7. WORKING WOMEN AND MEN TODAY AND 25 YEARS AGO: DYNAMIC PERSPECTIVES ON EMPLOYMENT IN LUXEMBOURG

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Abstract
Social cohesion can be understood as equal opportunities and participation as opposed to isolation and exclusion. In this sense, a cohesive society should support women to (re)enter the labour market. Over the last decades, the employment rate of women in Luxembourg – as in other countries – has increased enormously. Using the Luxembourghish PSELL cohort data base (1985-2009) with a representative sample of Luxembourghish residents, this chapter aims at explaining why female employment in Luxembourg has grown over the last decades by looking at the increase in different subgroups. In contrast to more general studies, we follow specific age cohorts of women over a time span of 25 years in order to see how the participation rate has changed across the life course, over generations and over the last decades. The aim of our analysis is thus to understand how labour market behaviour is attributable to individual or household characteristics and macro factors. The results suggest that employment rates of women living in Luxembourg have risen over the last decades, while those of men have remained stable. As a consequence, the gender gap has narrowed. In this regard, Luxembourg’s society became more cohesive. Nevertheless, the differences persist – the gender gap has not closed.

7.1 Context: Women on the labour market in Luxembourg and Europe
Since the industrialisation, women and men have negotiated their shared responsibility in a way that has instituted the so-called gender contract, where responsibilities are “traditionally” divided between women and men, into a male breadwinner and a female housekeeper and caretaker. Consequently, compared to men who are at retirement age today and have spent on average 38 years in employment, women of this age on average look back to only 21 years of employment (Valentova, 2007, see section “Further information” at the end of the chapter). The main reason for female inactivity is family responsibilities: 81% of all women in Luxembourg stayed out of work for this reason (Valentova, 2005). Women with children and with lower education have spent much fewer years in employment (Valentova, 2007). However, this traditional division of labour has progressively eroded over the past decades as a consequence of female emancipation, higher education of women (and men), the tertiarisation of the economy, modernization, the growing individualism, better childcare facilities and the pluralisation of life styles (new forms of living together, declining importance of marriage and parenthood).2

1 This chapter is linked to the former CEPS/INSTEAD project “Studies on household dynamics”.
The crumbling of the traditional gender roles over the past decades and the increasing female labour market participation are intrinsically linked. The latter is often cited as a major cause for the changing gender roles, but it is also a consequence of it. The statistics confirm these trends. Gender role attitudes of younger women regarding childcare, home making and work are less traditional than those of the older ones and their male counterparts (Valentova, 2012). While female labour market participation has increased in many Western countries especially in part-time work) the female employment growth in Luxembourg has been above average in the EU-27 in the last decade (2002-2011). Together these facts seem to show that working and family life have become more compatible than a decade ago.

In this article, we will go back further and evaluate how and why this trend emerged, which groups have experienced the greatest change and which have not changed at all. This cohort analysis from a dynamic perspective will show the historical nature of female employment in Luxembourg and its causes. In this way, we are able to analyse to what extent the change is related to events in the life course (age effects), to cohort or to period effects. Age effects illustrate how the employment rate changes as the birth cohort ages. Cohort effects describe the differences between birth cohorts within the same age group. The time or period effects relate to changes in labour demand and supply factors and or changes in institutional settings.

While many studies investigate the activity rate (labour market participation), this chapter investigates employment rates. The employment rate is the share of employed among the total resident working age population (20-64 years). The difference between the rates is that the first includes the unemployed and thus the whole population who wishes to work, while the latter refers to actual access to employment. The advantage of analysing employment rates is thus that we are actually able to look at how many women manage to enter (rather than wish to) work while taking into account structural barriers.

7.2 A detailed view on employment over the last decades in Luxembourg

5 Age cohorts are defined here by birth year and gender. We follow women born in the same period over a time span of 25 years in order to see how the participation rate has changed across the life course.
6 The activity rate is typically defined as the share of employed and unemployed among the total number of persons of working age.
The EU target is to reach an employment rate for women and men aged 20-64 of 75% by 2020. The national target is an employment rate of 73% in 2020 and 71.5% in 2015\textsuperscript{7}. Over the last decades, the employment rate of women in Luxembourg – as in other countries – has increased enormously. Yet, the general employment rate is with 69.8% in 2011 still below target\textsuperscript{8}. Moreover, female employment is with 61.7% still lower than male employment (77.8%).

