

ÖAW

AUSTRIAN  
ACADEMY OF  
SCIENCES

VIENNA INSTITUTE OF DEMOGRAPHY

# WORKING PAPERS

04/2018

**THE PART-TIME REVOLUTION: CHANGES IN  
THE PARENTHOOD EFFECT ON WOMEN'S  
EMPLOYMENT IN AUSTRIA**

**CAROLINE BERGHAMMER AND BERNHARD RIEDERER**

Vienna Institute of Demography  
Austrian Academy of Sciences  
Welthandelsplatz 2, Level 2 | 1020 Wien, Österreich  
vid@oeaw.ac.at | [www.oeaw.ac.at/vid](http://www.oeaw.ac.at/vid)



## **Abstract**

We compare employment rates of mothers and childless women over the life course across the birth cohorts from 1940 to 1979 in Austria. By following synthetic cohorts of mothers and childless women up to retirement age, we are able to study both short-term and long-term consequences of having a child. We consider employment participation as well as working time and also perform analyses by educational level. Our study is based on the Austrian microcensus (labour force survey), conducted between 1986 and 2016. The results show that although employment rates of mothers have increased across cohorts, the spread of part-time work has led to a declining work volume of mothers with young children. Return to the workplace is increasingly concentrated when the child is 3 to 5 years old. Part-time employment is primarily adopted (at least with younger children) by highly educated mothers and often remains a long-term arrangement.

## **Keywords**

Austria, education, family policy, female labour force participation, mothers' employment, part-time, work arrangements, working mothers.

## **Authors**

Caroline Berghammer (corresponding author), Wittgenstein Centre for Demography and Global Human Capital (IIASA, VID/ÖAW, WU), Vienna Institute of Demography/Austrian Academy of Sciences; Department of Sociology, University of Vienna.

Email: [caroline.berghammer@oeaw.ac.at](mailto:caroline.berghammer@oeaw.ac.at)

Bernhard Riederer, Wittgenstein Centre for Demography and Global Human Capital (IIASA, VID/ÖAW, WU), Vienna Institute of Demography/Austrian Academy of Sciences.

Email: [bernhard.riederer@oeaw.ac.at](mailto:bernhard.riederer@oeaw.ac.at)

## **Acknowledgments**

This research was funded by the Austrian Science Fund (FWF) within the project "Running against the clock. Realising family plans over the life-course" (FWF28071). We acknowledge the helpful comments of Isabella Buber and Anna Matysiak.

Both authors contributed equally to this work.

# The Part-Time Revolution: Changes in the Parenthood Effect on Women's Employment in Austria

Caroline Berghammer and Bernhard Riederer

## 1. Introduction

Having children has a significant impact on women's employment, which leads both to gender inequality – as fathers' careers are much less affected – and to disparities to childless women. Besides cross-country differences in the parenthood effect on women's employment (Steiber and Haas 2012; Uunk, Kalmijn and Muffels 2005), variation over time has been observed due to changing family policies, attitudes and women's labour market opportunities (Connolly et al. 2016; Nieuwenhuis, Need and Van Der Kolk 2012; Vlasblom and Schippers 2006). In this paper, we compare employment of mothers and childless women across the birth cohorts from 1940 to 1979 in Austria. Differently from previous research that has looked mainly at the short-term consequences of childbirth on mothers' employment in the first years of the children's life, often in conjunction with parental leave policies (Aisenbrey, Evertsson and Grunow 2009; Berghammer 2014; Kanji 2011; Schober 2013), we study both short-term and long-term consequences. To this end, we follow mothers and childless women over their life courses up to their retirement age in synthetic cohorts, i.e. we treat the age distribution of successive waves of cross-sectional data as if birth cohorts were passing through time. We consider their employment participation as well as their working time distinguishing between short part-time, long part-time and full-time. In order to appreciate that labour market behaviour is stratified by education, we also perform analyses by educational level.

Austria is commonly taken to be a prime example of a conservative-corporatist welfare state (Esping-Andersen 2009), characterised by care duties being mainly allocated to families and less to state institutions. With the rise of women's employment in Austria, this familistic orientation elicited the growth of part-time work which enables women to continue taking over care responsibilities, while fathers' (full-time) employment remained largely unaffected (Berghammer and Verwiebe 2015). In fact, by 2014 the female part-time rate in Austria had come to be the third highest in Europe after the Netherlands and Switzerland (Eurostat database 2016) and, unlike in other countries with a part-time predominance, this rate still continues to grow in Austria. By studying women's employment in Austria, we will be able to document in detail how part-time work climbed up, especially in relation to having children. A comparison of the labour market behaviour of mothers and childless women is particularly relevant in Austria as a rather large share of women has no children. Childlessness was 19 per cent in the cohorts that have more recently completed childbearing (women born in 1972) and as high as 30 per cent among university-educated women (women born from 1956-60) (Beaujouan, Brzozowska and

Zeman 2016; Sobotka et al. 2015). The difficult reconciliation between (full-time) employment and raising children, which results in a large parenthood effect on maternal employment, has been proposed as a main explanation for the high levels of childlessness observed (e.g. Sobotka 2011). This contribution provides evidence how the parenthood effect has evolved across cohorts.

By addressing the issue of part-time, this study contributes to a wider discourse. There has been a debate as to whether the part-time option allows women (who would otherwise be inactive) to remain in the labour market (integration perspective), or whether part-time creates a marginalized work force (segmentation perspective) (Gallie et al. 2016). Previous research has shown that part-time policies increase women's labour force participation but that, at the same time, part-time employment entails negative consequences for their careers, such as a lower probability of high-level occupations (Blau and Kahn 2013). Scholars identified several reasons for why part-time work is widespread and continues to increase in some countries. First, policies that encourage part-time work play a decisive role. Examples are the right to work part-time, an equal treatment of part-timers or the childcare infrastructure, in particular the availability and costs of full-time childcare spots (Del Boca, Pasqua and Pronzato 2009; Kreyenfeld and Hank 2000). Second, cultural attitudes that support traditional gender roles make two full-time earners difficult to realize. Fathers still perceive breadwinning as one of their most important tasks in the family and a masculinity culture at the work place means that high time availability and flexibility is expected from men. A related point is the occupational segregation and associated wage gap: women tend to sort into jobs which are easier to reconcile with childrearing, but often entail lower wages (Blau and Kahn 2003; Mandel and Semyonov 2005). The resulting gender wage gap makes it more rational for women rather than men to downsize their working hours. Third, mothers are expected to devote a lot of (quality) time to their children in a culture of time-intensive and child-centered mothering (Bianchi 2000; Hays 1996). In addition, there are educational differences in terms of these three factors. Highly educated women have a higher earnings potential which makes full-time work more attractive. However, they also tend to be partnered with equally highly educated men (De Hauw, Grow and Van Bavel 2017), often in high-level positions that entail high work commitment and long working hours; this situation may lead them to curtail their working hours. In addition, there is evidence that the culture of intensive mothering is particularly strong among highly educated women (Sayer, Gauthier and Furstenberg 2004).

Our analyses are based on seven waves of the Austrian microcensus surveys, conducted between 1986 and 2016 (in approx. 5-year intervals), which contain information on the number of children ever born. We constructed synthetic cohorts of ten years (1940-49, 1950-59, 1960-69, 1970-79) and followed them from young adulthood over their prime employment years up to age 60. A cohort approach takes into account that different cohorts have experienced a different socialisation during their formative years – which lingers on over their life courses – and enjoyed specific conditions. As Norman Ryder put aptly more than half a century ago: “The cohort record is not merely a summation of a set of individual histories. Each cohort has a distinctive composition and character reflecting the

circumstances of its unique origination and history.” (1965: 845) Differently from several previous studies on parents’ employment behaviour that had to cap at age 40 or 45 because they only had information on children in the household available (Bünning and Pollmann-Schult 2016; Konietzka and Kreyenfeld 2010; Percheski 2008), we are able to follow up women to the end of their labour market careers. Taking into account the employment trajectory until higher ages is desirable since there are not only immediate consequences of employment – in term of financial resources, economic independence and time resources – but the life time employment largely determines welfare in old age. Especially in conservative welfare states such as Austria, old age poverty among women tends to be a concern because they are often less well secured by their own employment (Angel and Kolland 2011).

Summing up, using a cohort comparison of four successive ten-year cohorts of women, this study addresses the following questions:

- (a) *Employment*: How has the employment participation of mothers and childless women evolved across cohorts? What cohort trends in mothers’ employment do we observe by age of the youngest child?
- (b) *Full-time/part-time employment*: How has short and long part-time work developed for mothers and childless women across cohorts? In which way does the prevalence of part-time work change in the longer term as children grow up and how does this vary across cohorts?
- (c) *Educational differences*: How do mothers and childless women with different educational background differ in employment across cohorts? What are the respective cohort trends for mothers with younger children when we, in addition, consider the full-time/part-time distinction? How has the employment status developed for childless women and mothers whose children have left the parental home (empty nest) across cohorts for different educational groups?

The structure of this paper is as follows. We first provide an overview on the theoretical background and previous research regarding women’s labour force participation, part-time employment and the education effect on employment. Subsequently, we briefly discuss the profiles of the four cohorts under study with respect to education, labour force participation and family-related behaviour. Next, we address the data and methods. Finally, we present the findings in the three steps on employment, full-time/part-time employment and educational differences as outlined above.

## **2. Theoretical Background and Previous Research**

Although women’s labour market participation rates have converged during the past decades across European countries (because countries with formerly lower rates noted the

fastest increase), the picture has remained varied. First, country differences persist with regard to maternal labour force participation rates, in particular with a child below age three. While only around 10 per cent of mothers with a child below age three were active on the labour market in Hungary, the Czech Republic or Slovakia in 2014, the share was above 65 per cent in Denmark and the Netherlands (OECD 2014). With 31 per cent, Austria tended towards the lower end of the scale. Second, countries vary with respect to the prevalence of part-time versus full-time work. While part-time work is most common in the Netherlands and the German-speaking countries, full-time work dominates in Central and Eastern as well as Southern European countries (Eurostat database 2016). Regarding the characteristics of women's labour force participation, Austria is often lumped together with Germany, a country on which much more research exists and which is frequently selected as an example of a conservative welfare state in comparative research (Dieckhoff et al. 2016; Gallie et al. 2016; Konietzka and Kreyenfeld 2010; Simonson, Gordo and Titova 2011; Trappe, Pollmann-Schult and Schmitt 2015). While both countries indeed share key characteristics – most notably the low maternal employment rate and the high part-time rate – women's employment rate has traditionally been higher in Austria than in Western Germany (Dearing et al. 2007).

