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Virginia Paid Family and Medical Leave Study

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Weldon Cooper Center for Public Service

Center for Economic and Policy Studies

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Actuarial and Policy Analysis for The Virginia Employment Commission

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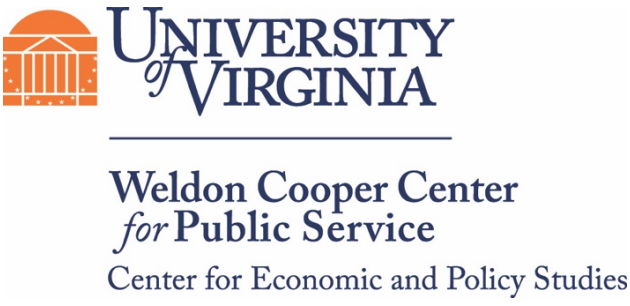

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Contents

Preface

During the 2020 legislative session, two bills were introduced in the Commonwealth of Virginia's General Assembly (HB 825 and SB770) to establish a Paid Family and Medical Leave (PFML) program. Among other provisions, the legislation would have required the Virginia Employment Commission (VEC) to create an insurance trust fund supported by premiums charged to employees and employers, provided up to 12 weeks of paid leave in duration in any one-year period, and offered a weekly benefit covering up to 80 percent of an individual's weekly wage. Subsequent to this and pursuant to the Appropriations Act approved during the 2020 Session of the General Assembly, the Chief Workforce Development Advisor and Secretary of Commerce and Trade were directed to study the development, implementation and costs of a statewide paid family and medical leave program for all employers.

The resulting study ("Paid Family and Medical Leave Study") reported on several major areas, including (i) the experience of other states that have adopted paid family and medical leave, (ii) the economic effects of paid family leave on businesses and workers, (iii) an operating plan describing administering agency or entity, staffing requirements, technology needs, and timeline, and (iv) startup costs and funding needs for the program. The findings and recommendations of the report incorporated research conducted by state officials and staff, input from a group of industry stakeholders, and results of a public survey that received approximately 5,500 responses.

The report made several recommendations for implementing the program among which were that: (i) premiums should be charged for one year before awarding benefits, (ii) small businesses should be exempt from the employer premium but participating employees should be eligible for benefits, and (iii) consideration should be given to how the program would affect state employees. In addition, the report recommended that a full, independent actuarial study be conducted to ensure that the program has accumulated sufficient funds for solvency and to determine the payroll tax rate needed.

During the 2021 legislative session, two revised bills were introduced by legislators (HB2016 and SB1330). These bills made some modifications to the previous session's PFML bills. In addition, following the recommendation of the Chief Workforce Development Advisor and Secretary of Commerce and Trade study, funding for the purpose of conducting an actuarial analysis of PFML was provided to the Virginia Employment Commission through a 2021 Special Session Budget Amendment. The VEC was directed by the General Assembly through Budget Amendment during the 2021 Special Session I to "complete an actuarial study to better understand the costs associated with the implementation of a Paid Family and Medical Leave program in Virginia."

The VEC selected the Weldon Cooper Center for Public Service at the University of Virginia (WCC) to serve as a contractor to oversee data collection, research and analysis as part of a comprehensive study of PFML and hiring of an actuarial consulting firm to provide the actuarial analyses needed as part of the study. The Weldon Cooper Center chose Millman, Inc., an international actuarial and consulting firm headquartered in Seattle with wide experience in paid leave insurance products and programs, to conduct the actuarial analysis. Milliman consulting actuary, Paul Correia, worked in consultation with the Weldon Cooper Center study team to develop the assumptions and some of the data inputs used in the analysis. The team included economists Terance Rephann and Arthur Small and data analyst Emily Lien from the Weldon Cooper Center, and a national expert in family leave policy, Jeffrey Hayes, from the Institute for Women's Policy Research.

The authors would like to thank various other people for assistance in completing the study. The staff of the Virginia Employment Commission met with Weldon Cooper Center team on many occasions over the 2021 calendar year, sometimes on short notice, to develop the framework, data, and assumptions used in the study and to review work products. Special thanks go to Jeff Ryan, Deputy Director of VEC for arranging and coordinating the study. Other VEC staff who participated in meetings and discussions included: Jason Padgett, Keith Westbrook, Mary-Huffard Kegley, and Stacia Watson. Tim Kester, Director of Economic Information and Analytics, Stacey Maher and Kyle Davis provided data useful in converting quarterly PFML eligibility criteria to annual wage equivalents. Secretary of Labor Megan Healy, Special Assistant to the Secretary of Labor, Hannah Mercer, and Deputy Policy Director in the Office of the Governor, Connor Andrews, participated in a briefing on interim findings in September. Amy Muldoon of the Weldon Cooper Center for Public Service, assisted with document preparation. Any errors or omissions are the responsibility of the authors.

Executive Summary

This report presents results of an actuarial and policy analysis for a prospective Paid Family and Medical Leave (PFML) program for the Commonwealth of Virginia. Paid Family and Medical Leave provides temporary replacement income for workers with a serious health condition, who need to care for an ill family member, or who are welcoming a new child. Most developed countries have PFML programs and by 2021 nine U.S. states and the District of Columbia have enacted PFML. PFML has also been the feature of previous and current federal legislation such as the federal "Build Back Better" legislative package, which provides four weeks of paid leave. Several PFML program bills have also been introduced by the Virginia General Assembly in recent years, including HB2016 and SB1330, which would create a public PFML program of 12 weeks offering 80 percent replacement of wages up to 80 percent of the state average weekly wage.

Virginia workers are currently covered by a patchwork of federal programs and firm-based leave programs The federal Family and Medical Leave Act (FMLA) program has offered eligible workers up to 12 weeks of job-protected unpaid family and medical leave since 1994. However, eligibility conditions limit the protection to approximately 56 percent of the workforce, a percentage that has not improved in at least the last decade. Although Virginia-specific data on FMLA and private coverage is not available, private employers have increasingly offered short-term disability and paid family leave benefits to their workers. According to the Bureau of Labor Statistics National Compensation Survey, private employers nationwide offering short-term disability access rose from 37 percent in 2011 to 41 percent in 2021 and paid family leave access from 11 to 23 percent over the same period. However, many workers are less likely to be covered, particularly part-time, lower-wage, and small business employees. Increases in female labor force participation, the growth of single-parent families, population aging and some research suggesting beneficial economic, social, and health effects for participants and their families are reasons that the issue has received more attention from from policymakers.

This report examines the effects of a Virginia PFML program, with the focus being HB2016/SB1330 legislation introduced during the 2021 General Assembly Session. It examines the features of the Virginia legislation in comparison to other states that have adopted PFML and the potential effects of varying program design elements. It also reports on a professional actuarial analysis by Milliman, Inc. that projected costs needed for benefit payments and the direct and indirect costs of the operation and administration as well as to maintain a sufficient cash balance to ensure program solvency over the 2022 to 2033 period. The potential short-run and long-run economic, social, and demographic effects on Virginia residents are examined through the prism of recent scholarly research on U.S. state programs. Lastly, the study looks at the economic impacts of Virginia PFML legislation, considering expenditures, taxes and possible secondary economic and demographic effects, using a commercial economic impact model.

A variety of policy design features and parameters can affect the cost, utilization, distributional effects, and health, social, and economic impacts of PFML programs. They include the manner of funding, eligibility requirements, benefit structure, administration, and other characteristics. The table below provides a summary of major features of the proposed PFML program.

Virginia Paid Family and Medical Leave Program Major Features

Feature	Description
Funding Method	Employers and employees share the costs via payroll taxes.
Maximum taxable wages	Maximum contribution is benefit base limit established annually for Social Security.
Eligibility Requirements	Eligibility is based on earnings in two highest earning quarters according to Unemployment Insurance (UI) covered employment benefit table.
Qualifying family members	(1) Biological, adopted, or foster child, stepchild or legal ward, a child of domestic partner or child to whom the covered individual stands in loco parent; (2) biological, adoptive, or foster parent, stepparent, or legal guardian of a covered individual or a covered individual's spouse or domestic partners, or a person who stood in loco parentis when the covered individual's spouse or domestic partner was a minor child; (3) a person to whom the covered individual is legally married under the laws of any state, or a domestic partner of a covered individual; or (4) a grandparent, grandchild, or sibling, whether through a biological, foster, adoptive, or step relationship, of the covered individual or the covered individual's spouse or domestic partner.
Qualifying events	(1) Birth, adoption, or placement through foster care of caring for a new child during the first year after the birth, adoption, or placement of that child; (2) caring for family member with a serious health condition; (3) has a serious health condition that makes the covered individual unable to perform work; (4) caring for a covered service member who is next of kin or other family member; or (5) eligible for qualifying exigency leave arising out of fact that family member of covered individual is on active duty, or has been notified of an impending call or order to active duty in the Armed Forces.
Wage Replacement Rate	Flat 80 percent rate.
Maximum period of leave	12 weeks total.
Maximum and minimum benefit	Maximum benefit of 80 percent of state average weekly wage during the 12 months preceding. Minimum benefit of $100.
Job protection	Yes
Exemptions for businesses	Self-employed may opt in.

Virginia's proposed PFML program provides somewhat more generous eligibility requirements and benefits than older state PFML programs, some of which have short-term disability components that date back to the immediate post-war period. But it is fairly representative of PFML programs adopted in more recent years. The features of this proposed program in comparison to other states and their consequences are summarized below:

Funding Method. The Virginia program specifies a 50-50 split between employer and employee in payroll taxes. Payroll taxes to fund PFML are nearly universal among states. Employees pay the full tax in three

states and employers do so in the District of Columbia. Most states offer employee/employer splits in the range of 40-60 (Massachusetts), 45-55 (Washington State), 50-50 (Colorado), and 60-40 (Oregon). New Jersey and New York allotments vary by type of leave; workers pay payroll taxes for Paid Family Leave (PFL) while employees and employers split the cost of short-term disability. Split allotments seem to be motivated by a combination of factors such as pragmatic political considerations, social equity, or the benefit principle. Regardless of the motivation, substantial empirical research suggest that the actual incidence of payroll taxes is roughly evenly split between employer (in the form of reduced profits) and employees (in the form of reduced earnings) in the short-run, while workers pay most of the tax in the long-run.

Maximum Taxable Wages. Virginia specifies a maximum taxable earning limit used for the Social Security payroll tax ($142,800 in 2021). Five states use this cutoff. Several other states have established lower taxable wage ceilings, with the lowest being $74,000. The District of Columbia is the only jurisdiction without a taxable wage ceiling. Lower taxable wage ceilings will narrow the tax base and increase the payroll tax rate for workers with wages below the ceiling.

Eligibility Requirements. State programs require evidence of some minimal level of labor force attachment to be eligible for PFML benefits. This ensures that workers have adequately paid into the system and that it does not become a general purpose entitlement program. This is typically measured by wages earned over some base period, usually four or five quarters immediately prior to taking leave. Tying PFML to Unemployment Insurance (UI) program eligibility as occurs with the Virginia legislation may help standardize eligibility and simplify administration. However, most states do not use the same eligibility standards as UI, perhaps because that would restrict eligibility more than desired.

Qualifying Family Members and Events. Family definition and qualifying events are important primarily in determining eligibility for caretaking leave. Virginia like most U.S. states specify that qualifying family members are immediate family, including spouses and common law partners; birth, adopted, and foster children; mothers and fathers; siblings; parent-in-laws; and grandparents and grandchildren. A few states expand qualifying members further to include brothers and sisters-in-law, spouses and domestic partners of siblings, any other person related to the worker by blood and individuals with close association equivalent to family relationships. Expansion of the family definition and qualifying family members will likely have only a very small impact on leave utilization since it affects only family caretaking leave, the smallest component of PFML. Moreover, the vast majority of caretaking leaves are for immediate family members

Wage Replacement Rate. The wage replacement rate for Virginia is 80 percent. Most states provide replacement rates in the range of 60-90 percent. Higher replacement rates will increase the costs of PFML programs. Empirical research suggests that as the replacement rate increases, program utilization increases. Rates are generally less than 100 percent to minimize moral hazard, to reflect the fact that living expenses such as commuting will be lower when workers are on leave, and to allow private employers room to "top off" benefits as desired. Research suggests that lower replacement rates result in significantly disparities in program usage, with lower wage earners much less likely to utilize benefits for which they may be eligible because they may find it more challenging to live off the benefit. Thus, states with long-standing PFML programs such as California have increased their replacement rates in recent years. More recent adopters have tended to offer higher replacement and more progressive rates, replacing a larger share of wages for lower earners than many early adopters.

Maximum Leave. Virginia's legislation affords up to 12 weeks of PFML during a 12-month period, which is the same allowance offered by federal unpaid leave through the Family and Medical Leave Act (FMLA). Expanding the available leave time also increases program costs by contributing to longer average leave durations. Total allowed leave varies from a low of 8 weeks to 52 weeks, with an average of 21 weeks. This is due largely to the fact that states with older short-term disability programs adopted maximum leave durations more typical of private plans, which average 26 weeks. Newer PFML programs have copied the FMLA model of offering 12 weeks of total annual leave regardless of leave type. Considerations in the development of maximum leave time are the policy objectives of promoting worker and family health and wellness and child development while assisting workers to transition from leave back to work. Leave needs to be long enough to facilitate recovery and bonding but not so long that it contributes to worker loss of human capital. International research suggests that negative labor market effects onset at much higher durations (one year

duration or more) than allowed by state programs.

Minimum and Maximum Benefits. Virginia's program benefits are capped at 80 percent of state average weekly wages (based on 2020 average weekly wages of $1,253 in Virginia, the maximum would be $1,002) while the minimum benefit is $100. For a small minority of part-time workers, this minimum benefit will slightly exceed 80 percent of wages earned. State programs set benefit caps, usually stated as a certain percentage of statewide average weekly wage (ranging from a low of 64 percent to a high of 120 percent), a fixed amount with and without annual cost of living adjustments, or a multiple of the minimum wage. Several state programs also specify minimum benefit amounts in constant dollar terms ranging from $20 to $50 or percentage of statewide weekly wages. Imposing benefit ceilings and floors decreases disparities in program benefit allowances and provides another mechanism to improve participation of extremely low earners.

