Köln Z Soziol (2025) 77:321–354
https://doi.org/10.1007/s11577-025-01017-w

Kölner Zeitschrift für Soziologie und Sozialpsychologie

ABHANDLUNGEN

Does a Civil Service Job Matter? The Influence of Civil Service Employment on the Transition to the First and the Second Child for Women and Men in Germany

Paul Severin Löwe

Received: 6 April 2025 / Accepted: 18 August 2025 / Published online: 6 October 2025

Abstract This study compares the influence of civil service and private sector employment on the transition rates to the first and the second child. The civil service is often associated with a family-friendly work environment, offering the possibility to reverse the problem of low birth rate. An influence has been demonstrated in some European countries, but Germany lacks an individual-level analysis. Using data from the German Family Panel (Pairfam), we ran discrete event history models in a piecewise-constant specification to calculate the transitions to the first and the second child conditional on civil service or private sector employment. Our findings indicate a substantial and statistically significant positive influence of civil service employment on the transition to the second child for women. For men, we observe a substantial negative but statistically insignificant influence on the transition to the second child. No significant or substantial influence was found for either women or men regarding the transition to the first child. The results suggest that, especially for the situation after the birth of a child, employment in the civil service can be an important starting point for influencing fertility.

Keywords Fertility · Public sector · Working conditions · Family friendliness · Pairfam

Online Appendix: https://kzfss.uni-koeln.de/sites/kzfss/pdf/Loewe.pdf

✉ P. S. Löwe
State Institute for Family Research, University of Bamberg
Heinrichsdamm 4, 96047 Bamberg, Germany
E-Mail: paul.loewe@ifb.uni-bamberg.de

Macht ein Job im öffentlichen Dienst einen Unterschied? Der Einfluss der Beschäftigung im öffentlichen Dienst auf den Übergang zum ersten und zweiten Kind für Frauen und Männer in Deutschland

Zusammenfassung In dieser Studie wird der Einfluss einer Beschäftigung im öffentlichen Dienst im Vergleich zur Privatwirtschaft auf die Übergangsrate zum ersten und zweiten Kind untersucht. Der öffentliche Dienst wird häufig mit einem familienfreundlichen Arbeitsumfeld in Verbindung gebracht, das die Möglichkeit bietet, einen Beitrag zur Lösung des gesellschaftlichen Problems der niedrigen Geburtenrate zu leisten. In anderen europäischen Ländern wurde ein solcher Einfluss nachgewiesen, aber in Deutschland fehlte bisher eine Analyse auf individueller Ebene. Unter Verwendung von Daten aus dem Deutschen Familienpanel (Pairfam) nutzen wir diskrete Ereignisverlaufsmodelle in einer Piecewise-constant-Spezifikation, um den Übergang zum ersten Kind in Abhängigkeit von der Beschäftigung im öffentlichen Dienst oder in der Privatwirtschaft zu berechnen. Wir finden einen inhaltlich bedeutenden und statistisch signifikanten positiven Einfluss der Beschäftigung im öffentlichen Dienst auf den Übergang zum zweiten Kind für Frauen. Für Männer wird ein inhaltlich bedeutender, aber statistisch nicht signifikanter negativer Einfluss auf den Übergang zum zweiten Kind festgestellt. Weder für Frauen noch für Männer lässt sich ein inhaltlich bedeutender oder statistisch signifikanter Einfluss auf den Übergang zum ersten Kind feststellen. Die Ergebnisse deuten darauf hin, dass die Beschäftigung im öffentlichen Dienst einen Ansatzpunkt zur Beeinflussung der Fertilität, insbesondere nach der Geburt, bietet.

Schlüsselwörter Fertilität · Öffentlicher Sektor · Arbeitsbedingungen · Familienfreundlichkeit · Pairfam

1 Introduction

The objective of this paper is to extend the state of research on family formation and expansion by investigating whether there is a positive influence of civil service[1] versus private sector employment on the transition rate to the births of first and second children in Germany. Our analysis of the civil service goes beyond previous work by making civil service employment the focus of the examination.

In Germany, as in many other European countries, low fertility rates are persistent, and the difference between the desired and the actual number of children is high, with fewer births than desired (Sobotka and Beaujouan 2014; Testa 2012). The employment situation has been recognized as an increasingly significant factor in promoting reconciliation and ensuring a sufficient and secure income for raising a family, as the majority of both women and men engage in paid work (Frodermann et al. 2013; Greulich et al. 2017; Kreyenfeld 2010; Laurijssen and Glorieux 2013;

[1] We use the term "civil service" instead of "public sector" because it is more precise. Civil service includes only people who work directly for the state under special conditions, not employees who work for a private company that is (partly) owned by the state.

Schulze 2009; Seyda 2003; Statistik der Bundesagentur für Arbeit 2021). Studies have shown that countries with higher fertility rates are typically characterized by fewer difficulties in reconciling work and family life, as well as by a positive correlation between income levels and fertility rates (Doepke et al. 2023; Fox et al. 2019; Greulich et al. 2017; Luci-Greulich and Thévenon 2013, 2014).

In distinction to the private sector, the civil service offers specific conditions, as it is less subject to profit orientation, competitive performance, and exploitation (Becker 1993). This low market orientation favors the emergence of institutional arrangements that decouple the civil service more from short-term economic cost pressures and competition (Gottschall et al. 2015; Sauer et al. 2022) and facilitate the emergence of features such as the provision and promotion of family-friendly policies and the offer of secure jobs with sufficient income (Gottschall et al. 2015; Löwe 2022; Sauer et al. 2019). These factors have been shown to influence fertility positively (Greulich et al. 2017; Köppen 2006; Kreyenfeld et al. 2023; Kreyenfeld and Zabel 2005; Matysiak and Steinmetz 2008; OECD 2007). With over five million employees in the civil service (Statistisches Bundesamt 2023), the state has a powerful tool to promote fertility by providing supportive working conditions.

So far, only a few studies have looked at the case of Germany. Civil service employment is only considered as an interaction or measured indirectly, and no influence (Gebel and Giesecke 2009) or a negative influence (Oppermann 2014) on the transition to the first child has been found. However, findings on the impact of civil service employment on fertility in other European countries have been inconclusive. In a study with a European focus, Adsera (2011) identified an association between a large civil sector and faster transitions to first, second, and third births. At the individual level, positive effects of civil service employment on the transition to the first child have been demonstrated in Italy (Conti and Sette 2013) and Spain (Martin-Garcia and Castro-Martin 2013) and on the transition to the second child in the United Kingdom (Kreyenfeld and Zabel 2005). No effect was found for the first child in the Netherlands (Begall and Mills 2013). Given the indication of country-specific influences in previous findings, Germany presents an interesting case due to its highly regulated and coordinated economy in both the civil service and private sectors, as well as its relatively favorable economic conditions for young and fertile individuals compared to other European countries. Against this background, it remains unclear whether the differences between jobs in the private sector and the civil service are distinct enough to influence fertility.

We shed light on this unsolved puzzle by concentrating on the function that gainful employment can have in supporting fertility. Drawing on Becker's (1981) family economic theory, we examine whether civil service employment is more likely than private sector employment to provide a secure and sufficient income while facilitating the reconciliation of family life and gainful employment.

Our analysis focuses on the transitions to the first and the second child, as these account for over 80% of births in Germany (Statistisches Bundesamt 2024). On one hand, demographic patterns are marked by a delayed transition to the first child, accompanied by rising childlessness (Kreyenfeld and Konietzka 2008b). On the other hand, fertility differences across Europe are largely driven by a decline in second births (Breton and Prioux 2009; Frejka and Sardon 2007; Frejka and Sobokta 2008;

Greulich et al. 2017). Scholars argue that the employment situation is relevant for both transitions. However, conflicts between paid employment and family responsibilities, as well as the need to secure a stable and sufficient income, become more pronounced for the second child, and enabling factors, such as working conditions, might become more influential (Adsera 2004; Ahn and Mira 2002; Brewster and Rindfuss 2000; Vlasblom and Schippers 2006).

We conducted all analyses separately by gender, as Becker's (1981) family economic theory suggests that different job characteristics influence the fertility decisions of women and men and that empirical differences in the labor force behavior of women and men are still present (Cooke 2004; Lewin-Epstein et al. 2006; Shreffler et al. 2010).

We used the longitudinal data of the Panel Analysis of Intimate Relationships and Family Dynamics (Pairfam) 2008–2020, waves 1–12. Pairfam is a unique data source, covering in detail the topics of family planning, household context, and preconditions for having children. We estimated stepwise multivariate discrete event history data models with a piecewise constant specification to calculate the transition rate to the first and the second child conditional on a job in the civil service.

Our findings indicate that civil service employment significantly influences the transition to the second child, whereas no substantial influence is observed for the transition to the first child. Regarding the first child, we identify a slightly positive but statistically insignificant influence for men and no influence for women. In contrast, for the transition to the second child, the influence for men is substantially negative but statistically insignificant, while for women, civil service employment—compared to private sector employment—has a substantial and statistically significant positive influence. These results suggest that in Germany, civil service employment may serve as a policy lever to influence fertility, particularly in the phase following the birth of the first child, when the need to balance paid employment and family responsibilities intensifies.

2 Theory and State of Research

In this section, we examine how specific working conditions in the civil service are expected to influence the transition to the first and the second child and derive corresponding hypotheses. Drawing on family economic theory (Becker 1981) and empirical research, we explore the employment conditions and job characteristics that increase the likelihood of having children (Sect. 2.1). We then outline the specific characteristics of civil service employment and discuss their potential impact on fertility (Sect. 2.2). Furthermore, we consider differences between the first and the second child as well as between women and men (Sect. 2.3) before formulating hypotheses (Sect. 2.4).

2.1 Theoretical Explanations and Empirical Results

The family economic model is one of the most influential approaches to explain the interplay between job situation and fertility behavior. Becker (1981) primarily at-

tributes the economic influence on fertility to a cost–benefit analysis in which parents make rational decisions regarding whether to have children and how many. Children are seen as a financial and time-intensive investment. The costs of having children include both direct expenses, such as those for food and clothing, and opportunity costs incurred by parents. Opportunity costs arise from foregoing alternative uses of time and resources, such as career advancement. Factors that increase income (positive income effect) or reduce opportunity costs (by mitigating negative substitution effects) are generally conductive to fertility. To maximize household income and minimize opportunity costs, the division of labor is considered economically advantageous (Becker 1985). Accordingly, the individual with the lowest market wage is more likely to assume parenting responsibilities as a rational economic choice. Although income effects and opportunity costs apply to both women and men, women have traditionally taken on the primary caregiving role, as they tend to earn lower incomes than their male partners, while men have focused primarily on paid employment (Köppen 2006).

However, in the framework of family economic theory, other factors or arrangements that raise income and reduce opportunity costs are possible to include. We first concentrate on opportunity costs. With the increasing labor market participation of women in recent decades, female employment opportunities and wages have risen, leading to higher opportunity costs associated with having children (Köppen 2006). As a result, the traditional gender-specific division of household and caregiving responsibilities has become more costly and less prevalent. At the same time, legal regulations and state provisions have improved the reconciliation of family and paid work, thereby reducing opportunity costs. Studies have shown that approaches such as a higher level of child care provision (Greulich et al. 2017; Krapf 2013) or the extension of parental benefits and leave regulations (Thomas et al. 2022) have allowed for a better reconciliation and had a positive influence on fertility (Luci-Greulich and Thévenon 2013, 2014).

In addition to these broader approaches linked to legal regulations, this article focuses on job-related factors and how specific job characteristics can reduce opportunity costs. Key aspects of work–family reconciliation include the ability to remain in the workforce after starting a family and ensuring that parenthood does not hinder career progression. Work–life compatibility is expected to be higher when job characteristics minimize the opportunity costs of raising children by safeguarding human capital investments and facilitating the alignment of paid employment with family responsibilities (Begall and Grunow 2015; Voydanoff 2005). While the overall positive impact of improved work–family reconciliation has been well documented (Doepke et al. 2023; Greulich et al. 2017; Luci-Greulich and Thévenon 2013, 2014), studies specifically examining single job-related factors that reduce opportunity costs remain surprisingly scarce. An exception are studies addressing the positive influence of part-time work (Ariza et al. 2005) and a more family-friendly business culture caused by a gendered structure of the specific labor market and social interactions in the workplace (Cook and Minnotte 2008).

