The main idea of this paper is trying to estimate how children contribute to the gender inequality on labor market. The paper used Danish administrative data to discover the "child penalty", which the authors defined as the percentage that women fell behind men caused by children. After confirming that the birth of child will bring a long-term gap in wages between female and male, authors then proceeded to find a series of underlying mechanisms that may cause wage difference, how gender inequality develop over time, and if the effect was passed through generations.

The data that this paper used is administrative data for the full population in Denmark between 1980–2013, which contains rich information on children, labor supply, earnings, occupations and many other variables. For some parts of the paper, authors also used data generated from a mandated pension scheme called ATP as a measure of hours worked.

To study how labor market outcomes evolve through out the time, authors ran the following regression for both gender groups:

$$Y_{ist}^g = \sum_{j \neq -1} \alpha_j^g \cdot \mathbf{I}[j = t] + \sum_k \beta_k^g \cdot \mathbf{I}[k = age_{is}] + \sum_y \gamma_y^g \cdot \mathbf{I}[y = s] + v_{ist}^g$$

where the first term on the right-hand side represents the event time dummy, the second term represents the age dummy, and the third term represents the year dummy. Authors then defined child penalty on women compared to men at event time t as below, which measures the percentage which women fall behind men caused by children:

$$P_t \equiv \frac{\hat{\alpha}_t^m - \hat{\alpha}_t^w}{E[\tilde{Y}_{ist}^w \mid t]}$$

This paper found that four major factors of the labor market (total earnings, hours worked, wage rate and labor force participation) for women all decrease immediately after the birth of the first child, while that of men remained unaffected. Authors then explored the underlying mechanisms behind such effect, showing that the occupational rank of female dropped significantly right after the birth of the first child, and the family friendliness of women's work environment responds strongly to motherhood, implying women were more likely to be induced to public sectors after entering motherhood.

Authors then decomposed this gender inequality into two parts: caused by children and caused by other factors, and tried to show how this composition changed over time. Focusing on gender inequality in earnings, authors extended the previous regression to allow for year-specific coefficients on event time:

$$Y_{ist}^g = \sum_y \sum_{j \neq -1} \alpha_{yj}^g \cdot \mathbf{I}[j = t] \cdot \mathbf{I}[y = s] + \beta_k^g X_{kis}^g + v_{ist}^g$$

Year-specific event coefficients α_{yj}^g was estimated by interacting the event time dummies with year dummies. The second term on the right-hand side contains covariates indexed by k, which may be different among individuals i and calendar time s . Authors then calculated the mean gender gap in year s in three components: the impact of child penalties, the impact of different coefficients on non-child covariates, and the impact of differences in non-child covariates. The results showed that the part of gender inequality attributed to children has increased significantly over time, in other words, the gender inequality that still exists today is now all related to children. By including education choices made even before childbirth in the specification, results showed that the unequal pay received by men and women are caused by the unequal distribution of child care responsibilities.

The paper then tried to answer this question: why is this child penalty so large and persistent? Linking child penalties and the relative labor supply of grandmothers and grandfathers, authors estimate the effect of maternal grandparents using specification:

$$Y_{ist}^g = \sum_q \alpha_q^g \cdot \mathbf{I}[after_t] \cdot \mathbf{I}[grand_{iq}^m] + \sum_k \beta_k^g \cdot \mathbf{I}[k = age_i s] + \sum_y \gamma_y^g \cdot \ \mathbf{I}[y = s]$$

$$+ \sum_q \zeta_q^g \cdot \mathbf{I}[grand_{iq}^m] + \delta^g \cdot X_i^m + \eta^g \cdot \mathbf{I}[after_t] \cdot X_i^m + v_{ist}^g$$

where $\mathbf{I}[grand_{iq}^{m}]$ is an indicator showing the quantile q of the distribution of the labor supply that the maternal grandparents being in. Authors then calculate this specification in levels and the child penalty on women as $P_q^w \equiv \frac{\hat{\alpha}_q^w}{E[\hat{Y}_{is}^w]}$. The specification controlled the characteristics of the grandparents by including education dummies, wealth level and birth cohort dummies. Results showed that child penalties are caused by female preferences shaped by her childhood rather than male preferences.That means, women grew up in relatively traditional homes have larger child penalties than those who grew up in relatively modern homes.

This paper has three major findings: firstly, the negative effect on labor market for women is large and persistent, while men remain mostly unaffected. Secondly, by decomposing gender inequality into part attributed by children and parts attributed by other factors, article shows that the former section has increased significantly over time, and that the unexplained gap in traditional decomposition analyses used to be explained by "discrimination" are actually caused by children too. Thirdly, female child penalty is closely related to the work history of the maternal grandparents, but not paternal grandparents: women grew up in a traditional household setting face larger child penalty than those grew up in relatively modern families. Together, the article provides more empirical evidences that women suffer larger negative effect on labor market brought by children than men.

One of the limitation of this paper is that it focused on gender inequality caused by children, but at the same time, it can be largely affected by culture or social norms. Some of this paper's results provided support for such opinion, but did not provide conclusive evidence. The other limitation is that the paper did not provide enough supportive material to changing this situation. In the second part, authors showed that even with decreasing gender inequality in education received, the child penalty still exists. Therefore, more studies are needed to find the underlying mechanisms after this phenomenon, and possible welfare policy that can be implemented to improve status quo.