Child Penalty from the Unexpected: Evidence from Physician Responses to Child Health Shocks

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Extended Abstract

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A large proportion of the remaining gender income gap is attributed to the earning loss associated with parenthood, the 'child penalty.' Contrary to predictions from the theory of comparative advantage, there is little heterogeneity in this penalty across education levels (Kleven, Landais and Søgaard, 2019). Why are market solutions ineffective for high-earning mothers? We argue that an important barrier is the unpredictable nature of child-rearing. While stable, predictable tasks can be offloaded to the market (e.g., daycare), emergencies leave little time to arrange alternatives. Therefore, despite their increased earning potential, women, who bear a disproportionate share of responsibility to react to these shocks, still need to spend their own time. This creates the gendered demand for temporal flexibility that hinders the ability to compete in 'greedy' jobs (Goldin, 2014).

We test this mechanism using administrative data on a high-earning, highly educated population with high opportunity costs and rigid schedules: physicians in Taiwan. The administrative data from the universal health insurance system allow us to construct all physicians' **daily** work histories and link them to their children's hospitalization records.

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Focusing on dual-physician couples allows us to mitigate the effect from occupation differences. We find that when a child is hospitalized, only the mother reduces her short-term labor supply; we detect no response from the father.

Our primary data source is the National Health Insurance Research Database (NHIRD), which covers Taiwan's universal health insurance program from 2004–2021. The National Health Insurance system provides mandatory coverage to more than 99.9% of Taiwan's approximately 23 million residents, and the NHIRD includes virtually all claim records for insured individuals. Each claim contains a unique physician identifier that is consistent across all encounters and over time, allowing us to reconstruct physicians' complete daily work histories. We link these claims to the insurance registration files, which record enrollee family relationships, to identify physicians' spouses and children.

Our main analytic sample consists of active dual-physician couples with children. Using the linked claims and registration data, we identify around 4,000 such physician couples and roughly 6,000 children. Then, we construct a panel with the hospitalization record of the children and a daily work record from claims with the parents recorded as the physician. Our main outcomes include daily National Health Insurance amount billed, the number of outpatient visits, and whether the physician was present at work.

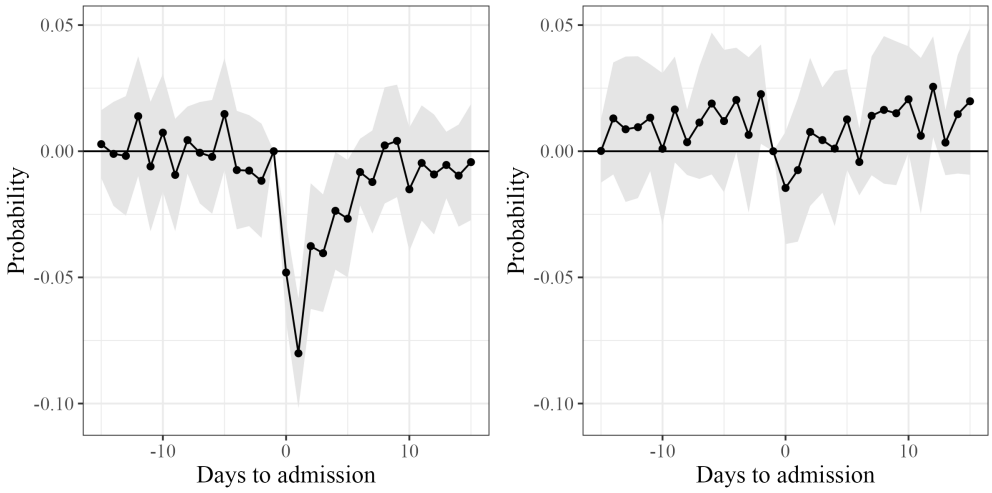
Our empirical strategy compares physicians whose children are hospitalized against same-gender physicians whose children are not. Specifically, for outcome y_{it}, we estimate:

$$y_{it} = \sum_{s \in T \setminus \{-1\}} \beta_s \cdot \text{Treat}_i \cdot \mathbf{1}\{s = t\} + \alpha_i + \tau_t + \epsilon_{it}, \tag{1}$$

where $T = -15, -14, ..., 14, 15$ is the time window, α_i is the physician identifier, τ_t is fixed effect for the day relative to children's inpatient admission. And β_s is the parameter of interest that captures the dynamic effect of children's hospitalization.

Figure 1 reports the effect of child hospitalization on parental work attendance. We find that physician mothers are 3.7 percentage points less likely to attend work following a child's hospitalization, whereas we detect no significant effect on physician fathers.

In additional analyses, we explore mechanisms by examining heterogeneity across the couple's income gap and medical specialization as proxies of comparative advantage in child-rearing.



(a) Mother (b) Father

Figure 1: Effect of Children Hospitalization on Work Attendance of Physician Parents

Note: Panel (a) and (b) report estimates from an event study comparing physicians whose children are hospitalized against other physician parents (Equation 1). The outcome is an indicator for having a claim with the service date in the day. 95% confidence intervals reported in the error ribbons are based on standard error clustered on the physician level. Panel (a) reports the result for mothers, and panel (b) reports the result for fathers.

References

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Kleven, Henrik, Camille Landais, and Jakob Egholt Søgaard. 2019. "Children and Gender Inequality: Evidence from Denmark." *American Economic Journal: Applied Economics*, 11(4): 181–209.