Job Protection. Virginia's PFML program provides job protection for the full duration of 12 weeks for eligible workers. Although the federal FMLA program provides similar job protection, eligibility is much more restrictive, being limited to workers who accumulated at least 1,250 work hours of work over the previous year for a business that employs at least 50 workers within a 75 mile radius. Forty-four percent of the labor force, disproportionately lower earning, minority, part-time and small-business workers are not eligible for such protection according to 2018 survey data. Most states have extended job protection beyond FMLA, but these additional protections are sometimes restricted to particular categories of leave (e.g., parental bonding leave, maternity leave) or limited to workers who have demonstrated some minimum level of job continuity with a single employer. Only Massachusetts appears to offer job protection as broad as Virginia's proposed legislation. Some studies indicate that such job protection is an important influence on worker decisions to take leave.

Exemptions for Businesses. Virginia's PFML program does not offer special exemptions for certain categories of firms such as small businesses or firms offering competitive plans. However, it does allow self-employed individuals to opt in. The Chief Workforce Development Advisor and Secretary of Commerce and Trade Paid Family and Medical Leave Study does recommend that small businesses be permitted a exemption from paying their portion of a PFML payroll tax. This feature can be found in a handful of other state programs such as Colorado, Massachusetts, Oregon, and Washington State. These exemptions are sometimes offered because of concerns that smaller businesses face high costs or realize fewer benefits from implementing PFML. Moreover, most states allow firms to offer regulated private plans that provide similar or better benefits or coverage. However, various counterarguments against providing these exemptions are offered, including that permitting exceptions could create adverse selection problems, administrative complexity, or other problems.

Virginia legislation and other state PFML laws are silent on a few major policy issues that could affect workers and businesses. First, the Virginia legislation does not address the state taxability of benefits. Thus, one must assume that PFML benefits would be taxable since the state conforms to the federal definition of gross income, unless a specific exception is included in a future Virginia law. Some policy analysts recommends that PFML legislation explicitly state whether benefits are taxable income, which would also affect individuals options for having state income tax withheld along with any federal tax. Moreover, they recommend that states indicate if benefits can be used in ascertaining whether residents are eligible for means-tested public assistance and other benefits. Second, some policy analysts recommend that states adopt Return-to-Work (RTW) programs as part of their Medical Leave benefits. RTW programs provide financial incentives, therapeutical services, education, and employee workplace accommodations to transition workers back to work. They are sometimes offered as part of private short-term disability programs and can include "stepwise" payment models that provide a lower rate of wage replacement after a period of time and modified workplace duties to ease workers back into the workplace. RTW programs are not currently regular features of state Paid Medical Leave (PML) programs. However, studies of private RTW programs find that they reduce short-term disability leave lengths and costs.

Based on the features of the Virginia PFML program described above, Milliman, Inc. performed an actuarial analysis. The study assumed that the PFML program is established on July 1, 2022, initial staffing, procurement and education/outreach begins on January 1, 2023, implementation of the payroll tax on workers and businesses starts on January 1, 2023, and benefit payments are initiated on January 1, 2024. Since

contributions begin one year before benefits are paid, a one-year period is used to build reserves for the PFML trust fund.

In addition to the HB2016/SB1330 legislation (termed the **"Baseline"** scenario), two additional scenarios were developed. The second scenario (***Alternative 1***) provides a combination of expanded eligibility, higher wage replacement, and longer leave duration than offered in the HB2016/SB1330 baseline scenario. Its policy parameters are based on programs in states that expand eligibility or benefits along these dimensions. The second scenario (***Alternative 2***) provides more restrictive eligibility, less generous benefits and a payroll contribution exemption for small businesses. This scenario is partially informed by the Offices of the Secretary of Commerce and Trade and the Chief Workforce Development Advisor (2020). This PFML study recommended that small businesses be exempt from contributing the employer payroll tax share to the program, though small business size is never defined. Other policy design parameters such as the program eligibility, wage replacement rate, maximum benefit, and benefit waiting period are based on the experiences of selected states with more restrictive eligibility and benefits along these dimensions.

The actuarial analysis of program costs and expenditures relies on several key inputs. They include data used to estimate eligible workers and taxable wages, incidence rates, leave durations, average benefits, and PFML administrative costs. The Weldon Cooper Center provided Milliman demographic, employment, wage escalation, and other data for use in determining the number of eligible employees and total taxable wages over the 2022-2033 period for each of the scenarios. Milliman developed claims incidence rates, duration rates, and benefit administrative costs for the Virginia PFML from public and private insurance PFL, PML, and short-term disability insurance data sources.

The baseline legislative scenario indicates that the number of eligible workers is projected to rise from 3.386 million in 2024 to 3.353 million in 2033. This represents an average of approximately 82 percent of all Virginia workers during the period. Total benefit payments increase from approximately $1.507 billion in 2024 to $2.142 billion in 2033. A payroll tax of 0.950 percent would need to be levied at the start of the program, dropping to 0.890 percent in 2026 and to 0.880 percent in 2029. This rate is similar to that levied by other states offering comparable PFML programs (i.e., benefits and taxable wage levels) such as California (1.20 percent) and Colorado (0.90 percent).

Projected Contribution Rates for Virginia PFML

Program	2023-2025	2026-2028	2029-2033
Baseline	0.950%	0.890%	0.880%
Alternative 1	1.325%	1.250%	1.235%
Alternative 2	0.625%	0.575%	0.570%

Source: Milliman (2021)

The other scenarios show the effect of easing and tightening eligibility guidelines and expanding or restricting benefits. The high benefit scenario, Alternative 1, results in an increase in the number of eligible employees with many lower wage part-time earners becoming eligible. Benefit payouts rise due to the increase in eligible employees, higher wage replacement, and longer leave allowance, which result in higher claims incidence rates and longer claim durations. The number of eligible workers is projected to rise from 3.579 million in 2024 to 3.702 million in 2033 with benefit payments increasing from $2.111 billion in 2024 to $3.011 billion in 2033. The percentage of workers covered by PFML in this scenario represents approximately 86 percent of all Virginia workers, an increase of 4 percentage points over the Baseline scenario. Higher contribution rates are needed to support the expanded eligibility and higher benefits, starting at 1.325 percent at the start of the program and decreasing to 1.250 percent in 2026 and to 1.235 percent in 2029.

The low benefit scenario, Alternative 2, results in a decrease in projected number of eligible workers. The higher wage threshold for eligibility removes many low-wage and part-time workers from the population of eligible workers. Benefit payouts decrease due to the drop in eligible workers and smaller wage replacement rates which result in lower claims incidence rates and shorter leave durations. The number of eligible workers is projected to grow from 3.076 million in 2024 to 3.182 million in 2033 with benefit payments increasing from

$887 million in 2024 to $1.253 billion in 2033. The percentage of workers covered represents an estimated 74 percent of total Virginia workers, an 8 percentage point drop from the estimated baseline coverage. Contribution rates are, by far, the lowest of the three scenarios, starting at 0.625 percent at the beginning of the program, decreasing to 0.575 percent in 2026 and to 0.570 percent in 2029.

In addition to the costs and spending that result from the program, Virginia PFML can be expected to have other secondary economic, social, and demographic effects. Based on a review of literature restricted to peer-reviewed papers that used contemporary causal econometric methods and examined U.S. programs, the evidence is mixed. There is ample causal evidence that PFML increases leave utilization. Several studies also find that infant and toddler health and parental well-being improve along various dimensions. Studies of maternal labor outcomes find varied results; studies of short-term (1-2 years after childbirth) find generally positive outcomes while a few longer-term studies find no such effects. The effects of paid leave on businesses are likely fairly small, but they may be more problematic for small businesses. There is generally little evidence that adult caretaker or medical leave users realize improved labor outcomes. Finding in these areas are summarized here:

PFML Utilization and Duration. A substantial body of empirical research shows that utilization and length of parental child bonding leave increases following the introduction of both unpaid and paid family leave, but there is less causal empirical evidence about other forms of family leave taking and short-term disability. Moreover, while actuarial studies find that program design variables such as wage replacement rate and maximum leave allowance affect program utilization and length of leave, supportive causal empirical research is lacking in this area.

Labor Market Outcomes. At least eight studies have examined the effect of paid family leave on labor market outcomes such as mother's labor force participation, employment, unemployment and wages. Most studies find that state PFL programs have positive labor market effects in the short term, including improved labor force participation and increased earnings. Two studies that focus on longer term labor market outcomes find that PFL has a negative effect on female employment.

Employer Outcomes. Studies generally suggest that employer impacts are relatively small. One possible reason for such findings is that employers do not bear the full direct costs of funding the PFML programs; statutory rates are usually split between workers and employers and the actual tax incidence is likely mostly borne by workers. Another explanation is that many businesses experience some productivity or retention improvements that offset other higher costs that some firms may experience. Employers may incur several costs from introduction of the program, including both administrative costs and costs resulting from worker absences. Evidence suggests that firms adjust to worker absences by: (1) shifting work to other workers without overtime, (2) shifting to other workers with overtime, (3) putting work on hold until an employee return, (4) hiring temporary workers, and (5) hiring permanent replacements. These adjustments may be more costly for smaller than larger firms.

Child Health Outcomes. Evidence suggests that PFML affects infant and children outcomes through intermediate improvements such as better feeding practices, improved vaccination, and reductions in low weight births. There is no evidence that PFML decreases overall infant mortality, perhaps because it does not improve outcomes for infants who are at greatest risk. Some studies find that PFML has positive effects on other child health outcomes, including infant hospitalization, parental assessments of infant and toddler health, and pediatric head trauma.

Parental Health and Wellbeing. Three studies find that PFL is associated with improved parental mental or physical health. Parents report better mental health status, lower psychological distress, and lower likelihood of being overweight and using alcohol.

The final piece of this study provides an ex-ante state economic and tax revenue impact analysis of Virginia PFML using REMI PI+ (Regional Economic Models Inc. Policy Insight Plus) software. REMI PI+ is a dynamic, multi-sector regional economic simulation model used for economic forecasting and measuring the economic impact of public policy changes on state and regional economies. Nine PFML scenarios in total were modelled. They included the HB2016/SB1330 legislative scenario ((***Baseline***), the more generous benefit scenario (***Alternative 1***) and the more restricted benefit scenario (***Alternative 2***). In addition, two

scenarios were examined that vary the tax burdens for individuals and businesses, with the 50-50 percent split of payroll taxes between worker and firm specified in the baseline scenario changed to one scenario where 100 percent of the payroll burden is assumed by the worker (***Employee Payroll Tax***) and another where the total payroll burden is borne by the firm (***Employer Payroll Tax***). The final four scenarios explore the economic impacts of potential PFML secondary economic and demographic outcomes. These scenarios are much more speculative; they are based on program effects suggested by specific empirical studies of PFML or other information. The first scenario boosts maternal labor force participation (***Labor Force Attachment***). This scenario is based on substantial empirical evidence that PFML improves female labor force attachment. The second scenario considers the effect of reduced labor productivity (***Labor Productivity***). While the empirical evidence of PFML effects on worker productivity is mixed, most survey data suggest proportionally more firms report negative productivity effects than positive effects. The third scenario considers the effect of infant population growth due to either reduced infant mortality and/or increased fertility rates (***Infant Population***). The evidence for this outcome is limited; while PFL appears to improve parenting practices and child health, only a few studies show effects on infant mortality and U.S. empirical evidence of fertility effects is even more limited. The final scenario (***Federal Tax Credit***) considers the effect that the loss of firms' continued eligibility to receive a federal tax credit for company-provided PFML benefits might have if Virginia adopted a PFML program.

The results indicate that the baseline scenario initially has a small positive economic impact. This occurs because administrative expenditures are needed one year before the onset of payroll taxes and two years before benefits are received by eligible employees to build the infrastructure and staffing for the program. This economic impact becomes negative in 2023 as the payroll taxes equal to .95 percent of payroll are levied to build the trust fund without a concomitant increase in benefit spending. The impacts for GDP and state tax revenue parallel those of employment. Although the economic impacts are large in absolute size, they are generally negligible relative to the size of the Virginia economy. The average employment and real GDP impacts over the 2022-2032 period represents less than 0.1 percent of average Virginia REMI PI+ forecasted total employment and real GDP over the period. The estimated total state tax revenue impacts of -$114.5 million over the period represent just 0.5 percent of the total $21.180 billion in tax revenue collected from PFML payroll taxes over the period. The lone exception is the 2023 employment impact of -16,349. Although still representing just 0.3 percent of total forecasted Virginia employment in 2023, the employment impact represents 35 percent of the REMI PI+ employment forecasted increase of 46,358 that would occur in the absence of a new PFML program. To avoid this disruption to employment growth, the General Assembly may want to consider issuing a revenue bond to smooth startup program costs over time.

The economic impacts are negative over the 2024-2032 period for essentially two reasons. First, program operation requires that reserves be maintained at a level of at least 40 percent of program expenditures over time. Thus, program expenditures during the first two years of benefits are approximately 86 percent of contributions and never exceed 98.2 percent over the entire period. The bulk of these funds are removed from the Virginia economy as Trust Fund savings that are invested in national capital markets. Second, business taxes charged to fund half of program expenses have slightly more deleterious effects on employment than personal taxes because of capital substitution for labor and effects on state business competitiveness.

The other two benefit scenarios either amplify or diminish the magnitude of economic impacts. Alternative 1, which enhances worker benefits by introducing a progressive wage replacement structure and expanding the number of weeks of eligible leave, results in higher payroll taxes and program expenditures which have more negative economic impacts throughout the period. Compared to the average annual baseline scenario impacts of -3,311 jobs, -$442.2 million in real GDP, and -$5.7 million in state tax revenue over the 2024-2032 period, this scenario results in an average annual impact of -4,644 jobs, -$620.8 million in real GDP, and -$8.1 million in state tax revenue. Alternative 2, which decreases the replacement rate and makes eligibility more difficult, results in a significantly lower payroll tax, smaller program-related expenditures, and smaller negative economic impacts. The average annual employment impact is -1,832, real GDP impact -$242.9 million and state tax revenue impact -$4.0 million over the 2024-2032 period.