Theoretical contributions have addressed reasons for the increase in female labour force participation. On a micro-level, the main determinants of women's labour market participation are – besides the number and age of children – their education and income as well as partnership characteristics (Nieuwenhuis, Need and Van Der Kolk 2012; Pettit and Hook 2005). In part, the rise in women's labour force participation is due to compositional changes as the shares of childless and highly educated women have grown while families with three and more children have declined. Besides composition, several other interconnected factors are behind the increase in female labour force participation. Policies, in particular the set-up of work-family policies, have played a key role (Nieuwenhuis, Need and Van Der Kolk 2012; Steiber and Haas 2012) as has the expansion of the service sector (Thévenon 2013) and the families' economic need for more than one income due to rising costs of living. The change towards more egalitarian gender role attitudes is another important factor (Pfau-Effinger 2004).

Part-time employment can be theoretically conceptualized either in terms of integration or segmentation (Gallie et al. 2016). The integration perspective assumes that the option for part-time serves as a bridge into the labour market for persons who would otherwise be inactive (such as mothers with young children). The segmentation perspective, on the other hand, views part-timers as a marginalized workforce that is easier to substitute, holds fewer training and reduced career opportunities and suffers from low task discretion and highly repetitive tasks. Empirical evidence points indeed towards a lower intrinsic quality of part-time jobs in some countries, but still finds a high degree of job satisfaction (Gallie et al. 2016). Research also revealed that part-time among women is mostly voluntary in countries with high part-time rates. Involuntary part-time is 25 per cent among women across EU-27 compared to only 8 per cent in Austria (Baierl and Kapella 2014). Working part-time for reasons of care is, moreover, highest in the Netherlands, the UK and Austria. On the parents' level, a "one-and-a-half breadwinner" arrangement establishes a hierarchy of jobs

with the part-timer being the second earner and main responsible for childcare, ready to interrupt or downsize employment when family needs demand it (Schmidt 2017). Adding to the discussion, a summary article emphasised the role of the duration of part-time: “[i]t appears that in the short-term at least advantages outweigh the disadvantages for a majority of women working part-time. However, in the long-term working part-time reduces long-term career prospects, affects pension benefits of retirees and increases the risk of poverty in old-age” (Thévenon 2013: 8). The duration of part-time and whether part-time work is a stepping stone for a full-time job depends on the country (Gash 2008; Kelle, Simonson and Gordo 2017; Månsson and Ottosson 2011).

The growth in part-time work observed in many European countries often results from a combination of institutional constraints and dominant norms. In Austria, child-care and school infrastructure is generally not geared towards two full earners and shows a high degree of regional variability (Dörfler, Blum and Kaindl 2014). Other policy measures also facilitate the part-time option, most importantly the right to work part-time and lower taxes. Coupled with this, the male breadwinner culture is strong – average actual full-time working hours are among the highest in Europe – and large parts of the population hold negative attitudes towards full-time working mothers with a child below age three (Steiber and Haas 2010). In line with results from other countries on intensive parenting, parents’ childcare time increased in Austria and is higher at higher educational levels (Berghammer 2013). A gender wage gap persists in Austria, already at the time of labour market entry (Bock-Schappelwein et al. 2018).

In terms of educational differences, the general finding that highly educated women more often participate in the labour force also holds for Austria. Their stronger attachment has been largely explained by their higher earnings (and thus higher opportunity costs in case of inactivity), better opportunities on the labour market and more attractive job characteristics as well as by their more gender egalitarian attitudes (Steiber and Haas 2012). However, the education effect on employment varies over time. Long-term analyses need to consider that, along with the educational expansion, the meaning of educational categories has changed as has the composition, for instance, in terms of skills or motivation (Gesthuizen, Solga and Künster 2011). An Austrian study focusing on couples with young children documented a converging trend between educational groups (Berghammer 2014) – differently from Germany, where a diverging trend was found (Konietzka and Kreyenfeld 2010; Stahl and Schober 2017). The present study will revisit this issue for a broader group of women (i.e. mothers with children of different age and childless women). Moreover, cross-national evidence has shown that part-time work is more prevalent among less educated persons (Del Boca, Pasqua and Pronzato 2009). The Austrian results are yet inconclusive in this respect (Steiber, Berghammer and Haas 2016).

### 3. Cohort Profiles

In this section, we briefly present the profiles of the four cohorts under study with respect to education, employment and family life (see table 1). Regarding the economic situation, we mostly focus at the period when the women were between 25 and 35 years old – the prime period in terms of employment careers and (first) births.

*World War II and Post WW II (1940-49).* The cohorts born during World War II or in the immediate post-war period generally experienced their early socialization under tight economic circumstances. Family relations were often problematic due to many fathers' long absences during and after the war (Sieder 1987: 236-242). Most women in these birth cohorts completed only primary education. They continuously lived in a family context, moving from their parental home to live in a household with the husband (Prskawetz et al. 2008). Close to 90 per cent of women married and had children, two on average. In 1957, women obtained the right to take unpaid parental leave for six months with a guaranteed return back to their work place; this was extended in 1961 to one year and endowed with an income-dependent leave benefit. In the early 1960s, when many of the women born in these cohorts had entered (or were close to entering) the labour market, female employment rates were higher in Austria than in the other Western European countries (Butschek 1965) for reasons of the high share of unmarried women (due to a war-related shortage of men) and the large agricultural sector. Most women either worked in agriculture, in the service sector (e.g. in hotels, restaurants, health, teaching or domestic homes) or in the industry (mostly textile) (Butschek 1965; Butschek 1974). Rather soon after the post-war period, in the 1950s and 1960s, the economy began an unprecedented boom and families could increasingly afford a modest standard of living (buying domestic appliances, a car and going on holidays).

*Early baby boom (1950-59).* Given a favorable economic situation, women's employment rate started a rather continuous increase around 1970, after a drop had taken place between 1960 and 1970 (Butschek 1974; Lutz 2000). The service sector expanded while the number of employees in the agricultural sector went down. During the 1980s – when women born in the early baby boom were approx. age thirty – the economy weakened and unemployment began to rise.<sup>1</sup> In 1974, parental leave payment of one year, previously income-dependent, was changed into a flat-rate. In 1975, a far-reaching family reform was enacted which provided women with the right for employment independently of their husband's consent. Since the 1970s, the childcare infrastructure for the morning care of children age three and older was developed; by 1980, the coverage rate was around 50 per

---

<sup>1</sup> The aftermath of the first oil crisis in 1973 made economic growth highly volatile and unemployment started to increase. Nevertheless, unemployment remained at low levels until the end of the 1970s. The rise of unemployment, however, dramatically increased after the second oil crisis. Between 1980 and 1992 the unemployment rate increased from around 2 per cent to 6 per cent of the potential labour force.

cent.<sup>2</sup> In the early baby boom cohorts, several demographic changes were initiated – such as the spread of nonmarital cohabitation or the increase in childlessness – but they were still only performed by a minority. The divorce rate was still low – at a level of 18 per cent in 1970 – but started a steady rise.

*Late baby boom (1960-69).* Although the growth rate in women's employment was less steep during the 1980s than before (Lutz 2000), women's position on the labour market began to strengthen in that they increasingly held leading positions and academic jobs (Dörfler and Wernhart 2016). After becoming mothers, a growing share of women returned to their work places (and they returned faster after childbirth), but since the mid-1980s increasingly on a part-time basis. With a weakening economy since the 1980s, labour market uncertainties rose, real wages grew less rapidly than before and many families felt that they could no longer live on a single income. The main changes in family policies were the extension of the parental leave duration from one to two years in 1990 and, one year later, the introduction of parental leave for fathers. Moreover, the childcare infrastructure for the morning care of children above age three improved continuously. Some of the demographic developments that had started in the previous cohorts gained speed. A growing part of young adults experienced a phase of living independently before moving in with a partner (Prskawetz et al. 2008). The centrality of marriage weakened (pre-marital cohabitation increased and the proportion ever married fell) and women increasingly postponed childbearing mainly because they pursued a higher education. The mean number of children continued to drop. The pill, legal since 1962, became more and more widespread (Sieder 1987: 257).

*Generation X (1970-79).* The Generation X experienced a more flexible and globalized labour market than previous generations (partly related to Austria's accession to the European Union in 1995) although the labour market continued to be highly regulated (e.g. trade unions are strong and a high percentage of employees are covered by collective treaties). The Generation X is taken to hold a stronger work-life orientation on account of the centrality of work status (Beutell and Wittig-Berman 2008). Equality between men and women further increased. Women were close to reaching par in terms of tertiary education<sup>3</sup>, women's employment rate continued to rise and they increasingly held higher positions. But although men became more and more involved in childcare and housework (Berghammer 2013), they remained reluctant to take a substantial share of parental leave (between 2008 and 2014, only 4 per cent of recipients of parental leave payments were men) or to reduce their working hours as mothers increasingly did. In 2004, the right to part-time until the child's seventh birthday was introduced (restricted to employees that were employed in a company with more than 20 employees for at least three years). With regard to parental leave, in 2002 the system first became more familistic (payments up to three years) and comprehensive (no longer tied to previous employment) and some years later more flexible in that short, highly paid options became available (in 2008 and 2010, models

---

<sup>2</sup> The reason behind this development was mainly educational and less to enable women to participate in the labour market; only 38 per cent of mothers whose children attended kindergarten were employed (Statistics Austria 2016).

of 12 to 24 months were introduced and an income dependent option was established that paid 80 per cent of the previous income for up to 14 months). The childcare infrastructure for below three year olds and in full-time developed slowly and predominantly in urban areas. With respect to demographic developments, the age at motherhood continued to increase while the cohort family size remained stable compared to the previous cohort.