The demand for labour has increased enormously over the decades in Luxembourg. The total number of employed (salaried) workers\textsuperscript{9}. has with 356,600 workers in 2012 more than doubled since 1991. However, a large part of the labour supply consists of cross-border workers. For this reason, it is difficult to relate employment changes for Luxembourgish residents with macro data. But the large increase of demand for labour is by sure one of the economic factors supporting the employment chances for women work. Thus, the overall female employment rate could increase from 35% in 1985 to 56% in 2009.\textsuperscript{10}

Labour demand and supply factors as well as institutional settings lead to different shapes in the age and life-cycle employment patterns. Three typical shapes can be distinguished\textsuperscript{11}: First, the plateau or inverted U-shaped curve, which exhibits an increasing labour market activity until the age of 30, then stays constant over until a stark decline around the age of 55. Second, the M-shaped curve, which is typical in many countries for women and shows a valley during child raising ages of women (women returner curve). Third, the so-called permanent labour exit curve shows a left-hand peak at young ages and decreases continuously over the life-cycle as with increasing age more and more women permanently exit the labour market after marriage or child birth. In the next section, we will verify with the PSELL Cohort data base (1985-2009) if these tendencies can be found in the Luxembourgish context as well.

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\textsuperscript{10} Source: PSELL Cohort database 1985-2009, own calculations

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Box 7.1 Sources and definitions

Database
The analysis is based on Panel Socio-Economique Liewen zu Lëtzebuerg (PSELL I, II and III). By re-structuring the PSELL data into a cohort (time-series) format we created the ‘PSELL Cohort database 1985-2009’; containing residents of Luxembourg (living in private households, institutions excluded) between 20-64 years old where variables sufficiently comparable for the analysis spanning a period of 25 years.

Definitions
- Employment (ILO definition): working at least one hour per week
- Employment rate: share of employed residents among the total resident working age population (age 20-64), based on total work hours
- Relative gender employment gap = female employment rate/male employment rate
- Total work hours: actual work hours including over-time work and second jobs
- Full-time equivalent employment rate: share of employed residents among the total resident working age population (age 20-64) based on equivalent total work hours
- Full-time equivalent employment (FTE) :
  - total work hours (twh) >= 40
  - total work hours (twh) < 40
- Full-time equivalent employment rate: share of employed residents among the total resident working age population (age 20-64) based on equivalent total work hours

7.2.1 Men continue on high employment levels, women increasingly (re)enter the labour market

Looking at Luxembourg’s residential population (and excluding thus cross-border workers), Figure 7.1 shows that women have always had lower levels of employment than men (around 80%) throughout the last decades and continue to do so, even after a stark increase in employment from 35% in 1985 to 55% in 2009.\(^\text{12}\)

\(^\text{12}\) Looking at the medium age group (30-54 years old), the greatest changes become clear. Women started off with much lower levels of employment and work today on average more often than they used to in the past. Men of this age used to and continue to have very high levels of employment.
This raises the question why women could raise their employment by this extent. Before turning to the answer, we briefly look at the differences between age groups to gain more detailed insights on the gender gap in employment rates. Figure 7.2 shows that the gender gap has narrowed over the last decades for people aged 30 and older: the line approaches 1 on the gender gap axis. In contrast, the gap for the youngest group, which constitutes roughly one fifth of Luxembourg’s population, has almost closed by 2000 but since then gender differences have increased again.
Figure 7.2: Employment gender gap 1985-2009, by age groups


Reading guide: The figure shows how the relative employment gender gap develops over the years in three age groups. Lines approaching the value 1 indicate closing gender gaps, a value of 1 implies gender parity.