The second central influence in the family economic theory is income (Becker 1981). The investment in children requires the provision of a secure and sufficient income, and a higher level of income has been shown to influence fertility posi-

tively (Doepke et al. 2023; Fox et al. 2019). Besides the level of income, the level of employment security is crucial. The security of having a long-term working arrangement that includes income security, transparent and stable career development, and plannability as well as predictability is seen as important, as long-term binding commitments such as parenthood require a secure economic basis (Oppenheimer 1988). Several studies examining the impact of unstable and insecure employment, particularly fixed-term contracts, report negative effects on fertility (Auer and Danzer 2014; Brose 2008; Kind and Kleibrink 2013), whereas others find no significant effects (Baron and Rapp 2019).

Although income effects and opportunity costs affect both women and men, and the increasing labor market participation of women has altered income and opportunity structures (Köppen 2006), the division of family and economic responsibilities remains gendered (Cooke 2004; Lewin-Epstein et al. 2006; Shreffler et al. 2010). Most women as well as men participate in paid employment and the labor market, but women work fewer hours (Statistik der Bundesagentur für Arbeit 2021). Men provide the majority of the income (Dieckhoff et al. 2020), and women do the majority of the family work (BMFSFJ 2019). In this context, work–family reconciliation measures are particularly beneficial for women, while the provision of a high and secure income is advantageous for both sexes, though especially for men.

Against the discussed theoretical background, we explain the specific conditions of employment in the civil service (Sect. 2.2) and discuss how they are likely to influence fertility processes.

2.2 The German Civil Service and Fertility

How does civil service employment impact income levels and opportunity costs by facilitating the reconciliation of work and family life?

The civil service provides jobs that, unlike the private sector, are relatively shielded from the operation of market forces (Esping-Andersen 1993). The situation in the civil service is not characterized by a capitalist logic of performance and exploitation but follows a bureaucratic logic (Becker 1993). Unlike in the private sector, the primary objective of the civil service is not profit generation but the provision of public services (Czerwick 2007). Many public services, in principle, cannot be provided (state-defining area, e.g., administrative system, police) or should not be provided in a completely marketable way (welfare state, e.g., education, social affairs; state-economic area, e.g., public transport, waste management; Becker 1993).

The low market orientation facilitates the development of structures that insulate the civil service from short-term economic pressures and competition, thereby promoting job and income stability (Adsera 2004; Löwe 2022; Mills and Blossfeld 2005). It promotes the existence of standardized, secure, and long-term employment relationships with transparent career paths and opens up room for more employee-oriented arrangements to secure cooperation (Gottschall et al. 2015; Sauer et al. 2022). As a result, career paths are clear and highly dependent on formal qualifications and seniority (Becker 1993; van de Werfhorst 2011). Although the German economy is highly regulated and coordinated, these characteristics are even more

pronounced in the civil service. With entrance into the civil service, the path of further career development regarding positions and income is known for most of the employees. Collective agreements or legally binding regulations formalize these standardized career paths in the civil service. In contrast to the private sector, collective regulations are valid for the whole civil service staff (Becker 1993; Ellguth and Kohaut 2011; Struck 2006).

The lower market orientation also has consequences for wage distribution in the civil service. The dependence on economic downturns is reduced, but the possibility to participate in economic upturns is hampered. This supports wage stability but negatively affects high income potentials, e.g., lack of participation in profits (Becker 1993; Löwe and Valet 2023). The flattened wage distribution in the civil service is reinforced by the equalizing effect of collective wage agreements (Hayter and Weinberg 2011) and the state's role as an employer committed to social balance (Tepe and Kroos 2010). Studies highlight the impact of these structural differences, showing slightly higher incomes for the steadily declining group of low- and middle-skilled employees, while highly qualified employees earn significantly less in the civil service compared to the private sector (Corneo 2014; Tepe and Kroos 2010; Walter 2007).

Overall, the influence of civil service employment on income is ambiguous. On one hand, a career in the civil service is characterized by a high level of stability and plannability, factors that make the long-term investment of becoming parents or extending a family more likely because the resource income is permanently available and insecurities are reduced. On the other hand, especially for high-income employees who can be expected to provide a high share of income to the household, incomes are lower compared to the private sector, which implies a negative income effect on fertility. With the comparatively good and stable economic situation for young people in Germany (Dietrich 2012), we expect the income level effect to dominate, which implies a negative influence of civil service employment on fertility.

In addition to ensuring a secure and sufficient income, a second key factor influencing fertility is a job's ability to reduce the opportunity costs of having a family. Reconciliation factors of the job include both the ability to stay in the workforce after starting a family and the assurance that parenthood will not compromise career development.

The ability to remain in the workforce is facilitated by more generous reentry rights in the civil service compared to the private sector. For each child, personnel in the civil service have the (minimum) option of taking five years of parental leave, with a legal entitlement to the old job position. Negative consequences for career development are reduced by the fact that the return rights also include grouping in terms of salary, which extends the period in which reentry into the job after parental leave is possible without losing the seniority wage entitlements acquired before parental leave (§ 28; § 17 para. 3 sentence 2 TVöD). In contrast, legal entitlements in the private sector are limited to three years (§ 15 para. 2 BEEG; § 5 no. 1 RL 2010/18/EU).

After the return to paid employment, work–family reconciliation is further facilitated by a higher availability of part-time positions. The civil service positions itself as a family-friendly employer and actively promotes part-time work (Altmaier

2019). Unlike private sector workers, civil service staff have long had more generous legal rights to work part-time and to arrange their working hours more flexibly if they have a child (Bundesministerium des Inneren 2014). This is reflected in a higher share of part-time employment in the civil service (32%) than in the economy as a whole (Statistisches Bundesamt 2017a, b).

Negative career consequences are also reduced by the full coverage of collective bargaining agreements and legally binding regulations in the civil service. The potential for discrimination against parents is limited, as superiors have restricted discretion over promotions and salary increases, with formal qualifications and seniority serving as key criteria (Ellguth and Kohaut 2011; Gottschall et al. 2015).

Another factor is a more family-friendly work environment. The higher percentages of females in a business sector occupation have been shown to result in a more family-friendly culture (Cook and Minnotte 2008). In the civil service, women dominate in individual sectors, such as health (62%) and education (64%), and the overall civil service also has a much higher proportion of women (56%) than the economy as a whole (46%; Statistisches Bundesamt 2017a, b).

Overall, employment in the civil service is expected to reduce both the opportunity costs associated with career interruptions and the costs incurred upon returning to work. More generous reentry rights mitigate the financial and professional impact of career breaks, while the greater availability of part-time positions, the higher proportion of women in the workforce, and stronger protections against parental discrimination through collective agreements further support work–family balance after reemployment. Consequently, these factors are likely to lower opportunity costs and have a positive effect on fertility.

2.3 The Number of Children and Gender Differences

The importance of opportunity costs, income level, and income security varies depending on whether the focus is on the transition to the first or the second child. A closer examination of the underlying processes influencing each transition is therefore essential.

When income security and work–family reconciliation are not ensured, the transition to parenthood may be postponed, leading to an increase in the age at first birth (Begall and Mills 2011; Bernhardt 1993). We previously discussed how civil service employment should affect these factors. While the influence of civil service employment on employment security, income security, and the reconciliation of family and work can be expected to be positive, the level of income should have a negative impact.

For the second child the same factors are relevant, but processes that were already challenging with one child intensify (Vlasblom and Schippers 2006). The time investment required for caregiving increases with the arrival of a second child, along with rising financial expenditures. Strategies that may have been viable with one child, such as reducing leisure or couple time, become more constrained with the arrival of a second child (Brewster and Rindfuss 2000; Greulich et al. 2017; Vlasblom and Schippers 2006). On one hand, the greater time investment limits the possibility of simply increasing working hours to cover higher costs, thereby plac-

ing greater emphasis on income level (Greulich et al. 2017; Köppen 2004). On the other hand, the time conflict between paid employment and family work increases. The organization becomes more challenging, and the incompatibility between caring for children and participating economically becomes more evident (Brewster and Rindfuss 2000; Stolzenberg and Waite 1977). Job characteristics that reduce opportunity costs—such as flexibility, a family-friendly work environment, and reliable legal regulations ensuring planning security and minimization of discrimination, which are more likely to be found in the civil service—become increasingly important.

The described impact of civil service employment on the transition to the first and the second child in terms of income effects and opportunity costs applies generally to both women and men. However, as we discussed in Sect. 2.1, family and economic work are still gendered (Cooke 2004; Lewin-Epstein et al. 2006; Shreffler et al. 2010). Consequently, for women, the factors that facilitate the reconciliation of paid work and family life—more pronounced in the civil service—are expected to play a greater role in reducing opportunity costs and positively influencing the transitions to both the first and the second child. For men, the ambiguous income situation in the civil service is likely to be more significant. Given that the lower income level is expected to outweigh the benefits of higher income security, civil service employment is anticipated to have a negative influence on the transitions to the first and the second child for men.

2.4 Hypotheses

Based on the theoretical discussion, the characteristics of the civil service, differences between the first and the second child and women and men, we derive the following hypotheses:

H 1 Women employed in the civil service are expected to have a higher transition rate to the first child than women employed in the private sector.

H 2 Men employed in the civil service are expected to have a lower transition rate to the first child than men employed in the private sector.

H 3 Women employed in the civil service are expected to have a higher transition rate to the second child than women employed in the private sector.

H 4 Men employed in the civil service are expected to have a lower transition rate to the second child than men employed in the private sector.

3 Data and Methods

3.1 Data and Sample Selection

Our data are drawn from Pairfam 2008–2020 (waves 1–12; Brüderl et al. 2021b; Huinink et al. 2011). The longitudinal study launched in 2008 has collected infor-

mation from anchor persons in three birth cohorts,[2] as well as data on their parents, partners, and children. We combined the anchor data from the Pairfam base, DemoDiff, and refreshment sample. To consider the data structure of various samples and birth cohorts, we used calibrated design weights[3] for all analyses. These weights adjust the data to the target populations and control for baseline survey participation and panel attrition bias (Brüderl et al. 2021a, b).

We defined two different samples for the analyses of the transition to the first and to the second child. Table 1 in the Online Appendix illustrates the steps for preparing the samples, including the number of cases, spells, and observed first and second births. In both samples we started by merging the data from the anchor and the DemoDiff data set from waves 1–12, including the refreshment sample in wave 11 (18,912 cases).

3.1.1 First Child

For the analysis of the transition to the first child, we focused on initially childless respondents and excluded all women and men as left-censored[4] who already had a child (biological or other, such as a stepchild) in the first or the 11th refreshment wave, which reduced the cases to 12,461. The birth of the first biological child was the central event of the analysis. We identified the wave in which the child variable was filled for the first time. The event of first birth was backdated by nine months to identify the moment of the beginning of pregnancy. The backdating addresses the problem of inverse causality between fertility events and labor market behavior. The process time was based on the period between the age of 14[5] and the highest age at which the person was observed. The process time ended with the first pregnancy observed or the end of the observation period. All respondents who did not experience this event were treated as right-censored cases.[6] To detect the influence of civil service vs. private sector employment on family formation, the information from the last interview before the start of the pregnancy was used for all time-varying independent variables. After the expansion to person-years, the sample included 50,862 spells from 12,443 persons, with 1110[7] first births. Because we are interested

[2] The birth cohorts are 1971–1973, 1981–1983, 1991–1993. In the 2001–2003 cohort, there are no first births in our samples.

[3] We used the weight d2weight. For further information on birth cohorts, samples, and weights, see Brüderl et al. (2021a).

[4] Left-censoring in the sample can occur if the first birth took place before the observation period of Pairfam began. Cases in which the start of the process time was known but not observed, while the end of the process time was observed prospectively, are included.

