attainment helps to explain differences in labour force participation for both men and women. In all OECD countries, except Japan, Korea and Turkey, employment rates increase and gender employment gaps decrease with increasing education. On average in the OECD area, while 79% of women with tertiary education were in paid work, only 48% of women with less than upper secondary education were employed (OECD, 2012c; indicator LMF1.6). Similarly, for example, in Egypt and Jordan, the employment rates of women with post-secondary education are three times as high as for the female population in general.

### Box 3.1.3. Female labour force participation in MENA countries

Many countries in the Middle East and North African (MENA) region have made significant progress towards reducing gender gaps in key dimensions of education and health, but improvements in employment outcomes are limited. The increase in female labour force participation over the past two decades has been slight: from 22% in 1990 to 30% in 2010, almost 40 percentage points below male labour force participation rate in the region. There is considerable cross-national variation: female labour force participation rates range from 15% in Iraq to 53% in Qatar.

**Patterns of employment and occupational segregation.** Women are often employed in the public sector (WEF, 2011). In Egypt, for example, the public sector accounts for 56% of employed women compared with 30% of men (Hendy, 2012, *forthcoming*). However, female public employees tend to work in the traditionally feminised areas in many MENA countries, although the degree of gender segregation varies across countries.

Similar to OECD countries, when employed, women earn lower salaries than men in both private and public sector employment and do not have equal access to leadership training. Women are less represented in senior positions and leadership in both the private and public sectors. **Barriers to employment.** Lack of work-family balance policies (Chapter 3.8) is one of the main barriers to women's employment opportunities in the region. Family responsibilities are considered women's domain and marriage plays a key role in women's labour force participation, particularly among women in the private sector. In Morocco, only 12% of married women join the labour force (compared with 79% of married men). In Egypt and Jordan, the share of women in private jobs falls sharply at first marriage (Hendy, 2012, *forthcoming*), regardless education level. Employment patterns of women in public sector employment are less affected by marriage (57% of married female employees work in the public sector in Morocco (MMSP, 2011)).

Other institutional, legal, economic and social norms also contribute to explaining the slow progress of female labour force participation in the region. These include norms restricting the type and hours of work for women and requirements to get the permission of husbands or fathers to work. Some MENA countries (e.g. Egypt, Jordan and Yemen) also report that safe public transport and a more suitable working environment would improve employment prospects for women, in particular for women in remote areas (Hendy, 2012, *forthcoming* and OECD 2011).

**On the reform path.** Many MENA governments have taken steps to improve women's employment prospects (see Part 4 on entrepreneurship in MENA countries):

Increase commitment to conduct research on women's participation in economic activities. Morocco, for example, regularly reports on gender employment trends and women's access to leadership positions in the civil service (OECD, 2010a).

Measures to guarantee public sector pay equity have been put in place in Egypt, Jordan, Morocco and Tunisia.

163. Increased educational attainment has contributed to noticeable improvements in female labour market outcomes, but there remain substantial differences in employment outcomes for men and women. Too often women's employment decisions appear to be constrained by different factors which mean they are more likely than men to end up sometimes in low-paid work with limited prospects of advancement.

### Key policy messages

- Governments should promote further development of work/life balance policies and other public employment supports to facilitate female labour force participation.
- Future policy development should focus on remaining gender gaps in employment outcomes, including persistent occupational and sectoral concentration.

## CHAPTER 3.2: DOES MOTHERHOOD MEAN PART-TIME WORK?

### Key findings

- Across the OECD, gender differences in working hours and participation in part-time work remain large.
- Childcare costs and time constraints often make part-time work an attractive option for mothers wishing to reconcile work and family commitments. But it is rarely a stepping stone into full-time employment, and many mothers work part-time on a long-term basis.

164. The incidence of part-time work has increased in recent history particularly during the 1980s and the early 1990s (OECD, 2010h), and there has been further growth over the past decade (Figure 3.2.1, Panel A). Except for Poland, men have increased their participation in part-time employment, but by and large part-time work is a women's affair. The substantial gender imbalance in part-time employment leads to large gender employment gaps when accounting for working hours (Figure 3.2.1, Panel B). As part-time employment among women is most widespread in the Netherlands (Box 3.2.1) and Switzerland, differences between female employment rates and their full-time equivalents are largest in these two countries.

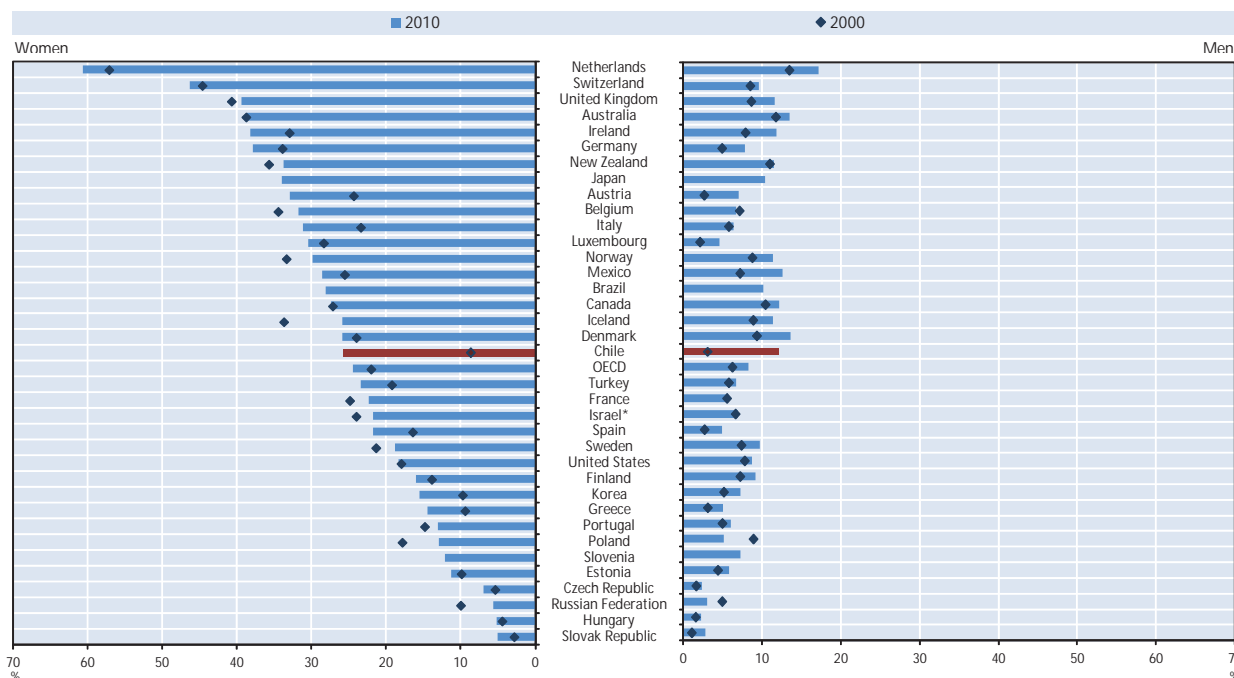
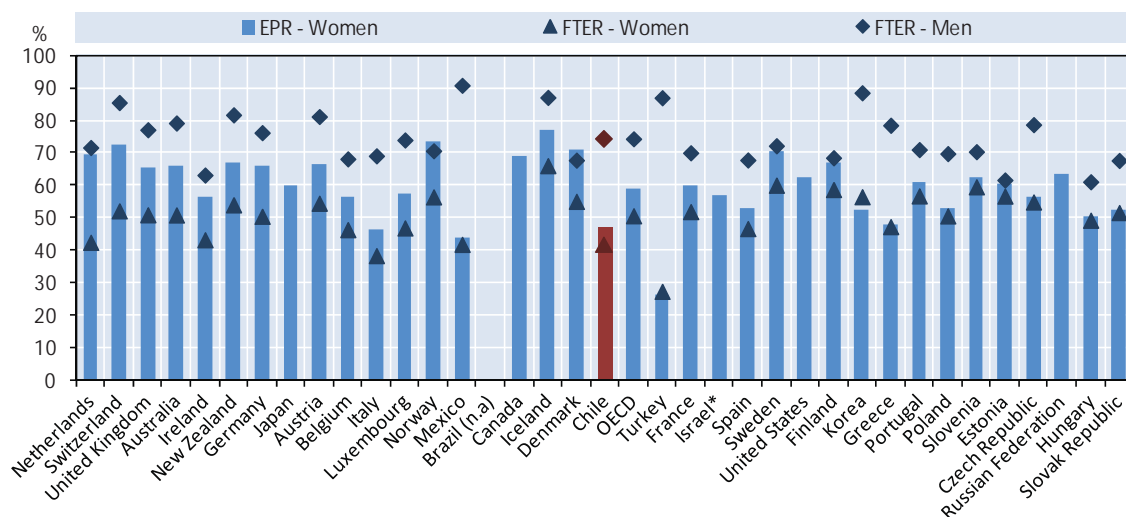
### Box 3.2.1. Mothers popularised part-time work in the Netherlands

From 1860 till 1960 labour force participation rates for men, around 90%, and women - at an internationally low level of 30% - hardly changed (Visser *et al.*, 2004). However, female employment rates increased from 30% in 1975 to 70% in 2010, and by and large employment gains were in part-time work: the employment rate of women who work full-time has oscillated around 21% since the early 1990s (Dijkgraaf en Portegijs, 2008). How come?

Part-time employment started to expand in response to the recession in the early 1970s which caused a large increase in unemployment and in social spending (de Beer and Lutikhuisen (1998) and Visser and Hemerijck (1998)). To limit such spending, and fight youth unemployment, public policy during the 1970s and 1980s provided subsidies to employers who split existing full-time jobs in two part-time jobs. In turn, employers favoured part-time work to get around Union demands for collective reductions in the standard working week to less than 38 hours.

However, part-time work did not take off because of a redistribution of work among younger or older workers but because women, and in particular mothers, wanted to be and stay in work. This was related to a sea-change in attitudes. In 2005, about three-quarters of women had no issue with mothers with young children being in paid work and using care facilities, while this was only a quarter of women in 1970. However, since there are important child- and out-of-school-hours care constraints, women often chose to work part-time rather than full-time (Ribberink, 1998). In all, only one in ten mothers with a child not yet 10 years of age was in paid work in the Netherlands in 1971: a quarter of a century later that proportion had increased to over 50%. Finally, the 'normalisation' of part-time work in the Netherlands has been formalised in a range of laws, including on equal pay per working hours regardless of weekly working hours, employees' right to request changes in weekly working hours or requesting parental leave on a part-time basis (Visser *et al.*, 2004).

165. Moreover, part-time employment often lasts for years, especially in countries where the incidence of part-time work is high. Only a very small proportion of workers uses part-time work as a stepping stone into full-time employment: 3% of European women and 1.5% of European men who have worked part-time for up to 6 years move into full-time employment. By contrast, in the United States where women either work full-time or not at all, part-time workers are more likely to move into full-time employment (Buddelmeyer *et al.*, 2005; Macunovich, 2010; and, OECD, 2010h).

**Figure 3.2.1. There are large gender gaps in part-time work<sup>a</sup> and full-time equivalent employment rates<sup>b</sup>**Panel A. Percentage of men and women in part-time employment<sup>a</sup>, 2000 and 2010Panel B. Gender gap in employment/population ratios<sup>b</sup> (EPR) and full-time equivalent employment rates (FTE)<sup>c</sup>, 15-64 years old, 2010

Note: Countries are ordered by decreasing proportion of women working part-time.

a. Part-time employment refers to persons who usually work less than 30 hours per week in their main job.

b. The employment/population ratio (EPR) is defined as the proportion of the employed in the working age population.

c. The full-time equivalent rate (FTE) is calculated as the employment/population ratio, multiplied by the average usual hours worked per week per person in employment, and divided by 40.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2012b), Employment database.

166. The importance of the determinants of female labour force participation on a full or part-time basis can be illustrated by econometric analysis (Annex to Part 3 – A3.2). The analysis considers the influence of labour market characteristics and government policies aimed at helping parents balancing work and family commitments on female labour participation at the aggregate level in 30 OECD countries from 1980-2007. The main results include:

- Female educational attainment is an important driver of female labour force participation and has contributed to an increased share of part-time employment.
- The increase in female employment has been driven by two separate drivers: the increase in part-time work in some countries and the expansion of public employment in others.
- Increased enrolment of children in childcare has enhanced female employment on a full-time and part-time basis. Increasing public spending on childcare does not necessarily lead to greater part-time employment as it may facilitate moving into full-time work or increase the quality of childcare without affecting hours per week.
- Increasing public spending on paid leave raises the incidence of full-time employment relative to working part-time. The duration of leave decreases the probability of working part-time.
- Finally, higher tax rates on the second earner in a family reduce the labour force participation of women, while tax incentives to work part-time also matter.

167. There is a *premium* to part-time work in terms of control over working time, stress and health (OECD, 2010h). But there is also a *penalty* on part-time work compared with full-time – despite the development of regulatory framework to ensure equal treatment of part-time and full-time workers – as, on average, part-time work is characterised by lower hourly earnings, less training and promotion opportunities, less job security, less access to unemployment insurance and reduced pension entitlements, although pensions systems, *e.g.* in Switzerland, can account for childcare responsibilities and ensure minimum payments. Limited working hours are also an important determinant of the gender earnings gap (Chapter 3.3).

168. Evidence on job-satisfaction suggests that women working part-time voluntarily often accept lower earnings potential and less job security in exchange for better working arrangements and less stress. Yet, the advantages outweigh the disadvantages for a vast majority of part-timers, as more than 8 out of 10 part-time workers do so “voluntarily”, and compared with men, women are more likely to work part-time on a voluntarily basis (OECD, 2010h).

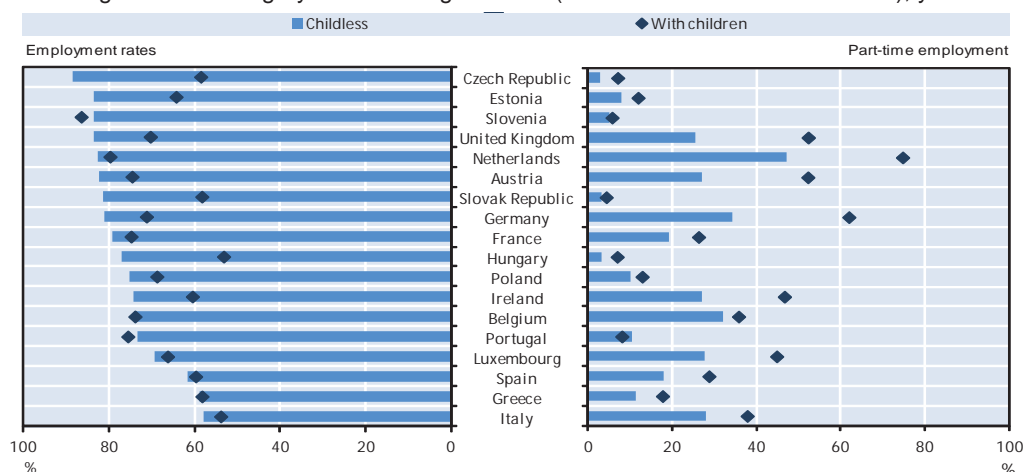
169. Mothers are generally more likely than women without children to work part-time, as it helps families to reconcile work, school-hours and care solutions when mothers provide unpaid care (Chapter 3.7). Mothers in Austria, Germany, Ireland, Luxembourg, the Netherlands and the United Kingdom are particularly likely to be in part-time employment (Figure 3.2.2).

170. However, for many mothers, the decision to work part-time is constrained by the lack of access to affordable childcare of good quality, and short and/or irregular school hours (OECD, 2011a). This explains why the share of part-time employment in total female employment is higher in countries with significantly higher childcare costs (Figure 3.2.3).

171. The presence of young children in the family is one of the reasons limiting the number of transitions from part-time to full-time employment. The increase in working hours by mothers is often much more likely to occur when children enter primary or even secondary school (Thévenon, 2009). The

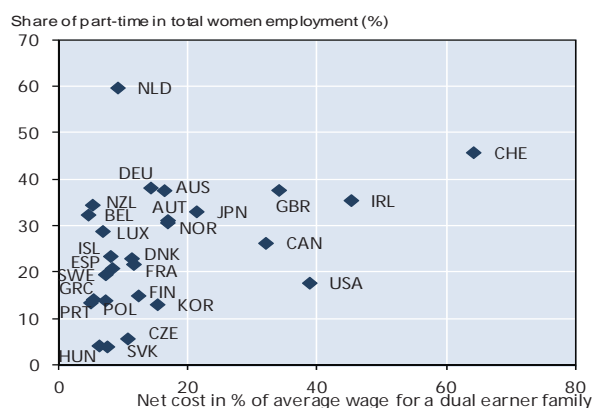
combination of more flexible working hours, with greater provision of longer hours of care and out-of-school care services is likely to facilitate an increase of working hours among mothers (OECD, 2011m). This will strengthen their pension rights and also help to address labour force shortages projected for some countries (Chapter 1.1).

**Figure 3.2.2. Motherhood makes part-time work much more likely**  
Percentage in each category of women aged 25-54 (childless/with children under 15), year 2009



Note: Countries are ordered by decreasing proportion of employment rates of childless women.  
Source: Eurostat (2012a), EU LFS.

**Figure 3.2.3. Women are more likely to work part-time in countries with high childcare costs<sup>a</sup>**  
Women part-time employment and childcare cost



Note: Information on fees for the Netherlands concerns guidelines, and fees are often considerably higher.

a. Net childcare costs at 150% of average earnings.

Source: OECD (2011b), Doing Better for Families and OECD (2012k), Benefits and Wages: OECD Indicators.

#### Key policy messages

- Promote part-time work as a temporary rather than a permanent solution to work and care issues.
- Encourage a more gender equitable use of part-time work.
- Facilitate the transition from part-time to full-time work by (i) making (full-time) work pay after childcare cost and (ii) expanding the provision of high quality childcare and out-of-school care services.



### CHAPTER 3.3: A WOMAN'S WORTH?

#### Key findings

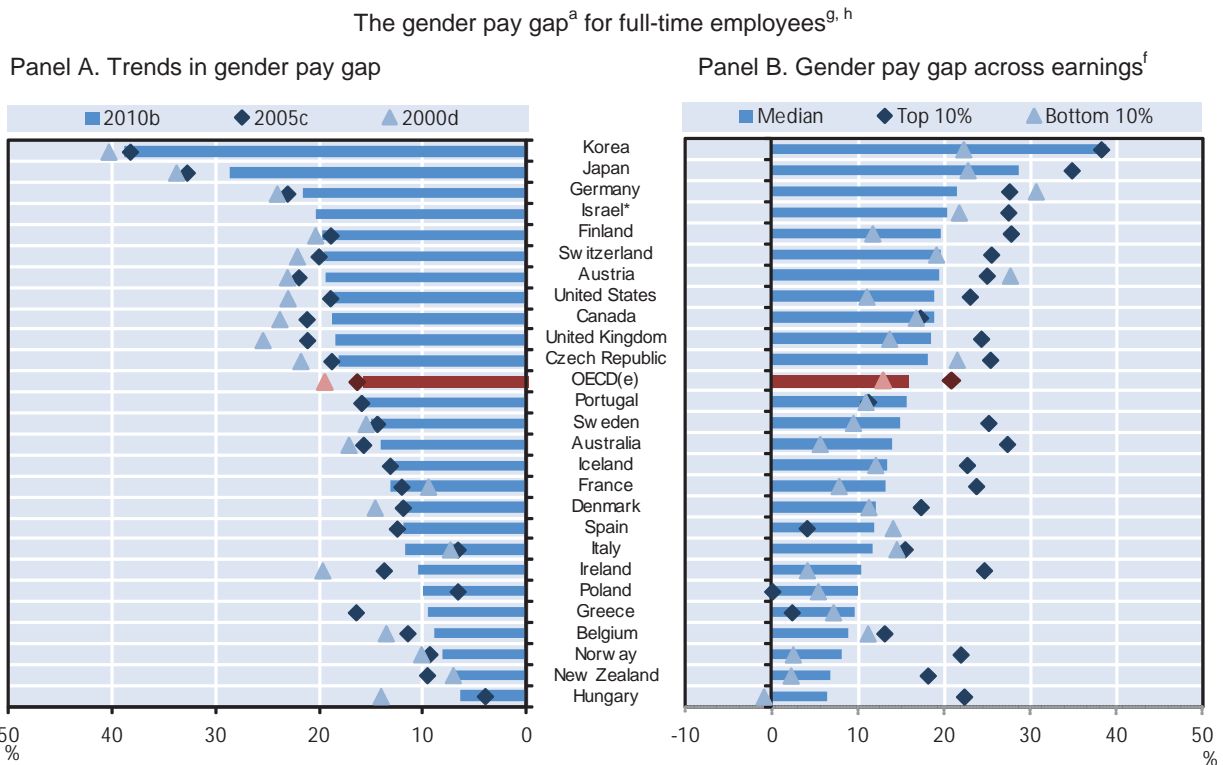
- Women receive a lower wage than men, with the gap being especially pronounced among the top earners. The pay gap has narrowed in the past decade in many countries but at reduced pace in recent years and large gaps persist in a number of cases.
- The wage gap is small for young women, but there is a wage penalty for motherhood.
- A great part of the wage penalty is due to women working shorter hours and working in lower-paid occupations than men but, in many countries, a large part of the gender pay gap remains unexplained by observed characteristics.
- Family policy (childcare costs and parental leave) and wage-bargaining institutions affect the gender pay gap.

#### Gender wage gaps have narrowed and vary with earnings levels

172. Almost all OECD countries have legislated to ensure equal pay for equal work regardless of gender (OECD, 2008a), but gender pay gaps still persist. In all OECD countries, median wages for men are higher than those for women. Among full-time employees, in 2010, women earned, on average, 16% less than men. This represents an improvement of four percentage points compared with 2000, but this was largely achieved by 2005, and improvements since have been limited. Cross-country variations are significant. In Hungary and New Zealand, the gender wage gap is relatively small (respectively, 6 and 7% in 2009); at the other end of the spectrum, the gender wage gaps in Japan and Korea in 2009 were 29% and 39%, respectively (Figure 3.3.1, Panel A).

173. In many OECD countries, the wage gap at the top of the earnings distribution is wider than at the median. Female top-earners earn on average 21% less than their male counterparts (Figure 3.3.1, Panel B). This suggests the presence of the so-called “glass ceiling” which prevents women from progressing in their careers to top-level salaries; the “ceiling” is also reflected in the relatively low proportion of women in top management (Chapter 3.6). The “glass-ceiling” effect appears to persist even when controlling for differences in occupation and sector affiliation (see *e.g.* Albrecht *et al.*, 2003; Arulampalam *et al.*, 2007; De la Rica *et al.*, 2008). Exceptions to this wider gap at the top include Belgium, Canada and Italy where the gap is similar along the income distribution, but also Greece, Poland and Spain where the gap for the top 10% wages is smaller. A smaller gap at the top for Greece and Spain reflects a selection effect whereby only the most qualified women remain in the labour market, having thus more similar wages to men (De la Rica *et al.*, 2008; Olivetti and Petrongolo, 2008). In a number of countries, the wage penalty for female top earners has remained fairly stable (New Zealand, Norway and the United Kingdom) or widened, as in Korea.

174. In some countries, notably Germany and Austria, but also Spain and Italy, the gap is also wider for low earners, as indicated by the wage gap measured at the 1<sup>st</sup> decile of the earnings distribution (the so-called “sticky floor” effect). In Germany, gender wage gaps have narrowed substantially among the top earners but not among the lowest earners. Larger gaps in the lower portion of the wage distribution are often linked to poor provision of affordable childcare which establishes high barriers to employment for low-wage earners who cannot afford to buy private childcare.

**Figure 3.3.1. Slow-down in convergence for the gender pay gap and higher pay gap at the top**

Note: Countries are ordered by decreasing gender gap at the median in 2010.

a. In Panel A the wage gap is defined as the difference between male and female median wages divided by the male median wages; in Panel B it is defined as the difference between male and female wages divided by male wages (at the 1st decile, median and 9th decile of the earnings distribution).

b. Data refer to 2009 (instead of 2010) for Austria, the Czech Republic, Denmark, Finland, Germany, Ireland, Israel, Korea, Sweden and Switzerland; to 2008 for Belgium, France, Greece, Iceland, Italy, Poland, Portugal, and Spain.

c. Data refer to 2004 (instead of 2005) for Italy and Switzerland.

d. Data refer to 1999 (instead of 2000) for the Czech Republic.

e. OECD unweighted average calculated for the 26 countries for which data were available for each time point; it excludes Greece, Israel, the Netherlands and Portugal.

f. Data refer to 2010 with the exception of Austria, the Czech Republic, Denmark, Finland, Germany, Ireland, Israel, Korea, Sweden and Switzerland (2009); and, Belgium, France, Greece, Iceland, Italy, Poland, Portugal and Spain (2008).

g. Estimates of earnings used in the calculations refer to gross earnings of full-time wage and salary workers. However, this definition may slightly vary from one country to another. Further information on the national data sources and earnings concepts used in the calculations can be found at: [www.oecd.org/employment/outlook](http://www.oecd.org/employment/outlook).

h. Data is not adjusted for parity of time worked among full-time employees.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD Earnings database.

### Gender pay gaps in Emerging Economies: the case of China and Indonesia

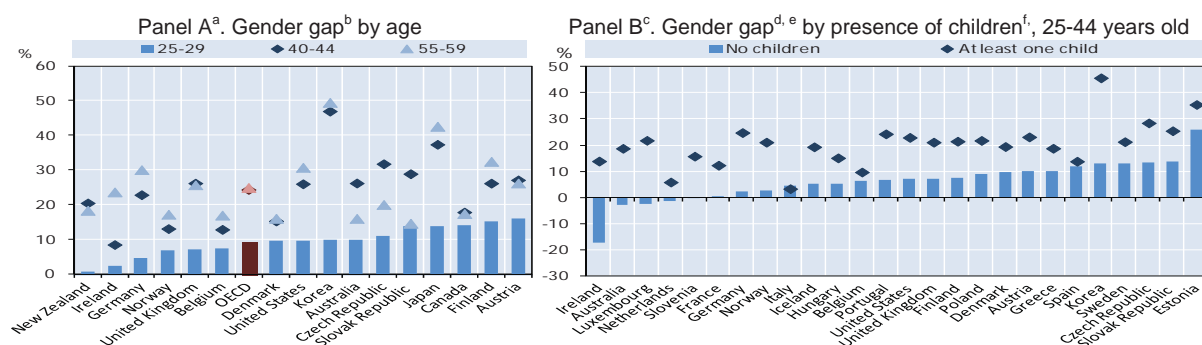
In Indonesia, the gender wage gap declined since 1996 by 15% to 22% in 2011. Increased educational attainment for women explains around 50% of the decline in the wage gap (Matsumoto, 2011). While the educational attainment of male and female employees has become similar over time, a large fraction of women continue to work as unpaid family workers and the likelihood of engaging in this type of work for those with at most primary education has increased over time, suggesting that the overall pay gap might be wider in reality.

The gender wage gap in China has followed the opposite pattern to that of most OECD countries: it has substantially widened since the mid-1990s, particularly in the most recent decade. In 1995, the wage gap was around 16% while by 2007 it had increased to 26% (Li and Song, 2011). Because of the difficulty to gather comprehensive national data, measured wage gaps reflect mean wages of urban workers in five regions using the China Household Income Project. The presence of a substantial gender wage gap in China is also confirmed by the national-representative Survey on the Social Status of Women in China, carried out every 10 years, which for 2010 showed that urban and rural women were paid, only 67% and 56% of their male peers, respectively. A great part of the gender wage gap remains unexplained, possibly reflecting discrimination and other factors, and this unexplained component has increased over time, particularly for low-wage workers. Possible explanations for this trend include increased labour supply from female migrant workers and the privatisation of state-owned enterprises.

### The gender pay gap increases with age and during childbearing

175. Although younger women's earnings are getting closer to those of their male counterparts in many OECD countries, women still face important wage penalties as they age and have children. In 2010, across 16 OECD countries for which data are available, the gender wage gap for 25-29 years old was around 9%, compared with 24% for 55-59 years old. (Figure 3.3.2, Panel A). Certain countries with the highest pay gaps overall, such as Germany or Korea, have a below-average or close to the average pay gap for young women. This pattern can be explained, at least in part, by a reduction, from one generation to the next, of gender differences in those characteristics most closely linked with wage levels, such as an improvement in human capital and occupation choices for younger women (Blau and Kahn, 2006). However, differences in the gender wage penalty across ages still persist even after controlling for generational effects.

**Figure 3.3.2. Gender pay gap increases with age and the presence of children**



Note: Countries are ordered by increasing gender gap for 25-29 years old in Panel A; and by increasing gender gap for childless women in Panel B.

- Data refer to 2008 for Australia, Austria, Denmark, Finland, Germany, Korea, Norway and the Slovak Republic; to 2007 for Belgium, the Czech Republic and Ireland. For Austria, 25-29 refers to 20-29, 40-44 refers to 40-49, and 50-54 refers to 50-59.
- Defined as the difference between male and female mean wages divided by male mean wages.
- Data refer to 2008 with the exception of Korea (2007).
- Defined as the difference between male and female median wages divided by male median wages.
- Wage gap calculated for men and women aged 25-44 working full-time.
- Children defined as aged less than 16 years old.

Source: OECD Earnings database; OECD Secretariat estimates based on EUSILC (2008), HILDA (2008), CPS (2008), KLIPS (2007).

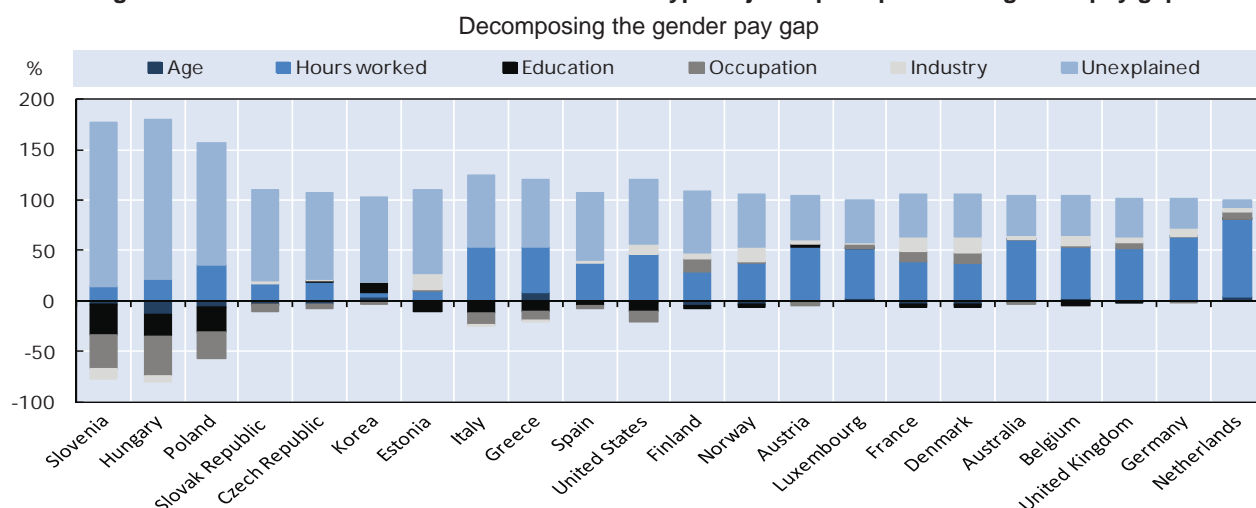
176. The steep increase in the gender wage gap that women experience during their childbearing and childrearing years points to the presence of a so-called “motherhood penalty”. Focusing on women around child-bearing age who work full-time, those with children earn significantly less than men compared with childless women (Figure 3.3.2, Panel B). The wage penalty for having children is on average 14%, with Korea having the largest difference in the wage gap and Italy and Spain showing almost no wage gap between childless women and those with children.

### Working hours, job choices and family policies matter

177. Do pay gaps reflect discrimination, especially towards mothers? Other personal characteristics and labour market differences in terms of career choices may explain differences between men and women. In general, gender differences in measured human capital (education and experience) do not explain much of the gender wage gap (Figure 3.3.3). In fact, given the similar or even higher levels of education of women compared with their male counterparts, this should imply that women earn more or the same as men, except in Korea where education explains close to 10% of the total difference. At the same time, using age as a proxy for experience does not accurately approximate work experience. Because women may have more career interruptions, *actual* work experience may be an important factor which could explain 10% of the wage gap.

178. Women may end up in lower-paid occupations and more often work part-time, particularly if seeking to combine work and family life (Chapters 3.1, 3.2 and 3.8). Indeed, if part-time work is taken into account, the gender pay gap for *hourly* wages is 11% higher across the OECD, being over 50% in several countries. Working in a different occupation or sector than men, which may be more compatible with family life, is another important explanatory factor. For example, lower geographical mobility might restrict job choice and impact on job earnings. Occupational segregation and reduced working hours together with education and work experience explain slightly more than 30% of wage differences and more than 60% in Germany, the Netherlands and the United Kingdom. When comparing hourly wages, sector and/or occupation are the most important factors driving the gender wage gap (Blau and Kahn, 1997 and Flabbi and Tejada, 2012).

**Figure 3.3.3. Differences in hours worked and the type of job explain part of the gender pay gap**

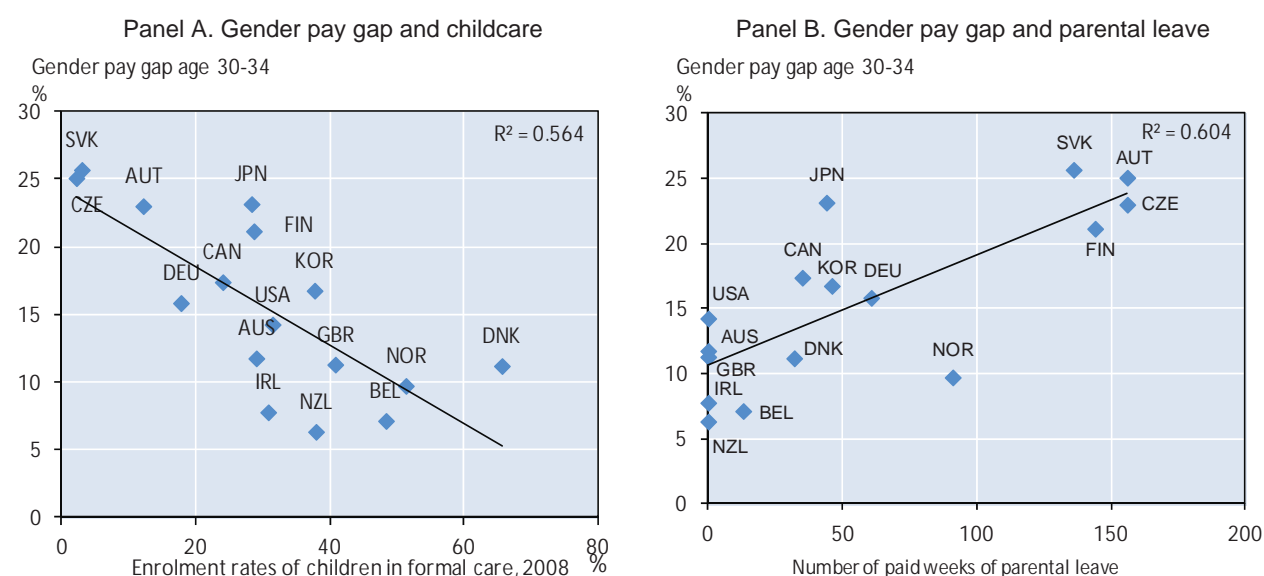


Note: Countries are ordered by decreasing proportion of unexplained gender pay gap. The country selection differs from Figure 3.3.1. because survey data to perform the decomposition analysis is lacking for some countries.

Sources: OECD Secretariat estimates, based on EUSILC (2008), HILDA (2008), CPS (2008), KLIPS (2007).

179. Lack of childcare options can lead to career interruptions and discontinuous employment, which in turn may explain lower wages of women when they enter motherhood. Countries with generous work-families policies tend to have a lower unexplained wage gap (Christofides *et al.*, 2010). Figure 3.3.4 shows in particular that investment in childcare is crucial as formal care enrolment for young children is associated with a lower gender wage gap. At the same time, the gender pay gap is also higher at extremes of the wage distribution in those countries with more generous family policies (Arulampalam *et al.*, 2007; Christofides *et al.*, 2010). For women at the top of the distribution, this could be explained by a penalty for career interruptions linked to childbearing. The results below indeed suggest that longer periods of maternity and parental leave are associated with a greater wage gap. Both types of policies tend to be inversely correlated with countries having longer parental leave often being those with lower formal childcare enrolment (*e.g.* Austria, the Czech Republic and the Slovak Republic).

**Figure 3.3.4. Childcare and leave policies are inversely related to the pay gap**



Source: OECD Family database, OECD Earnings database

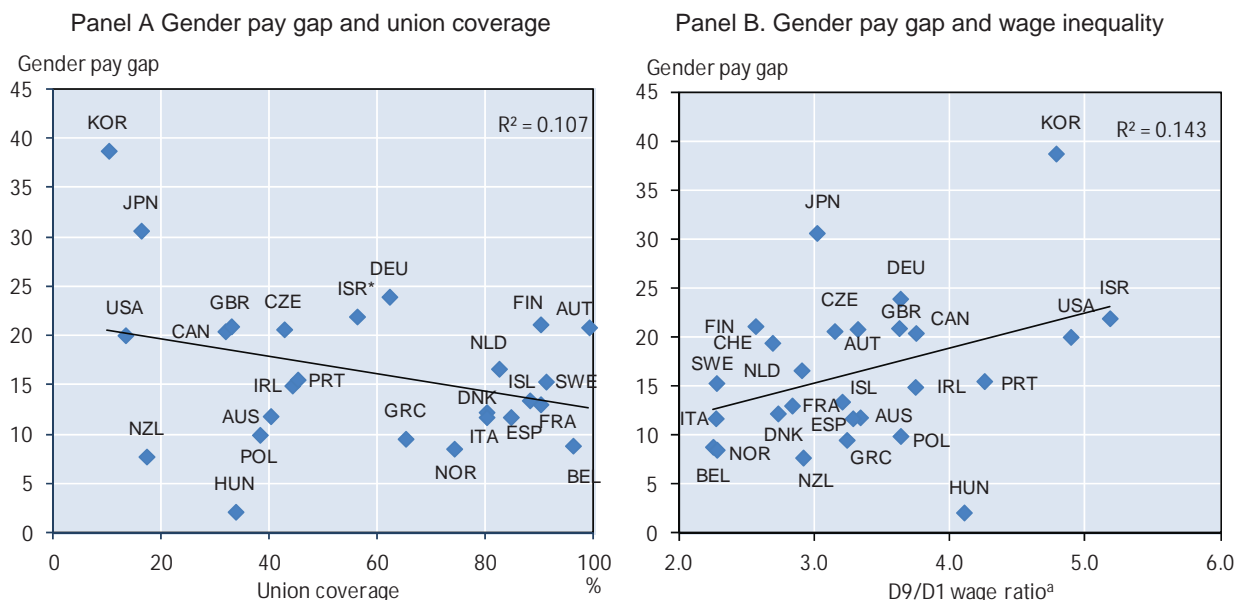
### Workplace and institutional factors can play a role

180. A large part of the gender earnings gap remains unexplained by *observed* characteristics in several countries, particularly in Eastern and Central Europe and Korea. What other unobserved factors may be behind the gap? Other workplace characteristics such as flexible hours, distance to workplace, work at home or avoiding inconvenient hours and evening work, can play a role. When focusing on a sample of women who do not adjust their working hours, who stay with their original employer and maintain the same job position after maternity leave without changes in other non-pecuniary dimensions mentioned above, the gender pay gap becomes insignificant (Felfe, 2012). This would suggest that employers play a crucial role as workplace support and family-friendly workplace practices can contribute to a more equal pay for women.

181. Wage policies or wage-setting mechanisms and institutional practices which affect the overall distribution of wages also influence the gender pay gap. Indeed, the overall pay gap tends to be somewhat higher in a number of countries where overall wage inequality is higher (Figure 3.3.5, Panel A). The smaller gap for low earners in many countries reflects the influence of legislated minimum wages and workplace agreements to protect low-income workers. Higher union coverage and minimum wages (with respect to the median wage) are associated with lower gender pay gaps (Figure 3.3.5, Panel B). Both

factors may be linked since countries with higher unionisation rates tend to have lower wage dispersion, while drops in union coverage in the past two decades are associated with increases in wage inequality (OECD, 2011n). Wage policies which reduce overall wage inequality in countries, as well as those targeting low-paid and/or female-dominated sectors, can help promote equal pay for women.

**Figure 3.3.5. The gender pay gap is related to wage compression factors**



a. Ratio between the wages at the 9th and 1st deciles of the earnings distribution

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>

Source: OECD Employment database and Visser (2009), ICTWSS Database.

182. It is likely that part of the unexplained component of the gender pay gap reflects *discrimination* and most OECD countries have established laws to combat such gender discrimination. Empirical evidence on the impact of such anti-discrimination legislation is nonetheless scarce but points to some positive effects. At the same time, *enforcement* of regulations remains difficult because many women remain unaware of their rights, pointing to the need of public awareness campaigns, while barriers in terms of cost and complexity remain (OECD, 2008a). Mediation could help but, more importantly, legal rules will have more impact if specialised bodies are empowered to investigate companies and take legal actions against discriminating employers. Until now, such bodies do not seem well equipped to sanction employers in case of discrimination.

#### Key policy messages

- Promote a more gender-equal use of flexible workplace practices that reconcile work and family life *and* which fit into career patterns. For example, promote a better transition to full-time, permanent and better paid jobs and extend affordable childcare opportunities, so as to enhance continuous employment patterns.
- Strengthen public awareness of anti-discrimination laws and improve enforcement of equal pay laws.
- There is a need for further research on and policy responses designed to address the contribution of social and informal factors to the persistence of the gender pay gap.



## CHAPTER 3.4: THE BUSINESS CASE FOR WOMEN AND ADDRESSING THE LEAKY PIPELINE

### Key findings

- There is increasing recognition of the business case for having more women in business and at more senior levels. However, there is a “leaky pipeline” in business with many women leaving or not advancing.
- Firms can do much themselves to empower women and a range of good practices are emerging. In practice, much will depend on the commitment of senior and middle management to drive the necessary change.

183. To focus the attention of CEOs and senior managers on improving gender balance it is essential that a clear and compelling business case is made, backed by the best possible evidence and analysis. There are several reasons why businesses should be – and increasingly are – interested in enhancing the role of women in their companies. These include: *a)* to attract and retain the best talent; *b)* to enhance diversity and improve overall performance in the workplace; *c)* to better serve consumer markets, including those in which women are the main clients.

184. With growing competitive pressures, firms are constantly looking for the best talent. A growing share of the talent emerging from the education system consists of women, and a growing share of women earns scientific degrees (OECD, 2011c). Firms risk being disadvantaged if they do not leverage this talent pool. With rapid ageing in OECD countries and beyond, the search for talent is of growing importance to many businesses, and raising the role of women is increasingly seen as part of the solution. Firms that are not able to address gender equality in the workplace also risk not being attractive for the next generation of talent. Improving the allocation of talent can also affect economic growth: Hsieh, *et al.*, (2011) suggest that between 17 and 20% of US economic growth between 1960 and 2008 can be attributed to the changing allocation of underrepresented groups in the workforce, notably women.

185. Tapping into the best talent is not the only reason why many firms are actively engaged in gender initiatives. For example, gender initiatives may involve practices to achieve a better balance between work and family life. Such practices may reduce stress, sickness and absenteeism and can also make a firm more attractive as a place of work, thus increasing staff retention. A recent review of the literature (Beauregard and Henry, 2009) finds that the introduction of work-life balance practices do not necessarily resolve the potential conflicts between work and life. However, the study points to a range of benefits from such practices for organisational performance, including on improving perceptions and recruitment. These benefits depend on the specific context, including national factors, job levels and managerial support.

186. Moreover, a greater role of women will also enhance diversity, which can be valuable for a firm’s performance. For example, in an increasingly complex world, firms may value diverse perspectives to solve problems, take decisions and enhance leadership. This is important at the level of boards (Chapter 3.5), but is also valuable at other levels of decision making. Moreover, the effect of more women in leadership positions can trickle down to other levels within the firm, *e.g.* due to more inclusive workplace cultures and the presence of role models and mentors for younger women.

187. Several studies have also argued for a positive relationship between the financial performance of a firm and the participation of women in boards or in the higher management levels of the company (McKinsey, 2008). While most empirical analysis has provided mixed results on this question (Terjesen, *et al.*, 2009) to date, a recent study by Dezso and Ross (forthcoming), covering the enterprises included in



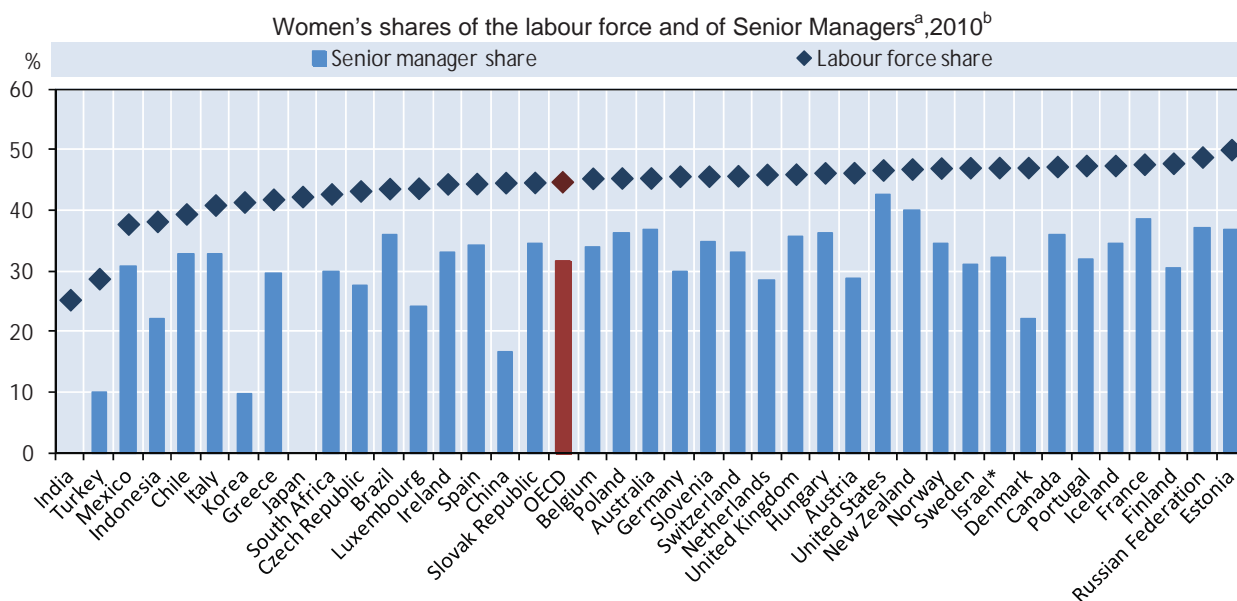
the Standard and Poor's 1500 register over the period 1992-2006, found that female representation in top management does improve firm performance, but only to the extent that a firm's strategy is focused on innovation as part of its business strategy. Another study on over 700 firms in France, Germany, the United Kingdom and the United States (Bloom, *et al.*, 2009 and 2010) found no direct financial benefits from family-friendly policies, but also that such policies do not hurt financial performance, while they may have other benefits.

188. Women also account for an important part of the global consumer market, and make a large share of the buying decisions in households. Firms – in particular those serving consumer markets – may therefore look for women to better understand buying patterns and help develop and market products aimed at women. This is also important in developing countries, where several firms leverage women's networks to reach rural markets that would otherwise be difficult to reach. For example, Solar Sister uses women's rural networks to create access to solar energy applications, such as solar lamps or phone chargers. Firms may also look for other non-financial benefits, such as an improved image or strong female role models that can indirectly contribute to firm strategies.

### Plugging the leaky pipeline

189. Despite the potential benefits from an increased role of women as highlighted above, women remain underrepresented in the business sector in most countries. Figure 3.4.1 illustrates the significant gap between the participation of women in the labour force and their presence in senior management functions in OECD countries and emerging economies. While women represent on average 45% of the labour force across OECD countries, they only constitute around 30% of legislators, senior officials and managers.

**Figure 3.4.1. The leaky pipeline**



Note: Countries are ordered by increasing women share of the labour force.

a. Senior managers cover category (1) of the International Standard Classification of Occupations (ISCO), and includes legislators, senior officials and managers.

b. Senior managers data refer to 2008 for Australia, Canada, Indonesia, Israel, Korea, Mexico, New Zealand, the Russian Federation, South Africa and the United States; to 2005 for China; and to 2002 for Chile.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

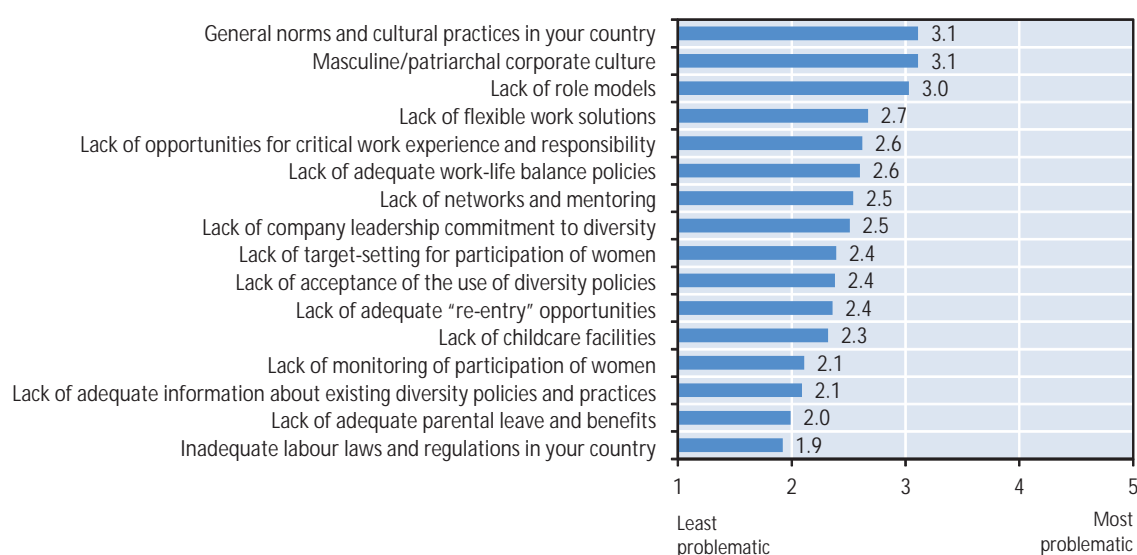
Source: Women as percentage of labour force from OECD (2012b) Employment database; Women as percentage of professionals and as senior managers based on employment by occupation (ISCO-88) from ILO, KILM data.

190. As of January 2012, only 6.6% of executive directors included in the U.K. FTSE-100 were female, whereas 15% of all directors were female (Cranfield University, 2012 and BIS 2012). However, these numbers demonstrated a positive increase from 2010, which showed that 5.5% of executive directors included in the FTSE-100 were female and 12.5% of all directors (Cranfield University, 2010) indicating progress potentially resulting from the Lord Davies Review (BIS 2011) and recommendations in 2011.

191. The Economist (2011) showed that in the United States in 2010, gender equality in business was reasonably well established for professionals. However, only between 15 and 20% of all executives are women, less than 10% of all top earners are women, and fewer than 5% of all CEOs. Women lag particularly in certain sectors and functions, and few reach higher levels in the firm (Women are also under-represented in the business sector as entrepreneurs, Part 4 of this report). There are several factors and policies that contribute to the “leaky pipeline”, which are highlighted in Figure 3.4.2.

**Figure 3.4.2. Cultural and corporate practices are perceived as the main barriers to women’s rise to leadership**

Barriers to women’s rise to leadership, average ratings from 1 (least problematic) to 5 (most problematic)



Source: WEF (2010)

192. Many firms are currently actively engaged in efforts to strengthen the role of women and fix the leaky pipeline, which suggests that these firms find that the associated benefits outweigh any associated costs (BIAC/OECD, 2012; McKinsey & Company 2011 and 2012). The business literature suggests that such practices are more prevalent in firms that already have more women as managers. Moreover, they are often related to a strong commitment of the CEO and top management to enhance the role of women.

**Box 3.4.1. Examples of company initiatives to address the leaky pipeline**

- Changes in **human resources practices**, in recruitment, promotion, mobility, re-entry, etc., to remove potential biases against women or flexible working arrangements. This can involve training for recruiters and managers on the importance of diversity or on identifying potential prejudices, or in improving the focus of recruitment campaigns on women, or quotas on lists of candidates proposed by executive recruiters.
- Encouraging work/life balance **practices** within the firm, e.g. in terms of flexible working hours, part-time arrangements, work-sharing arrangements, arrangements for working from home, etc.
- Fostering **coaching and mentoring** of women, since women in many firms often less actively seek out open positions than men. The seniority of mentors matters too; research for the United States suggests that mentors for men are often more senior than those for women, which helps explain why more men make it to the top (Catalyst, 2011).
- Fostering **networking** between women, which is of particular importance for access to certain resources and information to which women may not otherwise have access. A recent study (Lelanne & Seabright, 2011) highlights the role of social networks and the job-related benefits emerging from such networks.
- Setting **targets and measuring performance**, making managers accountable, as this helps ensure the attention of middle and senior managers and enables gender initiatives to become an integral part of the firm's decision making. For example, ING links parts of its business unit's bonus pool specifically to diversity goals (McKinsey, 2008).

Source: Deloitte (2011); McKinsey (2008); examples from BIAC/OECD workshop on 2 February 2012.

**Policies to help plug the leaky pipeline**

193. While individual firms have their own responsibility to enhance the role of women in business, governments may want to play an active role in supporting their efforts, considering the broader social and economic benefits that can flow from women's empowerment. Governments can strengthen the supporting policy framework for business, by making changes in education, employment and social policies. This can help firms to change corporate practices in their own context. For example, Denmark has pioneered a "flexicurity" employment policy which is designed to offer a balance of flexibility and security through workforce training as well as social and employment security measures (OECD, 2011o). Policies related to education, training and apprenticeship can also be important, as they can further increase the pool of female talent. For example, the Goldman Sachs *10 000 Women* initiative provides a business and management education to underserved female entrepreneurs in developing and emerging markets.

194. Influencing formal and, in particular, informal corporate practices is more difficult. However, governments can play a role in addressing cultural barriers and stereotypes about the role of women in society and business by collaborating with business, NGOs, academia or the media on awareness campaigns. This can include reports or indices which provide metrics about women in business which in turn could help both to raise awareness and measure progress on these issues within and between countries. Other awareness-raising initiatives include disseminating profiles through the media, schools and communities of successful business women. These profiles raise awareness, help change public perceptions and serve as important role models for young women. In addition, governments can support awards for women in business (or in traditionally male dominated fields such as science and technology) and/or for companies with policies to promote women (such as the Catalyst Awards in the United States).

195. In addition to business, government can lead by example by enhancing the role of women, including at senior levels, within the public sector, semi-public agencies and enterprises that are fully or partially state-owned. Government initiatives can be taken at the national, regional or local level, through the establishment of councils, centres and other initiatives (Chapter 3.6). Governments can also support the development of women's business networks within local communities. Many governments actively support women-owned businesses of all sizes. More should be done to tap into these women entrepreneur talent pools to help companies identify experienced women to hire for senior management or board

positions. The European Commission has recently set up a Mentor Network for Women Entrepreneurs, which has been launched in countries across Europe.

196. Finally, Bloom *et al.*, (2009) find that firms that have better management use more family-friendly workplace practices. Government and family-run firms are typically poorly managed compared with other firms, including multinational firms (Bloom, *et al.*, 2011). Governments can thus indirectly support gender practices by improving management, for example through the removal of distortions that favour family ownership, including in the context of inheritance tax, as well as by fostering product market competition, which helps reduce the number of badly managed firms.

#### **Key policy messages**

- Address cultural barriers and stereotypes relevant to the role of women in society and business. Awareness campaigns and role models are important. Data and statistics can be useful tools for measuring progress.
- Foster a broader talent pool of women by identifying women entrepreneurs and female leaders outside of business who can be strong candidates for leadership roles in the corporate world.
- Foster good management practices which, in turn, support better gender balance, for example by making managers accountable, as this enables gender initiatives to become an integral part of the firm's decision making.

## CHAPTER 3.5: GENDER DIVERSE, BALANCED BOARDS

### Key findings

- Women are still under-represented in top corporate jobs. In 2009, women on average occupied only 10% of board seats in listed companies of 35 countries.
- A greater proportion of women on boards may positively affect governance of badly performing companies but there is no conclusive evidence that it generally increases company performance.
- In order to take firm and country specific circumstances into account, many countries have updated voluntary measures to encourage women's participation on boards.

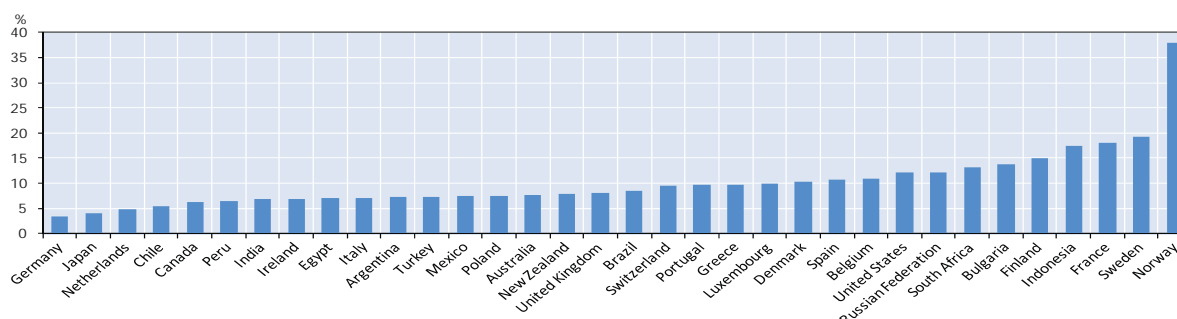
197. The issue of diversity on boards of listed companies has gained considerable interest in the gender debate in recent years. Improving the gender balance at the top of companies is seen as one way of fostering gender equality within firms more broadly (Box 3.5.1). But there is considerable debate on whether greater gender balance at the top improves company performance and what the best way is for policy to achieve its objectives: promoting self-regulatory corporate governance codes or imposition of board quota by law.

### Women on boards, the numbers today

198. Nowadays, women tend to play a bigger role in the boardroom than in the past. In 2011, the “Catalyst Census: Fortune 500 Women Board Directors” reported that women held 16.1 % of board seats up from 9.6% in 1995. However, despite this increase, change is slow and women remain by far the minority amongst board directors where some countries are doing better than others. Considering the make-up of boards of publicly listed companies in 35 countries for which data from one single source is available, it appears that in 2009 the proportion of women on boards was highest in Norway at close to 40% , as related to the introduction of quota legislation in 2006 (Figure 3.5.1). In Sweden, Finland, France and Indonesia the proportion of women on boards in listed companies was between 15% and 20%, whereas in the Netherlands, Japan and Germany it was less than 5%. According to 2011 European Commission data, the proportion of women on boards of the largest listed companies was between 22% and 27% in France, Sweden and Finland, whereas in Germany it was 16% and in the Netherlands it was 19% (EC, 2012a).