Table 1: Overview on cohort characteristics

	<i>World War II and Post WW II (1940-49)</i>	<i>Early baby boom (1950-59)</i>	<i>Late baby boom (1960-69)</i>	<i>Generation X (1970-79)</i>
Female employment (in per cent) <sup>a</sup>	55	62	67	74
Low educated (in per cent) <sup>a</sup>	47	37	23	13
Highly educated (in per cent) <sup>a</sup>	3	8	10	20
Cohort total fertility rate <sup>b</sup>	1.98	1.78	1.63	1.59
Mean age at birth <sup>c</sup>	25.4	25.9	27.2	28.2
Cohort childlessness (in per cent) <sup>d</sup>	12	15	17	19
Cohort childlessness among highly educated (in per cent) <sup>e</sup>	24	23	26	-
Ever married (in per cent) <sup>f</sup>	88	83	77	-
First union was cohabitation (in per cent) <sup>g</sup>	14	41	72	88
<i>Economic situation when cohort members were (mainly) age 25-35</i>				
Period	1965-1984	1975-1994	1985-2004	1995-2014
Real GDP growth (yearly) <sup>h</sup>	approx. 3-7 per cent until 1974; slightly negative growth in 1975, 1978 and 1981	fluctuation; high growth only in single years (e.g. 1990: 4 per cent)	always positive; between 0.5 and 4 per cent	high in 2007 (almost 4 per cent); crisis effect in 2009 (-4 per cent)
Average yearly growth rates of real GDP (in per cent) <sup>h</sup>	3.3	2.4	2.4	1.7
Real wages <sup>i</sup>	growing with approx. same or higher rate than productivity	transition from higher to lower rates	wages growing at lower rate than productivity	
Unemployment rates <sup>j</sup>	until 1982 stable below 3 per cent	rising from about 2 to almost 7 per cent	rising from less than 5 to more than 7 per cent	6-7 per cent until 2012, then rise up to 9 per cent
Childcare rates 0-2 years <sup>k</sup>	2	3	7	17
Childcare rates 3-5 years <sup>k</sup>	46	60	77	88
<i>Normative support for maternal employment (share of women age 35-44 who agree in per cent)<sup>l</sup></i>				
A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.	71	71	80	82
A pre-school child is likely to suffer if his or her mother works.	80	73	57	50

Sources and notes:

<sup>a</sup> Own computations; data refer to age 36/37. <sup>b</sup> Data from the Human Fertility Database; mean across cohorts; from 1965-1974: mean cohort size by age 40; last cohort pertains to 1970-1974 only. <sup>c</sup> Data from the Human Fertility Database; mean across cohorts; from 1965-1974: mean age at birth by age 40; last cohort pertains to 1970-1974 only. <sup>d</sup> Sobotka (2017); data for 1970-79 obtained upon request from T. Sobotka. <sup>e</sup> Zeman et al. (2017); 1960-69 refers to 1960-61. <sup>f</sup> Council of Europe (2006). <sup>g</sup> Berghammer et al. (2015). <sup>h</sup> Austrian Economic Chamber (n.d.-b); <sup>i</sup> Famira-Mühlberger and Leoni (2013) and Mayrhuber et al. (2015). <sup>j</sup> Austrian Economic Chamber (n.d.-a). <sup>k</sup> Own computations based on Statistics Austria (n.d.). <sup>l</sup> Own computations based on ISSP 1988, 1994, 2002 and 2012 and EVS 1990, 1999 and 2008. Original scales range from 1 to 4 (EVS 1990 and 2008) or 1 to 5 (all ISSP waves and EVS 1999) with values of 1 and 2 indicating (strong) agreement.

Summing up, women born during or shortly after World War II are characterised by the dominance of the male breadwinner model, low education and almost universal marriage. The following cohorts, i.e. women born during the early baby boom period, may be considered a transitional generation. Several societal changes appeared when these women were young, including the emergence of alternative family forms and increased access to higher education. The two younger cohort groups grew up under very different circumstances compared to the oldest one. Family policies and childcare facilities developed, part-time work was available and the man's income was no longer sufficient for sustaining a family. Higher education spread yet more. For these reasons, we expect markedly higher employment rates for mothers born from 1960 compared to those belonging to the oldest cohort (1940-49). We also assume that younger cohorts will return to the labour market faster after childbirth. In addition, we expect that the spread of part-time work is largely responsible for the increase in employment rates in the younger cohorts. In terms of education, we anticipate higher employment rates and higher rates of full-time work at higher educational levels.

#### **4. Data and Methods**

The analyses are based on Austrian microcensus data (labour force survey), a representative survey conducted since 1974, which includes 1 per cent of households. This large-scale survey contains detailed information on the composition of the household (e.g. members, relationships and age), employment (e.g. current status and working hours) and education. In addition, approximately every five years (in 1986, 1991, 1996, 2001, 2006, 2012 and 2016), questions on the number and birth year of biological children were added in a special module directed at women age 15 and over (in some waves, a different age definition was applied; for more details see table 2). While participation in the core microcensus is compulsory, participation in this module was voluntary but response rates were above those reported for other Austrian social surveys. In the initial waves, data were collected in face-to-face interviews, whereas the special modules in 2006, 2012 and 2016 were conducted by computer aided telephone interviews. Between 1986 and 2001, questions on children were asked to another household member if the randomly selected respondent was not available. We also included these proxy interviews. While participation in the special module and answers to the fertility questions were high in case of self-report, they were usually much lower for proxy interviews. In order to assess their quality, we conducted sensitivity analyses that excluded proxy interviews and, reassuringly, the results were very similar. The availability of information on biological children is a clear advantage of this survey over other surveys that are most frequently used for analysing labour force participation. The EU Labour Force Surveys (EU-LFS), the EU Statistics on Income and Living Conditions (EU-SILC) and – for some countries including Austria – its predecessor, the European Community Household Panel (ECHP), only capture children living in the household. Hence, they do not allow making a distinction between childless persons and parents who do not live with their children. For women, this is less of an issue in younger age groups but becomes a growing concern around age 40 when their children start to leave

the parental home. Greulich and Dasré (2017) have recently shown that already at age 45 there is a downward bias in household surveys with respect to the number of children. The large sample sizes are another advantage of the Austrian microcensus, enabling to break down women into subgroups by birth cohorts, age groups, working time, age of the youngest child and education.

Table 2: Participation in the special module on children in the Austrian microcensus surveys 1986-2016

Year	Type of interview	(1) interviews: females of respective age	(2) agreement to participate in additional module	in per cent of 1	(3) information on children	in per cent of 2	age restriction lower bound	upper bound
1986	self-reporting	21,487	20,619	96	14,025	68 <sup>1</sup>	15 years	None
	proxy-interview <sup>2</sup>	6,823	6,039	89	2,420	40		
	self-reporting	14,928	14,123	95	13,624	96 <sup>1</sup>	19 years	60 years
	proxy-interview <sup>2</sup>	3,510	2,778	79	2,337	84		
1991	self-reporting	17,911	16,582	93	16,101	97	15 years	None
	proxy-interview <sup>2</sup>	6,922	5,913	85	5,255	89		
1996	self-reporting	16,387	14,722	89	14,196	96	15 years	None
	proxy-interview <sup>2</sup>	7,156 <sup>3</sup>	5,739	80	4,953	86		
2001	self-reporting	18,463	15,469	84	15,349	99	15 years	None
	proxy-interview <sup>2</sup>	6,870 <sup>4</sup>	4,611	67	4,453	97		
2006	self-reporting, CATI	7,756 <sup>5</sup>	6,135	79	6,135	100	19 years	60 years
	self-reporting, other <sup>6</sup>	3,896	not asked	-	-	-	-	-
	proxy-interview <sup>2</sup>	2,705	not asked	-	-	-	-	-
2012	self-reporting, CATI	9,817	9,306	95	9,306	100	19 years	None
	self-reporting, other <sup>6</sup>	5,264	not asked	-	-	-	-	-
	proxy-interview <sup>2</sup>	3,827	not asked	-	-	-	-	-
2016	self-reporting, CATI	9,233 <sup>7</sup>	8,140	88	8,139	100	19 years	None
	self-reporting, other <sup>6</sup>	5,320	not asked	-	-	-	-	-
	proxy-interview <sup>2</sup>	4,301	not asked	-	-	-	-	-

Note: <sup>1</sup>Restricting the 1986 microcensus to the age group of the 2006 microcensus (19-60 years), 95 per cent of in total 14,928 women agreed to participate in the additional module and more than 96 per cent of them offered information on children ever born. <sup>2</sup>The category "proxy interview" denotes interviews with other household members. <sup>3</sup>Additional 1,272 people were not asked to participate in the module on children. <sup>4</sup>Additional 1,351 people were not asked to participate. <sup>5</sup>In 2006, the specific module was not part of the microcensus itself. Instead, participants were re-contacted by phone. Numbers refer to women who were successfully re-contacted. <sup>6</sup>The category "self-reporting, other" refers to non-CATI interviews (face to face interviews or income calls). <sup>7</sup>In total, 9,304 women aged 19 or older contributed self-reporting CATI interviews to the microcensus 2016 but 71 were not asked to participate in the module on children.