[5] We orientate on fertility studies (e.g., Begall and Mills 2013; Gebel and Giesecke 2009; Kreyenfeld 2010) that set the age span between 14 and 45. When studies address women, the age of 45 is often used as the biological limit for fertility. This limit does not exist in the same way for men. Therefore, we refrained from defining a maximum age. In fact, however, the data structure of Pairfam already severely limits the number of cases for women over 45. Our sample includes 16 women over 45 years of age.

[6] Right-censoring can occur if a respondent was discharged from Pairfam prematurely (panel mortality) or the actual end of Pairfam was reached.

[7] We checked whether the number of first births corresponds to other publications with Pairfam, which was the case (Arránz Becker and Lois 2015; Dechant et al. 2014).

in measuring the influence of private sector vs. civil service employment, we excluded all cases without at least one employment spell in the private sector or civil service. A total of 34,724 spells from 6344 persons with 865 first births remained. We included temporary dropouts because their inclusion increases sample variability concerning life changes and addresses the issue of underreporting the number of life changes in panel data, as Müller and Castiglioni (2020) have demonstrated with Pairfam data. The final event history models included 26,725 spells (12,241 women, 14,484 men) from 5952 persons (2729 women, 3223 men), with 673 first births (541 private sector, 132 civil service; from these, 19 were civil servants[8]).

3.1.2 Second Child

The basic procedure for creating the sample for analyzing the transition to the second child was structured in the same way as for the first child. We excluded all women and men as left-censored[9] who already had two or more children (biological or others, such as stepchildren) in the first or the 11th refreshment wave, which reduced the number of cases to 14,868. The birth of the second biological child was the central event of the analysis. We identified the wave in which the second child variable was filled for the first time. The event of the second birth was backdated by nine months. The process time was based on the period between the birth of the first child and the highest age at which the person was observed. The process time ended with the second pregnancy observed or the end of the observation period. All respondents who did not experience this event were treated as right-censored cases. For all time-varying independent variables, the information from the last interview before the start of the pregnancy was used. After the expansion to person-years, the sample included 26,973 spells from 3663 persons, with 892 births. We excluded all cases without at least one employment spell in the private sector or civil service. A total of 23,515 spells from 3070 persons, with 750 second births remained. The final event history models included 10,324 spells (6200 women, 4124 men) from 2738 persons (1551 women, 1184 men), with 611 second births (472 private sector, 139 civil service; from these, 18 were civil servants).

3.2 Independent Variables

Our central independent variable of interest is employment in the civil service compared to the private sector; private sector/civil service. The question in Pairfam explicitly asks whether somebody works in the civil service. Only people who are directly employed by the state are asked to say yes to this question. The provision of public tasks, in which the state is not the employer and only finances a service or

[8] Due to the small number of transitions for civil servants, no analyses distinguishing between civil servants and employees were carried out.

[9] Left-censoring in the sample can occur if the second birth took place before the observation period of Pairfam began. Cases in which the start of the process time was recorded retrospectively, while the end of the process time was observed prospectively, are included. This occurs if the first child was born before the prospective observation period of Pairfam began but the birth date of the first child was known retrospectively.

good,[10] is not considered. For this group, the specific working conditions in the civil service we presented in the theoretical part of the paper are not applicable. For the civil service, we cannot differentiate between civil employees and civil servants, as only 19 (first child) and 18 (second child) civil servants experienced a transition. We checked our models restricted on civil employees. The influence becomes slightly weaker, which is an indication that the influence of civil servants is slightly stronger compared to civil employees. However, the results in general are robust because direction and significance do not change, as has also been shown in other work (Löwe 2022).

To ensure that persons who were not employed during the whole observation period were still included in our sample and could switch among, for example "employment dependant," "self-employment," and "inactivity," we recoded the *private sector/civil service* variable as done by Gebel and Giesecke (2009). The *private sector/civil service* variable is only defined for the labor force status "employment dependant." We used a "double-zero coding" in which the private *sector/civil service* variable is 1 if the respondent worked in the civil service and 0 if the respondent worked in the private sector or did not have the status "employment dependant." As we also included the *labor force status* in our models, we controlled for labor force status, and the remaining effect of the *private sector/civil service* variable reflects the civil service effect for the spells in which the respondent was "employed dependant." The "double-zero coding" allows for an inclusion of respondents not continuously employed over the whole observation time of Pairfam. It prevents the selective exclusion of respondents. However, estimation of the civil service effect can, of course, only be based on spells in which the respondent was "employed dependant." The "double-zero coding" shows identical results under control of *labor force status* compared to the alternative of an inclusion of a *private sector/civil service* variable with three characteristics ("not employed dependant," "private sector," "civil service"), but it provides the advantage that the calculation of interaction effects[11] for the robustness check can be implemented easily (Online Appendix: Sect. 2, Table 2–13).

The variable *labor force status* distinguishes between "in education" (school, higher education, vocational training), "inactive/unemployed" (unemployed, homemaker, military service, retired), "self-employed," and "employed dependant" (full-time, part-time, marginal). We measure the dominant labor force status. We also ensured that employment was the main activity, and we did not estimate the civil service effect for, for example, holiday jobs that were performed parallel to education.

For the transition to the second child, we also included persons on parental leave as employed in the civil service or the private sector in the variable *private sector/civil service*. We updated the information from the last employment before parental

[10] Self-reports can be problematic, as some respondents describe themselves as employed in the civil service when performing public tasks, instead of reporting civil service employment only when the state was the employer. As a consequence, the influence of the civil service is likely to be underestimated.

[11] Interaction variables related to the employment situation such as *fixed-term employment* are defined only for respondents who are "employed dependant."

leave, as parental leave can be taken only in an existing employment relationship and therefore follows directly after employment. This adjustment was necessary because the sector of employment is not recorded for respondents who are currently on parental leave. The inclusion of parental leave periods is important, as these persons are still in a (dormant) employment relationship. Otherwise, we excluded persons who were in employment and could wrongly estimate the influence of civil service employment, as parental leave regulations influence opportunity costs as described in the theoretical section.

For the variable of gender, we distinguished between self-reported gender of women and men.

3.3 Self-Selection and Controls

When analyzing the influence of civil service employment on the transition rates to first and second births, it is essential to control for individual characteristics of the respondents and his or her environment to reduce self-selection and avoid misspecified models. The models applied (see Sect. 3.4) yield unbiased results only if self-selection is adequately addressed through the inclusion of relevant control variables. This is necessary to account for the possibility that individuals who select into the civil service may differ systematically in their likelihood of having children compared to those employed in the private sector. A limitation of this study is the inability to account for general value orientations, such as a strong family orientation,[12] as well as for unobservable time-constant individual characteristics[13]. All control variables used were chosen based on theoretical considerations. We carefully selected available control variables that are expected to influence both the likelihood of selecting into civil service employment and the probability of having children.

In terms of the characteristics of the anchor person, we controlled for the *education level* because there is a negative relationship between education level and family formation/expansion (Basu 2002; Kohler et al. 2006). More highly educated persons stay longer in the education system, and overall, the education level in the civil service is higher than in the private sector (Keller and Seifert 2014). *Education level* is based on a summarized CASMIN classification. It differentiates between "currently enrolled"; "low": lower secondary education or lower, without vocational education, secondary/higher education, without vocational education; "middle": lower secondary education or lower, with vocational education, secondary/higher education, with vocational education; and "high": tertiary education. *German citizenship* ("no German citizenship," "German citizenship") was controlled for because it is related to the knowledge of the civil service, the political system, language skills, and

[12] Indeed, the Pairfam dataset includes variables such as the "importance of having children." However, in order to avoid endogeneity—i.e., ensuring that these values are not shaped by later employment in the civil service but instead reflect preexisting attitudes—they must be measured prior to career entry. Applying this restriction leads to a substantial reduction in the number of valid cases, which in turn hinders the estimation of models. Consequently, it is not feasible to include these variables in the analysis.

[13] Fixed-effects models could address this issue. However, we do not observe a sufficient number of individuals transitioning between the civil service and the private sector. As a result, estimating fixed-effects models is not feasible in this case.

the employability of employees (Esser 2006), and for parts of the civil service, it is a precondition for employment (§ 7 BeamStG). Family formation is also influenced by nationality through cultural background, and the birth of the first child takes place earlier and the number of children for non-Germans is higher for a limited period of time (Schmid and Kohls 2009).

As we discussed, the decision for or against family formation or expansion is not an isolated one. The role of the partner is decisive (Brewster and Rindfuss 2000). We considered the relationship status and whether partners were cohabitating in the variable *partnership status*. *Partnership status* differentiates between "married and cohabitating," "cohabitation without marriage," "living apart together," and "no partner." The sector choice and the fertility decisions are influenced by central characteristics of the personal situation. The probability of making the transitions should rise with the existence of and cohabitation with a partner. In the theory of family economy (Becker 1981), the partner's situation should also influence the choice of occupation and the level of investment in the job. The individual's own job choice and the decision for or against a child/further child is also dependent on the income (potential) or the care (potential) of the partner (Stein et al. 2014). We controlled for the *education level of the partner* as a proxy for the income (potential) of the partner (Köppen 2006). In the sample for the first child, we used the same categories as for the anchor person. However, in event history analyses for the second child, we combined the categories "in education" and "low" due to limitations in case numbers. We controlled for the *working status of the partner* ("no paid employment," including inactivity and unemployment; "full-time paid employment"; "part-time paid employment"), as it can be assumed that having a child becomes more probable if the couple together can provide income and family work (Becker 1981), which is influenced by the job situation of the partner. In turn, the job situation of the partner influences the requirements the anchor person has regarding their own job. Besides the level of time investment at the job, the level of income that can be generated is relevant. The *education level* and *employment status of the partner* are coded as "double zero" since they are only defined for individuals with a partner.

Finally, we considered *birth cohort* (1991–1993, 1981–1983, 1971–1973, 2001–2003) to avoid bias due to the data structure with three different starting birth cohorts. The probability of parenthood declines from older to younger cohorts (Schulze 2009), and while the number of jobs in the private sector increases over cohorts, the supply of civil service jobs decreases and therefore reduces the opportunity to work in the civil service (Löwe and Valet 2022).[14]

3.4 Method

We calculated the transition rate to the first and the second birth using multivariate discrete event history models with a piecewise constant specification. We calculated logit models to estimate the hazard rate, as described by Allison (2014).

[14] We performed sensitivity analyses (not shown) to check whether the results were robust across cohorts, which is the case.

We chose a method that can address the issue such that the process time (the time at risk to experience a first or second birth; for a description of process time, see Sect. 3.1) and the observed process time through the panel survey Pairfam are not identical. First and second births taking place before the observation period of Pairfam and time-varying covariates are not available retrospectively. Although we know the start of the process time, some respondents entered the survey at older ages and could not be observed in the first years of potential parenthood. In this setting, a method that is based on a "conditional likelihood," such as discrete history models, is recommended (Arránz Becker and Lois 2015; Jenkins 1995).

For the estimation of the event history models, we prepared the data in long format as proposed by Jenkins (1995) on a yearly base, and each respondent contributed as many observations to this reorganized data set as there were years between the interview in wave one and the birth of a first/second child or being right-censored.

Because crucial information on employment status is available only on a yearly basis, the event history models are specified with a piecewise constant specification. A piecewise constant function allows the estimation of individual hazard rates for different time intervals. This reflects the different magnitudes of time-dependent effects and prevents overestimation or underestimation of effects. For the transition to the first child, we created five time intervals based on age (14–20, 21–25, 26–30, 31–35, 36–49). For the transition to the second child, we created seven time intervals based on the years after the birth of the first child (1, 2, 3, 4, 5, 6–10, 11–32).

We report average marginal effects rather than log-odds or odds ratios because they allow a more intuitive interpretation of probabilities (Best and Wolf 2010). They show the average effect on probability in percentage points. In our setting, this represents the probability (difference) of the transition to the first child being conditional on employment in the civil service or the private sector.

3.5 Analytical Strategy

We start with a descriptive overview of the variables used in the multivariate event history models to highlight potential differences between the civil service and the private sector that are accounted for in our analyses. Table 1 follows the structure of the event history models and distinguishes between civil service and the private sector, as well as between women and men and the first and second births.