**Figure 3.5.1. Norway has the largest proportion of women on boards of listed companies**

The share of women on boards in listed companies by country, 2009



Notes: Countries are ordered by increasing share of women on board. The minimum sample size is 200 observations. Results for Austria, the Czech Republic, Estonia, Hungary, Iceland, Slovenia and the Slovak Republic were dropped due to small sample sizes.

Source: OECD Secretariat tabulations on basis of ORBIS data (see also Ragoussis and Gonnard, 2011).

### Box 3.5.1. The effect of gender diverse boards on governance and performance

The effects of gender diversity on the functioning of boards can be considered in terms of their effect on companies' governance and performance. According to the OECD Principles of Corporate Governance – corporate governance is defined as a set of relationships between a company's management, its board, its shareholders and other stakeholders. The board of a company is entrusted by shareholders to decide on key issues such as guiding corporate strategy, monitoring management performance and achieving an adequate return for shareholders, while preventing conflicts of interest and balancing competing demands on the corporation.

**Governance.** More gender diverse boards can contribute to better corporate governance for a multitude of reasons. A heterogeneous board can be a stronger monitor of executive behaviour (Adams and Funk, 2010; and, Nielsen and Huse, 2010). Since women are generally under-represented in "old boys' networks", a greater number of women directors might bring more independent views into the boardroom and hence strengthen its monitoring function (Rhode and Packel, 2010). Moreover, gender diverse boards tend to have a wider range of backgrounds, experiences, perspectives and problem-solving skills. This rich set of experiences and knowledge can be passed on to top managers and potentially improve the governance of the firm (Terjesen *et al.*, 2009). Carter *et al.*, (2003) and Adams and Ferreira (2009) suggest that more diverse boards are more likely to hold CEOs accountable for poor stock price and encourage better attendance of board meetings, while McKinsey & Co (2010) found that women are more likely to use leadership skills, such as people development, rewards, role models, inspiration and participative decision making than men. Brown *et al.*, (2002) suggest that having more women on boards is associated with stronger attention to the handling of conflicts of interest.

**Performance.** The economic argument for bringing more women on boards is based on the proposition that firms which fail to select the most competent candidates for the board of directors damage their financial performance. Catalyst (2008) and McKinsey&Co (2007 and 2010) assert that better performing firms tend to have more women on their boards. However, this does not prove causality: it cannot be said that more gender diverse boards generate better firm performance (Terjesen *et al.*, 2009; Coles *et al.*, 2008; and, Linck, *et al.*, 2008). It may well be that firms with better performance are more likely to seek women or that if women are scarce commodities, they have the opportunity to work in better performing firms (Farrell and Hersch, 2005). Moreover, the effects of more balanced boards may vary across firms: some firms benefit from more diversity, others may not (Adams and Ferreira, 2009).

After controlling for various firm characteristics – including firm and board size, industry, share of inside board members and others - Carter *et al.*, (2003) for a sample of Fortune 1000 firms found a positive relationship between the presence of women on the board and Tobin's Q (*i.e.* the ratio between the market value of a firm divided by the replacement cost of its assets). The positive relation between women's presence on boards and return on equity is confirmed by Lückerath-Rovers (2011) who apply an enhanced methodology of the Catalyst (2007) and McKinsey&Co (2007) studies for Dutch firms. Positive effects on various company performance measures are also documented by Smith *et al.*, (2006). Other country-specific studies have found positive stock market reactions to appointments of women (Campbell and Minguez-Vera, 2009; Ding and Charoenwong, 2004) and higher volatility in stock returns of firms with lower proportions of women directors (Adams and Ferreira, 2004). However, there are probably at least as many studies that find no or a negative relationship between women on the board and firm financial performance (Ahern and Dittmar, 2010; Böhren and Ström, 2005; Rose, 2007; Lee and James, 2007; Marinova *et al.*, 2010; and, Randøy *et al.*, 2006).

The ambiguous empirical evidence may be partly explained by differences in study design and the type of data used, including different institutional settings (countries and institutional contexts), samples (type of firms included, or periods of study); definitions of gender diversity (proportion of women directors or presence of women directors); measures of performance (accounting or market measures) and methodologies. There is a lot of room for improving the analysis by being more sensitive to the possible influences of the institutional context, of unobservable heterogeneity and of reverse causality as well as of other factors that might influence firm performance and directors' characteristics (Ahern and Dittmar, 2010, and Grosvold and Brammer, 2011).

199. Results from an OECD survey (2012) on gender balanced boards in listed companies suggest that there are a significant percentage of companies with no women on boards in a number of countries. For example, in Chile 90% of the most liquid listed companies have no women on boards (2010), in New Zealand 57 % (2010) and in Canada, 41.9% (2009).



## **Example of some policy initiatives: why the push for gender balanced boards**

### ***Self-regulatory codes***

200. Corporate Governance Codes (CGC) are self-regulatory measures that are increasingly used to promote gender balanced company boards. Non-compliance with the Code usually does not result in a penalty, but requires an explanation. Raising the issue within the company might be an initial step towards greater gender balance. In some countries, like Austria, Denmark, Finland, France, Germany, the Netherlands, Poland, Spain, Sweden and the United Kingdom, the inclusion of reference to gender in CGCs are deemed to have some influence on the composition of boards in listed companies. However, the situation differs between countries. Although these codes typically apply to large listed companies only and do not carry penalties, they can have some influence. For example, in Finland, where there is an obligation to 'comply or explain' compliance with the code, the percentage of listed companies with women on boards went up from 51% in 2008 to 74% in 2010 (Finland Central Chamber of Commerce, 2010). Also, shareholders might be more aware, demanding accountability while the media has also scrutinised companies (European Commission, 2010).

201. The scope of the recommendations included in CGCs varies. In Finland, listed companies are recommended to have both genders represented on the board. The Netherlands Code suggests that "the supervisory board shall aim for a diverse composition in terms of such factors as gender and age". The Swedish Code states that "the company should strive for equal gender distribution on the board." In the UK, the Financial Reporting Council has amended its CGC to require listed companies to report annually on their boardroom diversity policies, including those related to gender, and on any measurable objectives they have set for implementing the policy and the progress made in achieving them.

202. Regulatory alternatives similar to CGC are, for example, disclosure requirements such as those recently approved by Australia where ASX-listed companies are required to report certain information on gender composition starting in January 2011. The U.S. Security Exchange Commission requires a description of the skills and experience needed for the board, including how a nominating committee considers diversity (GMI, 2011). In Austria, firms are required to publish all measures undertaken to promote women onto management boards and in Canada, the province of Québec has legislated gender parity for the boards of its Crown corporations (BIS, 2011).

### ***Mandatory legal quotas***

203. Mandatory legal quotas have also been introduced. Thus far, the issue has received the most attention in Europe, where gender board quotas for publicly listed companies have been established in Belgium, France, Iceland, Italy, the Netherlands, Norway and Spain (Annex to Part 3 – A3.4). The European Commission will examine the progress made in this regard and it launched a public consultation that will contribute to assessing the effects of possible EU measures, including legislative ones, to redress the situation.

204. After Norway introduced quotas for all publicly listed firms, state and municipality owned companies, as well as co-operative companies in 2006, the increase in the proportion of women on boards was sharp: 9% of women in 2003 became 40% within five years. However, this rapid change was supported by a receptive national policy environment and having the second highest employment rate of women in the OECD (OECD, 2011p) and a comprehensive set of work-life balance policies.

205. The high rate of compliance might also hide the fact that some firms avoided the quota by relocating or changing incorporation status, there was an overall decrease by over 30% of publicly listed



companies between 2001 and 2008, whereas an increase (by over 35%) is observed among private limited companies during the same period (Norway, 2011b).

206. There are strict penalties for non-compliance with the quota in Norway. Companies that do not meet the target can be de-listed. This contrasts with the requirements of the Spanish Law of Equality which does not specify a penalty in the case of non-compliance. Although the representation of women on boards of the largest listed Spanish companies has increased from 5% in 2006 to almost 10% in 2009, progress is not as pronounced as in Norway (EC, 2010b).

207. The Norwegian experience shows that legal quotas can be effective in advancing gender balance at board level but the economic consequences of the law reform have yet to become clear. A few years might not be sufficient a time to judge the effects of the law, also since it was introduced only two years before the financial crisis. Moreover, the Norwegian experience shows that introducing quota legislation may affect board membership but does not immediately change the number of women in top management positions: the "leaky pipeline" is not plugged that easily (Chapter 3.4).

### ***Going forward***

208. The general arguments for more women on boards seem apparent (*e.g.* increased talent pool, better representation of different experiences, better understanding of consumer needs and others). However, gender balanced boardrooms are rare. Multiple tools can be used to achieve diversity on boards. This could involve public target setting. Another way forward is to work through new or existing corporate governance codes that increasingly address board diversity. Compliance with the code is typically part of the listing requirements and the "comply or explain" nature of voluntary codes makes it possible to accommodate both firm specific needs and national differences in the size and composition of the talent pool.

209. As long as the research is still not conclusive, proposals for regulating quotas for women on boards must be carefully considered. Countries that have introduced mandatory quotas should also evaluate the effectiveness of the legislation. Moreover, if this instrument is introduced, it should be part of broader plans to enhance women participation in economic activity so that distorting consequences are avoided. Complementary instruments could include: flexibility in working conditions, measures to favour work-life balance, or more specifically, board induction.

#### **Key policy messages**

- Consider how corporate governance codes can effectively improve gender balance on boards. If quotas are introduced, they should be complemented by other measures.
- Ensure that conditions are in place to support the effective role of women on boards, and expand the pool of qualified candidates.
- If quotas are introduced, they should be preceded by a full regulatory economic impact assessment, carefully monitored and reviewed.

## CHAPTER 3.6: POLITICS OF PARITY: GENDER DIVIDES IN THE PUBLIC DOMAIN

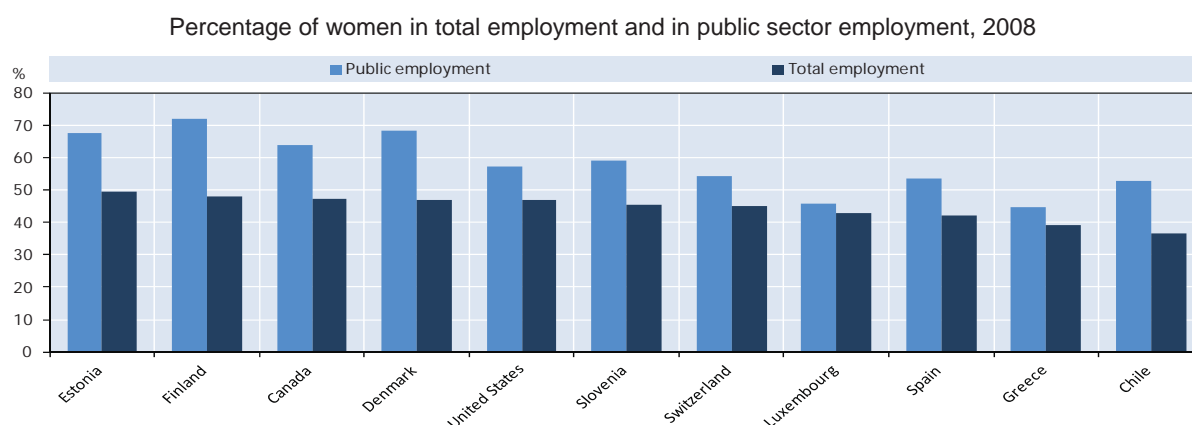
### Key findings

- Governments are taking steps to provide equal opportunities to female and male employees in the public domain. Early evidence suggests that countries that are implementing pro-active measures to ensure equal opportunities and gender balance are making progress towards closing the representation gaps in the public domain.
- Yet, gender imbalances in parliaments, judiciary, executive and the senior civil service remain. Women are well represented in public sector employment, but they are also overrepresented in contractual employment, lower job categories, certain sectors, and part-time work. As a consequence, they often earn less than their male counterparts.

210. Over the past decades, governments in OECD countries worked to establish public sector employment frameworks that “guarantee efficiency, productivity and effectiveness as well as fundamental values, such as merit and transparency to maintain public confidence” (OECD 2008c). There is indeed increasing recognition among policy-makers that diversity measures, including representation of women, allow to 1) create a public sector which is fair and representative of the citizens it serves; 2) improve the quality of public policies and services through a better understanding of citizens needs; 3) make best use of the talent pool, and 4) enhance social mobility (OECD, 2011q). At the same time, in the context of tight fiscal constraints, governments seek to continue delivering high quality services with fewer resources. In times of knowledge based societies, attracting talented women and men to the public sector has thus become a question of competitiveness (see preceding chapters and WEF, 2011), but also of social responsibility and public credibility.

211. In 2008, women constituted about 58% of the total public sector workforce (Figure 3.6.1), with the public sector counting for about 20% of employment (Chapter 3.1). Importantly, evidence suggests that the higher the educational attainment among women the higher their share in public sector employment (Anghel *et al.*, 2011).

**Figure 3.6.1. Women make up a significant share of public sector employment**



Note: (i) Countries are ordered by decreasing proportion of women in total employment; (ii) The total public sector workforce includes national, regional and local governments plus institutional units controlled by government such as public corporations. Data for Canada include the federal/provincial/municipal levels of government.

Source: ILO (2012b), LABORSTAT Database.

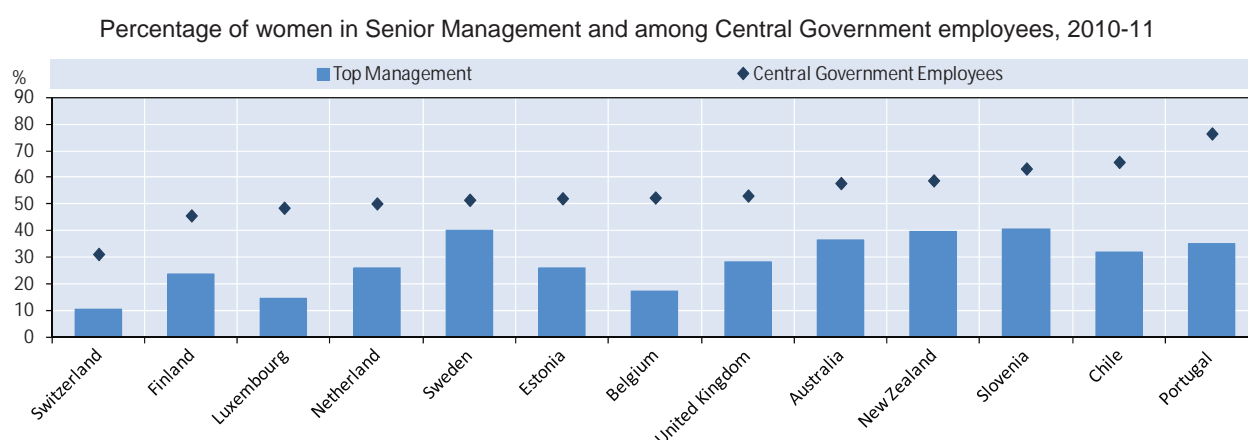
212. Overall, the public sector provides attractive employment conditions, including diversity of career options and paths, relatively stable jobs, flexible working hours and good pay and benefit packages. A study commissioned by the OECD Gender Initiative (Anghel *et al.*, 2011) found that for jobs with similar characteristics, female wages in a number of OECD countries' public sector (*e.g.* France, the United States) tend to be comparable or higher than those in the private sector (Chapter 3.1), – at least at entry and middle management level, where women are well represented.

213. Horizontal occupational segregation and gender pay gaps also tend to be lower in the public sector (OECD, 2009f and Anghel *et al.*, 2011). For example, in Austria the estimated gender pay gap at median earnings was 16% in 2011 in the federal civil service as compared to 21% in the entire labour market (Austrian Government, 2011). Many OECD governments are also taking measures to create family-friendly workplaces, with childcare, leave and working time supports generally exceeding similar provisions in the private sector (*e.g.* Austria, France and Switzerland; OECD, 2011r), which helps to attract women to public sector employment (Anghel *et al.*, 2011).

### Yet the track record in the public sector is still mixed

214. There is considerable cross-national variation, but Figure 3.6.2 shows that there remain significant discrepancies in the proportion of women employed in the public sector and the proportion of women in leadership positions (EC, 2012b and OECD, 2009f). Some of the barriers in accessing top jobs in the public sector include limitations in opportunities for women to reconcile leadership responsibilities and the associated working hours with family life.

**Figure 3.6.2. The Government leaky pipeline: Women's under-representation in Senior Management in the Central Civil Service**



Note: Countries are ordered by increasing proportion of women as Central Government employees; Data for Estonia includes also officials of special services (police, military, and judges). Central Civil Service is defined as those branches of the public sector that are not legislative, judicial, or military and in which employment is usually based on competitive examination.

Source: OECD (2011r). Data for Belgium, Luxembourg, Sweden and New Zealand from 2011. All other data from 2010.

215. There is also a tendency for women to occupy senior positions in ministries without key economic or strategic functions. Within the European Union, women occupy 33% of the highest-level positions in socio-cultural ministries, but only 22% in the ministries with economic and strategic key functions. In 2008, out of the 1 022 ministerial portfolios held by women, only six were defence portfolios (IPU, 2008). Evidence also suggests that women are underrepresented in public top-positions with broad responsibilities, for example, Guégot (2011) shows that in 2008 in France 17 out of 155 ambassadors and 19 out of 192 prefects were female. Across federal ministries and agencies, women are more likely to head the human resources or communication department than the budget or information technology department.

By contrast, women are overrepresented among the lower civil service levels in many OECD countries (OECD, 2011r).

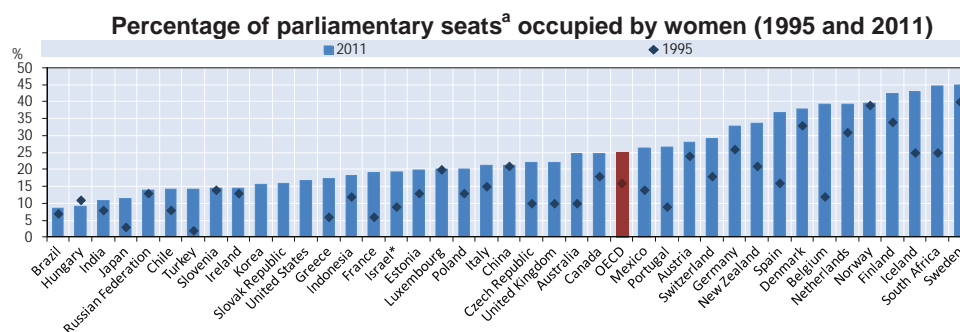
216. In addition, women remain over-represented in some “feminised” areas (care, education, health; OECD 2011s) and underrepresented in others (police, justice, interior, economic affairs). Across 13 OECD countries in 2009 the proportion of female police personnel ranged from 3 to 26% (UNODC, 2010). In 2009, for example, across the OECD 55 to 77% of teachers and academic staff were female (OECD, 2011s). Moreover, evidence from some countries (*e.g.* France, Canada, the United Kingdom and the United States) suggests that the increasing “feminisation” of certain professions (*e.g.* physicians) or entire subsectors (health, education) in the public sector may trigger reduced wage-growth in these “pink collar professions” as, *e.g.*, in many post-Soviet countries where women have traditionally been overrepresented among physicians (Conolly *et al.*, 2009; Guégot, 2011; Lo Sasso *et al.*, 2011; and, Ross, 2003).

### Box 3.6.1. Facts: women in the public domain

**Women in the judiciary.** Across the globe women’s participation in law schools now equals that of men. Nevertheless, women are not yet equally represented among the highest levels of the legal system. Courts function as a prime site of accountability for gender equality, yet women average only 27% of judges worldwide (UN Women, 2011). However, the share of women decreases even further for more senior positions. For example, in the European Union, 33% of Supreme Court judges are female and only 2 out of 18 Presidents of top Administrative Courts (EC, 2011). Evidence confirms that the presence of women as jurists is vital to ensuring the implementation and safeguarding of equality rights (UN Women, 2011). Courts that operate free of gender bias and other forms of discriminatory practices can be powerful drivers of social change. Women judges can create fairer, more conducive environments for women and counter social and institutional barriers in the justice system that deny women access to legal redress. An American study, for example, demonstrates that women judges are 11% more likely to rule in favour of the plaintiff in employment discrimination cases (UN Women, 2011).

**Women in parliament.** Greater presence of women in parliament and their co-operation across party-lines in “women’s caucuses” can be an important way of pushing ahead with gender equality in legislation and supervision of implementation (IPU, 2008). The figure below shows that overall the proportion of members of parliament (single chamber or lower house) that are women, have increased in all OECD countries. At 40% or higher the proportion of female MPs was the highest in Iceland, Norway, Sweden, Finland and South Africa, and lowest at below 10% in Brazil and Hungary. Countries with large increases of women in parliament between 1995 and 2011 (20 percentage points and over) include Australia, Belgium, Denmark, Iceland, Portugal, South Africa and Spain. A benchmark widely recognised by political scientists, the media and women’s movement activists is that 30% legislative participation is the critical threshold for women’s political representation (Dahlerup, 1988 and Childs and Krook 2008). In December 2011, 28 countries, including 10 OECD member countries, have reached or surpassed that mark (UN Statistics, 2012). Of those 28 countries, 21 have electoral systems that use some form of proportional representation (IPU Database).

**Figure Box 3.6.1. The proportion of women in parliament increased for most countries over the past decade but is still below the share of men**



Note: Countries are ordered by increasing percentage of parliamentary seats occupied by women in 2011.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Seats in single or lower chambers of parliament. For South Africa the data on the distribution of seats do not include the 36 special rotating delegates appointed on an ad hoc basis. For the United States the data refers to all voting members of the House. Source: IPU Database (2011).

217. As with the private sector, women are also more likely to work part-time than men in the public sector (OECD, 2011r). However, working part-time on a long-term basis tends to have a negative effect on women's career opportunities as it limits women's abilities to develop leadership skills and assume jobs with high levels of responsibilities. Women working part-time tend to be less represented in management positions, as evidence from Austria, Germany and Switzerland suggests.

218. Further, in several public administrations (*e.g.* Australia, Austria and Germany), women tend to be overrepresented in contractual employment, which within the civil service often offers limited job security, net wage and pension benefits (Campbell *et al.*, 2009, and Government of Germany, 2010). In Austria, for example, women represented 40.3% of the total federal civil service staff in 2010, but made up 60.3% of contractual employees and only 26.1% of civil servants (Government of Austria, 2011). To some extent, these discrepancies are related to the overrepresentation of women in the lower and middle job categories, with traditionally higher percentages of contractual employment.

219. Frequently, gender pay gaps still persist within the public sector. The primary causes for pay gaps include occupational choices and career patterns (leading to horizontal and vertical segregation), as well as greater use of child-related leaves and part-time work of women (Government of Austria, 2011; Government of Germany, 2010; Government of New Zealand 2010; and, OECD 2011r). Job classification and pay schemes generally offer an advantage compared to individual salary agreements in the private sector, but they seem to be insufficient to overcome pay gaps (Government of Switzerland 2009; Guégot 2011; and OECD, 2011q and 2012l). In New Zealand, for example, the gender pay gap in the public sector was reduced from 16.4% in 2005 to 14.4% in 2010, but women overall still earn about NZD 10000 less per year than men (Government of New Zealand, 2010). The evidence from some OECD countries also suggests that within the public sector, the gender pay gaps tend to be highest among occupational groups at the top level (Guégot, 2011).

## Policy responses

220. Most OECD countries introduced specific measures that aim at addressing any form of gender-based discrimination, in particular at ensuring equal employment opportunities for women and men and closing the representation gaps in the public sector at different levels of the career ladder and across various policy sectors. Measures include: (1) diversity targets or quotas; (2) leadership development and mentoring programmes; (3) the integration of gender considerations into strategic workforce management; (4) external oversight mechanisms; (5) work-life balance initiatives; and, (6) initiatives to ensure pay equality and equity in practice.

221. To close the gender gaps in top management positions and across policy sectors, on the demand side, half of OECD governments regularly assess the gender balance of the current central government workforce (OECD, 2011r). Some countries have introduced gender quotas in the civil service by law (*e.g.* France has a progressive 40% quota for nominated top civil servants by 2018) while others use a range of (mandatory or voluntary) target-setting mechanisms for closing the representation gap while still emphasising the merit-based employment processes by giving preference to equally qualified female job candidates (*e.g.* Austria, Germany, Ireland, the Netherlands, Switzerland and the United Kingdom, OECD, 2011q). In addition, some countries, for example Austria and Spain, have integrated diversity targets into performance agreements for top managers (OECD 2011r), while since 2004 state-owned enterprises in Finland are required to have 40% of both genders on boards (see also Chapter 3.5).

222. On the supply side, OECD countries use a range of leadership development and mentoring programmes (*e.g.* Austria, Belgium, Germany, Sweden and the United Kingdom) to provide opportunities to both women and men to develop the skills and competencies necessary to lead in the public sector. These initiatives seek to support women and men in career networking, offer the possibility to be exposed to practical experiential learning methods, evaluate managerial key competences, develop personal training



plans and prepare for job interviews. Early evaluations of some of these programmes indicate their positive contributions to achieving gender balance at the top (*e.g.* increase of female candidates in senior positions within the civil service from 20% in 2008 to 30% in 2009 in Belgium).

223. Further, most OECD countries have established a range of safeguards – such as transparent, standardised and merit-based competency tests and gender-balanced interview panels to ensure that job selection processes, appointments and promotions focus on performance and do not create biases or barriers which limit opportunities for female or male candidates (OECD, 2007c and 2010i). In addition, to support merit, transparency and equal treatment, several countries (*e.g.* Belgium, Denmark, Estonia, Iceland, the Netherlands, Spain, Switzerland and the United States) have set up independent oversight, complaint and disciplinary mechanisms (OECD, 2011r). These mechanisms have proven efficient to promote gender equal treatment and employment opportunities. For example, data from the US *Equal Employment Opportunity Commission* (2009) shows that the federal government's workforce has become more gender-balanced in the past 25 years and that a decreasing percentage of federal government employees believe that they experience discrimination in recruitment, promotion or access to leadership based on gender.

224. In addition, the majority of OECD survey respondents also introduced measures to improve the work-life balance in the public sector, including flexible working hours, part-time work, maternity, paternity, and parental leave arrangements, as well as leave to take care of a sick family member. About 80% of surveyed OECD countries have taken measures to accommodate the special needs of pregnant or breastfeeding women, and about 70% provide teleworking solutions and the possibility to work compressed weeks (OECD, 2011r). About half of OECD governments (56%) facilitate childcare solutions for public sector staff. Work-life balance measures and the provision of flexible work arrangements are reported as important for all employees including for women at the top level. In fact, absence of work-life balance mechanisms was found as one of the factors discouraging women to apply for leadership positions. Work-life balance measures are also found to have a significant impact on job satisfaction as well as on organisational productivity and bottom-line results (Conference Board Canada, 2003). At the same time, as discussed in chapters 3.2 and 3.8, it is important to ensure that maternity leave provisions or part-time work arrangements do not harm long-term earnings and career prospects (OECD, 2011m and Box 3.8.2). Efforts are needed to provide incentives to encourage men to take an active part in childcare and household responsibilities and to possibly make use of work-life balance measures.

225. Finally, to reduce or close the persisting pay gaps, almost all respondents to the 2011 OECD Survey (95%) have introduced legal provisions that seek to guarantee pay equality (equal pay of women and men for equal (the same) work, *e.g.* Chile) and 85% to guarantee pay equity (equal pay for work of equal value requiring similar qualifications, but not necessarily the same work). Moreover, 40% conduct regular assessments of jobs of equal value to ensure pay equity (*e.g.* Austria, Belgium, the Netherlands, Spain, Sweden, and Switzerland). Some countries have also developed concrete measures such as equal pay self-tests, called Logib (*e.g.* Germany and Switzerland). Logib is a statistical tool which allows managers to review their pay policies and identify potential gender wage inequalities. Logib facilitates the assessment of enterprise wage gaps and accounts for qualification characteristics of male and female employees. In Switzerland public procurement regulations stipulate that public contracts can only be awarded to firms with an unexplained wage gap that is less than 5% (as evidenced by Logib). In Germany, employers analyse their pay structures on a voluntary basis (Beblo, 2011). In the United States the government has launched an open competition - "Equal Pay App Challenge" - to develop new tools to educate the public about the pay gap and promote equal pay for women (White House Council, 2012). However, broader and more cause-specific measures may be needed to address the persisting gender pay gaps, including a mix of policy actions that address women's educational and career choices, parental leave and part-time work arrangements that include both partners, the expansion of childcare facilities, phased plans to promote women's access to executive leadership and the systematic detection and analysis of wage gaps.

**Key policy messages**

Gaps remain in women's equal access to senior positions, pay and working conditions in the public domain. This calls for a comprehensive and systematic set of measures, including:

- Development of specific mechanisms to improve the gender-balance in leadership positions and across different policy sectors, *e.g.* setting targets for managers.
- Strengthening the flexibility, transparency and fairness of public sector employment systems and policies to ensure fair pay and equal opportunities for talented women and men with a mix of backgrounds and experiences.
- Improve work-life balance options, in particular opportunities for flexible work arrangements and workload management.
- Develop broader and more cause-specific measures to address the persisting gender pay gap.



### CHAPTER 3.7: WHO CARES?

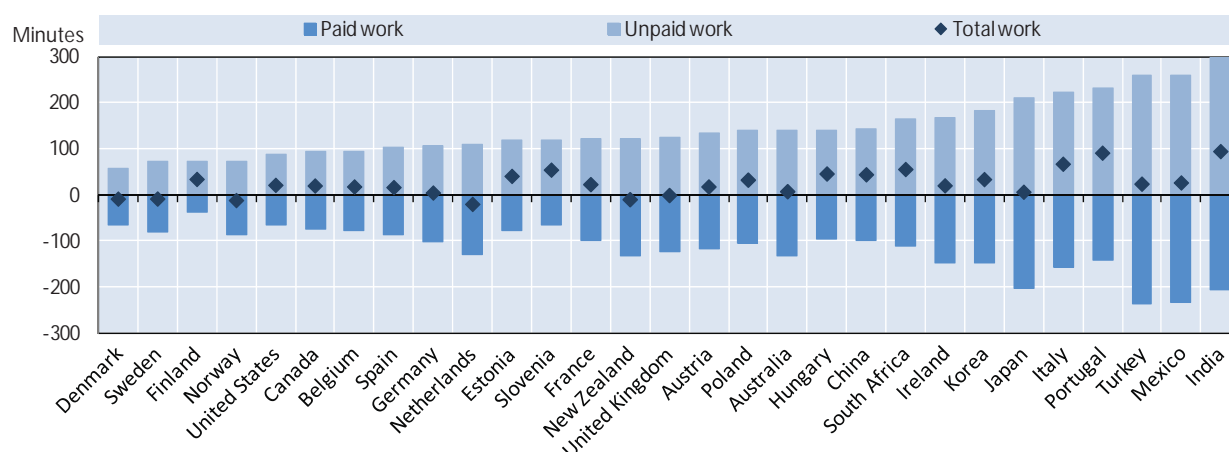
#### Key findings

- Women do more unpaid work than men in all countries and the gender gap increases with the arrival of children.
- Domestic work has a negative effect on the female supply of hours in paid employment and on the gender wage gap.
- Encouraging fathers to make better use of parental-leave arrangements, part-time employment and other flexible work arrangements could contribute to a more equal sharing of working and caring.

226. Women, much more than men, devote a significant part of their time to unpaid household work, including care for children, sick household members or the elderly. Time-use surveys of 26 OECD countries and 3 OECD enhanced engagement countries (China, India and South Africa) show that women devote on average more than twice as much time to household work than men (Figure 3.7.1). At the same time, men spend on average about 50% more time in paid employment. As a result, the gender difference in total working time – the sum of paid and unpaid work, including travelling time – is close to zero in many countries. The allocation of time between paid and unpaid work is in part driven by preferences, but also by the availability and affordability of policies seeking to reconcile work and family life, as for example, childcare or part-time employment opportunities. Women are more likely to work part-time in countries with high childcare costs (OECD, 2011m), while in countries where part-time work is uncommon, *e.g.* Portugal and Greece, the presence of children frequently leads to a mother's exit from the labour market (Lewis *et al.*, 2008).

**Figure 3.7.1. Women do more unpaid work than men in all countries**

Female less male total, paid and unpaid working time in minutes per day<sup>a</sup>



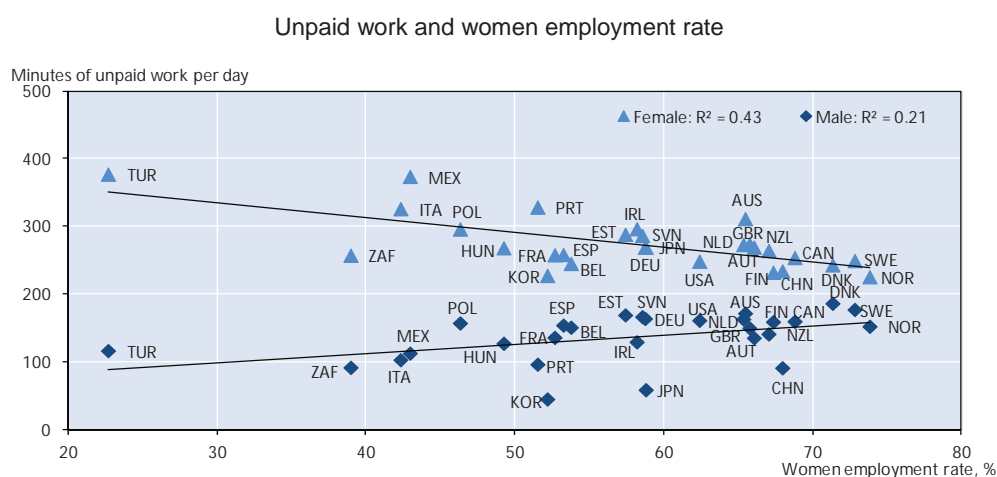
Note: Countries are ordered by increasing gender gap in unpaid work.

a. The years covered are: Australia: 2006; Austria: 2008-09; Belgium: 2005; Canada: 2010; China: 2008; Denmark: 2001; Estonia: 1999-2000; Finland: 2009-10; France: 1998-99; Germany: 2001-02; Hungary: 1999-2000; India: 1999; Italy: 2002-03; Ireland: 2005; Japan: 2006; Korea: 2009; Mexico: 2009; the Netherlands: 2006; New Zealand: 2009-10; Norway: 2000-01; Poland: 2003-04; Portugal: 1999; Slovenia: 2000-01; South Africa: 2000; Spain: 2002-03; Sweden: 2000-01; Turkey: 2006; the United Kingdom: 2000-01; and the United States: 2010.

Source: OECD's Secretariat estimates based on national time-use surveys (Miranda, 2011, for more detail).

227. The gender gap in unpaid work decreases with an increase in the female employment rate. From a cross-country perspective, there is a strong negative correlation between a country's female employment rate and women's average unpaid working time (Figure 3.7.2). At the same time, there is some substitution between female paid work and male unpaid work: the higher the female employment rate, the more men are engaged in unpaid work.

**Figure 3.7.2. Women's unpaid work decreases with increases in the national levels of women's employment, but they always do more unpaid work than men**

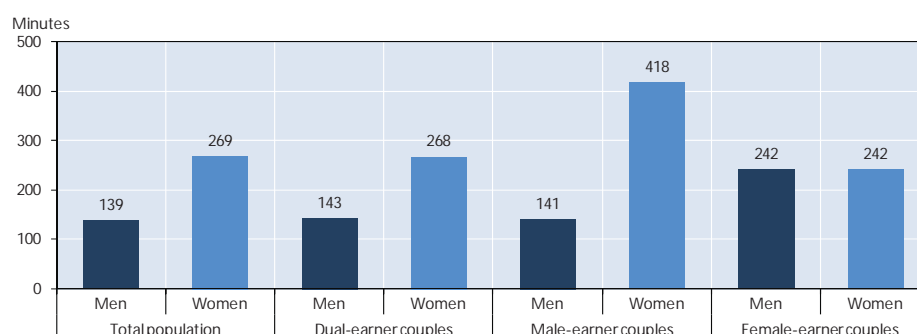


Source: OECD's Secretariat estimates based on national time-use surveys and OECD Labour Force Surveys for employment rates.

228. Women undertake a disproportionately high amount of unpaid work no matter what type of household they live in. Regardless of a woman's employment status, men in couple families do less unpaid work than their partners (Figure 3.7.3). In couples where both partners work, women spend more than 2 hours per day extra in unpaid work. Although this gender gap is partly related to the fact that many women work part-time (Chapter 3.2), the gender gap hardly decreases when both partners work full-time. Even in female-earner couples men only do as much housework as women. Gender gaps in childcare provision are even wider: *working* mothers devote about 50% more time to childcare than *non-working* fathers (Miranda, 2011).

**Figure 3.7.3. Regardless of a woman's employment status, men do less unpaid work than their spouses**

Minutes devoted to unpaid work per day by gender, for single- versus dual-earner couples (OECD average)



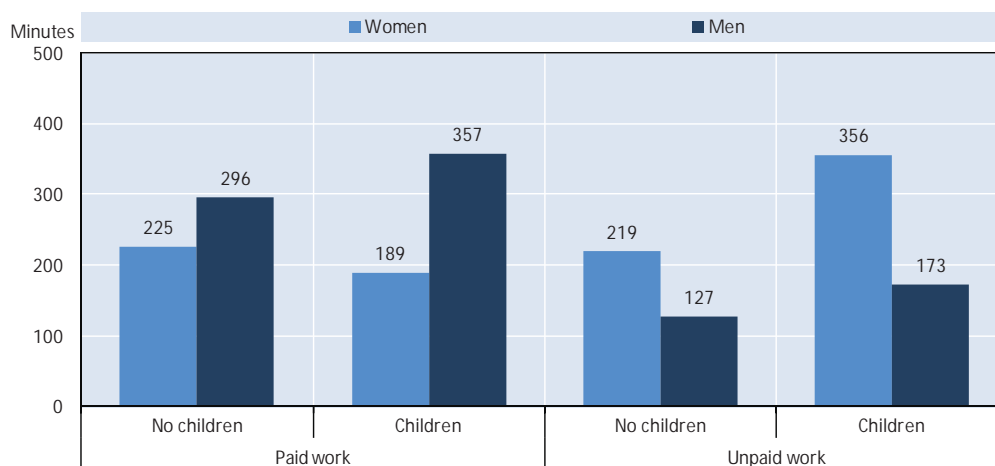
Source: OECD's Secretariat estimates based on national time-use surveys.

229. The greatest change in the time individuals devote to domestic work is related to the arrival of children. It is also a point, typically, when traditional gender divisions of work in the home assert

themselves, even when there was more equality up to this point (Lewis, 2009). Having to take care of children tends to negatively affect both the decision to participate in the labour market and the number of hours supplied by women (Del Boca *et al.*, 2009). As such, women tend to decrease their time in paid work and increase time in unpaid work when they have children. Among men, time spent in both paid and unpaid work slightly increases when children are present in the household (Figure 3.7.4).

**Figure 3.7.4. Gender gaps in unpaid and paid work increase with the arrival of children**

Minutes devoted to paid and unpaid work per day by gender, for people with and without children (OECD average)



Source: OECD's Secretariat estimates based on national time-use surveys.

230. Across the OECD countries, more than one in ten adults aged over 50 years provides informal (usually unpaid) help with personal care to the elderly, sick and disabled (OECD, 2011b). Close to two-thirds of such carers are women, typically caring for close relatives such as their parents or their spouse. High-intensity caregiving is associated with a reduction in labour supply for paid work, a higher risk of poverty and an increased prevalence of mental health problems among family carers. While many OECD countries support family and other informal carers either financially or through respite care and other non-financial benefits, it remains difficult to reconcile work and caring.

231. Undertaking unpaid work, its timing and nature are important factors in explaining the persistent gender differences in earnings (Bonke *et al.*, 2005; Bryan and Sevilla-Sanz, 2011; and, Maani and Cruickshank, 2010, for a literature review). In addition to doing less unpaid work than women, men tend to engage in domestic work that is easier to fit in with working schedules – *e.g.* gardening, house maintenance and auto repair. By contrast, women tend to engage in routine housework, such as cooking and childcare, which is done on a daily basis, cannot usually be postponed and is more difficult to fit into workplace patterns. Policies that contribute to a more equal intra-household sharing of housework in terms of volume and nature facilitate better female employment outcomes, as for example, a greater intensity of female labour force participation and a reduction of the gender wage gap (Chapter 3.3).

### **Government policies encourage female employment, but reinforce gender gaps in unpaid work**

232. Government policies which facilitate the reconciliation of work and family life (Chapter 3.8) often play a key role in female labour force participation. These policies aim to support both parents, but frequently they inadvertently reinforce the more traditional role of women as caregivers thereby contributing to persistent gender inequality. This is because parental-leave options or part-time employment opportunities or other flexible working-time arrangements (*e.g.* teleworking) are generally

used much more by mothers than fathers. For example, long parental-leave arrangements continue to be primarily used by women – and mothers are frequently reluctant to give up leave to their partner’s benefit (OECD, 2011m) - reinforcing traditional gender roles. In fact, as soon as policies allow or encourage women to behave differently in terms of their employment participation or their hours of work, inequalities at home and in domestic contributions are likely to remain. Furthermore, this is a vicious circle, since as long as mothers reduce employment participation in the presence of (young) children, employers have an incentive to invest less in their female employees than in male workers.

233. Policies that reduce differences in labour market behaviour between mothers and fathers also have a large potential to narrow gaps in unpaid work. Dex (2010) suggests that such policies are likely to be most effective when they intervene at critical points when men are more open to change their behaviour, *e.g.* the time they become fathers. Men are more likely to bond with their children if they spend time caring for them from an early age. Greater involvement of fathers in childcare has beneficial effects on child development, both in terms of cognitive development and behavioural aspects (Baxter and Smart, 2011 and Huerta *et al.*, 2012), and could reduce mother's time spent on childcare.

234. Furthermore, while the average degree of happiness increases with greater gender equality in a country (Veenhoven, 2011 and 2012), an unbalanced share of housework between partners can negatively affect women’s happiness. Meancarini and Sironi (2010) found that European women engaged in housework for an amount of time exceeding the median amount recorded in a specific country reduced their reported degree of happiness.

235. Public policy is but one determinant of the division of paid and unpaid work between men and women. This division has many of its roots in the values, attitudes and preferences of individuals and couples and is frequently built upon many generations of gender role models. The context in which people grow up and live their lives matters when they are deciding about how to use their time. Moreover, it is not policies that have produced the most radical changes in the division of unpaid work. Very large changes have taken place in women’s and mother’s employment behaviour in the past decades, leading rather than following changes in policy and changes in public opinion (Dex, 2010).

#### **Key policy message**

- Promote a more equal use among parents of policies that temporarily reduce workplace participation because of family and care commitments. For example, promote a more equal sharing of parental-leave entitlement through the use of non-transferable leave entitlement for the exclusive use by fathers or award “bonus periods” to fathers who are using periods of parental leave.

## CHAPTER 3.8: SUPPORTING PARENTS IN JUGGLING WORK AND FAMILY

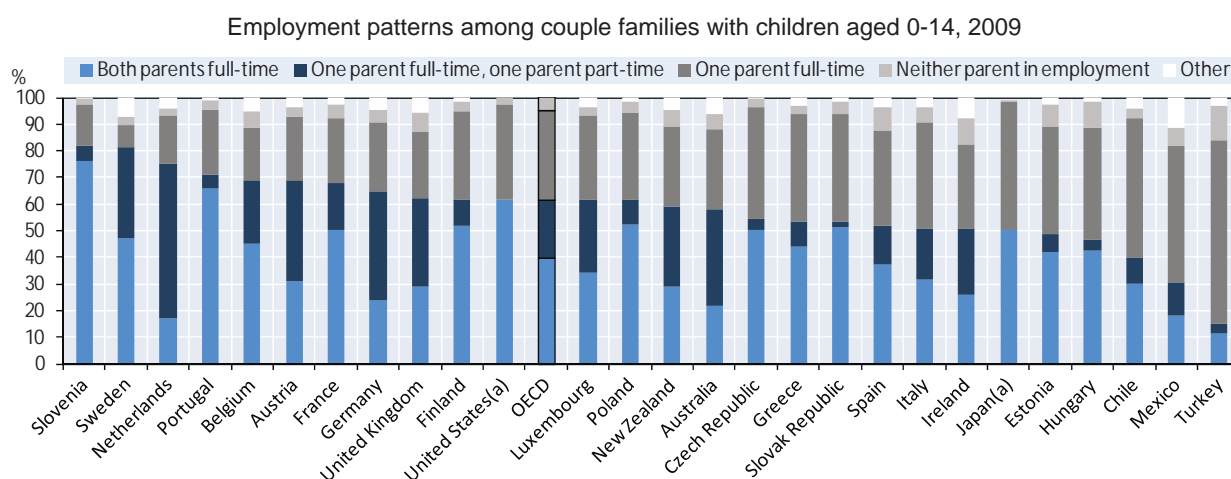
### Key findings

- Work-family balance policies have contributed to higher female employment rates but more needs to be done to reduce inequalities that reinforce the gender division of labour.
- Childcare support is particularly important for facilitating higher levels of female employment.
- Many more mothers than fathers make use of family-friendly arrangements. Hence, gender inequalities in both paid and unpaid work persist.

236. Across OECD countries, governments have implemented family-friendly policies (including parental leave, childcare and flexible working arrangements) with the aim to help parents reconcile work and family responsibilities. However, there is substantial cross-national variation in the provision and generosity of such policies. Differences in support are due to different factors including policy objectives, work and family outcomes, cultural attitudes towards work and care, and the role of governments in the family sphere (Adema, 2012 and OECD, 2007d and 2011m). Countries with well-balanced work and family outcomes - high female employment rates, fertility rates close to replacement levels and a more equal gender distribution of unpaid working time – include the Nordic countries and France which have work-family policies that provide parents with a continuum of support throughout the early years and until children become teenagers (Thévenon, 2011).

237. Work-family reconciliation policies have contributed to higher female employment rates, especially among mothers with young children. In most member countries, dual-earner families have become the norm (Figure 3.8.1). However, the intensity of female labour market participation differs widely across countries. In Eastern Europe, Japan, Portugal and the United States, both parents tend to work on a full-time basis, while in Australia, Austria, Germany, the Netherlands, New Zealand, Sweden and the United Kingdom a one-and-a-half earner model is more common. In Chile, Mexico and Turkey, the male-breadwinner model continues to be the norm among couples with children.

**Figure 3.8.1. In most OECD countries, dual-earner families are the norm**



Note: Countries are ordered by descending proportion of both parents employed (full-time or part-time)

a. Unable to distinguish between full-time and part-time work.

Source: OECD 2012c, OECD Family database, indicator LMF2.2.

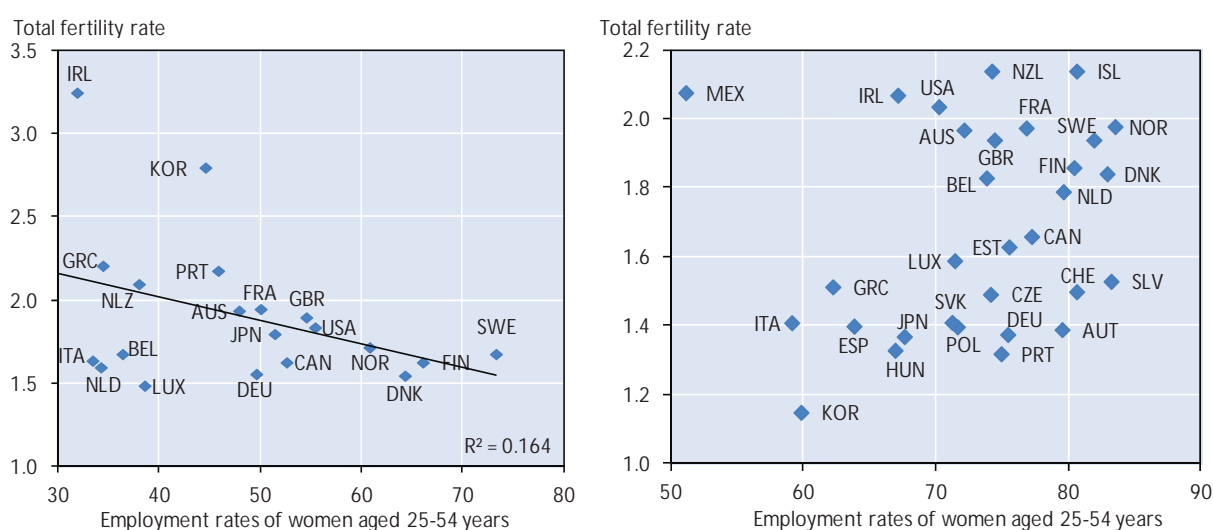
238. The objectives of work-family policies are numerous and interrelated. They not only include increasing female employment rates, but also reduce the opportunity costs of childbearing and helping parents to have as many children as they want at the time of their choosing (Box 3.8.1), cutting child poverty rates and promoting child development. Gender equality objectives are, however, not always pursued vigorously or prioritised. A big drawback of adopting a gender-neutral approach in family policies is that benefits are taken disproportionately by women, reinforcing the gender division of labour (Lewis, 2009).

### Box 3.8.1. Female employment and fertility levels

In 1980, most of the countries with higher female employment rates had low fertility levels. By contrast, in 2009, the countries with low female employment rates also had low total fertility rates (TFRs), except Mexico. In particular, Nordic and English-speaking countries and France are able to combine high female employment rates with high TFRs. A continuum of publicly provided reconciliation support is available in Nordic countries and France, while the Anglophone countries combine flexible workplace practices with income-tested childcare support and in-work benefits, as helped by the low cost of domestic services in the United States (Thévenon, 2011). As a result, in these countries the choice between employment and motherhood is least stark, even though there often remains a trade-off between having large families and female employment at an individual level, and mothers with 3 or more children are far less likely to be in paid work than mothers with one or two children (OECD *Family database*).

**Figure Box 3.8.1. Motherhood and employment are less incompatible now than in 1980**

Female employment and total fertility rates, 1985-2009



Note: The y-axis (total fertility rate) scale is 1.0-3.5 for 1980 and 1.0-2.2 for 2009; the x-axis (female employment rates) is 30 to 80% for 1980 and 50 to 90 % for 2009.

Source: OECD (2012c), OECD Family database.

Population issues are different in developing countries where fertility rates are often much higher than in OECD countries. China, India and Indonesia have developed active policies to control fertility, which have contributed to a decline in TFRs from above five children per woman at the beginning of the 1960s to respectively 2.7 children per woman in India, 2.2 in Indonesia and 1.7 in China in 2008 (see also Chapter 1.2).

239. Except in Germany, tax/benefit systems generally provide both parents in couple families with broadly similar financial incentives to work when children are of school age (Annex to Part 3 – A3.5).

However, when families have very young children, these financial incentives are not so strong and often one parent stays at home, usually the mother as she is generally the one with lower earnings (Chapter 3.3). Parental choices concerning paid work are influenced by many different factors including individual preferences regarding work, the duration of parental-leave schemes, the availability of informal and formal childcare, the cost of formal childcare, spousal earnings and workplace supports.

240. To support families in their work and family decisions, governments use different policy instruments. In the late 2000s, on average, OECD countries spent just over 2% of GDP on benefits for families and children. Child-related leave policies have an important influence on the timing of parents to (re-) enter the workforce. All OECD countries, except the United States, provide income support during maternity and/or parental-leave periods. There are, however, large variations between countries, as regards to the duration of benefits, and the degree of remuneration. Leave entitlements immediately around childbirth are likely to increase job continuity and strengthen female labour force attachment. By contrast, prolonged long periods of leave may harm long-term earnings prospects (*e.g.*, OECD, 2011m and Box 3.8.2).

### Box 3.8.2. Parental-leave entitlements and female employment outcomes

Considering changes in parental-leave legislation over the past 40 years facilitates an assessment of the effect of increasing paid-leave entitlements on three employment outcomes: female and male employment rates and hours worked, and gender earning gaps for full-time workers. The analysis was done using a “difference-in-difference” estimator approach with data from 30 OECD countries between 1970 and 2010. The results suggest (Table 1) :

- Extending paid-leave entitlements has had a small positive effect on the female-to-male employment ratio;
- Extending parental-leave entitlements has had a small positive effect on weekly working hours;
- Increases in paid leave are associated with an increase in the gender gap in earnings of full-time workers.

**Table Box 3.8.2. Influence of paid leave on gender differences in labour market outcomes**

	Employment ratio <sup>1</sup>	Working hours <sup>1</sup>	Pay gap for full-time workers <sup>1</sup>
Any paid leave	-	-	-0.049*** (0.014)
Leave duration	0.0077* (0.004)	0.0073* (0.004)	-0.0013 (0.005)
Number of observations	847	595	445
R <sup>2</sup>	0.996	0.998	0.997

The dependent variable is defined as the female-to-male difference in natural log of the outcome under consideration: employment rates (for the 25-54 years old); average weekly working hours and weekly earning of full-time workers. All variables include time and country fixed effects, plus the variation in the log of GDP per capita to control for any periodic and country-specific shocks.

Robust standard errors in brackets; \*\*\*, \*\* and \* : significant at the 1% , 5% and 10%, respectively.

<sup>1</sup> Countries: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Data on working hours by gender for this period are not available for Canada, Japan and the United States. The analysis regarding the gender pay gap covers Australia, Germany, Finland, France, Japan, Korea, the Netherlands, Sweden, the United Kingdom and the United States.

Source: OECD Secretariat.

241. In many countries, policy tries to generate change by extending parental-leave entitlements to fathers. Parental leave can be granted as: i) a *family right* (parents can share the entitlement as they choose); ii) a *transferable individual right* (entitlements are transferable to the other parent); and iii) a *non-transferable individual right* (both parents have an entitlement to a specific amount of leave). In addition, about half of OECD countries have separate paternity-leave entitlements, which are often of short duration



(OECD, 2012c, indicator PF2.1). Outside the OECD, governments in Africa, Asia and Latin America have introduced paternity leave schemes following childbirth (ILO-UNDP, 2009).

242. Despite these efforts to encourage caring by both parents, mothers predominantly use leave entitlements. When leave is a family right or a transferable individual right, fathers' use is low. For example, in Austria, the Czech Republic, Finland, and Poland, the proportion of fathers taking parental leave is less than 3% (Moss, 2011).

243. To increase leave-taking among fathers, the option of fathers taking leave is promoted by granting them the exclusive right to parts of the parental-leave entitlement and/or associated income support. For example, Iceland has the proportionally most gender-equal paid-leave system as one-third of the parental-leave period is reserved for men (13 weeks), while this proportion is 20% in Norway (equivalent to 10 weeks), and 13% in Sweden (equivalent to 8.5 weeks). When parental leave was introduced in Iceland, it led to an increase in the proportion of parental-leave days taken by fathers from 3% in 2001 to around 35% nowadays (Eydal and Gislason, 2008). In Norway, fathers take around 13% of leave days, while in Sweden, the share of leave taken by men reached 22% in 2009 (Moss, 2010).

244. Other countries offer bonus parental-leave entitlements if fathers take up a certain minimum, for example, Germany (2 extra months if the father takes at least 2 months of parental leave) and Portugal (1 extra month if the father takes at least 1 month of parental leave). In Germany, the number of children whose father took parental leave increased from less than 9% prior to reform in 2007 to 25% in the second half of 2010 (Federal Statistical Office, 2012). In Portugal, the proportion of fathers taking parental leave increased from less than 10.1% in 2009 to 22.97% in 2010.

245. So far, take-up by fathers has been low, however, and the period of leave is usually short. As a result, the evidence on the longer-term effect on care behaviour and the division of housework is mixed. Ekberg *et al.* (2004) illustrate that increased use of parental leave by fathers in Sweden has not led to an increase in fathers taking time off to look after a sick child. Yet, the more leave fathers take, the higher the likelihood they engage in childcare or take sole responsibility when mothers work (Haas and Hwang, 2008). Nepomnyaschy and Waldfogel (2007) also show that fathers in the United States who take 2 or more weeks off work after the birth of their child are much more likely to participate in childcare activities nine months later.

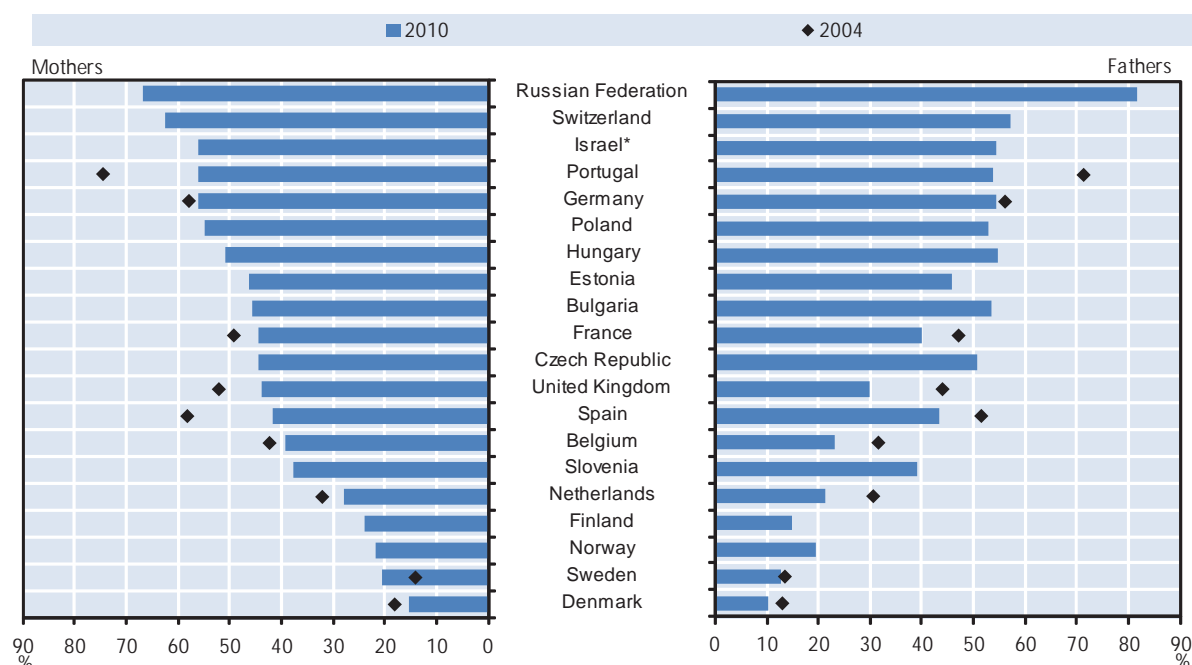
246. One of the main reasons for fathers' low take-up rates is that they often earn more than their spouses (Chapter 3.3), so income loss to households is smallest when mothers take leave. In addition, attitudes towards mothers' caring roles may contribute to mothers rather than fathers taking leave and making use of family-friendly entitlements more generally (Box 3.8.3).