Our variables are defined as follows. We distinguish between four different 10-year *cohorts*: 1940-49, 1950-59, 1960-69 and 1970-79. Regarding the *employment* classification, we consider women who are active on the labour market as employed. That is, differently from the common ILO definition, we do not denote women on parental leave as employed. We use the number of working hours during a regular work week and differentiate between short part-time work (1-20 usual weekly working hours), long part-time work (21-35 hours) and full-time work (36 and more hours). The distinction between main and secondary job is not available in the older surveys, hence our analyses refer to the main job. We calculated the approximate *age of the youngest child* by using information on the children's year of birth

Table 3: Education and parenthood across the four cohorts under study

	<i>World War II and Post WW II (1940-49)</i>	<i>Early baby boom (1950-59)</i>	<i>Late baby boom (1960- 69)</i>	<i>Generation X (1970-79)</i>
Respondents with information on parenthood	16,777	18,998	19,911	11,104
Mean age at time of interview (SD)	51.3 (.07)	42.7 (.07)	34.8 (.07)	28.3 (.08)
Education				
Low	43.5	32.4	22.4	25.9
Medium	44.5	48.8	51.6	42.7
Medium-high	8.4	10.0	17.0	21.6
High	3.6	8.9	9.0	9.8
Motherhood status				
Childless	10.8	14.5	30.9	54.7
1 child	20.1	22.4	22.6	17.8
2 children	35.5	38.8	32.1	20.3
3 children	20.4	17.1	10.9	5.5
4+ children	13.3	7.2	3.5	1.7
Age of youngest child				
below 3 years	1	6.8	18.1	31.2
3 to 5	2.1	10.2	17.6	22.6
6 to 9	5.2	14.1	18.3	18.8
10 to 15	15.7	22.3	20.3	18.1
16 to 19	14.3	12.2	9.0	4.9
Other (older/unknown)	62.0	34.5	16.7	4.6
Respondents at age 36-40	1,830	3,507	2,993	1,479
Education				
Low	45.8	35.7	21.9	10.4
Medium	41.5	47.0	52.8	49.0
Medium-high	9.8	9.6	15.2	20.6
High	2.9	7.7	10.1	20.1
Motherhood status				
Childless	10.3	12.9	14.4	18.9
1 child	20.3	21.3	20.8	22.9
2 children	38.2	39.2	41.8	41.1
3 children	20.4	19.3	17.5	12.4
4+ children	10.8	7.3	5.5	4.7
Age of youngest child				
below 3 years	4.7	6.3	10.1	17.3
3 to 5	10.1	10.5	14.1	21.7
6 to 9	20.3	22.0	26.2	26.1
10 to 15	40.6	40.1	35.9	28.0
16 to 19	19.1	15.1	10.9	4.8
Other (older/unknown)	5.3	6.1	2.9	2.2

Source: Austrian microcensus 1986-2016 (own computation).

and the year of data collection. The categories for age of the youngest child are: 0-2 years, 3-5 years, 6-9 years (primary school age), 10-15 years (lower secondary school), 16-19 (upper secondary school). We group *education* into four categories: Low education denotes incomplete or complete primary education. Medium education means having completed a secondary vocational track, mostly apprenticeship training, or, less frequently, schools at

the medium-level. Medium-high education refers to completed higher vocational or general school which end with an exam that permits to enter college (in Austria called “Matura”). High education refers to completed tertiary education. In analyses on earlier birth cohorts, medium-high and high education had to be collapsed due to low case numbers of women with tertiary education. Table 3 presents descriptive information for the four birth cohorts on sample size, mean age at time of interview, education and parenthood status.

## 5. Empirical Results

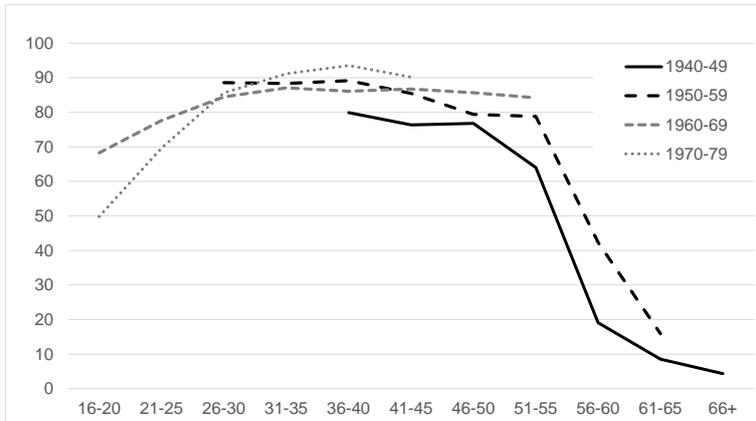
### 5.1 Employment Rates

First, we compare employment rates of childless women and mothers across cohorts (figure 1). The results reveal only a moderate change in the employment rates of childless women over time. They mostly range between 80-90 per cent in the prime employment years (26-50) while being a little lower in the oldest cohort (panel A). Conversely, among mothers, the employment rate rises with each younger cohort, thus providing evidence for a declining parenthood effect over time. For instance, in the age groups 36-40 and 41-45 the differences between the youngest and the oldest cohort are as large as 23 and 31 percentage points, respectively (panel B). The results also demonstrate that the male breadwinner model is still rather widespread in the oldest cohort with many women remaining housewives after they have children. For example, at ages 36-45, 45 per cent of women are not employed, most of them inactive. Panel C displays the absolute difference in the employment rates between childless women and mothers. It shows that employment behavior of mothers and childless women converges with age as the children grow up. In the two younger cohorts, differences in employment participation have almost levelled by the early forties while in the two older cohorts the gap continues to persist.

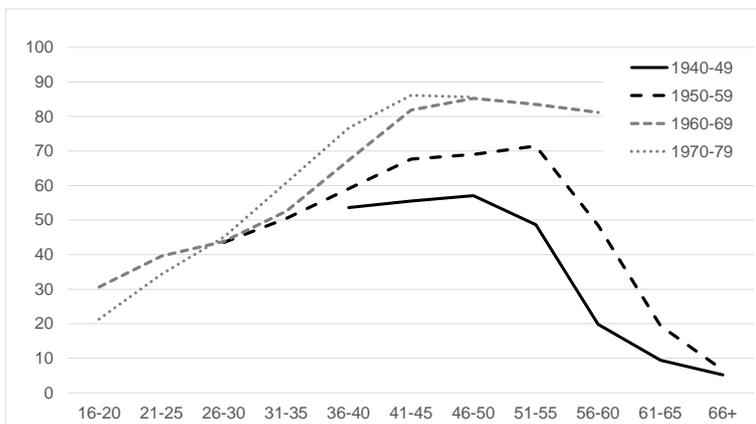
Due to the postponement of childbearing in the last decades, it might be misleading to compare maternal employment rates by age (as in figure 1), since women at a given age will have younger children in the younger cohorts than in the older ones. We hence depict maternal employment rates across cohorts by age of the youngest child (figure 2). The almost identical employment rates of around 30 per cent in all cohorts when the youngest child is below age three are striking. They arguably reflect both the low availability of childcare spots in this age group as well as cultural norms against external childcare for children of this age. The faster re-entry to the workplace of each younger cohort becomes apparent only when the youngest child is three to five years old. At this life stage, less than 40 per cent of women in the oldest cohort were employed as compared to almost 70 per cent of women in the youngest cohort, with a steady rise observed among the cohorts in between. Except for this conspicuous pattern, cohort differences in re-entry into the workforce with older children are moderate. For example, the rise in the employment rate from when the child is age 3-5 to when it is 10-15 is from 69 per cent to 88 per cent (+ 19 points) in the youngest cohort and from 37 per cent to 51 per cent (+ 14 points) in the oldest

Figure 1: Women's employment by motherhood status and age, cohorts born 1940-49 to 1970-79

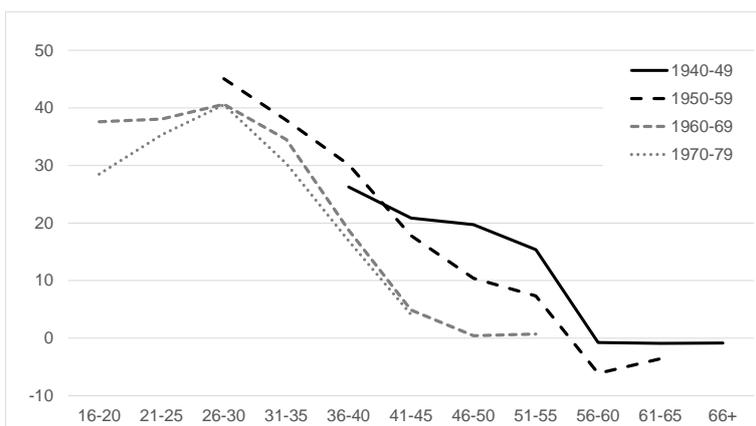
(A) Childless women



(B) Mothers



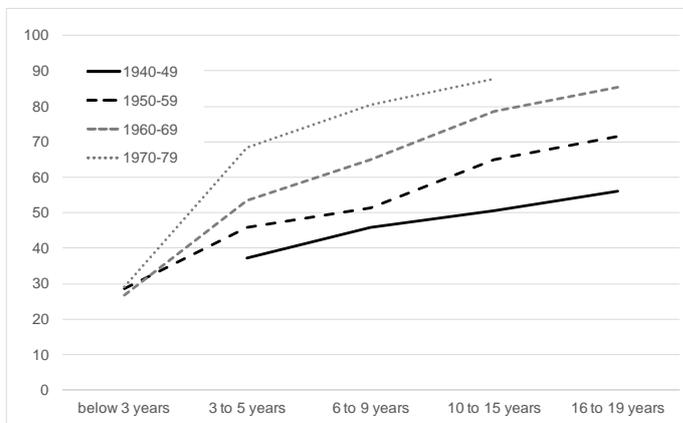
(C) Difference in employment rate in percentage points between childless women and mothers



Source: Austrian microcensus 1986-2016 (own computation).

cohort. Hence, the absolute increase is not all that dissimilar. In consequence, the absolute differences in the employment rate between the youngest and the oldest cohort are 31 points when the youngest child is 3-5 years and 37 points when the youngest child is 10-15 years. This means that a return to the workplace has become increasingly concentrated when the child is age three to five, while the percentage of mothers who return before or after this age is rather similar across cohorts. The results also reinforce the finding (displayed in figure 1) that being a housewife used to be a common model of life in the oldest cohort – with half of the mothers staying at home even with the youngest child age 10 to 15 – but that this model was eventually replaced by working mothers.

Figure 2: Mothers' employment by age of the youngest child, cohorts born 1940-49 to 1970-79



Note: When their youngest child is below age three, the women are on average 32 years (cohort 1950-59), 29 years (1960-69) and 30 years (1970-79) old. We do not show data for the birth cohort 1940-49 with a child below age three as they are on average 39 years old, which is untypical for their cohort. For the same reason, we do not show data for the cohort 1970-79 with a child age 16 to 19, who are 44 years old on average. Source: Austrian microcensus 1986-2016 (own computation).

