

PRELIMINARY DRAFT

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COMPENSATING FOR BIRTH AND ADOPTION

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I. Introduction

One of the salient developments over the past sixty years in the labor markets of the Organisation of Economic Co-operation and Development (OECD) has been the growth in the participation of women. The most noticeable change has occurred among married women and especially women with young children. In Canada and the United States, more than half of such women now return to the labor market during the year following the birth of a child. For example, Cohany and Sok (2007) report that 53.5 percent of married women with children under one year, infants, were in the paid labor force in 2005, a percentage that has been stable in recent years.

Pregnancy, childbirth and the postnatal period are three phases in a woman's reproductive life that are an especially vulnerable time for a working woman and her family. An expectant and nursing mother needs adequate time to give birth, to recover, and to nurse her child. At the same time, she needs assurance that she will not lose her position of employment because of pregnancy, the birth or adoption of a child, or absence on maternity leave. The loss of continuity in employment is a major impediment for a woman in terms of earnings and career advancement and is costly in terms of employment-related benefits. Not only does maternity protection ensure equal access to employment, but it stabilizes the flow of income that makes an important contribution to household income security and family well-being.

Maternal protection refers to employment-related initiatives that were first enacted as maternity policies more than a hundred years ago to protect the health of working women at the time of childbirth. While employment-protected leave for employed women around the time of childbirth is available in all the OECD-member countries, some have adapted to the needs of working families with legislation mandating parental leave. Parental leave includes several types of initiatives that allow women, or women and men, to temporarily transition from the labor force and devote time to childbirth, adoption, or other family needs. The critical difference in policy is due to the approach taken by policy makers in supporting households as working families reconcile labor market work with family life. Much of the debate regarding family policy is framed by choice for parents, we wish to examine how much choice is available to parents for infant care.

As defined by the International Labour Organisation (ILO, 1997), maternal protection includes maternity leave, employment protection, cash and medical benefits, and the health protection of the mother and child. In the OECD, leave related to maternal protection includes

maternity leave, family leave, paternity leave, parental leave, and child rearing leave. Table 1 shows the percentage of gross domestic product (GDP) allocated to public social expenditure on the family for a large number of OECD-member countries, OECD-21.¹ In the time series data, available for OECD countries from 1980 to 2001, the OECD-21 average expenditure on the family as a percentage of GDP ranges from 1.6 to 1.9 percent. As these percentages show, expenditure to support families is modest, but family policies are an essential part of social policy, particularly policy related to the well-being of children. A significant proportion of family expenditure is spent on programs for maternity (and parental) leave, maternity allowances and birth grants.²

An aim of the paper is to compare one aspect of statutory maternity protection leave, namely birth and adoption leave, in the OECD. Generally, birth and adoption leave is known as maternity leave (or pregnancy leave). This is an employment-related leave of absence for employed women around the time of childbirth, or adoption. In most OECD countries, women on maternity leave may combine pre-birth with post-birth leave and receive specific income support payments during the maternity leave period. All OECD countries define adoptive mothers (and parents) as eligible for leave as well as biological mothers. The rationale is that new parents, whether at the time of childbirth or adoption, require time to adapt to a new role and to a new child. Statutory birth and adoption leave is provided by law to employed women and protects their jobs until they return to work (in some countries, it also covers unemployed women and those with no labor market attachment). By narrowing the focus to maternity-related leave from the broader maternity protection, we can directly compare cross-national variation in birth and adoption programs.

In addition to presenting a cross-national comparison of statutory leave arrangements, we analyze quantitative data on birth and adoption leave in Canada and the United States. The North American comparison is particularly interesting because Canada is the only English-speaking country that provides both compensated maternity leave and parental leave. Also, the comparison

¹ According to the OECD (2004), public spending on the family includes financial support that is exclusively for families and children. Spending recorded in other social policy areas such as health and housing also assist families but is not included. The OECD Social Expenditure Database (SOCX, 2004), has missing data for the Czech Republic, Hungary, Iceland, Korea, Mexico, Poland, and Slovak Republic. Table 1 excludes these countries from the comparison. The data are incomplete for Austria and Norway.

² Data on expenditure for these cash programs are listed as item number 2 for Type of Program under Branch 5, Family Expenditure, in the SOCX (2004) database.

allows us to determine the costs and assess the generosity associated with birth and adoption leave in Canada and the United States. One way of assessing generosity is to consider the volume of maternity-related leave payments, both the number of recipients and weeks compensated, and relate these to the number of children being born. This approach gives a fuller picture of the role of compensated maternity benefits in supporting families with birth and adoptions.

We acknowledge that the focus on statutory programs ignores the role of collective bargaining agreements between unions and employers that may increase mandatory leave provisions. It also ignores employer-provided paid leave in non-union employment and other national policies related to children. For instance, Australia and the United States are the only two OECD countries without a national program of compensated birth and adoption leave. The Australian government, however, provides a significant lump-sum birth grant and also income-tested family benefit payments to families with one-earner. In the United States, California, Hawaii, New Jersey, New York and Rhode Island provide income support to parents for pregnancy and births through state-financed temporary disability insurance (TDI) programs. While family benefit payments in Australia are not addressed in this paper, TDI in the United States is examined.

The following section examines the variation in maternity-related leave in the OECD in terms of coverage, eligibility criteria, maximum leave duration, benefit replacement rates, and advance notice requirements. Section three develops an actuarial framework for examining the short-term costs of social insurance programs and applies this general framework to TDI programs in the United States. It also compares the experience (reciency rates, replacement rates) with birth and adoption leave in Canada to the performance of state TDI programs by examining both cross section and time series variation in the costs of these programs. California is singled out for additional analysis. Section four concludes.

II. A Cross-Country Comparison of Birth and Adoption Leave

The first global standard aimed at protecting working women before and after childbirth was adopted in 1919 by the ILO as the Maternity Protection Convention (ILO 1997).³ While female labor market participants have made remarkable progress in the advanced industrialized countries of the OECD, the progress has not been uniform. Most OECD countries increased the scope of their maternity leave policies and modified them into parental leave. For instance, the European Union (EU) adopted a directive in 1992 that mandated 14 weeks of paid maternity leave and adopted another directive in 1998 that mandated a three-month parental leave. On the other hand, Australia and the United States are the only two countries with uncompensated leave and the United States is exceptional in terms of the short duration of its statutory leave.

Employment-protected leave for childbirth and adoption is designed to protect female labor market participants at the time they are due to give birth and following birth or adoption. Table 2 shows the statutory provisions in 2004 - 2006 for birth and adoption across six geographic regions: Asia and the Pacific, Central Europe, Northern Europe, Southern Europe and North America. Currently, there are 30 member-countries in the OECD. Following the literature in this area, we exclude two small countries: Iceland and Luxembourg; and exclude Korea and Switzerland because they do not have national statutory provisions for birth and adoption leave.⁴ In most countries, women may combine pre-birth with post-birth leave; in some countries a short period of pre-birth leave is compulsory as is a 6 to 10-week leave period following childbirth. Leave for birth and adoption is the norm in the OECD. It is financed either through family allowance programs,

³ The Maternity Protection Convention, 2000 (No. 183) is the most up-to-date international labor standard on maternity protection. To women for whom it applies, the convention provides 14 weeks of maternity leave. If women are entitled to a cash benefit, it should replace no less than two-thirds of previous earnings to ensure that a woman can maintain herself and her child in good health and standard of living. The convention also ensures that a pregnant woman or nursing mother does not perform work that is harmful to her health or that of her child. It also prohibits employers from terminating the employment of a woman during pregnancy or absence on maternity leave, or during a period following her return to work, except on grounds unrelated to these contingencies. On returning to work, women are assured the same position or an equivalent one at the same rate of pay and the right to one or more daily breaks or a daily reduction in hours of work in order to breast-feed her child. See the URL for the International Labour Organisation (ILO): <http://www.ilo.org/public/english/bureau/inf/pr/2000/28.htm>

⁴ Switzerland does provide coverage at the canton (state) level.

sickness (temporary disability) benefits, or unemployment compensation programs, or as a separate social insurance benefit. The range, however, is wide and varies from compensation for the loss of earnings and family allowances, to unpaid family leave. Some countries also provide a birth allowance, or a nursing allowance.

As Table 2 shows, leave for birth and adoption varies in terms of coverage, qualifying conditions, maximum duration, and benefit replacement rates. There is also variation in the requirements for advance notice. Coverage is usually extended to employment-related activities in almost all of the OECD countries. In most countries, not only are gainfully employed women covered but also those who are self-employed. One region departs from this generalization: North America. In Canada and Mexico, coverage is extended to all employees; in the United States it is limited to employees in companies with 50 or more workers. According to Kamerman (2000, 12) only about 55 percent of the labor force is covered by the Family and Medical Leave Act (FMLA) in contrast to coverage for almost all working parents in other OECD countries.

A minimum length of service with the same employer is the most common qualifying condition for the birth and adoption leave and benefit. Hence, eligibility is restricted to women who have been employed for at least some minimum length of time before childbirth. This disqualifies many women, such as women who work part-time, on contract, or who are self-employed. Also, temporary workers often experience difficulty in meeting eligibility requirements for birth and adoption leave. The situation of women who become pregnant shortly after commencing a new position of employment is often precarious.

