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Article

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CESifo Forum

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Suggested Citation: Ilieva, Boryana; Wrohlich, Katharina (2022) : Gender Gaps in Employment, Working Hours and Wages in Germany: Trends and Developments Over the Last 35 Years, CESifo Forum, ISSN 2190-717X, ifo Institut - Leibniz-Institut für Wirtschaftsforschung an der Universität München, München, Vol. 23, Iss. 02, pp. 17-19

This Version is available at:

<https://hdl.handle.net/10419/263838>

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Gender Gaps in Employment, Working Hours and Wages in Germany: Trends and Developments Over the Last 35 Years

In the past decades, gender gaps in the labor market have been decreasing in Germany as well as in many developed countries of the world. In particular, educational attainment and the labor force participation rates of women have been rising, and horizontal and vertical segregation on the labor market has become less pronounced (Goldin 2006; Blau and Kahn 2007, 2006 and 2017). However, the rate of gender convergence in the labor market has been decreasing. Moreover, gender gaps in certain dimensions of the labor market, such as in hours worked remain high. This most likely hampers the further decline of the gender pay gap.

In the following, we describe the development of male and female employment rates, part-time employment rates as well as wages over the last 35 years for West Germany. We show that there has been a strong convergence in employment rates of men and women over this period of time. Female employment rates have increased strongly, from about 50 to about 75 percent, while male employment rates have remained fairly stable at about 90 percent. The gender gap in hours worked, however, has remained constant at a very high level of 40 percentage points in the same period of time. The development of the gender gap in wages has also lagged behind the convergence in employment rates, declining only by a third. The large gender gap in part-time work in combination with the part-time penalty in hourly wages is contributing to the persisting gender gap in wages.

EMPIRICAL EVIDENCE

Data

We use data from the German Socio-Economic Panel (GSOEP) study for the entire time range of the panel that is currently available. It spans the period from 1984 until 2019. We base the plots and calculations discussed below on the data for individuals who are part of the labor force and aged 25 to 55. We exclude civil servants, self-employed, pensioners, and persons in education, training, military, and community service. We further exclude disabled individuals and apprentices. We distinguish between full-time and part-time employees, where our definition of part-time



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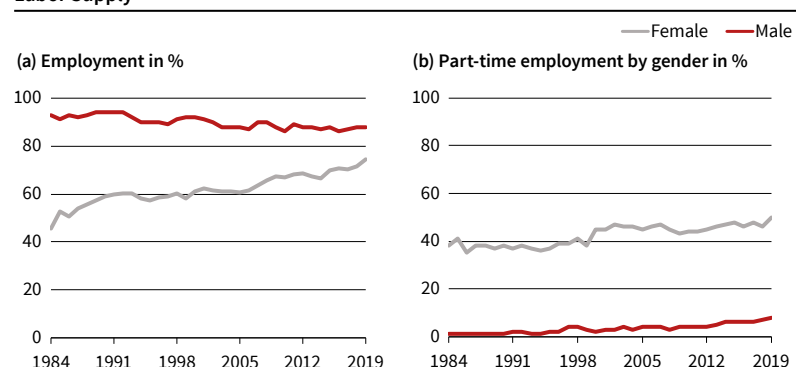
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employees includes persons in marginal employment. The classification into full-time or part-time employment is based on the self-reported information of the respondents. Finally, the sample we analyze does not include individuals for whom we miss information on any of the following characteristics which are key for our analysis: gender, East/West Germany indicator, part-time employment indicator.

Hourly wages are not readily available in the SOEP data. We calculate hourly wages for each individual in the sample by dividing the person's gross monthly income from employment by their contractual working hours. We, in turn, obtain monthly values for each person's working hours by multiplying the hours SOEP respondents state to work per week by 4.33 weeks. We trim the highest and lowest percentile off of the wage distribution in order to exclude

Figure 1
Labor Supply^a



* We gratefully acknowledge funding by the German Science Foundation (grant number 416447477 and grant number 280092119).

^a Each graph plots employment rates as a percent share of labor force participants in Germany in the respective year. Source: SOEP-36; weighted sample. © ifo Institute

outliers. Monetary values are presented in their 2019 equivalents. Calculations are performed using the consumer price index values in *y11101*.

Employment and Working Hours

The gender gap in employment has been declining strongly over the last 35 years in West Germany (Figure 1, Panel (a)). While the employment rate of men has decreased slightly, from just above 90 percent in the mid-1980s to slightly below 90 percent in 2020, the employment rate of women has increased by more than 25 percentage points in the same period of time. 35 years ago, the employment rate of women was around 50 percent. In the year 2020, it is almost 75 percent, and thereby currently among the largest in OECD countries (OECD 2017). The gender gap in employment rates, which has been higher than 40 percentage points in the mid-1980s, has thus dropped by more than half and amounts to about 15 percentage points in 2019.

In contrast to the remarkable convergence in male and female employment rates, the gender gap in working hours has remained fairly constant over time (Figure 1, Panel (b)). While part-time employment has been increasing for men (from below 1 percent in the mid-1980s to about 8 percent in 2020), it has also been increasing for women (from 39 to 50 percent in the same time period). The part-time employment rate of women thus has been constantly higher than the part-time rate of men, by about 40 percentage points. Thus, while the female employment rate is relatively high compared to other OECD countries, the part-time employment rate among women is also very high (OECD 2017).