Next, we created multivariate event history models for the transition to the first (Table 2) and to the second child (Table 3) for women and men. We illustrate the results with margin-plots showing the level and the effect (including significance) of civil service vs. private sector employment for the time intervals of the piecewise constant specification (Figs. 1, 2, 3, 4, 5, 6, 7, and 8).

In the Online Appendix we provide several robustness checks for heterogeneities based on fixed-term and permanent contracts, the working status of the partner and eastern and western Germany (Sect. 2 in Online Appendix, Tables 2–13).

4 Results

4.1 Description of the Sample

The descriptive results of Table 1 show that employees in the civil service and the private sector differed substantially regarding the variables considered in the event history models. The presented percentages indicate that most observed spells and transitions occurred in the private sector, reflecting the larger proportion of employees working in the private sector compared to the civil service.

The education level in the civil service was much higher for respondents and their partners. More employees had German citizenship. The percentage of partners who were in paid employment was higher in the civil service (except for women's partners for the second child). The share of women in the civil sector was higher than in the private sector. The age for the transitions to the first and to the second child was slightly higher in the civil service. The partnership status differed regarding gender and between the samples for the first and the second child. While in both samples both sexes more often had a partner, women in the civil service were less often married in the first-child sample and more often married in the second-child sample. In contrast, men in the civil service exhibited partnership patterns more similar to those of men in the private sector. These descriptive findings highlight substantial differences between civil service and private sector employment, which are accounted for in the multivariate event history models in the following section.

4.2 Results of Discrete Event History Analyses

The multivariate discrete event history analyses investigated sectoral differences in the transitions to the first and to the second child for both women and men. We present separate tables for the transition to the first child and the transition to the second child. To enhance the interpretation of our findings, we supplement the report with graphical illustrations that provide additional insights into the results.

4.2.1 Transition to the First Child

Table 2 presents the baseline model and the model with control variables for the event history analyses of the transition to the first child separately for women (models 1 and 2) and men (models 3 and 4).

Women. The bivariate results (Table 2, model 1) for women show a null finding. The results indicate neither a substantively relevant effect (0.00 percentage points) nor a statistically significant effect ($p < 0.995$), suggesting no association between employment in the civil service and transition to the first child. In the second model of Table 1, which accounts for sociostructural characteristics discussed in Sect. 3.3, the effect of civil service employment on fertility behavior remains largely unchanged (–0.2 percentage points) and is statistically insignificant ($p < 0.702$).

Figures 1 and 2 illustrate the differences and levels in the probabilities of transitioning to the first child, not only in terms of the overall effect but also across each time interval within the piecewise-constant specification. These figures allow

Table 1 Description of the sample of the event history models

	First child				Second child			
	Women		Men		Women		Men	
	Civil service	Private sector	Civil service	Private sector	Civil service	Private sector	Civil service	Private sector
Variables of the multivariate event history models								
Sector (civil service and private sector) (%)	27.30	72.70	13.28	86.72	22.80	77.20	15.45	84.55
Share of transitions (first/second births) (%)	26.77	73.23	15.46	84.54	31.45	68.52	15.93	84.01
Gender (share of women/men in the sector) (%)	60.96	40.61	39.04	59.39	69.09	55.23	30.91	44.77
Education level								
In education	–	–	–	–	–	–	–	–
Low (%)	7.23	11.51	11.35	14.64	8.78	14.06	6.54	12.49
Middle (%)	55.99	62.85	51.28	66.41	62.58	67.69	53.22	68.26
High (%)	36.78	25.63	37.37	18.95	28.63	18.25	40.24	19.26
Citizenship (German compared to non-German) (%)	95.26	93.02	96.66	93.85	93.33	89.77	94.37	90.37
Partnership status								
Married and cohabitating (%)	18.64	21.48	16.47	16.22	68.01	60.21	66.87	67.73
Cohabitation without marriage (%)	31.70	28.46	25.56	22.01	16.80	17.59	24.42	20.19
Living apart together (%)	18.35	16.99	16.76	16.99	5.49	7.48	2.52	4.34
No partner (%)	31.31	33.07	41.20	44.77	9.70	14.72	6.18	7.73
Education level of partner								
In education (%)	3.03	2.76	5.52	5.52	0.59	0.57	1.93	1.19
Low (%)	5.83	6.37	4.40	6.45	8.88*	10.81	6.28%	13.41
Middle (%)	39.22	39.65	30.57	29.61	53.69	56.86	53.52	59.59
High (%)	20.62	18.16	18.31	13.65	27.19	17.53	32.08	19.39
No partner	31.31	33.07	41.20	44.77	9.70	14.72	6.18	7.73
Working status of partner								
No paid employment (%)	7.80	8.04	10.76	13.45	6.60	4.49	26.53	32.37

Table 1 (Continued)

		First child				Second child			
Full-time paid employment (%)		56.69	56.30	39.37	35.39	78.97	77.87	27.17	27.85
Part-time paid employment (%)		4.21	2.59	8.67	6.39	4.73	2.54	40.12	32.04
No partner		31.31	33.07	41.20	44.77	9.70	14.72	6.18	7.73
Birth cohort									
1991–1993 (%)		21.64	26.50	18.44	22.92	3.32	5.82	5.14	6.46
1981–1983 (%)		49.44	48.35	45.58	47.91	40.82	41.18	37.61	41.46
1971–1973 (%)		28.92	25.15	35.99	29.17	55.85	53.00	57.26	52.08
2001–2003 (%)		0	0	0	0	0	0	0	0
Piecewise constant time intervals									
First child: age groups at risk first child	Second child: years after the birth of the first child								
14–20 (%)	*1* (%)	2.39	4.03	2.80	3.67	9.44	8.03	10.52	13.22
21–25 (%)	*2* (%)	14.28	17.20	11.08	14.67	10.39	9.31	12.65	14.50
26–30 (%)	*3* (%)	38.71	38.00	32.96	33.88	9.53	7.89	13.61	11.01
31–35 (%)	*4* (%)	13.91	13.26	15.07	14.38	8.44	7.13	7.69	8.39
36–49 (%)	*5* (%)	30.73	27.51	38.09	33.40	6.34	6.40	7.03	07.14
–	*6–10* (%)	–	–	–	–	26.72	27.28	22.95	22.61
–	*11–32* (%)	–	–	–	–	29.14	33.96	25.55	23.14
Age at the transition to first/second child; mean values in years		30.15	29.52	31.53	31.51	31.87	31.10	33.86	33.67
N (number of spells)		2027	5591	1298	8178	1207	3941	540	3195

The numbers refer to spells in which employees were working in the civil service or the private sector. The table includes only cases in which the respondent was in the *labor force status* of "employed dependant." As a consequence, the *labor force status* is not shown, and for the variable *education level*, no respondent could be "in education." Source: Pairfam 2008–2020; author's calculations, with weights

Table 2 Transition to first child for women and men: event history models, average marginal effects

	Women		Men	
	Basic model (1)	With controls (2)	Basic model (3)	With controls (4)
Sector (reference: private sector)				
Civil service	0.000	–0.002	0.008	0.005
	(0.005)	(0.005)	(0.005)	(0.005)
Piecewise-constant time intervals (reference: 14–20)				
21–25	0.020***	0.009	0.012**	0.014
	(0.006)	(0.024)	(0.004)	(0.022)
26–30	0.036***	–0.015	0.028***	0.005
	(0.008)	(0.024)	(0.004)	(0.021)
31–35	0.062***	–0.004	0.060***	0.019
	(0.008)	(0.024)	(0.007)	(0.022)
36–49	0.006	–0.036	0.016***	–0.013
	(0.005)	(0.024)	(0.004)	(0.021)
Labor force status (reference: inactive/unemployed)				
In education	–0.022**	–0.224***	–0.000	0.004
	(0.007)	(0.006)	(0.003)	(0.007)
Self-employed	0.029	0.025	0.040**	0.027**
	(0.025)	(0.021)	(0.012)	(0.010)
Employed	0.019	0.018**	0.029***	0.024***
	(0.007)	(0.006)	(0.003)	(0.004)
Controls				
Education level (reference: middle)				
In education	–	0.731***	–	–0.020**
		(0.003)		(0.007)
Low	–	–0.007	–	0.000
		(0.008)		(0.006)
High	–	0.004	–	0.005
		(0.005)		(0.004)
Citizenship (reference: non-German)				
German	–	–0.002	–	0.004
		(0.009)		(0.006)
Partnership status (reference: no partner)				
Married and cohabitating	–	0.049***	–	0.031**
		(0.012)		(0.009)
Cohabitating without marriage	–	0.031***	–	0.018**
		(0.009)		(0.007)
Living apart together	–	0.010	–	0.006
		(0.007)		(0.007)
Education level of partner (reference: in education)				
Low	–	0.019	–	0.014*
		(0.013)		(0.008)
Middle	–	0.010	–	0.016**
		(0.010)		(0.008)
High	–	0.027	–	0.024**
		(0.012)		(0.008)

Table 2 (Continued)

	Women		Men	
	Basic model (1)	With controls (2)	Basic model (3)	With controls (4)
Working status of partner (reference: no paid employment)				
Full-time paid employment	–	–0.002 (0.007)	–	0.014** (0.005)
Part-time paid employment	–	0.002 (0.013)	–	0.005 (0.005)
Birth cohort (reference: 1991–1993)				
1981–1983	–	0.036*** (0.004)	–	0.018*** (0.003)
1971–1973	–	0.017** (0.006)	–	0.017** (0.006)
N (spells)	12241	12241	14484	14484
McFadden adjusted R^2	0.090	0.169	0.079	0.171
AIC	2612.868	2387.483	2934.855	2641.173

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

With weights; coefficients as average marginal effects; standard errors in parentheses. Source: Pairfam 2008–2020; author's calculations

for the identification of potential differences within specific time intervals, even if the overall effect remains null.

Figure 1 focuses on the differences between civil service and private sector employment, providing information on whether these differences are statistically sig-

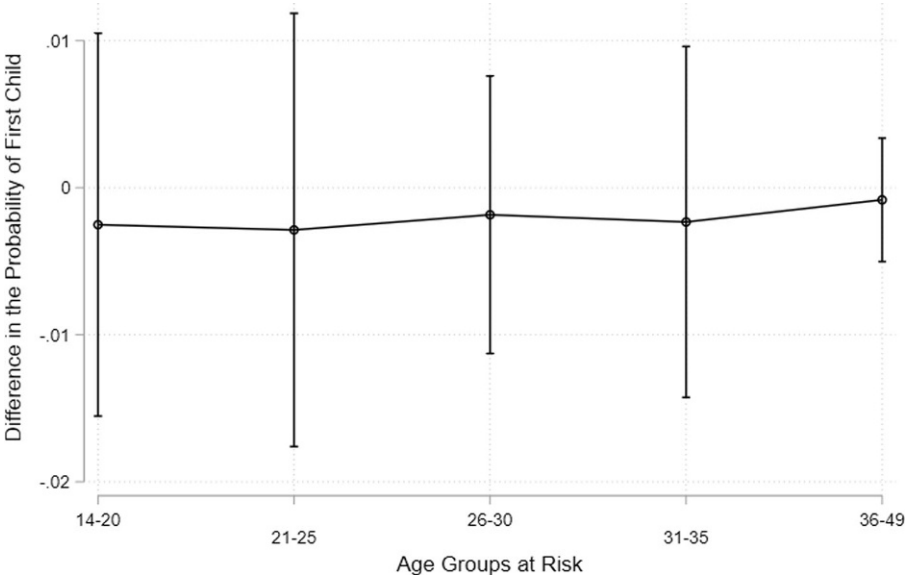

Fig. 1 Women: differences in probability of transition to first child between civil service vs. private sector by time, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