### Box 3.8.3. Attitudes towards care and work

Attitudes and behaviours towards work and care are important drivers of policymaking (Kamerman and Moss, 2009 and Lewis, 2009). In turn, existing policies can contribute to changing views and behaviours towards family matters. Parental attitudes towards mother's employment vary significantly between countries (Figure Box 3.8.3). In the Nordic countries, where female employment is the norm and where work-family policies have been operating for over 40 years, views towards work and care are more gender equal, even though there may be a small trend reversal among Swedish mothers. By contrast, in Germany, Hungary, Israel, Poland, Portugal, the Russian Federation and Switzerland, more than half of parents report a more traditional view on women's labour force participation and care commitments. A lack of formal childcare capacity for very young children - which can reinforce parents' attitudes towards employment and care (Fagnani, 2002) - may in part explain these responses.

**Figure Box 3.8.3. Attitudes of parents towards care and work differ across countries and over time**

Percentage of mothers and fathers with children aged 0 to 15 agreeing or strongly agreeing on ... Women should be prepared to cut down on paid work for sake of family, 2004 and 2010



Note: Countries are ordered by decreasing percentage of mothers who in 2010 agreed that women should be prepared to cut down on paid work for sake of family.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: Secretariat's calculations using European Social Survey 2004 and 2010.

Attitudes towards work and care commitments can change over time. Across most countries for which data are available, a smaller proportion of parents agreed that 'mothers should cut back in their number of hours of work for the sake of the family' in 2010 than in 2004. Changes over time were largest in Portugal and Spain, countries with an important increase in female labour force participation since 1980 (Chapter 3.1), but also with high unemployment rates after the crisis. This suggests that changes in views can be affected not only by historical trends but also by short-term changes in macro economic factors (Chapter 3.9).

247. Return to work decisions by mothers depend on many factors. For example, tenure, qualifications, maternity leave payment rates, and the availability of family-friendly workplace supports all have a positive effect on the return to work decision, while mothers with a low-income partner are also more likely to return to work relatively early (La Valle, *et al.*, 2008). Attachment to the employer can also

be enhanced by keeping mothers informed about workplace developments while they are on leave (OECD, 2004b and 2007d).

248. However, the availability of affordable, flexible, good quality childcare services plays a key role in the return to work decision. Chapter 3.2 showed that access to childcare services is the main factor influencing female labour market participation, with higher public expenditure on these services being associated with higher full-time female employment. The highest female employment and childcare enrolment rates are observed in the Nordic countries, the biggest investors in public formal childcare services (OECD, 2012c, indicator PF3.1). In these countries, childcare services were developed as part of a deliberate effort to increase the level of female employment (Kamerman and Moss, 2009). In Sweden, for example, the expansion of childcare services during the 1970s contributed to the increase of female employment rates from 60 to over 80% (Box 3.8.4).

#### Box 3.8.4. Supporting all adults to pursue labour market opportunities in Sweden

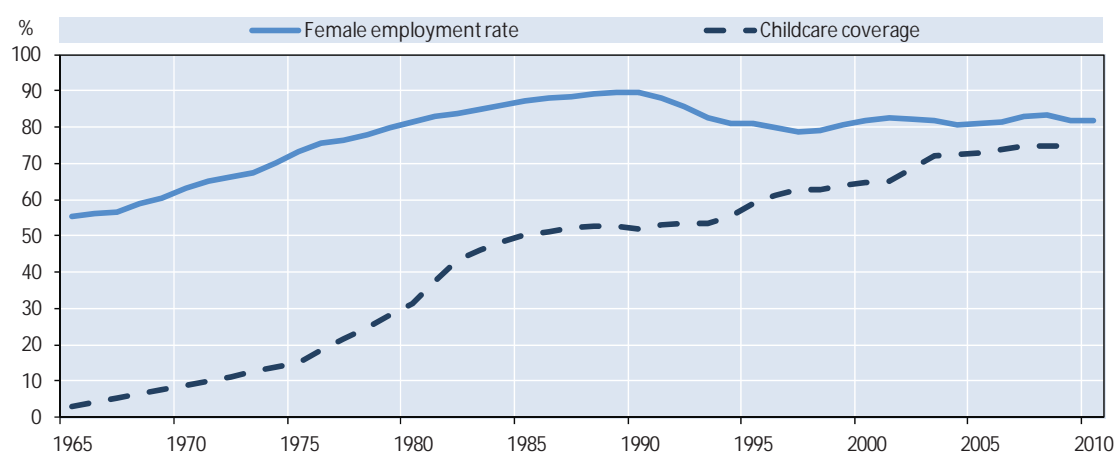
The economic boom of the post-war period created new opportunities in the labour market for Swedish women. Public policy moved towards an expansion of the public sector and the social protection system, and included investment in high-quality formal childcare (or pre-schools as they are known in Sweden) and parental leave. In contrast to many other welfare states developed in the 1960s and 1970s, Sweden's social model was built on the notion that all adult individuals, including parents with dependent children, should be given the opportunity to earn their own living. The model includes (*Välfärdstjänster i omvandling*, SOU 2001:52):

- Individual rather than household-based taxation (since 1971)
- Parental leave (since 1974 – though maternity leave was introduced in 1938), and
- Formal public childcare (with large expansions during the 1970s and 1980s).

Formal childcare policy in Sweden is not just driven by concerns about gender equality or female labour supply - child well-being and development concerns also play a key role. This helps to explain why childcare coverage rates continued to increase even when female employment rates stabilised around 80% since 1995.

**Figure Box 3.8.4. Formal childcare development contributed to increasing female employment**

Female employment rates (women aged 25-54) and share of children (aged 0-6) using formal childcare, 1965-2010



Source: Female employment rates from OECD Labour Force Statistics, OECD, Paris; childcare data provided by the Swedish authorities for 1965-2002, and from NOSOSCO for 2003-2009.

249. Participation rates in formal care do not account, however, for intensity of use. There is considerable cross-country variation in whether these services are used on a part-time or a full-time basis, and/or whether they are available during holidays. For example, in Sweden very young children typically participate for 6 hours per day, 5 days a week, while in the Netherlands participation in formal childcare for only one or two days a week is common. Constraints in hours of formal care pose considerable challenges to working parents: they have to find additional care solutions (usually informal carers) and/or reduce the number of working hours.

250. Affordability of good-quality care services is a key element in parental employment choices, especially for sole parents and second earners in lower-income families, many of whom are mothers. Most OECD governments provide financial support for such households, but financial incentives to work once childcare costs are accounted for can be weak, especially for lower income families. High childcare costs are often a barrier to paid work and contribute to the incidence of part-time employment among women (Chapter 3.2). For example, in Switzerland, it does not pay to work for a second earner once childcare costs are factored in. This is one of the factors which helps to explain that there are not many Swiss couple-parent families with full-time dual earners.

251. Maternal employment decisions are also influenced by concerns about child development, especially when children are very young. Recent evidence shows that other factors such as parental education, participation in formal childcare and the quality of interaction between parents and children have greater influences on child development than early maternal employment *per se* (Brooks-Gunn *et al.*, 2010 and Huerta *et al.*, 2011). High-quality childcare services are crucial to assure parents that their children receive the care and attention they need, allowing mothers to also pursue their labour market opportunities, which is as important in Sweden as in less affluent countries where such services are underdeveloped and where the employment rates of women in the formal sector are low (Box 3.8.5 and Chapter 3.10).

#### Box 3.8.5. Development of childcare services in Chile and Mexico

Public childcare programmes in Chile and Mexico have two key objectives: to enable female participation in the workforce and to promote child development (Staab and Gerhard, 2010). Both programmes are targeted at poor households and require mothers to work, study or be looking for a job. However, the different emphasis in the underlying policy objectives leads to considerable variation in programme design and policy implementation.

Mexico's Federal daycare programme for working mothers, *Programa de Estancias Infantiles para Apoyar a Madres Trabajadoras* (PEIMT), subsidizes community and home-based daycare to facilitate the employment of low-income mothers. In 2011, 10 000 day centres were registered taking care of a total of 300 000 children (SEDESOL, 2011). The programme offers both demand and supply-side incentives by providing financial aid to individuals and civil society organisations interested in running nurseries, as well as a subsidy to low-income mothers who wish to enrol their children. The co-payment means that daycare service comes at a lower cost to users but is not entirely free. One of the greatest achievements of the programme has been the creation of female employment, and by 2011, it had generated around 45 000 paid jobs for providers and their assistants, mainly women.

Female employment is also an objective of the Chilean *Chile Crece Contigo* programme, but this initiative is mainly presented as a strategy to invest in the capabilities of children from low-income families. *Crece Contigo* provides care for boys and girls below age four years free of charge for the three lowest income quintiles. The services are structured according to age groups and the level of professionalisation is high since caregivers are pre-school or early education teachers with university or technical degrees. In 2009, a total of 4 000 nurseries were in operation. In 2011, the Chilean government introduced the "Ingreso Ético Familiar" to provide income support to very poor families. The programme includes one bonus payment to working women worth about USD 30 to 50 per month and by the end of 2011 was paid to 36 000 women.

Increasing promotion of childcare services facilitates female labour force participation and improves children's future opportunities, objectives which are important in mitigating existing gender and socio-economic inequalities.

252. Childcare issues, however, do not finish once children enter primary school. In most countries, a full-time working week is not compatible with regular school hours or holidays. Hence, working parents need to find alternative care solutions throughout the year. Today, many OECD countries offer out-of-school-hours (OSH) care services for school-age children, but coverage remains limited (OECD, 2011m). In Latin American countries, some local public initiatives have also been developed (Piras, *et al.*, *forthcoming*). However, more needs to be done to develop these services as they provide key support to working parents and their children.

253. Flexible workplace practices also help parents combine work and care commitments more effectively. These include part-time work, flexibility with regard to starting and finishing hours and working from home (teleworking), among others. In a number of OECD countries, part-time work has been an popular reconciliation solution, especially in the Netherlands (Chapter 3.2).

254. Furthermore, as with leave entitlements, women are more likely to use flexible working-time arrangements than men, and are more likely to use these because of caring responsibilities (Hegewisch, 2009). One of the main reasons for the low take-up rates of such entitlements by men is the workplace culture. In Japan and Korea, for example, workers show their commitment to the firm by putting in long working hours and taking less leave than they are entitled to. Such workplace attitudes may be less pronounced in other OECD countries, but even in Sweden, working in small, male-dominated workplaces keeps fathers from using parental leave (OECD, 2011m).

255. This is a vicious circle that needs to be broken. As long as women take more leave and/or are more likely to reduce their working hours, some employers will continue to perceive women as less committed to their careers than men, and will therefore be less likely to invest in female career opportunities. From the employer perspective, this means they do not use potential labour resources efficiently (Chapter 1.1); from the societal perspective it means that the traditional gendered roles in paid and unpaid work are perpetuated (Chapter 3.7).

256. There has been policy progress in facilitating fathers and mothers to combine work and care commitments. The more successful countries have a package of policies that provides a continuum of supports to parents throughout childhood, and these policies facilitate high male and female employment rates. However, even in the Nordic countries important gender differences in employment outcomes remain. Childcare supports help both men and women to participate in the labour force in an equal manner. In that sense, childcare policies are much more effective gender-equality tools than parental leave and flexible workplace arrangements that in practice generate different behaviours among men and women. Childcare supports are a necessary but not a sufficient condition for a more gender-equal distribution of work and family responsibilities. A more equal use of parental-leave entitlements and flexible workplace arrangements is needed to reduce prevailing gender inequalities at home and at work.

#### Key policy messages

- Ensure that work pays for both parents.
- Provide good-quality affordable childcare to all parents and paid maternity leave to mothers in employment.
- Promote a more gender-equitable use of flexible working-time arrangements and parental leave entitlements; e.g., by introducing a greater gender balance in the duration of entitlements to parental leave that cannot be transferred to their partner.

## CHAPTER 3.9: MALE AND FEMALE EMPLOYMENT IN THE AFTERMATH OF THE CRISIS

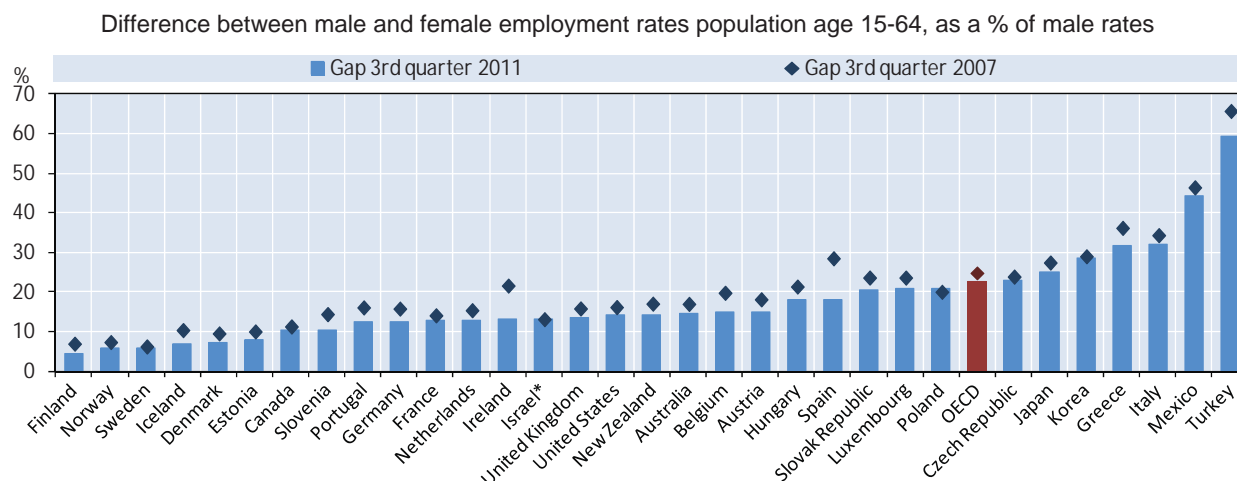
### Key findings

- The decline in the gender employment gap during the first phase of the crisis was largely due to large employment losses in male-dominated sectors (notably in construction and manufacturing) and increased working hours of women. But after this initial phase unemployment has started to rise among women too.
- Employment prospects for women may be affected by expected losses in public employment, and risks of government cuts in benefits, such as childcare support.

### Gender employment gaps have narrowed during the crisis

257. Although most countries experienced heavy employment losses, the economic crisis has affected men and women differently in terms of labour market outcomes. With the exception of Israel, Korea, Poland and Sweden, gender employment gaps across the OECD have declined in the three years following the start of the economic downturn (Figure 3.9.1). Turkey, Ireland and Spain are the countries where the gender employment gap has narrowed the most: by 6, 8 and 10 percentage points, respectively. The largest declines in the gender employment gap are found in countries where employment losses for men were particularly large overall (Ireland and Spain), or in the case of Turkey, where employment among women increased more than among men. Reductions in the gender employment gap occurred mainly between 2007 and 2009.

**Figure 3.9.1. In most countries, the gender gap in employment declined during the economic crisis**



Note: (i) Data are not seasonally adjusted; (ii) Countries are ordered by increasing gap in 2011.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

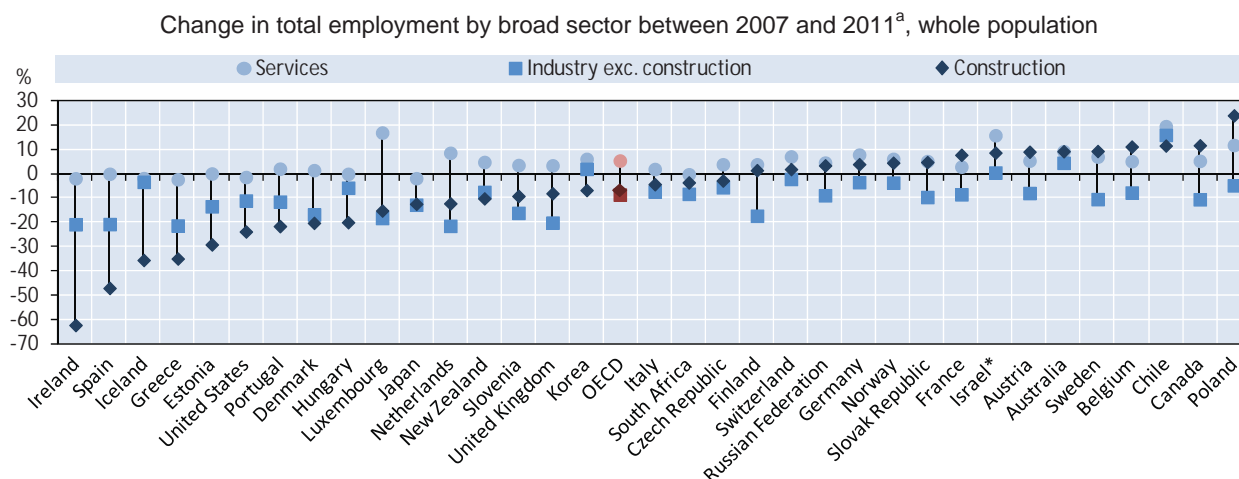
Source: OECD estimates based on national Labour Force Surveys.

258. Female employment has generally suffered much less than that of men in the initial stage of the recent crisis. This is a notable deviation from historical patterns which is largely due to output losses in sectors with a predominantly male workforce (Figure 3.9.2). The sectoral composition of the decline in aggregate demand has been associated with a fall in trade, in industry (particularly manufacturing) or in construction in most countries while employment in services – where women are predominantly employed – declined modestly or increased. This has been accompanied by an upgrading of jobs for women within



the European Union with employment growth being higher in the top wage quintile, mainly because of the expansion of well-paid jobs in health and education (Hurley *et al.*, 2011).

**Figure 3.9.2. Most employment losses are in male-dominated sectors**



Note: Countries are ordered by increasing change in the construction sector.

a. Data for 2011 corresponds to average total employment for the first three quarters of 2011 except for Australia, Canada and the United States (all year data), Hungary, Ireland, Luxembourg, the Slovak Republic and Switzerland (first two quarters of 2011).

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD main economic indicators.

259. With an overall constant increase in female employment rate in the past decades, more women now have current or recent labour-market experience than in previous recessions. This has increased their chances of successfully compensating some of their partners' earnings losses, either by finding a job, or by working more (this is often referred to as an "added-worker" effect). Households where both partners engage in active job search are better able to minimise income losses in the event of unemployment, and are also in a better position to benefit quickly from improving labour market conditions. At the same time, because women often hold temporary and part-time jobs, they can be more at-risk of employment losses than men if working in the same sector.

### Women have increased their hours to cushion economic shocks

260. Recent employment data illustrates how important female labour market experience is to reducing poverty risks. Job loss and working-hours reductions among partnered men have lowered overall working hours in couple families by between 4% in the United States and just under 1% in Belgium, the Netherlands and New Zealand while hours have remained stable in Canada, Germany and the United Kingdom (Figure 3.9.3, left panel). Over the same period, women's working hours have *increased*, or have fallen less than for men. Figure 3.9.3 also shows that partnered women were significantly more likely to increase working hours than single women.

261. It is often more difficult for women out of the labour force to enter the labour market after their partner has lost their jobs but for women working part-time there are more options to increase their working hours to compensate for lost income incurred by their partner's job loss. In a few countries (including Ireland, the Netherlands, New Zealand and Spain), additional hours worked by women were somewhat greater than reductions in male working hours. Evidence from previous crisis suggests that this "added worker" effect of women entering the labour market or increasing their hours tends to be persistent (Gong, 2011; Posadas, 2010; and, Stephens, 2002).



**Figure 3.9.3. In most countries, women's employment greatly improves families' resilience to economic shocks**



a. Changes capture differences in *both* employment levels and average hours worked in a job. They are measured as total hours up to the latest available quarters minus total hours in the four pre-crisis quarters in each country.

b. Changes in Panel A are shown relative to *family* pre-crisis hours (i.e., the sum of men's and women's hours).

c. Changes in Panel B are shown relative to *individual* pre-crisis hours in the respective groups.

Source: OECD calculations based on tabulations of national labour force data and European Labour Force Surveys.

### Current policies, low wages and soaring unemployment may limit labour market improvements

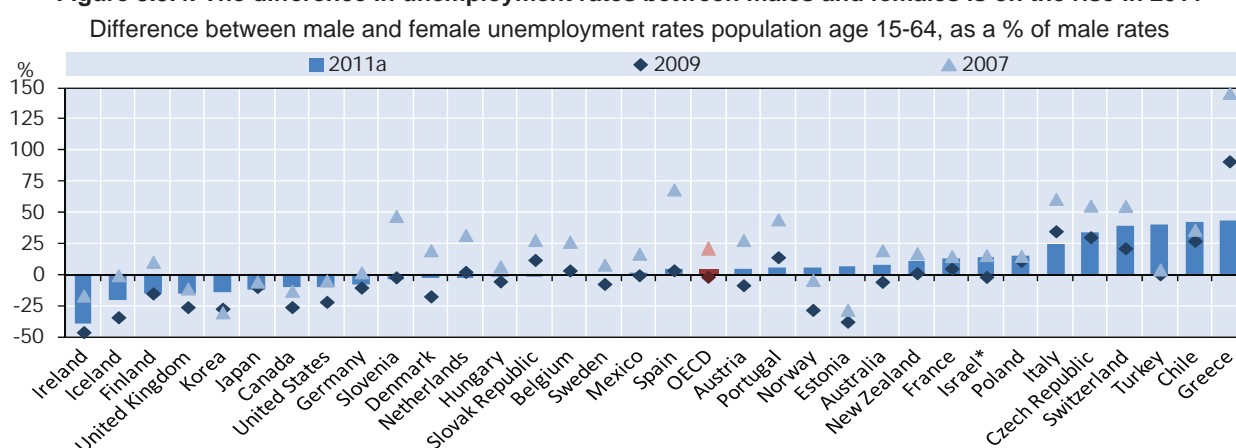
262. The degree to which partnered women were able to compensate for their partners' earnings losses varies between countries, and policy factors are likely to play an important role. Family-related or labour market constraints can limit women's ability to help stabilise family incomes. The perceived need for women to find employment or seek longer hours may be limited if men's earnings losses are seen as temporary (as a result of short-time working schemes, for example) or are largely compensated by government transfers. In addition, disincentives created by taxes and out-of-work benefits can affect job search and/or work effort, not just for the principal earner in a household, but also for second earners. In particular, means-tested unemployment benefits, which are reduced once a partner starts to earn more, can be a big obstacle for boosting female employment. Persistent gender-wage gaps mean that, even in the event of increased hours by women, family's income suffers during recessions and governments need to supplement income losses through in-work benefits for the poorest families (Mattingly and Smith, 2010).

263. Policies that address barriers for the participation of women in the labour market strengthen families' resilience to economic shocks, and improve their prospects of benefiting from the recovery. Labour market institutions that allow swift adjustments of work patterns combined with support for family commitments (e.g. childcare needs) can support greater participation in the labour force. The current momentum in many OECD countries towards a more equal sharing of market work in the household implies that the on-going recovery presents a distinct opportunity for making progress on the gender-equality agenda.

264. At the same time, in the recovery phase after the recession, initial employment gains for women are reversing. At the peak of the crisis, unemployment rates for women were on average just below men's rates; they were, before the crisis 20% higher than for men across the OECD (Figure 3.9.4), and up to 60%

higher in Southern European countries and the Czech Republic. Men experienced much higher initial surges in unemployment rates but between 2009 and 2011, while in several countries unemployment for men declined or increased at a slower pace, unemployment rates for women continued to increase, sometimes at higher rates than for men. Rates are again higher than for men in half of OECD countries and, in a number of countries, such as Chile, Norway and Turkey the difference has widened since 2007. Cuts in public-sector employment announced or already implemented in several countries could further damage the position of women in the labour market in the coming years. In addition, women might also suffer from a discouraged worker effect, particularly among the well educated, as the recession deepens and decide to drop out from the labour market (Sabarwal *et al.*, 2010). Those women who become unemployed might have more difficulties in finding a job after the recession than men, as they are likely to be more disadvantaged in terms of labour-market experience. Evidence from previous recessions shows that while men are more likely to lose their jobs initially and to a greater extent, they are also more likely to find employment as the economy recovers (Maier, 2011).

**Figure 3.9.4. The difference in unemployment rates between males and females is on the rise in 2011**



Note: Countries are ordered by increasing gender gap in 2011

a. Data for Estonia, Greece, Israel, New Zealand, Norway, Switzerland, Turkey and the United Kingdom concern 2011 quarter 3.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>

Source: OECD Main Economic Indicators.

265. Austerity measures and the shift in focus towards helping displaced workers back into the labour market in some countries puts the gender equality agenda at a risk of becoming a low priority. First, cuts in public expenditures in terms of family policies can be detrimental to women, particularly lone parents. Measures that safeguard child well-being, especially during the formative years of early childhood, should remain a high-priority area. In addition, work-life balance such as flexible working and gender parity in wages are likely to be given lower priority during the current recession. Evidence from previous recessions shows that, similar to the current one, governments have targeted stimulus packages towards cushioning the effect of job losses in male-dominated sectors (*e.g.* manufacturing) - although some countries are promoting employment in the care sector - and short-time work arrangements are more likely to cover men (Leschke and Jepsen, 2011 and Maier, 2011).

#### Key policy messages

- Ensure that the Great Recession and fiscal consolidation do not reverse progress made on gender equality in employment.
- Support increases in female working hours as household coping strategies.

## CHAPTER 3.10: THE HIDDEN WORKERS: WOMEN IN INFORMAL EMPLOYMENT

### Key findings

- In many countries across the world, the proportion of women in informal non-agricultural employment is larger than the proportion of men.
- Within informal employment women are more likely to be in self-employment than men. Women also tend to be overrepresented among domestic and family workers with limited earnings who face high poverty and social exclusion risks, and have limited prospects of upward mobility.
- Women in the most vulnerable informal jobs require policy support that reduce their dependency on their partners and families.

266. Although informal employment<sup>3</sup> is significant in certain OECD countries, it is considerably more important throughout the developing world where it concerns over half to three quarters of non-agricultural employment. At issue is that informal employment is closely linked to low earnings, bad quality jobs and poverty (OECD, 2009g) and more often than not, it concerns women.

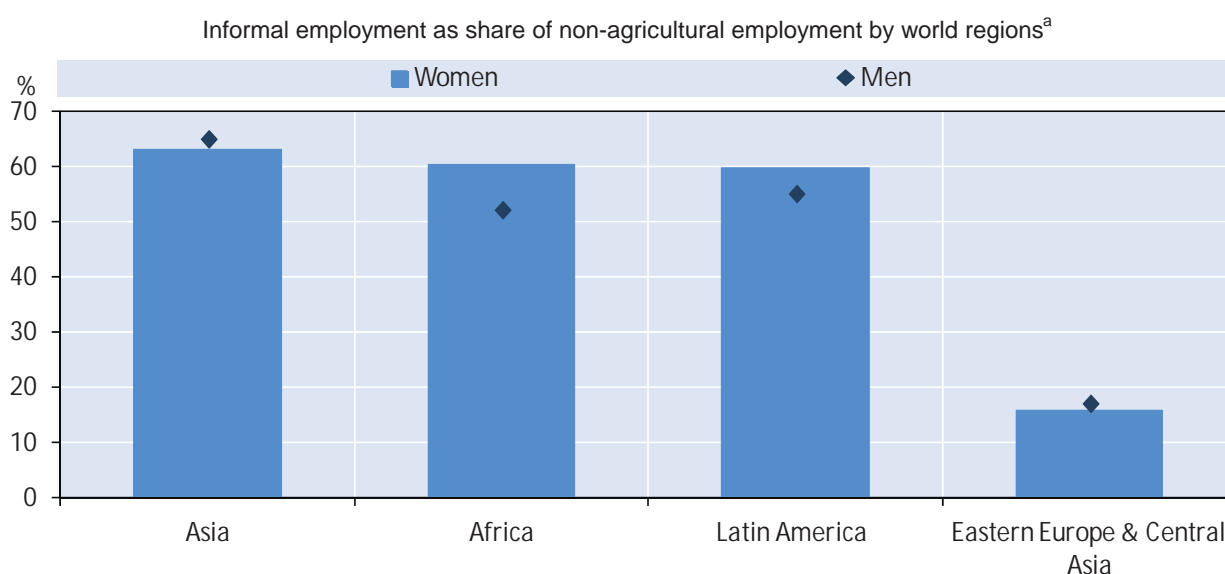
267. More than half of non-agricultural employment in Asia, Africa, and Latin America is in the informal economy. There are large country differences within regions: for example, this proportion ranges from 42% in Thailand to 84% in India in Asia; from 33% in South Africa to 82% in Mali in Africa; and from 40% in Uruguay to 75% in Bolivia in Latin America (ILO, 2012a). Koettl and Weber (2012) indicate that informal employment can also be important in some OECD countries where labour taxation and benefit withdrawal may give important incentives to low-wage (and part-time) earners to work under the radar. Those with low educational attainment, youth, women and ethnic minorities are most likely to be employed informally (OECD, 2009g).

268. ILO (2012a) shows that out of 34 countries for which data is available, in 25 countries the proportion of women in informal non-agricultural employment is larger than the proportion of men. In Africa and Latin America the difference between women and men in informal employment is highest (Figure 3.10.1). Cross-country differences can be substantial: the proportion of women in informal employment is more than 10 percentage points higher than that of men in El Salvador, Madagascar, Peru, and Zambia and above 20 percentage points in Azerbaijan, Liberia and Zimbabwe.

<sup>3</sup>

According to the ILO, informal employment is defined as a job-based concept, which includes those jobs that lack basic social or legal protection or employment benefits.

**Figure 3.10.1. In low and middle income countries the proportion of informal non-agricultural employment is very high**



a. For the complete list of countries in each region see Annex to Part 3. Regions are ordered by decreasing women informal employment share.  
Source: ILO, 2011b.

269. There is limited mobility between formal and informal work for disadvantaged groups and those with lower levels of education (OECD, 2009g). Upward mobility for women appears to be particularly affected by limited access to finance (Chapter 4.3) or the need to reconcile work with family responsibilities (FAO, 2010). For example, Andersen and Muriel (2007) found for Bolivia that women have a strong preference for informal self-employment as it is more compatible with their care workload.

***Women tend to be confined to the most vulnerable categories within the informal sector***

270. Informal employment can be divided into informal wage-employment and self-employment, where the latter increases the vulnerability and poverty risk of workers as it is highly correlated with the lack of income security and social protection (Box 3.10.1). In developing countries, both men and women who work in informal employment tend to be predominantly self-employed. This category accounts for the largest proportion of non-agricultural informal employment, ranging from 50 to 70% of informal employment, depending on the region. Figure 3.10.2 shows the proportion of women in self-employment is larger than the proportion of men in Asia, sub-Saharan Africa and Northern Africa but not in Latin America, where domestic work is typically wage employment.

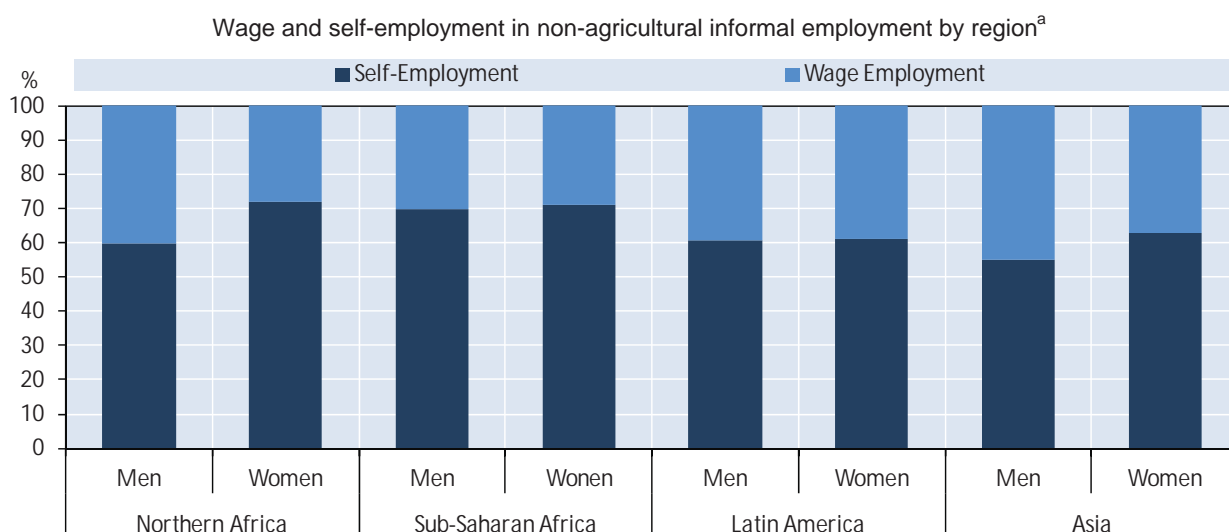
### Box 3.10.1. Empowering women in the informal economy: the experience of SEWA

The Self-Employed Women's Association (SEWA) is a unique example of empowerment led by poor women working in the informal economy (OECD, 2011a). In 2005, almost 90% of women working in non-agricultural activities in India had informal jobs (ILO, 2011b). Traditional trade unions have had no role for these women and it was to address this failure that SEWA was set up in the early 1970s. With over 1.3 million women members, SEWA is the largest trade union of informal workers in India. More than 70% of the membership is from rural areas and is fairly distributed across various religious and caste groups (WHO, 2008).

SEWA works to help poor women strengthen their work and income position as well as improve their social security. SEWA is active in the areas of microfinance and insurance (mainly through the SEWA Bank), training and communication, but it is its work on labour issues – paralegal assistance, lobbying, health insurance, maternity benefits and pensions – that is at the heart of the association. Most of the women who became member of SEWA experienced improvements in earnings, marketing and working conditions. Many have been able to save on a regular basis and/or to acquire assets for the first time in their lives. But the greatest positive impact of SEWA is to be seen in the increased self-esteem of its members, whose bargaining power improved within and outside their homes. The main challenge for SEWA is that a large fraction of its members still do not earn enough to go beyond meeting basic daily needs and exit poverty on a long-term basis. Another key challenge is to encourage women to break the gender barrier and enter into trades hitherto dominated by men (WHO, 2008).

SEWA's work has led to policy changes. Following SEWA lobbying in 2004, the Government approved a national policy for protecting street vendors; and, in 2008 legislation on social security for informal workers was approved. SEWA has also been able to affect policies at a global level. It was one of the main promoters of the process which led to ILO Convention 177 (1996) on the rights of home-based workers.

**Figure 3.10.2. Women are overrepresented in informal non-agricultural self-employment in all regions except Latin America**



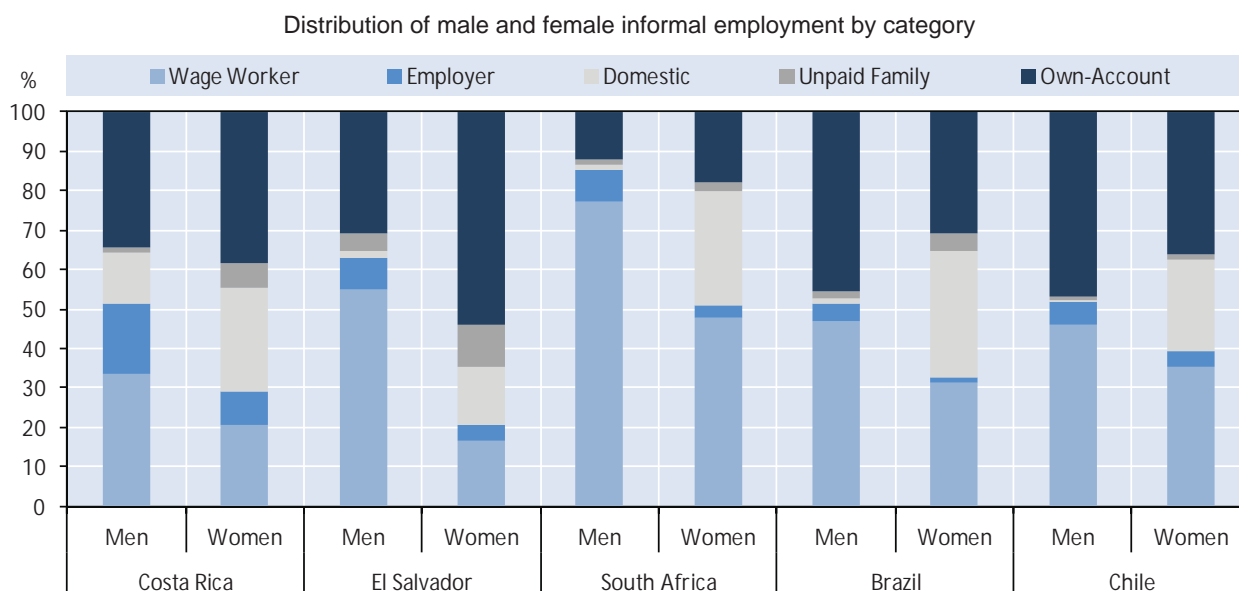
a. For the complete list of countries in each region see the Annex to Part 3.  
Source: ILO (2002a)

271. Informal employment can be further disaggregated into different employment categories: employers, wage workers, unpaid family workers (those working in a household enterprise or activity without a salary for their work), domestic workers, and own-account workers. There is a hierarchy of poverty among these workers: employers and wage workers tend to be much better off, while own-account workers, domestic workers, and contributing family workers tend to be worse off.

272. Figure 3.10.3 shows that women tend to be concentrated among contributing family workers, domestic workers and own-account workers as corroborated by Chen *et al.*, 2005 and Jütting, *et al.*, 2010.

By contrast, the proportion of men who are employers, the category with the highest earnings and the lowest poverty rates, is almost twice the proportion of women.

**Figure 3.10.3. Women in informal non-agricultural employment tend to be concentrated among the most vulnerable work categories**



Source: Chen *et al.*, 2005 for Costa Rica, El Salvador and South Africa. OECD tabulations based on national household surveys for Brazil (PNAD 2009) and Chile (CASEN 2009).

#### **Box 3.10.2. Setting policies to tackle the vulnerability of home-based and domestic workers**

Home-based workers are people who work from their home either as own-account or subcontract workers. They are rarely visible to policy-makers as they are not associated with a workplace and in many instances their remuneration is seen as an extension of women's unpaid house work contributing to their invisibility in national surveys (Chen *et al.*, 1999). Some countries are making significant efforts to tackle the vulnerability of home-based workers. The Indian government, for example, enacted the Beedi (leaf cigarettes rollers) and Cigar Workers Act and the Beedi Workers Welfare Fund Act to protect this group of around 4 million home-based workers. These acts provide social security schemes such as health care, childcare and housing for Beedi workers, and the model is being replicated elsewhere in India for other categories of home-based workers and sectors as the government intends to develop a national policy towards protection of all categories of home-based workers ([www.wigo.org](http://www.wigo.org)).

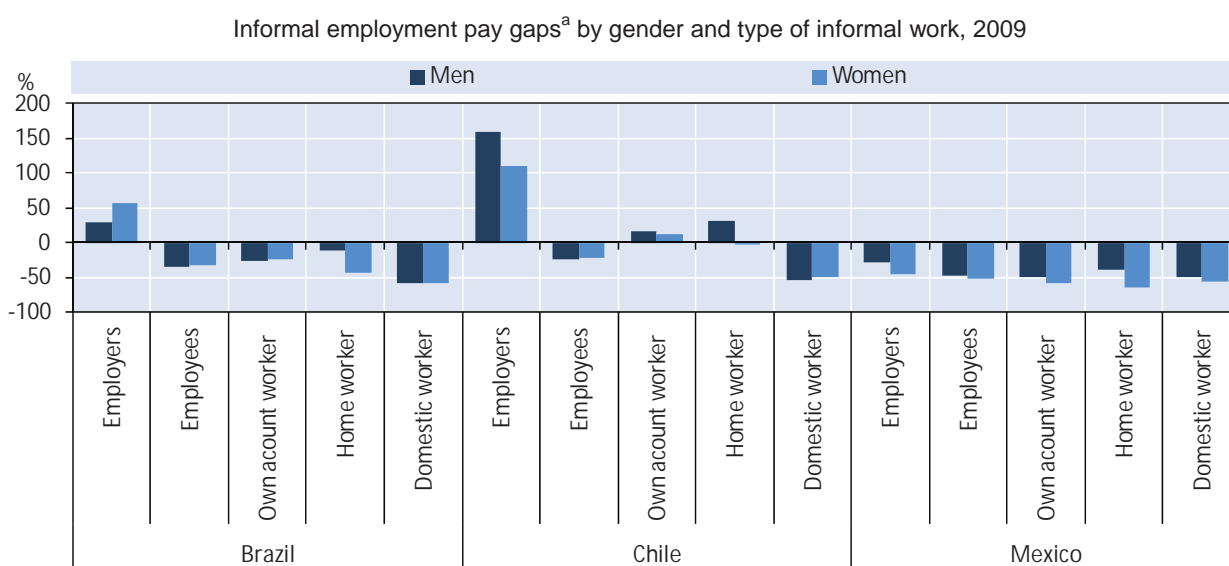
Domestic workers providing a range of domestic and care services in private households, and by and large these are women, belong to the poorest sections of society. In South Africa domestic workers accounted for 16% of all employed women in 2009 (ILO, 2011b). In 2002, the Domestic Workers Act was introduced to set a minimum wage and specifies working conditions such as hours of work, overtime pay, salary increases, and leave entitlements (South Africa Department of Labour). Domestic workers and their employers must also contribute 1% of wages to the Unemployment Insurance Fund. Hertz, 2005, finds that the real wages, average monthly earnings, and total earnings of all employed domestic workers have risen since the Domestic Workers Act came into effect, while weekly hours worked and employment have fallen.

#### ***Reduce women's dependency on their partners and families***

273. Figure 3.10.4 shows that in Brazil, Chile and Mexico women in domestic and home-work, categories where women are concentrated, earn less than the average wage of men in the same informal job categories. In the other categories (employers, own-account workers and employees), where women are

not as common as men, their earnings are also lower than those of men. However, in Brazil and Chile it seems that on average informal employers (both women and men) have greater earnings than male employees in formal employment (i.e. the benchmark category in Figure 3.10.4). However, when average earnings in informal employment are compared with average earnings in formal employment by job categories and gender (e.g. comparing earnings of female own-account workers in the formal and informal sectors) then formal employment is more lucrative than informal employment for both genders across all categories.

**Figure 3.10.4. Both women and men earn less in non-agriculture informal employment than in formal wage employment, but women earn even less than men**



a. Pay gaps are calculated using as reference the male formal employees' average wage. Figures are calculated as the average earnings in the informal sector (by type of work and gender) minus the average wage of male formal employees', divided by male formal employees' average wage.

Source: OECD tabulations based on national household surveys for Brazil (PNAD, 2009), Chile (CASEN, 2009) and Mexico (ENIGH, 2010).

274. In addition to lower earnings, female informal workers are less likely to be covered by social protection schemes. Informal workers in Brazil and Chile can contribute voluntarily to social insurance, but Figure 3.10.5 shows that contribution levels to the pension system follow the hierarchy of job status. Domestic workers, home-based workers and contributing family workers tend to contribute even less than the average informal worker, and women are concentrated among these workers. Social pensions that do not focus on contributory record can play a key role in reducing poverty among the elderly and women in particular.



**Box 3.10.3. Enlarging social protection coverage to informal workers in some Latin American countries**

In recent history, several Latin American countries implemented social pension benefits, which are largely independent of contribution history and provide minimum income guarantees for the elderly. ILO (2002b) found that social pensions in five Latin American countries sharply reduce old-age poverty among women as they never had the chance to build up pension rights through (informal) employment.

In Brazil, there are two types of social pensions. There is a scheme targeted at indigent people aged 67 and over and the disabled which covers 2.1 million beneficiaries; and there is a rural scheme which covers almost 7 million beneficiaries and provides old-age, survivor and invalidity pensions, and maternity and work accident benefits for people working in the agricultural sector. In 1998 women became entitled to claim these 'rural pension benefits' regardless of their household status, which reduced their poverty rates from 51% in 1981 to 25% in 2001 (Camarano, 2004).

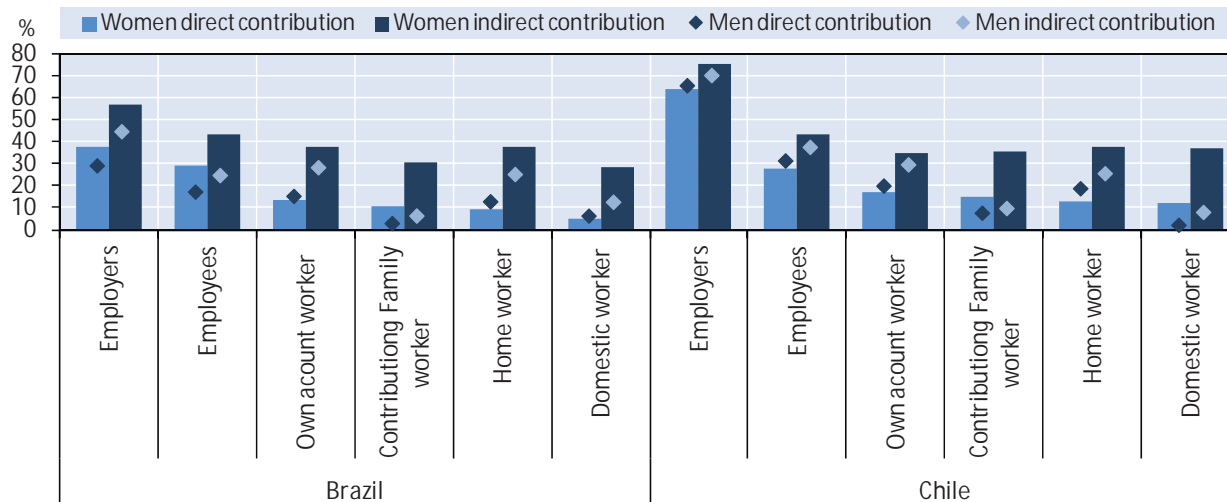
Mexico has made important progress in extending the coverage of basic health insurance and the provision of access to health services to the most vulnerable groups, including informal workers and their families, through "*Seguro Popular*". This programme was introduced in 2002 and by 2011, it provided free health cover to almost 52 million people, mostly those in the bottom two income deciles. In 2008, "*Seguro Popular*" introduced a specific women component, the "Healthy Pregnancy Strategy" (HPS), which provides affiliated women with care before, during and after childbirth. Free access to the HPS is provided to all women except those in the top three income deciles, who pay income-related contributions. In 2011, the HPS served almost 1.8 million pregnant women in Mexico.

In Chile the Basic Solidarity Pension (PBS) was introduced in 2008 (OECD, 2009h) and aims to provide support to those aged 65 years and over who belong to the poor population and who are not eligible for a pension on basis of their contributory record. There is also a supplementary pension payment for those who did contribute to the pension system but insufficiently to receive an adequate pension (Iglesias-Palau, 2009). Furthermore, Chilean pension policy grants for each (adopted) child a credit or bonus administered by a pension fund to low-income women (e.g. those who in future receive a PBS payment). The amount is set at childbirth - 10% of the 18 monthly minimum wage payments or CLP 327 600 or around USD 670 in 2011 - but is not payable until the mother turns 65, so that the total payable amount also depends on the number of years until reaching retirement age and a "rate of return" as set by Government regulation.

275. A significant proportion of working women have indirect pension coverage through the contributions of their spouse, which would entitle them to survivor pensions should their partner die, although in Brazil and Chile women in the worst job categories have relatively low coverage (Figure 4.10.5). Nevertheless, while indirect coverage may potentially protect a significant group of women against extreme hardship in old age, it reinforces their dependency on their partner, and reduces their autonomy and bargaining power within the household.

**Figure 3.10.5. A significant proportion of women in non-agricultural informal employment have indirect pension coverage through their spouses**

Share of women and men contributing to the pension system or whose spouse contributes to the pension system.



Source: OECD tabulations based on national household surveys for Brazil (PNAD, 2009) and Chile (CASEN, 2009).

#### Key policy messages

- More and better jobs are needed.
- Specific interventions should target home-based workers and domestic workers in order to guarantee their rights and working conditions.
- If fiscal conditions allow, consider introducing social pensions that are independent of contributory records and provide minimum income guarantees to the elderly.
- Effective policies for informal workers require better gender disaggregated statistics, especially regarding employment categories that are usually unaccounted for as domestic and home-based workers.

**PART 4: GENDER EQUALITY IN ENTREPRENEURSHIP**

## CHAPTER 4.1: TRENDS IN WOMEN ENTREPRENEURSHIP

### Key findings

- Across countries, there are more male than female entrepreneurs, and the share of women who choose to run a business is not increasing substantially in most countries.
- Women-owned enterprises have on average lower profits and labour productivity than men-owned ones. These gaps are mostly explained by differences in size and capital intensity.
- Births of women-owned enterprises declined during the crisis, but not as much as for men.

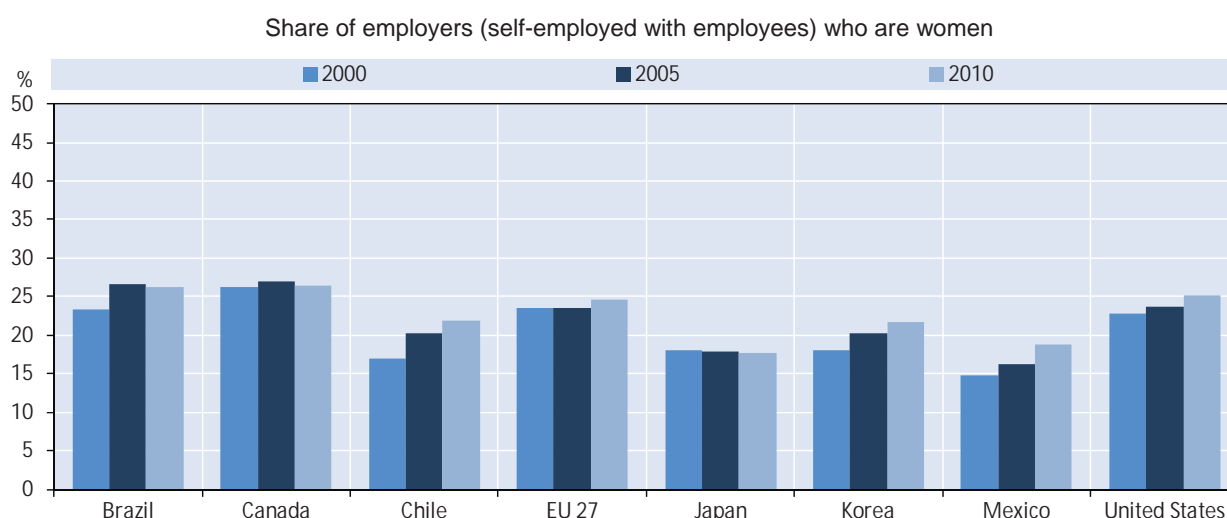
276. Labour market participation of women has increased in recent years (Chapter 3.1). However, evidence suggests that the number of women entrepreneurs has not increased at the same pace. Monitoring trends in women entrepreneurship is a challenging task, given the lack of reliable and up-to-date information. This data gap is one of the main obstacles to understanding the challenges specific to female entrepreneurs and their effect on economic growth (OECD, 2012m).

277. Statistics on self-employment are commonly used to measure changes in entrepreneurial activity. However, self employment embraces a wide range of work statuses and activities. It is thus important to assess the type of self-employed women and men are entering, and in particular, distinguish between self-employed women who have employees working for them (employers), and those self-employed who work on their own (own-account workers).

278. Labour force data from 40 OECD and non-OECD countries show there are considerable gender differences in self-employment, particularly when focusing on the "employers" among the self-employed. Figure 4.1.1 shows that across the EU-27 countries only 25% of business owners with employees are women. The statistics have been adjusted to include self-employed women and men who have incorporated their businesses (see the Annex to Part 4). The low share of women has only marginally increased over the last decade in the EU-27, Canada and United States. The increase has been more marked in Chile, Korea and Mexico. In Japan, the already low share of female employers has further diminished over the past decade.

279. Men continue to express stronger preferences than women for self-employment. The 2009 Eurobarometer survey showed that 51% of European men and 39% of European women would prefer to be self-employed rather than an employee if they had the choice (EC, 2009c). On average across 27 European countries in 2010, 6.6% of the unemployed men were actively seeking to become self-employed, while only 4% of the women were trying to exit unemployment through self-employment (see the Annex to Part 4 for country-level results). The Eurobarometer also showed that women may have lower preferences for self-employment because they continue to perceive such a career as too risky: 7% of European women (and 5.4% of men) declared they prefer working as employees because they are afraid of legal and social consequences if they fail.

**Figure 4.1.1. The proportion of entrepreneurs who are women has not significantly increased in most countries over the past decade**



Source: OECD estimates based on Labour force and household surveys.

### Characteristics and growth dynamics of women enterprises

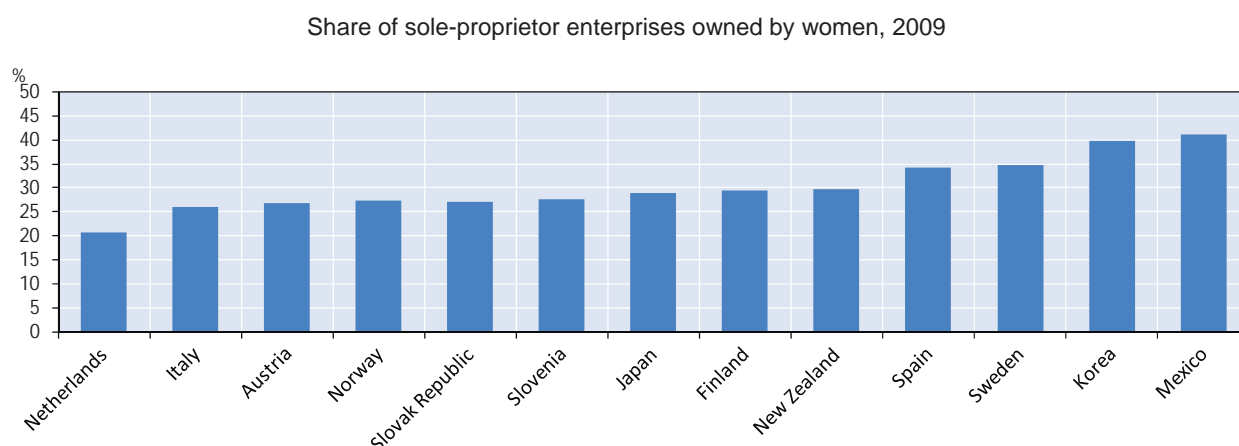
280. Data on self-employment provide only one perspective on the entrepreneurial activity of women. To fully document the economic potential of female entrepreneurship and its evolution in time, statistics on women and men-owned enterprises are needed. Data on the number, characteristics and growth dynamics of women-owned enterprises exist only for few countries, and have limited cross-national comparability given that they are based on different definitions and different methodologies (Box 4.1.1). Nevertheless, these data show that female-owned enterprises contribute substantially to employment creation. In the United States, 7.8 million firms were owned by women in 2007. These firms accounted for almost 30% of all private, non-farm enterprises, and employed 7.6 million workers (US Department of Commerce, 2010). In Germany, the number of female-owned businesses was already above 1 million around 2000 (Kay *et al.*, 2003). In Italy in 2010, about a quarter of all companies (almost 1.3 million firms) were owned or majority-controlled by women (Italian Chamber of Commerce, 2010). In Canada, just over 260 000 SMEs or 16% of all SMEs were majority female-owned; almost half of all SMEs in Canada had at least one female owner (Jung, 2010).

#### Box 4.1.1. Producing international statistics on “women and men-owned enterprises”

Comparable international data on the number of businesses owned and controlled by women across countries, their size, industrial specialisation and basic measures of performance are still lacking. This is mainly due to difficulties in retrieving information on the owners from standard business demography statistics, and due to the absence of international definitions of men and women-owned enterprises. The OECD has proposed to address this gap by developing a framework of indicators that can orient policy interventions, and proposing definitions and methodologies for data harmonisation and development. The framework of indicators is based on the one developed for the OECD-EUROSTAT Entrepreneurship Indicators Programme (EIP). The indicators can be developed along three complementary axes: 1) indicators for male and female owned enterprises, 2) characteristics of women and men entrepreneurs, 3) social and policy determinants of women entrepreneurship. A first data collection managed by the EIP is assessing the feasibility of building comparable indicators of business demography for individual (sole-proprietor) enterprises, using data from business registers and economic censuses. Statistics are being collected by gender of the sole-proprietor for the following indicators: 1) number; 2) number of persons employed; 3) turnover; 4) birth rates; 5) death rates; 6) three-year survival rates; 7) employment growth in surviving enterprises. The development of new international data on characteristics of entrepreneurs is mainly based on labor force survey data.

281. The OECD-Eurostat Entrepreneurship Indicators Programme (EIP) has started to collect internationally comparable data on female entrepreneurship, which facilitate comparisons of the number, characteristics and performance of women and men enterprises across countries. An enterprise is defined by the EIP as woman-owned if women are majority owners of the enterprise, and thus control the key strategic decisions concerning the functioning and the development of the business. For the moment, the data are only available for sole-proprietor enterprises, but extensions to other legal forms are under study. Figure 4.1.2 illustrates the large international differences in the proportion of individual enterprises with a female proprietor.

**Figure 4.1.2. The proportion of individually-owned enterprises with a female owner varies between 20 and 40% across OECD countries**

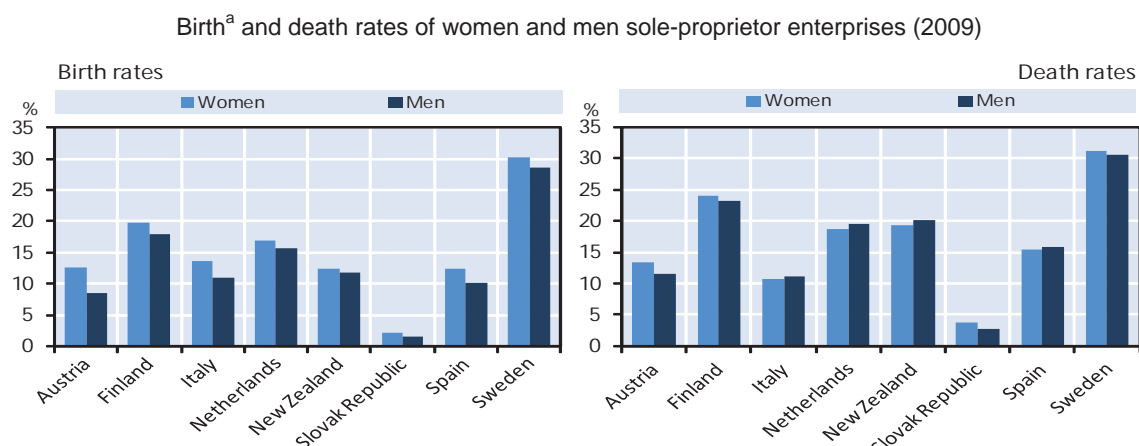


Note: (i) Countries are ordered by increasing proportion of female-owned enterprises. (ii) Data refer to employer enterprises, with the exception of Japan, for which the data refer to male and female proprietors with and without employees. (iii) Data for Norway are for 2010. (iv) Data for the Netherlands do not include service activities classified as NACE rev.2 sections P to S: given that female owners tend to be more prevalent in service industries, this data coverage can explain the relatively low share observed in the Netherlands.

Source: OECD estimates based on special tabulations from National Statistical Institutes.

282. Women-owned enterprises with employees are significantly smaller than men-owned enterprises. The data confirm the general finding that women tend to choose different sectors than men, being relatively more represented in retail trade and in industries with lower capital intensity.

