A general equilibrium analysis of parental leave policies

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\section{1. Introduction}

Mandated parental leave policies have been widely introduced in developed countries in the last two decades.\textsuperscript{1} The channels through which parental leave policies influence economic decisions are rather complex and are likely to have diverse effects across heterogeneous groups of individuals in the economy. Parental leave entitlements are likely to increase the welfare of the groups most likely to benefit from them. While these individuals may improve their “bargaining position” with parental leaves, firms are likely to pass the costs of hiring and training temporary workers to the groups benefiting from leaves. To the extent that firms may not be able to pass all the costs to workers, leave mandates may reduce labor demand and negatively affect employment of workers not directly affected by the policy. When leaves are paid and are financed with government tax revenue, as in most European countries, there is an important redistribution of resources from taxpayers to mothers on leave.

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\textsuperscript{1} These policies specify a minimum amount of leave time that a person is entitled to in order to care for a newborn child with job dismissal prohibited during pregnancy and a guaranteed job after the leave.

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Empirically, it is difficult to disentangle how these channels affect outcomes. Studies exploiting the variation of leave taking behavior on household level disentangle the problem that the workers taking up leaves are likely to be a non-random selection of workers. To the extent that is difficult to control for all relevant sources of heterogeneity and that the explanatory variables on the regressions are endogenous variables (labor market experience, tenure, number of children), the interpretation of empirical findings is subject to debate. Some empirical studies have used cross-country data to evaluate how changes in leave entitlements affect the gap between female and male outcomes. These studies are also subject to limitations. First, these studies are likely to overstate the effects of parental leave policies as some countries have implemented other family policies such as child care at the same time they expanded the generosity of parental leaves. Second, countries may differ on dimensions that are difficult to control for in the regressions. Third, estimates are limited by small sample sizes and incomplete data.

In view of these difficulties, we find it useful to build a benchmark model in order to improve our understanding of the mechanisms that drive the effects of parental leave policies. We develop a framework that builds on the Mortensen and Pissarides (1994) matching model in several dimensions. Females make fertility decisions and derive utility from spending time with children after giving birth. Females may want to temporarily separate from a job to enjoy the utility value of staying at home without giving up their job-specific human capital. However, temporary separations are costly for employers. We consider as a benchmark a situation in which there is no government intervention in the labor market – firms and workers are free to agree on temporary separations. Moreover, bargaining leads to efficient outcomes because we assume perfect information on types and we do not impose any exogenous restriction on bargaining. In this framework, parental leave policies affect equilibrium allocations and welfare through three channels. First, these policies increase the threat point used in bargaining for females that have the option of taking a parental leave (bargaining channel). Second, parental leaves reduce the value of posting vacancies which reduces the job finding rate (general equilibrium channel). Third, paid parental leaves induce a redistribution of resources from workers – taxpayers – to mothers on leave (redistributive channel). In order to explore the quantitative significance of these channels, we calibrate the economy without parental leaves to data for the U.S. economy prior to the implementation of parental leave policies at the federal level in 1993.

Our quantitative analysis leads to three key findings. First, we find substantial effects of parental leave policies on steady-state welfare with these effects being quantitatively more important for paid leaves and for leaves of longer duration. Females gain substantially with generous policies but this benefit occurs at the expense of a reduction in the welfare of males. Parental leave policies lead to aggregate steady-state welfare losses because these policies subsidize inefficient matches and encourage too much leave taking by fertile females. Second, we find that the change in welfare of females is affected by the general equilibrium, redistribution, and bargaining channels operating in the model. However, when leaves are paid and of relatively long duration, the welfare effects are mostly driven by the redistribution channel. Third, parental leave policies have non-trivial effects on fertility, employment, and the time that mothers spend at home with children. We also compare the effect of parental leave policies with two other policies that subsidize mothers: a subsidy to working mothers and a subsidy to staying at home mothers. While parental leave policies induce the strongest effects on allocations (fertility, employment, and time spent with children), the subsidy to working mothers leads to the highest welfare gains of females and the smallest welfare losses for males across the three policies considered.

Our paper is related to a large literature of calibrated models on the economics of the family. Differently from many papers in this literature, we abstract from marriage issues and focus instead on labor-market decisions and temporary separations. Our paper is closest to Erosa et al. (2002). A critical distinction is that we allow for temporary separations between a worker and a job which is essential in capturing the economics of leave policies. Moreover, we model the demand side of the labor market to capture the general equilibrium effects induced by mandatory leave policies.

The analysis proceeds as follows. In the next section, we present a model with voluntary leaves, calibrate it to U.S. data, and evaluate its main properties. Section 3 extends the analysis to mandatory leaves and performs experiments to understand the quantitative importance of bargaining, general equilibrium and redistributive channels. We also compare mandated leaves with other policies that subsidize mothers. We conclude in Section 4.

2. A model with voluntary leaves

The economy is populated by a large number of workers that face exponential life – in every period there is a constant probability of dying. We assume that there is an equal proportion of males and females. We model ex-ante hetero-

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4 See the discussion in Ruhm (1998).
5 The assumption of efficient bargaining is adopted not because of its realism but because it offers a useful benchmark to evaluate the costs and the redistributive effects of parental leave policies.
7 There is some evidence that marital status does not change child penalties in wages for women while it generates a large premium in wages for men, Phipps et al. (2001).
8 Our paper is also closely related to Bernal and Fruttero (2007) who evaluate the role of leave policies on parental investment in children. They find that mandated unpaid leaves have negligible effects on the time mothers spend with children but paid leaves substantially increase investment time in children.
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