Results from the tax burden scenarios suggest that shifting the payroll tax from employers to employees reduces the magnitude of the negative employment and real GDP impacts (an annual average employment impact of -1,086 and GDP impact of -$128.9 million) while shifting it to employers increases the magnitude

of the negative impacts (an annual average employment impact of -5,533 and GDP impact of -$754.8 million). On the other hand, an employer payroll tax has a positive effect on state tax revenue (annual average state revenue impact of $5.6 million), while an employee tax has a negative impact (-$17.1 million). This result is obtained because payroll taxes raised on workers reduces consumer disposable incomes and consumer expenditures on goods that have a disproportionate impact on sales tax collections.

The remaining economic and demographic scenarios show varied economic and tax revenue impact. The first scenario (***Labor Force Attachment***) shows the effect of increasing the labor force participation rate of childbearing age females by 1.37 percentage points. This scenario results in an average annual employment impact of 7,726, real GDP impact of $840.0 million and state revenue impact of $28.1 million over the 2024-2032 period. The hypothetical scenario more than offsets the negative employment, real GDP and state tax revenue impacts of the baseline PFML operational scenario.

The second scenario shows the effect of a loss in worker productivity due to PFML (***Labor Productivity***). Firms respond to the loss in labor productivity (and thereby comparatively higher expense of labor) by substituting capital for labor. This scenario reinforces the negative economic impacts of the baseline scenario, resulting in an average annual impact of -4,158 jobs, -$385.3 million in real GDP, and -$18.4 in state tax revenue.

The third scenario shows the effects of an increased birth rate for PFML eligible childbearing age females (***Infant Population***). One major effect of the population growth is increased consumer spending, which contributes to an average annual impact of 7,960 jobs, $714.9 million in real GDP, and $66.2 million in state tax revenue over the 2024-2032 period. The economic impacts gradually grow over time as the additional births add to the Virginia population starting from a base of zero in 2023 and gradually growing to approximately 72,000 additional people in 2032.

The final scenario shows the economic impact of the loss of a federal PFML tax credit because of federal restrictions in using the credit in states with mandatory PFML programs (***Federal Tax Credit***). The scenario shows by far the smallest economic impacts. Results indicate that loss of the federal credit would have an average economic impact of -747 jobs, -$73.7 million in real GDP, and -$3.3 million in state tax revenues.

Average Annual Economic Impact Results by Scenario (Annual Average 2024-2032)

Scenario	Employment	Real GDP (millions)	State Tax Revenue ($ millions)
Baseline	-3,311	-$442.2	-$5.7
Alternative 1	-4,644	-$620.8	-$8.1
Alternative 2	-1,832	-$242.9	-$4.0
Employee Payroll Tax	-1,086	-$128.9	-$17.1
Employer Payroll Tax	-5,533	-$754.8	$5.6
Labor Force Attachment	7,726	$840.0	$28.1
Labor Productivity	-4,158	-$385.3	-$18.4
Infant Population	7,960	$714.9	$66.2
Federal Tax Credit	-747	-$73.7	-$3.3

Section 1: Introduction

This report presents results of an actuarial and policy analysis for a prospective Paid Family and Medical Leave (PFML) program for the Commonwealth of Virginia. PFML provides temporary replacement income for workers with a serious health condition, who need to care for an ill family member, or who are welcoming a new child. Most developed countries have PFML programs and by 2021 9 U.S. states and the District of Columbia have enacted PFML. PFML has also been the feature of previous and current federal legislation such as the federal "Build Back Better" legislative package, which provides four weeks of paid leave. Several PFML program bills have also been introduced by the Virginia General Assembly in recent years, including HB2016 and SB1330 (see **Appendix A.** for the text of the bill), which would create a public PFML program of 12 weeks offering 80 percent replacement of wages up to 80 percent of the state average weekly wage.

Virginia workers are currently covered by a patchwork of federal programs and firm-based leave programs. The federal Family and Medical Leave Act (FMLA) program has offered eligible workers up to 12 weeks of job-protected, unpaid family and medical leave. However, eligibility conditions limit the protection to approximately 56 percent of the workforce, a percentage that has not improved in at least the last decade. Although Virginia-specific data on FMLA and private coverage is not available, private employers have increasingly offered short-term disability and paid family leave benefits to their workers. According to the Bureau of Labor Statistics National Compensation Survey, private employers nationwide offering short-term disability access rose from 37 percent in 2011 to 41 percent in 2021 and paid family leave access from 11 to 23 percent over the same period. However, many workers are less likely to be covered, particularly part-time, lower-wage, and small business employees. Increases in female labor force participation and the growth of single-parent families, population aging and some research suggesting beneficial economic, social, and health effects for participants and their families are reasons that the issue has received more attention from policymakers.

This report examines the effects of a Virginia PFML, with the focus being HB2016/SB1330 legislation introduced during the 2021 General Assembly Session. It examines the features of the Virginia legislation in comparison to other states that have adopted PFML and the potential effects of varying program design elements. It also reports on a professional actuarial analysis that projected costs needed for benefit payments and the direct and indirect costs of the operation and administration as well as to maintain a sufficient cash balance to ensure program solvency over the 2022 to 2033 period. The potential short-run and long-run economic, social, and demographic effects on Virginia residents are examined through the prism of recent scholarly research on U.S. state programs. Lastly, the study looks at the economic impacts of Virginia PFML legislation, considering expenditures, taxes and possible secondary economic and demographic effects, using a commercial economic impact model.

The report is divided into four additional sections.

The next section examines the various PFML policy design elements used by states in devising their PFML programs and how these features can affect the cost, utilization, distributional effects, and health, social, and economic impacts of PFML programs. They include the manner of funding, eligibility requirements, benefit structure, administration, and other characteristics. Reference is made to the choices and experiences of the nine states (plus the District of Columbia) that have adopted PFML programs to date in comparison to provisions of the Virginia legislation.

The third section summarizes the results of a professional actuarial study for a PFML program in Virginia. The study was conducted by Milliman, an international actuarial and consulting firm headquartered in Seattle, Washington. The study describes methods and data used as inputs into the actuarial analysis and presents the results of the actuarial analysis, including the projected number of eligible workers, administrative costs, claims and benefit payments, contribution rates, and target fund balance needed to ensure program solvency over a 12-year period (2022-2033). Results are presented for three scenarios. The first scenario is a baseline scenario constructed to approximate features of the HB2016/SB1330 legislation. Two additional scenarios were developed to show the effect of alternative policy design choices based on the experiences of other states and recommendations from a study of PFML conducted by the Offices of the Secretary of Commerce and Trade and the Chief Workforce Development. The section also introduces an online digital dashboard that can be used to explore further the economic and distributional consequences of each of the three scenarios.

The fourth section presents a review of literature regarding outcomes that can be linked to the introduction of PFML. This section reviews the academic empirical literature on the economic, social, and demographic effects of PFML programs. It generally screens for peer-reviewed research using contemporary causal econometric methods (e.g., difference in differences, regression discontinuity) since such studies provide a higher standard of evidence. It also focuses mainly on empirical research conducted for the U.S., including federal unpaid leave (i.e., FMLA), state PFML programs, and state mandated paid sick leave.

The final section presents economic impact analyses of various PFML scenarios using REMI PI+ (Regional Economic Models Inc. Policy Insight Plus) software. Nine PFML scenarios in total were modelled. They included three scenarios used in the actuarial analyses, two additional scenarios that examine the economic effect of shifting the baseline statutory shared 50-50 split in the HB2016/SB1330 legislation to full payroll tax burdens assigned to either workers or employers, and four scenarios that consider the potential economic impacts of secondary economic and demographic outcomes. These outcomes include increases in maternal labor force participation, reduced labor productivity, increase in the infant population due to a rise in fertility and/or reduced infant mortality, and the loss of a federal tax credit for company-provided PFML benefits.

Section 2: PFML Policy Design

A variety of policy design features and parameters can affect the cost, utilization, distributional effects, and health, social, and economic impacts of Paid Family and Medical Leave (PFML) programs. They include the manner of funding, eligibility requirements, benefit structure, administration, and other characteristics. This section examines each of these areas and specific features in closer detail. **Table 2.1** provides a summary of many section findings with reference to General Assembly legislation requirements and Secretary of Commerce and Trade and Chief Workforce Development Advisor Report recommendations.

2.1 Funding

2.1.1 Financing Mechanism

PFML funding by U.S. states is almost always provided through a payroll tax (Veghte et al. 2019). This model is the most common since it is a familiar way of funding existing employment security programs (e.g., Unemployment Insurance, Workers Compensation) and expected benefit payouts correspond to user contributions. It also provides a sustainable funding stream that is deposited into a dedicated trust fund, making it difficult for policymakers to tap for alternative budget uses (Veghte et al. 2019). Some states that added Paid Family Leave (PFL) to preexisting Short Term Disability (SDI) programs have also elected to maintain separate SDI and PFL funds, an arrangement that some analysts suggest improves program management and integrity (Milkman and Appelbaum 2013).

Several other funding models exist, including social insurance programs with regulated private options, noncontributory programs, employer mandates, and tax incentives (e.g., nonrefundable and refundable tax credits) for voluntary employer adoption of privately sponsored programs (Veghte et al. 2019). Most jurisdictions (the exceptions being the District of Columbia and Rhode Island) allow businesses to offer private PFML plans through self-insurance or purchasing private plans from insurers in lieu of participating in the public program. State laws stipulate that these "competitive plans" offer benefits that match or exceed state program benefits. The motivation for allowing these exemptions appears to be a desire to accommodate existing business arrangements and union contracts. The pros and cons of such exemptions are discussed further below.

Another funding model is the noncontributory program, whereby funding is provided through General Fund revenue sources rather than a payroll tax. This is the model favored by some analysts and embodied in a PFML program that is part of current Congressional Build Back Better legislation. Two potential advantages have been cited for this type of funding (Ruhm 2017). First, it creates a larger, more diversified tax base that is not dependent solely on employment. Second, it is less likely to cause reductions in employment of lower wage workers by raising employment costs of employing lower wage workers near the minimum wage.

Employer mandates are another way to provide coverage. State employer mandates are common for other benefit programs such as sick leave but less so for PFML. Only one state and a handful of localities (e.g., San Francisco) utilize this model. Hawaii has an employer mandate for short-term disability but does not currently offer a PFL program. Employer mandates are generally regarded as less desirable policy choices than publicly funded programs that rely on community ratings (Veghte et al. 2019). First, firms would be more likely to discriminate against high-risk employees (e.g., females, individuals with physical disabilities) in

hiring decisions in order to reduce benefit costs. Second, it could result in higher and more volatile insurance costs for businesses, particularly small businesses and firms in industries with high-risk employees.

A final funding model is to use tax expenditures to subsidize firms that offer PFML. The federal government offers two tax credits in this area. The Federal Employer Credit for Paid Family and Medical Leave has been available since 2017. It was a pilot program during the first two years but has been extended through 2025 by additional legislation.[1] It provides a credit of 12.5-25 percent of salary and wages paid to qualifying employees for up to 12 weeks of family and medical leave but cannot be used when PFML is mandated by state or local law. A second temporary PFML tax credit was created as part of the Families First Coronavirus Response Act, emergency legislation adopted before the CARES Act in March 2020 to assist in COVID-19 prevention and mitigation efforts. The resulting Payroll Tax Credit for COVID-19 Sick and Family Leave provided a credit equal to 100 percent of salary and wages for small business (i.e., fewer than 500 employees) to cover the costs of up to two weeks of paid sick and medical leave or ten weeks of family leave related to the coronavirus pandemic. Additional unsuccessful federal PFML tax credit and voluntary program legislation has been proposed[2] as well as Virginia legislation for a PFL tax credit.[3] The major downside of such policies is that they have not been shown to markedly change coverage levels, particularly when compared to compulsory models. Thus, the costs of credits may be prohibitively high per benefit incentivized because firms with existing leave programs or ones who would have implemented programs without a federal tax credit benefit from the programs.

2.1.2 Payroll Tax Contribution Splits

In the payroll tax financing model, the tax can be statutorily assessed against the employee through payroll deduction, the employer, or both. The allotment of payroll tax varies among U.S. jurisdictions. Employees pay the full tax in California, Connecticut, and Rhode Island, while employers do in the District of Columbia. Most states offer employee/employer splits in the range of 40-60 (Massachusetts), 45-55 (Washington State), 50-50 (Colorado), and 60-40 (Oregon). New Jersey and New York allotments vary by program; workers pay payroll taxes for PFL while employees and employers split the cost of SDI. Split allotments seem to be motivated by a combination of factors such as pragmatic political considerations, social equity, or the benefit principle. A shared contribution can be justified on benefit principle if businesses realize cost reduction or productivity improvements as a result of improved employee retention, morale, etc. Regardless of the motivation, substantial empirical research suggest that the actual incidence of payroll taxes is roughly evenly split between employer (in the form of reduced profits) and employees (in the form of reduced earnings) in the short-run, while workers pay most of the tax in the long-run (Carloni 2021; Melguizo and González-Páramo 2012).[4]

2.1.3 Fund Balance Requirements and Accumulation

PFML programs require substantial fund balances to ensure program solvency against unexpected risks, such as greater than anticipated take-up rates and longer average leave durations. The build-up of such funds can either be provided through fund balance accrual, general fund transfers, loans, or bond issuance. A

[1] https://www.mercer.com/content/dam/mercer/attachments/global/law-and-policy/gl-2021-congress-extends-tax-credit-for-paid-family-and-medical-leave.pdf

[2] Among other recent federal tax credit legislation that has been introduced was: (1) the Working Parents Flexibility Act of 2019 (H.R. 1859) and Freedom for Families Act (H.R. 2163), which would have created a tax credit for individual savings accounts used for family and medical leave, (2) Support Working Families Act of 2020 (S. 2437) which would have targeted tax credits to individuals using parental leave, and (3) Economic Security for New Parents and Child Rearing and Development Leave Empowerment (CRADLE) Act of 2019, which would fund parental leave coverage by allowing individuals to draw down funds from Social Security at the expense of delaying the receipt of social security retirement benefits.