## 5.2. Full-Time/Part-Time Employment

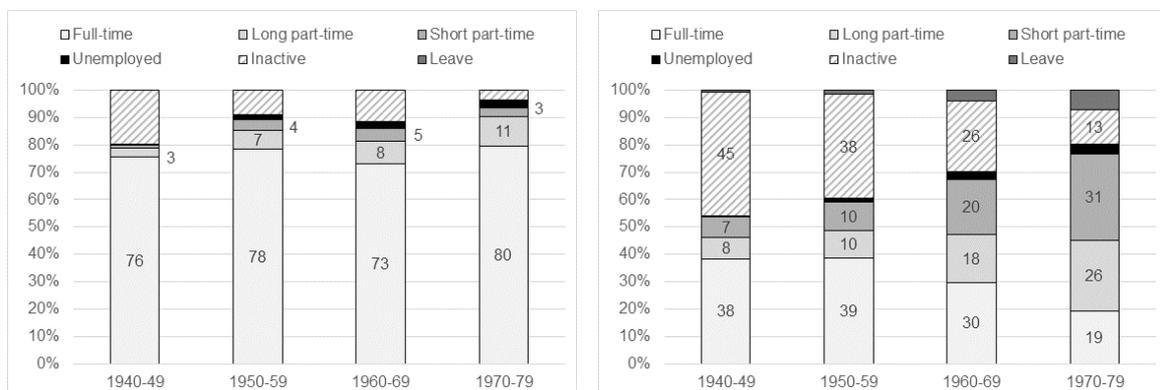
In a next step, we introduce the full-time/part-time distinction. We focus on the age group 36 to 40 as we dispose of sufficient numbers of observations in all four cohorts. The results unveil that the full-time rate among childless women in all cohorts is close to 80 per cent (figure 3, panel A). This means that their labour market behavior in terms of working hours has remained rather stable and that they were almost unaffected by the increasing diversity of working hours among mothers. A very different trend in working hours emerges for mothers (panel B). In parallel with a rising maternal employment rate, the share of full-time employed mothers has halved from almost 40 per cent in the two oldest cohorts to 19 per cent in the youngest one. Actually, in this youngest cohort, short part-time work (up to 20 weekly working hours) has become the most prevalent arrangement. Its spread meant the appearance of a group of employees with a rather marginalized labour market position.

This development implies that the closing of the employment gap between childless women and mothers (as displayed in figure 1, panel C) masks the appearance of a new divide between employed women with and without children. While the previous divide was between women who were active on the labour market (with small differences by motherhood status) and housewives, the new divide is between women with and without children who are both active on the labour market but in substantially different positions.

Figure 3: Women’s employment status in detail by motherhood status at age 36-40, cohorts born 1940-49 to 1970-79

(A) Childless women

(B) Mothers



Source: Austrian microcensus 1986-2016 (own computation).

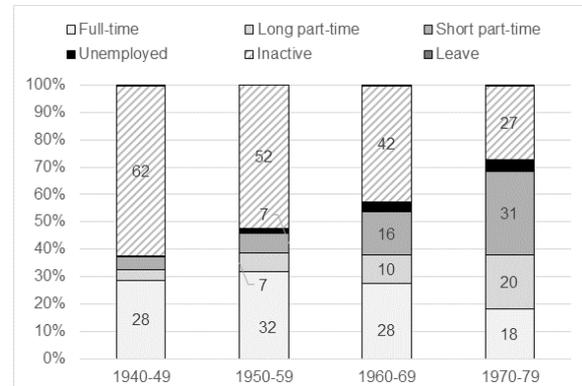
Again, we introduce the age of the youngest child as an alternative time metric (figure 4). Whereas we had previously observed that the maternal employment rate with a child below age three is around 30 per cent in all cohorts, the actual labour market volume has dropped considerably along with the decrease in the share of full-time employed which halved from 22 per cent to 11 per cent (panel A). Among the youngest cohorts, short part-time work has become the most popular arrangement. This change implies that the mean working hours of employed women with the youngest child below three years has declined from approx. 14 to 9 hours per week from the oldest to the youngest cohort (not shown in figure). As we revealed in figure 2, the prime movement back into the labour market is increasingly concentrated with a child in preschool age. Whereas in the three older cohorts, the full-time share remained rather stable around 30 per cent, there is a marked drop to 18 per cent in the youngest cohort in favour of part-time work (panel B). With the youngest child between 10 and 19 years, the share of full-time working mothers across cohorts has come closer, which is due to the larger increase in the rate of full-time work in the youngest cohort (and partly in the second youngest cohort) (panels C and D). This suggests that many mothers who had returned to the labour market on a part-time basis raise their working hours when their children get older. Even so, with the youngest child age 10 to 15 years, still only 30 per cent of mothers work full-time compared to 58 per cent in short or long part-time in the youngest cohort (panel D).

Figure 4: Mothers' employment by age of the youngest child, cohorts born 1940-49 to 1970-79

(A) Below 3 years



(B) 3 to 5 years



(C) 6 to 9 years



(D) 10 to 15 years



(E) 16 to 19 years



Source: Austrian microcensus 1986-2016 (own computation).

The 2006, 2012 and 2016 microcensus surveys additionally contain information on reasons for part-time allowing analyses for cohorts 1960-69 and 1970-79 (not shown). Among childless women aged 36 to 55 who work part-time, around 40 per cent do not want up to age 35 who work part-time do so for reasons of care and less than 3 per cent cannot

find a full-time position. With the youngest child age 10 to 15, still more than half attribute their part-time arrangement to care reasons and 22 per cent want to increase their working hours.

### 5.3. Educational Differences

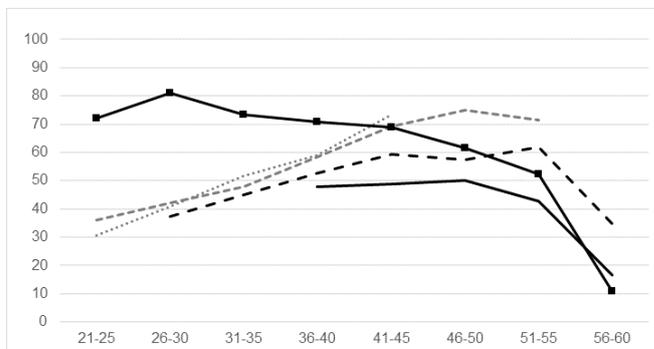
As a final step, we add the educational dimension to our analyses. We start by looking at educational differences in the age-specific employment rate for mothers and childless women (figure 5). We distinguish between cohorts for mothers but not for childless women as their employment rate varies little over cohorts. We are able to draw several conclusions. First, the employment rate for childless women clearly differs between women who have at least medium education (around 90 per cent) and women with low education (around 70 per cent; refers to approx. age 31-45). This potentially has implications for the parenthood effect (the gap between childless women and mothers) within different education groups as the pre-birth level of employment is higher for higher educated women. Second, employment participation is higher among highly educated mothers. While the employment rate of tertiary educated mothers is between 80-90 per cent in the prime employment years (36-50 years), the medium-high hover around 60-90 per cent, the medium at 60-85 per cent and the low educated at 50-70 per cent. Third, the results reveal that the increase in the employment rate concerned low and medium educated mothers more than mothers in the two higher education categories. This conclusion is based on a comparison of the oldest cohort (1940-49) to the second youngest (1960-69) with regard to the mean employment rate over the age range 36-50 (we did not consider the youngest cohort because the number of observations in the age group 46-50 was too low). The average increase in the employment rate was 19 percentage points for low and 20 points for medium educated mothers, but only 14 and 8 points for the two higher education categories. This result indicates a converging trend among mothers with different educational backgrounds. Forth, the parenthood gap (the absolute difference between mothers and childless women) has declined significantly across cohorts. While in the older cohorts, a parenthood gap pertains throughout the life course, by the cohort 1960-69, differences in the employment rate between mothers and childless women persist up to the late thirties, but have disappeared by the early forties (41-45 years). The highly educated are an exception in that mothers fail to reach the very high employment rate of their childless peers even in the younger cohorts.

Next, we concentrate on mothers' employment with a youngest child below six (figure 6, panel A; due to low case numbers we do not split this group into <3 and 3-5 years). While the numbers are similar for the two oldest cohorts, from the cohort 1960-69 onwards, mothers increasingly return back to the workplace on a part-time basis. This work arrangement first gains ground among medium-educated mothers. Differently from international research and across all cohorts, low-educated mothers are least likely to work part-time (as a share of those employed). Together with the fact that their employment rates are lower, this suggests a polarization among low educated mothers between full-time and non-employment (partly unemployment), while part-time is – probably due to their rather low wage rates – less attractive. Part-time work is initially adopted by medium-educated

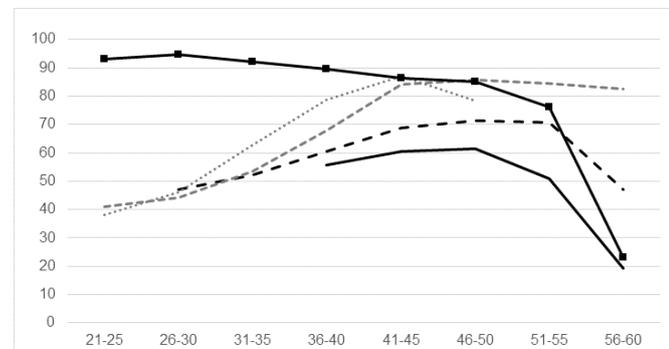
mothers and, by the youngest cohort, it is by far most common among medium-high and highly educated mothers. Whereas in the three older cohorts, full-time employment was highest among highly educated mothers, the rates had converged to be almost identical in the youngest cohort. Although the gap in the employment rate between low and highly educated women does grow over cohorts (by the youngest cohort, the low educated have become a rather small and select group, which increasingly withdraws from the labour market), there is convergence in the employment rate among the three highest education groups. The employment rate increases in the two medium education groups between the two youngest cohorts, while it remains stable among highly educated mothers.