Table 2 also shows that qualifying periods of three to 12 months of continuous or insurable employment are common. Examples include a minimum of six months of employment in Portugal and Sweden; one year in Australia, New Zealand and the Netherlands. In Canada, a minimum of 600 hours of insurable employment in the previous 52 weeks will qualify employees for leave and paid benefits. In the United States, employees in the private sector are eligible to take unpaid leave if they have worked in covered employment for at least one year and for at least 1,250 hours during that year. In addition, at least 50 employees need to be working for their employer within a 75-mile radius of the worksite. Employees in the public sector are not bound by the minimum employment requirement and, hence, are fully covered by the FMLA.

Minimum contribution levels are usually required to qualify for paid birth and adoption leave benefits through social insurance programs. For instance, Belgium requires a woman to be covered by insurance during the two quarters before the quarter in which maternity leave commences; in the United Kingdom it is 26 weeks in the 66 weeks prior to the expected date of birth.

The maximum duration of birth and adoption leave varies significantly. According to Kamerman (2000, 7), the average basic leave is 16 weeks, typically including 6-8 weeks before and after childbirth. Of the 26 countries shown in Table 2, women in seven countries are entitled to 52 or more weeks of leave: Australia, Austria, Belgium, Denmark, Mexico, Norway, and Sweden. On the other hand, the maximum duration of leave is 12 weeks in the United States. According to the ILO Maternity Protection Convention (No. 183), the standard is 14 weeks of maternity-related leave, including “a period of six weeks compulsory leave after childbirth, unless otherwise agreed at the national level by the government and the representative organizations of employers and workers.”⁵ In North America, women in Canada are entitled to 50 weeks of leave; in the United States, the entitlement is 12 work-weeks of unpaid leave during any 12-month period for the birth and the care of a child through the FMLA. Overall, birth and adoption leaves in the OECD are significantly longer than the 12-week leave available in the United States.

For countries providing compensated birth or adoption leave, the ILO standard is for a benefit replacement rate of not less than two-thirds of previous insured earnings, with full health benefits. In all countries but the United States, health care or health insurance is available to all women at the time of childbirth (Kamerman, 2000, 8). While a woman’s work history and the length of time she has been employed may affect the level of benefit she receives, the leave itself is available to all working women regardless of income. Most OECD countries provide a statutory benefit to varying degrees, but it is not mandatory in Australia or the United States. Although women in Australia do not receive a birth or adoption benefit, the government provides a significant lump-sum birth grant and also income-tested family benefit payments to families with one-earner.⁶ In the United States, paid maternity leave is often provided as part of an employer-sponsored disability benefits program, such as short-term disability or sick leave. Policies and practices in

⁵ See <http://www.ilo.org/public/english/bureau/inf/pr/2000/28.htm>

⁶ The lump-sum birth grant was A\$3,000 in 2004.

connection with pregnancy and related matters are applied on the same terms and conditions as those applied to other temporary disabilities.

As Table 2 shows, the replacement rate for the birth or adoption benefit varies widely. Excluding Australia and the United States, 24 countries provide compensated leave for birth or adoption. Of these 24 countries, the majority meet the ILO standard of replacing at least two-thirds of previous insured earnings. Four countries do not meet the standard: Canada, Greece, Japan and the Slovak Republic. Greece has the lowest replacement rate at 50 percent; it is 55 percent in Canada and the Slovak Republic, and 60 percent in Japan. The replacement rate is 100 percent in half of the countries; the range is between the ILO standard and 100 percent in the remaining ones.

The advance notice required for taking maternity leave also varies from country to country. Some countries in the OECD require that a woman inform her employer of her pregnancy and her intention to take maternity leave. For instance, in Australia, a woman needs to inform her employer that she is pregnant and intends to take maternity leave at least ten weeks before leaving. In Austria, a woman is required to inform her employer of her pregnancy and of the likely date of birth as soon as she herself knows, and also provide the date that her prenatal leave will commence at least four weeks in advance of leaving. In Ireland and the United Kingdom, notification follows a strict procedure or a woman could lose the protection. On the other hand, women in Denmark, France, Greece and Italy are automatically entitled to maternity protection simply by becoming pregnant, no matter how and when the employer learns of it. In Finland, a woman is required to inform her employer only if she wishes to take leave more than 30 days before the expected date of birth. In the United States, employers need to be notified at least 30 days in advance when an employee intends to take leave for birth, adoption, and foster care.

Canada and the United States

While the pattern in the OECD is clearly generous birth and adoption leave, a pertinent question to ask is how does the United States compare with Canada? In brief, the contrast is quite stark. While maternity and parental leave is generally the jurisdiction of the province in Canada, the focus of this paper is paid maternity and parental benefits administered under the federal Employment Insurance (EI) program. The EI program compensates families for three contingencies: childbirth, adoption and parental leave, the latter including leave to care for sick family members. Program benefits replace 55 percent of prior wages. Fifteen weeks of maternity leave is

compensated following a two week waiting period. In addition, qualified working parents are entitled to receive 35-weeks of parental leave paid at the same replacement rate.⁷ Parental leave now compensates more than twice as many weeks as birth and adoption benefits, 550 million weeks versus 214 million weeks in 2006.

In Canada, birth-related benefits became available to working families in 1971 and have been extended over time: maternity benefits for biological mothers commenced in 1971; adoptive parents became eligible in 1983; parental benefits were introduced in 1990.⁸ In March 2005, the federal government and the province of Quebec reached an agreement that allowed Quebec to withdraw from the federal EI maternity and parental benefits system. In January 2006, Quebec began to offer its own birth-related benefits program. Under the Quebec program, new parents can select one of two available options. The first is a basic plan that is longer in the duration of benefits but offers a lower replacement rate during the second half of the leave period. The second, termed a special plan, is shorter in duration but has a higher replacement rate.

While the United States does not have a national program, families may receive a payment for births (but not adoptions) through state-financed temporary disability insurance (TDI) programs. Originally, pregnancy and childbirth were included under the definition of disability. The Pregnancy Disability amendment to Title VII of the Civil Rights Acts, passed in 1978,

expanded the definition of sex discrimination to include discrimination based on pregnancy, childbirth or related medical conditions and required employers to treat pregnancy and childbirth like other causes of disability under employee benefit plans such as health insurance, disability insurance, or sick leave plans (Kameran, 2000:12).

Further legislation, the Family and Medical Leave Act (FMLA) of 1993, expanded the extent of protection. The legislation requires employers with 50 or more employees to provide up to 12 weeks of unpaid employment-protected leave to eligible employees to care for a newborn, newly-adopted or foster child, a child, a spouse, or a parent with a serious health condition, or for a serious health condition of the employee, including maternity-related disability. The act is administered by the Wage and Hour Division of the U.S. Department of Labor.

⁷ The potential duration of parental leave expanded from 10 weeks to 35 weeks in 2002.

⁸ See Phipps (2006) for details on the evolution of maternity and parental leave policy in Canada.

Five states operate TDI programs: California, Hawaii, New Jersey, New York and Rhode Island. These programs are financed by differing combinations of payroll taxes on employers and employees. In three states (California, New Jersey and Rhode Island), TDI is administered within the same department responsible for the unemployment insurance (UI) program.⁹ In two states (Hawaii and New York), TDI is administered as part of the workers' compensation program.

Besides payments through TDI programs, childbirth in California is now compensated under paid family leave (PFL) insurance which started paying benefits in mid-2004. While PFL also compensates for the care of sick family members (children, spouses and parents), about 90 percent of PFL recipients are paid benefits for bonding during the first weeks after childbirth. Spouses as well as new mothers can both receive up to six weeks of benefits in the year following a childbirth, but women make up about 70 percent of the caseload. The Employment Development Department (EDD) administers PFL and TDI as well as unemployment insurance in California.

While descriptions of the cross-national variation in birth and adoption leave highlight the different approaches, policy makers are also concerned about the cost of these programs. The following section develops an actuarial framework for examining these costs. Initially, a general framework of short-term social insurance program costs is developed. This is extended to TDI programs in the United States and the used to compare Canadian cost experiences to U.S. state TDI costs and to combined TDI and PFL program costs in California.

III. Short-Term Social Insurance Protection

The previous section examined a taxonomy of birth and adoption programs in 26 OECD countries. This section develops an actuarial framework for examining the costs of short-term social insurance programs. Short-term is defined as an interruption to earnings that usually lasts less than one year. While the paper's principal focus is financial support for birth and adoption, the actuarial cost framework is initially presented in more general terms.

⁹ Puerto Rico also operates a TDI program within its labor department.

A Cost Framework¹⁰

Short-term contingencies that reduce family earnings and income include impairments from work injuries, short-term illness and unemployment as well as births and adoptions.¹¹ For each of these situations, the cost of providing social insurance protection can be characterized using a common actuarial framework. We assume that the program is financed by a tax on the payrolls of covered employers. This payroll tax has a tax rate of τ percent which is divided between employers and workers (the division is not specified here). The tax is presumed to cover the long-run average cost of benefit payments and associated administrative expenses.