[3] HB 33 Small Businesses; Parental Leave Tax Credit was introduced during the 2016 Virginia General Assembly Session. The bill would have created an income tax credit with an annual cap of $5.5 million for firms with less than 50 full-time employees. The credit would equal 65 percent of the first $8,333 in salary or wages paid for parental leave.

[4] Tax incidence can be calculated based on labor supply and demand elasticities and factor substitutability. In practice, the shift is effectuated by reducing benefits, real wages, or hours worked over time. Payroll taxes can also, in general equilibrium frameworks, be shifted to consumers in the form of increasing prices. Taxes may not be fully shifted onto workers because of institutional factors, such as downward wage rigidity due to the existence of union collective bargaining agreements and presence of minimum wage and employment protection and anti-discrimination laws (Carloni 2021; Gruber 1994).

common funding level target is 140 percent of expected expenditures; this is usually achieved by delaying benefit payouts for a period of time after tax contributions are initiated, with lags of 6-12 months being the norm. The obvious downside of this arrangement is that covered workers are paying into the program without receiving benefits while the program builds an acceptable financial cushion. However, some jurisdictions have foregone this arrangement and start benefits at the same time as contributions.

2.1.4 Taxable Wages and Salaries Ceiling

State programs typically tax worker wages and salaries up to a limit. There are no tax floors. Since eligibility is ordinarily established by level of labor force attachment demonstrated by a minimum degree of continuity in work hours or earnings during a base employment period, some workers who fail to qualify effectively pay into the system but do not receive benefits. Higher earners, on the other hand, are subject to a limit on contributions, sometimes the same earnings limit used for the Social Security payroll tax ($142,800 in 2021). Five states (i.e., Colorado, Connecticut, Massachusetts, Oregon, and Washington State) use this cutoff. California, New Jersey, New York, and Rhode Island have established lower taxable wage ceilings, with Rhode Island's being the lowest at $74,000. The District of Columbia is the only jurisdiction without a taxable wage ceiling. Lower taxable wage ceilings will narrow the tax base and increase the payroll tax rate for earners below the ceiling. On the other hand, some upper limit is recommended based on the benefit principle since benefits are also capped.

2.1.5 Payroll Tax Rates

Statutory tax rates are determined by program benefit costs, program administrative costs, and fund balance requirements. They are also a product of the payroll tax base. Programs that offer higher benefits (because of higher replacement rates, longer leave, more qualifying events, and/or broader definition of family for family leave), that have higher administrative costs (e.g., greater outreach costs or other expenses), or narrower tax bases due to lower taxable ceilings and exemptions permitted for self-employed individuals, small businesses, competitive plans, and governments, should, ceteris paribus, have higher payroll tax rates.

2.2 Eligibility Requirements

2.2.1 Employment Requirements

State programs require evidence of some minimal level of labor force attachment to be eligible for PFML benefits. This ensures that workers have adequately paid into the system and that it does not become a general purpose entitlement program. This is typically measured by wages earned over some base period, usually four or five quarters immediately prior to taking leave. For Washington State, hours worked are used as the eligibility metric instead of accrued wages, which is beneficial to lower wage earners. Tying PFML to Unemployment Insurance (UI) program eligibility as occurs with the Virginia legislation may help standardize eligibility and simplify administration. However, most states do not use the same eligibility standards as UI, perhaps because that would restrict eligibility more than desired (Jacobs 2019).

2.2.2 Industry/Firm Exemptions

Most states offer special treatment or exemptions for individual sectors or categories of businesses. Most commonly, states exempt at least some state and local government employees or allow them to opt into the program, either because pre-existing coverage exists for these workers or because of concerns that the added costs would create an unusual financial burden for local governments (Greenfield and Cole 2019). Four states offer exemptions to small businesses, defined as businesses having 10 or fewer (Colorado), 25 or fewer (Massachusetts and Oregon) or 50 or fewer employees (Washington State). Under these exemptions, small businesses are not required to pay program payroll taxes, but employees are typically covered and still pay their share.

This special treatment is sometimes offered because of concerns that smaller businesses face high costs or realize fewer benefits from implementing PFML; firm survey data sometimes support claims that small

businesses disproportionately experience higher costs (See Section 4 for examples). Workers at small businesses also exhibit lower utilization of paid leave (Pinnacol Assurance 2019). Higher costs may be more visible during the program startup phase. Small businesses have been exempted by the federal Family and Medical Leave Act (FMLA) program from having to provide job protected, unpaid leave. Thus, new state programs that extend such protection to employees of small businesses may increase worker utilization more than larger firms already covered by FMLA (Bartel et al. 2021).

Several competing arguments have been offered why exemptions should be disallowed. In the case of small businesses, lower worker utilization of benefits observed in the data may result from workplace culture or other firm characteristics that discourage PFML use (Bana et al. 2018). Moreover, some analysts dispute that small employers experience a greater burden than larger employers (Ruhm 2017). Many small businesses who would like to provide PFML may not be able to access affordable insurance options without a public program (Veghte et al. 2019). In addition, exemptions may contribute to "job lock," whereby workers are more reluctant to move between covered and exempted firms because of fear of losing a PFML benefit. Lastly, permitting exceptions could create adverse selection problems or loss of program economies of scale which would drive up the contribution rates for remaining participants. Similarly, allowing self-employed individuals an option to enroll may create an additional adverse selection problem because those who anticipate needing benefits are more likely to enroll. Lastly, exempting small businesses from making employer payroll tax contributions shifts the cost to workers as well as larger firms to make up the revenue that would be generated.

2.2.3 Allowance of Competitive Plans

Most jurisdictions with PFML programs (the exceptions being the District of Columbia and Rhode Island) allow firms to offer regulated private plans that provide similar or better benefits and coverage.

Allowance of private plans offers several potential advantages to firm electors and their workers (Boyens, Smalligan, and Bailey 2021). Private deliverance of PFML benefits may simplify and improve firm leave management systems. Firm Return to Work (RTW) services may also be better able to transition medical leave users back to work with concomitant benefit cost reductions and improvements in worker earning and health outcomes. Workers may also receive their benefits faster than public programs.

There are also several potential downsides to permitting private plans. One is the regulatory cost of verifying and monitoring private plans. For example, California's Voluntary Plan Administration Section employs 12 staff to oversee just 2,500 workers enrolled in private plans (Glynn, Goldin, and Hayes 2014). Moreover, it may be difficult to provide full oversight and enforcement of private plans because of the extensive performance data required to verify that fiduciary rules are followed and worker applications and claims are treated similar to the public program (Boyens, Smalligan, and Bailey 2021). Another disadvantage is that employers with workers that have lower risk of utilizing the programs may create their own programs, resulting in an adverse selection problem that increases tax rates for remaining higher risk state program participants. Lastly, regulators must ensure that private plans offer immediate coverage in order to ensure that workers do not have lapses in coverage when they change jobs (Veghte et al. 2019).

The demand for offering competitive plans varies from state to state. For states that offer PFML programs, private plan workforce coverage ranges from 33 percent in Massachusetts to just 3 percent in California (Boyens, Smalligan, and Bailey 2021). Washington State, a recent PFML adopter which allows regulated competitive plans, reports that voluntary plan demand has been significantly lower than projected, with only 5 percent of employers providing such plans versus the 12 percent predicted.[5] Private plan offerings may be related to prior levels of firm PFML provision, insurance cost and availability, importance of the PFML to company leave management and employee benefits, and state rules governing private plans (Boyens, Smalligan, and Bailey 2021).

[5]Washington State Employment Security Department. 2020. Washington Paid Family & Medical Leave Annual Report. https://esdorchardstorage.blob.core.windows.net/esdwa/Default/ESDWAGOV/newsroom/Legislative-resources/2020Paid-Leave-Program-Report.pdf

2.2.4 Qualifying Events

States generally define qualifying events similarly to include own illness, disability, or birth (medical leave), child bonding (parental leave), and illness of a family member (other family caretaking leave). Short-term disability is always the largest component while caretaking leave is the smallest in state PFML programs. For example, the former constituted approximately 85 percent of total PFML benefits paid in California and 58 percent in New Jersey for 2018 whereas the latter constituted just 2 percent and 17 percent respectively.[6] Thus the effect of changes in caretaking leave qualifying events on program costs will likely be relatively small.

Virginia's legislation is similar to six other jurisdictions (California, District of Columbia, Connecticut, Massachusetts, New York, and Washington State) in extending caretaking to qualified exigency leave for covered service members. A few states provide coverage for other types of qualifying events not specified in the Virginia legislation. The District of Columbia, Colorado, Connecticut, New Jersey, and Oregon offer coverage for victims of domestic or sexual violence. Connecticut allows leave for individuals serving as an organ or bone marrow donor. The Biden Administration original PFML plan (American Families Act) had proposed paid leave for survivors of domestic violence, sexual assault or stalking to seek services and assistance. It also included bereavement leave for grieving workers.

2.2.5 Qualifying Family Members/Definition of Family

The statutory definition of family is relevant primarily for the purposes of determining eligibility for caretaking leave. Most U.S. states specify that qualifying family members are immediate family, including spouses and common law partners; birth, adopted, and foster children; mothers and fathers; siblings; parent-in-laws; and grandparents and grandchildren. Thus, state laws broaden family scope beyond spouses, children, and parents allowed in the federal FMLA program. A few states expand qualifying members further to include brothers and sisters-in-law (Colorado), spouses and domestic partners of siblings (Oregon), any other person related to the worker by blood (New Jersey and Oregon), and individuals with close association equivalent to family relationships (Connecticut and New Jersey). Again, expansion of qualifying family members will likely have only a very small impact on leave utilization since it affects only family caretaking leave, the smallest component of family leave. Moreover, the vast majority of caretaking leaves are for immediate family members.

2.2.6 Advanced Notice Requirements

Advanced notice requirements are specified in PFML programs to reduce the costs to businesses of planning work continuity around worker leaves (e.g., reassigning work to other employees, delaying the work, hiring temp replacements). Thirty-day notices for most types of leave is the most common (Colorado, New Jersey, New York, Rhode Island, and Washington State). However, the District of Columbia requires 10 days, and some programs (including Virginia HB2016/SB1330) are silent on the matter. Most programs also indicate that claims can still be submitted for unplanned exigencies like emergency medical leave, where advanced notice would be unrealistic. Thus, although providing inadequate notice can be a reason to deny a claim, it also appears that workers have some degree of latitude, and that inadequate notice will not always disqualify an individual from receiving benefits. Moreover, workers have inbuilt incentives to provide advanced notice since benefits cannot be applied for until after notice is given, typically with some delay in receipt of first payment. Still, failure to provide adequate notice may complicate leave taking. State agency officials interviews reported by Spring (2019) indicated that failure to provide adequate notice, along with not meeting PFML program requirements, and not completing applications are the top three reasons for denying claims. More stringent advanced notice requirements may have more deleterious effects on disadvantaged groups since they tend also to have lower levels of program awareness.

[6] For California, see https://www.cga.ct.gov/2020/rpt/pdf/2020-R-0055.pdf. For Rhode Island, see https://www.myleavebenefits.nj.gov/labor/myleavebenefits/assets/pdfs/ANNUAL_FLI-TDI_REPORT_FOR_2019.pdf

2.3 Benefits

2.3.1 Replacement Rate and Structure

Replacement rate refers to the percentage of base wages that is provided as a PFML benefit over the benefit period. Most states provide replacement rates in the range of 60-90 percent up to a maximum benefit. Higher replacement rates will increase the costs of PFML programs. Empirical research (reviewed further in Section 4) suggests that as the replacement rate increases, program utilization increases. Rates are generally less than 100 percent to minimize moral hazard, to reflect the fact that living expenses such as commuting will be lower when workers are on leave, and to allow private employers room to "top off" benefits as desired.

Research suggests that lower uniform replacement rates (like provision of unpaid family leave) results in significant disparities in program usage, with lower wage earners much less likely to utilize benefits for which they may be eligible (Milkman and Appelbaum 2013).[7] Lower wage workers may find it more challenging to live off the benefit. Evidence from other OECD countries suggest that a replacement rate of at least 80 percent is needed to mitigate poverty and achieve more widespread utilization of the family leave benefit by men (Raub et al. 2018). Efforts to improve program equity are important considerations in replacement rate determination and structures. Thus, states with long-standing PFML programs such as California have increased their replacement rates in recent years (in the case of California, from 55 percent to 60 percent to 70 percent). More recent adopters have tended to offer higher replacement and more progressive rates, replacing a larger share of wages for lower earners than many early adopters motivated by equity considerations and in recognition that many higher earners already have PFML benefits which would be crowded out by higher rates.

While replacement rates are key policy design parameters that influence benefit utilization rates, many other variables are important as well (Spring 2019). Utilization rates are higher for short-term disability benefits than family leave and also appear to be less sensitive to replacement rates. Stringency of eligibility requirements, such as advanced notice and qualifying events influence application denial rates. Population demographics (relative size of the childbearing population and older workers) affect the likelihood of leave activity. State job protection enhancement has been shown to improve leave usage for individuals employed by firms not covered by the federal FMLA (e.g., fewer than 50 employees) (Hartmann and Hayes 2021). A whole host of other factors, such as program longevity, outreach efforts, and firm-level factors (discussed in more detail in Section 4) also appear to affect utilization rates (Spring 2019; Bana et al. 2018).

2.3.2 Maximum Leave

Another key parameter in the determination of program costs is the maximum period of leave allowed for various types of leave. Statutory maximum leave duration affects average durations of leave takers, with parental bonding more sensitive than other types of family care (Spring 2019). A chief influence on SDI leave durations are worker medical/disability conditions. State maximum leave durations span a wide range by type of leave with a low for SDI of 2 weeks (District of Columbia) and high of 52 weeks (California).[8] PFL varies within a much narrower band from 4 weeks (Rhode Island) to a high of 12 weeks shared by five different states (Massachusetts, New Jersey, New York, Oregon, and Washington State). Total allowed leave varies from a low of 8 weeks in DC to 52 weeks in California. Average maximum leave is greater than PFL at 21 weeks compared to 10 weeks. This is due largely to the fact that states with older SDI programs adopted maximum leave durations more typical of private plans, which average 26 weeks.[9] Newer PFML programs such as Connecticut and Oregon have copied the FMLA model of offering 12 weeks of total annual leave regardless of type (Smalligan and Boyens 2020).