Figure 5: Women’s employment by education, motherhood status and age, cohorts born 1940-49 to 1970-79

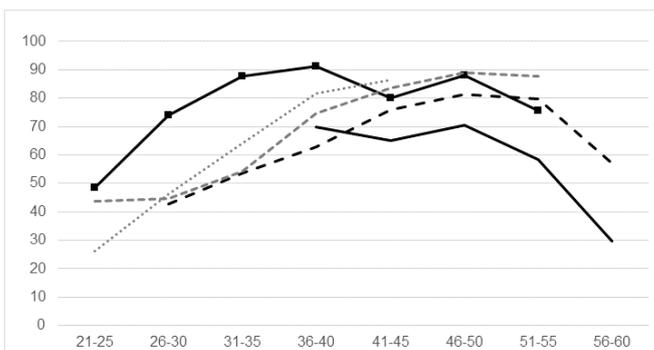
(A) Low education



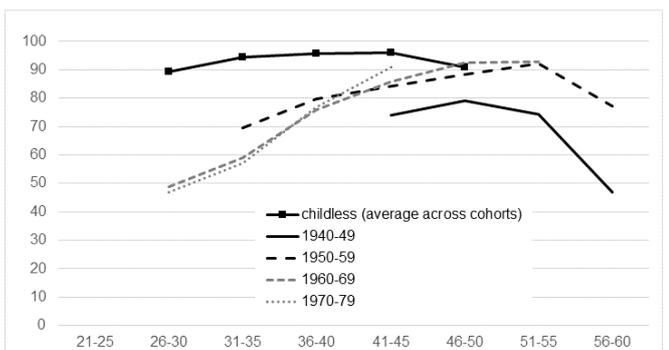
(B) Medium education



(C) Medium-high education



(D) High education

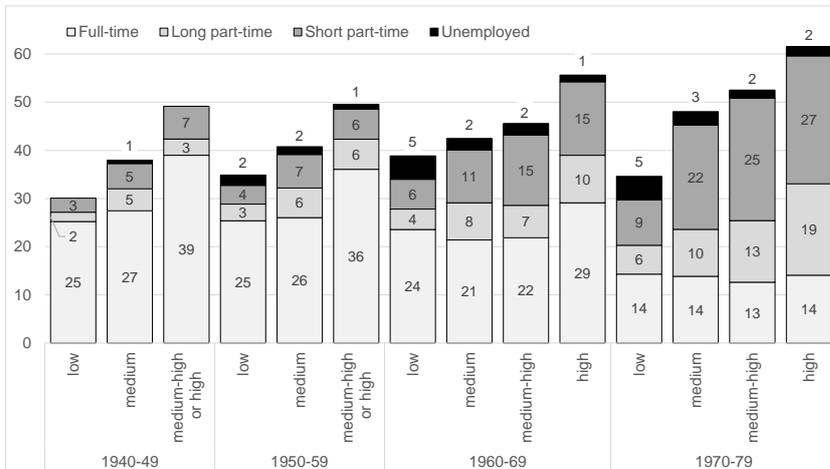


Note: Shown are age-education-groups with at least 50 observations. Values given for childless women present the average across cohorts (age-education-group only used for computation if at least 50 observations).

Source: Austrian microcensus 1986-2016 (own computation).

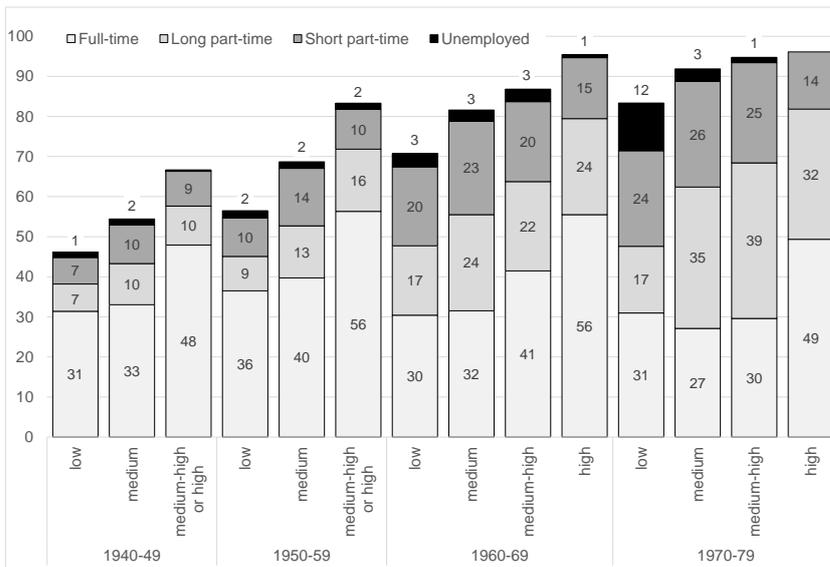
Figure 6: Mothers' employment by age of youngest child and education, cohorts born 1940-49 to 1970-79

(A) Below 6 years



Note: In the cohort 1950-59, the 36% full-time in the medium-high and high category split into 27% among medium-high and 49% among high.

(B) 10 to 19 years



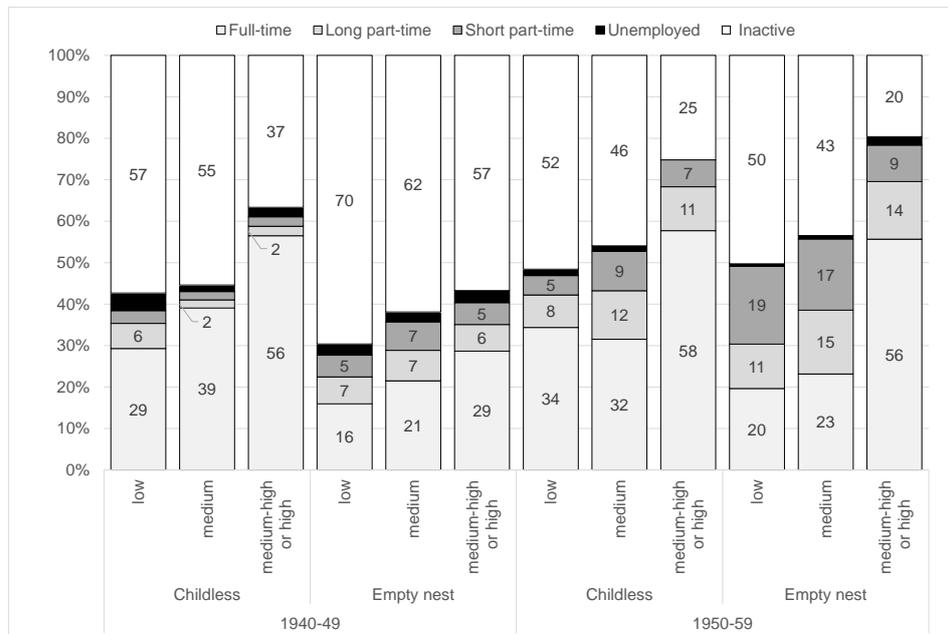
Note: In the cohort 1950-59, the 56% full-time in the medium-high and high category split into 48% among medium-high and 67% among high.

Source: Austrian microcensus 1986-2016 (own computation).

Panel B shows how working time has evolved by the time the children are 10 to 19 years old. The results provide evidence that, in line with their greater labour market potential, in the youngest cohort, highly educated women are most likely to increase their working hours to full-time. Whereas half of the highly educated mothers with a child in this age group work full-time, the three lower educational categories display full-time rates around 30 per cent. Notwithstanding, the stronger downward trend in full-time work among highly and medium-highly educated women – from 67 to 49 per cent and from 48 to 30 per cent, respectively (cohort 1950-59 to 1970-79; see note to figure) – indicates that the decline in the parenthood effect was relatively less pronounced among these groups of women. The polarization among low educated mothers into those who work full-time and those who are not employed continues with part-time being most pronounced for the two medium-educated groups.

Additional analyses on the reasons for part-time work (cohorts 1960-69 and 1970-79; not shown) indicate that the part-time arrangement is more often involuntary among low-educated women than their higher educated peers. Among part-time working mothers with a youngest child between 10 and 15 years old, around 20 per cent (high education) and 29 per cent (low education) want to increase their working hours; between 5 per cent (high education) and 12 per cent (low education) indicate that the reason for their part-time work is that they cannot find a full-time position. A similar relationship is found for childless women (aged 36-55): 18 per cent of part-time working childless women work part-time because they cannot find a full-time position – but 31 per cent among women with low education.

Figure 7: Women’s employment status in detail at age 51-60 by education, empty nest mothers vs. childless women for cohorts born 1940-49 and 1950-59



Source: Austrian microcensus 1986-2016 (own computation).

Our final analysis is concerned with the late phase on the labour market (age 51-60) and we compare childless women with mothers whose children have left the parental home. We can only include the two older cohorts, where employment rates of mothers were still lower and where part-time employment was yet moderate. In the oldest cohort, the housewife model was still prevalent in all groups with the exception of highly educated childless women. In the cohort 1950-59, employment rates are rather similar between mothers and childless women at the same educational level, while full-time rates are lower among mothers, especially among the low and medium educated.

## 6. Concluding Discussion

This study has drawn a detailed comparison of employment behavior between childless women and mothers who were followed up in synthetic cohorts over their life courses from their late teens to age 60. Its aim was to analyze whether the parenthood effect has declined over cohorts of women. When taking the employment rate as an indicator, we may indeed conclude that engaging in paid work has become significantly easier for mothers. Return back to the workplace is increasingly concentrated when the child is age 3 to 5, while rates of return have remained quite stable across cohorts both with younger (below age 3) and older children (age 6 and older).

On the other hand, the strong rise in part-time employment makes it difficult to assess how much the parenthood effect has really declined. In fact, with the youngest child below age three, mean working hours went down over cohorts (despite a stable employment rate) and, with a child age 3 to 5, they have remained stable (despite an increase in the employment rate). This pattern suggests that the parenthood effect has become weaker from the time children enter school, but less so before. There are several interconnected reasons for the spread of part-time work. Full-time employment is difficult to realize given the typical opening hours of childcare and full-time external childcare tends to be normatively rejected, especially for young children (Steiber and Haas 2010). There is a strong full-time work standard among men and costs of living enable most families to live well on one-and-a-half incomes. The importance of work-family balance for the Generation X (Beutell and Wittig-Berman 2008) and childcare time demands related to intensive motherhood may also play a role for selecting the part-time option. However, the increasing diversity of working hours among mothers is not mirrored among childless women. Instead, if working time is reduced, it is almost always, at least initially, for reasons of care. This finding challenges the notion that the generation X seeks better reconciliation between working time and leisure.

Another important finding is that part-time often remains a long-term arrangement rather than being a stepping stone into full-time. Many mothers do not expand their working hours to full-time even with their children growing up and needing less care. They do so even though disadvantages in terms of career prospects, pension benefits and poverty among single mothers rise with the duration of part-time work (Thévenon 2013). In the youngest cohort, only 30 per cent of mothers work full-time when their children attend lower secondary school (age 10 to 15). Current labour laws provide the right to part-time

work until the child's seventh birthday and, by this time, this arrangement is often consolidated – in the company but also in the family (i.e. regarding the division of unpaid work) and with respect to the extent of leisure time. While some fraction (around 20 per cent) of part-time working mothers with a child in teenage age wants to increase their working hours, the majority seems to be content with their work arrangement. We interpret the rise of part-time as a polarization of the workforce into mothers and childless women. The spread of part-time work (especially if it is short-time) means the appearance of a group of employees with a rather marginalized labour market position. This “motherhood divide” at the workplace replaces the former divide between employed women and housewives.

