

Labor Supply and Sick Paid Leave

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The provision of insurance against adverse shocks to individuals is one of the major functions of government in developed countries (Chetty, R. and Finkelstein, A., 2013). A large body of literature has analyzed the optimal government response to the failures in private insurance markets. The goal of this literature is to find the optimal system in terms of trading off protection against risk and minimizing moral hazard. Nonetheless, little attention has been placed on the optimal design of sickness insurance systems, despite their popularity in developed and developing countries, as well as its effects on labor supply and productivity.

Sickness insurance systems provide insurance against wage losses due to work-unrelated short-term sickness, for example, the common cold or back pain.¹ Of all countries in the OECD, only three do not provide universal access to paid sick leave for employees² and among countries with mandatory sickness insurance systems in place, around 0.79% of GDP is spent on sick leaves (Poblete, I. and Rivera, J., 2017).

Reduce-form studies have found evidence of the presence of moral hazard, showing that there is a policy trade-off between providing insurance for temporal health deficiencies, and disincentive effects on work effort (Johansson, P. and Palme, M, 2005; Ziebarth, N and Karlsson, M; 2010, Maclean et. Al. 2020). Nonetheless, there is lack of work deriving robust formulas for optimal social security design in terms of empirically estimable parameters.

In this paper, we seek to fill this gap by answering the following question. What is the optimal paid sick leave system? To do so, we study the case of Chile. The Chilean system is suitable to study this question because it provides variation in two features that we plan to exploit: private versus public provision of paid sick leave, and variation in the replacement rate from work absence as a function of the number of work days missed. The replacement rate is null for short leaves (3 days long) and one for longer leaves (11 days or more) and increasing in between these two reference points.

There are two challenges in the optimal design of sickness insurance. First, insured workers adapt their work-absence behavior to the generosity of the system (replacement rate). Moral hazard creates an obstacle to the consumption-smoothing purpose of insurance. Second, the individual's health status is private information. If adverse selection results in workers with preferences favoring absences choosing more generous insurance programs, the estimated moral

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¹Paid sick leave is different from Disability Insurances, which provides income replacement in case of permanent work disability, or Workers Compensation, which provides income replacement and medical benefits in case of work-related sickness. Paid sick leave gives employees the right to call in sick and receive sick pay due to work unrelated short-term sickness.

²These countries are Canada, the United States, and Japan. Between 2009 and 2017, 27 U.S. cities and states mandated paid-sick leaves, see Maclean, J.C. et al. appendix table A1 for a complete list.

hazard effect may be upward biased. If adverse selection results from workers with preferences for not being absent from work, or with good health and who therefore have no need for frequent absences, the estimated moral hazard effect may be downward biased. Thus, if the government tries to redistribute from healthy to less healthy workers but does not observe workers' health, it must design a contract for workers to reveal their type.

The goal of this paper is to develop and structurally estimate the parameters of a work-absence behavior model that account for the behavioral response of workers as well as for the presence of adverse selection. We exploit administrative data from the Chilean Superintendence of Social Security, the entity in charge of auditing the sickness insurance system. The data is well suited for our purposes since: (i) it provides a great level of detail regarding the characteristics of claims (such as physicians identifiers, exact dates and diagnosis), and (ii) we are able to link the claims to employer-employee administrative data. In the employer-employee data we observe workers' education, monthly wages, date of birth, and other demographic characteristics, as well as firms' characteristics such as location, size and main economic activity.

As many local and national governments seek to implement or improve the provision of insurance against wage losses due to temporary sickness, our paper is well-suited to provide evidence to inform the design of these systems and understand the welfare implications of changes in its benefits.