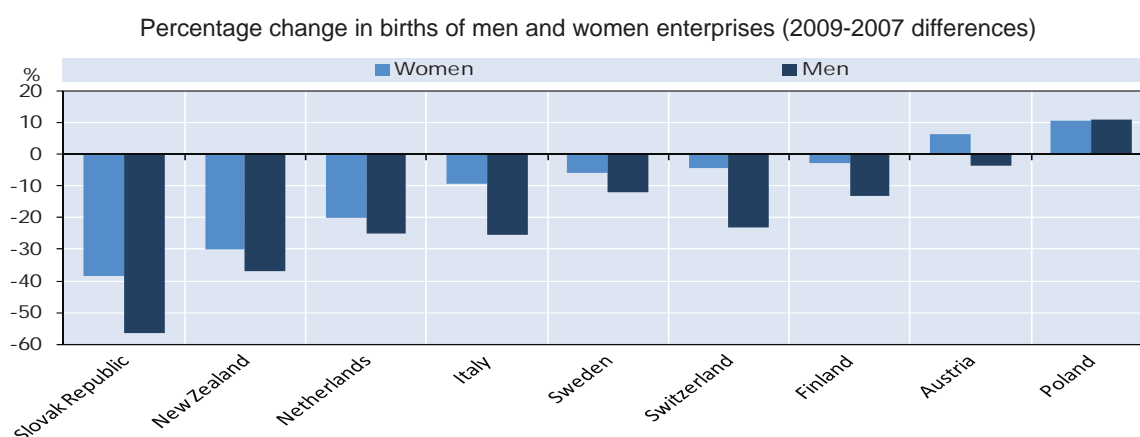
283. Figure 4.1.3 shows that the birth rate of enterprises owned by women (newly created enterprises with employees as a ratio of existing enterprises) is higher than the one for men. This means that the number of women-owned enterprises is growing faster than the number of men-owned ones as a result of new creations. The EIP data show also that, in most countries, new individual firms with employees owned by women and by men tend to have similar survival rates three years after the birth. Performance in terms of employment creation during the first years of operation tends to vary greatly across countries, with women-owned new enterprises outperforming men-owned enterprises in France, Italy, New Zealand, Poland and Sweden, while lagging behind in Finland, the Netherlands, Slovak Republic and Switzerland (OECD 2012m and Annex to section 4).

**Figure 4.1.3. The birth rate of female-owned enterprises is higher than for male-owned enterprises**

a. Births refer to the creation of a new enterprise with employees, or to transitions of existing enterprises from 0 to 1 employee. .

Source: OECD based on special tabulations from National Statistical Institutes. Death rates for Italy, Netherlands, Sweden and Slovak Republic refer to 2008.

284. Births of women-owned enterprises have decreased in 2009, but relatively less than for men (Figure 4.1.4). This might be partly explained by the lower propensity of women to enter into sectors, such as manufacturing, that were more heavily affected by the crisis (Chapter 3.9).

**Figure 4.1.4. Births of female-owned enterprises declined less than for men during the crisis**

Note: (i) Countries are ordered by increasing change in births of women enterprises. (ii) All data but Poland refer to enterprises with employees. 2009-2008 differences for the Netherlands. For Switzerland, statistics are tabulated by gender of the enterprise (sole) founder rather than by gender of the sole-proprietor.

Source: OECD estimates based on special tabulations on business registers and representative surveys of new enterprises from National Statistical Institutes.

## The performance of women and men enterprises

285. The most remarkable differences between female and male-owned enterprises relate to the size of their business operations, as measured by sales or value-added. In 2009, the average turnover of individual enterprises (sole-proprietorships) owned by women was only 18% of those owned by men in the Netherlands, 26% in Italy, 38% in Mexico, and 44% in Finland. These differences are even larger when incorporated enterprises (with a legal form other than sole-proprietorship) are also taken into account. For



example, in 2007, businesses owned in majority by women accounted for only 11% of sales among privately-held companies in the United States (U.S. Department of Commerce, 2010).

286. A key issue for policy is whether the relatively low levels of turnover of women-owned businesses are only due to preferences of women for particular sectors (and, possibly, for small-sized businesses), or rather a consequence of the specific constraints women face when starting and growing their companies. There is no definite answer to this question in the literature. While most studies find that female-controlled enterprises fare worse in terms of profits and other performance measures (Robb and Watson, 2009), several analysts argue that these differences vanish once sectors of activities and key characteristics of the business owners other than gender are controlled for (Fairlie and Robb, 2009; Gatewood *et al.*, 2009; and, Gottschalk and Niefert, 2011).

287. Table 4.1.1 shows that across 23 countries, the share of women-owned enterprises (in the ORBIS database, see notes to Table 1) is very low among the top 10% enterprises in terms of employment, value of assets, or shareholder capital. The results confirm that the policy debate should focus not only on how to increase the number of women enterprises, but also on how to tackle the possible market or institutional failures inhibiting those women enterprises already in the market from growing their firms into “large” enterprises.

**Table 4.1.1. The share of women-owned enterprises decreases among largest firms**

Share of majority women-owned companies in top decile of employment, asset values, and shareholder capital of the ORBIS database (2009)

	% of women-owned companies among top 10% companies by:		
	Employment	Assets	Shareholder capital
Austria	3%	3%	3%
Czech Republic	3%	10%	10%
Denmark	0%	7%	8%
Estonia	1%	12%	12%
France	2%	9%	9%
Germany	0%	4%	4%
Greece	6%	10%	10%
Hungary	2%	8%	10%
Iceland	1%	9%	11%
Ireland	0%	6%	8%
Italy	1%	15%	18%
Luxembourg	0%	3%	4%
Norway	13%	14%	16%
Poland	1%	7%	9%
Portugal	5%	11%	14%
Slovak Republic	3%	5%	7%
Slovenia	7%	3%	3%
Spain	4%	10%	12%
Switzerland	5%	0%	0%
Turkey	0%	6%	8%
United Kingdom	0%	9%	12%

Note: the table indicates the shares of women-owned firms by typology of firms over the total of women and men-owned companies, thus excluding firms with mixed ownership from the total. The sample is restricted to enterprises where natural persons hold at least 50% of the company's shares. The OECD-Orbis database is the output of treatment of raw data provided to the OECD under copyright by Bureau van Dijk Electronic Publishing. It contains structural and financial information for millions of companies worldwide. The companies included in the OECD-Orbis database were classified as men or women-owned enterprises using information on the gender of the shareholders. See the Annex to Part 4 for further detail on data and definitions.

288. Average productivity, profits and employment growth are significantly lower for women-owned enterprises than for those owned by men (see the Annex to Part 4). A decomposition analysis shows that

the lower capital intensity of women-owned enterprises is the most relevant factor determining their lower productivity (value added per employee), explaining 37% of the gap. Also, the fact that women select different industries compared with men explains a substantial fraction of the productivity gap (22%). The relatively small size of women-owned enterprises is the main factor associated with their lower profits and their slightly lower probability to increase the number of their employees between 2005 and 2010. However, a relevant fraction of the measured gap in performance of women-owned enterprises cannot be explained by characteristics of their business. Other factors (such as differences in experience, approach to management, and access to relevant resources and networks) likely play a role.

### **Policies for more and better performing women enterprises**

289. Women are a major untapped entrepreneurship resource. The evidence in this chapter shows that women entrepreneurs lag behind men not only in numbers, but also in terms of average turnover, productivity and profits of their businesses. A fraction of this gap is likely to be due to different targets that women pursue as entrepreneurs (Kanazawa, 2005). Acknowledging these differences in preferences, policies should be based on a systematic analysis of the factors that prevent or discourage entry of women entrepreneurs into the market, and limit growth of female-owned enterprises.

290. Such an analysis demands reliable and timely information, from both quantitative and qualitative data sources. Few countries have already invested in producing this information. The Survey of Business Owners is a rich source of information on the state of women-owned businesses in the United States. Canada's Survey on Financing and Growth of SMEs collects information on gender and other characteristics of the owners, on business characteristics and access to financing. INSEE in France has developed a continuous monitoring system of new enterprises and their owners. Other countries, in particular in Northern Europe, have advanced systems of linked business and population data. A lack of comparability of the existing data complicates international benchmarking, which is essential to identify achievable targets and to learn about effects of policy reforms. More investment is needed in the harmonisation of data on enterprise-owners and their businesses, using as much as possible existing data to minimize the burden on statistical offices and curtail associated costs.

291. Policies for women entrepreneurship are often included under the umbrella of programmes for small enterprises. Such policies may have a relatively large effect on women, since this is the form of entrepreneurship where women are more concentrated. However, they may also serve in reinforcing existing stereotypes about women-owned businesses. A mix of general policies for SMEs and instruments explicitly targeting women can be effective in raising interest and entry into entrepreneurship. The Small Business Administration (SBA) in the United States has explicitly searched for a mix of general gender mainstreamed programs and women-specific policies, with continuous experimentation of new programmes. In 2009, the SBA backed nearly 10 000 loans worth about USD 2 billion to women entrepreneurs. The SBA partners across the United States (with non-profit organisations such as the association of volunteer business counsellors "SCORE") to support the delivery of programs tailored to the specific needs of women in underserved markets or belonging to ethnic and linguistic minorities.

292. However, women's entrepreneurship policies should not be conceived simply as a subset of policies for start-ups and very small firms. The assumption that female business owners want to stay small is misleading for policy. There is a substantial pool of women who are eagerly pursuing growth strategies for their companies (Gatewood *et al.*, 2009). A stronger focus should be dedicated to instruments that can help female businesses realise their aspirations for growth. Examples of these growth-focused initiatives for women-owned enterprises of all sizes include favourable lending ceilings and public credit guarantees, rules ensuring that small, women-owned firms have access to public procurement and tax credit schemes for capital investments in SMEs. In the United States, the Women-Owned Small Business (WOSB) Federal Contract programme approved in 2010 authority for contracting officers to set aside certain

federal contracts for eligible women-owned enterprises (White House Council, 2012). The majority of the funds of the Swedish National Programme to promote women's entrepreneurship go to business and innovation development for women, and 50 % of the target group consists of women with existing businesses. A precondition for the implementation of these programmes is the definition of transparent criteria for companies to be qualified as 'women-owned enterprises', to prevent abuse of targeted instruments. Certification of women-owned businesses is a consolidated practice in the United States, but it is much less widespread and recognised in other countries.

**Key policy messages**

- Develop an integrated national strategy for gender mainstreaming of entrepreneurship policies. Provide specific training to staff in charge of programme design and delivery. Respond to the financial and technical support needs of women entrepreneurs wishing to increase the scale of their businesses.
- Contribute to the work started by the Entrepreneurship Indicators Programme (EIP) to produce timely and internationally comparable information on men and women-owned enterprises.
- Policies for women-owned enterprises should not exclusively target start-ups and small enterprises, but include instruments to stimulate high growth firms as well as growth and development in medium-sized and larger businesses.

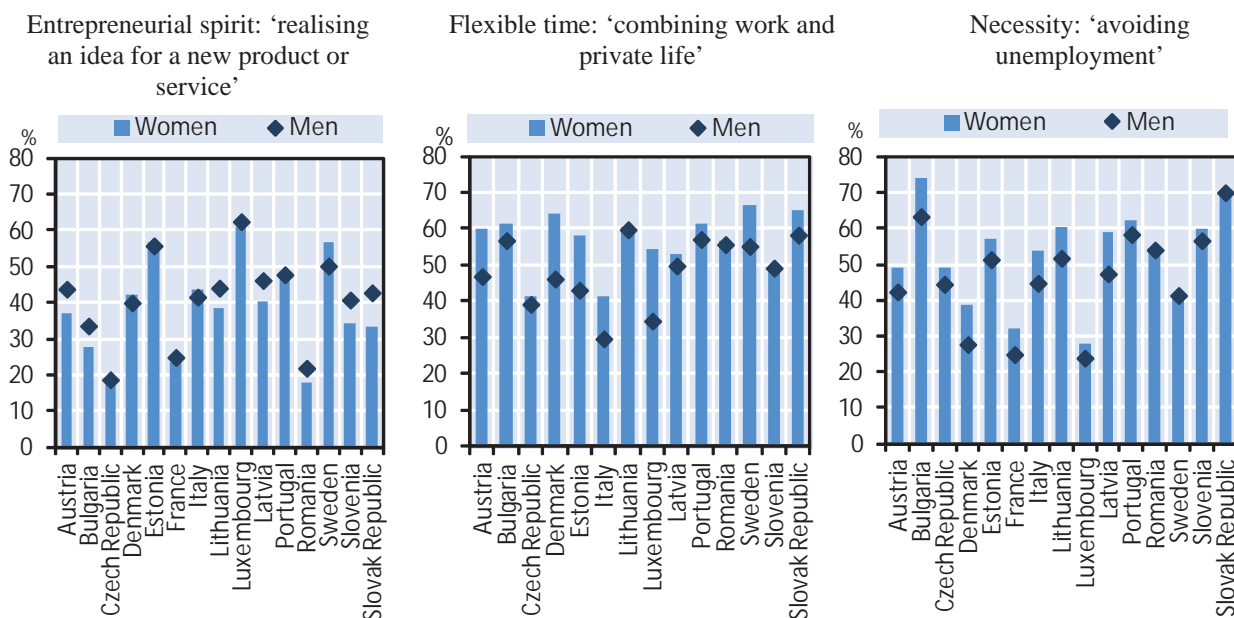
## CHAPTER 4.2: CHARACTERISTICS OF WOMEN ENTREPRENEURS

### Key findings

- Women often have different reasons for starting a business than men. More women than men become business owners out of necessity. Women tend also to give more importance to the working time-flexibility afforded by self-employment.
- On average, women business owners have higher levels of educational attainment but less experience managing a business.
- The gender gap in earnings is higher for self-employment than for wage employment. The fact that women work significantly less hours on their businesses is an important explanation for this gap.

### The motivations of women and men entrepreneurs

293. Women entrepreneurs are a very heterogeneous group, driven to start a business by different motivations. These motives are a mix of “push” and “pull” factors, and the mix for women entrepreneurs seems to be different from that for men. For example, Figure 4.2.1 shows that *‘realising an idea for a new product or service’* is a more important motive for men than for women in Europe. Proportionally, more women than men start a business out of ‘necessity’, i.e. they become entrepreneurs because they do not see other, more attractive, options (including salaried employment) to enter the labour market. Family obligations may also play a role. In fact, opening a small business can be the easier (re-)entry point to labour market participation for women who want to reconcile work and care commitments. Evidence also suggests that women entrepreneurs tend to attribute more importance to the time flexibility that comes with being one's own boss, and this holds in particular for women in small businesses. Indeed, survey evidence from the United States shows that “achieving better work-life balance” was an important motivation to more than 40% of the female entrepreneurs in the smallest revenue class, but to only 12% of those in the largest revenue class (RSM McGladrey, 2008).

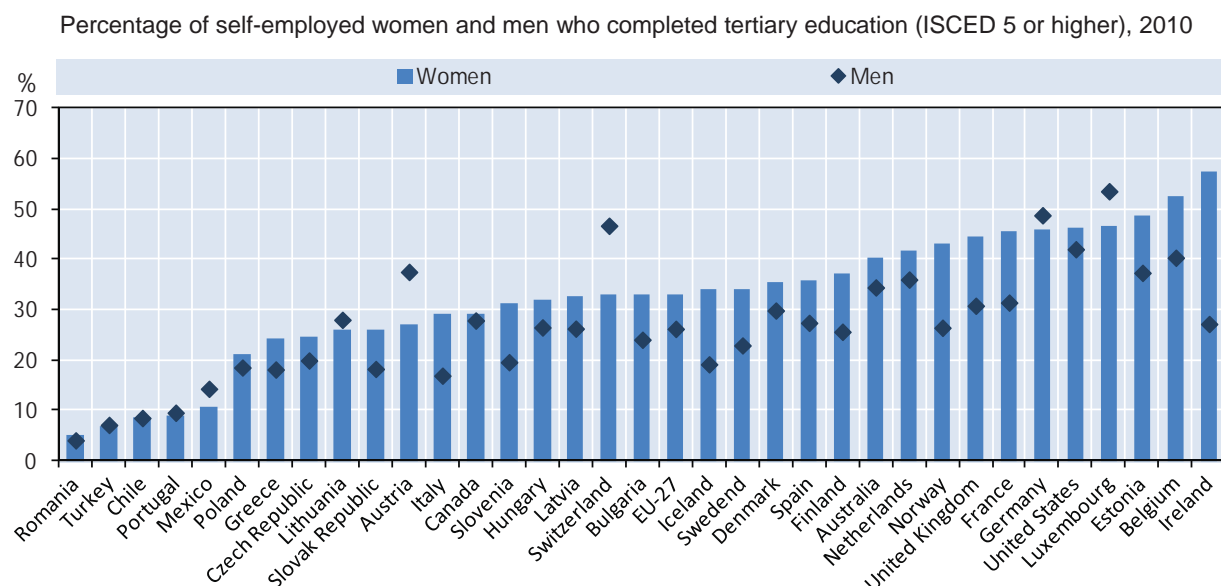
**Figure 4.2.1. More women than men value work-life balance as a motivation for starting their business**Key motivations<sup>a</sup> for funding an enterprise, by gender of the funder and typology of motivations (2005)

a. Note: Founders were allowed to select several possible motivations. The most frequent motivation cited for starting an enterprise both by women and by men is 'being one's own boss'.

Source: Eurostat, Factors of Business Success Survey.

### Education and experience of women and men business owners

294. Figure 4.2.2 shows that the percentage of self-employed with tertiary education attainment is significantly higher among women in OECD countries. However, no significant correlation exists across countries between the education attainment of women and their entrepreneurial activity, as measured by the share of self-employed women in total self-employment. This suggests that it is not the level but rather the type of education investment of women that matters for entrepreneurship. Women are significantly under-represented in engineering and computing (Chapter 2.4), two fields of study that provide knowledge relevant to starting a technology-oriented business. Moreover, most students of business degrees are men, even though the number of women has been increasing. For example, in the Harvard MBA programme, the proportion of female students was 11% in 1975 which increased to 36% in 2012 (<http://www.hbs.edu/about/statistics/mba.html>). Gender differences in degree choices can affect preferences for entrepreneurship. Indeed, Shinnar *et al.*, (2009) find that those who obtained a business degree rate themselves as more entrepreneurial than those who obtained a similar degree in 'non-business' studies and are more likely to have seriously considered starting their own business. Entrepreneurship education in primary and secondary schools is increasingly recognised as key to shaping entrepreneurial attitudes of young women and men in OECD countries (EC, 2012c).

**Figure 4.2.2. Female business owners have higher educational attainment than men**

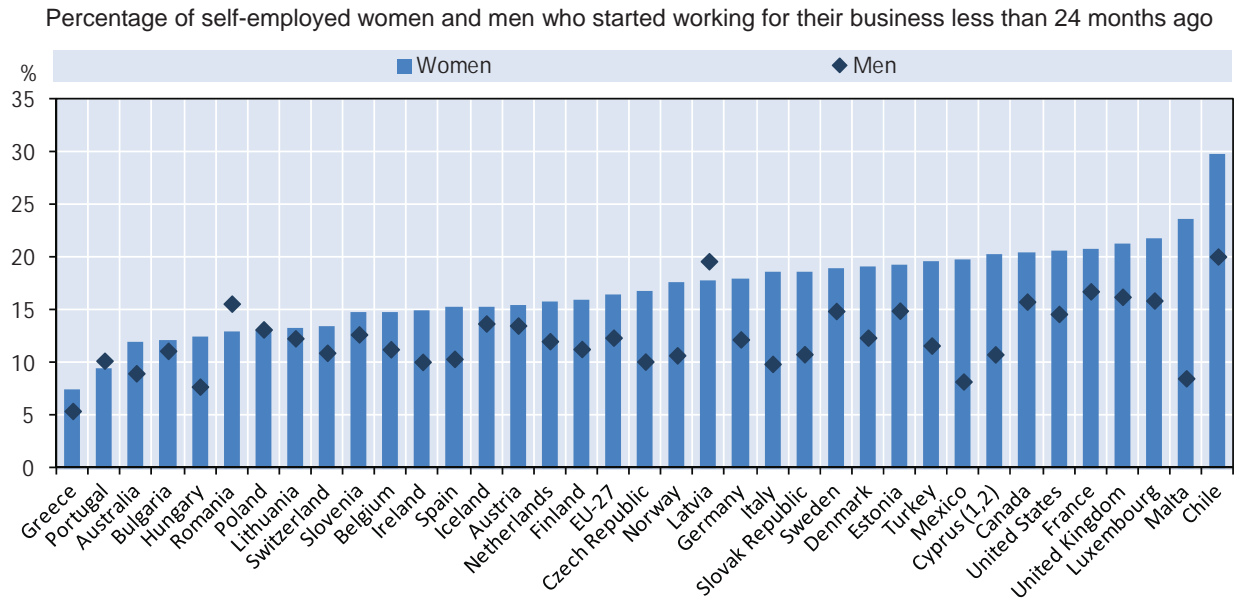
Note: Countries are ordered by increasing percentage of self-employed women who completed tertiary education.

Sources: Eurostat Labour Force Surveys, Estimates from Survey of Income and Program Participation 2008 for United States, Secretariat estimates from labour force and household surveys for 2010 in other countries.

295. Figure 4.2.3 shows that in almost every OECD country, the share of self-employed women who have less than two years of tenure as business owners is higher than for men. The lower "tenure" of self-employed women is likely to be explained by the different motivations and types of activities chosen by female own-account workers (often part-time activities, with low-levels of sunk costs).

296. Women entrepreneurs have on average less experience than men in the ownership of businesses. On average across 15 European countries, only 11.2% of women who started a new enterprise in 2002 were running another business before the start-up, compared with 18.4% of men (Eurostat, 2008). In the United States in 2007, 42% of the male owners had previous experience as self-employed, while this was only 28% among women entrepreneurs (U.S. Census, 2009). In 2007, 51% of female business owners of Canadian small and medium-sized enterprises had more than 10 years of management or ownership experience compared with 74% of male business owners (Jung, 2010).

297. However, experience in the industry is critical for business success. For example, data on new enterprises for France show that 73% of the businesses founded by women in 2006 with three years or more of previous experience in the industry survive after three years, but this is 64% for those run by women with less than three years of experience before start-up. Once gender differences in founders' experience are taken into account (50% of men founders have three years or more industry experience before the start-up, while only 40% of women have this level of experience), differences in survival rates by gender are no longer observed in France. Cohoon *et al.*, (2010) show for the US that women are more likely than men to declare that prior experience has been crucial for the success of their start-up. Klein and Wayman (2008) and Bauer (2011) found that training programmes improve both the economic and non-economic lives of women who own small and micro businesses. High level officials and experts from 50 countries at the 2nd OECD Conference on "Women Entrepreneurs in SMEs" (Paris, 2000) recommended targeted efforts to support effective training programmes which can supplement real-life experience in business management.

**Figure 4.2.3. Self-employed women have less tenure in their business**

Note: Countries are ordered by increasing percentage of women who started working for their business less than 24 months ago.

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

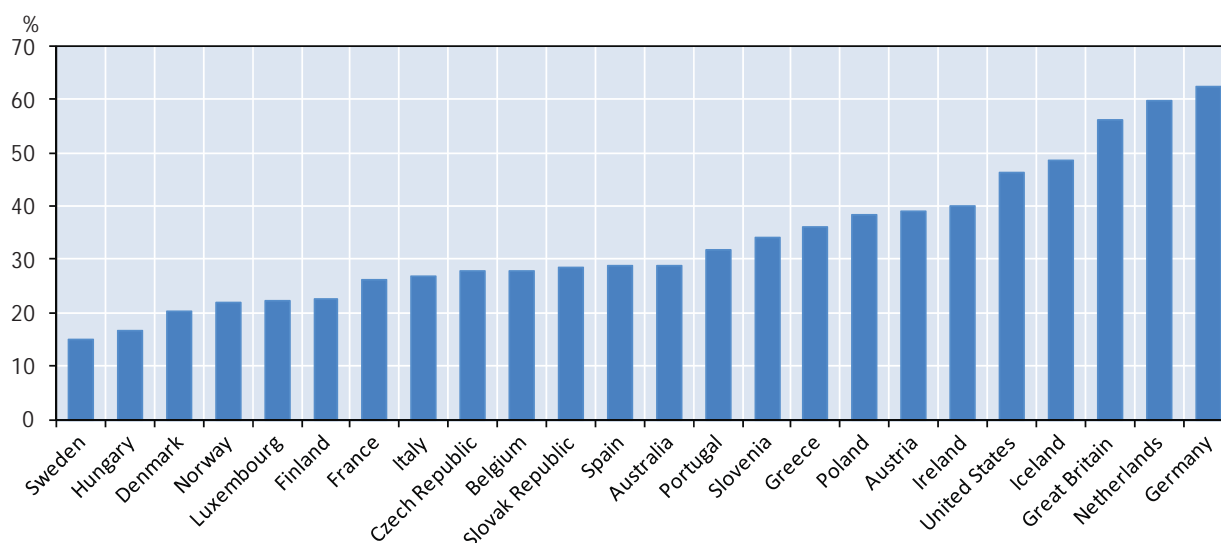
Source: Eurostat Labour Force Surveys, estimates from Survey of Income and Program Participation 2008 for United States, estimates from labor force and household surveys for 2010 in other countries.

### Gender differences in returns from self-employment

298. A simple explanation of why less women than men own a business might be that entrepreneurship does not pay-off for women, i.e. earnings from business ownership are too low or uncertain to motivate this career option.

299. Self-employed women earn significantly less than men. Figure 4.2.4 shows the earning gap in self-employment of women across 24 countries for which data on profits or losses from business ownership are available. Gender earnings gaps are smaller when the gap is calculated on the basis of earnings per-hour worked, as women tend to work significantly less time on their businesses. In most countries, the gap also decreases when only considering the self-employed with employees.



**Figure 4.2.4. Female business owners earn significantly less than men**Gap<sup>a</sup> in median earnings of self-employed women and men (2008)

Note: (i) Countries are ordered by increasing gender gap. (ii) The international comparability of statistics on earnings from self-employment is still limited due to differences in questions on self-employment income and in the methods used to derive the figures.

a. Defined as the difference between male and female median earnings divided by male median earnings.

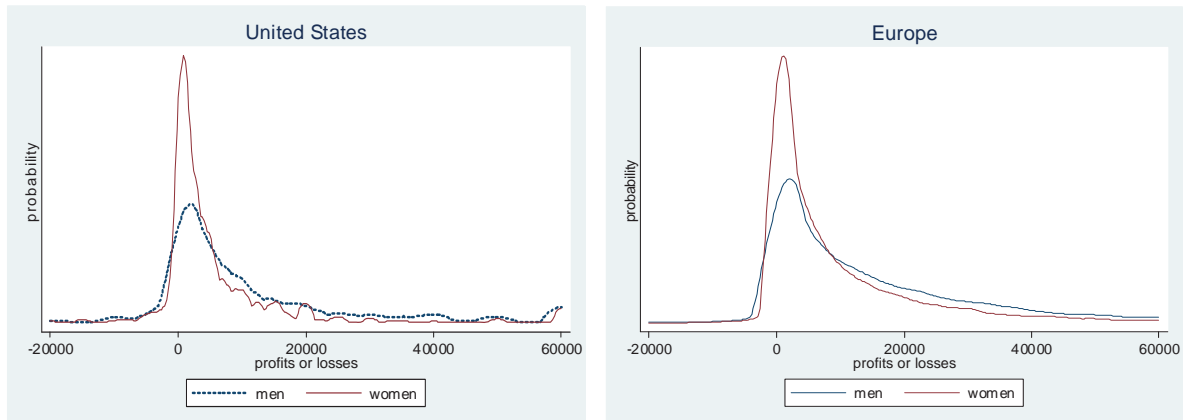
Source: OECD estimates from European Union Statistics on Income and Living Conditions (EU-SILC), 2008 wave Survey of Income and Program Participation 2008 for United States, Household, Income and Labour Dynamics in Australia (HILDA) 2008 wave.

300. One reason for the lower earnings of female business owners might be that women are less willing to take risks. Higher risk aversion naturally leads to a lower polarisation of earnings, meaning less probability to incur losses, and fewer chances to reap high returns. Figure 4.2.5 shows that a significant number of women and men running a business do experience net losses. The distribution of earnings of men is more skewed than for women, as more women tend to realize low levels of profits (as can be seen from the large difference in the height of the two distribution curves for levels of profits near zero). The proportion of women who run their business at a loss is somewhat lower than for men in the United States (7.5% of women versus 8.4% for men).

301. Women may take a different approach to business, being more cautious in terms of the resources they commit to their ventures and preferring a slow and steady expansion for their businesses. A careful management of risks can be explained by a greater concern around consequences of failure (Chapter 4.1). Indeed, the Small Business Service (2005) in UK found that women with family responsibilities were “particularly wary of extending commitments” and that any business venture they embarked upon would “need to be independent of family finances and self-sufficient”. However, there is no conclusive evidence that women entrepreneurs are systematically less willing to take risks than men (Croson and Gneezy, 2009).

**Figure 4.2.5. Most women tend to realize low profits, men being more represented among average and top earners**

Univariate kernel density estimates of profits or losses from business ownership, by gender (2008)



Source: EU-SILC 2008 values for 24 European countries with available data on earnings from self-employment, Survey of Income and Program Participation 2008 for United States.

302. Analysis on survey data from 22 European countries and the United States shows that experience and time spent working on the business are strong determinants of success, as measured by gross yearly earnings of women and men business owners (see Annex to section 4 for detailed results). In the United States both experience and hours worked on the business have relatively higher returns for women. For Europe, increasing the number of hours have a relatively higher effect on earnings of women among the successful entrepreneurs (those in top-quarter of the earnings distribution). The differences in the average hours worked by self-employed women and men are very large in all countries (on average, across 30 OECD countries, 22% of self-employed women work less than 40 hours a week, versus only 10% self-employed men). Gurley-Calvez *et al.*, (2009) show that the time-use patterns of self-employed women in the United States differ substantially from those of men: self-employed women spend less time in work-related activities and more time providing child care. While it is difficult to determine exactly the causal relation between hours worked and business income, the results from the analysis of earnings from self-employment suggest that enabling women to work more time would increase the profitability of their businesses (see also Hundley (2001)).

303. The data analysis shows also that highly educated women in self-employment do not earn more than low educated women in Europe, while they do in the United States. Female business owners who are foreign born tend to perform as well as natives in terms of earnings (see the Annex to Part 4).

### **Policies for women-friendly entrepreneurial markets**

304. The profiling of male and female entrepreneurs and their earnings suggests three main issues that are relevant for policies: 1) the lower preferences and perceived attitudes of women for business ownership, 2) the lower experience of women as entrepreneurs, 3) the difficulty faced by women wishing to work full time on their business.

305. There is a clear need for policy to raise awareness about entrepreneurship as a career option for women. Also, programmes are needed to raise self-esteem and growth expectations among potential and established women entrepreneurs. Men report higher perceived capabilities as entrepreneurs (Brush *et al.*, 2011) and are also more optimistic about the profitability of their enterprise (Eurostat, 2008). Women entrepreneur networks are major sources of knowledge about opportunities for successful entrepreneurship,

and can raise self-confidence of women entrepreneurs. The European Commission set up the "Ambassadors Network", made up of 270 successful entrepreneurs campaigning on the ground to inspire women of all ages to become entrepreneurs and to set up their own businesses. A similar ambassador programme has been successfully operating in Sweden since 2008. Policy makers should encourage co-operation and partnerships among national and international networks as a tool to facilitate access to new markets by women. The World Association of Women Entrepreneurs (FCEM) is an example of the high interest women entrepreneurs have in international networks, showing the potential global reach of initiatives for transferring knowledge and experience from North to South, East to West and vice versa.

306. Policies need to respond to the demand for training of women entrepreneurs. Standard training modules should be adapted for the specific needs of women. In particular, their design and delivery should be adapted to family obligations. Distance learning may increase women's access to training since courses can be taken at times suited to the women's schedules.

#### **Box 4.2.1. Women entrepreneurs in the MENA Region**

Female self-employment rates range from over 30% of working age women in Algeria to less than 2% in the Gulf countries, and only a very small proportion of businesses owned by self-employed women have more than ten employees (Stevenson, 2010 and 2011). Women's low labour force participation rates arguably limit opportunities to acquire the job skills or management experience necessary for starting a business, and only about 9% of adult women engage in early-stage entrepreneurial activity, less than half the rate of men (19%). Women entrepreneurs are a heterogeneous group, whose firm characteristics and needs vary depending on location (urban versus rural) and education level. Given the heterogeneity of women entrepreneurs' profiles and firm characteristics, a variety of policy mechanisms would be necessary for accelerating women's entrepreneurship development in the region.

Governments in almost all MENA countries have adopted national development plans or gender strategies which commit to support women's economic integration. However, ministries responsible for the implementation of gender strategies frequently do not have strong links with ministries in charge of enterprise support. In countries where formal SME policies exist, women are rarely a target group. Businesswomen's associations exist in almost all MENA countries and provide some form of business support (mentoring, trade fairs, seminars) despite their limited financial, human and technical resources. These associations provide a wealth of information on the business constraints and support needs of their members, but their policy advocacy role is often limited because they are excluded from national policy dialogue.

The OECD is working with MENA governments and businesswomen's associations to improve support measures for women entrepreneurs in the region through the OECD-MENA Women's Business Forum (WBF) ([www.oecd.org/mena/investment/wbn](http://www.oecd.org/mena/investment/wbn)). The WBF is an inter-regional network of government, private sector and civil society representatives which works with governments to improve policies and legislation impacting women's economic integration, but also with businesses, NGOs and academia to facilitate an exchange of experiences and good practices for providing concrete support to women entrepreneurs.

Through conferences and policy studies, the WBF seeks to: a) support advocacy efforts of the businesswomen's community to promote legislative reform; b) improve access to information on agencies which provide business support services, networks and training to women entrepreneurs; c) promote access to finance, for example through targeted efforts to increase women's participation in the MENA 100 Business Plan Competition ([www.mena100.org](http://www.mena100.org)); and d) monitor changes in women's economic rights.

Better quality data, with information also on informal enterprises, would support the development of more effective policies for promoting entrepreneurship in the MENA region. This in turn would have long term positive effects on employment opportunities for all the population, and therefore help respond to citizens' calls for greater prosperity which have been at the core of the recent political and social movements taking place across the MENA region.

307. Both quantitative and qualitative evidence make clear that the time constraints self-employed women face can significantly affect the type of entrepreneurial activity they engage in, and the profitability of their business. Better access to quality and affordable child and elder care may help to reduce the

profitability gap between male and female enterprises. Extending access to maternity leave benefits to the self-employed, as, for example, in Norway through the new “Action Plan for Women Entrepreneurship”, might also affect women’s preferences for entrepreneurship. Initiatives in the three areas of awareness, training, and reduction of the care burden have the potential of a double dividend, bringing higher empowerment of women on one side and more productive businesses on the other.

**Key policy messages**

- Entrepreneurial awareness campaigns, targeted training programs and measures to reduce the burden from household responsibilities are three complementary policy levers to raise entrepreneurship and the earnings of women.
- Promote innovations in the design and delivery of training programmes for women. Support networks of women entrepreneurs at multiple levels (from community groups to international networks).
- When evaluating the cost-benefit of increased provision of low-cost child and elderly care services, consider that these services can persuade more women to become self-employed, let them specialize in more profitable occupations, and increase the profitability of their businesses.

### CHAPTER 4.3: ACCESS TO CREDIT

#### Key findings

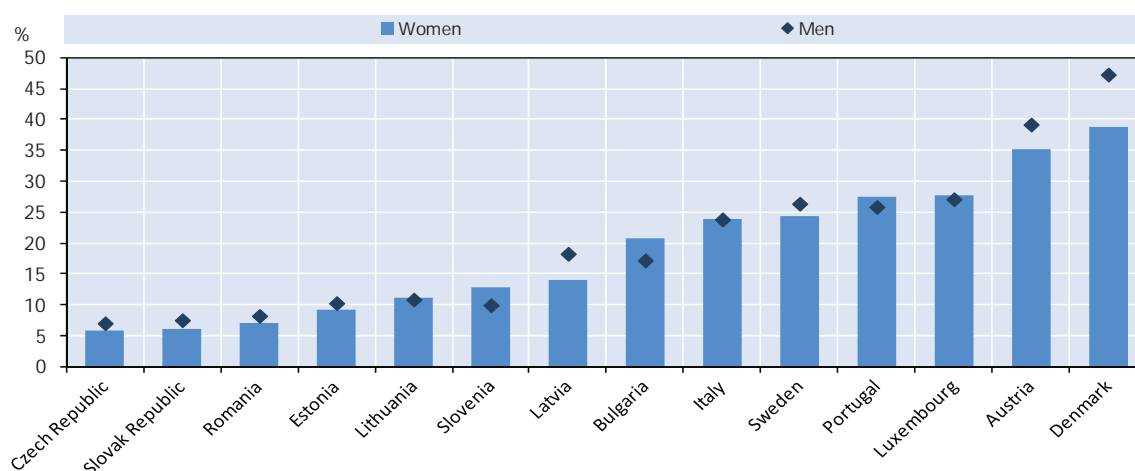
- Women entrepreneurs rely substantially less than men on loans, both for start-up and for financing their activities. More analysis is needed to better understand why women are less inclined to use external finance and if they are discouraged by discriminatory treatment in capital markets.
- There is evidence that conditions of access to finance significantly deteriorated for both women and men during the recent economic and financial crisis.
- In developing and emerging economies, returns on capital have been high in the micro-enterprise sector, in which women are over-represented.

#### Demand and sources of financing for women and men owned enterprises

308. Access to credit is critical for the creation, and subsequent performance, of firms (Taylor, 2001). It is often argued that access to credit is more problematic for women than for men entrepreneurs. The evidence shows that relatively more men than women entrepreneurs make use of bank loans, with and without collateral, for starting their enterprises (Figure 4.3.1), although there exist important differences in the use of bank loans across countries. In 2007, only 6.3% of women-owned businesses in the United States had used a loan from a financial institutions to start, while 11.1 % of men-owned firms used this source of credit (U.S. Census, 2009). In Eastern Europe, where overall entrepreneurs make little use of external sources for start-up financing, women generally access credit to an even lower degree than men. Differences also exist in the degree at which policies support start-up financing. Financial support by public authorities was received by 22% of women entrepreneurs in Sweden (versus 14% of men), but by less than 1% of the women entrepreneurs in Denmark (versus 3% of men, Eurostat, 2008).

**Figure 4.3.1. More men than women use credit from banks to finance their start-up**

Percentage of enterprises that used a bank loan with or without collateral for financing the start-up, by gender of the sole-founder and current owner, 2005



Note: Countries are ordered by increasing use of start-up credit from banks among women founders.

Source: Eurostat, Factors of Business Success Survey.

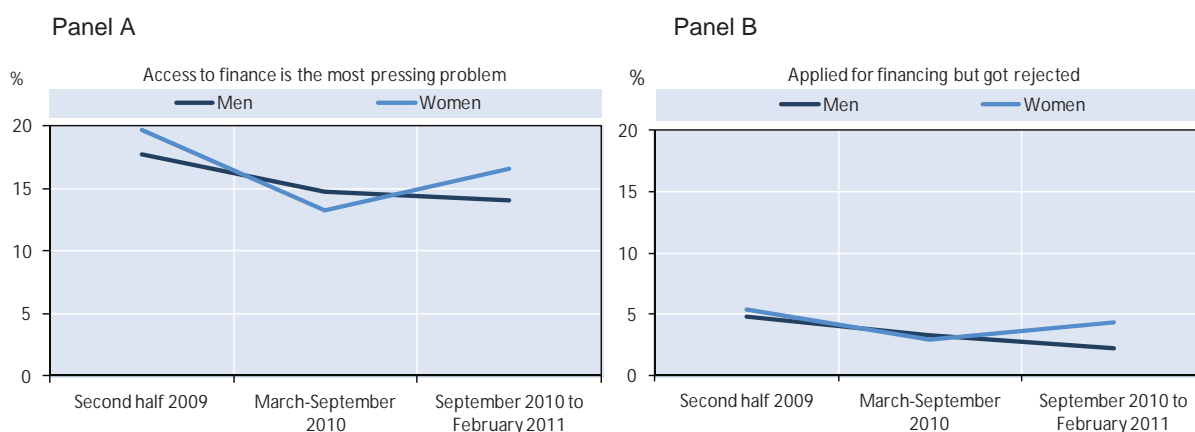
309. Smooth access to finance is not only crucial for business creation, but it is also an engine of investments and innovation in existing enterprises. Evidence from sixteen European countries in 2009 shows that women-owned enterprises are less likely than men-owned enterprises to rely on external financing for their investments (27% of women-owned enterprises had no loans in the last two years, versus 20% of men-owned ones). Gender differences in credit constraints, measured either by rejections of credit applications, or by a lack of credit application out of fear of rejections, are less evident, even if the gaps seem to have widened late 2010/early 2011 (Box 4.3.1). Evidence from other OECD countries confirms the lower reliance on debt financing from women-owned enterprises, and gives mixed results regarding gender differences in credit constraints. Data from Chile show that 55% of women-owned enterprises did not make use of any financial instrument in 2007, and this was 38% in the case of men (Observatorio Empresas, 2009). In the United States, women entrepreneurs seem more likely to be discouraged from applying for fear of rejections, though not more likely to be denied credit when they apply (Cole and Mehran, 2009).

#### Box 4.3.1. Access to credit for women enterprises during the economic crisis

There are justified concerns that the economic crisis has made it even harder for women to use debt financing to support the growth of their enterprises. For example, the proportion of unsuccessful loan applications rose dramatically from 1% to 27% in Ireland between 2007 and 2010 (Eurostat, 2011), increasing substantially in many other OECD countries. Problems of access faced by women in the credit market are likely to be exacerbated by the tightening of banks' credit conditions. Public interventions to strengthen banks' balance sheets and extend credit guarantees have generally lead to improvements in the financing prospects of small and medium-sized enterprises, where female ownership is more widespread. However, data monitoring the financing of enterprises in Europe show that at the end of 2010 access to finance was the most pressing problem for more than 16% of women owned enterprises, and rejection rates were significantly higher for women (4,3%) than for men (2,3%). Conditions for men-owned enterprises seem to have improved more and in a more sustained way than conditions for women-owned firms.

**Figure Box 4.3.1. Conditions of access to finance have improved more for men than for women over recent months**

Percentage of firms stating that access to finance is the most pressing problem for their business, by gender of Owner/Director/CEO (Panel A), Percentage of firms that applied for a bank loan in the last six months and whose application was rejected, by gender of Owner/Director/CEO (Panel B)



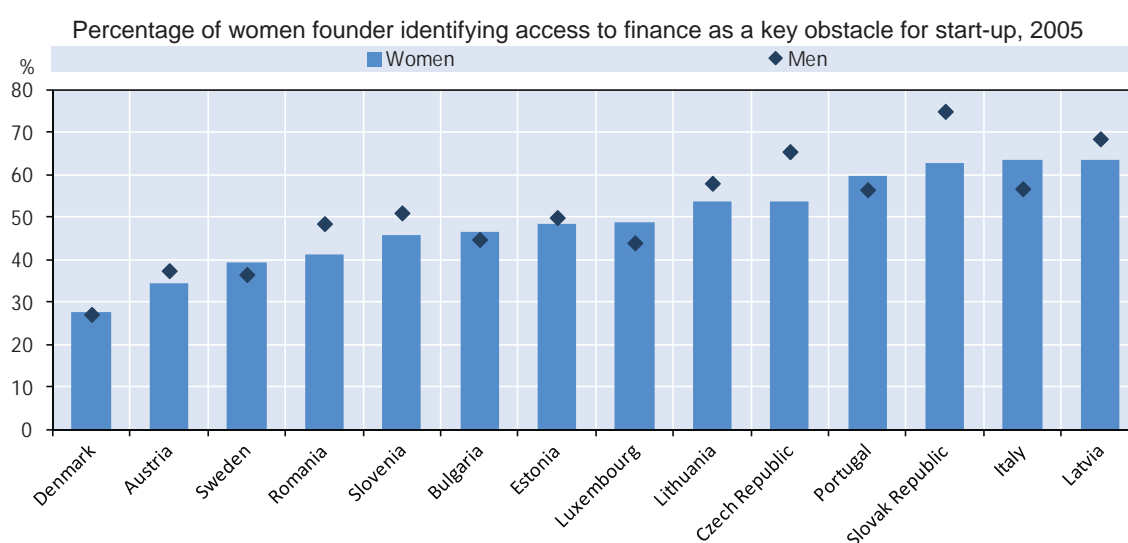
Source: OECD calculations using ECB/EC Survey on Access to Finance of SMEs.

310. There are two very different reasons why women entrepreneurs might be treated differently in financial markets: 1) they lack significant assets (experience, capacity/cash flows, collateral) that are valued by credit providers, 2) there is cultural bias reflecting a lack of confidence in the ability of women as business owners. Interview-based studies repeatedly report that women feel more reluctant to apply for credit, and have difficulties in dealing with bank officials. Female entrepreneurs in Canada had to provide

lenders with more documentation – such as personal financial statements, appraisals of assets and cash flow projections – than male entrepreneurs (Jung, 2010). Muravyev *et al.*, (2007), using data from 26 countries in the Eastern European and Central Asian (ECA) region, show that women are charged higher interest rates than men (0.6% more). Alesina *et al.*, (2008) show that women entrepreneurs in Italy pay higher interest rates, and the premium they have to pay gets higher if they have a female guarantor.

311. In spite of these constraints, data from enterprises founded in 2002 in 14 countries show that there are large international differences in the share of women entrepreneurs identifying access to finance as a key difficulty for start-up (Figure 4.3.2). Only in half of the countries do more women than men entrepreneurs assert that financing was a primary constraint when they started their business.

**Figure 4.3.2. There are large international differences in the difficulties perceived by women to finance their start-up**

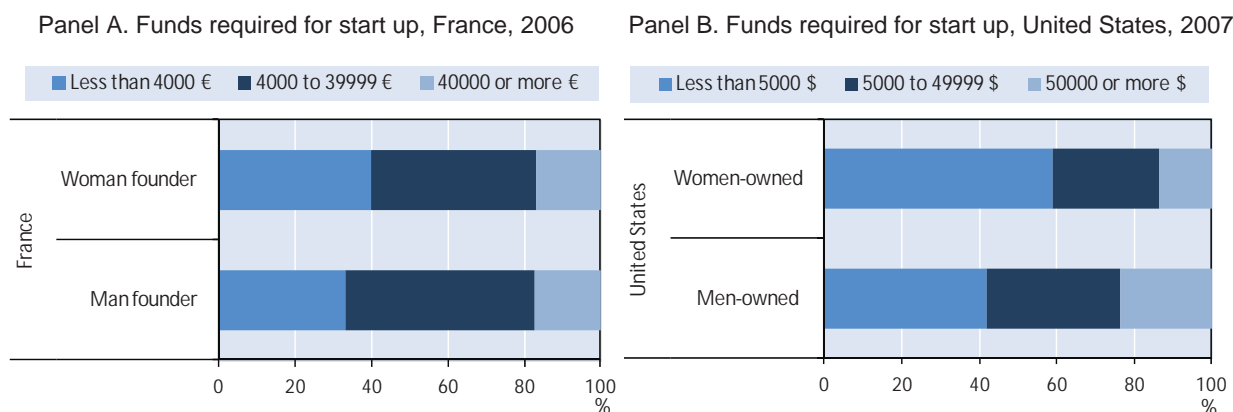


Note: Countries are ordered by increasing percentage of women identifying access to finance as a key obstacle for start-up.

Source: Eurostat, Factors of Business Success Survey.

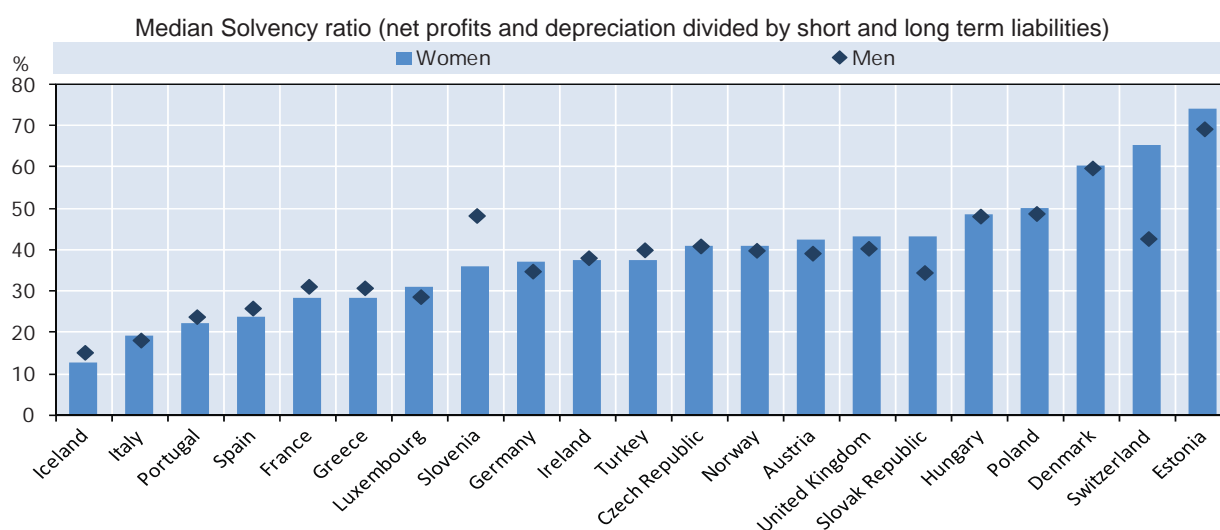
312. However, many women entrepreneurs might not perceive financing as a major problem simply because they start small and have a limited demand for credit. Figure 4.3.3 shows that female founders in France start their enterprises with lower amounts of initial funds compared with men. The difference in starting capital is also large between women and men-owned enterprises in the United States, with almost 60% of the women starting their enterprise with less than USD 5000. The relationship between size at start-up and use of finance is a complex one. Even if many women do not turn to loans because a small enterprise satisfies their ambitions, there are certainly cases when difficulties in accessing finance at competitive prices lead women to opt for a smaller business. Lower size and lower capital intensity have been shown to be key factors behind gender gaps in profitability or productivity of enterprises (see previous chapters and Sabarwal and Terrell, 2008).



**Figure 4.3.3. Women create their enterprises with considerably lower amounts of initial funds**

Source: Computations from Système d'information sur les nouvelles entreprises (SINE) for France, and Survey of Business Owners 2007 for United States.

313. The economic rationale for unfavourable treatment of women by credit institutions (either in the form of higher rejections, or of higher interest rates) might relate to female business owners having on average worse credit histories. However, this hypothesis is refuted by the EIP data, which show that the survival performance of women and men-owned enterprises with employees is similar in most countries (Chapter 4.1). Moreover, women entrepreneurs are not riskier borrowers than men. Figure 4.3.4 compares the solvency ratio of women and men-owned enterprises, a measure of how likely a company will be to continue meeting its debt obligations. Enterprises owned by women are, across countries, as financially healthy as men-owned ones. Similar evidence emerges when looking at other measures of companies' ability to meet long-term and short term debt obligations (*e.g.* interest coverage). Another possible explanation may be that women entrepreneurs' lack of credit history leads banks to consider them as riskier clients.

**Figure 4.3.4. Women and men-owned enterprise have similar capacities to meet their debt obligations**

Note: Countries are ordered by increasing median solvency ratio for women-owned enterprises.

Source: Secretariat's calculation on OECD Orbis data. See chapter 4.1 and the Annex to Part 4 for a description of the data.

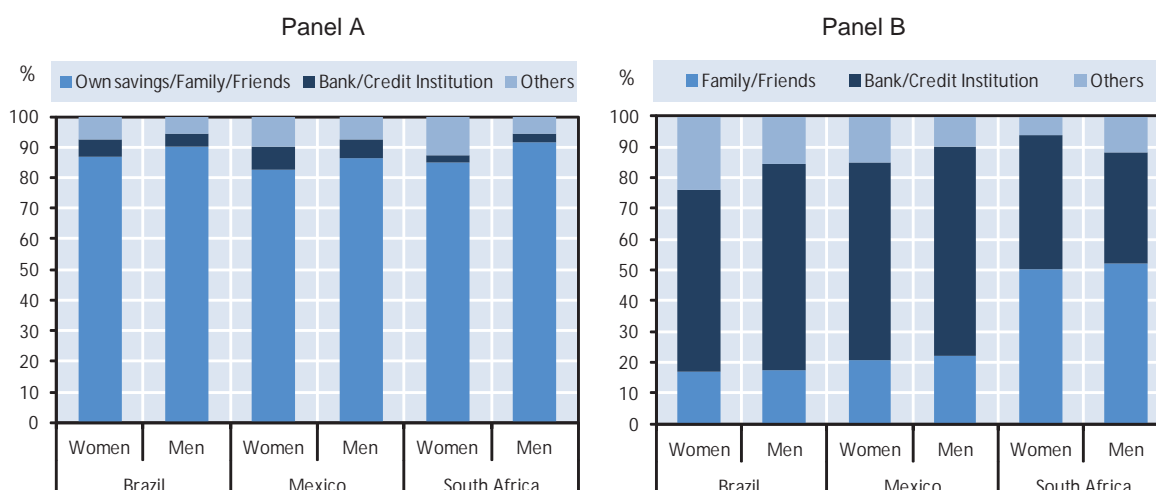
### Financing for female-owned micro-enterprises in emerging and developing economies

314. The financial systems in developing and emerging countries are deeply different from those of high income economies. There are fewer commercial banks, often operating in non-competitive environments and located far from rural areas. The costs of access to these institutions can be prohibitively high. For example, in 2005, opening a checking account in a commercial bank in Cameroon required a minimum deposit of over USD 700 - a figure larger than Cameroon's GDP per capita - (Beck *et al.*, 2007). It is often suggested that, in these difficult financial environments, women and other economically or socially disadvantaged groups are systematically left behind. However, the reality is much more complex. Women business owners in these economies are very active in financial markets. In several countries at different level of development, they apply and successfully access formal and informal credit at rates that are similar or higher than those of men (*e.g.* rejection rates among small business owners are significantly higher for men both in Mexico and in South Africa). These results are partly explained by a very pro-active agenda of public and aid policies to improve conditions of access to credit to female entrepreneurs (IFC, 2011), and by the targeting of women by not-for-profit microcredit institutions.

315. Access to credit for both men and women entrepreneurs is particularly hard in the start-up phase. Data on micro-enterprises (less than 15 employees) in Brazil, Mexico and South Africa show that the great majority of business owners did not use loans for starting their enterprise, but relied entirely on their own funds and on support from family and friends (Figure 4.3.5, Panel A). When their enterprise is already up and running, women and men tend to turn to banks and other credit institutions for their financing needs (Panel B). A comparison of the two graphs suggests that financial institutions are much more likely to open a credit line to someone who has already proved his/her capacities as an entrepreneur, or can use business assets as collaterals. This functioning of credit markets can easily create poverty traps. Poor women and men not having enough own funds to finance their start-up stay out of the entrepreneurial markets, and are not able to escape poverty. Such a mechanism can have very problematic and gender-specific effects in those countries where women have limited access to property rights and control over household assets.

**Figure 4.3.5. Both male and female micro-enterprise owners tend not to use external loans for starting**

Percentage of women and men-owned businesses by source of capital used to start their enterprise (A) and for financing their business operation (B)



Source: Secretariat estimates based on ENAMIN 2008 (Mexico), Economia Informal Urbana 2003 (Brazil), Finscope 2010 (South Africa).

316. There is ample evidence of high returns on capital in micro-businesses, generally much higher than market interest rates (McKenzie and Woodruff, 2006). However, capital injections might not be enough to enable growth in female-owned micro-enterprises. Experimental evidence in Sri-Lanka shows that the returns to capital are greater among men than among women (De Mel *et al.*, 2009). For Ghana, Fafchamps *et al.*, (2011) showed that in-kind grants are more effective than cash grants in fostering business profits among Ghanaian women, suggesting that women business owners are more likely to use cash earnings for household consumption. Capital injections significantly raise profits for a subset of high-ability, financially-constrained women. Dupas and Robinson (2012) show that female market vendors in rural Kenya significantly increase their savings and investments when they are provided with a safe place to save money (a free, non-interest bearing bank account). This evidence suggests that programs increasing access to capital for women entrepreneurs should be combined with training modules to help women keep control of finances and obtain the highest returns for the money. The IADB project “Strengthening Women Entrepreneurship in Peru” is currently providing financing to 100 000 women entrepreneurs who have completed special training.

317. Non-governmental organisations (NGOs) and non-bank financial institutions (NBFIs) continue to play a very significant role in supporting the credit needs of women entrepreneurs, particularly in the informal sector. Typical commercial banks have a different outreach with respect to the typical non-profit financial institutions. Data from the Mix Market Database show that the percentage of female borrowers is much higher among NGOs and NBFIs than among commercial banks providing micro-loans, especially in East Asia and the Pacific (where women are 89% of the micro-borrowers from NGOs, and only 35% of the borrowers from commercial and rural banks – [www.mixmarket.org](http://www.mixmarket.org)). Therefore, even if the private sector has proven to be an innovative and fast growing provider of micro-loans, subsidised credit and other public interventions still appear to play an important role to increase access to credit of women of all socio-economic backgrounds, contributing to financial inclusion and to combat poverty through entrepreneurship (Karlan and Morduch, 2009).

### **Policies favouring access to credit for women entrepreneurs**

318. There is ample evidence that women tend to rely less than men on external credit. The limited use and size of the loans are clearly linked to demand-side differences between women and men entrepreneurs. However, women entrepreneurs might also be discriminated against by credit providers. Discriminatory practices should be prevented through tight supervisions by the banks themselves and supporting public policies. National and regional business support centres should rely on best practices to support self-confidence of women entrepreneurs vis-à-vis credit institutions. Training programmes should help female entrepreneurs gain the skill needed to better design and present their financing plans, so that they can become more successful in raising the amounts of funds they need to grow. Training modules could also be integrated in micro and small credit programmes.

319. Governments can support, in partnership with credit institutions, the experimentation of new tools to screen loan applicants easily and effectively. Improvements are also needed in the design and coverage of public and private credit registries. The Consumer Financial Protection Agency (CFPA) recently created in the United States is in charge of enforcing fair lending laws to ensure that credit is provided fairly to small business owners of different gender, race and ethnicity. The CFPA also collects data on small business credit availability by gender, race, and ethnicity. The Entrepreneurial Finance Lab (EFL) in Harvard is pioneering the use of psychometric screening tools of entrepreneurial ability and honesty to unlock large-scale bank finance for SMEs. The application of this tool is expected to improve the performance of credit institutions, as women and men will be both evaluated on the basis of their entrepreneurial talent.

320. Better data are needed to improve the understanding of entrepreneurs’ financing trends and needs and on the gender differences in access to finance. The OECD has pioneered efforts in this area by

developing a *Scoreboard* on SME and entrepreneurship finance, which comprises indicators on debt, equity, government policies and general market conditions. However, further progress is needed to improve comparability of gender-disaggregated data across countries.