The education-specific results reveal that employment rates increased most strongly among low and medium educated mothers, while the increase was more moderate among their highly educated peers whose employment levels were already higher in older cohorts. This results, thus, suggests a converging trend between education groups (in line with Berghammer 2014). Medium-high and highly educated women resume employment faster than their less educated counterparts after childbirth and more often in part-time. This implies that the parenthood effect has declined relatively less in these groups of women than among their less educated peers. While full-time work is difficult to realize for mothers of all educational levels (for the reasons suggested in the previous paragraph), there may be education-specific explanations for why, with a young child, part-time work has caught on disproportionately among highly educated mothers. They are frequently partnered with an equally highly educated spouse with rather high earnings, but also high time demands on the job. In addition, highly educated mothers hold particularly high standards with respect to the extent of childcare time (Berghammer 2013). Another argument pertains to the decreased selectivity of highly educated women across cohorts as education expands. Notwithstanding, as their children grow older, highly educated women are more likely than the other three educational groups to expand their working hours to full-time. With regard to low-educated mothers we find, on the other hand, a clear polarization between full-time work and non-employment (often unemployment) – and if they work part-time, they more often do so because they cannot find a full-time job.

How do the Austrian results compare internationally? First, this case study provides evidence that despite the general trend towards an increase in women's labour force participation, the parenthood effect on maternal employment does not disappear steadily. Instead, we find stable maternal employment rates with a child below age three across cohorts covering 30 years and a decreasing work volume with children below age six due to the stark rise of part-time work. These results challenge the idea of a general movement towards increased gender equality (Esping-Andersen et al. 2013) and run counter to an increased prevalence of dual breadwinner parents observed in most other European countries (Berghammer and Verwiebe 2015; Connolly et al. 2016). Second, while previous research found that highly educated women engage less in part-time work (Del Boca, Pasqua and Pronzato 2009), the Austrian results show that this association only holds among mothers with older children. With children below age 6, highly educated mothers actually work more often part-time than their less educated counterparts. This is, in a sense, in contradiction to the widely held preconception that highly educated women are career-focused and oriented on gender equality.

## References

- Aisenbrey, Silke, Marie Evertsson and Daniela Grunow (2009), 'Is There a Career Penalty for Mothers' Time Out? A Comparison of Germany, Sweden and the United States', in: *Social Forces*, 88 (2), pp. 573-605
- Angel, Stefan and Franz Kolland (2011), 'Armut und soziale Benachteiligung im Alter', in: Roland Verwiebe (eds.), *Armut in Österreich. Bestandsaufnahme, Trends, Risikogruppen*, Vienna: Braumüller, pp. 185-208
- Austrian Economic Chamber (n.d.-a), 'Arbeitslosenquote 1950-2016'. Accessed at: <http://wko.at/statistik/Extranet/Langzeit/GLang-Arbeitsmarkt.pdf> (January 2018).
- Austrian Economic Chamber (n.d.-b), 'BIP und Wirtschaftswachstum'. Accessed at: <http://wko.at/statistik/Extranet/Langzeit/Lang-BIP.pdf> (January 2018).
- Baierl, Andreas and Olaf Kapella (2014), 'Trend zur Teilzeit. Bestandsaufnahme und Auswirkungen für Beruf und Familie', *Working Paper (Austrian Institute for Family Studies)*, 81.
- Beaujouan, Eva, Zuzanna Brzozowska and Kryštof Zeman (2016), 'The limited effect of increasing educational attainment on childlessness trends in twentieth-century Europe, women born 1916–65', in: *Population Studies*, 70 (3), pp. 275-91
- Berghammer, Caroline (2013), 'Keine Zeit für Kinder? Veränderungen in der Kinderbetreuungszeit von Eltern in Deutschland und Österreich', in: *Zeitschrift für Soziologie*, 42 (1), pp. 52-73
- Berghammer, Caroline (2014), 'The return of the male breadwinner model? Educational effects on parents' work arrangements in Austria, 1980–2009', in: *Work, Employment & Society*, 28 (4), pp. 611-32
- Berghammer, Caroline, Eva-Maria Schmidt and Katrin Fliegenschnee (2015), 'Leben in wilder Ehe. Nichteheliche Lebensgemeinschaften und Ehen in Österreich', in: *beziehungsweise (Austrian Institute for Family Studies)*, (3), pp. 1-3
- Berghammer, Caroline and Roland Verwiebe (2015), 'Die Verbreitung des Doppelernährer- und Doppelbetreuermodells in fünf Ländern Europas', in: *WSI Mitteilungen*, 68 (2), pp. 116-24
- Beutell, Nicholas J. and Ursula Wittig-Berman (2008), 'Work-family conflict and work-family synergy for generation X, baby boomers, and matures: Generational differences, predictors, and satisfaction outcomes', in: *Journal of Managerial Psychology*, 23 (5), pp. 507-23
- Bianchi, Suzanne M. (2000), 'Maternal employment and time with children: Dramatic change or surprising continuity?', in: *Demography*, 37 (4), pp. 401-14
- Blau, Francine D. and Lawrence M. Kahn (2013), 'Female Labor Supply: Why Is the United States Falling Behind?', in: *American Economic Review*, 103 (3), pp. 251-56
- Blau, Francine D. and Lawrence M. Kahn (2003), 'Understanding International Differences in the Gender Pay Gap', in: *Journal of Labor Economics*, 21 (1), pp. 106-44
- Bock-Schappelwein, Julia, Ulrike Famira-Mühlberger, Thomas Horvath, Ulrike Huemer and Elisabeth Schappelwein (2018), 'Gleichstellungsindex Arbeitsmarkt – Eine Analyse des Geschlechterverhältnisses in Österreich', in: Doris A. Behrens, Margareta Kreimer, Maria Mucke and Nele Elisa Franz (eds.), *Familie – Beruf – Karriere: Daten, Analysen und Instrumente zur Vereinbarkeit*, Wiesbaden: Springer Fachmedien Wiesbaden, pp. 15-41

- Bünning, Mareike and Matthias Pollmann-Schult (2016), 'Family policies and fathers' working hours: cross-national differences in the paternal labour supply', in: *Work, Employment & Society*, 30 (2), pp. 256-74
- Butschek, Felix (1965), 'Frauenbeschäftigung in Österreich', in: *WIFO-Monatsberichte*, 38 (1), pp. 21-27
- Butschek, Felix (1974), 'Erwerbstätigkeit in Österreich 1961 bis 1980', in: *WIFO-Monatsberichte*, 47 (10), pp. 479-90
- Connolly, Sara, Matthew Aldrich, Margaret O'Brien, Svetlana Speight and Eloise Poole (2016), 'Britain's slow movement to a gender egalitarian equilibrium: parents and employment in the UK 2001–13', in: *Work, Employment and Society*, 30 (5), pp. 838-57
- Council of Europe (2006), *Recent Demographic Developments in Europe 2005*, Strasbourg: Council of Europe Publishing
- De Hauw, Yolien, André Grow and Jan Van Bavel (2017), 'The Reversed Gender Gap in Education and Assortative Mating in Europe', in: *European Journal of Population*, 33 (4), pp. 445-74
- Dearing, Helene, Helmut Hofer, Christine Lietz, Rudolf Winter-Ebmer and Katharina Wrohlich (2007), 'Why are mothers working longer hours in Austria than in Germany? A comparative microsimulation analysis', in: *Fiscal Studies*, 28 (4), pp. 463-95
- Del Boca, Daniela, Silvia Pasqua and Chiara Pronzato (2009), 'Motherhood and market work decisions in institutional context: a European perspective', in: *Oxford Economic Papers*, 61 (suppl 1), pp. i147-i171
- Dieckhoff, Martina, Vanessa Gash, Antje Mertens and Laura Romeu Gordo (2016), 'A stalled revolution? What can we learn from women's drop-out to part-time jobs: A comparative analysis of Germany and the UK', in: *Research in Social Stratification and Mobility*, 46 (Part B), pp. 129-40
- Dörfler, Sonja, Sonja Blum and Markus Kaindl (2014), 'Europäische Kinderbetreuungskulturen im Vergleich. Jüngste Entwicklungen in der vorschulischen Betreuung in Deutschland, Frankreich, Österreich und Schweden', *Working Paper (Austrian Institute for Family Studies)*, 82.
- Dörfler, Sonja and Georg Wernhart (2016), 'Die Arbeit von Männern und Frauen. Eine Entwicklungsgeschichte der geschlechtsspezifischen Rollenverteilung in Frankreich, Schweden und Österreich', in: *Austrian Institute for Family Studies: Forschungsbericht*, 19, pp.
- Esping-Andersen, Gøsta (2009), *The incomplete revolution: adapting to women's new roles*, Cambridge: Polity Press
- Esping-Andersen, Gøsta, Diederik Boertien, Jens Bonke and Pablo Gracia (2013), 'Couple Specialization in Multiple Equilibria', in: *European Sociological Review*, 29 (6), pp. 1280-94
- Eurostat database (2016), 'Part-time employment as percentage of the total employment, by sex and age (%)'. Accessed at: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa\\_eppgacob&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_eppgacob&lang=en).
- Famira-Mühlberger, Ulrike and Thomas Leoni (2013), 'The economic and social situation in Austria', Vienna: WIFO (Austrian Institute of Economic Research).