Considerations in the development of maximum leave time are the policy objectives of promoting worker and family health and wellness and child development while assisting workers to transition from leave back to

[7] Lower awareness of benefits and greater fear that using leave benefits with affect workplace opportunities have also been cited as reasons that lower wage earners, younger adults, and minorities are less likely to utilize PFML benefits (Milkman and Appelbaum 2013).

[8] The District of Columbia will expand the maximum duration of SDI to 6 weeks in fiscal year 2022.

[9] https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/managing-disability-benefits.aspx

work (Greenfield and Cole 2019). Leave needs to be long enough to facilitate recovery and child bonding but not so long that it contributes to worker loss of human capital. International research suggests that negative labor market effects onset at much higher durations (one year duration or more) than allowed by state programs. For maternity leave, durations greater than one year may have a negative impact on female productivity and earnings (Ruhm 1998). Recovery periods for short-term disability and family caretaker care depend on the nature of the illness or disability. State SDI programs use physician recommendations, program administrative and experience data, and guidelines issued by private firms to determine maximum leave durations (Smalligan and Boyens 2020). Some workers with specific conditions may need more than the 12-20 weeks typically allotted for some conditions, while others may need far less than the statutory limit. For maternity leave, guidelines vary based on the outcome of interest. Many studies suggest that a minimum of 12 weeks is needed to support infant and maternal health following delivery (Ruhm 2017; Jacobs 2019), though longer durations of up to 6 months are recommended for optimal benefits (Jacobs 2019). The recommended minimums of health organizations vary from a 4-8 week minimum time period for maternal recovery after normal childbirth (Academy of Gynecologists and Obstetricians) to 14 weeks (American Academy of Pediatrics) for exclusive breastfeeding (Glynn, Goldin, and Hayes 2014). Several organizations (American Academy of Pediatrics, American Public Health Association, and Pediatric Policy Council) recommend a minimum of 12 weeks (Holm 2019). International health organizations generally recommend even longer leave times for maternal care and bonding.

2.3.3 Minimum Leave

Some state policies specify a minimum period of leave, ranging from one hour to one week. Since most state programs allow cumulative leave up to a designated maximum leave duration, leave could in theory be utilized at regular intervals throughout the year. Most states also allow leave of various types to accumulate as long as it remains below a specified cap. Although some types of own medical care and caretaking may require intermittent leave (e.g., chemotherapy, eldercare), unpredictable and periodic leaves may be more costly for some firms than longer contiguous periods of leave (Lerner and Appelbaum 2014). Ruhm (2017) recommends one-week minimum duration combined with advanced notice in order to lessen employer costs in the case of parental leave.

2.3.4 Taxation of Benefits

Determination of whether state PFML contributions and benefits are subject to federal income taxes is made by the U.S. Department of Treasury and Internal Revenue Service (IRS). Federal tax treatment of benefits appears to depend on three aspects of the contribution and benefit payment: (1) the type of payment made (i.e., family leave and short-term disability leave are treated differently), (2) who pays the payroll tax (i.e., employee versus employer), and (3) whether the payroll tax was in pre-tax or post-tax dollars. In the case of California's program which is entirely funded by an employee payroll tax and PFML consists of distinct PFL and SDI components, the IRS has determined that family leave (like unemployment insurance benefits) is a taxed employee benefit, while SDI is regarded as a type of sick pay and is untaxed. However, newer programs typically mingle programs and payments sources by combining SDI and PFL into a single PFML program and levying shared employer-employee payroll taxes. At the date of this writing, guidance of the federal tax treatment for contributions and benefits has not been provided for these newer state programs.[10] The current Virginia legislation alludes to the unsettled nature of this question and provides individuals the option of having federal income tax deducted and withheld from benefit payments.

The current Virginia legislation does not spell out whether PFML benefits are subject to state taxes. Thus, one must assume that PFML benefits would be taxable since the state conforms to the federal definition of gross income, unless a specific exception is included in a future Virginia law. Veghte et al. (2019) recommends that PFML legislation explicitly state whether benefits are taxable income, which would also affect individuals options for having state income tax withheld along with any federal tax. Moreover, they recommend that states indicate if benefits can be used in ascertaining whether residents are eligible for means-tested public assistance and other benefits.

[10] https://www.jdsupra.com/legalnews/tax-implications-of-payments-received-8555453/

2.3.5 Minimum and Maximum Benefits

State programs set benefit caps, usually stated as a certain percentage of statewide average weekly wage (ranging from a low of 64 percent for Massachusetts to a high of 120 percent for Oregon), a fixed amount with and without annual cost of living adjustments (District of Columbia for PFML, New York for SDI), or a multiple of the minimum wage (Connecticut). The former caps are readjusted annually based on statewide average wage changes and indirectly account for changes in cost-of-living, labor productivity, and macroeconomic conditions. Several state programs also specify minimum benefit amounts in constant dollar terms ranging from $20 (New York) to $50 (California and Rhode Island) or percentage of statewide weekly wages (i.e., Oregon sets this at 5 percent of the statewide weekly wage). Nominal dollar amounts have the disadvantage of being eroded over time by inflation if they are not statutorily adjusted frequently. Virginia legislation specifies a cap of 80 percent of average weekly wages (based on 2020 average weekly wages of $1,253 in Virginia, the maximum would be $1,002) and minimum of $100. Imposing benefit ceilings and floors decreases disparities in program benefit allowances and provides another mechanism to improve participation of extremely low earners. Since all programs except District of Columbia also impose taxable wage ceilings, benefit caps are a necessary adjunct to ensure that obligations approximately match benefits.

2.3.6 Interaction of Employer Benefits

At least two states (i.e., California and New Jersey) allow employers to require workers to use at least two weeks of sick/vacation leave before tapping the public PFML benefit (Groves et al. 2016). This feature may help ease business costs of providing sick and vacation day benefits. It also decreases PFML program costs. New Jersey reportedly found that employers using this practice decreased leave time by 15.4 percent in 2014 (Groves et al. 2016).

2.3.7 Benefit Waiting Period

Several jurisdictions (i.e., California, District of Columbia, Massachusetts, New York, and Washington) require a one-week waiting period for receiving short-term disability benefits, and three impose the same requirement for at least some types of family leave (District of Columbia, Massachusetts, and Oregon). This provides greater certainty that the leave is used for a serious qualifying event that requires a longer period of leave as intended by the program (Groves et al. 2016). Some workers may opt to use other employer paid leave during this period or possibly elect not to pursue PFML because of eligibility and payment delay. Benefit payment delay may have a disproportionate effect on lower wage earners participation and wellbeing because they have fewer liquid assets and rely more on weekly or biweekly work compensation (Smalligan and Boyens 2020).

2.3.8 Return to Work Programs

Return to work (RTW) programs provide financial incentives, therapeutical services, education, and employee workplace accommodations to transition workers back to work. They are sometimes offered as part of private SDI programs and can include "stepwise" payment models that provide a lower rate of wage replacement after a period of time and modified workplace duties to ease workers back into the workplace. Several reviews of private RTW programs find that they can reduce short-term disability leave lengths and costs (Smalligan and Boyens 2020; Franche et al. 2005). One study found that RTW programs decrease claim durations by 3.6-10.8 days (7-18 percent) (Biggs 2020; Gifford and Parry 2016). Smalligan and Boyens (2020) recommend that any federal PFML program should incorporate a RTW component, in part because of its potential to reduce the number of workers who transition into the federally funded Social Security Disability Insurance Program (Smalligan and Boyens 2020).

Return to work does not appear to be a regular feature of state SDI programs. Some state programs will refer participants to other RTW services when requested (Smalligan and Boyens 2020). Rhode Island's SDI program includes a Partial Return to Work Program that encourages workers to return to work on reduced hours. To be eligible for program, the worker must have participated in the regular SDI program for at least seven consecutive days and be allowed to work by the worker's health provider. Weekly SDI benefits are

decreased by part-time wages earned during the period for 8-12 weeks to allow workers to ease back into their regular work schedule.[11]

2.3.9 Employment Guarantee

The federal FMLA program has provided 12 weeks of protected unpaid leave since 1994 for care of a new child, own medical condition, or medical condition of a family member.[12] However, it is limited to workers who accumulated at least 1,250 work hours of work over the previous year for a business that employs at least 50 workers within a 75 mile radius. Forty-four percent of the labor force, disproportionately lower earning, minority, part-time and small-business workers are not eligible for such protection according to 2018 survey data, a percentage that has not changed since a similar survey conducted in 2012 (Abt Associates 2020). Some studies indicate that such job protection is an important influence on worker decisions to take leave. Most states have extended job protection beyond FMLA, but these additional protections are sometimes restricted to particular categories of leave (e.g., parental bonding leave, maternity leave) or limited to workers who have demonstrated some minimum level of job continuity with a single employer (Colorado, Connecticut, and Oregon). Only Massachusetts appears to have job protection as broad as Virginia's legislation.

2.4 Administration/Other

2.4.1 Public or Private Program Administration

States with public PFML programs have generally chosen to administer the programs in-house. The administering agency is typically departments of labor or employment, the same agencies that are charged with administering state UI programs. Some policy analysts have identified potential problems with outsourcing program benefit services to a private insurers (Glynn, Goldin, and Hayes 2014). These include greater administrative complexity resulting from providing third party administrator access to state employment records, enacting safeguards to maintain confidentiality of patient medical data, monitoring service quality and administrative expenses, and establishing procedures for resolving claims disputes, Based on the experience of other public insurance programs, administrative costs could be substantially higher than public administration because of additional costs or reduced participant benefits (i.e., higher claims denial) (Glynn, Goldin, and Hayes 2014). For example, federal Medicare costs constitute 2 percent of premiums versus the typical private insurance administrative cost of 12 percent. On the other hand, private insurance company income and property would be taxable.

As shown in **Table 2.2**, most states administer their state paid family and medical leave programs within a state agency rather than outsourcing claims administration or other functions. Running the programs in house reduces costs, ranging from a low of 4.5 percent in California to a high of 9.1 percent estimated for the first 9 months of the Washington State's program. Washington was the first state to launch a paid family leave program not based on a long-standing disability insurance program.

California, New Jersey, Rhode Island, the District of Columbia, and Washington state administer their paid leave programs through their employment security agencies, which also administer UI. While a paid leave program cannot be administered by or add costs to a state's Unemployment Insurance system, mechanisms such as memorandums of understanding (MOUs) may allow UI to share wage data. Staff can be cross-trained as long as time is allocated appropriately which can help the agency manage workloads; while UI is designed to be counter-cyclical to the business cycle, paid leave is somewhat pro-cyclical with workers gaining access to benefits with employment experience.

Some states have utilized private contractors for specific systems or functions. Services such as IT system development and medical coding systems for determining medical leave eligibility and leave duration are typically outsourced to private entities. Connecticut's PFML program selected a private firm, Aflac, as its claims administrator, after a competitive bidding process. In this role, the company accepts applications,

[11] https://convatecbenefits.com/wp-content/uploads/2018/09/RI-TDI-FAQs-2021.pdf

[12] FMLA was amended in 2008 and 2009 to include military caregiver and exigency leave and to accommodate the atypical work and leave schedules of airline flight staff (Spring 2019).

determines program eligibility, and administers benefits.[13] Together, the managerial staff at the Connecticut Paid Family Leave Authority and the contracted services for claims administration are about 8.8 percent of estimated benefits to be paid in 2022, the first year claims can be paid.[14]

2.4.2 Experience Rating

Experience ratings are typically used in private short-term disability plans. Such plans assess company personnel usage of benefits in assessing premiums. This differs from "community standard" regulations that require premiums be charged at a standard rate. State UI systems utilize experience firm/industry experience ratings in determining UI payroll taxes to better reflect unemployment risk variance. A few states such as New Jersey with older short-term disability systems utilize experience ratings in their programs. However, they are not a feature of newer state PFML programs.

2.4.3 Fraud Detection and Mitigation

Similar to other state social insurance programs such as Unemployment Insurance and Workers Compensation, some administrative resources should be committed to fraud surveillance and enforcement, including monitoring, researching, and investigation efforts. Examples of fraud would include employers failing to remit payroll taxes collected as well as workers filing false benefit claims. State detection efforts to date indicate relatively low levels of fraud. For example, in California's most recent fraud reporting for Calendar Year 2019, 120 cases were investigated, 15 criminal complaints filed, and 6 criminal prosecutions completed. Fraudulent Medical Leave claims amounted to less than 0.5 percent of benefits paid.[15]

[13] https://portal.ct.gov/Office-of-the-Governor/News/Press-Releases/2021/07-2021/Governor-Lamont-Announces-Aflac-Selected-as-Claims-Administrator-for-Paid-Leave-Program

[14] https://www.youtube.com/watch?v=Zpia3333D0A at 17:51 minutes

[15] State of California Employment Development Department. 2020. Annual report: Fraud deterrence and detection activities. https://edd.ca.gov/about_edd/pdf/Fraud_Deterrence_and_Detection_Activities_2020.pdf

Table 2.1: Paid Family and Medical Leave Policy Design Features

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Funding				
Financing mechanism	Public social insurance (payroll tax) provision (§ 60.2-804. (A))	Public social insurance (payroll tax) program with regulated private options	Fiscal sustainability and program stability.	More narrow funding base. Employers unable to shift costs to workers may decrease employment.
Payroll tax contribution split	50 percent employee; 50 percent employer (see § 60.2-804. (D))	Same	Promote equity, decrease costs for workers, ensure that all parties are vested, and benefit principle.	Significant proportion of payroll taxes borne by employee in competitive labor markets.
Benefit accrual period	1 year (see § 60.2-804)	Same	Ensure program solvency.	Delay in program availability to public.
Fund balance requirement	140 percent (see § 60.2-804. (B) (3)-(5))	Same	Ensure program solvency.	NA
Taxable wages and salaries ceiling	Maximum contribution is benefit base limit established annual for Social Security ($142,800 in 2021). (see § 60.2-804. (E))	Not specified	Benefit principle of taxation.	Lower taxable wage ceilings will narrow the tax base and increase payroll tax rate for earners below ceiling.
Payroll tax rates	To be informed by actuarial study (§ 60.2-804. and Part 2.)	Actuarial study recommended to inform	NA	NA
Eligibility Requirements				
Employment requirements	Base period is previous four quarters. Eligibility is based on earnings in two highest earning quarters (i.e., $3,000) according to UI covered employment benefit table (https://law.lis.virginia.gov/pdf/12100666D_Table2.pdf). (see § 60.2-612) and § 60.2-800 (1)(a))	Same	Aligns with UI program eligibility (covered employment), ensures that only individuals with demonstrated attachment to labor force receive benefits.	May exclude some categories of workers such as seasonal workers.