The payroll base for the short-term program can be specified as follows.

$$(III-1) P = ECov \times AWW \times 52$$

where

P = Annual covered payroll

ECov = Covered employment

AWW = average weekly wages in covered employment

52 is a multiplier that converts weekly payroll into annual payroll.

Covered employment does not extend to all workers. The unemployed are frequently not covered along with groups explicitly excluded from program coverage. Exclusions from coverage often include the self-employed and may encompass an entire industry such as agriculture, an entire class of workers such as family workers and/or firms that fall below a minimum size threshold. Coverage details depend upon the statutory provisions of the program. For present purposes, we note that covered employment is smaller than the total labor force and can be expressed as follows:

$$(III-2) ECov = LF - U - ENC$$

where

LF = The labor force

U = Unemployment

ENC = Non-covered employment which usually encompasses the self-employed as well as groups explicitly excluded from coverage.

¹⁰ A derivation of the actuarial cost equation is given in Chapter 2 of Vroman and Brusentsev (2005).

¹¹ Other contingencies could also be considered such as illness among other family members and injuries from automobile accidents.

Expression (III-2) shows that covered employment is lower as the unemployment rate rises and as the excluded groups form a larger share of the labor force. This can be expressed as follows:

$$(III-3) \text{ECov} = \text{LF} \times (1 - u) \times (1 - \text{enc})$$

where

u = the unemployment rate or (U/LF) and

enc = the noncovered employment share $(\text{ENC}/(\text{LF} - U))$

Collecting terms yields the following expression for covered payroll.

$$(III-4) \text{P} = \text{LF} \times (1 - u) \times (1 - \text{enc}) \times \text{AWW} \times 52$$

Expression (III-4) is general a characterization that recognizes the size of the labor force, the unemployment rate, the non-covered employment share and the average weekly wage as explicit determinants of covered payroll. It can apply to any short-term social insurance program.

Annual benefit payments can be expressed as 52 times the product of the weekly number of beneficiaries and the weekly benefit amount.

$$(III-5) \text{B} = \text{NBen} \times \text{WBA} \times 52$$

where

B = Annual benefit payments

NBen = Weekly beneficiaries

WBA = Weekly benefit amount

52 converts weekly payments to annual payments.

The volume of weekly beneficiaries, in turn, depends upon three factors: the number of occurrences of the insurable contingency, the take-up rate (the number who receive payments as a ratio to the number who experience the contingency) and average duration in benefit status.

$$(III-6) \text{NBen} = \text{NOcc} \times \text{tup} \times \text{db}$$

where

NOcc = Annual occurrences of the insurable contingency

tup = take up rate (= the number who apply and receive benefits as a ratio to occurrences)¹²

db = average duration of benefits in weeks but expressed as a fraction of 52 weeks.

Annual occurrences are the product of rate of occurrences times the labor force.

$$(III-7) \text{NOcc} = \text{LF} \times \text{roc}$$

¹² The distinction between applicants and recipients may be important in applied situations. This presentation does not examine denials nor does it examine repeat use of benefits by individual claimants

where

roc = annual rate of occurrences of the contingency in the labor force (NOcc/LF).

The weekly benefit amount in (III-5) is the product of the replacement rate times the average weekly wage, or

$$(III-8) \text{ WBA} = \text{rr} \times \text{AWW}$$

where

rr = the replacement rate (= WBA/AWW)

Collecting terms from (III-6), (II-7) and (III-8) and substituting into (III-5) yields the following expression for annual benefit payments.

$$(III-9) \text{ B} = \text{LF} \times \text{roc} \times \text{tup} \times \text{db} \times \text{rr} \times \text{AWW} \times 52$$

Annual benefit payments depend upon six explicit factors that determine weekly beneficiaries and the weekly benefit amount multiplied by 52 to convert weekly payments into an annual flow.

The cost rate for providing short-term social insurance benefits is the ratio of benefit payments to covered payroll. When benefit payments are financed by a payroll tax, the tax will also need to incorporate the costs of program administration (unless administrative costs are funded separately). For the benefit part of program costs, the cost rate can be expressed as the ratio of expression (III-9) to expression (III-4). Since annual cost experiences will include short-run random factors, the calculation of the program's cost rate should be based on multi-year averages of experiences rather than experience from any single year. One advantage of having a trust fund associated with a program is that the short run "noise" in benefit payments and revenues can be absorbed by short-run fluctuation in the trust fund balance without a need for frequent tax rate adjustments.

Expression (III-10) summarizes the preceding derivation, showing explicit factors that enter the determination of the benefit cost rate.

$$(III-10) \text{ B/P} = [\text{LF} \times \text{roc} \times \text{tup} \times \text{db} \times \text{rr} \times \text{AWW} \times 52] / [\text{LF} \times (1 - u) \times (1 - \text{enc}) \times \text{AWW} \times 52]$$

After the common terms LF, AWW and 52 are cancelled from the numerator and denominator, the resulting expression summarizes the costs of short-run social insurance benefits.

$$(III-11) \text{ B/P} = [\text{roc} \times \text{tup} \times \text{db} \times \text{rr}] / [(1 - u) \times (1 - \text{enc})]$$

The four factors in the cost of benefit payments (the numerator of (III-11)) are the rate of occurrences of the contingency, the take-up rate, benefit duration and the replacement rate. The two

factors that (negatively) affect the size of covered payroll (and raise the cost rate) are the unemployment rate and the share of employment not covered by the program.

When the program is financed by a payroll tax, the tax rate τ needed to cause the long-run average of revenues and benefit payments to match is determined by these six factors. Program administrative costs would add somewhat to τ . Because the beneficiary population turns over quite rapidly, administrative costs can be 10 percent or more of total benefit costs.¹³

With appropriate data, the benefit cost rate as summarized in expression (III-11) can be used to make cross section and/or time series comparisons. For a single program, different countries or the states within the United States can be compared at a given point in time. At a particular point in time, it is interesting to compare different short-run programs. It is also possible to trace the evolution of program costs over a succession of years to identify the factors responsible for changes in costs in any individual country or state.

Several cost factors in (III-11) are influenced by statutory provisions that determine eligibility for benefits and payment levels. Thus the framework is potentially helpful for examining how costs are affected by factors under the control of policymakers such as the minimum period of employment needed for eligibility, the maximum weekly benefit amount, the statutory replacement rate, maximum potential benefit duration and specific exclusions from coverage.

Expression (III-11) gives a simplified view of program coverage. There are coverage issues in occurrences of the contingency in question, for example, the self-employed and other excluded workers may experience the contingency. Some employers in covered employment situations may avoid making payments through practices such as reporting an inappropriate (non-covered) industry code or misclassifying employees as independent contractors (rather than as employees). Eligibility determinations also can make errors through individuals claiming to be sick, injured or unemployed when, in fact, they are not.

There is also an implicit assumption that the labor force is the appropriate overall universe for measuring the population at risk. This certainly is not the case for sickness benefits when a worker must temporarily leave work to care for a sick relative younger than age 16. For birth and

¹³ Ten percent is the average administrative cost share of total costs for unemployment insurance, but it is about 30 percent for workers' compensation in the United States.

adoption compensation, the exposure measure is more appropriately women of child bearing age, say 15 to 44 (or even older), rather than the total labor force aged 16 and older.

Other issues may arise due to the lack of appropriate data. For example, the number of spells of short term sickness requiring absence from work is not subject to consistent measurement while the number of individuals who receive sick-leave payments depends crucially upon the sick-leave policies of individual employers. Thus measurement of the take-up rate for sick-leave benefits is not really possible even where data on sick-leave payments are available. In terms of the mathematical equations presented above, we can more easily measure NBen in equation (III-5) than its three components in equation (III-6). Depending upon the purpose of the study, this kind of data deficiency may or may not represent an important problem.

In summary, the preceding derivation can be useful for examining cross section and time series variation in the costs of short-term social insurance programs. Data deficiencies may limit the researcher's ability to track all elements that enter expression (III-11), but the actuarial framework may still be productively applied for cost comparisons of short-term social insurance programs using data that are available.

Temporary Disability Insurance

The temporary disability insurance (TDI) programs serve persons attached to the labor force and provide cash benefits for injuries and illnesses that are not work-related.¹⁴ These TDI programs all publish data on the number of first payments, average benefit duration, weekly beneficiaries and average weekly benefits. Thus the benefit cost rate can be expressed as follows:

$$(III-12) \text{ B/P} = [\text{fp} \times \text{db} \times \text{rr}] / [(1 - \text{u}) \times (1 - \text{enc})]$$

where

fp = first payment rate (= the ratio of first payments to the labor force or FPay/LF)

All other terms in (III-12) are as defined previously.

In some situations, the number of first payments and the associated average duration of payments may not be known but their product (average weekly beneficiaries or NBen) may be known. For such situations the cost rate can be expressed as follows.

$$(III-13) \text{ B/P} = [\text{rcp} \times \text{rr}] / [(1 - \text{u}) \times (1 - \text{enc})]$$

¹⁴ Work-related injuries and illnesses are covered by workers' compensation programs

where

$rcp = \text{TDI reciprocity rate} (= \text{NBen/LF or weekly beneficiaries as a ratio to the labor force})$

This expression will be used for summarizing data from Canada where we have not found information on the number of first payments but do have information on weekly beneficiaries.