321. In the context of the continuing economic crisis, it is important to ensure that difficult credit conditions do not stifle activity of new and existing entrepreneurs. Many women and men entrepreneurs still report difficulties in accessing credit at sustainable interest rates. In response to these difficulties, governments in OECD countries have put in place a range of measures. These include, for example, “credit mediator schemes” to ease the flow of credit to SMEs or binding codes of conduct for SME lending (OECD, 2009i). These policies are likely to have a relatively larger effect on small and credit-constrained women entrepreneurs. In the United States, loans granted by the Small Business Administration (SBA) are three to five times more likely to go to women than conventional bank loans (White House Council, 2012). These loans have been substantially expanded through the Recovery Act and the Small Business Jobs Act. Similar credit support programmes have been operating effectively in Finland. In this domain, lessons can be learnt from several experiences taking place in emerging and developing countries. In India, under the TRADE scheme the government provides credit guarantees on loans up to Rs. 2.5 million (about USD 50 000), with a specific target for women-owned enterprises. Another programme - the Credit Link Capital Subsidy – has been implemented in India for financing technology upgrading of female-owned firms. Overall, policies seem to be particularly effective when financing instruments are supplemented with others services, such as training and consultancy, to address other challenges typically met by female entrepreneurs.

#### Key policy messages

- Integrate the gender dimension into the frameworks measuring entrepreneurs’ access to debt, equity and public support programmes, such as the OECD Scoreboard on SME and entrepreneurship finance.
- Address the financing gap for SMEs and micro-enterprises, through measures that ease access to finance for viable businesses. Implementation mechanisms should be evaluated *ex ante* to ensure that they do not introduce a gender bias.
- Increase confidence of women entrepreneurs seeking funds to finance their growth by pairing financing schemes with support measures such as financial literacy, training and consultancy services.
- In emerging and developing economies, financial development of private credit institutions should be accompanied by sustained support to not-for-profit lending institutions.

## CHAPTER 4.4: DO WOMEN INNOVATE DIFFERENTLY?

### Key findings

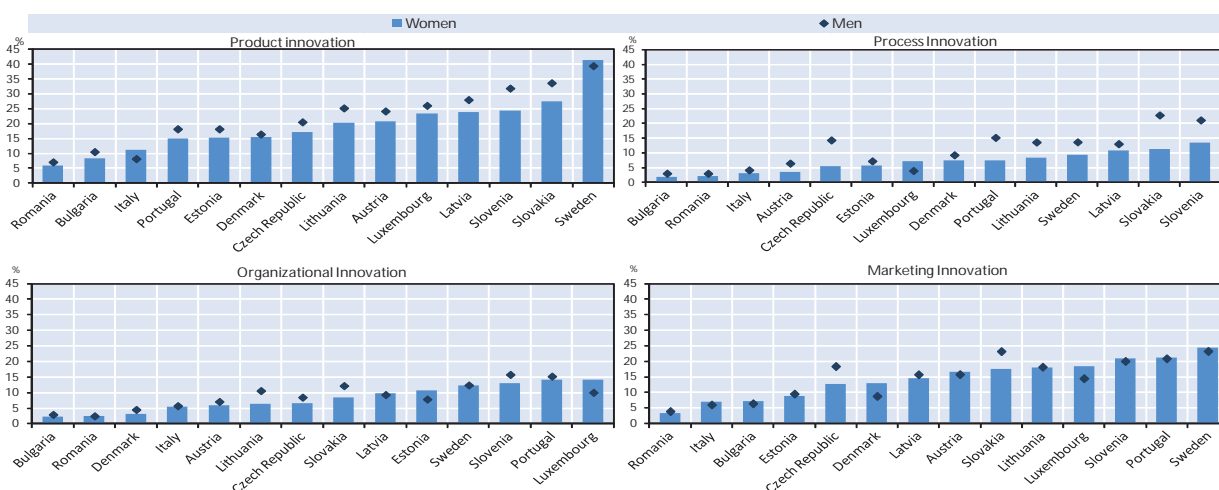
- Enterprises founded by women have different innovation outcomes than those founded by men. Lower levels of product and process innovation in enterprises founded by women can be explained by characteristics of these enterprises (sector, start-up capital and size) and by less entrepreneurial experience of women before start-up.
- The venture and angel capital industries, which are instrumental in financing certain types of innovative enterprises, are still male-dominated. This, in turn, can have a negative effect on the ability of high growth women entrepreneurs in securing equity capital.

### Innovation by women and men owned enterprises

322. Innovation is widely acknowledged as a driving force behind the competitiveness of enterprises and the creation of jobs (Acs and Audretsch, 1999). Innovation takes many forms (OECD 2010j). Analysis of gender differences in innovation should consider a broad notion of innovation, accounting for all changes in methods of work, in the use of factors of production and in the types of output that improve productivity and commercial performance (OECD, 2005b). In Europe, the gender gap in innovation activity is particularly pronounced for process innovation, defined as the introduction of a significant change in production and delivery methods (Figure 4.4.1). The differences among enterprises founded by men and by women are less marked when looking at innovations in organisation methods and marketing practices, two forms of innovation that are less capital intensive. In Chile, 28.5% of women-owned firms introduced in 2007 a marketing innovation, while only 21.5% of men-owned firms did so (Observatorio Empresas, 2009).

**Figure 4.4.1. Female founders perceive their activity as less innovative, in particular in terms of process innovation**

Percentage of male and female founders considering their enterprise innovative, by type of innovation (2005)



Note: Countries are ordered by increasing percentage of female founders considering their enterprise innovative for each type of innovation.

Source: Eurostat, Factors of Business Success Survey.

323. Policies aimed at improving the competitiveness of women-owned enterprises need to be based on rigorous analysis of the sources of gender differences in innovation investments and outcomes. There is increasing evidence that the innovation capacities of firms are highly related to characteristics of their owners (De Mel *et al.*, 2009). Female entrepreneurs tend to lag behind men in experience in certain industries, as well as in accessing the finance or networks needed to grow their businesses. These barriers may affect women's propensity to invest in product or in process innovation. Other less tangible differences between women and men, such as attitudes towards risk, motivations for venture start-up, aspirations regarding business size, have both a gender dimension and can affect innovation.

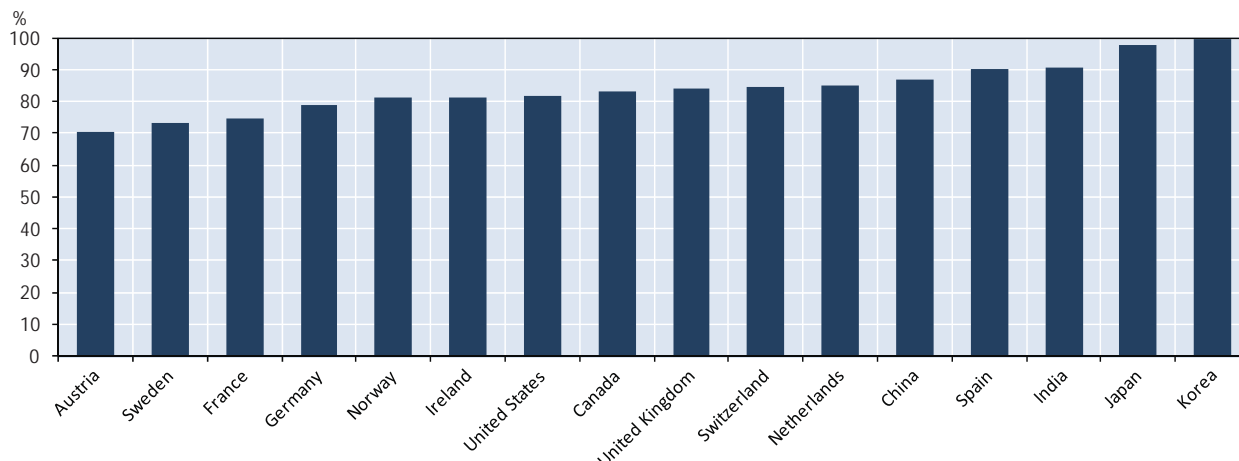
324. Data from two surveys of young firms and their owners (the Kauffman firm survey for the United States and the KfW-ZEW Start-up Panel for Germany) show that entrepreneurial experience before the start-up is one key determinant of gender differences in innovation outcomes. According to these data: a) only 35% of the firms founded exclusively by women in the United States had at least one founder with a previous experience as a business owner (versus 49% of the enterprises founded by men). The corresponding figures for the German survey are 22% for female-founded enterprises and 34% for male-founded ones; b) in both countries, firms founded by women with previous entrepreneurial experience outperform firm founded by women with no experience, both in terms of innovation outcomes and innovation investments; c) together with the experience of the founder, differences in the type of enterprises founded by women (size at start-up, sector and capital intensity) fully explain the observed gender gap in innovation outcomes in the United States (Annex to Part 4).

#### **Innovation by women entrepreneurs in high-tech sectors**

325. Innovation usually requires financial investments. External equity capital (*e.g.* angel and venture) can be instrumental in financing certain types of innovation, and women entrepreneurs' lower access to these sources can affect their capacity to innovate and grow their firms. A growing body of research demonstrates the critical role that social networks play in the funding and success of high-growth ventures (Stuart and Sorenson, 2010). Women are therefore more likely to be successful in seeking capital from other women (Becker-Blease and Sohl, 2008). However, the venture and angel capital industries are still male-dominated (Box 4.4.1). Figure 4.4.2 illustrates the gender composition of top-management in companies providing venture capital financing. The percentage of men among the top-managers of venture-capital firms is at least 70%, among countries for which data are available, and it is particularly high for companies located in Asia (Gaule and Piacentini, 2012). This predominance of men on the supply-side may contribute to the low proportion of venture capital-backed start-ups founded by women (7700 ventures receiving funds in 2011 have on average only 10% of women as founders or top managers).

**Figure 4.4.2. Venture-capital investors are predominantly male, particularly in Asia, 2011**

Average percentage of men among top managers of venture capital investment companies, by country where the company was established.



Notes: (i) Only countries for which data are available for at least 100 venture capital investment companies are shown; (ii) Countries are ordered by increasing percentage of men among top managers of venture-capital investment companies.

Source: Gaule and Piacentini (2012).

#### Box 4.4.1. Angel financing and women's entrepreneurship

Venture capital and angel financing are important sources of funding for young, technology-based firms. Venture capital takes the form of a fund run by general partners, used to invest in the early to expansion stages of high-growth firms. A business angel is a high net worth individual who invests his/her own funds into promising entrepreneurial businesses in return for stock in the companies.

OECD (2011t), *Financing High Growth Firms: The Role of Angel Investors* showed that women are greatly underrepresented in the angel investment community. Only 5% of angel investors in Europe are women and only 13% in the U.S. In the venture capital industry, females comprise only 17% of professional staff and the figure is estimated to be less than 10% in Europe.

In the United States and Europe, some "female angel groups" have been created to encourage more women to invest. These groups introduce women to angel investing and provide training and mentoring to build their interest and confidence in investing in start-ups. In addition, there are some growing efforts to "mainstream" women into existing angel groups. Both of these approaches are important for building a larger pipeline of female investors.

Despite the widespread awareness of the gender gap in angel investing and venture capital, little research has been conducted to date to understand the barriers preventing women from participating more actively. In their 2010 white paper on "Women & European Early Stage Investing" EBAN (The European Trade Association for Business Angels, Seed Funds, and other Early Stage Market Players) proposed a number of actions to address this gap. These include conducting further research, developing best practices, raising awareness, promoting professional standards and codes of conduct that encourage greater diversity and building networks in the female investment community.

Increasing the number of women participating in the angel investment and venture capital community can pay off not only in terms of increasing the diversity of skills and expertise in the investment community but can also help open more doors for women entrepreneurs, particularly those in high growth firms.

326. In addition to providing funding, angel investors and venture capitalist make non-financial contributions to firms, by helping the entrepreneur cope with uncertainty and providing oversight or strategic insights (Gompers and Lerner, 2003). Problems faced by women in accessing these financial



networks might explain why women appear to be particularly under-represented in emerging high-technology sectors, where returns are potentially very high but uncertainty is also greater.

327. The low presence of women among founders of high-technology enterprises is also explained by gender differences in education and career choices. The underrepresentation of women in science becomes greater in tenure track positions, partly as a result of enduring gender gaps in salaries and promotion. Recent data on 12 000 inventors from 23 OECD countries show that female inventors earn lower wages than male inventors: 59% of the female inventors earn less than EUR 50 000 per year, while only 35% of the male inventors do so (Gambardella, 2012). This gap does not correspond to worse performance, but it is rather explained by the fact that women may exert less effort in negotiating their salary.

328. Male faculty members in the United States patent at more 2.5 times the rate of their female counterparts (Ding *et al.*, 2006). The fact that women commercialise less than men is partly explained by the explicit exclusion of women in the early days of commercial science, leaving women with low access to successful role models (Murray and Graham, 2007). Frietsch *et al.*, (2009) show that the gender gap in patent applications has been decreasing over time in most countries. In the United States, the gap in the commercialisation of ideas is significantly shrinking. Women inventors commercialised 79 % of their inventions compared to 80% for all U.S. inventors (USPTO, 2009). Interestingly, Cook and Kongcharoen (2010) show that mixed-gender patent teams commercialise their patents more than all-male and all-female patent teams.

### **Policies for raising innovation in women-owned enterprises**

329. Policies aimed at raising the innovation activity in women-owned enterprises should address three main gaps: 1) an education and career experience gap in certain innovative or high tech fields; 2) an equity financing gap, reducing the capacity of women to fund innovative ventures; 3) a networking gap, generated by the low numbers of women entrepreneurs in innovation-intensive industries and by the low visibility of successful innovative women. These three gaps are interrelated, and are difficult to overcome given the reinforcing interactions between supply side (lower access to resources) and demand side (lower demand and expectations) factors. Several countries are taking concrete steps for the promotion of women innovators and high growth entrepreneurs (EC, 2008), recognising that economic growth relies on the continuous marketing and application of new ideas, and that women generate many of these ideas. It is increasingly clear that more 'diverse' teams are more productive (Page, 2008), and thus that male dominance in certain technology and scientific fields, equity investment networks, and top management can hamper innovation.

330. In certain male-dominated fields, gender stereotypes can reduce women's self-confidence, and thus the likelihood that female entrepreneurs launch innovative firms. Public policies can tackle these stereotypes, showcasing experiences of women who succeeded in male-dominated industries with high individual and social returns (Chapter 4.2). The entrepreneurial mindset among women in science and technology can be fostered by integrating entrepreneurship modules into technology-oriented programmes of study, and by engaging more women in campus-based incubators, science parks and technology centres (Novakova, 2006).

331. Women's access to equity financing can be substantially improved by government policies that encourage private investment and address gaps in the private funding process in general. Gender inclusion targets can be included both in public direct funding and in public co-investment contributions to private funding. Besides funding support, public policies can facilitate access of women to risk capital through networking and information programmes. Finance South East, in UK, has created a programme to facilitate women's access to risk capital. Similar networking programs are running in Germany (National Agency for Women Start-ups (BGA)) and in Poland (Gdansk Entrepreneurship Foundation).

**Key policy messages**

- Awareness programmes about successful women in science and technology and women in high growth firms can provide useful role models for young women who may otherwise not consider these fields.
- Support programs targeting women-owned enterprises should include modules on scaling companies and encouraging women to have a higher growth ambition for their innovations and firms.
- Enable equal access of women innovators to equity financing. Provide financial training for women to encourage more to join business angel networks or venture capital firms.

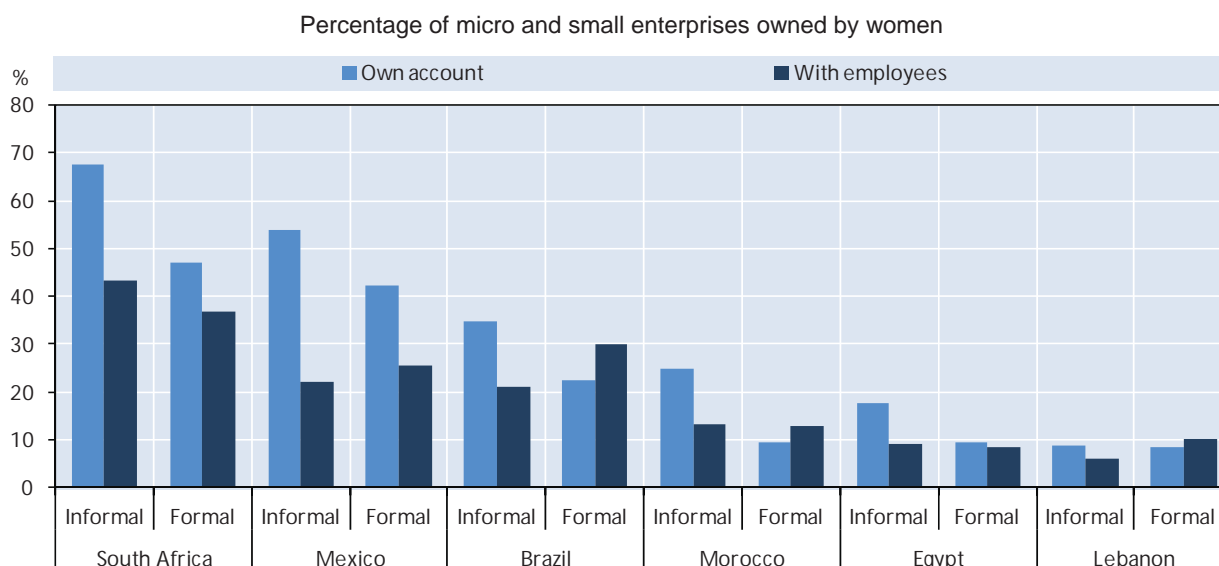
## CHAPTER 4.5: WOMEN BUSINESS OWNERS IN THE FORMAL AND INFORMAL SECTORS OF EMERGING AND DEVELOPING ECONOMIES

### Key findings

- The share of women among owners of micro and small enterprises is much higher in the informal sector of emerging and developing economies. Many female business owners in the informal sector have no formal education, and start their business out of economic necessity.
- The majority of female micro and small entrepreneurs in developing countries face problems in accessing markets, building scale and raising their profitability. There is little mobility out of the informal sector.

332. In most developing and emerging economies, micro and small businesses play a pivotal role in the livelihoods of millions of workers and their families. Many of these businesses operate in the informal economy (La Porta and Schleifer, 2008). Across countries at different level of development and with different social institutions, women represent an important share of the owners of micro and small enterprises (Figure 4.5.1). Women tend to be more prevalent in the informal sector, representing the majority of informal business owners without employees in Mexico and South Africa. Ownership of a micro-business in the informal sector is often the most practical source of employment for low skilled and poor women. Most of these businesses are operated from home which facilitates the reconciliation of business and family commitments.

**Figure 4.5.1. Women frequently own micro and small enterprise, but less so in MENA countries**

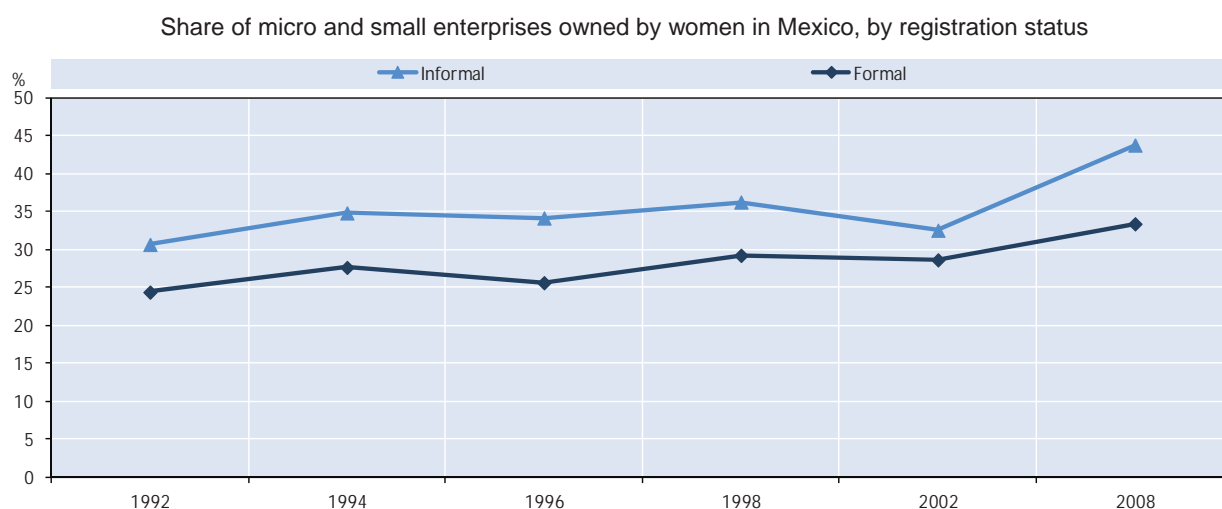


Note: (i) Data refer to businesses with less than 15 employees (less than 5 employees in Brazil and for the Mexican non-manufacturing sector); (ii) Countries are ordered by decreasing percentage of women-owned enterprises in the informal sector.

Source: OECD Secretariat estimates based on ENAMIN 2008 (Mexico), Economia Informal Urbana 2003 (Brazil), Finscope 2010 (South Africa), and ERF Micro and Small Enterprises Dataset for MENA Countries 2003 (Egypt, Lebanon and Morocco).

333. Informal enterprises are often associated with insecurity and low-quality jobs, both for the owners and their workers (UN, 2008). Moreover, some analysts have stressed that informal firms generate efficiency losses, because by avoiding taxes they take away market shares from more productive formal competitors (Farrell, 2004). Formalisation of business activities tends to increase with economic development, but there is scant evidence on differences in the propensity of women and men business owners to move out of the informal sector as economic conditions improve. Data on micro-firms in Mexico from 1992 to 2008 show that the percentage of female owners has been increasing more in the informal sector than in the formal one (Figure 4.5.2). Public policies contributed to the large increase in the number of micro-enterprises owned by women in Mexico. In particular, a large microcredit programme running since 2000 (*Programa Nacional de Financiamiento al Microempresario, Pronafim*) has targeted mainly women (87% of the beneficiaries in 2011).

**Figure 4.5.2. The percentage of female-owned micro and small businesses has increased in Mexico both in the formal and informal sectors**



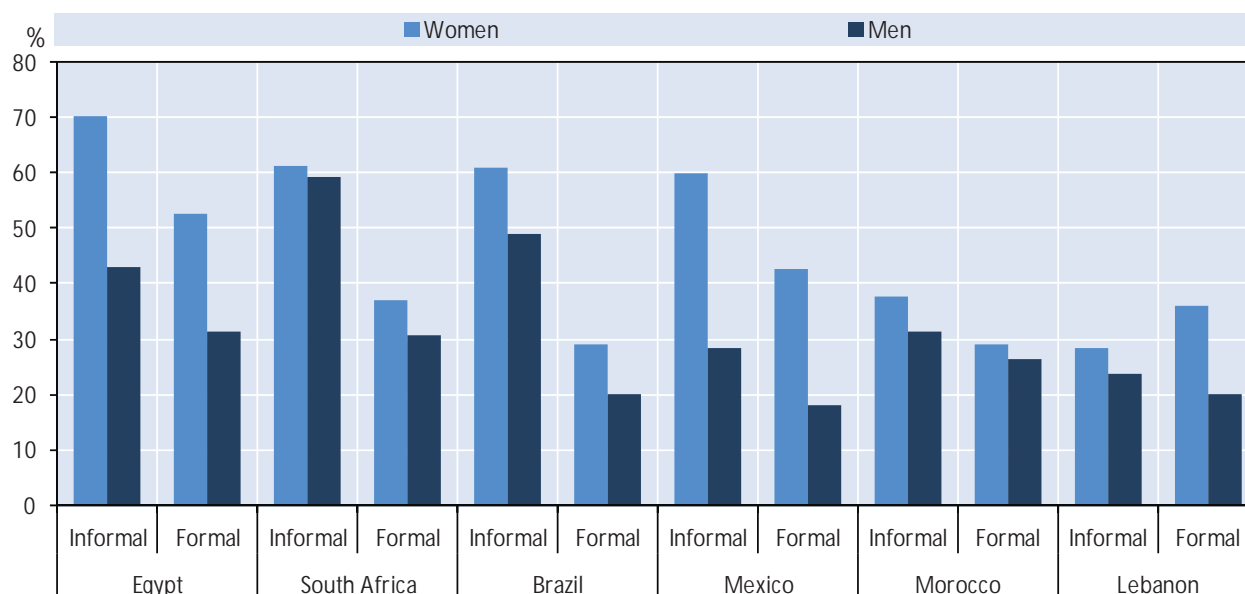
Note: Only microenterprises with 5 employees or less (15 employees or less in manufacturing) are included.

Source: OECD Secretariat estimates based on six waves of INEGI Encuesta Nacional de Micronegocios (ENAMIN). The data are representative of Mexican urban areas. ENAMIN 2008 data were adjusted according to estimates from the population census.

334. Figure 4.5.3 shows that more women than men start their business in the informal sector out of economic necessity, especially in Egypt and Mexico (Chapter 4.2). Other non-pecuniary benefits from self-employment, such as flexible timing, are relatively unimportant among the owners of micro-enterprises.

**Figure 4.5.3. More women than men start a business out of necessity, particularly in Egypt and Mexico**

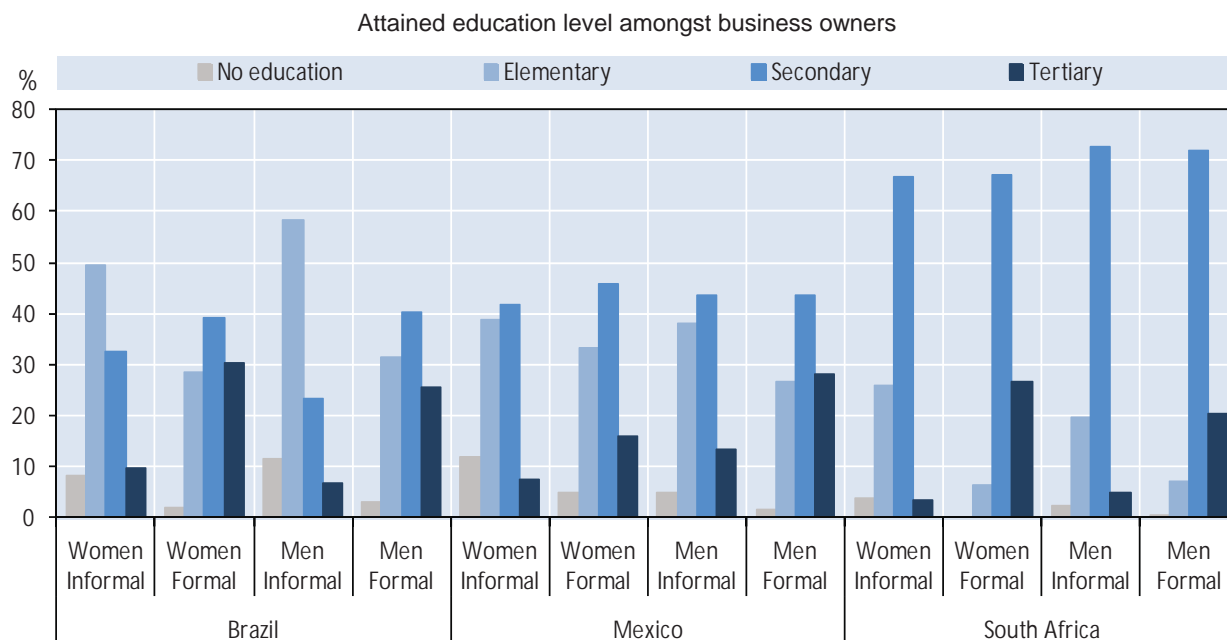
Percentage of enterprises whose owner became an entrepreneur out of necessity (he/she had no other options for earning an income), by gender of the owner



Note: Countries are ordered by decreasing proportion of women who started an informal business for necessity.

Source: OECD Secretariat estimates based on ENAMIN 2008 (Mexico), *Economia Informal Urbana* 2003 (Brazil), Finscope 2010 (South Africa), and ERF Micro and Small Enterprises Dataset for MENA Countries 2003 (Egypt, Morocco and Lebanon).

335. Women business owners in the informal sector are much less productive (in terms of sales per employee) than women in the formal one (70%, 52% and 34% less productive, respectively in Brazil, Mexico and South Africa). The substantial gap in productivity between registered and unregistered firms might be explained by the lower level of human capital of the informal owners (De Mel *et al.*, 2009). Figure 4.5.4 shows the difference between the education level of men and women in the formal and informal sector for Brazil, Mexico and South Africa. Women business owners in the informal sector are significantly less educated than women operating in the formal sector. In Mexico and South Africa, having no formal education is more common among women in the informal sector, while the opposite is observed in Brazil. More women than men in the formal sector have university education in Brazil and South Africa, while in Mexico significantly more male business owners have tertiary education. Interview evidence from Africa shows that women enter and develop formal-sector companies based on their education and previous formal-sector work experience (Spring, 2009). These ‘formal’ entrepreneurs target different clients and use different business networks. They perceive themselves as fundamentally different from the ‘survival’ entrepreneurs in the informal economy, and have thus different expectations from public policies.

**Figure 4.5.4. A significant number of women business owners in the informal sector received no education**

Source: OECD estimates based on ENAMIN 2008 (Mexico), Economia Informal Urbana 2003 (Brazil), and Finscope 2010 (South Africa).

336. In Brazil, Mexico, Morocco and Lebanon, both in the formal and in the informal sector, women have significantly less tenure in their business than men, suggesting a shorter business longevity of women-owned firms. In Egypt, men and women in the formal sector have marked differences in business tenure. In South Africa, gender differences in the age of the micro-businesses are minor, but businesses in the informal sector have been operating for a significantly lower number of years.

337. Despite large differences in the size, profits and activity of their businesses, women and men tend to give similar answers when asked about the major problems they have to face. Across countries, low profitability is the most serious difficulty faced by both men and women. Few women and men business owners in the formal sector consider taxes and labour regulations the main problem of their business (0.6% and 2% of the women in the formal sector, respectively in Brazil and in Mexico). In South Africa, the enforcement of laws is more an issue for women than for men in the informal sector (6.8 % of the women consider public inspections a problem for their businesses, versus 1.8% of the men). Shocks in input and rent prices are an important concern for micro-business owners in Mexico (for around 16% of men and women in the formal sector, and around 10% of women and men in the informal one).

#### **Box 4.5.1. Policy lessons: promoting women entrepreneurship in China, India, and Indonesia**

A joint ADB/OECD workshop brought together scholars and policy-makers from China, India, and Indonesia to discuss causes and solutions to gender differences in education, employment and entrepreneurship (Manila, 28-29 February 2012, <http://beta.adb.org/news/events/adb-oecd-joint-workshop-gender-and-3es>).

The discussions highlighted the differences in entrepreneurial participation and policy landscape for women entrepreneurs in the three countries. In India, the number of micro, small and medium enterprises (MSMEs) has been continuously rising, up to almost 30 million in 2010. The percentage of women-owned MSMEs is around 13%. Women in India have developed over time more recognition of their capacities as entrepreneurs, but social conditioning still weighs heavy on their initiative and self-confidence. Lack of time and capital limit the potentials of women to start risky ventures. In Indonesia, labour force surveys show that the share of women whose status in employment as "business owner with paid workers" (employer) has increased substantially between 1990 and 2011 (moving up to 1.7%). In 2006, women were 29% of the owners of MSMEs in manufacturing. As in India, traditions and customs represent a constraint for Indonesian female entrepreneurs, particularly in rural areas and for some ethnic groups. The situation of women entrepreneurs seem to have progressed at a faster pace in China, where female entrepreneurship boomed after the establishment of a new economic model in 1995. Data from the China Association of Women Entrepreneurs show that women entrepreneurs account for around 25% of all entrepreneurs, are more educated than men, are optimistic about their future, and are increasingly likely to seek business information from internet and to reach international markets.

India is the country with the largest number of policy initiatives specifically targeting women entrepreneurs. A particular focus has been put on programmes to raise the financial inclusion of women entrepreneurs, including different interest rates and credit guarantee schemes.

#### **Support policies for women small and micro-entrepreneurs**

338. The design of effective support policies for women entrepreneurship in developing countries requires a deeper understanding of the heterogeneous landscapes where women operate as entrepreneurs. The distinction between formal and informal is meaningful for policy design, because female owners of formal and informal businesses have different profiles and their businesses have different needs and growth potentials. Female owners in the informal sector of developing countries have much less education, start their business because of necessity and have very low earnings from their business.

339. Several countries have tried to push firms into the formal sector, primarily by reducing the costs associated to registration. 'Formalisation' programs can have a relatively large impact on women, given that the burden of complying with government regulations is heavier for the low-scale businesses where female owners are prevalent. The SIMPLES programme in Brazil introduced simplified regulations for micro and small firms, with the objective of raising their registration rates. SIMPLES led to a significant increase in registrations, and this, in turn, lead to much higher revenues, employment and profits for newly registered firms (Maloney *et al*, 2010). Lower costs of hiring through reducing the overall taxation on labour created incentives for formalised firms to increase in size. Recently, the MEI programme was launched in Brazil to further facilitate registrations of business owners (Box 4.5.2). In Mexico, the SARE programme (*Sistema de Apertura Rápida de Empresas*) introduced single-window services to reduce the number of procedures needed to register a business (OECD, 2009g).

340. However, reducing the costs of registration without significantly improving the business environment is unlikely to turn millions of informal micro-businesses into competitive small and medium enterprises in the formal sector. In Egypt, Morocco and South Africa, the most frequently cited reason for staying informal is the expectation of no benefits from registration (53% of women owning an unregistered business in South Africa expect no advantages from formality). It thus seems necessary to make more visible the competitive advantages of registration, in particular by improving the capacity of the private



financial sector and of public business support schemes to reach the very small businesses where informality is higher.

**Box 4.5.2. Encouraging exits from informality of micro-entrepreneurs: the MEI programme in Brazil**

The *Microempreendedor Individual* (MEI – Individual Micro-Enterprise) register is an initiative designed to reduce informality of low-income entrepreneurs that came into force in July 2009. Registration is free and can be done through an online portal (<http://www.portaldoempreendedor.gov.br>). Micro-entrepreneurs who register in the National Register of Legal Entities get several benefits: a) they become eligible for social security (disability benefits, maternity pay and public pensions, subject to the payment of contributions); b) they can invoice as a company; c) they get access to low-interest credit lines in public banks such as Banco do Brasil, Caixa Econômica Federal e Banco do Nordeste; d) they gain access to public procurement and business support services. In 2012, the cost associated with registration is the monthly State and Local tax payment of 6 Reais and 31 Reais in social contributions (in all, around USD 20). Eligibility to register depends on income from the business being less than 60 thousand Reais per year (around USD 33000), but above a monthly minimum wage of 622 Reais (USD 340).

The programme has been successful in attracting large numbers of micro-entrepreneurs. In 2011, the first year after the registration process was simplified, a total of 1.9 million micro entrepreneurs formalised via the MEI portal. Around 46% of newly formalised entrepreneurs are women, the areas where women's registration is higher than men's are in the north east of Brazil (Maranhão, Piauí, Ceará, and Sergipe). To encourage people to register, SEBRAE (the Brazilian Support Service for Micro and Small Enterprises) campaigns and delivers capacity building programs, often targeting women. Women entrepreneurs who registered through the programme report significant improvements in their business operations, cost of credit, and work security. One risk of the programme is that it might create incentives to under-report real revenues (in order to benefit from the special status of MEI), and reduce the attractiveness of other business legal forms (e.g. limited-liability companies and corporations) that are in general more conducive to enterprise growth.

341. In order to unlock the potential of female entrepreneurship, comprehensive policy packages need to address simultaneously the human capital deficits most micro-business owners face (formal education, management skills, and formal-sector business experience), and the external constraints limiting investments and diversification out of traditional low scale/low profit activities (high cost of capital, volatility of input prices, lack of business networks). Improving the skills and financial inclusion of informal, female micro-entrepreneurs is likely to have large effects on poverty. However, the highest growth potential lies in those women who became entrepreneurs not for surviving, but for pursuing their aspirations. Support to organisations and institutions established by and for women entrepreneurs, such as the South African Women Entrepreneurs Network (SAWEN), can enable these women to broaden their business and find the advice they need to compete outside their local area or in male-dominated industries.

**Key policy messages**

- Diversified programmes need to be put in place for different types of women entrepreneurs, for example for informal micro-entrepreneurs and formal-sector small industries. Where feasible, training should be provided as part of micro-credit programmes, to address the lack of education among female business owners in the informal economy.
- Reduce the administrative burdens of registration, as these tend to affect more women entrepreneurs facing time and resource constraints.
- Women business networks can empower those female entrepreneurs who are too wealthy to be targeted by donors and whose business is too small to be of interest for corporate investors.

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## ANNEXES

## READER'S GUIDE

## OECD COUNTRY ISO CODES

Australia	AUS	Japan	JPN
Austria	AUT	Korea	KOR
Belgium	BEL	Luxembourg	LUX
Canada	CAN	Mexico	MEX
Chile	CHL	Netherlands	NLD
Czech Republic	CZE	New Zealand	NZL
Denmark	DNK	Norway	NOR
Estonia	EST	Poland	POL
Finland	FIN	Portugal	PRT
France	FRA	Slovak Republic	SVK
Germany	DEU	Slovenia	SVN
Greece	GRC	Spain	ESP
Hungary	HUN	Sweden	SWE
Iceland	ISL	Switzerland	CHE
Ireland	IRL	Turkey	TUR
Israel	ISR	United Kingdom	GBR
Italy	ITA	United States	USA

## OTHER MAJOR ECONOMY COUNTRY ISO CODES

Brazil	BRA	Indonesia	IDN
China	CHN	Russian Federation	RUS
India	IND	South Africa	ZAF

## CONVENTIONAL SIGNS

.. Not available

## NOTES

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

(1) Footnote by Turkey: The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

(2) Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Unless otherwise stated, the OECD figure refers to the unweighted average for OECD countries for which data are available.

**ANNEX TO PART 1**

### A1.1. ESTIMATING THE EFFECTS OF HUMAN CAPITAL ACCUMULATION ON GROWTH

To measure the effect of human capital accumulation on economic growth, a human capital augmented standard neoclassical growth model is used (for more detail, see Mankiw *et al.*, (1992); Bassanini and Scarpetta, 2002; and, Arnold *et al.*, 2011) In particular, given straightforward assumptions on how the factors of production evolve over time, the steady-state level of output per capita can be expressed as a function of the propensity to accumulate physical and human capital, the population growth rate, the level and growth rates of technological and economic efficiency, and the (constant) rate of depreciation of capital. If countries were at their steady state - or if deviations from the steady state were random - growth equations could be simply based on the relationship linking steady-state output to its determinants. However, actual data may well include out-of-steady-state dynamics due, among other things, to a slow convergence to the steady state. Hence, observed changes in output per capita at any point in time are likely to include, in addition to technological progress, both a convergence component and a level component, due to shifts in the steady-state output per capita arising from other factors than technology.

The baseline growth equation used for estimation is:

$$[1] \quad \Delta \ln Y(t) = a_0 - \phi \ln Y(t-1) + a_1 \ln k(t) + a_2 \ln H(t) - a_3 \ln N(t) + a_4 t + b_1 \Delta \ln k(t) + b_2 \Delta \ln H(t) + b_3 \Delta \ln N_i(t) + \varepsilon(t)$$

Where, per capita income growth ( $\Delta Y$ ) is related to the accumulation of physical capital ( $k$ ), human capital (educational attainment  $H$ ) and population ( $N$ ),  $t$  is the time trend accounts for technological change that modifies the influence of education on output over time, while subscripts indicate country ( $i$ ) and time ( $t$ ). The  $b$ -regressors capture short-term dynamics and  $\varepsilon$  is the usual error term.

This basic growth equation can be further extended to include a variable which captures the growth rates of human capital for men and women. The revised Barro and Lee dataset includes information on educational attainment (as measured by years of schooling) from 1960 onwards. Such a long time-frame is needed to obtain robust results, but over this period trends in male and female years in school (see the Table with basic data) are strongly related. To avoid this multicollinearity issue the approach has been to include a direct measure of the gender gap in of educational attainment in the growth equation – rather than separate indicators on male and female educational attainment (Klasen (2002) and Knowles *et al.*, (2002)).

To estimate the growth equation in a cross-national set-up annual data and pooled cross-country time series are used which facilitates controlling for country- and/or period specific effects. This approach involves assuming common technological change, common population growth and common-growth convergence patterns. However, population growth differs considerably across countries, and the evidence of multifactor productivity growth patterns across countries does not fit with the assumption of common technological change (Lee *et al.*, 1997 and Bassanini and Scarpetta, 2002). To account for these issues the Pooled Mean Group (PMG) approach is used here, which allows a short-run coefficient – *i.e.* the speed of adjustment and error variances – to differ across countries, while the long-run coefficients are set to be identical (which would be consistent with the diffusion of technological change and intense trade relations).

The long-run growth equations have been estimated for 30 OECD countries over the period 1960-2008 (see the notes to the Table A1); the years 2009 and 2010 were deliberately excluded from the sample as their inclusion would introduce short-term disturbance due to the recent economic recession in the estimation of a long-run relationships. Five-year dummies are included to control for the effect of time, as the influence of education on growth might change over time with technological change. The results are presented in Table A1.1.1.

- The convergence parameters have a negative sign, which is consistent with the assumption that variables move towards a long-run equilibrium.
- Output per capita growth responds positively to the investment in physical capital ( $\lg k$ ) and negatively to the variation in population size ( $\Delta \log N$ ).
- Increasing educational attainment has a clear positive effect on economic growth: a one-year increase in the completed years of education for the whole population on average is estimated to foster an annual rate of economic growth by 9% (see the details below).
- There is a clear positive effect of greater gender equality on economic growth: a gender balanced ratio of education ( $R^{f/m}=1$ ) might increase output per capita by around 0.8% in comparison to a scenario where women have no access to education.

Table A1.1.1. A general growth model with total human capital

Pooled Mean Group, with non-linear period effects		
	Including the female-to-male ratio of educational attainment	
Convergence coefficient		
logY <sub>t-1</sub>	-0.28*** (0.04)	-0.33*** {(0.062)}
Long-run coefficients		
log k	0.28*** (0.01)	0.30*** (0.01)
Log H	1.07*** (0.06)	0.94*** (0.07)
Log R <sup>f/m</sup>	-	0.81*** (0.16)
Δlog N	-1.57*** (0.70)	
Δlog N <sup>m</sup>	-	1.06 (1.05)
Δlog N <sup>f</sup>	-	-4.80*** (1.33)
Time trend (5-years dummies)	yes	yes
Short-run coefficients		
Δlog k	0.20*** (0.02)	0.19*** (0.02)
Δlog H	-1.19** (0.57)	-1.83 ((0.95)
Δ R <sup>f/m</sup>	-	-1.75 {(1.98)}
Δ <sup>2</sup> log N	-0.80 (1.44)	
Δ <sup>2</sup> log N <sup>m</sup>		0.81 (0.85)
Δ <sup>2</sup> log N <sup>f</sup>		-0.54 (0.46)
No.of countries	30	30
No. of obs.	1150	1127
Log likelihood	3184	3184

Note: (i) Standard errors in brackets. \*\*\*, \*\* and \* : significant at the 1% , 5% and 10%, respectively.

(ii) A Hausman test does not reject the homogeneity restrictions on long-run parameters imposed by PMG estimation; the stationarity of residuals is accepted by an Im-Pesaran-Shin test.

(iii) Where the Dependent variable ( $\Delta \log Y$ ) is Growth in real GDP per head of population aged 15-64 years expressed in (2005) Purchasing Power Parities (PPP); Convergence variable ( $\log Y_{t-1}$ ). Lagged real GDP per head of population aged 15-64 years, in PPP; Physical capital accumulation ( $\log k$  : the propensity to accumulate physical capital is proxied by the ratio of real private non-residential fixed capital formation to real private GDP; Population growth ( $\Delta \log N$ ). Growth in the working age population (15-64 years), also separately for men  $\Delta \log N^m$  and women  $\Delta \log N^f$  ; the Stock of human capital ( $\log H$ ) is proxied by the average number of years of schooling of the population from 25 to 64 years of age; and,  $R^{f/m}$  is the female-to-male ratio in education attainment (e.g. the ratio in the years of education for women aged 25 to 64 years to the male population of the same age).

(iv) Countries included are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

Source: OECD 2011 for data on GDP and Capital accumulation. Information on educational attainment by gender is taken from the revised Barro-Lee dataset (Barro and Lee, 2010), which includes data on years in education, enrolment and completion rates for both men and women from 1960 onwards with a 5-year interval (annual series were derives by means of linear interpolation).

Overall, one additional year of schooling in the population is estimated to raise output per capita by 9% per annum. This is less than the 13% found by Topel (1999), but at the higher end of Bassanini and Scarpetta (2002). This is not surprising since we cover a longer period and a larger number of countries, including those where both the growth in educational attainment and output per capita were more pronounced.

The average years in education has increased on average by 1.2% per annum (from 6.13 years in 1960 to 11.1 in 2008). The second model specification suggests a growth-elasticity to the years of education of 0.94, suggesting human capital accumulation induced an increase in growth of 1.1% ( $=0.94 \times 1.2$ ) per annum. As GDP pc grew actually by 2.2% per annum on average, the model specification suggests that the increase in years of education accounts for about 50% of economic growth, of which just over half was due to the increase of educational attainment among women.

The second column of Table A1.1.2 shows that output per capita growth is increased by a better gender composition of educational attainment. The elasticity of the output per capita growth to an increase in the average number of years of education is slightly lower than in the former specification: hence, the annual 1.2% increase in years of education is estimated here to have raised GDP per capita by 1.13% annually. But the higher ratio of years of female education to males has a positive and highly significant influence on the output. Hence, as the gender ratio of education increased on average by around 0.09% each year, it suggests that it contributed to raise the annual economic growth by further 0.07% per annum (i.e.  $0.09\% \times 0.81$ ).

**Table A1.1.2. Basic growth model statistics**

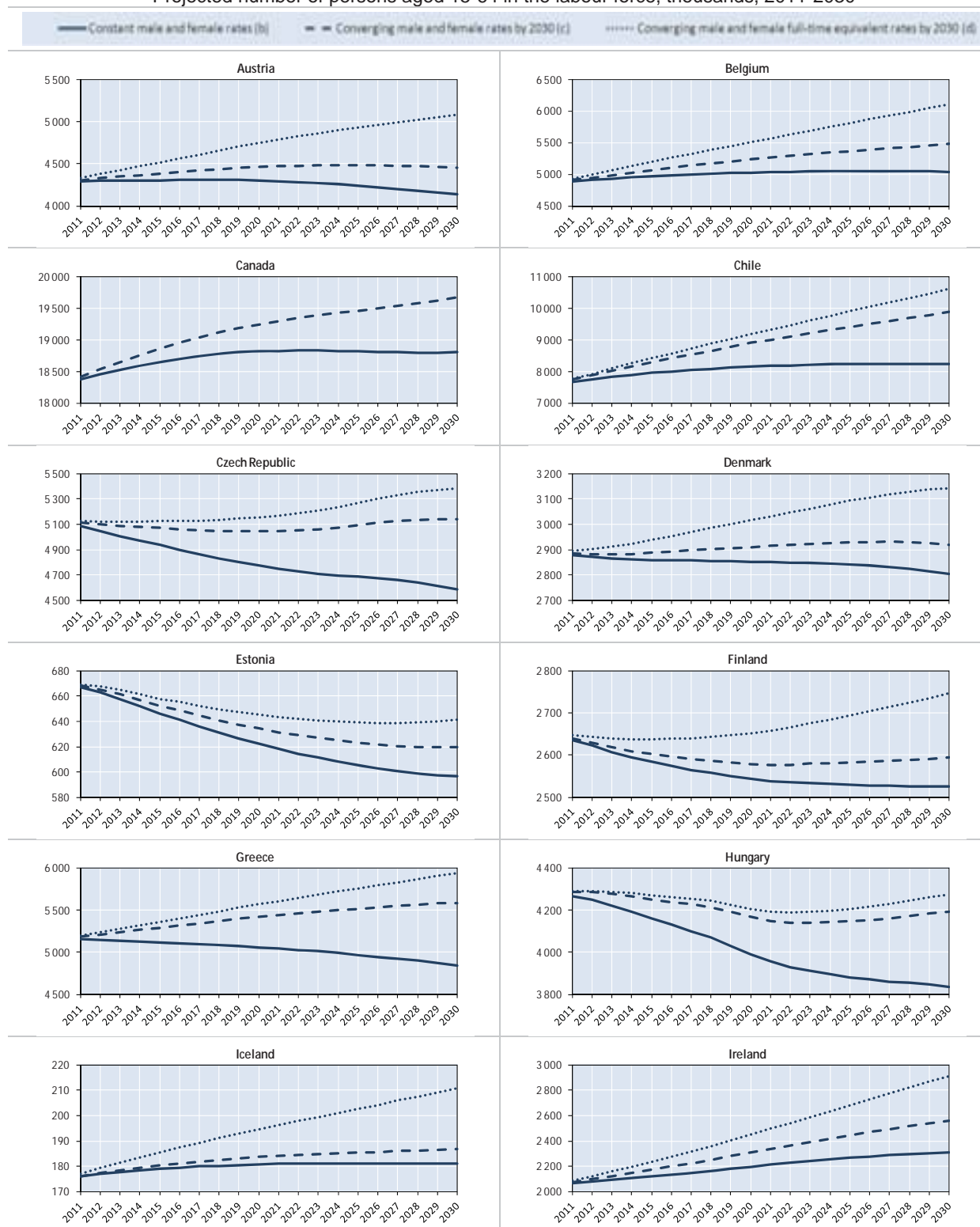
Variables		Sample mean	Standard deviation
GDP per capita (in USD at 2005 PPP)	1960	16295	5711
	1990	35503	10622
	2008	46745	18963
Average years of education - Men	1960	6.49	2.16
	1990	9.65	1.72
	2008	11.1	
Average years of education - Women	1960	5.79	2.31
	1990	9.01	2.02
	2008	11.1	1.56
Capital per capita annual growth rate		2.13	8.51
% growth of male working age population		1.00	0.85
% growth of female working age population		0.91	0.94

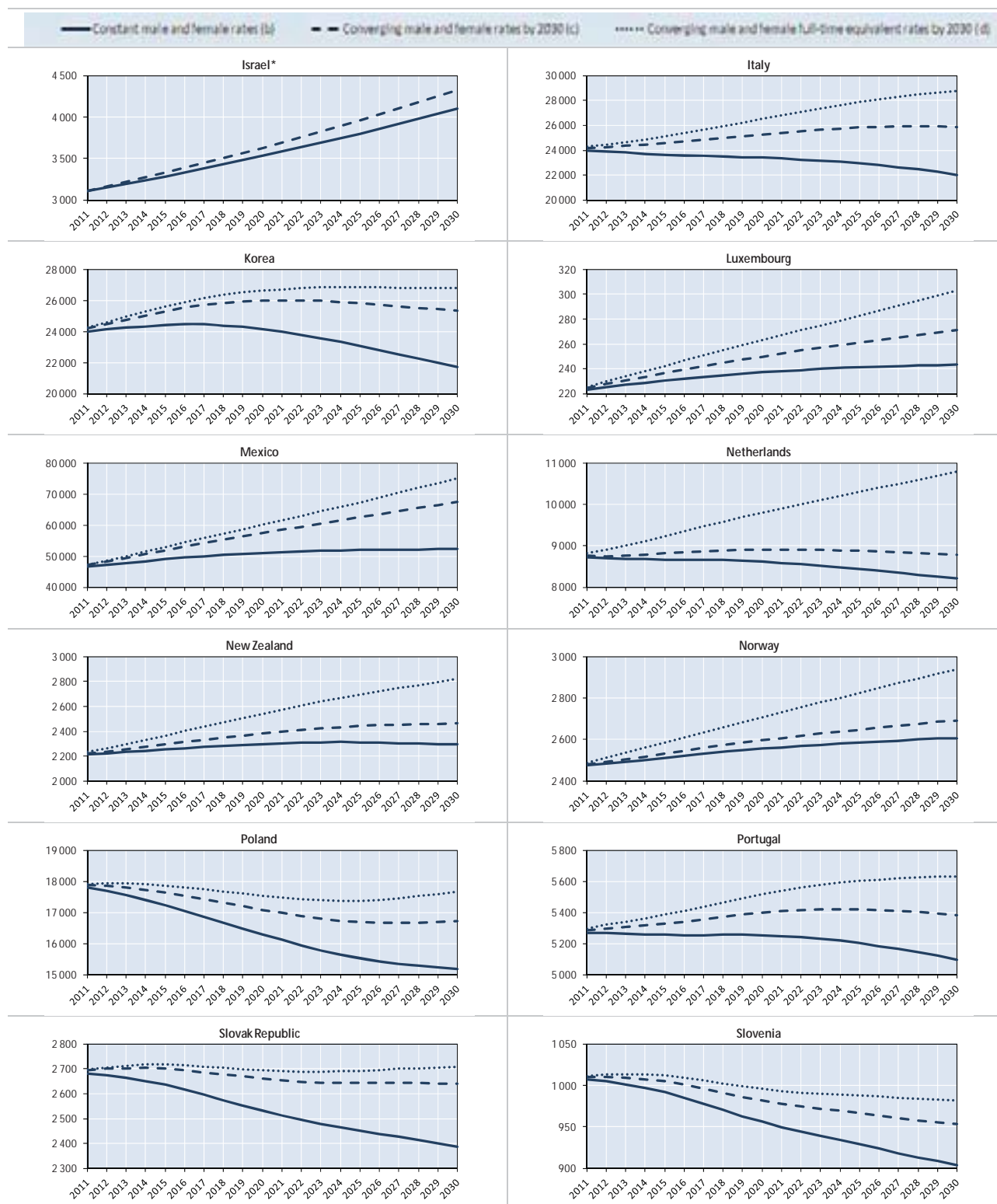


## A1.2. LABOUR FORCE PROJECTIONS FOR OECD COUNTRIES NOT COVERED IN FIGURE 1.1.2.

**Figure A1.2.1. The effect of converging participation rates between men and women on the size of the labour force**

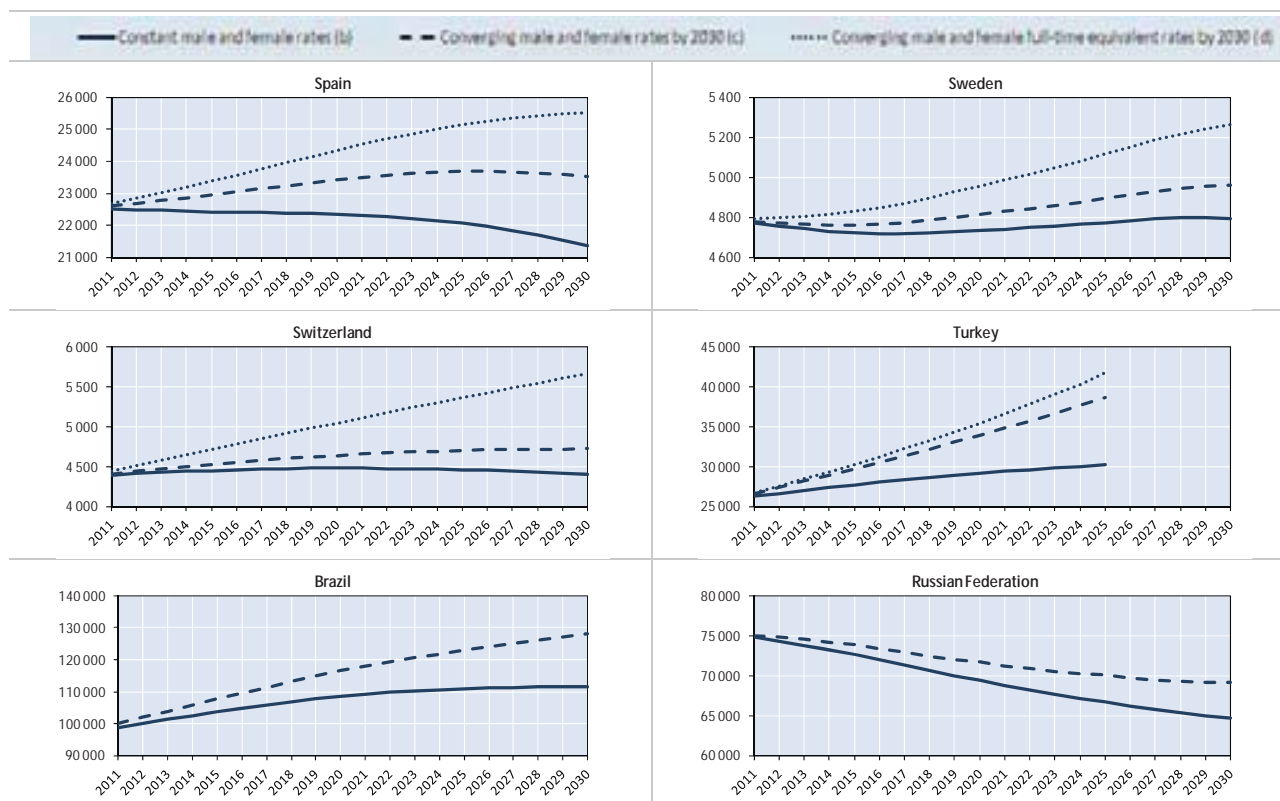
Projected number of persons aged 15-64 in the labour force, thousands, 2011-2030<sup>a</sup>



**Figure A1.2.1. The effect of converging participation rates between men and women on the size of the labour force (cont.)**Projected number of persons aged 15-64 in the labour force, thousands, 2011-2030<sup>a</sup>

**Figure A1.2.1. The effect of converging participation rates between men and women on the size of the labour force (cont.)**

Projected number of persons aged 15-64 in the labour force, in thousands, 2011-2030<sup>a</sup>



- The labour force projections are based on population projections for persons aged 15-64 years as reported by the OECD Demography and Population database.
- No-change scenario: The projected size of the total labour force aged 15-64 years, if the labour force participation rates for men and women remain constant from 2011 to 2030 at the rates observed in 2010.
- Convergence in participation rates: The projected size of the total labour force aged 15-64 years, if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the rate for women shows a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 rate for men by 2030.
- Convergence in intensity of labour market participation: The projected size of the total labour force aged 15-64 years, if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the full-time equivalent rate for women shows a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 full-time equivalent rate for men by 2030. The full-time equivalent rate is calculated as the labour force participation rate, multiplied by the average usual hours worked per week by all employed men and women respectively, and divided by 40.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD's Secretariat's calculations based on OECD (2012a), Population and Demography database, and OECD (2012b), Employment database.