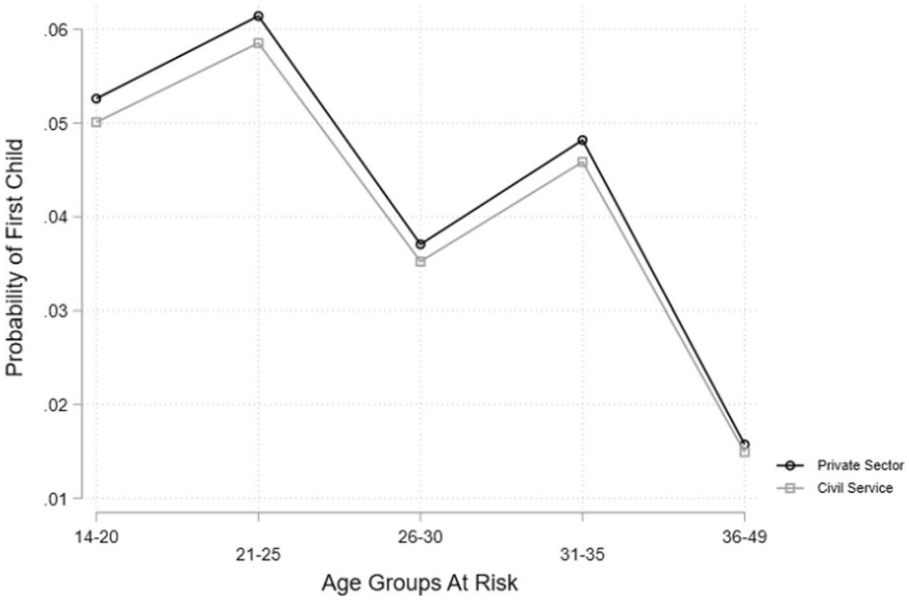

Fig. 2 Women: probability of transition to first child by time and sector, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

nificant. The figure confirms that the null findings remain robust. Despite some fluctuations, the effect sizes remain close to zero (ranging from –0.09 to 0.29 percentage points). The 95% confidence intervals include zero for all time periods, indicating that the effects are statistically insignificant.

Figure 2 focuses on the probability levels for each sector, civil service and private, illustrating the likelihood of transitioning to parenthood within specific time intervals. Unlike Fig. 1, which solely examines the existence of sectoral effects, Fig. 2 provides insights into the absolute probability levels. This allows for an assessment of whether observed effect sizes are substantial in relation to the overall probability of transitioning in both sectors. The probability of transitioning to the first child is highest for individuals aged 21–25 (approximately 6%) and lowest for those aged 36–49 (approximately 1.5%). In relation to the probabilities of making the transition to the first child in the two sectors, the differences between civil service and private sector are neither substantial nor statistically significant.

The expected positive influence of employment in the civil service on the transition to the first child among women cannot be confirmed. Our findings reveal neither substantial nor statistically significant coefficient sizes. The analyses suggest that employment in the civil service, compared to the private sector, does not have a discernible impact on the likelihood of transitioning to the first child for women. Therefore, *H 1*, whereby women employed in the civil service are expected to have a higher transition rate to the first child than women employed in the private sector, is rejected.

Men. For men, model 3 and 4 of Table 2 as well as Figs. 3 and 4 illustrate the results of the event history analyses. The bivariate results (Table 2, model 3) for men

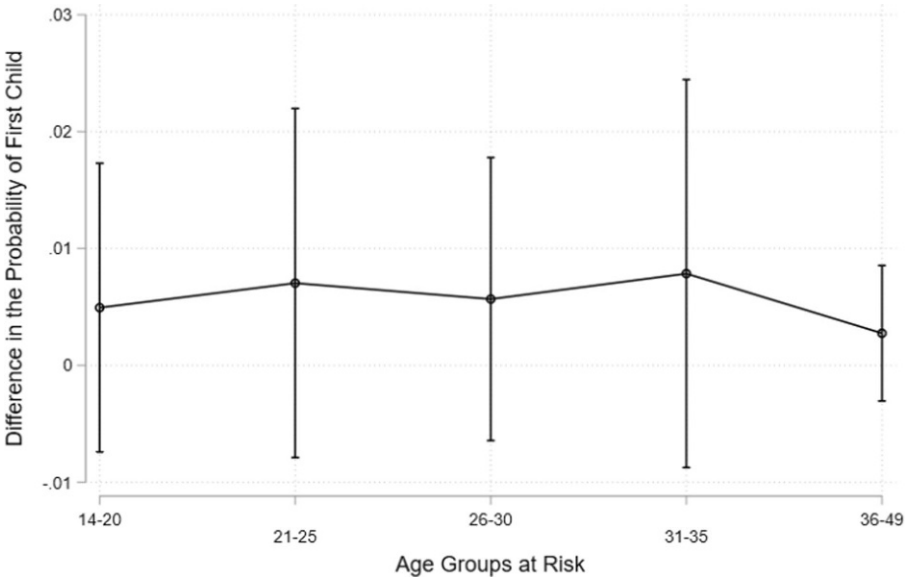

Fig. 3 Men: Differences in probability of transition to first child between civil service vs. private sector by time, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

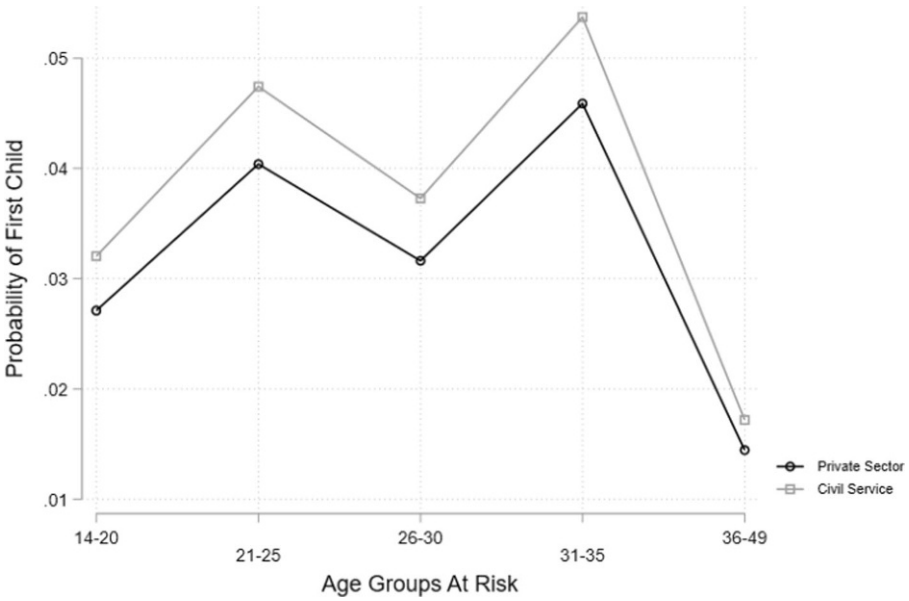

Fig. 4 Men: probability of transition to first child by time and sector, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

show a null finding. The results show a slightly negative (–0.8 percentage point) but statistically insignificant ($p < 0.175$) effect, indicating no relationship between the transition to the first child and a working position in the civil service. In model 4, which accounts for sociostructural characteristics, the effect of civil service employment on fertility behavior shifts to a small positive effect (0.5 percentage point) but remains statistically insignificant ($p < 0.353$).

When examining the time intervals separately, we observe a slightly positive effect size (ranging from 0.27 to 0.70 percentage points, as shown in Fig. 3), suggesting that the transition rate to the first child is higher for men employed in the civil service. Figure 4 indicates that the probability of transitioning to the first child is highest for the age group 31–35 (approximately 3%) and lowest for the age group 36–49 (approximately 0.5%). In relation to the overall probabilities of making the transition in both sectors, the differences between civil service and private sector employment appear noteworthy. However, the 95% confidence intervals in Fig. 3 all intersect with zero, indicating that, across all time periods, the observed differences remain statistically insignificant.

The expected negative influence of employment in the civil service on the transition to the first child for men cannot be confirmed. Rather, contrary to our expectations, the coefficient sizes indicate a slightly positive influence of civil service employment. However, it is important to emphasize that these differences are not statistically significant at any point in time. Therefore, *H 2*, whereby men employed in the civil service are expected to have a lower transition rate to the first child than men employed in the private sector, is rejected.

4.2.2 Transition to the Second Child

For the transition to the second child, the results imply a higher relevance of the employment situation in the civil service and the private sector.

Women. For the bivariate case for women (Table 3, model 1), we find a substantial positive (2.27 percentage points) and statistically significant ($p < 0.008$) relationship between the transition to the second child and a working position in the civil service. The effect remains robust after adding controls (Table 3; model 2). The transition rate to the second child is 2.0 percentage points higher in the civil service than in the private sector. The effect is significant on an alpha level of 5% ($p < 0.040$).

The analysis of the effect across time intervals within the piecewise constant specification (Fig. 5) reveals consistently positive effects, though effect sizes vary considerably. The differences between the civil service and the private sector are smallest in the year following the birth of the first child (approximately 1 percentage point) and in the 11–32 years after childbirth (0.9 percentage point). In contrast, during the third and fourth years after the birth of the first child, the probability of transitioning to a second child is more than 3 percentage points higher in the civil service. The differences between the civil service and the private sector are statistically significant at the 5% alpha level for time intervals 3, 4, 5, and 6–10 and at the 10% alpha level for time intervals 1, 2, and 11–32. Figure 6 further illustrates that an effect size of 3 percentage points is substantial, given that the probability

Table 3 Transition to second child for women and men: event history models, average marginal effects

	Women		Men	
	Basic model (1)	With controls (2)	Basic model (3)	With controls (4)
Sector (reference: private sector)				
Civil service	0.027**	0.020*	–0.012	–0.018
	(0.011)	(0.010)	(0.012)	(0.011)
Piecewise-constant time intervals (reference: 1)				
2	0.085**	0.050**	0.095***	0.068***
	(0.025)	(0.015)	(0.020)	(0.015)
3	0.122***	0.083***	0.145***	0.121***
	(0.026)	(0.016)	(0.023)	(0.019)
4	0.115***	0.097***	0.148***	0.139***
	(0.027)	(0.019)	(0.026)	(0.023)
5	0.063	0.066***	0.073**	0.078***
	(0.024)	(0.018)	(0.022)	(0.022)
6–10	–0.038	0.029*	0.027*	0.039**
	(0.016)	(0.012)	(0.012)	(0.013)
11–32	–0.038	–0.003	–0.013	–0.005
	(0.015)	(0.011)	(0.012)	(0.011)
Labor force status (reference: inactive/unemployed)				
In education	0.056*	0.073**	0.032	0.049
	(0.025)	(0.028)	(0.026)	(0.034)
Self-employed	0.002	–0.001	0.005	0.002
	(0.019)	(0.021)	(0.023)	(0.028)
Employed	0.048***	0.040***	0.065***	0.055**
	(0.009)	(0.010)	(0.012)	(0.017)
Controls				
Education level (reference: middle)				
In education	–	–0.035	–	–0.050*
		(0.020)		(0.026)
Low	–	–0.015	–	–0.011
		(0.011)		(0.016)
High	–	0.031**	–	0.013
		(0.010)		(0.013)
Citizenship (reference: non-German)				
German	–	0.013	–	0.023
		(0.012)		(0.015)
Partnership status (reference: no partner)				
Married and cohabitating	–	0.070***	–	0.072***
		(0.010)		(0.012)
Cohabitating without marriage	–	0.036***	–	0.039**
		(0.010)		(0.013)
Living apart together	–	0.027*	–	0.015
		(0.014)		(0.021)
Education level of partner (reference: in education+low)				
Middle	–	0.002	–	0.017
		(0.011)		(0.013)
High	–	0.039**	–	0.032*
		(0.014)		(0.016)

Table 3 (Continued)

	Women		Men	
	Basic model (1)	With controls (2)	Basic model (3)	With controls (4)
Working status of partner (reference: no paid employment)				
Full-time paid employment	–	–0.013 (0.017)	–	–0.024 (0.012)
Part-time paid employment	–	–0.030 (0.022)	–	–0.025* (0.011)
Birth cohort (reference: 1991–1993)				
1981–1983	–	–0.040 (0.026)	–	0.035 (0.020)
1971–1973	–	–0.108*** (0.027)	–	–0.000 (0.020)
N (spells)	6200	6200	4124	4124
McFadden adjusted R^2	0.112	0.166	0.100	0.119
AIC	1862.365	1750.921	1739.846	1704.452