Unlike the general derivation of the previous section, expressions (III-12) and (III-13) do not include terms to represent the underlying rate of occurrence in the labor force or the take-up rate. These are simply not known in TDI programs whose administrative benefit data commence when an application for benefits is received. The underlying application (or take-up) rate (applicants as a ratio to all occurrences of temporary non-work disabilities) is not known. There is no external source of data on the total number of such occurrences.

In four of the five state TDI programs, births (but not adoptions) are among the temporary disabilities that may be compensated. Payments are made both before and after childbirth. In uncomplicated births, the total duration of payments is limited to 8 to 12 weeks with longer periods for complicated pregnancies/births. In four of the five state TDI programs (all but Hawaii), at least some administrative data on these payments can be obtained.¹⁵ Pregnancy benefits constitute a measurable share of the annual caseload and benefit payments in the four states. The next section focuses explicitly on cash benefits for birth and adoption.

As of April 2007, just one state, California, operates a program that focuses on birth and adoption. Benefits can be received for up to six weeks by the parents of a newborn or adopted child. This program has been paying benefits since mid 2004. It is also examined in the next section.¹⁶

Canada administers short term social insurance programs for unemployment, sickness, birth and adoption and parental care, and operational data for these programs are available. Thus we can compare the Canadian experience (reciprocity rates, replacement rates) with the performance of TDI programs in the United States.

¹⁵ The data appear in annual reports of the administrative agencies and in the Annual Statistical Supplement to the Social Security Bulletin. Pregnancies are a separate disability diagnostic category. For New York, pregnancy compensation data for 1989 and 1990 were obtained through a Freedom of Information Act (FOIA) request.

¹⁶ In late April 2007, Washington State enacted a birth and adoption program. It will start to pay benefits in 2009.

Table 3 shows TDI performance data for the five U.S. states and Canada. The U.S. data span the years from 1985 to 2004 while the Canadian data extend back to 1975. All data are displayed as averages for five-year periods (Panel B) or for the full 20 years (Panel A).¹⁷ The first payment rate (column (3)) and the recipiency rate (column (6)) are shown as a percentages of the civilian labor force. Note in Panel A that the first payment rates span a range from 3.0 percent in New Jersey to 6.2 percent in Rhode Island. Column (4) shows a strong association between the type of program administration (unemployment insurance (UI) or workers' compensation (WC)) and average benefit duration. Duration is much shorter in Hawaii and New York, states with TDI administration within the WC agency. The overall recipiency rates (column (6)) range from 0.48 percent of the labor force in Hawaii to 1.36 percent in Rhode Island.

A substantial range of average replacements is apparent in Panel A. Hawaii's average of 0.534 is nearly double New York's average of 0.290. The New York program has operated for several years with its current maximum weekly benefit of \$170. This has increasingly restricted the replacement rate as shown in column (10) of Panel B. In New York, the average replacement rate during 2000 – 2004 was 41 percent lower than in 1985 – 1989 (0.214 versus 0.364).

Besides the decrease in New York's replacement rate, two other trendwise developments are apparent in Panel B. Four states experienced decreases in the first payment rate (column (3)). While the decreases in California, Hawaii and New Jersey were modest (20 percent or less), the decrease in New York was substantial. Its first payment rate during 2000 – 2004 was less than half of the rate during 1985 – 1989 (3.6 percent versus 8.6 percent). Average duration displays an upward trend in Hawaii and Rhode Island, but the upward trend is clearly the strongest in New York.

Column (11) displays information on the benefit costs of TDI programs. The range of the 20-year averages is from lows of 0.231-0.248 percent in New York and New Jersey to a high of 0.757 percent in Rhode Island. The range of costs during 2000 – 2004 was even wider than during 1984-2004, e.g., from 0.148 percent of payroll in New York to 0.913 percent in Rhode Island.

Table 3 also displays data for Canada. The summary information in Panel A is shown on two lines. The first refers just to the short term sickness program whereas the second line combines information from the sickness program with information on birth and adoption compensation. The

¹⁷ For New York, the data span the years 1985-2003.

second line is an artifact of the present paper, that is, the Canadian programs are administered as separate contingencies. Because the TDI programs in the United States include compensation for pregnancy, the Canadian programs were combined to make the data more comparable.

For the combined Canadian programs, note how the level of the reciprocity rate in Panel A (0.60 percent) closely matches the data for New Jersey and New York, but is lower than for California and Rhode Island. The Canadian replacement rate is higher than in three states but not higher than for Hawaii or Rhode Island. When five-year Canadian averages are examined in the two bottom blocks of Panel B, there are some upward movements in averages, for example, the reciprocity rate, but no large trends, especially in the combined data. The combined data for Canada are not strikingly different from the TDI data from the five states with TDI programs in terms of the performance indicators displayed in Table 3.

Compensation for Birth and Adoption

Unlike sickness benefits where there is no ongoing measurement of the insurable contingency (total spells of short-term non-occupational illness and injuries), the universe for birth and adoption is subject to ongoing measurement. The Vital Statistics Division of the U.S. Census Bureau publishes annual estimates of births at the state and national levels as does Statistics Canada. While the United States does not have a national program, families may receive payments for births through state TDI programs. Because three states with TDI are large, the five state programs combined cover slightly more than one-fifth of the national labor force. Besides payments through the five TDI programs, childbirth in California is also compensated under PFL insurance.

Where birth and adoption is a compensable social insurance contingency, the costs of compensation can be described with an actuarial cost equation. The equation recognizes the rate of occurrences (births as a percent of the labor force), the take-up rate and benefit duration, the three factors that combine to yield the weekly average number of recipients of birth and adoption benefits. The cost equation is as follows.

$$(II-14) B/P = [br \times tup \times db \times rr] / [(1 - u) \times (1 - enc)]$$

where

br = The birth rate (live births as a percent of the labor force)

All other variables are as defined previously in equation (II-11).

Individual elements in the numerator of (III-14) appear in Table 4 which traces developments in Canada from 1975 to 2004 and in four states of the United States from 1985 to 2004. The table

is similar in structure to Table 3 except that several cells have missing data or averages based on comparatively few years. The TDI programs traditionally have not published much detail on benefits by diagnostic category despite the fact that pregnancy benefits are typically the largest single diagnosis. Hawaii indicated they have no detail on pregnancy benefits even though women make up about two thirds of their TDI caseload.¹⁸

The Table 4 data are displayed in two ways. Panel A shows averages for the 20 years 1985 to 2004 while Panel B shows averages by five year sub-periods. Note that the birth rate in column (3) measures births relative to the size of the labor force.¹⁹ The range of 20-year birth-rate averages is from a low of 2.48 percent in Canada and 2.53 percent in Rhode Island to 3.52 percent in California. Note that average birth rates are displayed in all periods for all jurisdictions and that a downtrend is present for each jurisdiction.

The data on payments in columns (4) through (15) are incomplete in several respects. Information on first payments (column (4)) is most complete, but even here there are just two years of data from New York and seven from New Jersey.²⁰ Canada and California are the only jurisdictions with payment data for each year.

Across all five jurisdictions, pregnancy/birth benefits are paid to a measurable share of families with births. The average Panel A proportions in column (5) of Table 4 range from 0.207 in New Jersey to 0.502 in Canada. The average take-up rate of 0.410 in Rhode Island is the highest of the four U.S. states.

For the states, there is limited evidence of a trend in take-up during 1985-2004. In New Jersey and Rhode Island, a simple regression of take-up on a linear trend was not significant, but in California a positive trend was detected. Its coefficient suggested an increase in take-up of slightly less than one percentage point every three years. The five-year average proportions in column (5) of Panel B for California convey a similar message.

¹⁸ First payments in 2004 were made to 23,103 women and 11,070 men.

¹⁹ This expression could also utilize the more traditional birth rate, that is, births relative to the female population aged 15 to 44. Then an adjustment would need to be added to measure the size of this female population relative to the size of the labor force to yield a cost rate based upon total payroll.

²⁰ California has first payment data for all 20 years while Rhode Island has data for 14 years

In contrast, the Canadian data show a strong trend in take-up of birth and adoption payments. The trend coefficient for the 1985 – 2004 period suggested an increase of 0.84 percent per year with take-up reaching 60 percent by 2004. During the most recent years, roughly six in ten Canadian families with a new child have been receiving birth and adoption benefits through the EI program. Column (5) in Panel B shows that take-up in Canada has more than doubled since the mid 1970s.

In both Canada and the United States, the duration of benefits for birth and adoption is limited. Medical guidelines used by TDI programs suggest benefit periods of from 8 to 12 weeks while benefits for birth and adoption are limited to 15 weeks in Canada.²¹ Column (6) in Table 4 displays average benefit periods. For the four U.S. states during 1985 – 2004 these averages ranged between 8.6 weeks in New York and 11.3 weeks in California.

If every family with a newborn child received compensation for the 52 weeks related to the birth, the weekly number of beneficiaries would equal the number of births. Column (8) in Table 4 shows the actual weekly beneficiary averages. Column (9) then shows the ratio of these averages to the number of births. Across the four U.S. states, these ratios ranged from lows of 0.047 in New York and 0.050 in New Jersey to 0.073 in Rhode Island. Even in Canada where take-up is higher and benefit duration is longer, the beneficiary/birth ratio only averaged 0.145 during the 20 years.