7.2.2 While male employment has not changed considerably between 1985 and 2009, female employment has increased and changed its curve dramatically

Are 20-25, 26-35 and 36-45 years old comparable to their counterparts 25 years ago? Yes and no. Differences appear when looking in more detail across the life time and comparing women and men.13 Men in 1985 used to have higher employment rates in their twenties than in 2009 (Figure 7.3). Today, more time is spent in education, postponing the labour market entrance by a couple of years leading to lower employment rates in younger ages in 2009. This trend of lower activity among

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13 The observation period of 25 years is too short for comparing the development of age profiles within cohorts (age effects). Here, we restrict our analysis by comparing temporal (aggregate) age profiles for all women by person types, but not differentiated by cohorts.
the young is reinforced by high youth unemployment.\textsuperscript{14} Regarding the elderly, slightly more men work in Luxembourg at the end of their career today than in 1985. Likely reasons are ceasing pre-retirement schemes and the need to work longer in order to receive a full pension due to a longer education phase. Together, these trends result in the typical inverted U-shape of the male employment function, which shows, however, these period effects just mentioned as shifts. An additional difference today is moreover that men seem to leave work for family responsibilities more than before\textsuperscript{15} – if we believe that the more recent curve starts to approach an M-shape.

Figure 7.3: Employment rate over age in 1985 and 2009, by gender

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure7_3}
\caption{Employment rate over age in 1985 and 2009, by gender}
\end{figure}

\textit{Note:} Employment rate: share of employed (working at least one hour per week, ILO definition) among the total working age population (age 20-64).
\textit{Reading guide:} The figure compares employment rates in 1985 and 2009 separated by gender and takes a deeper look into the age related employment. In the age group of 20-24 years, the rates are lower in 2009 than in 1985 for both genders whereas the rates for people aged 50+ are higher. From the distance of the curves can be seen that the rates have changed more for women than for men.

\textsuperscript{14} Youth unemployment (aged less than 25) amounts currently 19.6\% in Luxembourg (June 2012). Source: Eurostat (2012b) Pressemitteilung Euroindikatoren - Saisonbereinigte Arbeitslosenquoten, \url{http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-31072012-BP/DE/3-31072012-BP-DE.PDF}

\textsuperscript{15} Compare Beck (1986).
The female employment curve over age has an entirely different shape. While the employment curve of 2009 approaches a left-hand peaked M-curve, in the past, women had on average the highest probability to work when they were young. Their employment rate was declining with age leading to the permanent labour exit curve. Similar to men is, however, that women in 2009 work less often than in the past in their twenties, as a consequence of longer education periods and high youth unemployment.\(^\text{16}\)

To go into more detail regarding the inter-cohort effects, by the same token, more recent birth cohorts of women are more likely to be found in employment than women at the same age decades ago. The gradual changes or the so-called inter-cohort effects are well depicted in Figure 7.4 indicating an incremental increase of female employment for almost all age groups over time.

Figure 7.4: Female employment rate over age, by selected cohorts

Source: PSELL Cohort database 1985-2009
Reading guide: The figure shows that the employment rates of women in the youngest age group (less than 25 years) are lower than the older cohorts due to longer education than in the past. This is contrary to the situation for women aged 25 years and older, where we can find higher employment rates in the more recent cohorts higher than the older cohorts as fewer women stop working in this age categories than in the past.

\(^{16}\) Eurostat (2012b)
7.2.3 No remarkable difference between Luxembourgish and non-Luxembourgish

Distinguishing nationalities in Figure 7.5, no large differences between Luxembourgers and non-Luxembourgish nationals appear. Yet, non-Luxembourgers tend to work more often on average than Luxembourgish nationals although in some age groups in some periods, both groups reach parity. This is for instance the case for men aged 30-54 and recently also for women in the same age group. Yet, the gap among women is overall larger than for men. In addition, large ethnic differences may occur in the quality or type of work (Hartung and Neels 2009 for instance on Germany).

Figure 7.5: Employment gap between Luxembourgish and non-Luxembourgish nationals, 1985-2009, by age groups


Reading guide: The figure shows how the relative employment non-national gap (=rate non-nationals/nationals) develops over the years in three age groups. A value of 1 on the axis non-national gap means equal employment rates, while values larger (smaller) than 1 suggest that non-nationals work more (less) than nationals. For men aged 30-54, no gaps exists, whereas for women of the same age group the gap found in 1985 disappears in 2009.
7.2.4 The increase in (female) employment stems from part-time jobs

While Luxembourg is one of the countries in which part-time work contracts increased most in the last years (Lejealle 2008), working part-time is most of the time a choice (73%) rather than due to a lack of options (Blond-Hanten, Lejealle, Etienne-Robert, 2008). Differentiating full- and part-time employment, the figures reveal – as expected – that it is the option of part-time work that facilitates women’s labour market access. Figure 7.6 confirms the increasing trend of part-time employment among women over time. Men on the other hand can generally only rarely be found in such contracts. While for men, part-time work is slightly more frequent when entering and exiting the labour market, for women part-time work occurs throughout the life time. The question if this is due to the (still) unequal sharing of family responsibilities will be answered in the next section.