**Table A1.2.1. Projected increase and decrease in labour force size from 2011 to 2030 under three scenarios of labour force participation**

	Total labour force size in 2011 (millions)	Projected increase/decrease in total labour force size in 2030 as a percentage of the levels observed in 2011 <sup>a</sup>		
		No-change scenario <sup>b</sup>	Convergence in participation rates <sup>c</sup>	Convergence in intensity of labour force participation <sup>d</sup>
Australia	11.47	19.1	28.5	47.4
Austria	4.29	-3.6	3.5	17.4
Belgium	4.89	3.2	11.6	23.9
Canada	18.38	2.3	6.8	..
Chile	7.68	7.2	27.6	36.8
Czech Republic	5.09	-9.9	0.5	5.1
Denmark	2.88	-2.7	1.2	8.6
Estonia	0.67	-10.5	-7.2	-4.1
Finland	2.64	-4.2	-1.7	3.8
France	28.72	-0.8	5.0	14.1
Germany	41.98	-11.9	-5.7	8.2
Greece	5.15	-6.0	7.7	14.1
Hungary	4.27	-10.1	-2.2	-0.3
Iceland	0.18	2.9	6.1	19.1
Ireland	2.06	12.0	23.4	39.7
Israel <sup>e,*</sup>	3.06	34.2	41.6	..
Italy	24.00	-8.2	7.1	18.6
Japan	59.96	-16.8	-5.3	..
Korea	24.01	-9.5	4.9	10.5
Luxembourg	0.22	8.9	20.8	34.2
Mexico	46.59	12.1	43.4	59.1
Netherlands	8.73	-6.0	0.3	22.2
New Zealand	2.21	3.7	11.2	26.6
Norway	2.47	5.3	8.6	18.2
Poland	17.80	-14.8	-6.5	-1.4
Portugal	5.27	-3.4	1.8	6.3
Slovak Republic	2.68	-11.0	-2.1	0.4
Slovenia	1.01	-10.3	-5.6	-2.9
Spain	22.51	-5.1	4.0	12.5
Sweden	4.77	0.5	3.8	9.9
Switzerland	4.39	0.2	7.2	27.6
Turkey <sup>e</sup>	26.25	15.0	45.2	56.2
United Kingdom	31.43	2.8	10.5	26.5
United States	154.74	9.2	17.0	..
Brazil	98.81	13.0	28.0	..
Russian Federation	74.80	-13.5	-7.9	..

Source: The labour force projections are based on population projections for persons aged 15-64 years as reported by the OECD Demography and Population database.

- No-change scenario: The projected size of the total labour force aged 15-64 years, if the labour force participation rates for men and women remain constant from 2011 to 2030 at the rates observed in 2010.
- Convergence in participation rates: The projected size of the total labour force aged 15-64 years, if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the rate for women shows a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 rate for men by 2030.
- Convergence in intensity of labour market participation: The projected size of the total labour force aged 15-64 years, if the labour force participation rate for men remains constant from 2011 to 2030 at the rate observed in 2010, and the full-time equivalent rate for women show a gradual increase (steady growth rate) from 2011 to 2030 reaching the 2010 full-time equivalent rate for men by 2030. The full-time equivalent rate is calculated as the labour force participation rate, multiplied by the average usual hours worked per week by all employed men and women respectively, and divided by 40.
- For Israel the figures reflect the percentage change from 2010 to 2030; For Turkey the figures reflect the percentage change from 2011 to 2025.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD's Secretariat's calculations based on OECD (2012a), OECD Population and Demography database and OECD (2012b) Employment database.

**ANNEX TO PART 2**

## A2.1. SUPPLEMENTARY TABLES TO CHAPTER 2.1

Table A2.1.1. Adjusted primary school net enrolment rates, 2000 and 2010

Total number of pupils of the official primary school age who are enrolled at primary or secondary education levels, expressed as a percentage of the eligible official primary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>OECD</b>	<b>97.6</b>	<b>97.6</b>	<b>97.6</b>	<b>1.00</b>	<b>98.2</b>	<b>98.0</b>	<b>98.3</b>	<b>1.00</b>
Australia	94.6	94.2	95.0	1.01	97.2	96.9	97.5	1.01 m
Austria	90.1	89.6	90.6	1.01 d	..	..	..	..
Belgium	99.2	99.0	99.4	1.00	99.0	98.9	99.2	1.00 m
Canada	99.8	99.6	99.9	1.00 d	..	..	..	..
Chile	..	..	..	..	93.8	94.0	93.6	1.00 m
Czech Republic	95.9	95.8	96.0	1.00 d	..	..	..	..
Denmark	98.1	97.7	98.5	1.01	96.0	94.9	97.1	1.02 m
Estonia	99.3	99.4	99.2	1.00	96.3	96.5	96.0	1.00 m
Finland	99.7	99.7	99.8	1.00 e	97.6	97.5	97.7	1.00 m
France	99.7	99.5	99.8	1.00	99.2	99.1	99.3	1.00 j
Germany	84.5	83.7	85.2	1.02 c	..	..	..	..
Greece	97.7	97.6	97.9	1.00	98.5	98.3	98.7	1.00 k
Hungary	97.5	97.3	97.7	1.00	98.0	97.8	98.1	1.00 m
Iceland	99.2	100.0	98.3	0.98	99.4	99.3	99.6	1.00 m
Ireland	93.8	93.6	94.1	1.01	98.2	97.5	98.9	1.01 m
Israel*	97.9	98.1	97.6	1.00	97.0	96.7	97.3	1.01 m
Italy	99.7	99.8	99.7	1.00	99.4	99.6	99.2	1.00 m
Japan	..	..	..	..	..	..	..	..
Korea	99.8	99.5	100.0	1.00	99.6	100.0	99.1	0.99 m
Luxembourg	97.0	96.0	98.1	1.02	96.8	96.1	97.6	1.02 l
Mexico	99.5	99.1	99.9	1.01	99.6	99.4	99.8	1.00 m
Netherlands	99.4	100.0	98.8	0.99	99.4	99.9	98.9	0.99 k
New Zealand	99.0	98.8	99.1	1.00	99.5	99.4	99.6	1.00 m
Norway	99.7	99.6	99.8	1.00	99.0	98.8	99.1	1.00 m
Poland	97.5	97.7	97.2	0.99	96.0	96.1	95.9	1.00 m
Portugal	99.4	99.3	99.4	1.00 f	99.4	99.2	99.5	1.00 m
Slovak Republic	..	..	..	..	..	..	..	..
Slovenia	95.3	94.2	96.4	1.02	97.2	97.3	97.1	1.00 m
Spain	99.9	100.0	99.9	1.00	99.9	99.9	99.9	1.00 m
Sweden	99.4	99.7	99.1	0.99	99.3	99.6	99.0	0.99 m
Switzerland	99.3	98.9	99.7	1.01	98.9	98.6	99.1	1.01 m
Turkey	96.0	99.9	91.9	0.92	97.5	98.2	96.7	0.98 m
United Kingdom	100.0	100.0	100.0	1.00	99.8	99.9	99.7	1.00 m
United States	97.0	97.1	97.0	1.00	96.9	95.9	97.9	1.02 m
<b>Caribbean</b>	<b>91.9</b>	<b>91.9</b>	<b>91.9</b>	<b>1.00</b>	<b>91.8</b>	<b>91.6</b>	<b>92.1</b>	<b>1.01</b>
Anguilla	99.3	99.0	99.6	1.01 e	92.9	92.7	93.0	1.00 l
Antigua and Barbuda	..	..	..	..	87.8	91.1	84.5	0.93
Aruba	98.7	99.0	98.4	0.99	99.7	99.5	99.9	1.00
Bahamas	87.7	88.7	86.7	0.98	95.1	94.0	96.2	1.02 j
Barbados	94.7	91.7	98.0	1.07	93.4	89.8	97.5	1.09 k
Bermuda	..	..	..	..	..	..	..	..
British Virgin Islands	95.5	95.4	95.5	1.00 h	95.0	95.2	94.7	0.99 m
Cayman Islands	93.8	92.3	95.3	1.03 f	83.9	83.4	84.4	1.01 l
Cuba	98.1	98.4	97.8	0.99	99.8	100.0	99.7	1.00
Dominica	..	..	..	..	95.5	94.6	96.4	1.02 l
Dominican Republic	84.8	84.3	85.3	1.01	93.0	95.5	90.4	0.95
Grenada	83.2	86.6	79.8	0.92	97.5	95.7	99.3	1.04 m
Haiti	..	..	..	..	..	..	..	..
Jamaica	93.8	94.0	93.7	1.00	82.8	83.8	81.9	0.98 m
Montserrat	..	..	..	..	..	..	..	..
Puerto Rico	..	..	..	..	85.9	83.5	88.4	1.06
Saint Kitts and Nevis	..	..	..	..	86.0	85.8	86.2	1.0
Saint Lucia	96.8	97.4	96.2	0.99	89.7	90.2	89.2	0.99
Saint Vincent and the Grenadines	..	..	..	..	98.3	99.5	97.0	1.0 i
Trinidad and Tobago	93.5	93.2	93.8	1.01	95.9	97.5	94.4	0.97 m
Turks and Caicos Islands	75.2	75.3	75.0	1.0 g	80.7	77.5	83.9	1.1 i

Source: UNESCO (2012a), UNESCO Education database.

**Table A2.1.1. Adjusted primary school net enrolment rates, 2000 and 2010 (cont.)**

Total number of pupils of the official primary school age who are enrolled at primary or secondary education levels, expressed as a percentage of the eligible official primary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>Central America</b>	<b>88.9</b>	<b>89.8</b>	<b>88.0</b>	<b>0.98</b>	<b>96.3</b>	<b>97.0</b>	<b>95.7</b>	<b>0.99</b>
Belize	90.0	93.7	86.4	0.92	95.1	99.7	90.7	0.91 i
Costa Rica	..	..	..	..	..	..	..	..
El Salvador	86.0	85.4	86.5	1.01 e	94.6	94.1	95.0	1.01 m
Guatemala	86.7	90.0	83.4	0.93	98.6	99.6	97.6	0.98
Honduras	88.8	88.4	89.2	1.01	97.2	95.9	98.4	1.03
Nicaragua	83.2	82.4	84.1	1.02	93.9	93.2	94.5	1.01
Panama	98.6	98.7	98.6	1.00	98.7	99.1	98.2	0.99
<b>South America</b>	<b>96.3</b>	<b>96.2</b>	<b>96.4</b>	<b>1.00</b>	<b>92.7</b>	<b>92.6</b>	<b>92.9</b>	<b>1.00</b>
Argentina	99.4	99.8	98.9	0.99 d	..	..	..	..
Bolivia (Plurinational State of)	96.2	96.1	96.3	1.00	95.5	95.2	95.8	1.01 k
Brazil	94.5	96.8	92.1	0.95 h	95.1	95.9	94.2	0.98 l
Colombia	96.8	96.9	96.8	1.00	91.5	91.7	91.3	1.00
Ecuador	99.2	98.5	99.9	1.01 d	..	..	..	..
Guyana	98.3	98.1	98.4	1.00 g	84.1	82.4	85.9	1.04
Paraguay	97.9	97.5	98.2	1.01	85.7	85.7	85.7	1.00 m
Peru	99.5	99.7	99.4	1.00 c	97.2	97.0	97.5	1.01 m
Suriname	92.4	90.4	94.4	1.04 e	90.9	90.9	91.0	1.00 m
Uruguay	..	..	..	..	99.5	99.8	99.2	0.99 m
Venezuela (Bolivarian Republic of)	89.3	88.6	90.0	1.02	94.9	94.7	95.1	1.00
<b>East Asia and the Pacific</b>	<b>91.7</b>	<b>92.0</b>	<b>91.3</b>	<b>0.99</b>	<b>91.8</b>	<b>92.1</b>	<b>91.5</b>	<b>0.99</b>
Brunei Darussalam	..	..	..	..	..	..	..	..
Cambodia	90.5	94.4	86.6	0.92	95.9	96.4	95.4	0.99
China	..	..	..	..	..	..	..	..
China, Hong Kong Special Administrative Region	93.0	93.4	92.6	0.99 e	96.8	96.2	97.5	1.01 m
China, Macao Special Administrative Region	86.0	84.5	87.7	1.04	82.6	81.0	84.3	1.04
Cook Islands	94.3	93.0	95.9	1.03	98.7	99.3	97.9	0.99 k
Fiji	94.7	94.7	94.7	1.00	99.1	98.8	99.3	1.00 m
Indonesia	94.0	95.6	92.3	0.97	95.1	96.7	93.5	0.97 i
Kiribati	..	..	..	..	..	..	..	..
Korea, Democratic People's Republic of	..	..	..	..	..	..	..	..
Lao People's Democratic Republic	78.1	81.3	74.7	0.92	89.0	90.8	87.0	0.96 l
Malaysia	97.8	97.8	97.8	1.00	..	..	..	..
Marshall Islands	85.0	85.0	85.1	1.00 e	..	..	..	..
Micronesia (Federated States of)	..	..	..	..	..	..	..	..
Mongolia	91.8	90.9	92.8	1.02	98.1	98.3	97.8	0.99 m
Myanmar	..	..	..	..	..	..	..	..
Nauru	..	..	..	..	..	..	..	..
Niue	98.5	98.6	98.4	1.00 d	..	..	..	..
Palau	..	..	..	..	..	..	..	..
Papua New Guinea	..	..	..	..	..	..	..	..
Philippines	89.8	89.5	90.1	1.01 d	88.7	87.9	89.5	1.02 m
Samoa	92.2	91.5	93.0	1.02	..	..	..	..
Singapore	..	..	..	..	..	..	..	..
Solomon Islands	..	..	..	..	82.0	82.9	81.1	0.98 k
Thailand	..	..	..	..	89.7	90.0	89.4	0.99 m
Timor-Leste	..	..	..	..	85.9	86.2	85.6	0.99
Tonga	..	..	..	..	..	..	..	..
Vanuatu	97.7	98.3	97.0	0.99 d	..	..	..	..
Viet Nam	..	..	..	..	..	..	..	..
<b>Southern Asia</b>	<b>76.5</b>	<b>81.4</b>	<b>71.3</b>	<b>0.87</b>	<b>91.7</b>	<b>92.3</b>	<b>91.0</b>	<b>0.98</b>
Afghanistan	..	..	..	..	..	..	..	..
Bangladesh	..	..	..	..	95.5	91.2	100.0	1.10 m
Bhutan	58.5	61.5	55.5	0.90	88.9	87.6	90.2	1.03 m
India	84.8	92.1	76.8	0.83	96.1	97.8	94.2	0.96 k
Iran (Islamic Republic of)	85.7	87.1	84.2	0.97	96.7	97.6	95.7	0.98 i
Maldives	98.6	98.0	99.2	1.01	96.8	96.7	96.8	1.00 n
Nepal	73.5	80.6	66.0	0.82	..	..	..	..
Pakistan	57.9	68.9	46.3	0.67 e	74.1	81.3	66.5	0.82
Sri Lanka	..	..	..	..	93.7	93.5	93.9	1.00 m

Source: UNESCO (2012a), UNESCO Education database.



Table A2.1.1. Adjusted primary school net enrolment rates (2000 and 2010) (cont.)

Total number of pupils of the official primary school age who are enrolled at primary or secondary education levels, expressed as a percentage of the eligible official primary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>Eastern Europe &amp; Central Asia</b>	<b>94.1</b>	<b>94.6</b>	<b>93.7</b>	<b>0.99</b>	<b>92.8</b>	<b>92.7</b>	<b>92.9</b>	<b>1.00</b>
Albania	96.5	97.5	95.4	0.98 g	78.8	78.5	79.1	1.01
Armenia	93.2	92.7	93.6	1.01 e	79.5	78.2	81.1	1.04
Azerbaijan	88.2	88.5	88.0	0.99	84.7	85.3	84.1	0.99
Belarus	92.4	92.6	92.2	1.00 f	96.1	95.0	97.4	1.02 l
Bosnia and Herzegovina	..	..	..	..	87.4	86.5	88.4	1.02
Bulgaria	98.1	98.9	97.3	0.98	99.3	98.9	99.7	1.01 m
Croatia	92.4	92.8	92.0	0.99	93.2	92.9	93.5	1.01 m
Cyprus <sup>(1,2)</sup>	98.1	97.8	98.4	1.01	99.1	99.4	98.8	0.99 m
Georgia	90.2	92.1	88.3	0.96 h	95.3	96.3	94.2	0.98 k
Kazakhstan	94.0	92.8	95.3	1.03	99.5	99.4	99.7	1.00 n
Kyrgyzstan	92.3	92.5	92.2	1.00	95.3	95.5	95.1	1.00
Latvia	93.9	94.3	93.4	0.99 d	94.6	94.1	95.1	1.01 m
Lithuania	98.0	97.8	98.2	1.00	96.7	96.5	96.9	1.00 m
Macedonia, The former Yugoslav Republic of	97.8	98.1	97.4	0.99	93.9	93.0	94.8	1.02 m
Moldova, Republic of	92.6	93.0	92.1	0.99	90.1	90.1	90.1	1.00
Montenegro	..	..	..	..	..	..	..	..
Romania	92.7	92.9	92.6	1.00	92.4	92.4	92.5	1.00 m
Russian Federation	..	..	..	..	95.7	95.1	96.3	1.01 m
Serbia	..	..	..	..	94.5	94.7	94.4	1.00
Tajikistan	96.1	99.3	92.8	0.93	97.8	99.5	96.0	0.96
Turkmenistan	..	..	..	..	..	..	..	..
Ukraine	93.8	93.9	93.7	1.00 f	91.1	90.8	91.5	1.01
Uzbekistan	..	..	..	..	92.8	94.1	91.5	0.97 n
<b>Middle East and North Africa</b>	<b>88.5</b>	<b>90.3</b>	<b>86.6</b>	<b>0.95</b>	<b>94.1</b>	<b>94.9</b>	<b>93.3</b>	<b>0.98</b>
Algeria	93.0	94.5	91.5	0.97	97.3	98.2	96.4	0.98
Bahrain	98.4	97.1	99.8	1.03	99.3	99.1	99.6	1.01 j
Egypt	93.7	96.6	90.6	0.94	98.0	99.7	96.2	0.96 m
Iraq	87.4	93.4	81.0	0.87	89.2	94.5	83.7	0.89 k
Jordan	94.8	94.2	95.5	1.01	94.0	93.1	95.0	1.02 l
Kuwait	95.7	94.9	96.5	1.02	98.2	96.6	100.0	1.03 l
Lebanon	94.1	95.4	92.8	0.97 d	93.2	93.5	92.9	0.99
Morocco	76.3	80.7	71.6	0.89	96.2	96.8	95.6	0.99 n
Oman	82.4	81.3	83.5	1.03	98.1	97.9	98.4	1.01
Palestinian Authority	92.8	93.0	92.6	1.00	89.2	89.8	88.5	0.99
Qatar	96.2	93.0	99.8	1.07	96.2	95.7	96.6	1.01
Saudi Arabia	..	..	..	..	89.9	90.4	89.4	0.99 m
Syrian Arab Republic	..	..	..	..	99.1	99.8	98.4	0.99 m
Tunisia	96.5	98.1	94.8	0.97	..	..	..	..
United Arab Emirates	81.0	80.6	81.5	1.01	95.6	93.6	97.7	1.04 j
Yemen	56.7	71.2	41.6	0.58 d	78.2	85.5	70.5	0.82
<b>Western Africa</b>	<b>59.8</b>	<b>65.5</b>	<b>54.0</b>	<b>0.81</b>	<b>73.0</b>	<b>75.9</b>	<b>70.0</b>	<b>0.92</b>
Benin	85.6	99.9	71.5	0.72 g	88.0	99.8	76.3	0.76 i
Burkina Faso	34.5	40.3	28.6	0.71	61.5	65.1	57.7	0.89 m
Cape Verde	98.8	99.4	98.1	0.99 f	93.5	94.6	92.4	0.98
Côte d'Ivoire	56.8	65.5	48.2	0.74	61.5	67.1	55.8	0.83 m
Gambia	68.0	71.6	64.4	0.90	69.4	68.3	70.6	1.03
Ghana	65.0	65.7	64.2	0.98	84.2	83.8	84.6	1.01 n
Guinea	46.9	53.8	39.8	0.74	77.0	83.2	70.5	0.85
Guinea-Bissau	51.2	59.8	42.6	0.71	75.0	76.7	73.3	0.96
Liberia	46.5	52.3	40.5	0.78 d	..	..	..	..
Mali	42.2	48.7	35.5	0.73 d	65.8	70.6	60.8	0.86
Mauritania	61.1	62.0	60.2	0.97	74.4	72.8	76.0	1.04
Niger	27.1	31.6	22.3	0.71	58.3	64.2	52.0	0.81
Nigeria	64.5	70.0	58.9	0.84	62.1	64.8	59.3	0.92 k
Senegal	60.0	63.8	56.1	0.88	78.0	75.9	80.2	1.06
Sierra Leone	..	..	..	..	..	..	..	..
Togo	88.8	98.5	79.1	0.80	..	..	..	..

Source: UNESCO (2012a), UNESCO Education database.

**Table A2.1.1. Adjusted primary school net enrolment rates (2000 and 2010) (cont.)**

Total number of pupils of the official primary school age who are enrolled at primary or secondary education levels, expressed as a percentage of the eligible official primary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>Eastern &amp; Middle Africa</b>	<b>62.4</b>	<b>64.9</b>	<b>59.9</b>	<b>0.91</b>	<b>83.3</b>	<b>84.7</b>	<b>81.9</b>	<b>0.96</b>
Angola	53.5	57.6	49.4	0.86 c	85.7	93.1	78.2	0.84
Burundi	44.9	49.0	40.8	0.83	99.1	98.3	99.8	1.02 m
Cameroon	..	..	..	..	93.8	99.6	88.0	0.88 m
Central African Republic	..	..	..	..	70.9	81.3	60.6	0.75
Chad	54.6	66.0	43.1	0.65	..	..	..	..
Comoros	73.4	79.4	67.4	0.85	77.8	80.7	74.8	0.93 k
Congo	..	..	..	..	90.8	92.3	89.3	0.97
Congo, Democratic Republic of	33.3	34.2	32.3	0.95 d	..	..	..	..
Djibouti	26.8	30.5	23.1	0.76	52.0	54.9	49.1	0.89 n
Equatorial Guinea	76.0	81.2	70.7	0.87 e	56.3	56.5	56.0	0.99
Eritrea	38.0	40.7	35.2	0.87	34.9	37.2	32.5	0.87
Ethiopia	40.4	46.6	34.2	0.73	82.2	84.8	79.5	0.94
Gabon	81.4	81.6	81.2	1.00 e	..	..	..	..
Kenya	65.7	64.7	66.7	1.03	84.0	83.5	84.5	1.01 m
Madagascar	67.2	66.8	67.6	1.01	..	..	..	..
Malawi	..	..	..	..	94.3	91.0	97.6	1.07 k
Mauritius	92.5	92.3	92.8	1.01	93.4	92.4	94.4	1.02
Mozambique	56.0	61.8	50.2	0.81	92.0	94.6	89.4	0.94
Rwanda	75.9	74.9	76.9	1.03 e	90.6	89.0	92.2	1.04 l
Sao Tome and Principe	89.5	89.8	89.2	0.99 d	97.3	96.6	97.9	1.01 l
Seychelles	91.8	91.3	92.4	1.01 e	95.1	96.3	94.0	0.98 i
Somalia	..	..	..	..	..	..	..	..
Sudan	..	..	..	..	..	..	..	..
Uganda	..	..	..	..	91.0	89.7	92.3	1.03
Tanzania, United Republic of	53.1	52.4	53.8	1.03	92.1	91.3	92.9	1.02
Zambia	71.0	71.7	70.2	0.98	92.7	91.4	93.9	1.03
Zimbabwe	..	..	..	..	..	..	..	..
<b>Southern Africa</b>	<b>82.6</b>	<b>80.7</b>	<b>84.4</b>	<b>1.05</b>	<b>84.3</b>	<b>83.3</b>	<b>85.3</b>	<b>1.02</b>
Botswana	81.0	79.3	82.8	1.04	85.8	84.9	86.7	1.02 k
Lesotho	76.2	73.3	79.2	1.08	73.7	72.2	75.3	1.04
Namibia	89.6	86.5	92.7	1.07	86.4	83.9	88.9	1.06 m
South Africa	93.9	93.2	94.7	1.02	90.0	89.4	90.7	1.01 m
Swaziland	72.1	71.3	72.9	1.02	85.6	86.1	85.1	0.99

a. Gender Parity Index: ratio of female to male values of the net enrolment rate into primary education.

b. Country classification into world regions is based on UN and Worldbank classifications.

c. Data refer to 1998.

d. Data refer to 1999.

e. Data refer to 2001.

f. Data refer to 2002.

g. Data refer to 2003.

h. Data refer to 2004.

i. Data refer to 2005.

j. Data refer to 2006.

k. Data refer to 2007.

l. Data refer to 2008.

m. Data refer to 2009.

n. Data refer to 2011.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: UNESCO (2012a), UNESCO Education database.

Table A2.1.2. Gross secondary school enrolment ratios, 2000 and 2010

Total enrolment into secondary school, regardless of age, expressed as a percentage of the eligible official secondary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>OECD</b>	<b>104.4</b>	<b>103.0</b>	<b>105.8</b>	<b>1.02</b>	<b>102.8</b>	<b>102.8</b>	<b>102.9</b>	<b>1.00</b>
Australia	161.7	161.5	162.0	1.00	129.2	131.8	126.5	0.96 m
Austria	97.7	99.8	95.4	0.96	99.6	101.8	97.4	0.96 m
Belgium	145.1	138.4	152.2	1.10	110.5	112.2	108.8	0.97 m
Canada	102.5	101.6	103.4	1.02	101.3	102.4	100.2	0.98 l
Chile	82.7	81.8	83.6	1.02	87.9	86.7	89.2	1.03 m
Czech Republic	87.3	86.6	88.1	1.02	90.4	89.9	90.9	1.01 m
Denmark	126.7	124.0	129.6	1.04	117.4	116.3	118.5	1.02 m
Estonia	93.8	91.9	95.7	1.04	103.6	102.7	104.7	1.02 m
Finland	124.8	119.4	130.5	1.09	107.5	105.0	110.1	1.05 m
France	108.2	108.1	108.3	1.00	112.6	112.4	112.8	1.00 m
Germany	98.1	98.7	97.4	0.99	102.6	105.3	99.7	0.95 m
Greece	89.5	86.8	92.4	1.06	100.9	103.5	98.1	0.95 k
Hungary	95.1	94.8	95.5	1.01	98.3	99.0	97.6	0.99 m
Iceland	107.4	104.0	110.9	1.07	107.2	105.7	108.8	1.03 m
Ireland	106.7	102.6	111.1	1.08	117.5	114.0	121.1	1.06 m
Israel*	93.2	93.1	93.3	1.00	91.0	90.3	91.8	1.02 m
Italy	92.2	92.6	91.9	0.99 d	99.1	99.8	98.3	0.98 m
Japan	101.8	101.2	102.4	1.01	101.5	101.4	101.6	1.00 m
Korea	98.9	99.0	98.7	1.00	97.1	97.6	96.4	0.99 m
Luxembourg	97.0	94.2	99.9	1.06	97.6	96.4	98.8	1.02 l
Mexico	72.7	71.9	73.4	1.02	86.9	83.7	90.1	1.08 m
Netherlands	123.4	125.7	121.0	0.96	120.2	121.1	119.3	0.99 m
New Zealand	110.6	107.6	113.9	1.06	124.6	122.9	126.4	1.03 m
Norway	116.1	114.7	117.5	1.02	110.2	111.5	108.8	0.98 m
Poland	100.6	101.6	99.5	0.98	97.0	97.5	96.5	0.99 m
Portugal	104.7	101.4	108.1	1.07	106.7	104.8	108.7	1.04 m
Slovak Republic	84.6	83.8	85.4	1.02	89.4	88.9	90.0	1.01 m
Slovenia	100.8	99.1	102.6	1.04	97.1	97.3	96.8	1.00 m
Spain	111.4	108.3	114.7	1.06	119.0	116.5	121.6	1.04 m
Sweden	151.8	134.3	170.2	1.27	100.3	100.6	99.9	0.99 m
Switzerland	95.4	98.4	92.3	0.94	95.2	97.1	93.3	0.96 m
Turkey	71.4	82.5	60.1	0.73	77.6	80.9	74.1	0.91 m
United Kingdom	101.6	101.1	102.1	1.01	101.8	100.8	102.9	1.02 m
United States	93.0	92.4	93.7	1.01	96.5	95.8	97.1	1.01 m
<b>Caribbean</b>	<b>88.8</b>	<b>85.6</b>	<b>92.0</b>	<b>1.08</b>	<b>93.0</b>	<b>91.4</b>	<b>94.7</b>	<b>1.04</b>
Anguilla	107.0	108.2	105.9	0.98	79.7	81.8	77.6	0.95 l
Antigua and Barbuda	78.9	82.5	75.5	0.92	105.4	104.8	106.0	1.01
Aruba	97.0	95.4	98.5	1.03	89.6	89.3	90.0	1.01
Bahamas	81.9	85.8	77.9	0.91	94.0	92.9	95.0	1.02 m
Barbados	104.8	99.5	110.5	1.11	100.6	96.4	105.1	1.09
Bermuda	79.2	76.5	81.9	1.07 e	78.7	72.3	85.4	1.18
British Virgin Islands	95.7	92.9	98.5	1.06 h	98.4	96.9	99.8	1.03 m
Cayman Islands	102.5	102.6	102.5	1.00	83.2	78.2	88.4	1.13 l
Cuba	82.5	80.8	84.3	1.04	89.4	90.0	88.8	0.99
Dominica	105.5	99.1	112.0	1.13	98.2	94.0	102.8	1.09
Dominican Republic	59.5	53.5	65.5	1.23	76.4	72.0	81.0	1.12
Grenada	108.1	100.7	115.6	1.15 f	107.9	106.3	109.4	1.03
Haiti	..	..	..	..	..	..	..	..
Jamaica	86.7	85.8	87.6	1.02	95.6	94.9	96.3	1.01 m
Montserrat	102.0	96.3	109.0	1.13 f	102.1	101.1	103.2	1.02 k
Puerto Rico	..	..	..	..	82.2	79.9	84.5	1.06
Saint Kitts and Nevis	75.4	72.8	78.0	1.07	97.5	97.8	97.2	0.99
Saint Lucia	73.4	63.8	82.7	1.30	96.1	96.7	95.6	0.99
Saint Vincent and the Grenadines	82.5	70.5	94.6	1.34	109.4	107.4	111.5	1.04 m
Trinidad and Tobago	75.7	72.1	79.4	1.10	89.9	87.0	93.0	1.07 l
Turks and Caicos Islands	88.2	88.4	88.1	1.00 g	86.0	88.7	83.2	0.94 i

Source: UNESCO (2012a), UNESCO Education database.

Table A2.1.2. Gross secondary school enrolment ratios, 2000 and 2010 (cont.)

Total enrolment into secondary school, regardless of age, expressed as a percentage of the eligible official secondary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>Central America</b>	<b>56.3</b>	<b>55.0</b>	<b>57.7</b>	<b>1.04</b>	<b>73.3</b>	<b>71.4</b>	<b>75.3</b>	<b>1.06</b>
Belize	65.1	63.4	66.8	1.05	74.8	75.7	74.0	0.98
Costa Rica	60.7	58.2	63.5	1.09	99.7	97.0	102.5	1.06
El Salvador	54.0	54.2	53.9	0.99	63.1	62.4	63.7	1.02 m
Guatemala	38.0	40.3	35.6	0.88	58.5	60.5	56.6	0.93
Honduras	..	..	..	..	73.5	66.0	81.2	1.23
Nicaragua	53.1	49.0	57.4	1.17	69.4	66.2	72.7	1.10
Panama	67.0	65.0	69.1	1.06	74.1	71.7	76.7	1.07
<b>South America</b>	<b>79.4</b>	<b>77.1</b>	<b>81.7</b>	<b>1.06</b>	<b>85.2</b>	<b>81.8</b>	<b>88.7</b>	<b>1.09</b>
Argentina	86.6	84.6	88.6	1.05	85.8	80.5	91.4	1.14 l
Bolivia (Plurinational State of)	79.8	81.5	78.1	0.96	81.0	81.9	80.1	0.98 l
Brazil	104.4	99.5	109.5	1.10	101.3	96.4	106.5	1.11 l
Colombia	71.8	68.4	75.3	1.10	96.4	92.0	100.9	1.10
Ecuador	57.1	56.7	57.6	1.02	80.4	78.6	82.4	1.05 m
Guyana	94.6	94.5	94.8	1.00	91.0	86.6	95.7	1.11
Paraguay	61.3	60.3	62.3	1.03	66.9	65.5	68.5	1.05 m
Peru	85.8	88.8	82.6	0.93	91.6	92.6	90.6	0.98 m
Suriname	73.4	67.3	79.8	1.19 e	74.8	67.3	82.6	1.23 m
Uruguay	98.3	92.1	104.8	1.14	85.0	79.4	90.8	1.14 m
Venezuela (Bolivarian Republic of)	59.8	54.6	65.3	1.20	82.5	78.8	86.4	1.10
<b>East Asia and the Pacific</b>	<b>66.1</b>	<b>64.1</b>	<b>68.2</b>	<b>1.03</b>	<b>76.9</b>	<b>74.6</b>	<b>80.1</b>	<b>1.06</b>
Brunei Darussalam	89.2	86.9	91.7	1.06	107.3	105.9	108.7	1.03 m
Cambodia	16.6	21.4	11.7	0.55	46.2	48.5	43.7	0.90
China	63.3	64.8	61.6	0.95 e	80.1	77.6	82.9	1.07 m
China, Hong Kong Special Administrative Region	77.1	77.6	76.5	0.98 e	83.0	82.4	83.7	1.02
China, Macao Special Administrative Region	83.0	81.6	84.4	1.03	92.4	95.9	88.9	0.93
Cook Islands	76.7	72.0	82.0	1.14	83.4	78.7	88.6	1.13 m
Fiji	78.5	75.1	82.0	1.09	86.5	82.7	90.5	1.09 m
Indonesia	52.8	54.1	51.5	0.95	75.1	75.4	74.7	0.99 m
Kiribati	100.2	76.3	125.0	1.64	85.6	81.3	90.0	1.11 l
Korea, Democratic People's Republic of	..	..	..	..	..	..	..	..
Lao People's Democratic Republic	34.9	40.9	28.7	0.70	44.7	49.4	39.8	0.81 l
Malaysia	66.2	63.4	69.1	1.09	69.1	66.6	71.6	1.08 l
Marshall Islands	67.8	65.7	69.9	1.06 d	98.8	97.5	100.3	1.03 m
Micronesia (Federated States of)	82.2	79.9	84.8	1.06 h	83.2	80.2	86.6	1.08 i
Mongolia	65.0	58.5	71.6	1.22	92.9	89.5	96.3	1.08 m
Myanmar	39.9	38.6	41.1	1.07	54.3	52.6	56.0	1.06
Nauru	47.1	43.3	50.8	1.17	62.9	57.6	68.9	1.20 l
Niue	97.0	89.9	104.7	1.16	105.1	82.9	147.8	1.78 i
Palau	91.6	91.3	91.9	1.01 e	..	..	..	..
Papua New Guinea	19.3	22.6	15.9	0.70 c	..	..	..	..
Philippines	74.3	70.8	77.9	1.10 d	84.8	81.5	88.3	1.08 m
Samoa	77.9	73.1	83.3	1.14	84.7	79.3	90.7	1.14
Singapore	..	..	..	..	..	..	..	..
Solomon Islands	20.7	23.0	18.2	0.79	35.5	38.4	32.4	0.84 k
Thailand	62.2	62.9	61.5	0.98 e	77.2	74.2	80.4	1.08
Timor-Leste	56.6	57.3	55.9	0.98 h	56.3	56.1	56.4	1.01
Tokelau	92.3	91.9	92.7	1.01	..	..	..	..
Tonga	106.5	101.0	112.7	1.12	101.3	101.2	101.5	1.00 j
Tuvalu	79.5	76.2	83.7	1.10 e	..	..	..	..
Vanuatu	34.7	32.4	37.0	1.14	54.7	54.3	55.1	1.02
Viet Nam	64.0	66.9	61.0	0.91	77.2	75.4	79.1	1.05 l
<b>Southern Asia</b>	<b>47.4</b>	<b>50.5</b>	<b>49.5</b>	<b>0.89</b>	<b>57.4</b>	<b>60.2</b>	<b>54.4</b>	<b>0.89</b>
Afghanistan	11.5	22.1	-	- e	45.5	59.8	30.2	0.51
Bangladesh	48.2	47.4	49.0	1.03	49.3	47.1	51.5	1.09 m
Bhutan	40.7	44.7	36.7	0.82	60.8	61.0	60.7	1.00 m
India	45.3	52.6	37.4	0.71	60.2	63.8	56.2	0.88 l
Iran (Islamic Republic of)	79.7	82.2	77.1	0.94	83.5	85.9	81.1	0.94 m
Maldives	52.8	50.8	54.9	1.08	82.1	79.4	85.1	1.07 j
Nepal	35.0	40.6	29.0	0.71	43.5	46.1	40.8	0.89 j
Pakistan	27.7	31.1	24.1	0.77 g	34.2	38.9	29.4	0.76
Sri Lanka	85.5	82.9	88.1	1.06 f	..	..	..	..

Source: UNESCO (2012a), UNESCO Education database.

**Table A2.1.2. Gross secondary school enrolment ratios, 2000 and 2010 (cont.)**

Total enrolment into secondary school, regardless of age, expressed as a percentage of the eligible official secondary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>Eastern Europe &amp; Central Asia</b>	<b>86.4</b>	<b>86.5</b>	<b>86.3</b>	<b>1.00</b>	<b>92.0</b>	<b>92.5</b>	<b>91.5</b>	<b>0.99</b>
Albania	71.5	73.0	70.1	0.96	78.2	79.0	77.3	0.98
Armenia	87.7	85.2	90.2	1.06 e	92.0	91.0	93.1	1.02
Azerbaijan	74.8	76.7	73.0	0.95	84.5	86.2	82.7	0.96 k
Belarus	87.2	85.7	88.8	1.04	95.9	94.9	97.0	1.02 k
Bosnia and Herzegovina	..	..	..	..	89.6	88.5	90.7	1.03
Bulgaria	93.0	94.0	92.0	0.98	88.0	89.6	86.3	0.96 m
Croatia	85.2	84.3	86.1	1.02	95.3	93.7	97.0	1.04 m
Cyprus <sup>(1,2)</sup>	93.4	92.4	94.4	1.02	98.4	97.8	99.0	1.01 m
Georgia	78.8	79.4	78.2	0.99	89.0	91.4	86.6	0.95 l
Kazakhstan	93.7	92.8	94.6	1.02	99.6	101.0	98.3	0.97 n
Kyrgyzstan	84.3	83.1	85.5	1.03	84.0	84.5	83.5	0.99
Latvia	90.6	89.4	91.9	1.03	94.1	93.8	94.4	1.01 m
Lithuania	97.9	98.3	97.6	0.99	98.0	98.1	97.9	1.00 m
Macedonia, The former Yugoslav Republic of	83.9	85.2	82.6	0.97	82.8	83.6	81.9	0.98 m
Moldova, Republic of	81.6	80.7	82.5	1.02	88.0	87.0	89.0	1.02
Montenegro	..	..	..	..	104.0	103.5	104.6	1.01
Romania	81.9	81.3	82.5	1.02	95.1	95.4	94.8	0.99 m
Russian Federation	91.6	91.7	91.5	1.00 g	88.6	89.6	87.5	0.98 m
Serbia	90.0	89.1	91.0	1.02	91.4	90.5	92.4	1.02
Tajikistan	74.2	79.8	68.5	0.86	87.2	93.4	80.9	0.87
Turkmenistan	..	..	..	..	..	..	..	..
Ukraine	98.9	98.6	99.2	1.01	95.6	96.7	94.4	0.98
Uzbekistan	87.5	88.9	86.2	0.97	105.7	106.8	104.5	0.98 n
<b>Middle East and North Africa</b>	<b>75.2</b>	<b>75.7</b>	<b>74.7</b>	<b>0.96</b>	<b>84.9</b>	<b>84.5</b>	<b>85.4</b>	<b>1.00</b>
Algeria	74.9	73.2	76.7	1.05 f	94.9	94.1	95.8	1.02 m
Bahrain	98.7	94.7	103.0	1.09	103.1	100.9	105.3	1.04 j
Egypt	82.6	85.9	79.1	0.92	..	..	..	..
Iraq	37.5	46.0	28.5	0.62	52.9	60.3	45.1	0.75 k
Jordan	84.2	82.4	86.2	1.05	91.1	89.3	93.0	1.04 l
Kuwait	107.9	105.9	109.9	1.04	101.0	97.9	104.3	1.07 l
Lebanon	76.7	73.4	80.1	1.09 d	81.4	76.8	86.2	1.12
Libya	110.3	107.0	113.7	1.06 f	93.4	86.1	101.2	1.18 j
Morocco	38.1	42.5	33.7	0.79	56.1	60.3	51.8	0.86 k
Oman	75.5	75.8	75.2	0.99	101.3	101.8	100.7	0.99
Palestinian Authority	80.6	78.9	82.4	1.04	86.0	82.7	89.4	1.08
Qatar	87.5	81.9	94.2	1.15	93.7	85.8	103.7	1.21
Saudi Arabia	..	..	..	..	104.3	110.6	97.9	0.89
Syrian Arab Republic	44.8	46.7	42.9	0.92	72.4	72.2	72.6	1.01
Tunisia	76.1	74.8	77.4	1.03	90.5	88.0	93.1	1.06 m
United Arab Emirates	85.2	82.9	87.7	1.06	92.3	91.7	93.0	1.01 j
Yemen	42.5	59.9	24.5	0.41	44.1	54.1	33.7	0.62
<b>Western Africa</b>	<b>25.2</b>	<b>29.9</b>	<b>20.4</b>	<b>0.65</b>	<b>42.3</b>	<b>46.6</b>	<b>38.0</b>	<b>0.79</b>
Benin	23.1	32.3	14.2	0.44	37.1	48.4	26.0	0.54 i
Burkina Faso	9.7	11.7	7.7	0.66	20.7	23.4	17.9	0.76
Cape Verde	67.9	66.5	69.2	1.04 e	87.5	79.7	95.4	1.20
Côte d'Ivoire	23.6	30.6	16.6	0.54	..	..	..	..
Gambia	..	..	..	..	54.1	55.6	52.6	0.95
Ghana	40.5	44.4	36.5	0.82	67.3	70.6	63.9	0.91 n
Guinea	16.0	23.1	8.6	0.37	38.1	47.7	28.1	0.59 m
Guinea-Bissau	18.5	23.9	13.1	0.55	..	..	..	..
Liberia	34.8	40.3	29.2	0.73	..	..	..	..
Mali	16.5	21.1	11.9	0.56	37.7	44.3	30.9	0.70
Mauritania	18.2	20.9	15.5	0.74	24.4	26.4	22.4	0.85
Niger	7.0	8.8	5.2	0.60	13.4	16.1	10.6	0.66
Nigeria	24.3	26.3	22.2	0.85	44.0	46.8	41.2	0.88
Senegal	16.5	19.9	13.0	0.65	37.4	39.9	34.9	0.88
Sierra Leone	27.6	33.0	22.5	0.68 e	..	..	..	..
Togo	33.7	46.7	20.8	0.44	45.5	59.8	31.4	0.53 k

Source: UNESCO (2012a), UNESCO Education database.

**Table A2.1.2. Gross secondary school enrolment ratios, 2000 and 2010 (cont.)**

Total enrolment into secondary school, regardless of age, expressed as a percentage of the eligible official secondary school-age population

Region and country <sup>b</sup>	2000				2010			
	All	Male	Female	GPI <sup>a</sup>	All	Male	Female	GPI <sup>a</sup>
<b>Eastern &amp; Middle Africa</b>	<b>29.5</b>	<b>32.2</b>	<b>26.7</b>	<b>0.77</b>	<b>40.2</b>	<b>43.2</b>	<b>37.3</b>	<b>0.80</b>
Angola	14.9	16.4	13.4	0.82	31.3	37.2	25.5	0.69
Burundi	11.1	12.6	9.7	0.77 g	24.8	28.9	20.7	0.72
Cameroon	26.1	28.4	23.8	0.84 d	42.2	46.0	38.4	0.83 m
Central African Republic	..	..	..	..	12.6	16.0	9.3	0.58
Chad	10.8	16.9	4.8	0.28	25.7	36.3	15.0	0.41
Comoros	28.9	31.8	26.0	0.82	46.3	52.7	39.9	0.76 i
Congo	35.6	41.8	29.4	0.70	..	..	..	..
Congo, Democratic Republic of	19.0	24.9	13.1	0.53 d	37.9	48.5	27.2	0.56 m
Djibouti	13.6	16.4	10.8	0.66	36.1	40.1	31.9	0.80 n
Equatorial Guinea	31.4	43.5	19.2	0.44	..	..	..	..
Eritrea	25.0	29.7	20.4	0.69	31.9	36.3	27.6	0.76
Ethiopia	14.5	17.4	11.6	0.66	35.7	39.3	32.1	0.82
Gabon	48.0	51.6	44.4	0.86	..	..	..	..
Kenya	39.2	40.2	38.2	0.95	60.2	63.2	57.1	0.90 m
Madagascar	16.6	17.1	16.2	0.95 c	31.1	32.0	30.2	0.94 m
Malawi	32.2	36.7	27.6	0.75	32.1	33.6	30.6	0.91
Mauritius	75.3	76.6	73.9	0.96	89.4	89.5	89.3	1.00
Mozambique	6.1	7.5	4.7	0.63	25.5	28.0	22.9	0.82
Rwanda	11.1	11.4	10.8	0.95	32.2	31.9	32.4	1.02
Sao Tome and Principe	38.4	35.3	41.5	1.18 g	59.2	55.2	63.4	1.15 n
Seychelles	104.5	101.8	107.4	1.06	114.7	108.2	122.0	1.13 m
Somalia	..	..	..	..	7.8	10.7	4.9	0.46 k
Sudan	..	..	..	..	..	..	..	..
Uganda	16.3	18.5	14.1	0.76	28.1	30.4	25.8	0.85
Tanzania, United Republic of	..	..	..	..	..	..	..	..
Zambia	..	..	..	..	..	..	..	..
Zimbabwe	..	..	..	..	..	..	..	..
<b>Southern Africa</b>	<b>58.4</b>	<b>55.6</b>	<b>61.2</b>	<b>1.12</b>	<b>68.5</b>	<b>65.1</b>	<b>71.9</b>	<b>1.13</b>
Botswana	74.6	72.7	76.5	1.05	80.0	77.9	82.1	1.05 k
Lesotho	30.1	26.0	34.3	1.32	46.4	39.0	53.9	1.38
Namibia	60.1	56.6	63.7	1.13	64.0	58.9	69.3	1.18 k
South Africa	85.3	81.0	89.5	1.10	93.8	91.6	96.0	1.05 m
Swaziland	41.9	41.7	42.1	1.01	58.1	58.1	58.1	1.00

a. Gender Parity Index: ratio of female to male values of the net enrolment rate into primary education.

b. Country classification into world regions is based on UN and Worldbank classifications.

c. Data refer to 1998.

d. Data refer to 1999.

e. Data refer to 2001.

f. Data refer to 2002.

g. Data refer to 2003.

h. Data refer to 2004.

i. Data refer to 2005.

j. Data refer to 2006.

k. Data refer to 2007.

l. Data refer to 2008.

m. Data refer to 2009.

n. Data refer to 2011.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: UNESCO (2012a), UNESCO Education database.

**A2.2. SUPPLEMENTARY TABLES TO CHAPTER 2.4****Table A2.2.1. Percentage of women students in higher education: 1985-2025**

	1985	1995	2005	2015	2025
<b>OECD</b>	<b>46</b>	<b>50</b>	<b>54</b>	<b>56</b>	<b>58</b>
Australia	..	50	54	55	56
Austria	44	48	54	61	72
Belgium	47	49	54	58	60
Canada	49	53	58	60	64
Czech Republic	..	48	53	53	54
Denmark	48	52	57	59	60
Finland	49	53	54	54	53
France	52	55	55	56	57
Germany	..	43	50	54	58
Greece	..	49	51	53	53
Hungary	..	52	58	59	60
Iceland	..	58	65	67	68
Ireland	43	49	55	58	59
Italy	45	52	57	57	57
Japan	..	44	46	47	48
Korea	..	35	37	38	40
Luxembourg	..	..	..	..	..
Mexico	..	47	50	52	52
Netherlands	41	47	51	53	54
New Zealand	46	55	59	59	60
Norway	50	55	60	63	65
Poland	..	..	58	58	58
Portugal	53	57	56	56	56
Slovak Republic	..	..	55	58	59
Spain	48	53	54	55	55
Sweden	52	55	60	62	63
Switzerland	32	37	46	49	52
Turkey	31	38	42	43	43
United Kingdom	45	51	57	65	71
United States	52	55	57	60	62

Source: OECD (2008d), Higher education to 2030.



## A2.3. GENERAL BACKGROUND DATA ON EDUCATION

Table A2.3.1. Educational attainment, PISA scores and field of tertiary education

Proportion of the population with at least upper secondary education										Proportion of the population with tertiary education <sup>a</sup>						PISA scores						Proportion of degrees <sup>b</sup> awarded to women			
2009										2009						2009						2009			
2009										2009						2009						2009			
2009										2009						2009						2009			
2009										2009						2009						2009			
2009										2009						2009						2009			
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2009										2009						2009						2009			
2009										2009						2009						2009			
2009										2009						2009						2009			

- a. Refers to ISCED levels 5 and 6.
- b. Degrees awarded at the tertiary level.
- c. PISA reading literacy is scored based on a weighted OECD average of 500 and standard deviation of 100: the unweighted OECD average for all countries for girls is 513, and for boys is 474.
- d. PISA mathematics ability is scored based on a weighted OECD average of 500 and standard deviation of 100: the unweighted OECD average for all countries for girls is 490, and for boys is 501.
- e. PISA mathematics ability is scored based on a weighted OECD average of 500 and standard deviation of 100: the unweighted OECD average for all countries for both girls and boys is 501.
- f. Data refer to 2002.
- g. Data refer to 2008.
- \* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2010b), PISA 2009 Results: What Students Know and Can Do; OECD (2011h), Education at a Glance.

**ANNEX TO PART 3**

## A3.1. SUPPLEMENTARY TABLES TO CHAPTER 3.1

Table A3.1.1. Labour force participation rates by gender (1990, 2000 and 2010)

Proportion of people aged 15-64 who are in the labour force either in work or looking for work

Region and country	1990			2000			2010		
	Men	Women	All	Men	Women	All	Men	Women	All
<b>OECD</b>	<b>80.6</b>	<b>57.7</b>	<b>69.1</b>	<b>79.3</b>	<b>61.0</b>	<b>70.0</b>	<b>78.9</b>	<b>64.9</b>	<b>71.9</b>
Australia	85.0	61.8	73.5	82.5	65.4	74.0	82.9	70.0	76.5
Austria	80.1	55.3	67.7 a	79.9	61.8	70.8	80.9	69.3	75.1
Belgium	71.3	46.1	58.7	73.8	56.6	65.2	73.4	61.8	67.7
Canada	84.9	68.4	76.6	81.9	70.4	76.2	81.5	74.2	77.8
Chile	80.9	35.2	57.8 a	78.9	39.1	58.8	77.8	51.8	64.8
Czech Republic	79.6	62.8	71.2 a	79.4	63.7	71.6	78.6	61.5	70.2
Denmark	87.1	77.6	82.4	84.0	75.9	80.0	82.7	76.1	79.5
Estonia	85.3	72.4	78.7	76.7	65.3	70.8	76.7	70.9	73.7
Finland	80.8	73.4	77.1	77.6	72.1	74.9	76.7	72.5	74.6
France	75.8	58.5	67.1 b	75.3	62.9	69.0 b	74.9	66.1	70.5 b
Germany	79.0	55.5	67.4	78.9	63.3	71.1	82.4	70.8	76.6
Greece	76.8	42.6	59.1	77.1	49.7	63.0	78.9	57.6	68.2
Hungary	74.4	57.3	65.7 a	67.5	52.6	59.9	68.3	56.7	62.4
Iceland	87.0	76.6	81.9 a	89.8	83.3	86.6	88.2	82.7	85.5
Ireland	77.5	42.6	60.1	79.8	56.4	68.1	77.9	62.6	70.2
Israel*	68.1	46.9	57.4	67.1	56.1	61.5	68.2	60.9	64.5
Italy	75.1	44.0	59.5	74.3	46.3	60.3	73.3	51.1	62.2
Japan	83.0	57.1	70.1	85.2	59.6	72.5	84.8	63.2	74.0
Korea	76.2	49.9	62.8	77.1	52.0	64.4	77.1	54.5	65.8
Luxembourg	77.4	42.4	60.1	76.4	51.7	64.2	76.0	60.3	68.2
Mexico	85.8	36.0	60.6 a	84.7	41.0	61.7	82.9	46.6	63.9
Netherlands	80.0	53.1	66.7	83.2	65.2	74.3	83.8	72.6	78.2
New Zealand	83.4	63.2	73.2	83.2	67.2	75.1	83.6	71.8	77.5
Norway	83.4	70.7	77.1	84.8	76.5	80.7	80.8	75.6	78.2
Poland	77.5	63.1	70.2 a	71.7	59.9	65.8	72.4	59.0	65.6
Portugal	82.8	59.6	70.9	78.9	63.8	71.2	78.2	69.9	74.0
Slovak Republic	80.7	69.8	75.2 a	76.8	63.2	69.9	76.0	61.3	68.7
Slovenia	64.8	56.3	60.5 a	71.8	63.2	67.5 a	75.4	67.4	71.5
Spain	81.3	42.2	61.7	80.4	52.9	66.7	81.9	66.8	74.4
Sweden	86.8	82.5	84.7	81.5	76.4	79.0	82.2	76.7	79.5
Switzerland	90.8	68.1	79.5 a	89.4	71.7	80.6	88.2	76.1	82.2
Turkey	83.6	36.0	59.4	76.9	28.0	52.4	75.4	30.2	52.7
United Kingdom	88.3	67.3	77.8	84.1	68.9	76.4	82.5	70.2	76.3
United States	85.6	67.8	76.5	83.9	70.7	77.2	79.6	68.4	73.9
<b>Caribbean</b>	<b>80.9</b>	<b>54.6</b>	<b>67.6</b>	<b>78.9</b>	<b>57.8</b>	<b>68.2</b>	<b>78.6</b>	<b>61.3</b>	<b>69.9</b>
Bahamas	81.9	68.7	75.3	78.2	71.2	74.6	83.7	75.9	79.7
Barbados	85.5	71.8	78.4	85.8	75.7	80.7	84.6	76.3	80.6
Cuba	79.0	39.6	59.5	77.8	43.3	60.7	79.4	51.0	65.4
Dominican Republic	86.0	46.5	66.3	83.1	49.7	66.4	82.9	55.1	69.0
Haiti	78.1	58.4	67.9	69.4	58.5	63.8	71.2	61.7	66.4
Jamaica	85.1	72.2	78.5	81.6	64.8	73.0	75.2	61.3	68.1
Puerto Rico	67.1	34.9	50.3	67.0	40.4	53.1	62.2	42.2	51.8
Saint Lucia	80.2	62.6	71.1	80.2	67.4	73.6	80.8	68.7	74.6
Saint Vincent and the Grenadines	85.5	48.8	67.2	84.5	55.5	70.3	83.4	60.6	72.2
Trinidad and Tobago	80.9	42.3	61.2	81.1	51.5	66.0	82.9	60.4	71.4
<b>Central America</b>	<b>85.9</b>	<b>38.6</b>	<b>62.1</b>	<b>85.7</b>	<b>44.0</b>	<b>64.6</b>	<b>84.7</b>	<b>49.7</b>	<b>66.8</b>
Belize	84.3	38.2	61.0	86.3	42.5	64.4	84.3	50.6	67.3
Costa Rica	87.8	35.4	62.0	85.3	40.2	63.2	83.6	50.1	67.2
El Salvador	85.1	42.5	62.7	81.7	47.6	63.5	81.8	50.5	64.9
Guatemala	89.1	41.7	65.4	87.5	43.3	64.6	90.0	50.7	69.4
Honduras	87.7	34.5	61.0	89.7	46.2	67.7	84.5	43.8	64.0
Nicaragua	84.7	36.5	60.3	84.2	39.9	61.7	82.1	48.6	65.0
Panama	82.6	41.7	62.3	85.5	48.6	67.2	86.6	53.3	70.1

Source: OECD (2012b), OECD Employment database, for OECD countries and the Russian Federation, unless otherwise specified under note (a); ILO (2012a), KILM indicators, accessed February 2012 for non-OECD countries.