Our actuarial framework allows us to decompose the rather low recipiency rates shown in column (9) into two contributing factors: low take-up (column (5)) and short duration (column (6) divided by 52).²²

Take-up, in turn, has two determinants in these jurisdictions. Women were required to work a minimum amount of time in order to qualify for eligibility to the program. Part of the reason for low take-up is that some 20 – 30 percent of women age 16 to 60 do not participate in the labor market in a given year and others who do work cannot satisfy the work experience requirements for eligibility. Also, there is less than full take-up among women with sufficient work experience to be eligible. The latter factor in low take-up could be addressed through public education and information campaigns. The need of many women to return to the labor market in order to restore

²¹The table shows duration of 15 weeks in Canada because we have not found duration data.

²² The recipiency rates of column (9) are the product of the take-up rate in column (5) times average duration in column (6) divided by 52 to convert duration in weeks into duration as a fraction of the year.

family earnings and income, however, will continue to limit the take-up. The same financial incentives would be in play among many families who do receive maternity-related benefits for some period of time. Even in Canada, the ratio of weekly beneficiaries to the number of births and adoptions seems unlikely to reach 0.20 under the statutory program currently in place.

The other element of income support for birth and adoption among working families is the level of payments. Columns (11), (12) and (13) summarize payment levels relative to weekly wages. The lowest average replacement rate is found in New York at 0.258, a reflection of the low weekly maximum of \$170 noted earlier. California and New Jersey have higher replacement rates (0.329 and 0.315 respectively) which are considerably lower than the averages of 0.480 in Rhode Island and 0.463 in Canada. Thus between 1985 and 2004, weekly benefit payment levels in aggregate data across these five jurisdictions consistently exceeded one quarter of past weekly wages but never were as high as one half of past wages.²³

The product of the reciprocity rate (column (9)) and the replacement rate (column (13)) can be termed a generosity index. This implies that if all new births and adoptions were compensated for a full year at the level of the average wage among covered workers, the generosity index would be 1.0.²⁴ Families with new children would experience no diminution of income if one parent did not work for a year because the maternity-related payment would last for one year at a payment level equal to previous earnings. That is the intuitive explanation of having a generosity index of 1.0.

The largest entry in column (14) of Panel A is Canada's 20 year average of 0.067. Rhode Island has the highest U.S. average at 0.035. The actual payment of pregnancy/birth benefits in Rhode Island replaces 3.5 percent of the past earnings when the duration of payments and payment levels both enter the calculation. The generosity indices in California, New Jersey and New York are from 34 to 63 percent of the index for Rhode Island.

The generosity index in Canada roughly doubled between 1975-1979 and 2000-2004, increasing from 0.038 to 0.074. This increase reflects mainly the increase in take-up and the

²³ The replacement rates use average weekly wages of all covered workers. Since women have below-average weekly earnings the actual replacement rate for beneficiaries would be higher than shown in the table.

²⁴ In other words, the reciprocity rate and the replacement rate would both have values of 1.0 and their product would also equal 1.0.

associated reciprocity rate noted earlier. The only discernable change in the Canadian replacement rate in Table 4 was a decrease during 2000 – 2004. This reflects a freeze on the maximum payment level that has been operative since 1996 and continues even into 2007.

Finally, column (15) shows the costs of financing the benefit payments for birth and adoption. The calculation is expressed as a percentage and shows the payroll tax rate that would be needed to finance the long run costs of these payments. The cost level was less than 0.050 percent in both New Jersey and New York. The cost rate was higher in California and Rhode Island but still less than 0.100 percent. For Canada, the cost rate was 0.203 percent of payroll. The cost rates in column (15) are rough estimates of the level of the payroll tax rate τ that was introduced in earlier discussions of actuarial equations (III-11), (III-13) and (III-14). For the programs summarized in Table 4, this is the tax rate needed to achieve long run balance between benefit payments and total tax revenues. Adding costs for program administration would cause this required tax rate to be somewhat higher.

California's Two Programs

In section II, we noted that EDD administers the TDI and PFL programs as well as UI. For pregnant women, TDI may be received before and after childbirth. The total duration of payments is usually limited to 10 weeks, but longer periods may be allowed for difficult pregnancies, difficult births or multiple births.²⁵ Note that the usual duration under TDI in California as in the other TDI states is shorter than the ILO standard of 14 weeks of maternity-related leave. Eligibility is reserved for mothers and does not extend to adoptions. PLF payments are limited to six weeks in the year after childbirth but six weeks may be received by each parent within this time frame. While the PLF program also compensates for the care of sick children, spouses and parents, the bulk of payments are for bonding in the year after childbirth.

Payment levels in the TDI and PFL programs use a single formula, replacing 55 percent of past wages up to a limit which was \$840 per week in December 2006. The statutory replacement rates and maximum benefits for UI benefits were 52 percent and \$450 in December 2006. For individual beneficiaries payment levels under TDI and PFL are more generous than under UI.

²⁵ The guideline is to allow benefits for four weeks before and six weeks after a birth

Because TDI and PFL are both administered by EDD, it can ensure that only a single benefit payment is made to each recipient during a given week. After serving a waiting week, a family could potentially receive 10 weeks of TDI followed by 6 weeks PLF for one spouse and then 6 weeks of PLF by the second partner for a total duration of 22 weeks or about five months. When both TDI and PFL benefits are considered the duration of payments for a family can easily exceed the ILO's standard of 14 weeks.

Table 5 summarizes performance data for the two California programs. Annual TDI benefits from 1995 to 2006 are shown in Panel A. During these 12 years, take-up rates (column (3)) ranged between 0.279 and 0.326, and average duration (column (4)) ranged between 10.4 and 11.0 weeks. The replacement rate varied more widely between 0.307 and 0.380. The decrease between 1995 and 2000 reflects the effects of a stable maximum weekly benefit of \$336, but then the maximum increased strongly starting in 2000 with the obvious effect of increasing the replacement rate. TDI-pregnancy costs were consistently less than 0.100 percent of payroll during all 12 years.

PFL payments commenced in July 2004. During its first three years, about 90 percent of the caseload has been paid as bonding benefits. Column (2) in Panel B shows there were 142,000 first payments of bonding benefits in 2006 while the number receiving family care benefits (not shown) was 15,000. The PLF data do not disaggregate weeks compensated, weekly benefits or total payments into bonding benefits and family care benefits. There is good reason to think bonding benefits have longer average duration than family care benefits. Illness among family members often lasts fewer than six weeks. In both 2005 and 2006, average duration for all PFL recipients was 5.6 weeks, very close to the maximum of six weeks.

The take-up of bonding benefits was measurable even in the first year of availability. Since payments commenced only in July 2004, take-up was about 0.22 for the last six months of 2004, and it then increased to roughly 0.24 and 0.26 in the next two years. By 2006, the number of first payments (142,000) was about 80 percent of the 179,000 first payments for TDI pregnancy benefits. Since PFL benefits are paid to individuals, we do not know the number of families that received bonding benefits. The breakdown of first payments by gender during the first twelve months, however, indicated that 83 percent of beneficiaries were women. Thus perhaps 120,000 families received bonding benefits during 2006 or 22 percent of new births for the year. Over 98 percent of bonding beneficiaries were paid for new births and only 1.5 percent for adoptions.

Panel D in Table 5 shows the shares that bonding benefits have represented of combined TDI-pregnancy and PFL-bonding benefits. The shares are all measurable, over 40 percent of first payments and 28-30 percent of weeks compensated. Because weekly bonding benefits are higher than weekly pregnancy benefits, the bonding benefit share of combined benefits is higher than the share of weeks compensated, 33-34 percent compared to less than 30 percent.

The data suggest California families distinguish TDI-pregnancy benefits from bonding benefits. Note that the TDI-pregnancy take-up rate increased slightly in 2006. Since 1997, take-up has fluctuated between 0.301 and 0.326. The payment of bonding benefits clearly represents an increase in total support to families for births and adoptions. Bonding benefits in 2005 and 2006 constituted about one-third of combined benefit payouts. The total for 2006 of \$1.017 billion represented an increase of more than 80 percent from the level of pregnancy/birth payments in 2003. During the same period, TDI-pregnancy benefits increased by just 20 percent. PLF-bonding benefits have reached a measurable share of families with new children in its initial years of operation.

IV. Conclusion

All societies face challenges posed by events that cause short-term and long-term interruptions to earnings, but individuals and families respond differently. Some resort to individual actions (a drawdown of savings or financial support from other family members), others utilize employer-provided benefits (sick leave) or social insurance programs (unemployment insurance, workers' compensation payments). We focused on arrangements that provide support to families with birth and adoption. Birth and adoption has two important financial consequences for the family: an increase in living expenses from the addition of a new family member and, usually, a reduction in earnings when one or more adult reduces the number of hours worked in the labor market to provide child care. Maternity-related payments ease some of this financial burden.