- Gallie, Duncan, Michael Gebel, Johannes Giesecke, Karin Halldén, Peter Van der Meer and Rudi Wielers (2016), 'Quality of work and job satisfaction: comparing female part-time work in four European countries', in: *International Review of Sociology*, pp. 1-25
- Gash, Vanessa (2008), 'Preference or constraint? Part-time workers' transitions in Denmark, France and the United Kingdom', in: *Work, Employment and Society*, 22 (4), pp. 655-74
- Gesthuizen, Maurice, Heike Solga and Ralf Künster (2011), 'Context matters: economic marginalization of low-educated workers in cross-national perspective', in: *European Sociological Review*, 27 (2), pp. 264-80
- Greulich, Angela and Aurélien Dasré (2017), 'The quality of periodic fertility measures in EU-SILC', in: *Demographic Research*, 36 (17), pp. 525-56
- Hays, Sharon (1996), *The cultural contradictions of motherhood*, New Haven and London: Yale University Press
- Kanji, Shireen (2011), 'What Keeps Mothers in Full-time Employment?', in: *European Sociological Review*, 27 (4), pp. 509-25
- Kelle, Nadiya, Julia Simonson and Laura Romeu Gordo (2017), 'Is Part-Time Employment after Childbirth a Stepping-Stone into Full-Time Work? A Cohort Study for East and West Germany', in: *Feminist Economics*, 23 (4), pp. 201-24
- Konietzka, Dirk and Michaela Kreyenfeld (2010), 'The growing educational divide in mothers' employment: an investigation based on the German micro-censuses 1976-2004', in: *Work, Employment & Society*, 24 (2), pp. 260-78
- Kreyenfeld, Michaela and Karsten Hank (2000), 'Does the availability of child care influence the employment of mothers? Findings from western Germany', in: *Population Research and Policy Review*, 19 (4), pp. 317-37
- Lutz, Hedwig (2000), 'Frauen im Spannungsfeld zwischen Mutterschaft und Erwerbstätigkeit', in: *WIFO-Monatsberichte*, 73 (5), pp. 341-50
- Mandel, Hadas and Moshe Semyonov (2005), 'Family Policies, Wage Structures, and Gender Gaps: Sources of Earnings Inequality in 20 Countries', in: *American Sociological Review*, 70 (6), pp. 949-67
- Månsson, Jonas and Jan Ottosson (2011), 'Transitions from part-time unemployment: Is part-time work a dead end or a stepping stone to the labour market?', in: *Economic and Industrial Democracy*, 32 (4), pp. 569-89
- Mayrhuber, Christine, Christian Glocker, Thomas Horvath and Silvia Rocha-Akis (2015), 'Entwicklung und Verteilung der Einkommen in Österreich', Vienna: WIFO (Austrian Institute of Economic Research). Accessed at: [http://www.wifo.ac.at/jart/prj3/wifo/resources/person\\_dokument/person\\_dokument.jart?publikationsid=50897&mime\\_type=application/pdf](http://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=50897&mime_type=application/pdf) (January 2018).
- Nieuwenhuis, Rense, Ariana Need and Henk Van Der Kolk (2012), 'Institutional and demographic explanations of women's employment in 18 OECD countries, 1975-1999', in: *Journal of Marriage and Family*, 74 (3), pp. 614-30
- OECD (2014), 'Family database (LMF1.2 Maternal employment, chart G)'.
- Percheski, Christine (2008), 'Opting out? Cohort differences in professional women's employment rates from 1960 to 2005', in: *American Sociological Review*, 73 (3), pp. 497-517

- Pettit, Becky and Jennifer Hook (2005), 'The Structure of Women's Employment in Comparative Perspective', in: *Social Forces*, 84 (2), pp. 779-801
- Pfau-Effinger, Birgit (2004), *Development of Culture, Welfare States and Women's Employment in Europe*, Aldershot: Ashgate
- Prskawetz, Alexia, Tomáš Sobotka, Isabella Buber, Henriette Engelhardt and Richard Gisser (2008), 'Austria: persistent low fertility since the mid-1980s', in: *Demographic Research*, 19 (12), pp. 293-360
- Ryder, Norman B. (1965), 'The Cohort as a Concept in the Study of Social Change', in: *American Sociological Review*, 30 (6), pp. 843-61
- Sayer, Liana C., Anne H. Gauthier and Frank F. Furstenberg (2004), 'Educational differences in parents' time with children: Cross-national variations', in: *Journal of Marriage and Family*, 66 (5), pp. 1152-69
- Schmidt, Eva-Maria (2017), 'Breadwinning as care? The meaning of paid work in mothers' and fathers' constructions of parenting', in: *Community, Work & Family*, pp. 1-18
- Schober, Pia S. (2013), 'The Parenthood Effect on Gender Inequality: Explaining the Change in Paid and Domestic Work When British Couples Become Parents', in: *European Sociological Review*, 29 (1), pp. 74-85
- Sieder, Reinhard (1987), *Sozialgeschichte der Familie*, Frankfurt/Main: Suhrkamp
- Simonson, Julia, Laura Romeu Gordo and Nadiya Titova (2011), 'Changing employment patterns of women in Germany: How do baby boomers differ from older cohorts? A comparison using sequence analysis', in: *Advances in Life Course Research*, 16 (2), pp. 65-82
- Sobotka, Tomáš (2011), 'Fertility in Austria, Germany, and Switzerland: Is there a common pattern?', in: *Comparative Population Studies/ Zeitschrift für Bevölkerungswissenschaft*, 36 (2-3), pp. 263-304
- Sobotka, Tomáš (2017), 'Childlessness in Europe: Reconstructing Long-Term Trends Among Women Born in 1900–1972', in: Michaela Kreyenfeld and Dirk Konietzka (eds.), *Childlessness in Europe: Contexts, Causes, and Consequences*, Cham: Springer International Publishing, pp. 17-53
- Sobotka, Tomas, Krystof Zeman, Michaela Potancokova, Jakob Eder, Zuzanna Brzozowska, Éva Beaujouan and Anna Matysiak (2015), *Fertility Datasheet 2015*, Vienna Institute of Demography / Wittgenstein Centre for Demography and Global Human Capital (IIASA, VID/ÖAW, WU).
- Stahl, Juliane Frederike and Pia Sophia Schober (2017), 'Convergence or divergence? Educational discrepancies in work-care arrangements of mothers with young children in Germany', in: *Work, employment and society [online first]*, 0950017017692503
- Statistics Austria (2016), 'Kindergärten in den Bundesländern 1972 - 2014'. Accessed at: [http://www.statistik.at/web\\_de/statistiken/menschen\\_und\\_gesellschaft/bildung\\_und\\_kultur/formales\\_bildungswesen/kindertagesheime\\_kinderbetreuung/index.html](http://www.statistik.at/web_de/statistiken/menschen_und_gesellschaft/bildung_und_kultur/formales_bildungswesen/kindertagesheime_kinderbetreuung/index.html).
- Statistics Austria (n.d.), 'Statcube (Kindertagesheime; Kinder nach Alter 1972 bis 2002)'.

- Steiber, Nadia, Caroline Berghammer and Barbara Haas (2016), 'Contextualizing the education effect on women's employment: A cross-national comparative analysis', in: *Journal of Marriage and Family*, 78 (1), pp. 246-61
- Steiber, Nadia and Barbara Haas (2010), 'Begrenzte Wahl – Gelegenheitsstrukturen und Erwerbsmuster in Paarhaushalten im europäischen Vergleich', in: *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 62 (2), pp. 247-76
- Steiber, Nadia and Barbara Haas (2012), 'Advances in explaining women's employment patterns', in: *Socio-Economic Review*, 10 (2), pp. 343-67
- Thévenon, Olivier (2013), 'Drivers of Female Labour Force Participation in the OECD', in: *OECD Social, Employment and Migration Working Papers*, 145, OECD Publishing.
- Trappe, Heike, Matthias Pollmann-Schult and Christian Schmitt (2015), 'The rise and decline of the male breadwinner model: Institutional underpinnings and future expectations', in: *European Sociological Review*, 31 (2), pp. 230-42
- Uunk, Wilfred, Matthijs Kalmijn and Ruud Muffels (2005), 'The Impact of Young Children on Women's Labour Supply', in: *Acta Sociologica*, 48 (1), pp. 41-62
- Vlasblom, Jan Dirk and Joop Schippers (2006), 'Changing dynamics in female employment around childbirth', in: *Work, employment and society*, 20 (2), pp. 329-47
- Zeman, Krystof, Zuzanna Brzozowska, Tomáš Sobotka, Éva Beaujouan and Anna Matysiak (2017), 'Cohort Fertility and Education Database. Methods Protocol'. Available at [www.cfe-database.org](http://www.cfe-database.org) (accessed on 18 January 2018).

## Working Papers

Bora, Jayanta Kumar, Rajesh Raushan and Wolfgang Lutz, *Contribution of Education to Infant and Under-Five Mortality Disparities among Caste Groups in India*, VID Working Paper 3/2018.

Matysiak, Anna, Tomáš Sobotka and Daniele Vignoli, *The Great Recession and Fertility in Europe: A Sub-National Analysis*, VID Working Paper 2/2018.

Abel, Guy, Valeria Bordone, Raya Muttarak and Emilio Zagheni, *Bowling Together: Scientific Collaboration Networks of Demographers at European Population Conferences*, VID Working Paper 1/2018.

Nitsche, Natalie, *Partners' Educational Pairings, Work Divisions, and Fertility: Evidence from Germany*, VID Working Paper 19/2017.

Spahl, Wanda, Sabine Weiss, Judith Kohlenberger and Isabella Buber-Ennser, *Immigration and the Social Welfare State in Austria, Germany, and Switzerland: A Comparative Meta-Study*, VID Working Paper 18/2017.

Hoffmann, Roman, *Following the Peers: The Role of Social Networks for Health Care Utilization in the Philippines*, VID Working Paper 17/2017.

Brzozowska, Zuzanna and Monika Mynarska, *Fertility Intentions and Their Realisation: Insights from the Polish Generations and Gender Survey*, VID Working Paper 16/2017.

Yildiz, Dilek, Peter G.M. van der Heijden and Peter W.F. Smith, *Estimating Population Counts with Capture-Recapture Models in the Context of Erroneous Records in Linked Administrative Data* VID Working Paper 15/2017.

Brzozowska, Zuzanna, Éva Beaujouan and Kryštof Zeman, *Why Has the Share of Two-Child Families Stopped Growing? Trends in Education-Specific Parity Distribution in Low-Fertility Countries*, VID Working Paper 14/2017.

Rengs, Bernhard, Isabella Buber-Ennser, Judith Kohlenberger, Roman Hoffmann, Michael Soder, Marlies Gatterbauer, Kai Themel and Johannes Kopf, *Labour Market Profile, Previous Employment and Economic Integration of Refugees: An Austrian Case Study*, VID Working Paper 13/2017.

Beaujouan, Eva and Caroline Berghammer, *The Gap between Lifetime Fertility Intentions and Completed Fertility in Europe and the United States: A Cohort Approach*, VID Working Paper 12/2017.