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Qualifying family members/definition of family	(1) Biological, adopted, or foster child, stepchild or legal ward, a child of domestic partner or child to whom the covered individual stands in loco parent; (2) biological, adoptive, or foster parent, stepparent, or legal guardian of a covered individual or a covered individual's spouse or domestic partners, or a person who stood in loco parentis when the covered individual's spouse or domestic partner was a minor child; (3) a person to whom the covered individual is legally married under the laws of any state, or a domestic partner of a covered individual; or (4) a grandparent, grandchild, or sibling, whether through a biological, foster, adoptive, or step relationship, of the covered individual or the covered individual's spouse or domestic partner.	Same	More expansive family definitions effect on program costs are likely to be small because immediate family members typically account for vast majority of costs.	More expansive family definitions raise program costs.

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Qualifying events	(1) Birth, adoption, or placement through foster care of caring for a new child during the first year after the birth, adoption, or placement of that child, (2) caring for family member with a serious health condition, (3) has a serious health condition that makes the covered individual unable to perform work, (4) caring for a covered service member who is next of kin or other family member, or (5) eligible for qualifying exigency leave arising out of fact that family member of covered individual is on active duty, or has been notified of an impending call or order to active duty in the Armed Forces. (see § 60.2-801. Eligibility for benefits)	Same	NA	More qualifying events raise program costs.
Opt-in for self-employed.	Self-employed may opt in (see § 60.2-813)	Same	NA	Allowing self-employed option to enroll may create adverse selection problem because individuals who anticipate needing benefits are more likely to enroll.

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Industry/firm exemptions	No	Small businesses should be exempted from paying 50 percent business share of premium, but employees who pay in would be covered.	Small businesses have higher administrative costs for paid leave and workers exhibit lower utilization levels. PFML provides access to pooled community rated social insurance product that may otherwise be unavailable or cost prohibitive for small employers.	Smaller businesses have lower utilization levels due to workplace culture. Providing exemption for small businesses raises costs for other employers and employees.
Allowance of competitive plans	No	Yes	Provides continuity in existing private plans. Provision of private plans may provide synergies with other aspects of firm leave management systems.	Creates possibility of adverse selection problem with public plan enrolling higher risk individuals. Program experiences higher administrative costs to regulate private plans.
Advanced notice requirements	Yes, but no minimum number of days specified: § 60.2-809. Notice. (B))	Same	Helps reduce disruption to business by improving planning for work continuity while employee is on leave.	Failure to provide adequate advanced notice can be reason for denying claim and would reduce benefit claims rate by unknown factor. Policy may have more deleterious effect on disadvantaged groups with lower levels of program awareness.
Benefits				
Replacement rate and structure	Flat 80 percent rate (see § 60.2-803. (A))	Flat 80 percent rate	Improved participation and equity in participation can be achieved with higher wage replacement.	Further equity could be achieved with progressive rate structure.

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Maximum leave	12 weeks total (see § 60.2-802 (A))	12 weeks total	Many infant and maternal health and development benefits begin at 12 weeks of leave. American medical and health organizations recommend 12 weeks as minimum amount of leave for new mothers.	International organizations recommend minimum of 14 weeks or more for maternal leave. Most private short-term disability programs and some states offer substantially higher maximum amounts of medical leave.
Minimum leave	Yes–8 hours (see § 60.2-803 (D) and § 60.2-805.)	Same	Intermittency may be needed for certain qualifying events (e.g., elder care, chemotherapy).	Intermittent leaves may increase employer costs of leave.
Taxation of benefits	Yes (if IRS determines that benefits are subject to federal tax). State uses adjusted gross earnings from federal forms. (see § 60.2-815.)	Not specified	State taxation of benefits creates additional revenue stream for state.	Unresolved questions of benefit taxability by federal and state government creates tax uncertainty. Taxation of benefits would lower benefit.
Benefits counted in determining means-tested benefits for other state programs	Not specified but probably related to taxability issue	Not specified	Counting benefits would lower public assistance costs.	Counting temporary benefits would decrease public assistance and increase administrative complexity for lower earners.
Minimum and maximum benefit	Minimum of $100 per week and maximum of 80 percent of state average weekly wage during the 12 months preceding. (§ 60.2-803 (B) and (C))	Minimum of $100 per week and maximum of 80 percent of state average weekly wage during the 12 months preceding.	Minimum and maximum benefits improve program equity. Maximum benefit is needed to ensure that average benefits are synchronized with tax contributions for high wage earners.	Minimum benefit may mean slight departure from benefit principle for some low earners. Minimums stated in nominal dollar terms will erode in real value over time due to inflation.
Leave stacking	Yes until 12 total	Yes until 12 total	Provides worker flexibility.	Increases program costs over alternative where family and medical leave durations are separate.

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Interaction of employer benefits	Permits supplemental employer PFML benefits (see § 60.2-808 B)	Not specified	Decreases availability of other worker benefits.	Allowance of employers to require workers to use sick/vacation leave first helps ease business costs of providing sick and vacation day benefits.
Benefit waiting period	No waiting period (see § 60.2-802. (B))	No waiting period	Decreases program costs.	May decrease utilization by lower earning workers with inadequate savings and reliant on weekly or biweekly work compensation.
Return to work program	No	No	Return-to-work plans may reduce disability program costs by decreasing leave durations and ease transition back to work.	Return-to-work plans add to program administrative costs.
Employment guarantee	Yes (see § 60.2-806.)	Yes	Enhances program participation, particularly for lower earning, minority and part-time workers. Federal FMLA provides job protection, but significant portion of labor force (44 percent) is not covered.	FMLA already provides coverage for majority of working population.
Administration/Other				
Public or private program administration	Public administration by Virginia Employment Commission ((§ 60.2-814))	Public administration	Private administration of public insurance programs typically has significantly higher administrative costs.	Private insurance firms may provide better customer service. They may also pay state and local taxes
Firm rate adjustment using experience rating	Not specified	Not specified	Community rating may increase costs for some firms and industries with lower utilization demographics.	Charging different firm premiums based on experience rating could result in firm discrimination against higher utilization demographics. Employers might discourage usage.

Feature	HB2016/SB1330	Secretary of Commerce and Trade and Chief Workforce Development Advisor Report	Pro	Con
Public education/outreach program	Yes (§ 60.2-818. Public education)	Same	Improve participation levels, particularly for disadvantaged groups.	Increases cost of program
Financial assistance for small business	No	Grant fund to support small businesses' administrative, technology, and personnel replacement costs needed to implement PFML.	Eases financial burden for business who may have higher administrative costs.	Self-employed already have opt-in. See "Industry/Firm Exemptions" above for other small businesses.

Table 2.2: Benefits and Administrative Costs for Existing State Paid Family and Medical Leave Programs

	California	New Jersey	Rhode Island	Washington
Benefits Paid ($ millions)	$8,544.2	$560.8	$193.0	$416.8
Administrative & Miscellaneous Disbursements ($ millions)	$383.8	$32.9	$12.3	$38.0
Total Disbursements ($ millions)	$8,928.0	$593.7	$205.2	$454.8
Administrative Costs as a Percentage of Benefits	4.5%	5.9%	6.4%	9.1%
Notes	Data for 2020	2019 Combined program costs for state TDI and FLI programs	2020 Combined costs for TDI & TCI uses	Data are for first 9 months of benefit availability, January-September 2020, with administrative expenses prorated.
Source	State of California Employment Development Department (2021)	New Jersey Department of Labor and Workforce Development (2020)	Rhode Island Department of Labor and Training (2020)	Washington Employment Security Department (2020)

Section 3: Summary of Actuarial Study Results

This section provides the results of an actuarial study for a PFML program in Virginia. A copy of the full actuarial analysis prepared by Milliman is included in **Appendix C**. The study assumes the following timeline for implementation:

- Family and medical leave program is established: July 1, 2022
- Initial staff hiring, procurement and education/outreach begins: January 1, 2023
- Implementation of contributions system: January 1, 2023
- Implement benefits system: January 1, 2024.

Since contributions begin one year before benefits are paid, reserves for the PFML trust fund accumulate during that time period. Results are presented for three scenarios, one showing results for Virginia 2021 General Assembly Session legislation (HB2016/SB1330 or Chapter 8. Paid Family and Medical Leave Program) and two alternative scenarios developed to show a range of potential policy design choices based on the experiences of other states and their potential effects on worker eligibility, program usage, expenditures, contributions, and the contribution rate.

This section is divided into three parts. The first section describes each of the three scenarios used in the analysis. The second section describes data and methodology. The third section reports the actuarial study results.

3.1 Scenarios for Analysis

Three scenarios were developed for actuarial analysis. The baseline scenario (***Baseline***) describes a PFML program with the characteristics specified in HB2016/SB1330 (see **Appendix A.** for a copy of the legislation). The key features of the legislation used in the actuarial analysis are described in **Table 3.1**. Eligibility requirements are used in estimating the number of eligible workers. The wage replacement rate, minimum benefit amount, maximum benefit amount, and benefit period are important for estimating benefits. Waiting period, wage replacement rate, and job protection provisions are expected to affect program utilization. The legislation specifies that the wage replacement rate is set at 80 percent of worker average weekly wages, with a minimum benefit of $100 and maximum benefit amount equal to 80 percent of the state average weekly wage. The funding method is a payroll tax split evenly between employers and employees.

The second scenario (***Alternative 1***) provides a combination of expanded eligibility, higher wage replacement, and longer leave duration than offered in the HB2016/SB1330 baseline scenario. Its policy parameters (as explained below) are based on programs in states that expand eligibility or benefits along these dimensions. The second scenario (***Alternative 2***) provides more restrictive eligibility, less generous benefits and a payroll contribution exemption for small businesses. This scenario is partially informed by a Paid Family and Medical Leave Study by the Offices of the Secretary of Commerce and Trade and Chief Workforce Development Advisor (2020), which recommended that small businesses be exempt from contributing the employer payroll

tax share to the program, though small business size is never defined. Other policy design parameters such as the program eligibility, wage replacement rate, maximum benefit, and benefit waiting period are based on the experiences of selected states with more restrictive eligibility and benefits along these dimensions.

The three scenarios are similar in some respects. Each assumes that employers and employees share the costs of the program equally (though Alternative 2 exempts small businesses as stated previously). The maximum contribution is based on the contribution and benefit base established by the Social Security Administration for Social Security in each scenario. Other program design characteristics are also identical, including qualifying family members, qualifying events and job protections. Although allowance of competitive plans was originally a feature of Alternative 2 and self-employed opt-in a feature of the Baseline and Alternative 1 scenarios, it was not possible to account for effect of these provisions because of insufficient data. So, effectively, these policy dimensions are not considered in the analysis.

Alternative 1 broadens eligibility and expands benefits in comparison to the Virginia legislation. Eligibility is made easier by reducing the wage requirement from approximately $3,000 during the two best quarters over a four quarter look-back period to $1,000 for an entire year. This is the wage eligibility requirement for the state of Oregon. The scenario also offers a progressive wage replacement rate similar to that offered by the states of Colorado and Washington. It provides 90 percent of a worker's average weekly wage up to an amount equal to 50 percent of the statewide average weekly wage, plus 50 percent of a worker's average weekly wage above an amount equal to 50 percent of the statewide average weekly wage. The maximum benefit is also higher, offering 90 percent of the statewide average weekly wage, which is the same as Colorado and Washington. Lastly, the scenario expands the maximum period of leave, providing up to up to 26 weeks for PML and up to 12 weeks for PFL, which is the same as Massachusetts, New Jersey, and New York.

Alternative 2 restricts eligibility and limits benefits in comparison to the Virginia legislation. The minimum annual wage level to qualify for the program is $14,400 based on Rhode Island's program. Also, there is a 7-day waiting period for PML benefits. The wage replacement rate and maximum benefit are also lower. The replacement rate is 60 percent of a worker's average weekly wage, which is also the same as Rhode Island. The maximum benefit is 70 percent of the statewide average weekly wage as specified in New Jersey and Massachusetts programs. It also exempts small businesses from paying the business share of the PFML payroll tax. Employers with fewer than 50 employees are not required to pay their payroll share as is in the state of Washington. However, workers at these small businesses still contribute their payroll share.