As our paper showed, the pattern of birth and adoption leave yields disparate outcomes: some female labor force participants enjoy substantial benefits, while others are unprotected. In most OECD countries, gainfully employed women, including those who are self-employed, are covered. But coverage is extended only to employees in North America and employment-protected leave is further limited to employees in companies with 50 or more workers under FMLA in the United States. Since eligibility is restricted in Canada and the United States to women who have been

employed for at least some minimum length of time before childbirth, it disqualifies many women. We noted that some 20-30 percent of women aged 16 to 60 in North America do not work in the labor market in a given year. They and many others who are attached to the labor market cannot satisfy the work experience requirements for eligibility.

Of the 26 countries examined in this paper, only the United States and Australia did not meet the ILO standard of 14 weeks of maternity-related leave. All but four of the 26 met the ILO standard of providing payments that represent at least two thirds of prior earnings.

The absence of pregnancy/maternity benefits in the United States is disturbing since the United States is also the only advanced industrialized country that does not make health care or health insurance available to all women at the time of childbirth. The ILO standard for birth and adoption leave of 14 weeks typically covers some 6 – 8 weeks both before and after childbirth. All but two of the 26 OECD countries meet or exceed this standard. Birth and adoption leave in Canada, for example has a maximum duration of 15 weeks. For the TDI programs in the four U.S. states with at least some data on pregnancy compensation during 1985-2004, average duration of benefits ranged from a low of 8.6 weeks in New York and a high of 11.3 weeks in California. For the PFL program in California that commenced payments in July 2004, the average duration for all recipients was 5.6 weeks. Overall, average duration for birth and adoption benefits in every U.S. state but California falls short (far short in all except the TDI states) of both the ILO standard and OECD practice.

The ILO standard on payment levels is a replacement rate of at least two-thirds of previous insured earnings. Our analysis summarized the experience in Canada from 1975 to 2004 and the United States from 1985 to 2004. The lowest average replacement rate was found in New York at 0.258; California and New Jersey had higher replacement rates, 0.339 and 0.315, respectively; with replacement rates of 0.480 in Rhode Island and 0.463 in Canada. Throughout this period, weekly benefit payment levels in aggregate data consistently exceeded one-quarter of past wages, but were never as high as the ILO standard of at least two-thirds of previous weekly wages.

We also traced other developments in birth and adoption compensation in North America. We are concerned about the low recipiency rate. Even in Canada, the ratio of weekly beneficiaries to the number of births and adoptions seems unlikely to reach 0.20 under the statutory program currently in place even though nearly 60 percent of new births and adoptions are compensated. Our

actuarial framework allowed us to decompose the reciprocity rate into two contributing factors: low take-up and short duration. While we recognize that some women do not satisfy the work experience requirements for eligibility, there is less than full take-up among women who are eligible. This could be addressed through public education and information campaigns. The need to return to work by many working women to restore family earnings and income, however, will continue to limit take-up rates.

The actuarial framework also allowed us to calculate a generosity index for birth and adoption leave. If all new births and adoptions were compensated for a full year at the level of the average wage of workers covered by the program, the generosity index would be 1.0. This implies that families with new children would experience no diminution of income if one parent did not work for a year because their maternity-related payment would last for one year and at a payment level equal to previous earnings. The highest generosity index for the 20-year period 1985 – 2004 was for Canada at 0.067; Rhode Island had the highest U.S. average at 0.035. The generosity indices in California, New Jersey and New York are from 34 to 63 percent of the index for Rhode Island. Such indices are far below the generosity levels associated with other social programs, such as unemployment insurance.

Our estimates of what would be needed to finance the long run costs of birth and adoption leave payments, indicate that these are not very expensive. The cost level was less than 0.05 percent of payroll in both New Jersey and New York, higher in California and Rhode Island but still less than 0.10 percent. For Canada, the cost rate was about 0.20 percent of payroll. This is the tax rate needed to achieve a long run balance between payment for birth and adoption leave and total tax revenues. The required tax would need to be somewhat higher to cover the costs of administering the program.

This examination of birth and adoption leave shows that there is much variation in the approach taken by policy makers throughout the OECD. Much of the variation is due to different objectives of policy makers for supporting working families as they reconcile labor market work with family life. Given that much of the debate regarding family policy is framed by choice for parents, we note that there is little choice available to parents in the United States when it comes to infant care. Our analysis indicates that the cost of supporting families for maternity-related leave is modest but such support would enhance the well-being of children and working families.

At least two areas for future can be suggested: 1) Among women who work, it is important to distinguish among the factors that contribute to low take-up of pregnancy benefits in TDI programs. Typically about 80 percent of working age women do work in the paid labor market sometime during the year. Fielding an interview survey that focuses on their motivations in applying or not applying for pregnancy benefits could yield findings useful to distinguish among three factors influencing applications: lack of sufficient work experience, lack of information about eligibility for TDI and the need to resume work quickly to maintain family income. 2) Since many families with new births and adoptions do not receive any kind support payments, what are the income characteristics of recipient families versus non-recipient families? Again an interview survey could help to make useful comparisons of the income and financial well-being of the two groups.

We recommend undertaking a household interview survey to address both questions. The design should include three types of states: 1) California, 2) one or more of the four other states with TDI and 3) one or more states that do not have TDI. The questionnaire in the three types of states should be differentiated so that the situation in California, TDI states and non-TDI states can be compared and contrasted.

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Table 1
Public Social Expenditure on the Family as a Percentage of GDP

	1981	1986	1991	1996	2001
Australia	1.0	1.1	1.7	2.8	2.8
Japan	0.5	0.4	0.4	0.5	0.6
New Zealand	2.0	2.6	2.3	2.2	2.2
Denmark	2.9	2.6	3.4	3.8	3.8
Finland	2.0	2.6	3.8	3.8	3.0
Norway	INA	INA	3.1	3.5	3.2
Sweden	4.1	4.2	4.9	3.4	2.9
Greece	0.5	0.3	1.7	1.9	1.8
Italy	1.3	0.8	0.9	0.8	1.0
Portugal	0.9	0.8	1.0	1.0	1.2
Spain	0.4	0.2	0.3	0.5	0.5
Austria	INA	INA	2.7	3.1	2.9
Belgium	3.1	2.6	2.3	2.3	2.3
France	2.8	2.6	2.7	3.0	2.8
Germany	2.4	1.8	2.0	1.9	1.9
Ireland	1.2	1.6	1.7	1.9	1.6
Netherlands	2.5	2.0	1.6	1.3	1.1
Switzerland	1.0	1.0	1.1	1.2	1.2
United Kingdom	2.4	2.2	2.1	2.4	2.2
Canada	0.8	0.6	0.6	0.8	0.9
United States	0.7	0.4	0.6	0.6	0.4
OECD-21	1.7	1.6	1.8	1.9	1.9

Source: OECD (2004), Social Expenditure Database

INA - Information not available

Table 2
Statutory Provisions for Birth and Adoption in Asia and the Pacific, 2004 - 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Australia	Residents with newborn or adopted child	12 months continuous service	Unpaid leave until child is aged 1 year	Lump-sum birth grant of A\$3,000
Japan	Employees and self-employed	Covered employment	98 days	60% of average daily wage for 42 days before and 56 days after birth. Also, lump-sum birth grant of ¥300,000
New Zealand	Residents with newborn or adopted child	Continuous service with same employer for more than 12 months before expected date of birth or adoption and at least 10 hours of work per week	Up to 12 weeks	Income-tested benefits replace 100% of previous earnings
Turkey	Insured employees	120 days of contributions	16 weeks	2/3 rds of earnings payable for up to 8 weeks before and 8 weeks after expected birth. Also, lump-sum birth grant of 56,000,000 liras (requires certification within 3 months of birth); lump-sum pregnancy benefit of 50,000,000 liras (subject to certification of pregnancy before date of birth); lump-sum nursing grant of 50,000,000 liras for live birth.

Table 2 continued
Statutory Provisions for Birth and Adoption in Central Europe, 2004 - 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Czech Republic	Employed, insured self-employed persons	270 days of insurance in 2 years before birth; medical examination to confirm pregnancy	28 weeks	69% of daily assessment basis calculated as a percentage of gross earnings
Hungary	Employed and self-employed	Women with at least 180 days of work 2 years prior to birth	24 weeks	70% of daily average gross earnings payable for 4 weeks before and 20 weeks after expected birth; or for 24 weeks after birth
Poland	All employees	At least 6 months of insured employment	16 (18) weeks	100% of average insured earnings in last 6 months; payable for 16 (18) weeks for birth of first (subsequent) child
Slovak Republic	Employed and self-employed persons	270 days of insurance in 2 years before birth	28 weeks	55% of daily assessment basis calculated on earnings in the last year prior to birth; payable from 6 to 8 weeks before expected birth

Table 2 continued
Statutory Provisions for Birth and Adoption in Northern Europe, 2004 - 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Denmark	Employed and self-employed persons	None	52 weeks	Up to 3,203 kroner per week. Payable from 4 weeks before or from 14 weeks after expected birth for mother; after 14 th week, both parents may share 52 week leave
Finland	Employees, unemployed, and self-employed	None	105 work days	70% of daily earnings for annual earnings up to €28,403, plus 40% for earnings between €28,404 and €43,698 plus 25% for earnings over €43,699. Payable to mother from 50 to 30 days before expected birth for up to 105 work days; then parental allowance
Norway	Employed and self-employed persons with income at least equal to ½ of the base amount	At least 6 months of insured employment or self-employment in the last 10 months	53 (or 43) weeks	100% of covered earnings (65% for self-employed person) paid to mother for earnings for 43 weeks; alternatively, 80% paid to insured parents for 53 weeks. Mother is required to take 3 weeks before expected birth and at least 6 weeks after birth.
Sweden	Gainfully occupied persons	At least 6 months of insured employment or self-employment in the last 10 months	Total duration for both parents is 480 days per child	100% of income for 390 days, plus an additional 90 days at a basic level of 60 kroner a day payable no earlier than 60 days before expected birth and up until child is 8 years