Wages

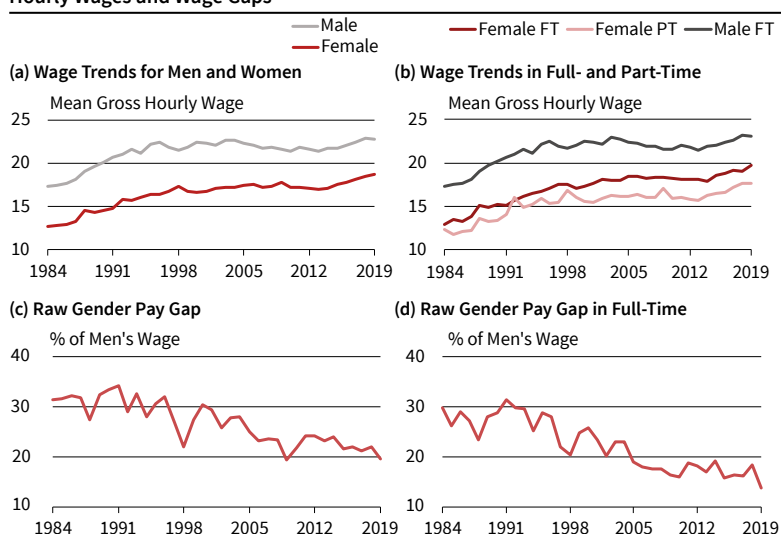
The evolution of the wages of men and women has been following a roughly parallel path since the mid-1980s (see Figure 2, Panel (a)). A period of rather strong wage increases from the mid-1980s until the late 1990s has been followed by a period of wage stagnation until the early 2010 years, followed again by a period of wage increases in the past couple of years. Women's wages have been catching up moderately over this period: The raw gender pay gap has been declining in this period by 10 percentage points, from about 30 percent in the mid-1980s to about 20 percent in 2020 (Figure 2, Panel (c)). Compared to the decrease in the gender employment gap, which has dropped by more than half, the decrease in the gender pay gap falls behind, dropping only by a third.

Many studies have shown that women's wage trajectories over the life cycle often start diverging downward from men's in association with the arrival of children (Goldin 2006; Bertrand et al. 2010; Correll et al. 2007; Goldin 2014). After children are born, women exit the labor force, remain unemployed, and start earning lower wages compared to men (Kuziemko et al. 2018; Kleven, Landais, Posch, Steinhauer and Zweimüller 2019; Kleven, Landais and Sogaard 2019; Berniell et al. 2020; Lim 2017). In a life-cycle framework Adda et al. (2017) find that the child penalty even predates the birth of the first child as mothers-to-be select into forms of employment associated with lower pay on average already years in advance. In addition, while working men are almost always employed full-time, many women work part-time after children are born, and many women never resume working full-time until they reach retirement age (Schrenker and Zucco 2020). Several empirical studies show that part-time employed individuals earn not only lower monthly salaries but also lower hourly wages. This phenomenon is referred to as "part-time penalty" and has been discussed in, e.g., Goldin (2014); Manning and Petrongolo (2008); Blundell et al. (2016); Gallego Granados (2019). The high prevalence of part-time work among women in combination with the part-time penalty in wages might thus partly explain the strong persistence of the gender pay gap.

A raw part-time penalty is also observed in the SOEP data (Figure 2, Panel (b)). Hourly wages of part-time working women have been below the wages of full-time working women over the whole observation period. From the year 2000 on, an increase in the difference between wages for full-time and part-time working women can be observed.¹ Moreover, we observe that the decrease of the difference between the wages of (all) men and the wages of full-time working women has been more pronounced than the overall decrease in the gender wage gap. This finding is confirmed when looking at the gender pay gap among

Figure 2

Hourly Wages and Wage Gaps



Note: Panel (c) plots the raw gender wage gap in gross hourly wages in percent; it effectively represents the difference between the lines plotted in panel (a) divided by the level of male wages and multiplied by 100; Panel (d) plots the raw gender wage gap between the wages of full-time employed women and the average wage of men; it effectively represents the difference between the blue and the red line plotted in panel (b) divided by the level of male wages and multiplied by 100. Monetary values are deflated and presented in 2019 EUR equivalents. Source: SOPE-36; weighted sample.

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¹ We refrain from showing wages for part-time working men due to the limited number of observations in this group.

full-time workers only: this gap has been decreasing from about 30 percent to below 14 percent in the past 35 years, while the overall gender pay gap is still at about 20 percent.

CONCLUSION

Our empirical analysis shows a strong convergence in male and female employment rates in West Germany over the last 35 years. The gender employment gap has dropped by more than a half, from 40 percentage points in the mid-1980s to 15 percentage points in 2019. This convergence, however, has not been paralleled by the development of weekly working hours of men and women. The gender gap in part-time employment has remained constant at a very high level over the whole observation period. In 2019, the part-time employment rate of women amounts to 50 percent, while the part-time employment rate of men is about 8 percent. Further, our analysis has shown some convergence in male and female hourly wages. The gender wage gap has dropped from about 30 percent in the mid-1980s to about 20 percent in 2019. The convergence in wages has thus lagged behind the convergence in employment rates - the former falling by about a third, while the latter has been falling by more than half.

One of the reasons that the gender wage gap is still considerably high is the large gender gap in working hours. Many empirical studies have shown evidence for a part-time penalty in hourly wages. We also find that wages by part-time workers stay below those of full-time workers over the whole observation period. Moreover, we show that there has been a stronger decline in the gender wage gap among full-time workers (from 30 to 14 percent) than the gender wage gap among all workers (from 31 to 20 percent).

If policy aims at promoting gender equality in the labor market and reducing the gender wage gap, policy measures that incentivize a more equal sharing of market and care work among men and women should be considered. In particular, reforms of the joint income taxation of married couples could en-

hance gender equality in the labor market. Moreover, abolishing the tax and social security exemptions of marginal employment and increasing the partner quota within the parental leave scheme could promote gender equality even further.

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