Table 3.1: Paid Family and Medical Leave Policy Design Scenarios

Feature	Baseline	Alternative 1	Alternative 2
Funding Method	Employers and employees share the costs via payroll taxes.	Employers and employees share the costs via payroll taxes.	Employers and employees share the costs via payroll taxes. Employers with fewer than 50 employees are not required to pay their share.
Maximum taxable wages	Maximum contribution is benefit base limit established annually for Social Security.	Maximum contribution is benefit base limit established annually for Social Security.	Maximum contribution is benefit base limit established annual for Social Security.
Employment Requirements	Employee must have earned wages in two highest earning quarters of previous four quarters that meet UI covered employment threshold (i.e., $3,000).	Employee must have earned wages of at least $1,000 during base period (last 4 quarters).	Employee must have been paid at least $14,400 in the base period (i.e., 1,200 hours X minimum wage of $12 per hour in 2023-2025).
Qualifying family members/definition of family	(1) Biological, adopted, or foster child, stepchild or legal ward, a child of domestic partner or child to whom the covered individual stands in loco parent; (2) biological, adoptive, or foster parent, stepparent, or legal guardian of a covered individual or a covered individual's spouse or domestic partners, or a person who stood in loco parentis when the covered individual's spouse or domestic partner was a minor child; (3) a person to whom the covered individual is legally married under the laws of any state, or a domestic partner of a covered individual; or (4) a grandparent, grandchild, or sibling, whether through a biological, foster, adoptive, or step relationship, of the covered individual or the covered individual's spouse or domestic partner.	Same	Same

Feature	Baseline	Alternative 1	Alternative 2
Qualifying events	(1) Birth, adoption, or placement through foster care of caring for a new child during the first year after the birth, adoption, or placement of that child; (2) caring for family member with a serious health condition; (3) has a serious health condition that makes the covered individual unable to perform work; (4) caring for a covered service member who is next of kin or other family member; or (5) eligible for qualifying exigency leave arising out of fact that family member of covered individual is on active duty, or has been notified of an impending call or order to active duty in the Armed Forces.	Same	Same
Opt-in for self-employed.	Self-employed may opt in.	Same	Same
Allowance of Competitive (private or self-insurance) Plans	No	No	Yes
Wage Replacement Rate	Flat 80 percent rate	90 percent of a worker's average weekly wage up to an amount equal to 50 percent of the statewide average weekly wage, and 50 percent of a worker's average weekly wage above an amount equal to 50 percent of the statewide average weekly wage.	60 percent of a worker's average weekly wage
Maximum leave	12 weeks total	Medical Leave: Up to 26 weeks for any period of disability. Family Leave: Up to 12 weeks in a 12-month	12 weeks total
Allowance of intermittent leaves	Yes	Yes	Yes
Maximum benefit	80 percent of state average weekly wage.	90 percent of the state average weekly wage.	70 percent of the state average weekly wage.
Minimum benefit	$100	$100	$100
Benefit waiting period	No waiting period	No waiting period	7-day waiting period for paid medical leave benefits

Feature	Baseline	Alternative 1	Alternative 2
Job Protection	Yes	Yes	Yes

3.2 Data and Methodology

This section describes methods and data used as inputs into the actuarial analysis. They include data used to estimate eligible workers and taxable wages, incidence rates, leave durations, average benefits, and administrative costs.

3.2.1 Eligible Workers and Taxable Wages

The Weldon Cooper Center provided Milliman demographic, employment, and wage escalation data for use in determining eligible employees and taxable wages over the 2022-2033 period for each of the scenarios. The data included the distribution of workers and total wages for each program scenario by wage category, gender, and age group. These data tabulations were based on microdata from the U.S. Department of Labor Worker PLUS model[16] which were assembled from microdata drawn from the 2018 U.S. Census Bureau American Community Survey (ACS) and Current Population Survey. This data was utilized because it could be used to compute the number of eligible workers and their corresponding earnings under the various scenarios. The dataset made it possible to identify the number of workers by place of work, by wage category, by demographics, by industry of employment, and by employer size. For example, the dataset allowed federal workers to be excluded from computations of eligible workers and to determine the amount of worker taxable wages affected by a small business payroll tax exclusion.

- ***Program eligibility based on wages.*** Since baseline scenario eligibility is defined in terms of quarterly wage data (Unemployment Insurance covered employment eligibility defined as wages equal to at least $3,000 over two quarters in a four quarter look-back period), this quantity was converted to an annual wages equivalent estimated at $5,000 per annum. The other scenarios have minimum wage eligibility thresholds already expressed in terms of annual wages, with Alternative 1 set at $1,000 per year and Alternative 2 set at $14,400 per year. In order to make 2018 comparable to 2024 eligibility thresholds, minimum thresholds for Alternative 1 and 2 were deflated to 2018 equivalents using Bureau of Labor Statistics Employer Cost Index (ECI) data. The covered employment minimum was not deflated since it is periodically revised by legislation in response to changing price levels over time.
- ***Maximum taxable earnings.*** The maximum taxable earnings for each of the three scenarios was the Social Security contribution and benefit base, currently $142,800. This quantity was set at the 2018 contribution and benefit base of $128,400 for computing maximum taxable earnings using the 2018 ACS-derived microdata described previously.
- ***Projections of eligible workers.*** To project the number of eligible workers from 2018 to 2024-2032, REMI PI+ (Regional Economic Models Inc. Policy Insight Plus) employment data was used. REMI PI+ is a dynamic, multi-sector regional economic simulation model used for policy economic impact analysis as well as long-term demographic and economic projections. It is one of the few tools available for doing this type of long-term regional forecasting. The Virginia state model "piggybacks" on national economic forecasts and projections constructed from REMI PI+ simulation data, historical data and growth rate adjustments based on a University of Michigan RSQE short-term U.S. Macro Forecast, CBO Budget and Economic Data 10-Year and long-term economic projections, and the Energy Information Administration long-term national forecast reported in the Annual Energy Outlook (Kang 2021). Based on this data, the number of eligible workers is estimated to increase by 3.3 percent between 2018 and 2024.
- ***Taxable wages and weekly benefit inflation factor.*** In addition to the information on projected workers for determining taxable wages over time, wages were inflated by the Employment Cost Index from the Congressional Budget Office 2021 Budget and Economic Output Report (CBO 2021). Using this data, total wages are projected to increase by 17.6 percent between 2018 and 2023. These same factors were used to escalate the average weekly benefit amounts.

[16] https://www.dol.gov/agencies/oasp/evaluation/completedstudies/Microsimulation-Model-on-Worker-Leave

3.2.2 Claim Incidence Rates

Table 3.2 shows the claim incidence rates by program scenario, benefit type (i.e., PFL or PML) and age/gender group used in the actuarial analysis for 2024. These incidence rates were computed by Milliman based on information from public and private insurance PFL, PML, and group short-term disability (STD) insurance. Three patterns are evident. First, incidence rates for all demographic categories are higher for the high benefit Alternative 1 and lowest for low benefit Alternative 2 with the Baseline scenario representing an intermediate category. Second, for all age/gender categories, paid medical leave incidence rates are higher than paid family leave. This reflects the fact reported in the previous section that the vast majority of claims are made for short-term disability in all state programs where both program types exist. Third, PFL incidence rates vary significantly by gender and age. Female incidence rates are higher than male rates for all age categories, reflecting women's higher likelihood of taking leave for bonding with a newborn child and traditional role as adult caretakers. PFL incidence rates by age group form an "inverted U" pattern, rising through childrearing years and generally declining in later adulthood. Fourth, the PML pattern by age differs from PFL. Female incidence rates are higher during childbearing years, reflecting the importance of maternity benefits during young adult ages. Male incidence rates rise with age reflecting higher morbidity at older ages, and gradually converge on female rates as the impact of maternity wears off.

Table 3.2: Claim Incidence Rates (per 1,000) by Program Type

Family Leave								
Baseline			**Alternative 1**			**Alternative 2**		
Age	Female	Male	Age	Female	Male	Age	Female	Male
<25	11.99	2.96	<25	12.37	3.05	<25	10.06	2.48
25-34	69.3	22.46	25-34	71.48	23.17	25-34	58.11	18.83
35-44	37.58	16.14	35-44	38.76	16.65	35-44	31.51	13.53
45-54	5.67	3.42	45-54	5.85	3.53	45-54	4.75	2.87
55-64	6.79	2.03	55-64	7.00	2.09	55-64	5.69	1.70
>65	3.09	2.52	>65	3.19	2.60	>65	2.59	2.12
Medical Leave								
Baseline			**Alternative 1**			**Alternative 2**		
Age	Female	Male	Age	Female	Male	Age	Female	Male
<25	107.60	24.30	<25	112.49	25.40	<25	83.15	18.77
25-34	127.70	22.20	25-34	133.50	23.21	25-34	98.68	17.16
35-44	99.96	38.55	35-44	104.50	40.30	35-44	77.24	29.79
45-54	79.09	69.70	45-54	82.68	72.87	45-54	61.11	53.86
55-64	98.65	93.48	55-64	103.14	97.72	55-64	76.23	72.23
>65	105.57	104.58	>65	110.37	109.33	>65	81.58	80.81

Source: Milliman (2021)

3.2.3 Leave Durations

Table 3.3 shows average leave durations by program scenario, benefit type (i.e., PFL or PML) and age/gender group used in the actuarial analysis for 2024. Again, leave durations were longest for the high benefit Alternative 1 and lowest for low benefit Alternative 2 with the Baseline scenario representing an intermediate duration. Key input to average leave determination is the maximum leave allowance, with a maximum of 12 weeks permitted in the Baseline scenario and 38 weeks for Alternative 1, and wage replacement rates. Durations for PFL vary by age group but not gender. Durations are longer for childrearing age groups and shorter for older age groups, reflecting the assumption that bonding claims are longer than caretaking claims. Durations for PML are assumed to exhibit a different pattern. Male average leave durations are constant for all age groups. However, female durations are shorter during childbearing years because maternity claims are shorter than other types of medical leave claims.

Table 3.3: Family Leave Average Durations (Weeks) by Program Type

Family Leave								
Baseline			**Alternative 1**			**Alternative 2**		
Age	Female	Male	Age	Female	Male	Age	Female	Male
<25	8.31	8.31	<25	8.83	8.83	<25	7.27	7.27
25-34	8.31	8.31	25-34	8.83	8.83	25-34	7.27	7.27
35-44	7.38	7.38	35-44	7.85	7.85	35-44	6.46	6.46
45-54	6.46	6.46	45-54	6.87	6.87	45-54	5.65	5.65
55-64	6.46	6.46	55-64	6.87	6.87	55-64	5.65	5.65
>65	6.46	6.46	>65	6.87	6.87	>65	5.65	5.65
Medical Leave								
Baseline			**Alternative 1**			**Alternative 2**		
Age	Female	Male	Age	Female	Male	Age	Female	Male
<25	7.06	8.37	<25	8.57	10.17	<25	6.18	7.33
25-34	7.06	8.37	25-34	8.57	10.17	25-34	6.18	7.33
35-44	7.72	8.37	35-44	9.37	10.17	35-44	6.75	7.33
45-54	8.37	8.37	45-54	10.17	10.17	45-54	7.33	7.33
55-64	8.37	8.37	55-64	10.17	10.17	55-64	7.33	7.33
>65	8.37	8.37	>65	10.17	10.17	>65	7.33	7.33

Source: Milliman (2021)

3.2.4 Average Benefit Amounts

Table 3.4 shows the average weekly benefit amounts estimated in 2024 by Milliman. Weekly benefit amounts are the same for both PFL and PML reflecting the same wage replacement schedules for both types of claims assumed by all three program scenarios. Average weekly benefit amounts vary by age group and gender reflecting a pattern of higher earnings for workers from workforce entry to early retirement years and higher average earnings for male workers than female workers.

Table 3.4: 2024 Paid Family and Medical Leave Average Weekly Benefit Amounts

Baseline			**Alternative 1**			**Alternative 2**		
Age	Female	Male	Age	Female	Male	Age	Female	Male
<25	$403	$426	<25	$403	$426	<25	$357	$377
25-34	$583	$652	25-34	$584	$652	25-34	$516	$576
35-44	$670	$825	35-44	$670	$825	35-44	$592	$730
45-54	$669	$863	45-54	$669	$863	45-54	$591	$763
55-64	$654	$841	55-64	$654	$841	55-64	$578	$743
>65	$614	$764	>65	$614	$764	>65	$543	$675

Source: Milliman (2021)

3.2.5 Administrative Costs

The startup costs for 2022 and 2023 are based on estimates from Offices of the Secretary of Commerce and Trade and Chief Workforce Development Advisor (2020). Milliman estimated that for 2024 and after benefit administration would represent 10.0 percent of total PFL benefit costs and 12.5 percent of PML costs. Estimated PML costs are higher than PFL because, generally, the PML claim management process is more comprehensive and costly than PFL. Milliman used several different sources in developing these assumptions, including reports on administrative and benefit expenses from states with PFML, target loss ratios used by the New York Department of Financial Services for determining PFL premium rates and risk adjustments, and average expenses for insurance companies that administer group short-term disability and paid family leave. The rates are higher than most public rates (New York uses target loss ratios for administrative expenses of between 20 and 33 percent for PFL and higher expense ratios of 35-40 percent for PML) but lower than expense ratios observed in the private insurance market which often include costs related to

underwriting and other administrative duties that may not be applicable to the Virginia PFML program. The expense assumptions assume the Virginia program will provide improved claims performance outcomes over public management, allow for the possibility that a private firm will be used for claims management and other aspects of program delivery similar to Connecticut's PFML program, and allow for other contingencies.

3.3 Results

3.3.1 Claims and Benefit Payments

In each of the three scenarios, the number of claims and size of benefit payments are projected to increase over time. The number of claims is projected by applying incidence rates by program type and scenario to the projected number of eligible workers estimated as described in the previous section. Milliman assumed that incidence rates increase during the initial years of the program between 2024 and 2027 in a pattern seen with other newly introduced public PFML programs. Incidence rates level out in 2028 and later years. In addition, average benefit amounts increase for 2025 and later years because of earnings escalation factors described previously. Along with the projected increase in eligible workers, rising average benefits contribute to higher benefit payouts. However, taxable wages are projected to increase at the same rate.

3.3.2 Contribution Rates

Contribution rates are computed by dividing worker contributions to PFML by total taxable wages. Allowance is made throughout the period to fill and periodically replenish the target fund to maintain the statutorily required fund balance equal to 140 percent of the previous year's total expenditures over time. Higher rates during the initial years of the program are required to build the target fund balance. Higher rates also occur during the early years of the program because incidence rates are assumed to increase as the program phases in before they level off in 2028 and because certain conditions occurring before the January 1, 2024 effective data will be eligible for benefits in 2024. Contribution rates decrease beyond 2028 because investment income is projected to increase due to higher yields in financial markets and stabilizing claim incidence rates in later years.

3.3.3 Scenario Differences

The results for each of the three scenarios are shown in **Tables 3.5-3.7**. The baseline legislative scenario indicates that the number of eligible workers is projected to rise from 3.386 million in 2024 to 3.503 million in 2033. This represents an average of approximately 82 percent of all Virginia workers during the period. Total benefit payments increase from approximately $1.507 billion in 2023 to $2.142 billion in 2033. A payroll tax of 0.950 percent would need to be levied at the start of the program, dropping to 0.890 percent in 2026 and to 0.880 percent in 2028. This rate is similar to that levied by other states offering comparable PFML programs (i.e., benefits and taxable wage levels) such as California (1.20 percent) and Colorado (0.90 percent).