Table 2 continued
Statutory Provisions for Birth and Adoption in Southern Europe, 2004 - 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Greece	Employees in industry and commerce; urban self-employed	Insured woman needs 200 days of contributions in previous 2 years	119 days	50% of daily earnings payable for up to 56 days before and 63 days after birth. Also, lump-sum birth grant of €792.30
Italy	Employees, contract workers, and self-employed	Must be currently covered; self-employed and contract workers need to meet contribution conditions and means test	5 months	80% of daily average earnings in the last month before the leave; payable from 2 months before expected date of birth and for 3 months after birth
Portugal	Employed and self-employed persons	6 months of insurance coverage	120 (150) days	100% of average daily earnings payable for 120 days, including 90 days after birth; alternatively, 80% of average daily earnings paid for 150 days (additional 30 days must be taken after birth)
Spain	Employed persons	180 days of contributions in the five years prior to expected birth or adoption	16 (18) weeks	100% of average daily earnings in the last calendar month before leave; paid for 16 weeks (2 additional weeks for second and subsequent children)

Table 2 continued
Statutory Provisions for Birth and Adoption in Western Europe, 2004 - 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Austria	Employed persons earning €333.16 or more per month	Currently in covered employment	104 weeks	100% of average earnings during last 3 months of work; paid 8 weeks before and after expected birth
Belgium	Employed persons who are members of a mutual benefit society or public auxiliary fund	Covered by insurance in 2 quarters before the quarter when maternity leave commenced; completed 120 days of work; met requirements for regular worker 30 days before leave	260 weeks	82% of total earnings during first 30 days; 75% from 31 st day. Payable for a maximum of 15 weeks, including maximum of 6 weeks before expected birth and minimum of 9 weeks after birth
France	Employees	At least 10 months of registered coverage and 200 hours of paid employment 3 months before certification of pregnancy or adoption	16 (24) weeks for birth; 10 (22) weeks for adoption	100% of insured average earnings in 3 months before maternity leave; payable 6 weeks before and 10 after birth for first and second child; for 8 weeks before and 18 after birth of third child
Germany	Employees	Female members of sickness fund	14 weeks	100% of average net earnings in 3 months before maternity leave; payable 6 weeks before and 8 weeks after birth
Ireland	Employed and self-employed	Covered employment at least 14 weeks before expected birth, with 39 weeks of contributions in 12-months before leave; or 26 weeks in both past fiscal years.	18 weeks; 26 weeks from March, 2007	80% of weekly earnings, including at least 4 weeks before expected birth. Minimum benefit: €182.60 per week; Maximum benefit: €265.60 per week

Table 2 continued
Statutory Provisions for Birth and Adoption in Western Europe, 2004 - 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Netherlands	Employees and self-employed	12 months continuous service	16 weeks	100% of earnings, up to the daily m of€167.70
United Kingdom	Employees and self-employed persons	<p><i>Maternity allowance:</i> 26 weeks in the 66 week period prior to the expected birth; average weekly earnings of at least £30 in 13 week period; not in receipt of statutory maternity, paternity, or adoption pay from employer.</p> <p><i>Statutory maternity and paternity pay:</i> continuous employment with same employer for 26 weeks up to and including 15th week before expected birth; average weekly earnings at least equal to weekly lower limit of £84 from April 2006.</p> <p><i>Statutory adoption pay:</i> continuous employment with same employer for 26 weeks up to the week of adoption.</p>	26 weeks; from April 2007, 39 weeks for statutory maternity pay	<p><i>Maternity allowance:</i> £108.85 per week and may start at any time from the 15th week before expected birth to the week following birth.</p> <p><i>Statutory maternity pay:</i> 90% of average weekly earnings for first 6 weeks; £108.85 per week for remaining 20 weeks</p> <p><i>Statutory paternity pay:</i> £108.85 per week paid by employer for 1 or 2 weeks as chosen by employee.</p> <p><i>Statutory adoption pay:</i> paid by the employer for up to 26 weeks at £108.85 per week.</p>

Table 2 continued
Statutory Provisions for Birth and Adoption in North America, 2004 – 2006

Country	Coverage	Qualifying conditions	Maximum duration	Level of benefit
Canada	All employees	Minimum of 600 hours of insurable employment in previous 52 weeks <i>Quebec</i> C\$2,000 earnings in 2006 for both the basic and special plans.	50 weeks <i>Quebec</i> Basic plan: 50 weeks 5 weeks father, only Special plan: 40 weeks 3 weeks father, only	55% of insurable earnings in the last 26 weeks; paid for up to 15 weeks, plus an additional 35 weeks for parental care on the birth or adoption of child <i>Quebec</i> Basic plan: 75% of insurable earnings for 25 weeks; 55% for 25 weeks. Paid for 18 weeks of maternity, plus 32 weeks parental. Special plan: 75% of insurable earnings paid for 15 weeks of maternity, plus 25 weeks parental
Mexico	Employees	At least 30 weeks of contributions in previous 12 months	52 weeks	100% of last daily earnings payable 42 days before and 42 days after expected date of birth
United States (Family and Medical Leave Act, FMLA)	Employees in companies with 50 or more worker	At least 12 months , not necessarily continuous service and 1,250 hours with same employers during the 12 months preceding leave	12 weeks	No benefit

Source: Social Security Programs Throughout the World, 2004, 2005 and 2006 editions.

Table 3. Costs of Temporary Disability Insurance (TDI) Programs, Five States and Canada

April 24, 2007

	Labor Force	TDI First Payments	First Payment Rate-% =100*(2)/(1)	Avg. Benefit Duration (weeks)	TDI Number Ben =(2)*(4)/52	TDI Recipien- cy Rate-% =100*(5)/(1)	Total Benefits	Avg. Weekly Benefits	Avg. Weekly Wages	Replac- ement Rate =(8)/(9)	Cost Rate % =100*(7)/ Payroll (11)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Panel A. Averages 1985-2004						0.0115					
California	15,507	680	4.4	13.4	177.0	1.15	2,067	224	609	0.369	0.509
New Jersey	4,137	125	3.0	9.7	23.0	0.56	302	265	664	0.380	0.248
Rhode Island	529	33	6.2	11.3	7.2	1.36	91	234	507	0.457	0.757
Hawaii	573	33	5.8	4.4	2.7	0.48	36	264	494	0.534	0.283
New York	8,858	505	5.8	5.9	53.6	0.61	575	181	681	0.290	0.231
Canada											
Sickness	14,889	INA	INA	INA	36.4	0.24	458	237	565	0.425	0.111
Sick. + Births	14,889	INA	INA	INA	89.2	0.60	1,178	250	565	0.443	0.291
Panel B. Individual Jurisdictions											
California											
85-89	13,739	683	5.0	12.4	162.9	1.18	1,397	165	441	0.375	0.518
90-94	15,224	763	5.0	14.2	215.0	1.41	2,273	203	543	0.374	0.655
95-99	15,818	619	3.9	12.7	151.8	0.96	1,806	229	645	0.356	0.409
00-04	17,249	657	3.8	14.3	178.2	1.03	2,793	299	809	0.369	0.452
New Jersey											
85-89	3,935	137	3.5	8.7	22.4	0.57	214	185	458	0.405	0.262
90-94	4,055	125	3.1	9.6	23.2	0.57	277	230	600	0.383	0.264
95-99	4,216	117	2.8	9.9	22.3	0.53	314	271	728	0.373	0.235
00-04	4,342	122	2.8	10.1	23.7	0.55	402	326	872	0.373	0.233
Rhode Island											
85-89	512	31	6.1	9.9	5.9	1.16	47	151	361	0.417	0.567
90-94	524	31	6.0	11.0	6.6	1.26	73	214	457	0.466	0.739
95-99	527	33	6.2	11.8	7.4	1.41	99	258	546	0.473	0.809
00-04	555	37	6.6	12.6	8.9	1.61	145	313	664	0.472	0.913
Hawaii											
85-89	508	34	6.6	3.9	2.5	0.50	24	179	359	0.502	0.294
90-94	572	34	6.0	4.4	2.9	0.50	40	263	476	0.549	0.312
95-99	600	28	4.7	4.5	2.5	0.42	40	324	532	0.607	0.293
00-04	614	35	5.7	4.9	3.0	0.49	40	290	610	0.479	0.235
New York											
85-89	8,492	732	8.6	4.2	59.1	0.70	583	171	474	0.364	0.307
90-94	8,736	548	6.3	5.3	55.8	0.64	600	184	605	0.305	0.252
95-99	8,930	376	4.2	7.0	50.4	0.56	552	183	742	0.248	0.185
00-04	9,275	333	3.6	7.6	48.4	0.52	559	189	903	0.214	0.148
Canada - Sickness Benefits											
75-79	10,788	INA	INA	INA	25.9	0.24	140	104	225	0.461	0.120
80-84	12,339	INA	INA	INA	22.6	0.18	175	149	350	0.427	0.087
85-89	13,529	INA	INA	INA	26.3	0.19	285	206	445	0.464	0.099
90-94	14,385	INA	INA	INA	31.9	0.22	405	243	542	0.450	0.111
95-99	15,105	INA	INA	INA	36.8	0.24	460	241	597	0.403	0.108
00-04	16,535	INA	INA	INA	50.7	0.31	684	259	678	0.382	0.126
Canada - Sickness Plus Birth and Adoption Benefits											
75-79	10,788	INA	INA	INA	54.8	0.51	303	105	225	0.468	0.258
80-84	12,339	INA	INA	INA	61.2	0.50	489	153	350	0.437	0.241
85-89	13,529	INA	INA	INA	74.5	0.55	811	208	445	0.468	0.284
90-94	14,385	INA	INA	INA	88.0	0.61	1,158	253	542	0.466	0.318
95-99	15,105	INA	INA	INA	88.2	0.58	1,197	261	597	0.437	0.280
00-04	16,535	INA	INA	INA	106.2	0.64	1,546	279	678	0.412	0.286