**Table A3.1.1. Labour force participation rates by gender (1990, 2000 and 2010) (cont.)**

Proportion of people aged 15-64 who are in the labour force either in work or looking for work

Region and country	1990			2000			2010		
	Men	Women	All	Men	Women	All	Men	Women	All
<b>South America</b>	<b>84.1</b>	<b>45.5</b>	<b>64.7</b>	<b>83.5</b>	<b>52.8</b>	<b>68.1</b>	<b>83.3</b>	<b>58.2</b>	<b>70.7</b>
Argentina	84.1	46.5	65.1	80.7	49.0	64.7	81.5	54.4	67.8
Bolivia	83.5	51.2	67.1	82.7	60.9	71.7	82.3	65.6	73.9
Brazil	88.6	47.6	67.9	85.4	58.6	71.8	85.4	64.6	74.8
Colombia	79.3	33.4	55.9	84.1	51.5	67.5	82.1	58.8	70.2
Ecuador	85.9	41.1	63.6	85.7	52.1	68.9	85.2	56.7	70.9
Guyana	86.1	38.4	61.8	84.9	41.2	63.1	82.6	43.6	63.1
Paraguay	93.1	55.2	74.4	88.7	53.3	71.3	88.9	60.1	74.6
Peru	79.6	48.0	63.9	84.8	60.2	72.5	86.6	70.1	78.4
Suriname	76.1	47.0	61.8	70.7	39.8	55.5	73.4	44.3	59.0
Uruguay	86.6	53.3	69.5	85.6	63.2	74.2	85.3	66.6	75.8
Venezuela (Bolivarian Republic of)	82.6	39.3	61.1	84.7	51.2	68.0	83.3	54.9	69.2
<b>East Asia and the Pacific</b>	<b>82.6</b>	<b>60.2</b>	<b>71.6</b>	<b>81.9</b>	<b>62.1</b>	<b>72.1</b>	<b>81.1</b>	<b>62.5</b>	<b>71.8</b>
Brunei Darussalam	84.3	45.9	66.5	82.2	57.8	70.1	80.0	58.3	69.2
Cambodia	86.2	81.0	83.3	84.1	80.2	82.1	87.5	81.8	84.5
China	88.8	79.0	84.1	87.4	78.2	83.0	85.3	75.2	80.4
Timor-Leste	79.4	41.4	60.9	75.7	39.2	58.0	75.4	39.7	57.9
Fiji	85.0	29.9	57.8	79.8	40.1	60.2	81.4	40.6	61.4
China, Hong Kong Special Administrative Region	85.4	53.3	69.9	82.4	56.7	69.1	78.1	59.3	68.1
Indonesia	82.6	51.9	67.2	86.7	52.2	69.4	86.3	53.2	69.7
Korea, Democratic People's Republic of	89.6	80.7	85.1	89.7	79.7	84.7	86.6	78.4	82.5
Lao People's Democratic Republic	85.2	84.7	84.9	83.6	83.3	83.4	81.5	80.4	80.9
China, Macao Special Administrative Region	75.7	49.2	62.0	81.2	61.8	71.0	82.3	71.6	76.6
Malaysia	82.5	45.3	64.1	83.4	46.8	65.4	78.9	46.3	62.8
Mongolia	65.6	55.8	60.6	68.2	58.8	63.5	67.3	56.9	62.1
Myanmar	81.5	75.9	78.7	83.7	78.0	80.8	84.7	78.9	81.8
Papua New Guinea	74.4	72.0	73.3	74.0	71.9	73.0	74.6	71.8	73.3
Philippines	83.9	49.3	66.8	82.9	49.9	66.5	80.9	50.9	65.9
Samoa	79.6	42.7	62.2	83.1	46.3	65.6	81.8	47.2	65.2
Singapore	83.2	54.6	69.0	84.0	58.1	71.0	82.5	62.9	72.8
Solomon Islands	79.2	54.5	67.2	80.5	54.9	68.1	81.9	55.1	68.9
Thailand	90.2	79.8	84.9	84.7	70.4	77.4	84.7	69.8	77.1
Tonga	76.8	37.7	57.3	74.5	51.7	63.3	76.9	56.4	66.6
Vanuatu	89.2	79.5	84.4	84.6	70.7	77.7	80.3	62.0	71.3
Viet Nam	88.7	81.3	84.8	86.5	79.8	83.0	84.5	78.1	81.2
<b>Southern Asia</b>	<b>84.6</b>	<b>36.9</b>	<b>61.3</b>	<b>82.4</b>	<b>39.4</b>	<b>61.3</b>	<b>82.1</b>	<b>43.6</b>	<b>63.2</b>
Afghanistan	83.0	15.9	50.9	82.3	13.8	49.5	81.9	15.9	50.2
Bangladesh	89.9	62.6	76.7	87.9	56.7	72.7	86.8	59.8	73.4
Bhutan	79.3	51.1	65.7	79.3	53.7	66.7	77.9	68.2	73.4
India	87.1	36.5	62.9	85.2	35.9	61.5	83.1	30.3	57.7
Iran (Islamic Republic of)	81.6	10.1	45.6	75.1	14.6	44.8	74.8	17.0	46.2
Maldives	79.0	20.6	50.7	73.0	38.1	55.6	78.4	57.2	67.8
Nepal	91.9	82.7	87.3	91.4	84.8	88.0	88.8	83.1	85.9
Pakistan	87.1	13.9	51.7	86.1	16.4	52.1	85.9	23.0	54.9
Sri Lanka	82.1	38.9	60.6	81.2	40.3	60.6	81.1	38.0	59.3
<b>Eastern Europe &amp; Central Asia</b>	<b>77.1</b>	<b>60.6</b>	<b>68.8</b>	<b>74.6</b>	<b>59.2</b>	<b>66.8</b>	<b>73.8</b>	<b>59.0</b>	<b>66.2</b>
Albania	78.1	57.1	67.9	78.1	56.2	67.1	77.2	55.9	66.5
Armenia	80.6	65.3	72.7	79.1	64.9	71.5	74.3	54.8	63.7
Azerbaijan	73.4	58.0	65.5	75.5	61.9	68.4	72.0	66.4	69.2
Belarus	81.7	72.4	76.9	73.2	65.8	69.4	69.2	62.0	65.5
Bosnia and Herzegovina	60.2	38.9	49.5	64.8	38.7	51.3	67.5	42.3	54.5
Bulgaria	72.6	66.5	69.5	68.5	60.7	64.6	71.5	62.6	67.0
Croatia	75.0	55.0	65.0	72.3	56.4	64.3	70.0	59.0	64.5
Cyprus <sup>(1,2)</sup>	81.6	53.4	67.8	79.1	57.4	68.5	78.6	66.6	72.8
Georgia	77.0	59.7	68.0	76.1	57.4	66.3	77.2	59.1	67.7
Kazakhstan	81.9	69.8	75.7	80.6	71.9	76.1	81.0	74.0	77.4
Kyrgyzstan	78.0	64.7	71.3	77.7	61.4	69.5	81.4	58.9	69.9
Latvia	83.3	74.8	78.8	73.2	61.8	67.2	76.3	71.2	73.7
Lithuania	81.5	70.3	75.7	74.9	67.6	71.1	72.6	68.9	70.7
Macedonia, The former Yugoslav Republic of	72.9	47.2	60.1	73.1	47.2	60.3	77.9	50.5	64.4
Moldova, Republic of	80.6	70.0	75.1	68.3	62.8	65.4	48.6	44.3	46.4
Romania	75.2	59.8	67.5	76.0	63.8	69.9	71.7	56.0	63.8
Russian Federation	82.1	72.1	76.9 a	76.0	66.8	71.3	77.9	68.2	72.9
Serbia and Montenegro	71.5	48.5	60.0	72.8	52.9	62.9	71.7	55.2	63.5
Tajikistan	78.8	62.6	70.6	78.5	62.0	70.2	77.6	60.4	68.7
Turkmenistan	77.4	49.7	63.4	77.0	51.3	64.0	78.5	49.2	63.6
Ukraine	77.4	68.6	72.8	71.4	62.6	66.8	72.6	62.1	67.2
Uzbekistan	75.9	49.7	62.7	75.3	50.9	63.0	77.4	50.5	63.9

Source: OECD (2012b), OECD Employment database for OECD countries and the Russian Federation, unless otherwise specified under note (a); ILO (2012a), KILM indicators, accessed February 2012 for non-OECD countries.

**Table A3.1.1. Labour force participation rates by gender (1990, 2000 and 2010) (cont.)**

Proportion of people aged 15-64 who are in the labour force either in work or looking for work

Region and country	1990			2000			2010		
	Men	Women	All	Men	Women	All	Men	Women	All
<b>Middle East and North Africa</b>	<b>79.7</b>	<b>21.2</b>	<b>53.3</b>	<b>79.1</b>	<b>24.6</b>	<b>54.4</b>	<b>78.7</b>	<b>27.5</b>	<b>55.9</b>
Algeria	77.5	10.5	44.1	79.4	12.8	46.4	75.4	15.7	45.9
Bahrain	89.4	29.0	65.8	88.1	36.3	67.4	88.5	40.6	72.0
Egypt	76.2	27.9	52.1	76.2	21.3	48.9	78.1	25.3	51.8
Iraq	74.3	11.5	41.8	72.2	13.4	42.4	71.7	15.2	43.3
Jordan	68.3	9.5	40.8	71.1	13.3	43.6	68.9	16.3	43.4
Kuwait	79.7	35.5	59.7	85.1	45.8	69.9	84.5	44.7	69.6
Lebanon	72.5	18.1	43.9	74.8	21.1	46.8	75.3	24.8	49.2
Libyan Arab Jamahiriya	75.0	18.9	49.1	75.2	28.6	52.6	79.9	32.0	56.2
Morocco	83.1	27.1	54.6	82.0	30.5	55.6	78.3	26.4	51.6
Oman	82.3	18.4	56.7	79.4	23.8	56.7	81.6	29.2	61.8
Palestinian Authority	70.0	10.1	40.4	68.9	10.8	40.2	68.6	15.4	42.3
Qatar	94.5	44.4	81.2	92.7	40.1	76.8	95.6	53.0	87.0
Saudi Arabia	82.3	15.3	55.7	75.8	17.0	49.7	76.1	18.3	51.6
Syrian Arab Republic	82.8	19.0	50.7	81.9	21.1	51.6	74.7	13.7	44.4
Tunisia	79.1	22.1	50.5	75.7	25.6	50.6	74.0	27.5	50.7
United Arab Emirates	91.9	25.6	73.5	92.5	34.5	77.0	92.4	44.0	79.4
Yemen	75.4	16.9	45.5	73.2	23.0	48.0	73.6	25.8	49.7
<b>Western Africa</b>	<b>81.1</b>	<b>54.6</b>	<b>67.6</b>	<b>78.9</b>	<b>58.4</b>	<b>68.5</b>	<b>78.9</b>	<b>60.2</b>	<b>69.5</b>
Benin	89.7	58.4	73.0	81.5	65.2	73.0	78.6	68.5	73.4
Burkina Faso	92.1	79.3	85.4	91.2	79.5	85.1	91.1	79.8	85.3
Cape Verde	87.7	44.8	64.5	86.4	49.8	67.2	86.1	54.8	70.5
Côte d'Ivoire	88.3	44.3	67.9	82.2	49.5	66.6	81.9	52.4	67.5
Gambia	85.0	70.1	77.5	83.2	71.5	77.2	83.0	72.8	77.8
Ghana	73.1	71.0	72.1	77.2	73.9	75.5	72.3	68.4	70.4
Guinea	79.7	65.8	72.8	79.5	64.9	72.3	79.5	66.8	73.2
Guinea-Bissau	79.7	61.9	70.7	79.7	64.6	72.0	79.4	69.4	74.4
Liberia	64.2	56.7	60.4	61.8	59.1	60.5	64.2	58.9	61.5
Mali	67.1	39.6	52.8	67.7	38.5	52.7	70.9	37.9	54.2
Mauritania	78.6	18.9	48.2	79.0	23.6	51.1	79.9	29.0	54.6
Niger	93.1	24.8	57.3	89.0	38.4	63.2	91.1	40.2	65.4
Nigeria	75.8	39.3	57.6	67.0	44.9	56.0	62.9	48.0	55.5
Senegal	90.7	63.1	76.8	89.8	65.0	77.2	89.7	66.9	78.0
Sierra Leone	68.3	66.5	67.4	63.9	68.7	66.4	69.6	67.8	68.7
Togo	85.2	68.3	76.6	82.9	77.8	80.3	82.3	82.2	82.2
<b>Eastern &amp; Middle Africa</b>	<b>82.7</b>	<b>65.1</b>	<b>73.8</b>	<b>81.4</b>	<b>66.1</b>	<b>73.7</b>	<b>81.4</b>	<b>67.9</b>	<b>74.6</b>
Angola	77.2	67.2	72.1	76.3	68.8	72.5	77.9	64.0	70.8
Burundi	90.8	91.8	91.3	85.0	86.8	86.0	82.6	84.9	83.8
Cameroon	79.7	56.7	68.1	76.8	63.2	70.0	77.4	65.6	71.5
Central African Republic	87.6	69.7	78.4	86.4	71.1	78.6	85.5	72.8	79.1
Chad	80.9	64.9	72.8	80.1	65.2	72.6	80.2	65.2	72.6
Comoros	80.3	27.6	54.0	78.7	30.8	54.8	80.8	35.4	58.2
Congo	74.1	60.5	67.2	72.5	66.1	69.3	73.8	69.7	71.8
Congo, Democratic Republic of	74.9	68.6	71.7	73.0	71.3	72.1	72.6	70.9	71.7
Djibouti	68.4	28.6	48.4	68.4	32.9	50.6	69.3	37.4	53.4
Equatorial Guinea	94.1	82.6	88.6	95.3	82.6	89.2	94.0	82.0	88.3
Eritrea	91.6	76.8	84.0	91.0	77.0	83.8	90.8	82.0	86.3
Ethiopia	91.8	74.8	83.2	92.2	75.5	83.7	90.7	80.9	85.8
Gabon	72.8	56.1	64.4	68.7	55.2	61.9	66.4	57.1	61.7
Kenya	80.1	70.1	75.1	73.3	63.3	68.3	71.9	61.8	66.8
Madagascar	89.6	85.3	87.4	90.5	85.9	88.1	89.5	85.4	87.5
Malawi	79.1	75.9	77.4	80.6	77.0	78.8	80.3	84.9	82.6
Mauritius	85.4	40.3	63.0	85.2	44.8	64.9	80.5	48.3	64.3
Mozambique	80.4	85.9	83.4	82.5	88.3	85.6	82.7	86.8	84.9
Rwanda	89.5	89.8	89.7	86.4	88.3	87.4	86.2	88.2	87.2
Sao Tome and Principe	81.1	39.9	60.1	76.6	40.8	58.4	78.9	45.8	62.1
Somalia	80.0	36.5	57.9	79.7	37.9	58.5	78.9	39.0	58.7
Sudan	79.0	27.7	53.4	75.9	30.2	53.1	76.8	32.2	54.6
Tanzania, United Republic of	92.0	88.9	90.4	91.4	89.1	90.2	91.2	90.0	90.6
Uganda	82.4	83.7	83.0	83.1	82.3	82.7	79.9	77.0	78.5
Zambia	86.4	73.9	80.1	85.7	75.2	80.4	86.1	73.5	79.8
Zimbabwe	79.8	67.9	73.8	81.8	69.2	75.5	90.4	84.3	87.3

Source: OECD (2012b), OECD Employment database for OECD countries and the Russian Federation, unless otherwise specified under note (a); ILO (2012a), KILM indicators, accessed February 2012 for non-OECD countries.

**Table A3.1.1. Labour force participation rates by gender (1990, 2000, 2010) (cont.)**

Proportion of people aged 15-64 who are in the labour force either in work or looking for work

Region and country	1990			2000			2010		
	Men	Women	All	Men	Women	All	Men	Women	All
<b>Southern Africa</b>	<b>74.6</b>	<b>53.0</b>	<b>63.2</b>	<b>72.8</b>	<b>56.3</b>	<b>64.3</b>	<b>72.8</b>	<b>57.5</b>	<b>65.0</b>
Botswana	81.4	68.9	75.1	81.3	72.1	76.7	82.8	74.8	78.9
Lesotho	84.0	68.4	75.5	81.0	69.0	74.7	74.5	60.0	67.1
Namibia	66.2	49.3	57.5	65.8	50.2	57.8	71.6	60.5	66.0
South Africa	66.4	35.3	50.7	63.2	46.5	54.7	63.2	47.2	55.2
Swaziland	74.8	43.0	57.1	72.8	43.9	57.5	71.8	44.9	58.0

a. ILO (2012a) data.

b. INSEE data [http://www.insee.fr/fr/themes/tableau.asp?reg\\_id=0&ref\\_id=NATCCF03170](http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATCCF03170).\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

- Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
- Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD (2012b), OECD Employment database for OECD countries and the Russian Federation, unless otherwise specified under note (a); ILO (2012a), KILM indicators, accessed February 2012 for non-OECD countries.



Table A3.1.2. Employment by broad economic activity and gender, 2010

Region and country		All				Men				Women			
		Agriculture	Industry	Services	All activities <sup>a</sup>	Agriculture	Industry	Services	All activities <sup>a</sup>	Agriculture	Industry	Services	All activities <sup>a</sup>
<b>OECD</b>		<b>5.5</b>	<b>24.2</b>	<b>69.9</b>	<b>100</b>	<b>6.4</b>	<b>33.7</b>	<b>59.6</b>	<b>100</b>	<b>4.5</b>	<b>12.1</b>	<b>83.0</b>	<b>100</b>
Australia	h	3.3	20.9	75.7	100	4.1	30.9	65.0	100	2.3	8.9	88.7	100
Austria	h	5.5	24.8	69.7	100	5.7	36.3	58.0	100	5.2	11.5	83.3	100
Belgium	i	1.4	23.4	75.3	100	1.7	34.3	63.9	100	0.9	10.1	89.0	100
Canada	h	2.2	20.2	77.6	100	3.0	30.4	66.5	100	1.2	9.0	89.8	100
Chile	h	10.6	23.0	66.4	100	14.1	31.0	54.9	100	5.1	10.2	84.6	100
Czech Republic	i	3.1	38.1	58.8	100	4.0	49.3	46.7	100	1.9	23.2	74.9	100
Denmark	i	2.4	20.0	77.7	100	3.8	29.8	66.4	100	0.9	9.3	89.8	100
Estonia	i	4.2	30.7	65.1	100	5.8	44.2	50.0	100	2.8	18.3	78.9	100
Finland	i	4.4	23.3	72.3	100	6.0	36.1	57.9	100	2.7	9.8	87.5	100
France	i	2.9	21.1	75.5	100	3.9	31.5	64.2	100	1.8	9.6	88.1	100
Germany	i	1.6	28.5	69.8	100	2.0	40.7	57.3	100	1.2	14.4	84.4	100
Greece	i	12.5	20.0	67.5	100	12.3	28.1	59.5	100	12.6	8.0	79.4	100
Hungary	i	4.6	30.9	64.5	100	6.5	40.6	52.9	100	2.3	19.8	77.8	100
Iceland	i	5.6	18.3	76.1	100	8.7	28.0	63.3	100	2.3	7.7	90.0	100
Ireland	h	4.9	20.2	74.3	100	8.1	30.1	61.2	100	1.2	9.0	89.4	100
Israel*	c	1.7	21.7	76.5	100	2.7	31.2	66.1	100	0.7	10.7	88.6	100
Italy	i	3.8	29.1	67.1	100	4.6	39.4	56.0	100	2.8	14.1	83.1	100
Japan	b	4.1	26.5	69.4	100	4.3	34.2	60.7	100	4.1	15.5	79.4	100
Korea	i	6.6	24.9	68.5	100	6.4	32.5	61.2	100	6.9	14.4	78.7	100
Luxembourg	i	1.0	12.0	81.1	100	1.3	17.7	73.8	100	0.7	4.5	89.5	100
Mexico	i	13.1	24.0	62.9	100	18.7	29.0	52.2	100	3.7	15.8	80.5	100
Netherlands	c	3.3	26.7	63.6	100	3.3	25.1	71.6	100	1.7	7.7	85.7	100
New Zealand	h	7.0	20.7	72.0	100	9.1	30.3	60.4	100	4.6	9.7	85.5	100
Norway	i	2.5	19.7	77.7	100	4.0	31.2	64.9	100	1.0	7.0	92.0	100
Poland	i	12.8	30.1	57.0	100	13.1	41.8	45.1	100	12.5	16.1	71.4	100
Portugal	i	10.9	27.8	61.2	100	11.2	38.1	50.7	100	10.7	16.3	73.1	100
Slovak Republic	i	3.2	37.1	59.6	100	4.4	50.0	45.6	100	1.8	21.1	77.2	100
Slovenia	i	8.8	32.5	58.8	100	9.0	42.6	48.4	100	8.5	20.5	71.0	100
Spain	i	4.3	23.2	72.5	100	5.8	34.2	60.1	100	2.5	9.5	88.0	100
Sweden	i	2.1	20.0	77.9	100	3.2	30.9	66.0	100	0.9	7.6	91.4	100
Switzerland	b	3.7	23.0	73.3	100	4.6	32.5	62.9	100	2.6	11.6	85.8	100
Turkey	b	24.7	25.3	50.0	100	18.2	29.1	52.7	100	41.7	15.3	43.0	100
United Kingdom	i	1.2	19.2	79.6	100	1.7	29.6	68.7	100	0.6	7.4	92.0	100
United States	h	1.6	16.7	81.2	100	2.3	25.1	71.7	100	0.8	7.2	91.9	100
<b>Caribbean</b>		<b>7.4</b>	<b>19.8</b>	<b>72.2</b>	<b>100</b>	<b>10.5</b>	<b>28.9</b>	<b>59.7</b>	<b>100</b>	<b>2.8</b>	<b>8.6</b>	<b>88.3</b>	<b>100</b>
Antigua and Barbuda	c	2.8	15.6	81.6	100	4.4	26.1	69.5	100	1.2	5.0	93.8	100
Aruba	d	0.7	20.3	78.9	100	0.9	32.9	65.9	100	0.4	6.2	93.3	100
Bahamas	b	2.9	16.0	80.8	100	5.1	27.9	66.5	100	0.5	3.7	95.5	100
Cayman Islands	c	1.9	19.1	78.1	100	3.0	32.8	63.0	100	0.6	4.4	94.2	100
Cuba	c,g	18.6	18.1	63.3	100	24.7	21.9	53.4	100	8.5	11.8	79.6	100
Dominican Republic	b,g	14.5	21.9	59.8	100	21.0	26.2	47.5	100	2.1	13.7	83.4	100
Jamaica	b	20.2	16.6	63.2	100	28.3	23.8	48.0	100	9.6	7.3	83.1	100
Puerto Rico	c,g	1.5	18.1	80.4	100	2.3	25.0	72.8	100	0.5	9.8	89.6	100
Trinidad and Tobago	c,g	3.8	32.2	63.8	100	5.2	43.8	50.8	100	1.8	15.3	82.0	100
<b>Central America</b>		<b>24.0</b>	<b>20.6</b>	<b>54.6</b>	<b>100</b>	<b>33.7</b>	<b>23.2</b>	<b>42.2</b>	<b>100</b>	<b>7.7</b>	<b>16.3</b>	<b>75.6</b>	<b>100</b>
Belize	f	19.5	17.9	61.9	100	28.0	21.8	49.7	100	3.3	10.3	85.5	100
Costa Rica	b,g	12.3	21.6	62.2	100	17.2	26.6	50.6	100	4.2	13.0	81.8	100
El Salvador	b	20.9	20.7	58.4	100	32.8	22.4	44.8	100	4.8	18.3	76.8	100
Guatemala	e	33.2	22.8	44.0	100	43.8	24.1	32.1	100	16.0	20.6	63.3	100
Honduras	d,g	34.6	22.2	43.2	100	47.7	22.4	29.8	100	10.0	21.9	68.1	100
Nicaragua	d,g	29.5	20.2	49.8	100	41.9	20.8	37.0	100	8.4	19.3	71.7	100
Panama	b,g	17.9	19.1	63.0	100	24.2	24.2	51.6	100	7.3	10.4	82.3	100
<b>South America</b>		<b>16.4</b>	<b>21.3</b>	<b>62.2</b>	<b>100</b>	<b>19.5</b>	<b>28.1</b>	<b>52.3</b>	<b>100</b>	<b>11.6</b>	<b>11.8</b>	<b>76.5</b>	<b>100</b>
Argentina	b	1.2	23.1	75.2	100	1.8	32.8	64.8	100	0.4	9.8	89.4	100
Bolivia (Plurinational State of)	d	36.1	19.7	44.2	100	34.3	28.1	37.5	100	38.3	9.2	52.5	100
Brazil	b	16.6	22.3	61.1	100	20.0	29.2	50.4	100	12.0	13.2	74.8	100
Colombia	g	17.9	20.0	62.0	100	26.1	22.7	51.0	100	5.0	15.8	79.1	100
Ecuador	b,g	28.7	18.8	52.5	100	33.0	23.6	43.4	100	22.1	11.4	66.5	100
Paraguay	c,g	26.5	18.9	54.5	100	31.1	24.7	44.1	100	19.2	9.6	71.1	100
Peru	b,g	0.8	24.4	74.8	100	1.0	32.4	66.6	100	0.5	13.7	85.8	100
Uruguay	d	11.0	21.7	67.2	100	15.6	28.5	56.0	100	4.8	12.6	82.5	100
Venezuela (Bolivarian Republic of)	c,g	8.5	23.0	68.3	100	12.7	30.6	56.6	100	1.9	11.1	86.8	100

Source: OECD (2012b), OECD Employment database, for OECD countries (excluding Brazil, France, Luxembourg and the United States); ILO (2012a), KILM indicators for non-OECD countries and Luxembourg and the United States; INSEE for France.

Table A3.1.2. Employment by broad economic activity and gender, 2010 (cont.)

Region and country	All				Men				Women			
	Agriculture	Industry	Services	All activities <sup>a</sup>	Agriculture	Industry	Services	All activities <sup>a</sup>	Agriculture	Industry	Services	All activities <sup>a</sup>
<b>East Asia and the Pacific</b>	<b>32.4</b>	<b>16.9</b>	<b>50.6</b>	<b>100</b>	<b>33.2</b>	<b>20.4</b>	<b>46.3</b>	<b>100</b>	<b>31.1</b>	<b>12.4</b>	<b>56.4</b>	<b>100</b>
Cambodia	c,i 72.2	8.6	19.2	100	69.3	8.1	22.6	100	75.0	9.0	15.9	100
China, Hong Kong Special Administrative Region	b,i 0.2	12.4	87.4	100	1.0	18.9	80.1	100	0.2	4.3	95.5	100
Indonesia	b,g 39.7	18.8	41.5	100	40.2	21.2	38.6	100	38.8	14.9	46.3	100
China, Macao Special Administrative Region	c 0.2	19.8	80.1	100	0.2	26.6	73.1	100	0.2	11.9	87.8	100
Malaysia	c 14.0	28.7	57.4	100	16.7	32.0	51.3	100	9.0	22.7	68.3	100
Mongolia	b,i 40.0	14.9	45.0	100	41.2	18.6	40.2	100	38.7	10.9	50.4	100
Philippines	b 35.2	14.6	50.3	100	42.3	17.5	40.4	100	24.0	9.9	66.0	100
Singapore	b,i 1.1	21.8	77.1	100	1.5	25.7	72.8	100	0.6	16.6	82.8	100
Thailand	b 41.5	19.5	38.9	100	43.7	21.2	35.1	100	39.0	17.6	43.3	100
Vanuatu	b,i 60.5	7.0	31.1	100	59.2	10.5	29.4	100	62.3	2.5	33.3	100
Viet Nam	e,g 51.7	20.2	28.2	100	49.6	24.4	26.0	100	53.8	15.9	30.3	100
<b>Southern Asia</b>	<b>39.2</b>	<b>20.7</b>	<b>39.1</b>	<b>100</b>	<b>35.4</b>	<b>20.5</b>	<b>41.1</b>	<b>100</b>	<b>50.7</b>	<b>19.4</b>	<b>27.6</b>	<b>100</b>
Bangladesh	f 48.1	14.5	37.4	100	41.8	15.1	43.0	100	68.1	12.5	19.4	100
Bhutan	b 65.4	6.4	28.2	100	59.1	4.0	36.9	100	72.1	9.1	18.8	100
India	h 51.1	22.4	26.5	100	46.2	24.0	29.8	100	65.3	17.7	17.0	100
Iran (Islamic Republic of)	c 21.2	32.2	46.5	100	19.3	33.2	47.4	100	30.6	27.3	41.9	100
Maldives	e 11.5	24.3	60.0	100	14.0	19.9	62.2	100	7.1	31.8	56.1	100
Pakistan	c,g 44.7	20.1	35.2	100	36.9	22.1	40.9	100	75.0	12.2	12.9	100
Sri Lanka	b 32.6	25.1	39.6	100	30.4	25.0	27.2	100	36.6	25.3	27.1	100
<b>Eastern Europe &amp; Central Asia</b>	<b>23.0</b>	<b>22.6</b>	<b>54.4</b>	<b>100</b>	<b>23.2</b>	<b>30.0</b>	<b>46.6</b>	<b>100</b>	<b>22.8</b>	<b>14.1</b>	<b>63.0</b>	<b>100</b>
Armenia	c 44.2	16.8	39.0	100	39.4	25.4	35.2	100	49.1	7.9	43.1	100
Azerbaijan	b,i 38.6	12.9	48.5	100	37.1	18.8	44.0	100	40.2	6.6	53.2	100
Bulgaria	i 6.8	33.3	59.9	100	8.2	40.9	50.9	100	5.2	24.8	69.9	100
Croatia	i 14.9	27.3	57.6	100	13.7	38.2	47.5	100	16.3	14.5	68.6	100
Cyprus (1,2)	i 3.8	20.8	75.3	100	4.8	30.3	65.1	100	2.6	9.4	87.9	100
Georgia	d 53.4	10.4	36.2	100	50.5	16.5	33.0	100	56.6	3.7	39.6	100
Kazakhstan	c 30.2	18.9	50.9	100	31.1	26.0	42.9	100	29.2	11.6	59.3	100
Kyrgyzstan	e 36.3	19.4	44.3	100	36.9	25.7	37.4	100	35.4	10.7	53.9	100
Latvia	i 8.8	24.0	66.9	100	12.0	33.8	53.1	100	5.8	13.9	79.8	100
Lithuania	i 9.0	24.4	66.2	100	11.5	33.2	54.9	100	6.8	16.4	76.5	100
Macedonia, The former Yugoslav Republic of	c 19.7	31.3	49.1	100	19.6	33.4	47.0	100	19.8	27.9	52.3	100
Moldova, Republic of	c 31.1	19.7	49.3	100	33.7	25.7	40.6	100	28.4	13.6	58.1	100
Montenegro	f 8.6	19.2	72.1	100	8.5	26.1	65.3	100	8.9	9.2	82.0	100
Romania	i 30.1	28.7	41.2	100	29.1	35.5	35.4	100	31.4	20.2	48.5	100
Russian Federation	c 8.6	28.9	62.4	100	10.5	38.4	51.1	100	6.7	19.1	74.2	100
Serbia	b 24.0	25.1	50.9	100	24.9	32.3	42.8	100	22.9	15.7	61.4	100
<b>Middle East and North Africa</b>	<b>14.0</b>	<b>25.7</b>	<b>60.2</b>	<b>100</b>	<b>12.2</b>	<b>29.5</b>	<b>58.2</b>	<b>100</b>	<b>20.8</b>	<b>7.0</b>	<b>72.0</b>	<b>100</b>
Egypt	c 31.6	23.0	45.3	100	28.2	27.3	44.4	100	45.6	5.6	48.8	100
Iraq	c 23.4	18.2	58.3	100	17.1	21.6	61.3	100	50.7	3.7	45.6	100
Jordan	i 2.0	18.7	79.2	100	2.2	20.5	77.2	100	1.0	9.3	89.7	100
Kuwait	f 2.7	20.6	76.0	100	3.6	26.7	69.0	100	0.0	2.2	96.9	100
Morocco	c 40.9	21.7	37.2	100	34.2	24.0	41.6	100	59.2	15.4	25.2	100
Palestinian Authority	c 13.4	25.7	60.9	100	10.1	29.0	60.9	100	27.5	11.3	61.2	100
Qatar	d 2.3	51.8	45.7	100	2.7	58.3	38.9	100	0.0	4.8	94.9	100
Saudi Arabia	b 4.1	20.4	75.5	100	4.7	23.3	72.0	100	0.2	1.5	98.4	100
Syrian Arab Republic	g 14.9	32.2	52.8	100	13.6	35.8	50.7	100	23.8	9.3	66.9	100
United Arab Emirates	c 4.2	24.3	71.2	100	5.2	28.3	66.3	100	0.2	7.1	92.5	100
<b>Western Africa</b>	<b>57.4</b>	<b>9.2</b>	<b>30.9</b>	<b>100</b>	<b>60.0</b>	<b>11.0</b>	<b>26.8</b>	<b>100</b>	<b>53.1</b>	<b>7.3</b>	<b>36.3</b>	<b>100</b>
Burkina Faso	f 84.8	3.1	12.2	100	82.3	3.9	13.7	100	87.2	2.1	10.2	100
Ghana	e 57.2	13.6	29.1	100	61.4	13.4	25.1	100	53.2	13.8	33.0	100
Liberia	j 48.9	9.2	41.9	100	49.5	13.5	37.0	100	48.3	4.8	46.8	100
Mali	e 66.0	5.6	28.3	100	67.8	8.0	24.1	100	63.9	2.7	33.3	100
Niger	f,g 56.9	11.1	31.1	100	64.1	8.3	26.5	100	37.8	18.4	43.0	100
Senegal	e 33.7	14.8	36.1	100	34.1	20.2	32.7	100	33.0	4.9	42.3	100
Togo	e,g 54.1	6.8	37.5	100	60.5	9.5	28.6	100	48.2	4.4	45.7	100

Source: OECD (2012b), OECD Employment database, for OECD countries (excluding Brazil, France, Luxembourg and the United States); ILO (2012a), KILM indicators for non-OECD countries and Luxembourg and the United States; INSEE for France.

Table A3.1.2. Employment by broad economic activity and gender, 2010 (cont.)

Region and country	All				Men				Women				
	Agriculture	Industry	Services	All activities <sup>a</sup>	Agriculture	Industry	Services	All activities <sup>a</sup>	Agriculture	Industry	Services	All activities <sup>a</sup>	
Eastern & Middle Africa	54.7	11.1	33.8	100	51.8	13.7	34.0	100	58.0	7.9	33.9	100	
Congo	f,g	35.4	20.6	42.2	100	31.3	20.0	45.9	100	39.3	21.2	38.7	100
Ethiopia	f	79.3	6.6	13.0	100	83.2	5.1	10.4	100	74.8	8.3	16.0	100
Gabon	f,g	24.2	11.8	64.0	100	17.3	18.6	64.1	100	33.7	2.5	63.8	100
Kenya	f,g	61.1	6.7	32.2	100	54.5	10.8	34.6	100	68.0	2.3	29.7	100
Madagascar	f,g	80.4	3.7	15.8	100	79.8	5.6	14.6	100	81.1	1.8	17.1	100
Mauritius	h	8.7	28.2	63.1	100	9.5	32.1	58.3	100	7.8	22.0	70.4	100
Tanzania, United Republic of	e,g	76.5	4.3	19.2	100	72.7	6.6	20.7	100	80.0	2.1	17.9	100
Zambia	f,g	72.2	7.1	20.6	100	65.9	10.9	23.7	100	78.9	3.1	17.3	100
Southern Africa	17.1	19.3	63.5	100	21.4	26.0	52.6	100	12.1	11.1	76.8	100	
Botswana	e	29.9	15.2	54.9	100	35.1	19.2	45.7	100	24.3	10.8	64.9	100
Namibia	c	16.3	17.7	65.9	100	22.7	24.4	52.8	100	8.2	9.1	82.6	100
South Africa	b,g	5.1	25.0	69.8	100	6.3	34.5	59.2	100	3.7	13.3	82.9	100

Source: OECD (2012b) OECD Employment database, for OECD countries (excluding Brazil, France, Luxembourg and the United States); ILO (2012a) KILM indicators for non-OECD countries and Luxembourg and the United States; INSEE for France.

- Data for all activities may include also "activity not adequately defined", here not reported, sum of agriculture, industry and services may therefore not correspond exactly to 100.
- Data refer to 2009.
- Data refer to 2008.
- Data refer to 2007.
- Data refer to 2006.
- Data refer to 2005.
- Data refer to ISIC2.
- Data refer to ISIC3.
- Data refer to ISIC4.
- Information on industrial classification not available.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

- Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
- Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

**Table A3.1.3. Female employment as a proportion of total employment in each industry sector according to the ISIC version 3 and ISIC version 4 classifications<sup>a</sup>, 2010**

Country	ISIC3 <sup>a</sup> , 2010								
	Agriculture and fishing (A-B)	Mining, manufacturing, utilities and construction (C-F)	Wholesale & retail trade, hotels and restaurant (G-H)	Transport, storage and communication (I)	Finance and real estate (J-K)	Public administration and defense (L)	Education (M)	Health and social work (N)	Other community activities & private households (O-P)
OECD	29.4	22.5	49.9	24.5	45.1	46.0	69.5	78.2	58.3
Australia	31.9	19.4	48.4	25.8	46.0	47.1	70.1	79.0	55.7
Austria	44.2	21.6	55.7	26.5	48.6	46.6	69.6	77.7	59.1
Belgium	b 26.6	18.9	47.6	22.3	45.4	47.4	69.1	77.2	63.3
Canada	b 27.0	22.3	49.5	29.1	49.0	49.8	66.9	82.8	61.6
Chile	18.7	17.3	47.5	15.9	41.7	38.9	68.8	70.4	69.0
Czech Republic	b 29.8	26.9	53.0	28.0	47.4	50.3	77.4	80.5	53.3
Denmark	c 19.7	25.1	44.8	27.7	41.4	55.7	57.8	82.9	53.3
Estonia	33.6	31.4	64.4	29.5	51.5	64.2	83.8	86.9	69.6
Finland	c 28.9	20.7	53.8	28.2	46.0	60.2	67.3	89.3	59.9
Germany	b 32.2	24.1	54.1	27.7	47.6	49.6	67.8	76.8	60.8
Greece	d 42.2	17.0	43.0	19.5	46.1	36.3	62.5	64.1	61.9
Hungary	c 24.1	29.9	52.9	27.0	50.6	55.2	78.1	77.6	55.2
Iceland	19.3	20.8	47.6	32.6	46.3	51.5	76.3	79.6	47.2
Ireland	11.5	20.7	51.2	23.3	46.4	51.8	74.1	81.5	57.7
Israel <sup>*</sup>	c 18.0	23.0	42.0	30.1	45.4	45.6	76.8	77.2	58.3
Italy	28.7	20.3	42.8	23.0	45.6	41.2	76.5	68.3	64.2
Japan	b 40.8	24.7	51.6	20.6	41.1	23.4	55.0	75.7	50.3
Korea	c 46.2	25.0	53.9	11.5	39.7	31.2	67.5	75.1	48.5
Mexico	10.7	24.9	52.7	12.4	39.2	35.6	62.4	67.0	53.9
Netherlands	c 29.8	19.4	48.4	26.9	40.2	40.1	60.9	81.7	57.3
New Zealand	30.7	22.0	49.2	29.6	47.3	51.4	72.0	81.9	56.3
Norway	c 22.9	18.5	50.5	25.0	37.4	52.7	65.0	82.9	52.3
Poland	d 43.2	26.1	55.9	21.9	51.1	50.1	77.3	80.7	54.6
Portugal	c 48.4	26.8	48.9	23.5	49.2	35.4	76.7	83.5	78.4
Slovak Republic	c 24.0	26.8	58.7	26.8	52.6	50.9	78.6	81.7	54.4
Slovenia	c 31.1	30.5	62.8	31.8	51.4	55.5	79.9	90.8	72.7
Spain	c 26.0	17.1	51.1	23.3	49.7	43.4	64.3	76.9	72.1
Sweden	c 19.8	19.3	46.0	27.3	39.9	55.0	74.6	83.4	52.6
Switzerland	b 31.8	22.9	52.2	31.2	41.8	44.2	60.3	77.0	62.9
Turkey	b 46.6	16.8	17.0	8.2	28.6	14.6	46.6	54.9	35.8
United Kingdom	22.9	17.9	48.9	23.4	45.0	50.7	72.2	78.9	54.3
Brazil	b 31.1	25.3	42.7	13.8	38.6	41.7	76.2	76.1	81.3

Country	ISIC4 <sup>a</sup> , 2010								
	Agriculture, hunting and forestry (A)	Mining, manufacturing, utilities and construction (B-F)	Wholesale & retail trade, accommodation and food services (G & I)	Transport, storage, information and communication (H & J)	Financial, real estate, professional and administrative activities (K-N)	Public administration and defense (O)	Education (P)	Human health and social work (Q)	Other service activities, arts & entertainment, private households (R-T)
OECD	30.6	22.3	49.9	23.9	47.1	46.0	69.1	78.1	61.5
Belgium	29.9	19.6	46.1	24.0	47.5	47.8	69.3	78.4	63.8
Czech Republic	26.5	26.1	55.3	26.2	50.5	49.4	76.1	79.8	60.4
Denmark	17.5	22.4	46.6	25.1	45.6	59.7	59.2	81.8	56.4
Estonia	34.0	31.1	64.5	29.6	55.5	64.2	83.8	86.7	70.3
Finland	29.6	20.6	54.9	25.5	50.0	60.7	66.7	88.4	59.4
France	29.3	21.6	47.1	29.6	47.8	52.6	67.7	78.4	70.3
Germany	33.6	23.3	54.1	28.8	49.6	49.5	68.9	76.6	66.3
Greece	40.8	16.1	43.4	20.0	47.9	37.5	65.0	68.3	67.8
Hungary	23.9	30.0	54.5	26.7	53.8	54.8	76.6	79.0	62.2
Iceland	19.3	20.3	47.6	29.8	50.4	51.5	76.3	79.3	56.8
Italy	29.3	19.8	43.0	24.0	47.4	41.3	76.0	68.6	68.6
Japan	e 40.5	24.2	52.1	21.7	43.8	24.1	54.9	75.8	57.0
Korea	43.6	24.0	52.7	14.8	39.6	36.4	67.2	80.1	49.9
Mexico	10.7	24.8	52.7	12.4	40.0	35.6	62.4	67.0	53.9
Netherlands	b 29.2	18.1	48.7	24.9	45.0	40.2	61.3	81.6	59.6
Norway	19.0	16.9	49.3	24.7	42.4	49.7	63.5	81.9	58.8
Poland	43.9	24.1	56.5	24.5	52.0	50.1	77.9	81.8	61.7
Portugal	45.9	27.5	48.7	23.6	50.3	38.6	77.0	83.1	81.6
Slovak Republic	24.4	25.3	59.0	25.8	53.1	48.6	80.8	84.3	64.8
Slovenia	44.3	27.8	54.6	24.5	54.4	48.7	77.7	80.1	60.6
Spain	25.8	18.2	51.0	23.1	51.0	44.4	65.7	77.2	74.5
Sweden	20.8	18.1	45.3	25.8	43.7	56.4	73.4	82.0	55.1
Switzerland	b 33.1	22.5	52.6	28.6	43.4	43.3	60.7	76.7	68.2
Turkey	e 47.9	17.2	18.0	9.1	28.8	14.9	46.9	56.1	35.5
United Kingdom	22.9	17.9	48.9	23.5	45.0	50.7	72.2	78.9	54.3

a. ISIC4 data were not available for Australia, Austria, Canada, Chile, Ireland, Israel, and New Zealand at the time of data extraction.

b. Data refer to 2009.

c. Data refer to 2008.

d. Data refer to 2007.

e. Data for water supply, sewerage and waste (E) and employment of households (T) not included.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2012b), OECD Employment database; INE-Statistics Portugal for Portugal (ISIC3 data); INSEE for France.

### **A3.2. THE DETERMINANTS OF FEMALE LABOUR FORCE PARTICIPATION AND PART-TIME WORK**

The determinants of female labour market participation and part-time work can be ascertained through econometric analysis concerning prime-age women (25-54 years old) in 18 countries from 1980 to 2007. Two separate types of labour force determinants are considered: the variations in jobs and labour market characteristics, and policies which aim to help parents balancing work and family commitments.

Jobs and labour market characteristics include the share of employment in the sector of services, the proportion of part-time jobs and of employment in the public sector, the OECD indicator on the strictness of employment protection legislation, and total unemployment rates.

The policy context is captured by variables measuring the incidence of paid leave, childcare services for children under age 3, and tax incentives for couple families to have two earners instead of one. The sensitivity of female labour market behaviour to government spending is also assessed with information on *per child* expenditures on leave and/or birth grants paid at childbirth, those made on other family benefits, and the expenditures regarding the provision of childcare services. Time-varying information on the number of years spent by women in education and birth rates are also included to account for changes in the composition of the female workforce.

Two different model specifications are considered. In the first model, the dependent variable is the total female participation rate and the explanatory determinants include labour market characteristics and the policy variables. The drawback of this model specification is, however, that despite the use of instrumental variables, interpretation of the results is affected by the endogeneity of part-time work. Therefore, a second model is estimated which distinguishes between full-time and part-time participation as dependent variables. Two equations relating to part-time and full-time participation are thus estimated separately in a second step. Part-time work no longer appears as an explanatory factor, but is related to different factors including the financial incentives in the tax/benefit system.

The equations are estimated by two-stage least squares with heteroskedasticity-consistent errors. All the estimated models include country-fixed effects so as to focus on the variations within country and over time between female labour force participation and its above mentioned determinants. In addition, because the decision regarding care is to some extent simultaneous to the choice between work and inactivity, the use of childcare enrolment rates as a regressor introduces a risk of bias in the estimated coefficients. To reduce this risk, the enrolment rates are instrumented by their lagged values, as well as the exogenous variables of the model. Unemployment rates are also potentially endogenous and for this reason they are also instrumented by their lagged values. In addition, they are defined with respect to a large age group, 15-64 instead of the 25-54 age band considered for female employment to also minimize the risk of endogeneity.

Table A3.2.1. Econometric estimates of the determinants of female labour force participation

Women aged 25-54, OECD 1980-2007

	Labour Force participation	Full-time employment	Part-time employment
Share of services in employment	0.0047*** (0.000)	0.00587*** (0.00112)	0.008 (0.005)
Share of employment in the public sector	-0.462* (0.254)	-0.359 (0.249)	-3.097*** (1.00)
Incidence of part-time employment	0.473*** (0.151)	-	-
Employment protection legislation	-0.0309 (0.029)	0.0156 (0.0190)	-0.313*** (0.115)
Average number years of education	0.309*** (0.029)	-0.346*** (0.072)	1.910*** (0.280)
Unemployment rate	-0.0449* (0.025)	-0.023** (0.011)	-0.342*** (0.101)
<b>Policies</b>			
Spending on leave and birth grants per childbirth	-0.010 (0.012)	0.062*** (0.0160)	-0.192*** (0.056)
Spending on family benefits per child per child under 20	0.074*** (0.019)	0.028 (0.028)	0.102 (0.120)
Spending on childcare services per child under 3	0.0006 (0.005)	0.016** (0.00640)	-0.0958*** (0.029)
Duration of paid leave	-0.0107** (0.005)	0.011 (0.00770)	-0.0638*** (0.024)
Enrolment of children in formal childcare	0.0377*** (0.005)	0.032*** (0.009)	0.167*** (0.041)
Tax rate of a second earner	-0.0407*** (0.012)	-0.081*** (0.019)	-
Tax incentive to work part-time	-	-	0.0190*** (0.006)
N. of Observations	156	159	152
R <sup>2</sup>	0.997	0.993	0.980

Note: (i) Estimates by two-stage least squares with robust standard errors in brackets. \*\*\*, \*\* and \* : significant at the 1%, 5% and 10%, respectively. All models include country and time dummies.

(ii) Country coverage: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, the United Kingdom and the United States.

(iii) The tax rate of a second earner is measured by the ratio of the marginal tax rate on the second earner to the tax wedge for a single-earner couple with two children earning 100% of average earnings. The marginal tax rate on the second earner is in turn defined as the share of the second earner's earnings which goes into paying additional household taxes.

(iv) The tax incentive to work part-time is measured by the increase in household disposable income between a situation where one partner earns the entire household income (133% of average earnings), and a situation where two partners share earnings (100% and 33% of the average earnings respectively), for a couple with two children.

The main results presented in Table A3.2.1 lead to the following conclusions:

#### *Role of education and labour market characteristics*

- Female educational attainment is an important driver of female labour force participation and has contributed to an increased share of part-time employment.
- *Ceteris paribus*, the increase in the share of public employment has not given rise to a significant increase in female labour market participation. The correlation between the incidence of public employment and part-time work is even highly negative, which suggests that the increase in female employment has been driven by two separate drivers: the increase in part-time work in some countries and the expansion of public employment in others.

- There is a clear negative association between the increase in part-time work and the strength of employment protection legislation.

*Role of policies*

- Increased enrolment of children in childcare has enhanced female employment on a full-time and part-time basis. Increasing public spending on childcare does not necessarily lead to greater part-time employment as it may facilitate moving into full-time work, or increases the quality of childcare without affecting hours per week.
- Increasing public spending on paid leave raises the importance of full-time employment relative to working part-time. The duration of leave decreases the probability of working part-time.
- Higher tax rates on the second earner in a family reduce the labour force participation of women, while tax incentives to work part-time also matter.



### A3.3. DATA SOURCES FOR THE ANALYSIS IN CHAPTER 3.3

The following household surveys were used for the analysis

#### *Current Population Survey (CPS)*

The **Current Population Survey (CPS)** is a [statistical survey](#) conducted by the [United States Census Bureau](#) for the [Bureau of Labor Statistics](#) (BLS) to provide a monthly report on the Employment Situation. It surveys 60 000 households. An annual supplement is done in March on income received in the previous calendar year, which are used to estimate the data on income and work experience.

#### *EU-Statistics on Income and Living Conditions (EU-SILC)*

The EU-Statistics on Income and Living Conditions (EU-SILC) instrument collects annual data for 27 European Union countries, as well as Croatia, Iceland, Norway, Switzerland and Turkey since 2004 on a cross-sectional and longitudinal basis, rotating every four years, for 130 000 households. Variables include information on income, poverty, social exclusion and other living conditions. EU-SILC does not rely on a common questionnaire or a survey but on common guidelines and procedures, and common concepts (household and income) and classifications aimed at maximising comparability of the information produced.

#### *Household, Income, Labour Dynamics in Australia (HILDA) - Australia*

Household, Income, Labour Dynamics in Australia (HILDA) is an ongoing household-based panel survey funded by the Department of Families, Community Services and Indigenous Affairs. The survey started in 2001 and contains at the moment seven waves. The Wave 1 of the panel consisted of 7 682 households and 19 914 individuals.

#### *Korean Labor and Income Panel Study (KLIPS)*

The Korean Labor and Income Panel Study (KLIPS) is an ongoing household survey which is conducted annually since 1998 and consists of 5 000 households and 13 000 individuals. The survey focuses on the study of labor market characteristics but a question about life satisfaction is included.

## A3.4. SUPPLEMENTARY TABLES TO CHAPTER 3.5

Table A3.4.1. Quotas on board representation in Europe and sanctions for non-compliance

Provisions	Sanctions
Since 2006, the <b>Norwegian</b> quota law requires all public (limited) companies listed at the Norwegian Stock Exchange as well as state-owned, municipal, inter-municipal and cooperative companies to appoint at least 40% of each gender on boards with at least 9 directors.	Implementation of legal sanctions in case of breach of the quota law, ranging from official warnings and financial penalties to ultimately delisting of the company from the Stock Exchange.
In 2007, <b>Spain</b> adopted a Law on effective equality between women and men, which recommends to large companies with more than 250 employees and IBEX 35 to gradually appoint women on their boards, until an even number of male and women members has been achieved. These companies should, within eight years, gradually modify the composition of their boards until a proportion of between 40 % and 60 % of each gender has been reached.	There is no sanctions for failure to comply with obligations, but it will be taken into account when companies want to, for example, obtain the equality label, public subsidies or state administration contracts.
In 2010 the <b>Icelandic</b> parliament adopted a legislative reform to promote gender equality in the boards of publicly owned companies and public limited companies having at least 50 employees. Boards composed of more than three persons must consist of at least 40 per cent of each gender by September 1st 2013. Moreover, companies with 25 or more employees are required to disclose the number of men and women employed as well as the number of men and women in management positions	In case founders, directors and a manager or inspectors and others "neglect their duties in accordance with the legislation, the Register of Limited Companies may invite them to discharge these duties subject to a daily or weekly fine. Courts of law may be consulted about the legality of the decree within a month of the serving thereof.
In 2011, <b>France</b> adopted a quota law that obliges listed companies and companies employing at least 500 employees and with revenues over € 50 million to appoint at least 20% women on their boards within 3 years and 40% within 6 years.	A key penalty of the law is that an appointment of a board member which does not meet the criteria in terms of gender will render the appointment invalid.
In 2011, the <b>Netherlands</b> adopted a legal target of minimum representation of 30% of each gender on boards (executive and supervisory) for large companies (250 employees, listed and not listed) per January 2016. The law is a temporary measure, to be reviewed in 2016. In 2016 the relevant articles will be rendered void.	Failure to meet this legal target must be reported in the annual report. There are no further sanctions.
In 2011, <b>Belgium</b> adopted a law imposing one third of each gender in management boards of state and publicly listed companies. State companies are granted one year to comply, listed companies five years and small to medium-sized (listed) firms eight years.	Sanctions: loss of benefits by board members until the quota law has been complied with.
In 2011, <b>Italy</b> approved the introduction of gender quotas of one third of each gender by 2015 (one fifth in a transitional period of one year) for boards of directors and statutory auditors' boards of listed companies and state-owned companies. The rules are applicable to boards appointed starting from the first year following the coming into force of the new law.	Sanctions are progressive: warning; fine; forfeiture of the offices of all members of the board.

Source: <http://ec.europa.eu/justice/gender-equality/>

## A3.5. SUPPLEMENTARY TABLES TO CHAPTER 3.8

Table A3.5.1. Tax /benefit systems and their "neutrality"

Average payments to government in % of gross household earnings, at different earning distributions of couples with two children between ages 6 and 11 (inclusive) with income equal to 133% and 200% of average worker earnings, 2010

Gross income in terms of average worker	Single-earner couples		Dominant dual earner couples		Equal dual-earner couples		Difference in net transfers to government: single and equal dual-earner couples	
	133-0	200-0	100-33	150-50	67-67	100-100	133	200
	1	2	3	4	5	6	$((1-5)/1)*100$	$((2-6)/2)*100$
<b>OECD</b>	<b>18.9</b>	<b>25.9</b>	<b>15.4</b>	<b>22.2</b>	<b>14.7</b>	<b>21.2</b>	<b>24.5</b>	<b>17.6</b>
Australia	16.9	28.0	12.9	22.8	10.5	22.3	37.6	20.5
Austria	25.7	30.7	18.3	27.1	16.9	26.3	34.3	14.2
Belgium	30.4	40.2	26.4	37.0	27.2	36.5	10.5	9.2
Canada	17.4	24.9	14.7	21.6	12.6	20.9	27.4	16.3
Chile	7.0	8.2	4.8	6.1	6.5	6.7	7.2	18.6
Czech Republic	5.3	15.9	6.6	15.9	5.3	15.9	0.0	0.0
Denmark	33.3	40.9	31.9	38.0	31.8	35.0	4.6	14.3
Estonia	11.1	15.1	11.1	15.1	11.1	15.1	0.0	0.0
Finland	29.4	36.3	20.7	28.2	18.2	26.5	38.1	27.0
France	19.8	23.2	18.3	23.6	20.2	23.9	-1.9	-2.9
Germany	25.2	28.9	26.0	32.2	26.0	33.5	-3.1	-16.2
Greece	25.6	32.2	19.9	24.6	16.3	22.4	36.4	30.5
Hungary	27.5	36.4	18.3	28.6	18.2	25.0	33.6	31.1
Iceland	20.2	29.2	19.9	27.5	19.6	27.5	3.1	5.9
Ireland	6.2	20.4	1.5	11.7	-0.6	12.3	109.3	39.7
Israel*	17.8	25.9	9.9	16.2	4.6	11.1	74.2	57.0
Italy	27.0	35.8	20.2	29.1	19.9	27.0	26.1	24.6
Japan	14.6	19.3	13.5	17.3	13.2	16.5	9.1	14.3
Korea	12.2	14.5	9.7	12.1	8.8	11.2	27.4	22.9
Luxembourg	9.0	20.1	6.3	17.3	6.3	17.3	30.2	13.5
Mexico	11.2	15.0	1.6	8.2	0.1	5.6	98.9	62.5
Netherlands	28.8	35.7	22.6	29.0	20.9	27.5	27.3	22.9
New Zealand	12.2	25.3	7.5	20.1	7.5	17.0	38.9	32.9
Norway	27.5	33.9	22.7	28.8	21.8	26.7	20.7	21.2
Poland	19.2	21.7	18.7	21.4	18.7	21.4	2.6	1.5
Portugal	16.3	23.1	12.0	20.3	12.0	20.3	26.2	12.3
Slovak Republic	9.4	16.1	8.2	16.2	9.4	16.2	0.0	-0.7
Slovenia	20.7	30.6	19.2	26.9	18.7	27.8	9.5	9.3
Spain	18.7	23.8	16.5	19.7	14.7	19.9	21.7	16.5
Sweden	25.3	35.4	16.9	26.2	16.5	21.1	34.8	40.3
Switzerland	7.1	12.7	5.6	11.5	5.6	11.6	20.1	8.4
Turkey	28.3	31.8	27.1	29.6	26.7	28.7	6.0	9.8
United Kingdom	22.2	29.2	17.5	23.9	17.5	22.8	20.8	21.9
United States	15.1	19.9	15.1	19.9	15.1	19.9	0.0	0.0

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2012k), OECD Tax-Benefit model. Assumes no housing benefits nor payments relating to a transition into work are received.

## A3.6. SUPPLEMENTARY TABLES TO CHAPTER 3.10

Table A3.6.1. Informal employment in non-agricultural activities by gender, 2010

Persons in informal employment as a proportion of non-agricultural employment

Region and country	2010 or latest year available		
	All	Men	Women
<b>Latin America</b>	57.2	55.1	59.8
Argentina	49.7	49.8	49.6 j
Bolivia	75.1	72.4	78.5 d
Brazil	42.2	39.2	45.9 k
Colombia	59.6	57.0	62.7 l
Costa Rica	43.8	42.2	46.0 g
Dominican Republic	48.5	46.7	51.4 k
Ecuador	60.9	58.8	63.7 j
El Salvador	66.4	60.1	72.5 k
Honduras	73.9	73.0	74.8 k
Nicaragua	65.7	64.9	66.6 k
Panama	43.8	41.8	46.5 h
Paraguay	70.7	67.9	74.4 k
Peru	70.6	65.5	76.2 k
Uruguay	39.8	39.4	40.3 k
Venezuela (Bolivarian Republic of)	47.5	47.5	47.4 f
<b>Eastern Europe &amp; Central Asia</b>	16.2	17.0	15.6
Armenia	19.8	24.8	12.7 k
Azerbaijan	26.5	16.6	41.7 i
Macedonia, The former Yugoslav Republic of	12.6	15.4	8.1
Moldova, Republic of	15.9	20.8	11.4 k
Serbia	6.1	7.5	4.3
<b>Asia</b>	64.0	64.6	63.2
India	83.5	82.7	86.6 b
Sri Lanka	62.1	65.2	55.7 k
Thailand	42.3	41.2	43.5
Vietnam	68.2	69.4	66.8 k
<b>Africa</b>	56.8	52.2	60.2
Egypt	51.2	56.3	23.1 k
Lesotho	34.9	34.1	36.1 e
Liberia	60.0	47.4	72.0
Madagascar	73.6	66.8	81.0 c
Mali	81.8	74.2	89.2 a
Namibia	43.9	41.1	47.0 e
South Africa	32.7	29.5	36.8
Uganda	68.5	66.5	71.2
Zambia	69.5	62.9	80.1 e
Zimbabwe	51.6	42.7	65.9 a

Source: ILO (2011b) Statistical update on employment in the informal economy.

- a. Data refer to 2004.
- b. Data refers to 2004/05.
- c. Data refer to 2005.
- d. Data refer to 2006.
- e. Data refer to 2008.
- f. Data refer to 2009 1<sup>st</sup> Quarter.
- g. Data refer to July 2009.
- h. Data refer to August 2009.
- i. Data refer to October 2009.
- j. Data refer to 2009 4<sup>th</sup> Quarter.
- k. Data refer to 2009.
- l. Data refer to 2010 2<sup>nd</sup> Quarter.

**Table A3.6.2. Wage and self-employment as a proportion of non-agricultural informal employment by gender, 1994-2000**

Wage and self-employment as a proportion of non agricultural informal employment

Region and country	All		Women		Men	
	Self-employment	Wage employment	Self-employment	Wage employment	Self-employment	Wage employment
<b>Northern Africa</b>	<b>62</b>	<b>38</b>	<b>72</b>	<b>28</b>	<b>60</b>	<b>40</b>
Algeria	67	33	81	19	64	36
Egypt	50	50	67	33	47	53
Morocco	81	19	89	11	78	22
Tunisia	52	48	51	49	52	48
<b>Sub-Saharan Africa</b>	<b>70</b>	<b>30</b>	<b>71</b>	<b>29</b>	<b>70</b>	<b>30</b>
Benin	95	5	98	2	91	9
Chad	93	7	99	1	86	14
Guinea	95	5	98	2	94	6
Kenya	42	58	33	67	56	44
South Africa	25	75	27	73	23	77
<b>Latin America</b>	<b>62</b>	<b>38</b>	<b>61</b>	<b>39</b>	<b>61</b>	<b>39</b>
Bolivia	81	19	91	9	71	29
Brazil	41	59	32	68	50	50
Colombia	38	62	36	64	40	60
Costa Rica	55	45	49	51	59	41
Dominican Republic	74	26	63	37	80	20
El Salvador	65	35	71	29	57	43
Guatemala	60	40	65	35	55	45
Honduras	72	28	77	23	65	35
Venezuela (Bolivarian Republic of)	69	31	66	34	70	30
<b>Asia</b>	<b>59</b>	<b>41</b>	<b>63</b>	<b>37</b>	<b>55</b>	<b>45</b>
India	52	48	57	43	51	49
Indonesia	63	37	70	30	59	41
Philippines	48	52	63	37	36	64
Syrian Arab Republic	65	35	57	43	67	33
Thailand	66	34	68	32	64	36

Source: ILO (2002a), Women and men in the informal economy: A statistical Picture.