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

With weights; coefficients as average marginal effects; standard errors in parentheses. Source: Pairfam 2008–2020; author's calculations

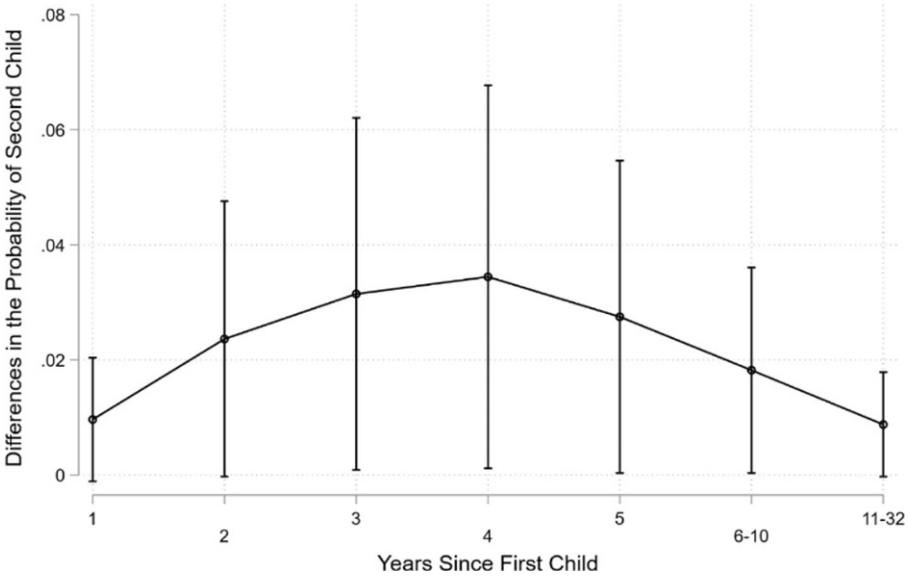

Fig. 5 Women: differences in probability of transition to second child between civil service vs. private sector by time, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

of transitioning to a second child ranges from approximately 3% in the first time interval to around 15% in the fourth.

We find the expected positive influence of employment in the civil service on the transition to the second child for women. The difference is substantial and statistically significant. Therefore, *H 3*, whereby women employed in the civil service are

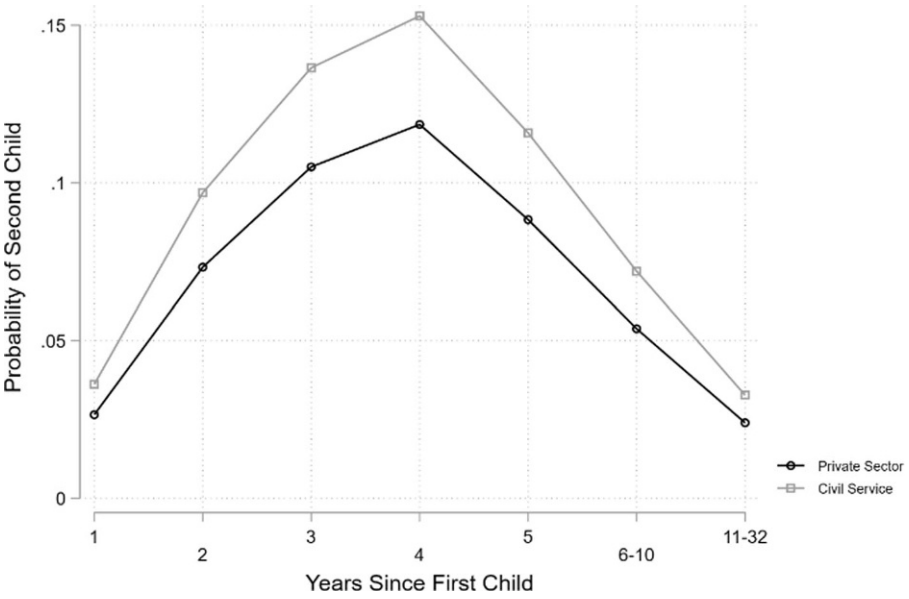

Fig. 6 Women: probability of transition to second child by time and sector, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

expected to have a higher transition rate to the second child than women employed in the private sector, is maintained.

*Men.*For the bivariate case for men (Table 3, model 3), we find a negative (–1.20 percentage points) but statistically insignificant ($p < 0.315$) relationship between the transition to the second child and a working position in the civil service. The effect becomes substantially negative after adding controls (Table 3; model 4) but remains statistically insignificant ($p < 0.100$). The transition rate to the second child is 1.83 percentage points lower in the civil service than in the private sector.

The analysis of the effect across time intervals within the piecewise constant specification (Fig. 7) indicates consistently negative effects, though the magnitude of these effects varies considerably. The smallest differences between the civil service and the private sector are observed in the first year after birth (approximately –0.06 percentage point) and 11–23 years after birth (–0.04 percentage point). In contrast, during the third and fourth years after the birth of the first child, the probability of transitioning to a second child is more than 3 percentage points lower in the civil service. However, none of these differences reach statistical significance at either the 5% or 10% alpha level. Figure 8 further illustrates that an effect size of 3 percentage points is substantial, as the probability of transitioning to a second child ranges from approximately 2% in the first time interval to around 17% in the fourth time interval.

The expected negative influence of employment in the civil service on the transition to the second child cannot be proven for men. Although the coefficients are of considerable size and point in the expected direction, they are not statistically significant at a sufficient level at any time. Therefore, *H 4*, whereby men employed

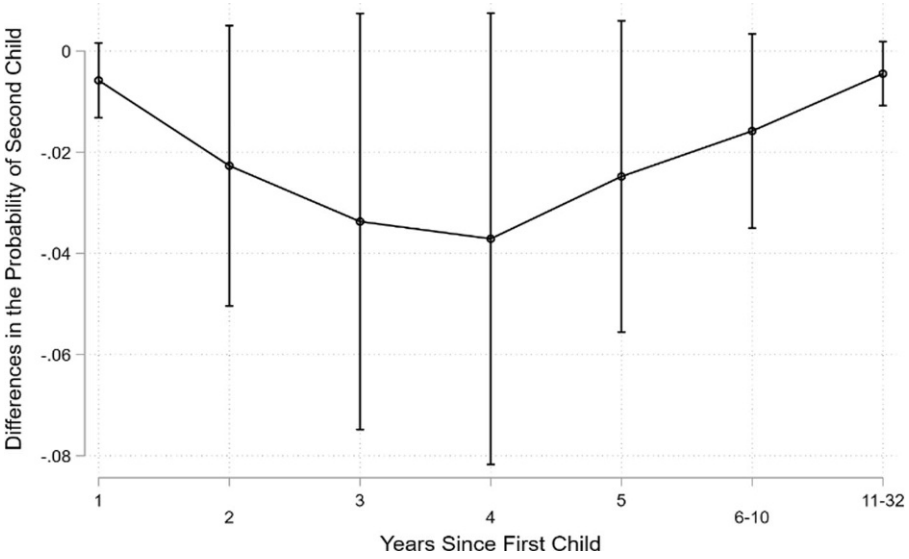

Fig. 7 Men: differences in probability of the transition to second child between civil service vs. private sector by time, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

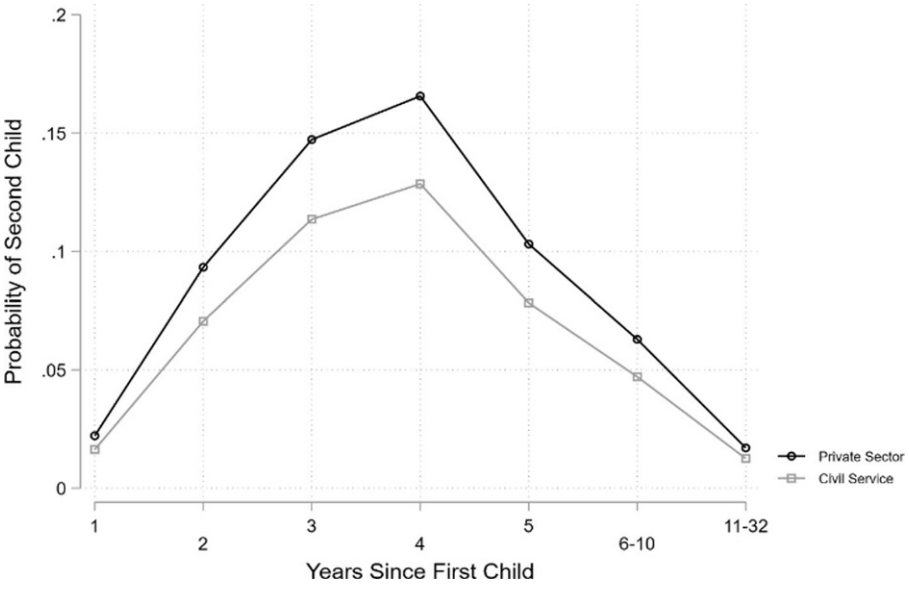

Fig. 8 Men: probability of transition to second child by time and sector, with controls; 95% confidence intervals; with weights. Source: Pairfam 2008–2020; own calculations

in the civil service are expected to have a lower transition rate to the second child than men employed in the private sector, is rejected.

5 Discussion

This article investigates whether employment in the civil service has a positive influence on the transition rates to the births of the first and the second child compared to employment in the private sector. The findings yielded mixed results. We did not find a substantial or statistically significant influence of civil service employment on the transition to the first child. Instead of the expected positive influence of civil service employment for women in the civil service, we found no substantial or significant influence at all. For men, we found an unexpected small positive but insignificant influence. For the transition to the second child, the influence of civil service employment was substantial. For women, we found the expected substantial and significant positive influence of civil service employment. For men, the influence was, as expected, substantially negative but statistically insignificant.

The results, which reveal substantial differences for the second child but not for the first, support the perspective of scholars such as Begall and Mills (2011), Brewster and Rindfuss (2000), and Vlasblom and Schippers (2006). These scholars argue that conflicts, particularly those related to reconciling paid employment and family responsibilities, become more pronounced as competing demands intensify after the birth of the first child. It also supports the argument that the need for a secure and sufficient income increases with the second child. The results indicate that the specific working conditions and income potential in the civil service become particularly relevant only in the more demanding context of the birth of a second child.

In the comparatively good economic situation in Germany, differences in the employment situation between private sector and civil service jobs does not seem to be distinct enough to influence the transition to the first child. This reading accords with that of other authors who have found that in Germany, the employment situation, if a job (perspective) exists, is not an important determinant of the transition to the first child (Brose 2008; Gebel and Giesecke 2009; Kurz et al. 2005).

Furthermore, the results reveal important gender differences, as civil service employment does not have the same impact on fertility for women and men. While women benefit from the characteristics of civil service employment in the transition to a second child, the findings suggest a negative influence for men. This suggests that gender-specific job requirements play a crucial role: Women likely benefit from the improved reconciliation of paid work and family life in the civil service, whereas men may experience a disadvantage due to lower income levels.

In this study, control variables were selected carefully based on theoretical considerations. However, it cannot be ruled out that not all relevant factors related to self-selection were fully accounted for, which may limit the robustness of the results. A particular limitation is the inability to incorporate individual family values and personal preferences into the analysis.

Future research would benefit from explicitly examining the mechanisms through which civil service employment influences fertility. Additionally, due to data limitations, it was not possible to distinguish between civil servants and public employees. However, this distinction appears promising, as key characteristics of civil service employment, such as job security and parental leave regulations, are more pronounced for civil servants (Gottschall et al. 2015; Keller and Seifert 2014; Löwe and Valet 2023). Another important avenue for further research would be to explore the impact of civil service employment on gainful maternal employment. Specifically, it would be interesting to assess whether the civil service serves as an instrument to facilitate women's continued presence in the labor market after becoming mothers.