Source: Data developed by authors from state publications, the Annual Statistical Supplement to the Social Security Bulletin and the web site for Statistics Canada. Labor force, first payments and beneficiaries in thousands and benefits in millions of dollars. First payment rate in column (3) and TDI reciprocity rate in column (6) measured as a percent of labor force. Cost rate in column (11) measured as a percent of payroll. New York data extend from 1985 to 2003. INA - Information not available.

Table 4. Costs of Birth and Adoption Compensation, Four States and Canada

April 21, 2007

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Labor Force	Live Births	Birth Rate %	TDI Pregnancy Claims	Pregnancy Take-up Rate	Avg. Dur. Pregnancy Claims (weeks)	Weeks Compensated	Weekly Pregnancy Benefic.	Pregnancy Reciprocity Rate	Total Pregnancy Benefits	Weekly Preg. Benefits	Avg. Weekly Wages	Replacement Rate	Preg Generosity	Preg. Ben. Cost Rate %
			=100*(2)/(1)		=(4)/(2)	(weeks)	=(4)*(6)	=(7)/52	=(8)/(2)		(11)	(12)	=(11)/(12)	=(9)*(13)	=100*(10)/Payroll
Panel A. Averages 1985-2004															
California	15,507	542.4	3.52	158.2	0.292	11.3	1811.9	34.8	0.064	377.8	213	609	0.339	0.022	0.091
New Jersey	4,137	115.4	2.79	23.7	0.207	10.1	293.7	5.6	0.050	68.0	216	687	0.315	0.016	0.049
Rhode Island	529	13.4	2.53	5.5	0.410	9.6	48.3	0.9	0.073	14.9	240	507	0.480	0.035	0.098
Hawaii	573	18.5	3.25	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
New York	8,858	269.2	3.05	84.1	0.286	8.6	720.6	13.9	0.047	100.4	139	540	0.258	0.012	0.045
Canada	14,889	366.1	2.48	182.8	0.502	15.0	2741.5	52.7	0.145	719.7	261	565	0.463	0.067	0.203
Panel B. Individual Jurisdictions															
California															
85-89	13,739	508.0	3.69	138.5	0.272	11.1	1,564	30.1	0.059	225.9	146	441	0.338	0.020	0.088
90-94	15,224	595.5	3.91	164.0	0.275	12.5	2,047	39.4	0.066	374.8	184	543	0.339	0.022	0.107
95-99	15,818	531.1	3.36	159.8	0.301	10.7	1,701	32.7	0.062	362.5	213	645	0.331	0.020	0.082
00-04	17,249	534.9	3.10	170.1	0.319	10.8	1,836	35.3	0.066	517.5	281	809	0.347	0.023	0.085
New Jersey															
85-89	3,935	111.8	2.84	23.0	0.210	9.9	228.0	4.4	0.040	30.7	135	428	0.314	0.013	0.041
90-94	4,055	119.8	2.95	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
95-99	4,216	114.6	2.72	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
00-04	4,342	115.5	2.66	28.6	0.247	10.1	343.1	6.6	0.057	95.9	277	881	0.315	0.018	0.055
Rhode Island															
85-89	511.7	13.8	2.70	5.4	0.386	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
90-94	524.3	14.4	2.74	6.4	0.439	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
95-99	526.7	12.6	2.39	5.5	0.437	9.4	49.5	1.0	0.076	13.7	265	546	0.485	0.036	0.102
00-04	555.1	12.8	2.31	4.9	0.384	9.7	47.9	0.9	0.072	15.3	320	664	0.482	0.035	0.096
New York															
85-89	8,492	273.4	3.22	81.6	0.299	8.7	709.7	13.6	0.050	93.7	132	524	0.252	0.013	0.043
90-94	8,736	287.8	3.29	86.6	0.301	8.4	731.6	14.1	0.049	107.1	146	555	0.264	0.013	0.047
95-99	8,930	261.3	2.93	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
00-04	9,275	254.1	2.74	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
Canada															
75-79	10,788	360.1	3.35	100.2	0.278	15.0	1503.2	28.9	0.080	163.4	107	225	0.477	0.038	0.154
80-84	12,339	372.0	3.02	133.6	0.359	15.0	2003.5	38.5	0.104	313.4	155	350	0.443	0.046	0.173
85-89	13,529	375.7	2.78	166.2	0.442	15.0	2493.1	47.9	0.128	526.5	210	445	0.472	0.060	0.206
90-94	14,385	397.5	2.76	194.4	0.489	15.0	2916.1	56.1	0.141	753.2	258	542	0.476	0.067	0.234
95-99	15,105	359.0	2.38	178.1	0.496	15.0	2672.1	51.4	0.143	737.2	276	597	0.462	0.066	0.194
00-04	16,535	332.1	2.01	192.3	0.579	15.0	2884.6	55.5	0.167	862.1	298	678	0.441	0.074	0.179

Source. Data developed by authors from state publications and from the web site for Statistics Canada. Labor force, births, pregnancy claims, weeks compensated and number of beneficiaries in thousands and benefits in millions of dollars. Birth rate in column (3) and benefit cost rate in column (15) in percentages. INA - Information not available. California data for average duration and costs refer to 1985-1986 and 1989-2004. New Jersey data refer to 1985-1987 and 2001-2004. Rhode Island data on pregnancy claims refer to 1985, 1988-1993 and 1997-2004. Other Rhode Island data refer to 1998-2004. New York data refer to 1989 and 1990 only. Canadian data refer to all years.

Table 5. Compensation for Birth and Adoption in California, 1995 to 2006

	Live Births (1)	First Payments (2)	Take-up =(2)/(1) (3)	Avg. Dur. =(5)/(2) (4)	Weeks Comp. (5)	Total Benefits (6)	Weekly Benefits (7)	Weekly Wages (8)	Replace. Rate =(7)/(8) (9)	Cost, Pct. of Payroll (10)
Panel A. TDI Pregnancy Benefits										
1995	552	154	0.279	10.8	1,657	347	209	587	0.356	0.091
1996	538	155	0.288	10.7	1,661	348	210	608	0.345	0.086
1997	525	158	0.301	10.9	1,727	364	211	635	0.332	0.082
1998	522	165	0.317	10.4	1,713	367	214	676	0.317	0.076
1999	519	166	0.321	10.5	1,747	386	221	720	0.307	0.073
2000	532	170	0.320	10.4	1,773	436	246	790	0.312	0.073
2001	527	170	0.322	10.7	1,818	487	268	793	0.338	0.080
2002	529	170	0.320	10.8	1,834	510	278	793	0.351	0.085
2003	541	171	0.316	11.0	1,887	557	295	815	0.362	0.090
2004	545	172	0.316	10.9	1,871	596	319	854	0.373	0.091
2005	550	172	0.314	10.8	1,863	627	337	884	0.381	0.091
2006	550	179	0.326	10.7	1,917	670	350	919	0.380	0.093
Panel B. PFL Bonding Benefits										
2004	545	61	0.112	5.3	324	132	407	854	0.477	0.020
2005	550	131	0.239	5.6	739	312	422	884	0.477	0.045
2006	550	142	0.258	5.6	798	347	435	919	0.474	0.048
Panel C. Combined Pregnancy and Bonding Benefits										
2004	545	233	0.428	9.4	2,195	729	332	854	0.389	0.112
2005	550	304	0.553	8.6	2,602	939	361	884	0.408	0.136
2006	550	321	0.584	8.5	2,715	1,017	375	919	0.408	0.141
Panel D. PFL Bonding Share										
2004		0.262			0.148	0.181				0.181
2005		0.432			0.284	0.332				0.332
2006		0.442			0.294	0.341				0.341

Source: Birth data from Vital Statistics reports. Compensation data from California Employment Development Department. Live births, first payments and weeks compensated in thousands. Total benefits in millions of dollars. Births in 2006 estimated by authors.