Figure 7.6: Percentage of part-time workers from 1985-2009, by gender and age

Notes: Part-time worker: actual work hours (including over-time work and second jobs) less than 30 hours. Basis: individuals gainful employed.
Source: PSELL Cohort database 1985-2009
Reading guide: The figure exhibits that part-time work is more frequent among women than among men. Men work in most cases full time while women are increasingly working part-time.
7.2.5 Low educated women experience the greatest boost in employment

The increase in female employment\textsuperscript{17} is not the same across all levels of education (figure 7.7). Highly educated women were also in the past very likely to work, which is the reason for this group not having experienced a large increase in the employment rate. In contrast, low and medium educated women are today more likely to be employed than ever before. For men of all levels of education, on the other hand, the employment rates remain rather stable. The exception is lower educated men, who are today somewhat less likely than in 1985 to work. However, this is likely to be due to the shifts towards an economy in need of higher-skilled workers forcing lower educated into unemployment or to exit the labour market. To some extent and in certain sectors, better educated women crowd out low educated men. These trends are similar in other countries.\textsuperscript{18}

\textsuperscript{17} The interpretation of gender employment gaps is biased by the fact that average work hours of men and women are not constant over the years. Therefore, we employ the concept of ‘full-time equivalent employment (FTE)’ and standardize work hours as follows. A full-time worker (40 and more hours) receives a FTE of 1 and part-time workers with 20(10) hours a FTE value of 0.5 (0.25). The formula is provided in Box 7.1.

Figure 7.7: Full-time equivalent employment rate 1985-2009 by gender and education (aged 30-54)\textsuperscript{19}

Notes: Education is based on International Standard Classification of Education (ISCED-97) code: "low": primary education and lower secondary education (levels 0-2), "medium": (upper) secondary education (level 3), "high": bachelor/master/doctoral degree or equivalent (levels 4-6).

Reading guide: The figure highlights the importance of education for the female employment situation: the higher the education, the higher the employment rate. The development over the years demonstrates that employment increased more in the lower educated group than in the highest. For men with lower education, we find a slightly decrease of rates over the years.

7.2.6 Living with partner and children make a difference for women but not (much) for men

The female participation rate is known to be negatively correlated to fertility. The reason behind is that the decision to work or not can also be seen as a household

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decision, which is negotiated – implicitly or explicitly – among the different household members (Berger, Islam, Liegeois, 2010). Taking care of family members may prevent women but also less traditional men to take up an activity. In couple households, the share of one-earner households is decreasing in favour of double-earner households. In other words, not surprisingly, in more and more households two persons are working and the male-breadwinner model seems to vanish. Among couples without children, the share of double wage earners (as compared to a single earner) increased only modestly from 54% (1985) to 64% (2009) while this share doubled from 28% to 56% in the same period among couples with children aged less than 18 years old. The same is confirmed by family status specific employment rates for women aged 20-64: looking at the change between 1985 and 2009, the highest increases occur among women in couples with children (from 27% to 59%) and those in couples with adult children from 17% to 44% respectively compared to an overall female increase from 35% to 56%. Not being able to profit from other household members working, single person households and single parents with children had already in 1985 relatively high employment rates, which increased thus slower than among other household types (from 49% in 1985 to 72% and 61% in 2009 respectively.²²

²⁰ Fitzenberger et al. (2004).
Figure 7.8: Full-time equivalent (FTE) employment rate 1985-2009, by gender and family status

Notes: Persons aged 30-54 years only. The figure provides information for persons aged between 18 and 65 years, who live either as one-person household (single), one-parent household or in a partnership (couple). Children refer to household members younger than 18 years. Excluded are all other members 18 years and older which might be co-resident in the household. Male single-parents are excluded due to the low case number.