## A3.7. GENERAL BACKGROUND DATA ON EMPLOYMENT

Table A3.7.1. Labour force participation, employment, part-time and temporary work, gender wage gaps, boardroom membership and unpaid work

	Labour force participation rate (15-64 years old)		Employment/population ratio (15-64 years old)		Part-time employment <sup>a</sup> as a proportion of total employment		Employment/population ratio - full-time equivalent <sup>b</sup> (15-64 years old)		Temporary employment as a proportion of dependent employment <sup>c</sup> (25-54 years old)		Gender wage gap <sup>d</sup>		Proportion of women on boards of listed companies		Average minutes of unpaid work per day <sup>e</sup>		Average weekly hours dedicated to care activities	
	2010		2010		2010		2010		2010		2010 or latest year		2009		1999-2010 <sup>f</sup>		2007	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
OECD	78.9	64.9	72.1	59.5	8.4	25.2	74.4	50.7	9.9	11.7	15.8		10.4	140.0	277.1	26.6	39.3	
Australia	82.9	70.0	78.6	66.2	13.5	38.6	79.2	50.9	4.3	6.6	14.0		7.6	171.6	311.0	..	..	
Austria	80.9	69.3	77.1	66.4	7.0	33.0	81.2	54.5	4.6	5.2	19.4	m	6.0	135.3	268.9	16.0	37.0	
Belgium	73.4	61.8	67.4	56.5	6.7	31.7	68.2	46.4	5.2	7.8	8.9	l	10.8	150.8	245.0	20.0	29.0	
Canada	81.5	74.2	74.2	68.8	12.1	27.4	..	..	9.3	10.4	18.8		6.3	159.6	253.6	..	..	
Chile	77.8	51.8	72.1	46.7	12.0	25.7	74.1	41.7	28.8	27.9	..		5.4	..	..	..	..	
Czech Republic	78.6	61.5	73.5	56.3	2.3	7.0	78.7	54.9	5.1	7.5	18.1	m	..	..	..	27.0	44.0	
Denmark	82.7	76.1	75.8	71.1	13.6	25.9	67.8	55.1	5.4	7.8	12.1	m	10.2	186.1	242.8	29.0	28.0	
Estonia	76.7	70.9	61.5	60.5	5.8	11.3	61.7	56.7	4.2	2.1	..		..	169.0	287.8	32.0	53.0	
Finland	76.7	72.5	69.7	66.9	9.2	16.0	68.5	58.7	9.2	16.9	19.7	m	14.9	159.0	232.0	19.0	22.0	
France	75.0	66.3	68.3	59.9	5.7	22.3	70.0	51.9	9.7	12.4	13.1	l	18.1	135.9	257.6	23.0	36.0	
Germany	82.4	70.8	76.1	66.1	7.9	37.9	76.2	50.5	9.2	10.4	21.6	m	3.5	163.8	268.8	26.0	50.0	
Greece	78.9	57.6	70.9	48.1	5.0	14.4	78.5	47.3	10.4	13.3	9.6	l	9.7	..	..	22.0	43.0	
Hungary	68.3	56.7	60.4	50.6	2.3	5.2	61.1	49.3	9.3	8.4	6.4		..	127.1	268.1	21.0	30.0	
Iceland	88.2	82.7	80.6	77.0	11.4	25.9	87.1	66.1	6.0	8.2	13.5	l	..	..	..	..	..	
Ireland	77.9	62.6	64.5	56.4	11.9	38.2	63.2	43.3	6.2	7.5	10.4	m	6.9	129.2	296.1	48.0	48.0	
Israel*	68.2	60.9	63.4	56.9	7.0	21.8	..	..	..	..	20.3		..	..	..	..	..	
Italy	73.3	51.1	67.7	46.1	6.3	31.1	69.1	38.4	9.3	13.2	11.8	l	7.0	102.9	325.8	22.0	29.0	
Japan	84.8	63.2	80.0	60.1	10.4	33.9	..	..	4.5	18.9	28.7		3.9	58.6	268.7	..	..	
Korea	77.1	54.5	73.9	52.6	7.2	15.5	88.5	56.5	17.7	23.9	38.9	m	..	45.0	227.3	..	..	
Luxembourg	76.0	60.3	73.1	57.2	4.6	30.4	74.0	46.9	4.8	6.6	..		10.0	..	..	29.0	42.0	
Mexico	82.9	46.6	78.4	44.1	12.6	28.6	90.8	41.8	22.2	10.3	..		7.4	112.6	373.3	..	..	
Netherlands	83.8	72.6	80.0	69.4	17.2	60.6	71.7	42.5	12.0	14.5	16.7	j	4.8	163.0	272.8	31.0	53.0	
New Zealand	83.6	71.8	78.2	66.7	11.5	33.8	81.8	54.0	..	..	6.8		7.8	141.0	264.0	..	..	
Norway	80.8	75.6	77.4	73.3	11.4	29.8	70.7	56.5	4.3	7.9	8.1		38.0	152.2	225.3	28.0	45.0	
Poland	72.4	59.0	65.6	53.0	5.2	13.0	69.8	50.6	23.9	23.1	10.0	m	7.4	157.1	295.8	32.0	49.0	
Portugal	78.2	69.9	70.1	61.1	6.1	13.0	71.0	56.8	20.9	21.9	15.6	m	9.7	96.3	328.2	30.0	34.0	
Slovak Republic	76.0	61.3	65.2	52.3	2.8	5.0	67.7	51.6	4.5	4.7	..		17.8	..	..	23.0	34.0	
Slovenia	75.4	67.4	69.6	62.6	7.2	12.1	70.4	59.6	10.6	14.4	..		..	166.5	286.2	31.0	37.0	
Spain	81.9	66.8	65.6	53.0	4.9	21.7	67.9	46.7	22.9	24.9	11.8	m	10.6	153.9	258.1	25.0	45.0	
Sweden	82.2	76.7	75.0	70.3	9.7	18.8	72.2	60.1	9.4	12.7	14.9	m	19.3	177.0	249.2	31.0	38.0	
Switzerland	88.2	76.1	84.8	72.3	9.6	46.4	85.5	52.2	6.1	6.9	19.5	m	9.5	..	..	..	..	
Turkey	75.4	30.2	66.7	26.2	6.7	23.4	87.0	27.4	9.6	10.9	..		7.4	116.4	376.7	19.0	28.0	
United Kingdom	82.5	70.2	75.3	65.3	11.6	39.4	77.2	51.0	4.0	5.2	18.4		8.1	149.9	273.4	27.0	49.0	
United States	79.6	68.4	71.1	62.4	8.8	18.4	..	..	3.5	3.4	18.8		12.0	161.1	248.2	..	..	
Brazil	85.1	63.5	79.7	56.4	10.1	28.1	85.2	50.0	m	..	..		8.5	..	..	..	..	
China	85.3	75.2	76.4	65.6	..	..	..	..	..	..	..		..	91.0	234.0	..	..	
India	83.1	30.3	78.1	27.7	..	..	..	..	..	..	..		6.9	51.8	351.9	..	..	
Indonesia	86.3	53.2	79.0	46.6	..	..	..	..	..	..	..		17.5	..	..	..	..	
Russian Federation	77.9	68.2	71.6	63.5	3.0	5.6	..	..	15.0	10.5	..		12.1	..	..	..	..	
South Africa	63.2	47.2	46.8	31.7	..	..	..	..	..	..	..		13.1	91.6	257.0	..	..	

- a. Part-time employment refers to people who usually work less than 30 hours per week in their main job.
- b. The full-time equivalent rate is calculated as the employment/population ratio, multiplied by the average usual hours worked per week per person in employment, and divided by 40.
- c. Temporary employees are wage and salary workers whose job has a pre-determined termination date as opposed to permanent employees whose job is of unlimited duration.
- d. The gender wage gap is unadjusted and is calculated as the difference between median earnings of men and women relative to median earnings of men.
- e. Surveys for Canada, China, Denmark, France, Ireland, Japan, Korea, Mexico and South Africa do not cover a complete calendar year and thus, to varying degrees, under-represent holidays. As people do more unpaid work on weekends, excluding holidays overestimates paid work and underestimates unpaid work and leisure.
- f. The years covered are: Australia: 2006; Austria: 2008-09; Belgium: 2005; Canada: 2010; China: 2008; Denmark: 2001; Estonia: 1999-2000; Finland: 2009-10; France: 1998-99; Germany: 2001-02; Hungary: 1999-2000; India: 1999; Italy: 2002-03; Ireland: 2005; Japan: 2006; Korea: 2009; Mexico: 2009; the Netherlands: 2006; New Zealand: 2009-10; Norway: 2000-01; Poland: 2003-04; Portugal: 1999; Slovenia: 2000-01; South Africa: 2000; Spain: 2002-03; Sweden: 2000-01; Turkey: 2006; the United Kingdom: 2000-01; and the United States: 2010.
- g. Data refer to those aged 16-64 for Iceland, Spain, Sweden, the United Kingdom and the United States.
- h. Data refer to those aged 15+ for China, India, Indonesia and South Africa.
- i. Data refer to 2004.
- j. Data refer to 2005.
- k. Data refer to 2006.
- l. Data refer to 2008.
- m. Data refer to 2009.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD (2012b), OECD Employment Database; ILO (2012a), KILM for Brazil, China, India, Indonesia and South Africa (accessed February 2012). Miranda (2011), "Cooking, Caring and Volunteering: Unpaid Work Around the World"; OECD (2010k), "Tackling Inequalities in Brazil, China, India and South Africa - The Role of Labour Market and Social Policies"; European Quality of Life Survey, 2007; OECD-ORBIS database.



**ANNEX TO PART 4**

## A4.1. METHODOLOGICAL ISSUES AND ADDITIONAL FINDINGS TO CHAPTER 4.1

### Data and comparability issues

#### *Self-employment data (Figure 4.1.1)*

Figure 4.1.1 is based on data on self-employment by gender extracted from labour force and household surveys of OECD and non-OECD countries. Original data extractions were needed since the available datasets (e.g. Labour Force Statistics published by OECD and ILO) do not provide distinct information on self-employed with and without employees. This disaggregation is very relevant because gender differences are generally more marked for the class of business owners with paid employees (self-employed with employees or ‘employers’). Both unincorporated and incorporated women and men employers are included in figure 4.1.1 when the information is available. The main comparability issue relates to the classification of the ‘incorporated self-employed’. While in official statistics for most OECD countries the self-employed who incorporated their businesses are counted as self-employed, in some countries they are counted as employees. To improve international comparability, the number of incorporated employers and own-account workers in the United States was estimated, using information on the percentage of incorporated self-employed men and women who have employees, available for 1995, 1997, 1999, 2001 and 2005 from the Contingent and Alternative Work Arrangements Surveys. For the missing years between 1996 and 2004, this percentage has been derived through linear interpolation. For the years 2006 to 2011, the percentage for 2005 has been used.

#### *EIP Data on sole-proprietor enterprises by gender (Figures 4.1.2, 4.1.3, 4.1.4)*

Figures 4.1.2, 4.1.3, 4.1.4 are based on a new data collection managed by the OECD-Eurostat Entrepreneurship Indicators Programme (EIP). The statistics have been developed by National Statistical Offices on the basis of EIP definitions, primarily by linking business registers to population registers or other administrative data. For Mexico, the data in figure 4.1.2 were derived from the Economic Census 2009. For Japan, the figure refer to the number of men and women sole-proprietors with and without employees, and not to women and men-owned sole-proprietor enterprises. Japanese data are thus not fully comparable to other countries, given that one single sole-proprietor can own more than one enterprise, and that there might be gender differences in the propensity to own more than one enterprise. With the exception of Japan in figure 4.1.2, and of Poland in figure 4.1.4, the data refer to ‘employer enterprises’, defined as enterprises with at least one paid employee. Data from France, Poland and Switzerland are obtained from representative surveys of new enterprises. They are tabulated by gender of the enterprise (sole) founder rather than of by gender of the sole-proprietor.

#### *ORBIS data on women, men and mixed-owned enterprises (Table 4.1.1)*

Table 4.1.1 is based on the OECD ORBIS dataset, which includes structural and financial information on millions of companies worldwide. The dataset is produced by the OECD on basis of data provided by Bureau van Dijk Publishing. For the countries included in the table, the ORBIS dataset provides information on the names of individuals or societies owning shares of the companies. For analytical reasons, the sample is restricted to those companies where individuals own at least 50% of the company’s shares. Enterprises are defined as women(men)-owned if one or more women(men) own more than 50% of the shares. They are classified as mixed-owned if the shares of women and men are the same (e.g. companies owned by couples), and if neither men nor women alone account for more than 50% of the shares (e.g. a company owned for 30% by women, 40% by men, and 30% by a non-physical person). In order to assign a gender to the different owners, an algorithm was developed that identifies male and female owners on the basis of their first name. The algorithm matches the first names of the owners in the

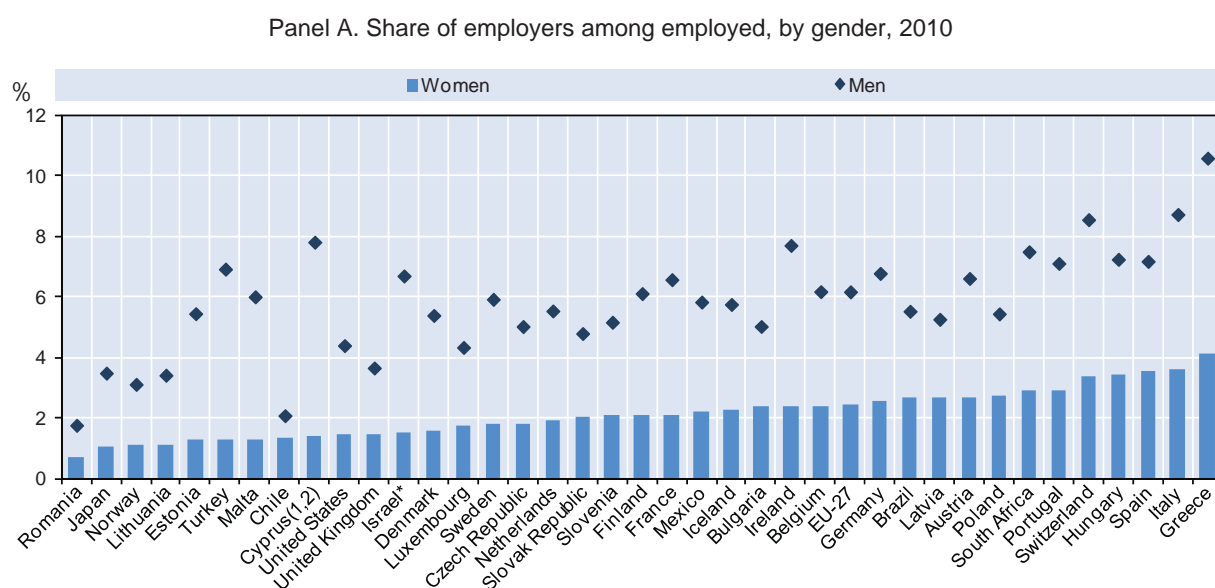
ORBIS database with a database of 173 thousands unique first male and female names by country compiled by the OECD extending the one used in Frietsch *et al* (2008). In each country, at least 96% of the owners' names are identified as masculine or feminine. The main comparability issue is represented by the fact that ORBIS coverage of firms is still uneven across countries. Large companies are generally over-represented. The ORBIS data on women, men and mixed-owned enterprises are also used in Figure 4.3.4.

### Derivation of chapter's results and additional findings

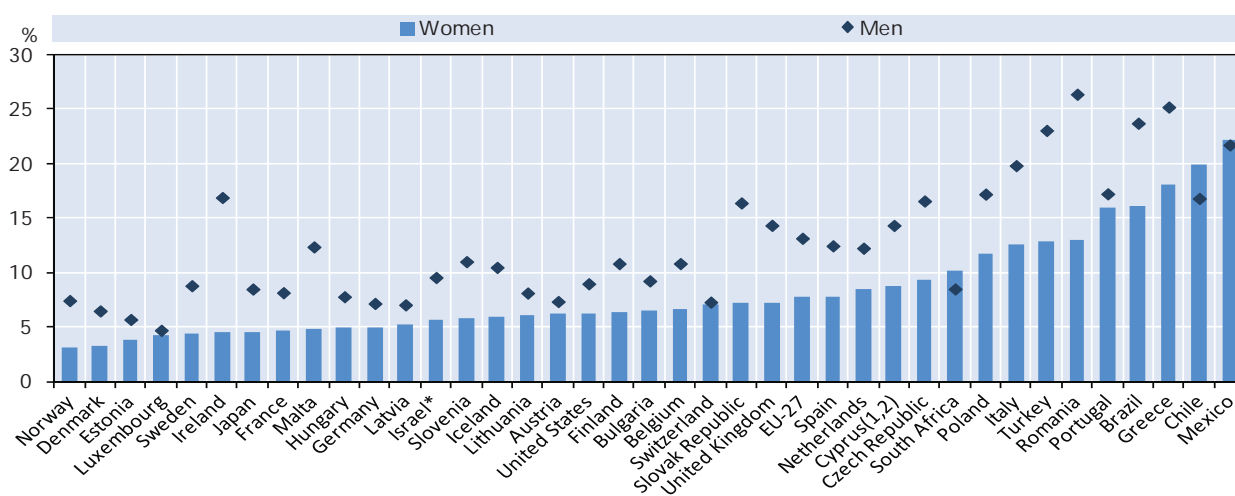
#### *Gender differences in the share of employed women who are own-account workers or employers (Self-employment data)*

As discussed in the chapter, self-employed women are less likely than self-employed men to hire employees. Figure A4.1.1 (Panels A and B) illustrates the importance of looking at the type of self-employment women and men are engaged into. It shows that gender differences are much more marked when focusing on the population of self-employed with employees ("employers"). In Chile, Mexico and South Africa, the percentage of employed who are account workers is greater among women than among men. However, women are significantly less likely to work as employers in these three countries.

**Figure A4.1.1. Gender differences in self-employment are much more pronounced among the self-employed with employees**



Panel B. Share of own-account workers among employed, by gender, 2010



Note: In Panel A countries are ordered by increasing share of women employers; in Panel B countries are ordered by increasing share of women own-account workers.

\* Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

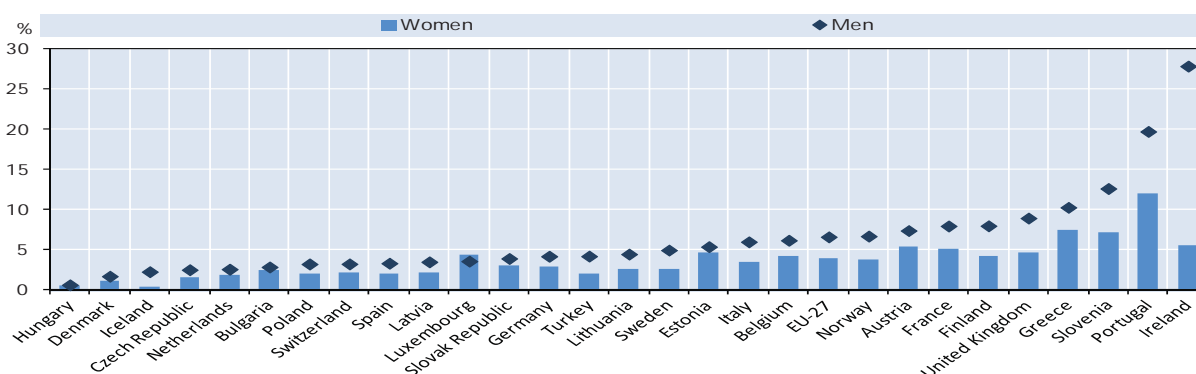
Source: OECD estimates based on household and Labour Force Survey data.

### *Gender differences in the propensity to search for a self-employment job (Self-employment data)*

Paragraph 4 of Chapter 4.1 argues that compared with men unemployed women are less likely to consider self-employment. Figure A4.1.2 shows that this is the case across all European countries, except Luxembourg.

Figure A4.1.2. Unemployed women are much less likely to search for a job as self-employed

Percentage of unemployed women and men searching for a self-employment occupation, 2010<sup>a</sup>



Note: Countries are ordered by increasing percentage of unemployed men searching for a self-employment occupation.

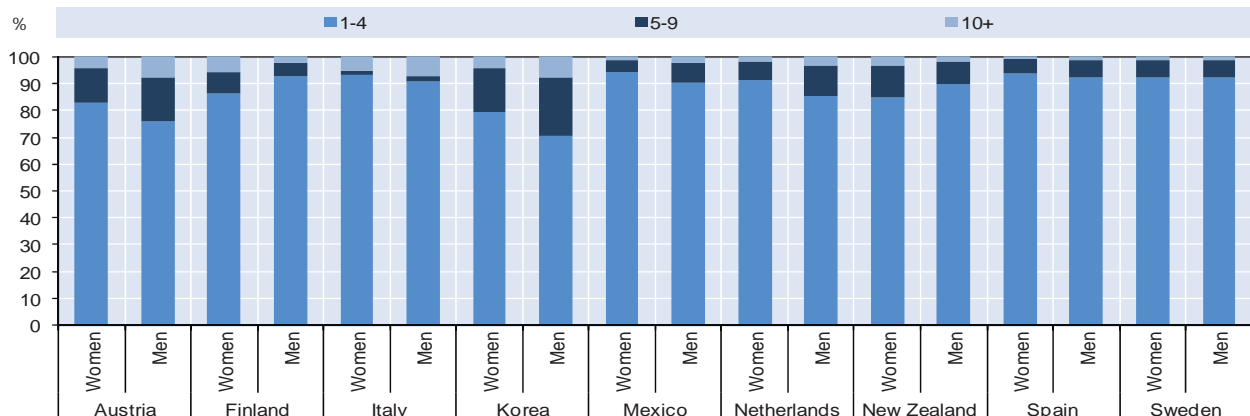
a. Unemployed women and men actively searching for a job are asked if they are searching for a job as wage-employed or as self-employed.

Source: OECD estimates based on Eurostat European Labour force survey data.

### Characteristics of women and men-owned individual enterprises (EIP data)

Sole-proprietor enterprises owned by women are significantly smaller than those owned by men. Figure A4.1.3 shows the proportion of women and men enterprises in three size classes of number of persons employed (1-4, 5-9, 10 or more). For most countries, women-owned enterprises are over-represented in the smallest size class.

**Figure A4.1.3. Enterprises run by women are significantly smaller than those run by men**  
Size distribution of women and men sole-proprietor enterprises, 2009



Source: OECD based on special tabulations from National Statistical Institutes. Employer enterprises only.

Women tend to open their enterprises in different sectors as compared to men. The proportion of women enterprises is relatively higher in wholesale and retail trade, transportation and accommodation, while it is relatively lower in manufacturing (Figure A4.1.4).

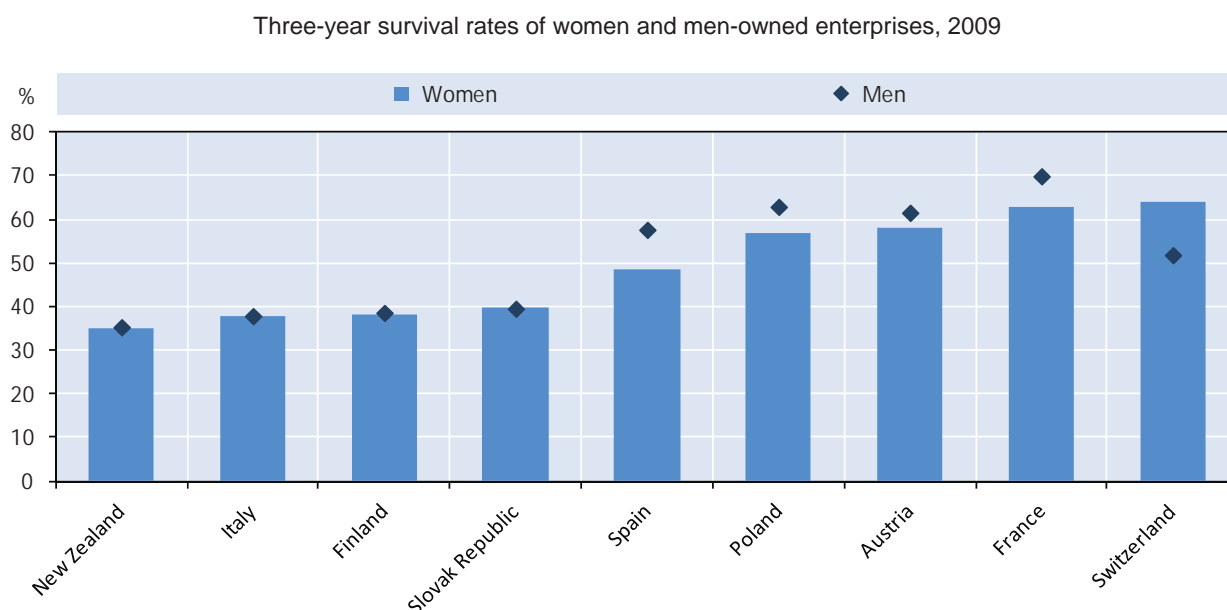
**Figure A4.1.4. Women are much less likely than men to run enterprises in manufacturing**



Source: OECD based on special tabulations from National Statistical Institutes. Employer Enterprises only with the exception of Japan.

The EIP data provides information on differences in survival rates of women and men-owned individual enterprises. Figure A4.1.5 shows that in Finland, Italy, New Zealand and the Slovak Republic about the same percentage of men and women-owned enterprises with employees is still active and has employees three years after the birth. Men-owned enterprises have relatively higher survival rates in Austria, France, Poland and Spain, while they have a relatively lower survival rate in Switzerland. Data from France, Poland and Switzerland were obtained from representative surveys of new enterprises. They were tabulated by gender of the enterprise (sole) founder instead that by gender of the sole-proprietor.

**Figure A4.1.5. There are large international differences in the survival rates of women-owned enterprises**



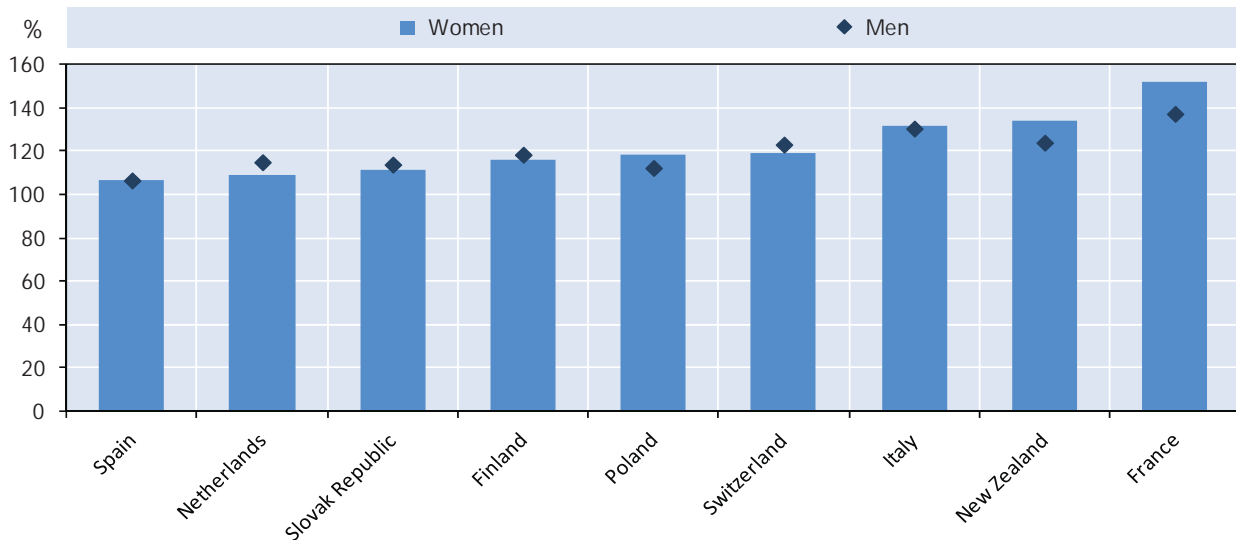
Note: Countries are ordered by increasing survival rate of women-owned enterprises.

Source: OECD estimates based on special tabulations from National Statistical Institutes. Employer Enterprises only, with the exception of France and Poland where data cover both enterprises with and without employees. Data for Switzerland refer to 2 year survival rates and are for 2008.

Performance in terms of employment creation during the first years of operation tends to vary greatly across countries (Figure A4.1.6), with women new enterprises outperforming men enterprises in France, Italy, New Zealand and Poland, while lagging behind in Finland, the Netherlands, the Slovak Republic and Switzerland.

**Figure A4.1.6 Women and men-owned enterprises have similar performance in terms of employment growth**

Three-year employment growth rates of sole- proprietor employer enterprises, by gender of the owner, 2009



Note: Countries are ordered by increasing employment growth rate of women-owned enterprises.

Source: OECD based on special tabulations from National Statistical Institutes. The employment growth rate is given by the ratio of employment in year t+3 and employment in year t, multiplied by 100 (e.g. a value of 110 suggests employment growth by 10%). Employer Enterprises only, with the exception of France and Poland where data include both enterprises with and without employees. Data for Switzerland refer to 2 year employment growth rates and concern 2008.

### ***Differences in performance of women and men-owned enterprises (ORBIS data)***

Women-owned businesses in the ORBIS dataset underperform men-owned ones according to several measures of business performance. Table A.4.1.1 provides evidence on the magnitude of these performance gaps across the 21 OECD economies with available data. Column 1 presents results from a linear regression of the natural logarithm of value added per employee (a commonly used proxy measure for productivity) on a binary variable indicating female ownership and country fixed effects. It shows a productivity gap of women-owned enterprises of around 11%. In order to understand whether this productivity gap is due to the fact that women select different types of industries with respect to men, column 2 includes as additional control variables: a) the natural logarithm of fixed asset values per employee ("Ln (Capital/Employees)", a measure of capital intensity of the business activity), b) the natural logarithm of the number of employees ("Ln(Employees)", a measure of firm size), c) a binary variable indicating whether the enterprises was created less than 5 years ago ("Recent"), d) industry fixed effects, at 1 digit level (NACE Rev.2 letters). The productivity gap decreases significantly, to around 5%, when accounting for these characteristics of the firms. This result shows that indeed a large part of the lower productivity of female-owned enterprises is due to the fact that women own enterprises that have lower size, are less capital intensive and in sectors characterised by lower average productivity. Enterprises owned by women tend to make lower profits (around 4% less), even controlling for their size, capital intensity, age and sector of activity (column 3). The women-owned companies included in ORBIS were slightly less likely (1.2% less) to experience an increase in their number of employees between 2005 and 2009 (column 4).



**Table A4.1.1. Women owned-enterprises lag behind in average productivity, profits and generation of new jobs**

Estimated labor productivity (2009), profits (2009) and change in number of employees (2005-2009) by gender

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
VARIABLES	Ln(Value added per employee)	Ln(Value added per employee)	Ln(Profits)	Ln(Employment growth)
Female Ownership	<b>-0.114***</b> (0.005)	<b>-0.048***</b> (0.004)	<b>-0.039***</b> (0.008)	<b>-0.012***</b> (0.003)
Ln(Capital/employees)		0.434*** (0.002)	0.699*** (0.003)	-0.013*** (0.001)
Ln(Employees)		0.050*** (0.001)	0.764*** (0.003)	0.127*** (0.001)
Recent		0.042*** (0.006)	0.106*** (0.012)	0.217*** (0.007)
Industry fixed effects	No	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Constant	4.114*** (0.036)	1.957*** (0.167)	-0.283 (0.418)	0.333*** (0.109)
Observations	231,820	247,350	224,930	152,985
R-squared	0.300	0.570	0.521	0.162

Note: Robust standard errors in parentheses. \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1.

Source: OECD estimates based on OECD-ORBIS Data for 21 countries. Enterprises are defined as women(men)-owned if one or more women(men) own more than 50% of the shares.

Table A4.1.2 explores which firm-level characteristics matter more in explaining the mean differences in performance measures between women and men-owned enterprises. It does so through a Blinder-Oaxaca decomposition based on the regression models in columns 2 to 4 of Table A4.1.1. The decomposition divides the performance differential between the two groups of female and male-owned enterprises into a part that is “explained” by group differences in firm characteristics and a residual part that cannot be accounted for by these differences. This “unexplained” part subsumes the effects of group differences in unobserved predictors, such as ability or other personal characteristics of female and male business owners. The values in the table show the relative contribution of firm size, capital intensity and sector of activity in explaining the gaps in productivity, profit and employment growth. As discussed in the chapter, the most important factor accounting for the gender difference in productivity is the lower capital intensity of women-owned enterprises (responsible for 38% of the gap). The lower average size of women-owned enterprises explains a large part of the gender differential in profits and in employment growth. If women-owned enterprises had on average the same characteristics (size, capital intensity, distribution by industry, age) as enterprises owned by men, than their productivity gap would be reduced by 51%, their profit gap by 92%, and their employment growth gap by 78%.

**Table A4.1.2. Blinder-Oaxaca decompositions of the gender performance gap**

	Ln(Value added per employee)	Ln(Profits)	Ln(Employment growth)
Contributions to the performance gap from gender differences in:			
Firm size (Ln Employees)	9,84%	52,26%	87%
Capital Ln(Capital/employees)	38,30%	28,12%	-8%
Sector of activity (NACE 1 digit industry fixed effects)	22,83%	2,60%	-32%
Percentage of performance gap explained by firm characteristics:	51,2%	91,91%	78%

Source: OECD estimates based on OECD-ORBIS Data for 21 countries. Enterprises are defined as women (men)-owned if one or more women (men) own more than 50% of the shares.

## A4.2. METHODOLOGICAL ISSUES AND ADDITIONAL FINDINGS TO CHAPTER 4.2

### Data and comparability issues

#### *EUROSTAT Factors of Business Success Survey data (Figure 4.2.1)*

The *Factor of Business Success (FOBS)* was coordinated by EUROSTAT and implemented by 15 European countries in 2005/6. The FOBS collected information for the year 2005 on enterprises born in 2002 and characteristics of their founders. The purpose of the survey was to **shed light on factors that support or hamper the success of newly born enterprises**. It was conducted as a one-off survey, within the framework of the data collection on business demography, on samples of enterprises in the business registers stratified by activity and employee size. The FOBS data are used also in Chapters 4.3 and 4.4.

#### *Data on earnings of self-employed women and men (Figures 4.2.4 and 4.2.5)*

The estimates of the earning gaps of women in self-employment are based on three different datasets: 1) European Union Statistics on Income and Living Conditions (EU-SILC), 2008 wave, 2) Survey of Income and Program Participation 2008 for United States, 3) Household, Income and Labour Dynamics in Australia (HILDA) 2008 wave. The estimates are based on gross (pre-tax) cash benefits or losses from self-employment, and are restricted to individuals whose primary activity is self-employment. Self-employment income is one of the most problematic elements of household income to define and to measure accurately. The EU-SILC programme provided detailed guidelines to statistical institutes on the criteria that should be followed for the calculation of self-employment income. However there are still methodological hurdles that reduce the comparability of the statistics across countries and across times. In fact, the self-employed often have accounting practices which make it difficult for them to provide accurate responses to survey questions. Moreover, their financial and accounting framework does not relate well to that used by statisticians in constructing national accounts or household income analysis (Eurostat, 2010).

### Derivation of chapter's results and additional findings

Table A4.2.1 presents the results of analysis on determinants of earnings of female and male business owners described in Chapter 4.2. The analysis is based on Mincer-type regressions on two separate samples of female and male self-employed.

The first column presents the results on pooled data from 24 European countries. It shows that the number of hours spent working in the business is a highly significant predictor of earnings, for both female and male business owners. Returns from potential experience (measured as (Age – Years of completed education - 5)) are significant and non linear: earnings increase with experience but at a decreasing rate, both for men and for women. The presence of children aged less than 18 years old in the household, and the ownership of the house, are not significantly related to the earnings of self-employed women. Interestingly, tertiary educated women in self-employment tend to earn relatively less than less educated women in Europe. Work limiting health conditions are significantly associated to lower earnings, both for men and for women. The most relevant difference of the results for the United States with respect to those for Europe relate to the returns from education. In the United States, more educated business owners tend to earn relatively more, and this effect is stronger among women. Moreover, hours worked on the business yields in the United States relatively higher returns for women than for men (difference significant at the 10% level).

**Table A4.2.1. Determinants of earnings of men and women business owners**

	Ln(earnings) in Europe		Ln(earnings) in United States	
	(1)		(2)	
	Men	Women	Men	Women
Hours worked per month	0.006*** (0.000)	0.006*** (0.000)	0.003*** (0.000)	0.004*** (0.000)
Experience	0.066*** (0.004)	0.051*** (0.005)	0.015** (0.007)	0.066*** (0.014)
Experience Squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.0001** (0.000)	-0.001*** (0.000)
Children less than 18	0.043*** (0.011)	-0.013 (0.018)	0.308** (0.138)	0.188** (0.086)
Born in the country	-0.106** (0.046)	-0.044 (0.067)	0.246*** (0.080)	-0.074 (0.072)
Married	0.115*** (0.026)	0.049 (0.037)	0.077 (0.056)	-0.037 (0.067)
Household Owner	0.082*** (0.029)	0.058 (0.042)	0.112* (0.057)	0.124 (0.083)
Secondary educated	-0.478*** (0.165)	-0.230 (0.183)	-0.229*** (0.077)	0.496*** (0.145)
Tertiary educated	-0.112 (0.083)	-0.188** (0.092)	0.311*** (0.085)	0.990*** (0.151)
Work-limiting health	-0.248*** (0.033)	-0.230*** (0.048)		
Constant	7.029*** (0.114)	7.129*** (0.157)	8.150*** (0.190)	6.363*** (0.232)
Country fixed effects	Yes	Yes		
Observations	22807	12113	4060	2164
R-squared	0.310	0.371	0.076	0.109

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Sources: EU-SILC 2008 for European countries, Survey of Income and Program Participation 2008 for the United States.

### A4.3. METHODOLOGICAL ISSUES AND ADDITIONAL FINDINGS TO CHAPTER 4.3

#### Data and comparability issues

##### *Survey on the access to finance of SMEs*

Box 4.3.1 in Chapter 4.3 is based on data from the “Survey on the Access to Finance of SMEs”, jointly managed by the European Central Bank and the European Commission. The objective of the survey is to provide comparable, timely, and frequent data for conditions of access to credit in the European Union. The survey provides evidence on the financing conditions faced by SMEs compared with those of large firms. The first wave of the survey was held in June-July 2009, and subsequent waves were held every six months. For the first wave (first half of 2009), it is possible to identify women and men-owned enterprises on the basis of the questions “has the enterprises only one owner?” and “is the only owner male/female?”. For the other waves, the enterprises can be classified as women or men-owned on the basis of the question “What is the gender of the Owner/Director/CEO of your firm?”

#### Derivation of chapter’s results and additional findings

Table A4.3.1 presents statistics based on the first wave of the “Survey on the Access to Finance of SMEs”, discussed in Chapter 4.3. Enterprises owned by women are significantly less likely to ask for loans by financial institutions. In the first half of 2009, differences in means between male and female-owned enterprises are not statistically significant at the 10% confidence level for three other measures of access to credit (‘finance is the most pressing problem’, ‘rejection of a credit application’, and ‘credit application not done for fear of rejection’). Enterprises owned by one woman are significantly smaller than those owned by one man in the survey. The relatively small size of women-owned enterprises can explain part of the difference in the demand for credit.

**Table A4.3.1. Differences in credit use and access for enterprise owned by women and men (2009, 16 countries in Euro area)**

	Male proprietor	Female proprietor	Difference of means
No loans in last two years	0.20 (0.40)	0.27 (0.44)	-0.06*
Finance is the most pressing problem	0.06 (0.25)	0.08 (0.27)	-0.01
Rejection of credit application	0.04 (0.20)	0.07 (0.25)	-0.03
Did not apply for fear of rejection	0.09 (0.28)	0.10 (0.30)	-0.02
Less than 10 employees	0.55 (0.50)	0.74 (0.44)	-0.19**

Note. Standard deviations in parenthesis. \*\* Significant at the 5% level, \*Significant at the 1% level.

Source: OECD estimates based on data from ECB-EU Survey on the Access to Finance of SMEs, first wave.

#### **A4.4. METHODOLOGICAL ISSUES AND ADDITIONAL FINDINGS TO CHAPTER 4.4**

##### **Data and comparability issues**

##### ***Data on new firms in the United States and Germany***

The chapter provides evidence on gender differences in innovation investments and outcomes based on analysis of two panel datasets for the United States and Germany: the Kauffman Firm Survey (KFS) for the United States and the KfW-ZEW Start-up Panel for Germany.

The KFS is a large longitudinal study of new businesses in the United States. The panel of businesses was created by using a random sample from Dun & Bradstreet's (D&B) database list of new businesses started in 2004. The KFS oversampled 'innovative' businesses on the basis of information on the intensity of research and development employment in the businesses' primary industries. The KFS excluded D&B records for businesses that were wholly owned subsidiaries of existing businesses, businesses inherited from someone else, and not-for-profit organizations. Data from the first wave (2004) are used to identify the owners-founders of the enterprises and to construct the variables related to their characteristics (gender, experience, etc.).

The KfW/ZEW Start-up Panel is drawn from the database of Creditreform, the largest credit rating agency in Germany. Three stratification criteria are applied in order to construct the sample of the start-up panel: year of firm formation, sector, and whether or not the firm has been promoted by KfW Bankengruppe. In each year, a random sample of firms which have been founded within three years prior to the year of the survey is drawn. The estimates in Chapter 4.4 are based on data from the public use file from first year of the survey in 2008. They have been produced as part of the research project "The innovative behaviour of women-led young firms", submitted by Mario Piacentini in August, 2011 and approved by the Centre for European Economic Research (ZEW) in September 2011.

Women and men founded enterprises are defined in a comparable way across the two datasets. Women (men) founded enterprises are those enterprise who have been founded by at least one woman, and with no men in the founding team. For the KFS, the founding team is approximated by the 10 main owners of the business at the year of creation. For the analysis, enterprises founded-owned by mixed teams are excluded. The variables on founders/owners characteristics are calculated as averages for the individual members of the founding team.

##### **Derivation of chapter's results and additional findings**

Chapter 4.4 discusses the importance of owners' entrepreneurial experience in explaining gender differences in innovation investments and outcomes. Table A4.4.1 provides detailed statistics on differences by gender for the full sample of new enterprises in the surveys for the United States and Germany ("All"), and for the sample of enterprises where at least one founder (owner) had a previous experience as business owner before the start-up (Previously entrepreneur).

**Table A4.4.1. Enterprises founded by women with previous entrepreneurial experience are more likely to innovate and invest in R&D**

	United States					Germany			
	All		Previously entrepreneur			All		Previously entrepreneur	
	women	men	women	men		women	men	women	men
Product innovation	20%	22%	24%	25%		32%	40%	38%	46%
	(0.40)*	(0.42)*	(0.43)	(0.44)		(0.47)**	(0.49)**	(0.49)**	(0.50)**
Process innovation	15%	18%	17%	21%		21%	28%	28%	36%
	(0.36)*	(0.39)*	(0.38)	(0.41)		(0.41)**	(0.45)**	(0.45)**	(0.48)**
R&D	11%	18%	13%	20%		11%	20%	18%	31%
	(0.31)**	(0.38)**	(0.33)*	(0.40)*		(0.32)**	(0.40)**	(0.38)**	(0.46)**

Note: Sample means for binary (0/1) variables, standard deviation in parenthesis. \*\* Difference in means for male-founded and female-founded statistically significant at 5%. \* Difference in means statistically significant at 10% level.

Source: OECD estimates based on Kauffman Firm Survey and KfW-ZEW Start-up Panel.

Table A4.4.2 tests whether gender differences in product and process innovation and in the likelihood of making an expenditure in Research and Development (R&D) are statistically significant when controlling for other characteristics of the founding team and of the firms. Additional variables included are: a) whether at least one founder (owner) had a previous experience as business owner before the start-up (Previously entrepreneur); b) the average number of years of experience in the industry for the members of the founding team at the year of start-up (Experience in industry), c) the share of founders with completed tertiary education (Tertiary Educated), d) whether all the founders were born in the country (Native born), e) the number of employees at the time of the start-up (Employees at start), f) whether the enterprise operate in a high-technology industry (High technology). For new firms in the United States significant gender differences in innovation outcomes are no longer observed when these additional variables are controlled for, while there are still differences in the probability of undertaking expenditure in R&D. For the start-ups in Germany, the lower levels of innovation outcomes and expenditures of women-founded enterprises are significant also when taking into account other differences between men and women-founded enterprises.



**Table A4.4.2. The innovation gap by gender in the United States disappears when controlling for other characteristics of the firms and of the founders**

Marginal effects coefficients from probit models

	United States			Germany		
	(1)	(2)	(3)	(4)	(5)	(6)
	Product Innovation	Process Innovation	R & D	Product Innovation	Process Innovation	R & D
Founded by women	0.002 (0.022)	-0.01 (0.02)	-0.040** (0.019)	-0.053** (0.024)	-0.048** (0.022)	-0.043*** (0.015)
Previously entrepreneur	0.054*** (0.017)	0.054*** (0.016)	0.022 (0.015)	0.075*** (0.019)	0.092*** (0.017)	0.120*** (0.013)
Experience in industry	-0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	-0.037* (0.02)	-0.026 (0.018)	-0.016 (0.013)
Tertiary educated	0.042** (0.018)	-0.005 (0.017)	0.071*** (0.016)	0.078*** (0.018)	0.044*** (0.016)	0.125*** (0.012)
Native born	-0.050* (0.027)	-0.04 (0.025)	-0.052** (0.025)	-0.023 (0.03)	0.005 (0.027)	-0.029 (0.02)
Employees at start	0.006*** (0.002)	0.007*** (0.002)	0.001 (0.002)	0.020*** (0.005)	0.017*** (0.004)	0.008*** (0.003)
High technology	0.119*** (0.027)	0.068*** (0.025)	0.182*** (0.027)	0.079*** (0.018)	0.085*** (0.016)	0.123*** (0.012)
Pseudo R2	0.024	0.02	0.0591	0.03	0.02	0.1
Observations	2,381	2,376	2,336	3,426	3,449	4,819

Note: Robust standard errors in parenthesis \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.01.

Source: OECD estimates based on Kauffman firm survey data (United States) and KfW Start-up Panel (Germany).

Table A4.4.3 uses data from the Kauffman firm survey. It shows that in the United States (as across European countries) gender differences in innovation outcomes tend to disappear when looking at forms of innovation that are less intensive in capital and in research. The only significant differences between men and women-founded enterprises relate to expenditures in design, and in software or databases.

**Table A4.4.3. Differences in expenditures in different forms of innovation by new enterprises founded by women and men in the United States (Kauffman Firm Survey, 2009)**

	men founded	women founded
Expenditure in design of new products and services	0.20 (0.40)*	0.17 (0.37)*
Expenditure in software and databases	0.26 (0.44)*	0.21 (0.40)*
Expenditure in brand development (advertising and marketing)	0.31 (0.46)	0.29 (0.46)
Expenditure on organizational development	0.07 (0.25)	0.06 (0.24)
Expenditures on training of the employees	0.20 (0.40)	0.20 (0.40)

Note: Binary (1/0) variables, equal to 1 if positive expenditure. Sample means for enterprises where all the owners were men at the start-up date (men founded) and where all the owners were women (women founded). Standard deviation in parenthesis.

Source: OECD estimates based on Kauffman firm survey data.

## A4.5. METHODOLOGICAL ISSUES AND ADDITIONAL FINDINGS TO CHAPTER 4.5

### Data used and comparability issues

Figures 4.5.1, 4.5.2, 4.5.3., 4.5.4 and 4.3.5 are based on micro and small enterprises surveys described in Table A4.5.1. For all the estimates in the chapters, the samples were restricted to enterprises with up to 15 employees. Enterprises are defined as male or female-owned on the basis of the gender of the individual responding to the survey, who is the main owner or (and) the person with highest responsibilities in the management of the enterprise.

**Table A4.5.1. Description of the dataset used in Chapters 4.3 and 4.5**

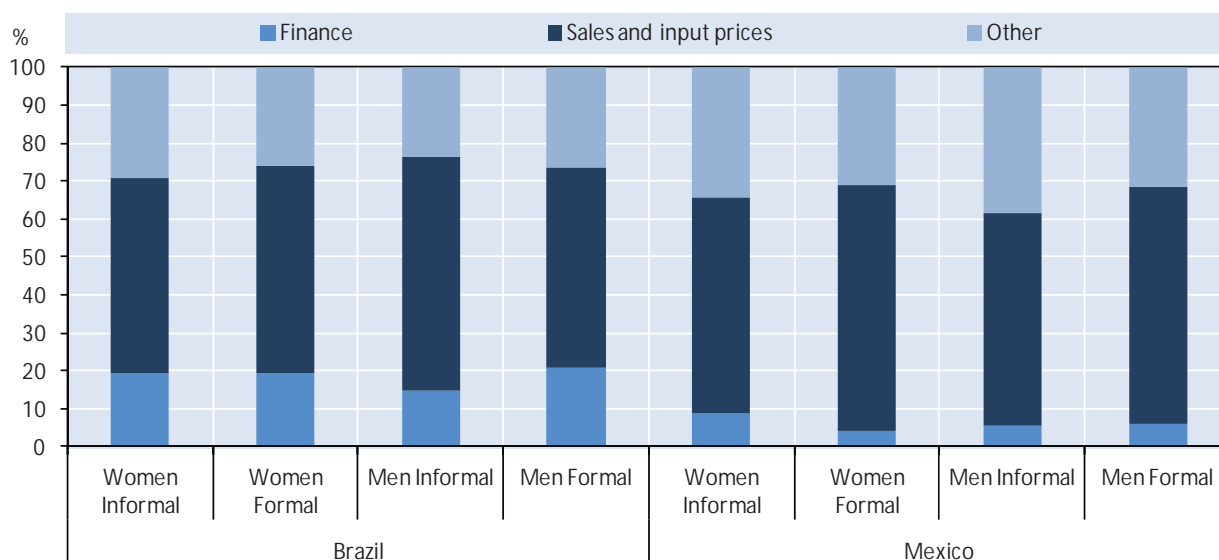
Country	Dataset
Brazil	<i>Economia Informal Urbana</i> microsurvey conducted in 2003 by the Instituto Brasileiro de Geografia e Estatística (IBGE). The survey is representative of Brazilian urban areas and includes non-agricultural small businesses with up to 5 employees.
Egypt	2003 Micro and Small Enterprises Dataset for MENA Countries from the Economic Research Forum (ERF). The data was collected by a country team supervised by Dr. Alia El Mahdi (Principal investigator), as part of ERF's project on "Promoting Competitiveness in Micro and Small Enterprises in the MENA region". The survey provides estimates for Micro and Small Enterprises with less than 50 employees on the national level and for 8 governorates of the 3 major administrative regions (Metropolitan areas, Lower Egypt and Upper Egypt).
Lebanon	2003 Micro and Small Enterprises Dataset for MENA Countries from the Economic Research Forum (ERF). The data was collected as part of ERF's project on "Promoting Competitiveness in Micro and Small Enterprises in the MENA region". The survey is nationally representative and comprises non-agricultural Micro and Small Enterprises with less than 50 employees.
Mexico	<i>Encuesta Nacional de Micronegocios</i> (ENAMIN) conducted in 2008 by the Instituto Nacional de Estadística y Geografía (INEGI). The survey is nationally representative and comprises small businesses in urban and rural areas with up to 6 employees (including the owner) in the sectors of extractive industry, construction, services and transport, and up to 16 employees for manufacturing.
Morocco	2003 Micro and Small Enterprises Dataset for MENA Countries from the Economic Research Forum (ERF). The data was collected by a country team supervised by Dr. Bachir Hamdouch (Principal investigator), as part of ERF's project on "Promoting Competitiveness in Micro and Small Enterprises in the MENA region". The survey has a nationally representative sample and comprises urban and rural businesses with up to 50 employees.
South Africa	FinScope SME South Africa Survey 2010 coordinated by FinMark Trust and conducted by TNS Research surveys. The survey has a nationally representative sample and comprises urban and rural businesses with up to 200 employees.

### Derivation of chapter's results and additional findings

For the calculation of the number of employees for Figure 4.5.1 of Chapter 4.5, only paid workers were counted as employees. For Figure 4.5.3, the different phrasing of the question about the primary motivation for starting a business across surveys partially limits the comparability across countries. 'Necessity entrepreneurs' are however relatively easy to identify across the different datasets, as those who answered that they started their business because they had no other option for earning an income. For Figure 4.5.4, the education level of the business owner for Egypt, Lebanon and Morocco was measured using the total years of education instead of information on the degree of education obtained. Tenure as business owner was measured for Brazil, Egypt, Lebanon and Morocco Lebanon using data on number of years working in the present job. For Mexico and South Africa, business tenure was measured using information on the year in which a business was started.

Figure A4.5.1 shows that sales and input prices are considered the most important business constraint for both women and men.

**Figure A4.5.1. Business owners in Brazil and Mexico consider level of prices and sales the most important business constraint**



Source: Secretariat's estimates based on data described in Table A4.5.1.

Table A4.5.2 provides descriptive statistics on the characteristics of the small entrepreneurs and their businesses. As can be seen from the table, there are no large differences in the age of women and men small entrepreneurs, with the exception of Lebanon and Morocco where men are older. There is no clear pattern in terms of education attainments, women being on average more educated in some countries (Brazil, Lebanon, Morocco) and less educated in others (Mexico, Egypt). Excepting Egypt, female owners spend less time in their business than men. Women have been also running their business for a limited number of years. Enterprises run by women in these countries are more likely to employ other women.

**Table A4.5.2. Statistics on small and micro-enterprise and their owners from surveys used in chapter 4.5**

Countries	Brazil		Egypt		Lebanon	
	Women	Men	Women	Men	Women	Men
<i>Entrepreneur characteristics</i>						
Age	40.59 (12.32)	41.13 (12.60)	40.40 (15.31)	40.35 (13.18)	37.66 (12.42)	41.88 (13.03)
Nb of children	0.01 (0.15)	0.01 (0.16)	1.58 (1.56)	2.01 (1.56)	1.53 (1.40)	2.02 (1.56)
Share of married owners	-	-	0.44 (0.50)	0.75 (0.43)	0.54 (0.50)	0.75 (0.43)
Years of education	7.63 (4.90)	6.35 (4.78)	6.35 (6.01)	8.75 (5.57)	11.14 (3.72)	9.99 (3.95)
Work hours per week	37.16 (54.11)	48.00 (48.13)	60.79 (19.39)	60.85 (20.68)	66.20 (18.88)	70.67 (22.51)
Years of tenure in business	7.65 (8.93)	9.76 (9.28)	6.93 (8.22)	9.68 (9.87)	7.82 (7.94)	11.67 (10.75)
<i>Enterprise characteristics</i>						
Nb of employees	0.07 (0.40)	0.11 (0.50)	0.88 (1.29)	1.13 (1.41)	1.25 (2.06)	1.30 (1.93)
Share of female employees	0.61 (0.44)	0.33 (0.42)	-	-	-	-
Share of informal enterprises	0.94 (0.24)	0.90 (0.30)	0.32 (0.47)	0.22 (0.42)	0.44 (0.50)	0.51 (0.50)
Sales per employee (US\$ 2000)	288.51 (380.93)	451.44 (508.01)	119.69 (125.56)	158.88 (184.26)	1131.49 (1458.77)	1009.10 (1326.52)
Assets (US\$ 2000)	1268.63 (2817.43)	2513.73 (4058.89)	2657.51 (4634.09)	3393.71 (5071.40)	25041.89 (35113.59)	22915.28 (33265.34)
Countries	Mexico		Morocco		South Africa	
	Women	Men	Women	Men	Women	Men
<i>Entrepreneur characteristics</i>						
Age	44.48 (13.10)	45.02 (12.73)	34.60 (9.82)	38.61 (11.81)	42.39 (13.55)	40.93 (13.55)
Nb of children	-	-	1.48 (1.16)	1.93 (1.44)	-	-
Share of married owners	-	-	0.45 (0.50)	0.64 (0.48)	0.54 (0.50)	0.63 (0.48)
Years of education	8.42 (3.87)	9.41 (3.69)	8.53 (5.13)	6.38 (4.73)	9.25 (3.64)	9.90 (3.37)
Work hours per week	36.40 (24.43)	45.67 (24.82)	60.65 (22.67)	68.84 (19.83)	59.46 (28.98)	63.75 (35.81)
Years of tenure in business	8.72 (10.17)	12.76 (11.38)	6.82 (26.32)	9.69 (10.36)	6.09 (7.31)	5.93 (7.14)
<i>Enterprise characteristics</i>						
Nb of employees	0.25 (0.81)	0.84 (1.65)	1.37 (1.73)	1.85 (2.23)	0.61 (1.60)	1.26 (2.35)
Share of female employees	0.71 (0.40)	0.24 (0.36)	-	-	0.68 (0.40)	0.27 (0.37)
Share of informal enterprises	0.71 (0.45)	0.62 (0.49)	0.52 (0.50)	0.43 (0.50)	0.84 (0.37)	0.74 (0.44)
Sales per employee (US\$ 2000)	356.08 (516.97)	661.96 (763.67)	427.71 (496.10)	667.16 (805.41)	559.91 (763.67)	669.82 (991.60)
Assets (US\$ 2000)	1537.24 (3915.37)	3961.71 (6267.17)	9916.68 (17901.52)	12919.97 (21026.31)	-	-

Note: (i) Sample means, standard deviations in parentheses. Source: Secretariat's estimates based on data described in Table A4.5.1.

Women have a significantly lower level of sales and sales per employee, notably in the informal sector. For example, women-owned enterprises in Mexico sell 63% less than men in the informal sector, and almost 45% less than men in the formal sector. Evidence of the percentage difference between informal and formal sectors show that both women and men have lower sales and productivity in the informal sector. In Brazil, Mexico, South Africa and Morocco, women tend to sell between 65 to 77% less in the informal sector than in the formal sector. Data for Lebanon are not included in the table due to sample size issues.

**Table A4.5.3. Differences in sales and sales per employee across gender and formality status**

	Sales				Sales per employees			
	Difference by gender of the owner (female relative to male)		Difference by formality status (informal relative to formal)		Difference by gender of the owner (female relative to male)		Difference by formality status (informal relative to formal)	
	Within the informal sector	Within the formal sector	Among female owners	Among male Owners	Within the informal sector	Within the formal sector	Among female owners	Among male owners
Brazil	-36.33%	-11.14%	-76.95%	-67.84%	-35.62%	-17.01%	-69.57%	-60.78%
Egypt	-40.16%	-23.73%	-46.93%	-32.36%	-24.46%	-22.56%	-23.07%	-21.14%
Morocco	-51.99%	-29.37%	-74.06%	-61.83%	-44.86%	-25.46%	-57.10%	-42.01%
Mexico	-62.96%	-44.29%	-64.97%	-47.31%	-51.64%	-31.33%	-52.17%	-32.09%
South Africa	-30.29%	-16.19%	-67.50%	-60.93%	-14.41%	-4.40%	-33.76%	-26.02%

Source: Secretariat's estimates based on data described in Table A4.5.1.

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