The results of our analyses suggest that the civil service in Germany can serve as a starting point for influencing fertility. With its 5 million employees (Statistisches Bundesamt 2023), the state possesses a powerful instrument to support its fertility policy objectives.

Funding Open Access funding enabled and organized by Projekt DEAL.

Conflict of interest P.S. Löwe declares that he has no competing interests.

References

Adler, Marina A. 2004. Child-free and Unmarried: Changes in the Life Planning of Young East German Women. *Journal of Marriage and Family* 66(5):1170–1179.

Adsera, Alicia. 2004. Changing Fertility Rates in Developed Markets. The Impact of Labor Market Institutions. *Journal of Population Economics* 17(1):17–43.

Adsera, Alicia. 2011. Where Are the Babies? Labor Market Conditions and Fertility in Europe. *European Journal of Population* 27(1):1–32.

Ahn, Namkee, and Pedro Mira. 2002. A Note on the Changing Relationship Between Fertility and Female Employment Rates in Developed Countries. *Journal of Population Economics* 15(4):667–682.

Allison, Paul D. 2014. *Event History and Survival Analysis*. 07-46. London: SAGE.

Altmaier, Peter. 2019. Öffentlicher Dienst muss Vorbild sein bei der Gleichberechtigung von Frauen und Männern. Pressemitteilung vom 17.01.2019.

Ariza, Alfredo, Sara de La Rica and Arantza Ugidos. 2005. The Effect of Flexibility in Working Hours on Fertility: a Comparative Analysis of Selected European Countries. *Public Finance and Management* 5(1):110–151.

Arránz Becker, Oliver, and Daniel Lois. 2015. Quantitative Auswertungsverfahren in der Familiensoziologie. Ereignisanalysen und dyadische Analyse. In *Handbuch Familiensoziologie,* eds. Paul B. Hill and Johannes Kopp, 269–320. Wiesbaden, Heidelberg: Springer VS.

Auer, Wolfgang, and Natalie Danzer. 2014. Fixed-Term Employment and Fertility: Evidence from German Micro Data. *ifo Working Paper* (190):1–34.

Baron, Daniel, and Ingmar Rapp. 2019. Does fixed-term employment delay important partnership events? Comparing transitions into cohabitation, marriage, parenthood and home ownership among young adults in Germany. *Journal of Family Research* 31(1):40–57.
Basu, Alaka M. 2002. Why does Education Lead to Lower Fertility? A Critical Review of Some of the Possibilities. *World Development* 30(10):1779–1790.
Becker, Gary. S. 1981. *A Treatise on the Family.* Cambridge: Harvard University Press.
Becker, Gary S. 1985. Human Capital, Effort, and the Sexual Division of Labor. *Journal of Labor Economics* 3(1, Part 2):S33–S58.
Becker, Rolf. 1993. *Staatsexpansion und Karrierechancen: Berufsverläufe im öffentlichen Dienst und in der Privatwirtschaft*. Frankfurt a. M.: Campus-Verlag.
Begall, Katia, and Daniela Grunow. 2015. Labour Force Transitions around First Childbirth in the Netherlands. *European Sociological Review* 31(6):697–712.
Begall, Katia, and Melinda Mills. 2011. The impact of perceived work control, job strain and work-family conflict on fertility intentions: A European Comparison. *European Journal of Population* 27(4):433–456.
Begall, Katia, and Melinda Mills. 2013. The Influence of Educational Field, Occupation, and Occupational Sex Segregation on Fertility in the Netherlands. *European Sociological Review* 29(4):720–742.
Bernhardt, Eva M. 1993. Fertility and Employment. *European Sociological Review* 9(1):25–42.
Best, Henning, and Christof Wolf. 2010. Logistische Regression. In *Handbuch der sozialwissenschaftlichen Datenanalyse*, eds. Henning Best and Christof Wolf, 827–854. Wiesbaden: Springer VS.
BMFSFJ. 2019. Zweiter Gleichstellungsbericht der Bundesregierung. Berlin: BMFSFJ.
Breton, Didier, and France Prioux. 2009. The one-child family: France in the European context. *Demographic Research* 20(27):657–692.
Brewster, Karin L., and Ronald R. Rindfuss. 2000. Fertility and Women's Employment in Industrialized Nations. *Annual Review of Sociology* 26(1):271–296.
Brose, Nicole. 2008. Entscheidung unter Unsicherheit – Familiengründung und -erweiterung im Erwerbsverlauf. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 60(1):34–56.
Brüderl, Josef, Madison Garett, Kristin Hajek, Michel Herzig, Rüdiger Lenke, Renate Lorenz, Katharina Lutz, Trang Phan, Philipp Schütze and Nina Schumann. 2021a. p*airfam Data Manual, Release 12.0. LMU Munich: Technical Report. ZA5678 Data File Version 12.0.0.* Cologne: GESIS Data Archive.
Brüderl, Josef, Claudia Schmiedeberg, Laura Castiglioni, Oliver Arránz Becker, Petra Buhr, Daniel Fuß, Volker Ludwig, Jette Schröder and Nina Schumann. 2021b. The German Family Panel: Study Design and Cumulated Field Report (Waves 1 to 12): Release 12.0. *pairfam Technical Papers* (1):1–50.
Brülle, Jan. 2013. Unterschiede in den Arbeitsmarktchancen von atypisch Beschäftigten: Effekte von Beschäftigungsformen oder Erwerbspräferenzen? *Zeitschrift für Soziologie* 42(2):157–179.
Statistik der Bundesagentur für Arbeit. 2021. *Die Arbeitsmarktsituation von Frauen und Männern 2020*. Nürnberg.
Bundesministerium des Inneren. 2014. *Teilzeit und Beurlaubung im öffentlichen Dienst des Bundes.* Niestal: Silber Druck.
Conti, Maurizio, and Enrico Sette. 2013. Type of Employer and Fertility of Working Women: Does Working in the Public Sector or in a Large Private Firm Matter? *Cambridge Journal of Economics* 37(6):1303–1333.
Cook, Alison, and Krista. L. Minnotte. 2008. Occupational and industry sex segregation and the work–family interface. *Sex Roles* 59:800–813.
Cooke, Lynn P. 2004. The Gendered Division of Labor and Family Outcomes in Germany. *Journal of Marriage and Family* 66(5):1246–1259.
Corneo, Giacomo. 2014. Die relative Bezahlung der Hochqualifizierten in Staat und Privatwirtschaft: Deutschland, 1977–2011. *dms der moderne staat—Zeitschrift für Public Policy, Recht und Management* 7(2):415–436.
Czerwick, Edwin. 2007. *Die Ökonomisierung des öffentlichen Dienstes: Dienstrechtsreformen und Beschäftigungsstrukturen seit 1991*. 1st ed. Wiesbaden: VS Verlag für Sozialwissenschaften.
Dechant, Anna, Harald Rost and Florian Schulz. 2014. Die Veränderung der Hausarbeitsteilung in Paarbeziehungen. Ein Überblick über die Längsschnittforschung und neue empirische Befunde auf Basis der pairfam-Daten. *Journal of Family Research* 26(2):144–168.
Dieckhoff, Martina, Vanessa Gash, Antje Mertens and Laura Romeu Gordo. 2020. Partnered Women's Contribution to Household Labor Income: Persistent Inequalities Among Couples and Their Determinants. *Social Science Research* 85:102348.
Dietrich, Hans. 2012. *Youth unemployment in Europe.* Berlin: Friedrich-Ebert-Stiftung. https://library.fes.de/pdf-files/id/ipa/09227.pdf.

Doepke, Matthias, Anne Hannusch, Fabian Kindermann and Michèle Tertilt. 2023. The Economics of Fertility: a New Era. In *Handbooks in economics, Handbook of the economics of the family,* eds. Shelly Lundberg and Alessandra Voena, 151–254. Amsterdam, Oxford: North-Holland an imprint of Elsevier.

Ellguth, Peter, and Susanne Kohaut. 2011. Der Staat Als Arbeitgeber: Wie unterscheiden sich die Arbeitsbedingungen zwischen öffentlichem Sektor und der Privatwirtschaft? *Industrielle Beziehungen* 18(1-2):11–38.

Esping-Andersen, Gøsta. 1993. Post-Industrial Class Structures: An Analytical Framework. In *Changing Classes. Stratification and Mobility in Post-Industrial Societies,* ed. Gøsta Esping-Andersen, 1–31. London: Sage.

Esser, Hartmut. 2006. Migration, language and integration. *AKI Research Review No. 4 (WZB)* (4):1–117. https://www.wzb.eu/www2000/alt/aki/files/aki_research_review_4.pdf (Accessed: 3 March 2017).

Fox, Jonathan, Sebastian Klüsener and Mikko Myrskylä. 2019. Is a Positive Relationship Between Fertility and Economic Development Emerging at the Sub-National Regional Level? Theoretical Considerations and Evidence from Europe. *European Journal of Population* 35(3):487–518.

Frejka, Tomas, and Jean-Paul Sardon. 2007. Cohort Birth Order, Parity Progression Ratio and Parity Distribution Trends in Developed Countries. *Demographic Research* 16:315–374.

Frejka, Tomas, and Tomáš Sobokta. 2008. Fertility in Europe: Diverse, delayed and below replacement. In *Childbearing trends and policies in Europe. Demographic Research, Special Collection,* eds. Tomas Frejka, Tomáš Sobotka, Jan M. Hoem and Laurent Toulemon,15–46. Rostock: Max Planck Institute for Demographic Research.

Frodermann, Corinna, Dana Müller and Martin Abraham. 2013. Determinanten des Wiedereinstiegs von Müttern in den Arbeitsmarkt in Vollzeit oder Teilzeit. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 65(4):645–668.

Gebel, Michael, and Johannes Giesecke. 2009. Ökonomische Unsicherheit und Fertilität. Die Wirkung von Beschäftigungsunsicherheit und Arbeitslosigkeit auf die Familiengründung in Ost- und Westdeutschland. *Zeitschrift für Soziologie* 38(5):399–417.

Giesecke, Johannes. 2006. *Arbeitsmarktflexibilisierung und Soziale Ungleichheit: Sozio-ökonomische Konsequenzen befristeter Beschäftigungsverhältnisse in Deutschland und Großbritannien.* Wiesbaden: VS Verlag für Sozialwissenschaften.

Goldstein, Joshua R., and Michaela Kreyenfeld. 2011. Has East Germany Overtaken West Germany? Recent Trends in Order-Specific Fertility. *Population and Development Review* 37(3):453–742.

Gottschall, Katrin, Bernhard Kittel, Kendra Briken, Jan-Ocko Heuer, Sylvia Hills, Sebastian Streb and Markus Tepe. 2015. *Public Sector Employment Regimes. Transformation of the State as an Employer*. London: Palgrave Macmillan.

Greulich, Angela, Mathilde Guergoat-Larivière and Olivier Thévenon. 2017. Employment and second childbirths in Europe. *Population* 72(4):625–648

Hayter, Susan, and Bradley Weinberg. 2011. Mind the Gap: Collective Bargaining and Wage Inequality. In *The role of collective bargaining in the global economy: Negotiating for Social Justice*, ed. Susan Hayter,136-186. Cheltenham etc.: Edward Elgar.

Hohendanner, Christian, and Hans-Dieter Gerner. 2010. Die Übernahme befristet Beschäftigter im Kontext betrieblicher Personalpolitik. *Soziale Welt* 61(1):27–50.

Hohendanner, Christian, Esther Ostmeier and Philipp Ramos-Lobato. 2015. Befristete Beschäftigung im öffentlichen Dienst: Entwicklung, Motive und rechtliche Umsetzung. *IAB-Forschungsbericht* (12):1–178.

Huinink, Johannes, Josef Brüderl, Bernhard Nauck, Sabine Walper, Laura Castiglioni and Michael Feldhaus. 2011. Panel analysis of intimate relationships and family dynamics (pairfam): Conceptual framework and design. *Zeitschrift für Familienforschung/Journal of Family Research* 23(1):77–101.

Jenkins, Stephen P. 1995. Easy Estimation Methods for Discrete-Time Duration Models. *Oxford Bulletin of Economics and Statistics* 57(1):129–136.