Source: PSELL Cohort database 1985-2009

Reading guide: The figure shows the development of employment over time according to their family status. The comparison of ‘singles’ and ‘couples with no children’ allows us to single out the influence of partnership for (wo)men. The comparison of ‘couples without’ and ‘with children’ exhibits the impact of children on the employment chances. The employment situation of a ‘single parent’ can be compared with ‘couples with children’ to assess the influence of partnership when having children.
To look into more detail, we investigate now at the impact of household characteristics (family types) for men and women separately. The gender-related results of the previous section, i.e. the increase in part-time employment, are also reflected in the employment rates across different household types. For men of any family situation, employment rates have been very high throughout the years (Figure 7.8). This confirms previous studies (Berger et al. 2010, Guastalli et al. 2011), which find little heterogeneity among men according to the household type. Women, on the other hand, differ according to their family status but all groups have today higher employment rates than in 1985. In line with the theory that family reasons prevent women from working is that (a) single women are most likely to be employed today as before and (b) that women in a couple with children are the least likely to work, in 1985 as in 2009. Single parent women and women in couples without children are in between these two. Single parent women used to have higher employment rates than women in a couple without children but this trend reversed in 2005.

Figure 7.9: Full-time equivalent (FTE) employment rate in 2009, by gender, family status and age groups
Notes: see figure 7.8. Male single-parents are excluded due to the low case number. 
Source: PSELL Cohort database 2009.

Reading guide: The figure depicts the employment situation of individuals in their household context in 2009 and shows that female employment rates are more different than men over the life cycle. The differentiation by age groups is only a (simplified) approach for accessing of the life cycle pattern of labour market participation, because individuals might change the household composition over the life cycle (e.g.: single→ couple no children → couple with children → one parent).

The curve of the male employment function over the life-cycle has generally the shape of an inverted U. This implies that men increasingly enter the labour market after their education, have a continuously high employment rate throughout their life until retirement age, where the curve starts to fall steeply. Women on the other hand show less homogeneous patterns (figure 7.9). While female singles have high employment rates in the beginning of their lives which decrease with age (similar to single men in this respect), women with children (in a couple or single parent) exhibit a more M-shaped curve with a so-called child valley, in which employment rates drop due to taking care of children.

7.3 Conclusions

In sum, this chapter has shown that labour market participation in Luxembourg increased in the last decades mainly due to women streaming on the labour market. Having looked into more detail on female employment, we show that it is actually women in couples with or without children in the household, which increasingly (re)enter the labour market. Among single women on the other hand, the employment level has been already high – similar to men – and remains on this high level.

Compared to 20 years ago, it is easier today to combine family and work, especially in view of the option to work part-time.23 Reasons to increasingly (re)enter work that are often cited are – besides necessities in financially difficult times as a result of new insecurities in line with the destandardisation of work careers – a more family-friendly infrastructure (care facilities, etc.) and flexible work arrangements (part-time, etc.), and the change in values away from the male breadwinner model (compare Valentova, 2011).

An important result is thus that the increase in female employment over the last decades is partly due to part-time contracts. Yet, the increase in female employment raises the question of gender equality (compare also Brosius and Van Kerm (chapter 4) in this volume), namely if women also have access to high-status and well-paid jobs (compare Guastalli et al., 2011). Despite reforms, part-time workers are generally still disadvantaged compared to full-time workers in terms of pay, job security, training/promotion, and social security outcomes.24

In addition, women are still far from the employment levels of their male counterparts. The question is thus also if the infrastructure and institutions are

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24 OECD (2010).
targeted enough for promoting employment of women. Luxembourg’s employment policies have typically been passive, i.e. granting benefits to cover risks. In 2010, 63% of Luxembourg’s labour market policy spending went to passive measures compared to 33% spent on active labour market policies. Active and targeted measures to educate and (re-)integrate people without job into the labour market could be expanded. From such a policy approach the groups with a low employment rate identified above would profit, as eventually Luxembourg’s future.

Further information
Lejealle, B. (2005), « Une typologie de trajectoires professionnelles féminines. » CEPS/INSTEAD, coll. Cahiers PSELL n°144.

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