Keller, Berndt, and Hartmut Seifert. 2014. Atypische Beschäftigungsverhältnisse im öffentlichen Dienst. *WSI-Mitteilungen* 67(8):628–638.

Kind, Michael, and Jan Kleibrink. 2013. Sooner or Later: Economic Insecurity and the Timing of First Birth. *Ruhr Economic Papers* (422):1–23.

Kohler, Hans-Peter, Francesco C. Billari and José A. Ortega. 2006. Low Fertility in Europe: Causes, Implications and Policy Options. In *The Baby Bust: Who will do the Work? Who Will Pay the Taxes?* Ed. Fred R. Harris, 48–109. Lanham, MD: Rowman and Littlefield.

Köppen, Katja. 2004. *The compatibility between work and family life—an empirical study of second birth risks in West Germany and France*. Rostock: Max Planck Institute for Demographic Research.

Köppen, Katja. 2006. Second Births in Western Germany and France. *Demographic Research* 14:295–330.
Krapf, Sandra. 2013. *Public Childcare Provision and Fertility Behavior: A Comparison of Sweden and Germany.* 1st ed. Opladen: Barbara Budrich.
Kreyenfeld, Michaela. 2003. Crisis or Adaptation Reconsidered: A Comparison of East and West German Fertility Patterns in the First Six Years after the 'Wende'. *European Journal of Population* 19:303–329.
Kreyenfeld, Michaela. 2010. Uncertainties in female employment careers and the postponement of parenthood in Germany. *European Sociological Review* 26(3):351–366.
Kreyenfeld, Michaela, and Dirk Konietzka. 2008a. Bleibt alles anders. Geburten- und Familienentwicklung in Ost- und Westdeutschland. In *Demografischer Wandel,* ed. Nikkolaus Werz, 50–70. Baden-Baden: Nomos.
Kreyenfeld, Michaela, and Dirk Konietzka. 2008b. Education and Fertility in Germany. In *Demographic Change in Germany,* eds. Ingrid Hamm, Helmut Seitz and Martin Werding, 165–187. Berlin: Springer.
Kreyenfeld, Michaela, and Cordula Zabel. 2005. Female Education and the Second Child: Great Britain and Western Germany Compared. *Schmollers Jahrbuch – Zeitschrift für Wirtschafts- und Sozialwissenschaften. Journal of Applied Social Science Studies* 125(1):145–156.
Kreyenfeld, Michaela, Dirk Konietzka, Philippe Lambert and Vincent J. Ramos. 2023. Second Birth Fertility in Germany: Social Class, Gender, and the Role of Economic Uncertainty. *European Journal of Population* 39(1):5.
Kurz, Karin, Nikolei Steinhage and Katrin Golsch. 2005. Case study Germany: Global competition, uncertainty and the transition to adulthood. In *Globalization, Uncertainity and Youth in Society,* eds. Hans-Peter Blossfeld, Erik Klijzing, Melinda Mills and Karin Kurz, 51–82. New York: Routledge.
Laurijssen, Ilse, and Ignace Glorieux. 2013. Career Trajectories for Women After Childbirth: Job Quality and Work-Family Balance. *European Sociological Review* 29(3):426–436.
Lechner, Michael. 2001. The Empirical Analysis of East German Fertility after Unification: An Update. *European Journal of Population* 17:61–74.
Lewin-Epstein, Noah, Haya Stier and Michael Braun. 2006. The Division of Household Labor in Germany and Israel. *Journal of Marriage and Family* 68(5):1147–1164.
Löwe, Paul S. 2022. Are first jobs in the German public sector more stable? An examination under consideration of the institutional structure. *Soziale Welt* 73(2):379–417.
Löwe, Paul S., and Peter Valet. 2022. Reformen im öffentlichen Dienst – Auswirkungen auf Beamt*innen und Arbeitnehmer*innen von 1993 bis 2018. *WSI-Mitteilungen* 75(2):119–128.
Löwe, Paul S., and Peter Valet. 2023. Ist der öffentliche Dienst noch ein attraktiver Arbeitgeber? Veränderte Wahrnehmungen zu Jobsicherheit, langfristiger Beschäftigung und Karriereperspektiven von Beschäftigten im öffentlichen Dienst und der Privatwirtschaft von 1985 bis 2018. *Zeitschrift für Sozialreform* 69(1):1–30.
Luci-Greulich, Angela, and Olivier Thévenon. 2013. The Impact of Family Policies on Fertility Trends in Developed Countries. *European Journal of Population* 29(4):387–416.
Luci-Greulich, Angela, and Olivier Thévenon. 2014. Does Economic Advancement 'Cause' a Re-increase in Fertility? An Empirical Analysis for OECD Countries (1960–2007). *European Journal of Population* 30(2):187–221.
Martin-Garcia, Teresa, and Teresa Castro-Martin. 2013. Do Women Working in the Public Sector Have it Easier to Become Mothers in Spain? *Population Review* 52(1):149–171.
Matysiak, Anna, and Stephanie Steinmetz. 2008. Finding Their Way?: Female Employment Patterns in West Germany, East Germany, and Poland. *European Sociological Review* 24(3):331–345.
Mills, Melinda, and Hans-Peter Blossfeld. 2005. Globalization, Uncertainty and Changes in Early Life Courses. *Zeitschrift für Erziehungswissenschaft* (6):188–218.
Müller, Bettina, and Laura Castiglioni. 2020. Do Temporary Dropouts Improve the Composition of Panel Data? An Analysis of Gap Interviews in the German Family Panel Pairfam. *Sociological Methods & Research* 49(1):193–215.
OECD. 2007. *Babies and* Bosses—*Reconciling Work and Family Life*. Paris: OECD Publishing https://www.oecd.org/content/dam/oecd/en/publications/reports/2007/11/babies-and-bosses-reconciling-work-and-family-life_g1gh7f03/9789264032477-en.pdf.
Oppenheimer, Valerie K. 1988. A Theory of Marriage Timing. *American Journal of Sociology* 94(3):563–591.
Oppermann, Anja. 2014. Exploring the Relationship between Educational Field and Transition to Parenthood—An Analysis of Women and Men in Western Germany. *European Sociological Review* 30(6):728–749.

Sauer, Carsten, Peter Valet and Vincent J. Roscigno. 2019. Neue Ungleichheiten im öffentlichen Sektor. In *Komplexe Dynamiken globaler und lokaler Entwicklungen. Verhandlungen des 39. Kongresses der Deutschen Gesellschaft für Soziologie in Göttingen 2018*, ed. Nicole Burzan, 1–11.

Sauer, Carsten, Peter Valet, Vincent J. Roscigno and George Wilson. 2022. Neoliberalism's Impact on Public-Sector Job Quality: The US and Germany Compared. In *The Oxford Handbook of Job Quality,* eds. Chris Warhurst, Chris Mathieu and Rachel E. Dwyer, 469–484. Oxford: Oxford University Press.

Schmid, Susanne, and Martin Kohls. 2009. Reproductive behaviour of migrant women in Germany: Data, patterns and determinants. *Vienna Yearbook of Population Research* 7:39–61.

Schulze, Alexander. 2009. *Sozioökonomische Konsequenzen der Fertilität: Folgen der Geburt von Kindern für den Wohlstand von Paarhaushalten*. 1st. ed. Wiesbaden: VS Verlag für Sozialwissenschaften.

Seyda, Susanne. 2003. Frauenerwerbstätigkeit und Geburtenverhalten. *IW-Trends – Vierteljahresschrift zur empirischen Wirtschaftsforschung* 30(2):26–36.

Shreffler, Karina M., Amy E. Pirretti and Robert Drago. 2010. Work–Family Conflict and Fertility Intentions: Does Gender Matter? *Journal of Family and Economic Issues* 31(2):228–240.

Sobotka, Tomáš, and Éva Beaujouan. 2014. Two Is best? The persistence of a two-child family ideal in Europe. *Population and Development Review* 40(3):391–419.

Statistisches Bundesamt. 2016. *Finanzen und Steuern – Personal des öffentlichen Dienstes: Fachserie 14 Reihe 6*. Wiesbaden: Statistisches Bundesamt.

Statistisches Bundesamt. 2017a. *Bevölkerung und Erwerbstätigkeit Erwerbsbeteiligung der Bevölkerung Ergebnisse des Mikrozensus zum Arbeitsmarkt: Fachserie 1 Reihe 4.1*. Wiesbaden: Statistisches Bundesamt.

Statistisches Bundesamt. 2017b. *Finanzen und Steuern Personal des öffentlichen Dienstes: Fachserie 14 Reihe 6*. Wiesbaden: Statistisches Bundesamt.

Statistisches Bundesamt. 2022. Qualität der Arbeit – Befristet Beschäftigte. https://www.destatis.de/DE/Themen/Arbeit/Arbeitsmarkt/Qualitaet-Arbeit/Dimension-4/befristet-beschaeftigte.html.

Statistisches Bundesamt. 2023. *Finanzen und Steuern. Personal des öffentliches Dienstes 2021: Fachserie 14 Reihe 6*. Wiesbaden: Statistisches Bundesamt.

Statistisches Bundesamt. 2024. *Zahl der Geburten im Jahr 2023 auf niedrigstem Stand seit 2013*. https://www.demografie-portal.de/DE/Politik/Meldungen/2024/240502-bund-zahl-der-geburten-im-jahr-2023-auf-niedrigstem-stand-seit-2013.html (Accessed: 28 March 2025).

Stein, Petra, Sebastian Willen and Monika Pavetic. 2014. Couples' fertility decision-making. *Demographic Research* 30(63):1697–1732.

Stolzenberg, Ross M., and Linda J. Waite. 1977. Age and the relationships between young women's plans for childbearing and employment. *American Sociological Review* 42:769–783.

Struck, Olaf. 2006. *Flexibilität und Sicherheit: Empirische Befunde, theoretische Konzepte und institutionelle Gestaltung von Beschäftigungsstabilität*. Wiesbaden: VS.

Tepe, Markus, and Daniela Kroos. 2010. Lukrativer Staatsdienst? Lohndifferenzen zwischen öffentlichem Dienst und Privatwirtschaft. *WSI-Mitteilungen* (1):3–10.

Testa, Maria R. 2012. *Family sizes in Europe: evidence from the 2011 Eurobarometer survey.* Vienna: Vienna Inst. of Demography.

Thomas, Jac, Francisco Rowe, Paul Williamson and Eric S. Lin. 2022. The Effect of Leave Policies on Increasing Fertility: A Systematic Review. *Humanities and Social Sciences Communications* 9(1):1–16.

Vlasblom, Jan D., and Joop Schippers. 2006. Changing Dynamics in Female Employment Around Childbirth. *Work, Employment & Society* 20(2):329–347.

Voydanoff, Patricia. 2005. Toward a Conceptualization of Perceived Work-Family Fit and Balance: A Demands and Resources Approach. *Journal of Marriage and Family* 67:822–836.

Walter, Ulrike. 2007. *Löhne und Gehälter in Deutschland: ihre Entwicklung in Wirtschaft und Staat von 1960–2000*. Wiesbaden: Deutscher Universitäts-Verlag.

van de Werfhorst, Herman G. 2011. Skills, positional good or social closure? The role of education across structural–institutional labour market settings. *Journal of Education and Work* 24(5):521–548.

Paul Severin Löwe 1988, Dr. rer. pol, research associate and project manager at the State Institute for Family Research at the University of Bamberg (ifb). Fields of research: Sociology of families, sociology of labour markets, welfare states. Publications: Der öffentliche Dienst im Wandel: Konsequenzen für Beschäftigungsbedingungen und Beschäftigte in Deutschland. Bamberg 2024; Ist der öffentliche Dienst noch ein attraktiver Arbeitgeber? Veränderte Wahrnehmungen zu Jobsicherheit, langfristiger Beschäftigung und Karriereperspektiven von Beschäftigten im öffentlichen Dienst und der Privatwirtschaft von 1985 bis 2018. Zeitschrift für Sozialreform 69(1), 2023 (mit P. Valet).