The other scenarios show the effect of easing and tightening eligibility guidelines and expanding or restricting benefits. The high benefit scenario, Alternative 1, results in an increase in the number of eligible employees with many lower wage part-time earners becoming eligible. Benefit payouts increase due to the increase in eligible employees, higher wage replacement, and longer leave allowance, which result in higher claims incidence rates and longer claim durations. The number of eligible workers is projected to rise from 3.579 million in 2024 to 3.702 million in 2033 with benefit payments increasing from $2.111 billion in 2024 to $3.011 billion in 2033. The percentage of Virginia workers covered by PFML in this scenario represents approximately 86 percent of all workers, an increase of 4 percentage point increase over the Baseline scenario. Higher contribution rates are needed to support the expanded eligibility and higher benefits, starting at 1.325 percent at the start of the program and decreasing to 1.250 percent in 2026 and to 1.235 percent in 2029.

The low benefit scenario, Alternative 2, results in a decrease in projected number of eligible workers. The higher wage threshold for eligibility removes many low-wage and part-time workers from the population of eligible workers. Benefit payouts decrease due to the drop in eligible workers and smaller wage replacement rates, resulting in lower claims incidence rates and shorter leave durations. The number of eligible workers

is projected to grow from 3.076 million in 2024 to 3.182 million in 2033 with benefit payments increasing from $887 million in 2024 to $1.253 billion in 2033. The percentage of Virginia workers covered represents an estimated 74 percent of total Virginia workers, an 8 percentage point drop from the estimated baseline coverage. Contribution rates are, by far, the lowest of the three scenarios, starting at 0.625 percent at the start of the program, decreasing to 0.575 percent in 2026 and to 0.570 percent in 2029. This represents less than half of the contribution rate required by the high benefit scenario. The contribution rate would be lower without the small business exemption or a lower threshold for exemption than 50 employees. Including a payroll tax exemption for small businesses employing 1-50 workers (but not their workers' 50 percent share) reduces taxable wages by an estimated 9 percent (half of the total $28.571 billion paid to small business workers out of total taxable wages of $167.449 billion in this scenario for 2018). This exemption narrows the tax base and necessitates a higher contribution rate from workers and other businesses.

In order to allow users to explore further the distributional consequences of the scenarios by various economic and demographic variables, an online tool called the ***Paid Family and Medical Leave Dashboard*** was constructed by Weldon Cooper Center staff. The Dashboard is based on simulation data from the Worker Paid Leave Usage Simulator (Worker PLUS) microsimulation model from the U.S. Department of Labor constructed on contract by IMPAQ International This model is itself based on an existing Albelda Clayton-Matthews/IWPR Paid Family and Medical Leave Simulation Model (ACM model) (Hartmann and Hayes 2021; Clayton-Matthews and Albelda 2017). In addition to the Worker PLUS model assumptions, take-up rates for each scenario based on Milliman actuarial study estimates are used for each scenario to align the aggregate results as closely as possible with the actuarial results reported here. The dashboard allows users to explore the effects of the scenarios on the distribution of eligible workers, revenue contributions, annual benefit payouts, and other outcomes by income bracket, age, gender, employer size, ethnicity, occupation, industry, and other worker characteristics. For example, output from the simulation model suggest that the baseline scenario has mildly re-distributional effects. Workers with incomes below $75,000, females, workers at large firms (1,000 or more employees), and minorities are estimated to have higher average benefit to contribution ratios than workers with higher wages, workers at small businesses, males, and whites. Additional information and documentation for this dashboard is provided in **Appendix D**.

Table 3.5: Baseline Program Actuarial Study Results

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Eligible Employees			3,385,900	3,408,924	3,424,605	3,442,755	3,453,428	3,461,371	3,471,409	3,479,740	3,489,831	3,503,093
Taxable Wages ($M)		$198,587	$206,936	$215,164	$223,009	$230,635	$238,332	$246,433	$254,682	$263,339	$272,534	$282,050
Claims												
Family			75,567	58,098	60,700	62,853	63,047	63,192	63,376	63,528	63,712	63,954
Medical			236,489	243,904	254,827	263,863	264,681	265,290	266,059	266,698	267,471	268,487
Total			312,056	302,002	315,527	326,716	327,728	328,482	329,435	330,225	331,183	332,442
Benefit Payments ($M)												
Family			$333.8	$265.6	$287.2	$306.6	$317.1	$327.7	$338.8	$350.2	$362.1	$374.7
Medical			$1,173.5	$1,252.7	$1,354.6	$1,446.1	$1,495.5	$1,545.4	$1,598.0	$1,651.4	$1,707.6	$1,767.2
Total			$1,507.3	$1,518.3	$1,641.8	$1,752.7	$1,812.6	$1,873.1	$1,936.8	$2,001.6	$2,069.7	$2,141.9
Expenses ($M)												
Family			$37.1	$29.5	$31.9	$34.1	$35.2	$36.4	$37.6	$38.9	$40.2	$41.6
Medical			$167.6	$179.0	$193.5	$206.6	$213.6	$220.8	$228.3	$235.9	$243.9	$252.5
Total	$35.3	$20.3	$204.7	$208.5	$225.4	$240.7	$248.9	$257.2	$265.9	$274.8	$284.2	$294.1
Total Expenditure ($M)												
Family			$370.9	$295.1	$319.1	$340.7	$352.3	$364.1	$376.5	$389.1	$402.3	$416.4
Medical			$1,341.1	$1,431.6	$1,548.1	$1,652.6	$1,709.1	$1,766.2	$1,826.2	$1,887.4	$1,951.5	$2,019.7
Total	$35.3	$20.3	$1,712.0	$1,726.7	$1,867.2	$1,993.3	$2,061.5	$2,130.3	$2,202.7	$2,276.5	$2,353.8	$2,436.0
Contribution Rate												
Employer		0.475%	0.475%	0.475%	0.445%	0.445%	0.445%	0.440%	0.440%	0.440%	0.440%	0.440%
Employee		0.475%	0.475%	0.475%	0.445%	0.445%	0.445%	0.440%	0.440%	0.440%	0.440%	0.440%
Total		0.950%	0.950%	0.950%	0.890%	0.890%	0.890%	0.880%	0.880%	0.880%	0.880%	0.880%
Contributions ($M)												
Employer		$943.3	$982.9	$1,022.0	$992.4	$1,026.3	$1,060.6	$1,084.3	$1,120.6	$1,158.7	$1,199.1	$1,199.1
Employee		$943.3	$982.9	$1,022.0	$992.4	$1,026.3	$1,060.6	$1,084.3	$1,120.6	$1,158.7	$1,199.1	$1,199.1
Total		$1,886.6	$1,965.9	$2,044.1	$1,984.8	$2,052.7	$2,121.2	$2,168.6	$2,241.2	$2,317.4	$2,398.3	$2,398.3
Investment Income ($)		$6.6	$18.0	$20.9	$52.8	$55.2	$57.5	$59.5	$61.5	$63.6	$65.8	$68.2
Fund Balance ($M)		$1,831.0	$2,091.4	$2,426.7	$2,565.2	$2,677.4	$2,792.1	$2,888.0	$2,986.0	$3,088.4	$3,196.5	$3,308.4
Target Fund Balance ($M)		$49.4	$28.4	$2,396.8	$2,417.4	$2,614.1	$2,790.7	$2,886.1	$2,982.4	$3,083.8	$3,187.0	$3,295.4
Difference ($M)		$1,781.6	$2,063.0	$29.9	$147.8	$63.3	$1.5	$1.9	$3.5	$4.6	$9.5	$13.0

Source: Milliman (2021)

Table 3.6: Alternative 1 Program Actuarial Study Results

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Eligible Employees			3,578,498	3,602,832	3,619,405	3,638,588	3,649,867	3,658,262	3,668,871	3,677,676	3,688,341	3,702,357
Taxable Wages ($M)		$199,198	$207,572	$215,825	$223,695	$231,345	$239,065	$247,191	$255,465	$264,148	$273,372	$282,917
Claims												
Family			82,377	63,334	66,171	68,517	68,729	68,887	69,087	69,253	69,454	69,718
Medical			261,302	269,495	281,564	291,548	292,452	293,125	293,975	294,680	295,535	296,658
Total			343,679	332,829	347,735	360,065	361,181	362,012	363,062	363,933	364,988	366,375
Benefit Payments ($M)												
Family			$440.2	$350.3	$378.8	$404.4	$418.2	$432.2	$446.9	$461.8	$477.5	$494.2
Medical			$1,671.2	$1,783.9	$1,929.0	$2,059.4	$2,129.8	$2,200.8	$2,275.7	$2,351.8	$2,431.8	$2,516.7
Total			$2,111.4	$2,134.2	$2,307.8	$2,463.7	$2,548.0	$2,633.0	$2,722.5	$2,813.7	$2,909.3	$3,010.9
Expenses ($M)												
Family			$48.9	$38.9	$42.1	$44.9	$46.5	$48.0	$49.7	$51.3	$53.1	$54.9
Medical			$238.7	$254.8	$275.6	$294.2	$304.3	$314.4	$325.1	$336.0	$347.4	$359.5
Total	$35.3	$20.3	$287.7	$293.8	$317.7	$339.1	$350.7	$362.4	$374.7	$387.3	$400.5	$414.4
Total Expenditure ($M)												
Family			$489.1	$389.2	$420.9	$449.3	$464.7	$480.2	$496.6	$513.1	$530.6	$549.1
Medical			$1,909.9	$3,038.8	$2,204.6	$2,353.5	$2,434.0	$2,515.3	$2,600.7	$2,687.8	$2,779.2	$2,876.2
Total	$35.3	$20.3	$2,399.1	$2,428.0	$2,625.5	$2,802.9	$2,898.7	$2,995.5	$3,097.3	$3,201.0	$3,309.8	$3,425.3
Contribution Rate												
Employer		0.663%	0.663%	0.663%	0.625%	0.625%	0.625%	0.618%	0.618%	0.618%	0.618%	0.618%
Employee		0.663%	0.663%	0.663%	0.625%	0.625%	0.625%	0.618%	0.618%	0.618%	0.618%	0.618%
Total		1.325%	1.325%	1.325%	1.250%	1.250%	1.250%	1.235%	1.235%	1.235%	1.235%	1.235%
Contributions ($M)												
Employer		$1,319.7	$1,375.2	$1,429.8	$1,398.1	$1,445.9	$1,494.2	$1,526.4	$1,577.5	$1,631.1	$1,688.1	$1,747.0
Employee		$1,319.7	$1,375.2	$1,429.8	$1,398.1	$1,445.9	$1,494.2	$1,526.4	$1,577.5	$1,631.1	$1,688.1	$1,747.0
Total		$2,639.4	$2,750.4	$2,859.6	$2,796.2	$2,891.8	$2,988.4	$3,052.8	$3,155.0	$3,262.2	$3,376.2	$3,494.0
Investment Income ($)		$9.3	$25.3	$29.3	$74.2	$77.5	$81.0	$83.8	$86.8	$89.8	$93.0	$96.4
Fund Balance ($M)		$2,583.8	$2,944.3	$3,401.4	$3,601.3	$3,764.4	$3,931.6	$4,069.9	$4,211.5	$4,359.5	$4,515.7	$4,677.4
Target Fund Balance ($M)		$49.4	$28.4	$3,358.7	$3,399.2	$3,675.7	$3,924	$4,058.2	$4,193.6	$4,336.2	$4,481.3	$4,633.7
Difference ($M)		$2,534.4	$2,915.9	$42.7	$202.1	$88.7	$7.5	$11.7	$17.8	$23.3	$34.4	$43.8

Source: Milliman (2021)

Table 3.7: Alternative 2 Program Actuarial Study Results

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Eligible Employees			3,075,823	3,096,738	3,110,983	3,127,472	3,137,167	3,144,382	3,153,501	3,161,069	3,170,236	3,182,283
Taxable Wages ($M)		$195,592	$203,814	$211,918	$219,645	$227,156	$234,737	$242,716	$250,840	$259,366	$268,423	$277,796
Claims												
Family			57,559	44,253	46,235	47,875	48,023	48,133	48,273	48,389	48,529	48,714
Medical			166,006	171,211	178,879	185,222	185,796	186,223	186,763	187,211	187,754	188,468
Total			223,565	215,465	225,114	233,096	233,819	234,357	235,036	235,600	236,284	237,182
Benefit Payments ($M)												
Family			$216.2	$172.0	$186.0	$198.6	$205.4	$212.2	$219.4	$226.8	$234.5	$242.7
Medical			$670.7	$716.0	$774.2	$826.5	$854.8	$883.3	$913.3	$943.9	$976.0	$1,010.1
Total			$886.9	$888.0	$960.2	$1,025.1	$1,060.2	$1,095.5	$1,132.7	$1,170.7	$1,210.5	$1,252.7
Expenses ($M)												
Family			$24.0	$19.1	$20.7	$22.1	$22.8	$23.6	$24.4	$25.2	$26.1	$27.0
Medical			$95.8	$102.3	$110.6	$118.1	$122.1	$126.2	$130.5	$134.8	$139.4	$144.3
Total	$35.3	$20.3	$119.8	$121.4	$131.3	$140.1	$144.9	$149.8	$154.9	$160.0	$165.5	$165.5
Total Expenditure ($M)												
Family			$240.2	$191.1	$206.7	$220.6	$228.2	$235.8	$243.8	$252.0	$260.6	$269.6
Medical			$766.5	$818.3	$884.8	$944.6	$976.9	$1,009.5	$1,043.8	$1,078.8	$1,115.4	$1,154.4
Total	$35.3	$20.3	$1,006.7	$1,009.4	$1,091.5	$1,165.2	$1,205.1	$1,245.3	$1,287.6	$1,330.7	$1,375.9	$1,424.0
Contribution Rate												
Employer		0.313%	0.313%	0.313%	0.288%	0.288%	0.288%	0.285%	0.285%	0.285%	0.285%	0.285%
Employee		0.313%	0.313%	0.313%	0.288%	0.288%	0.288%	0.285%	0.285%	0.285%	0.285%	0.285%
Total		0.625%	0.625%	0.625%	0.575%	0.575%	0.575%	0.570%	0.570%	0.570%	0.570%	0.570%
Contributions ($M)												
Employer		$506.9	$528.3	$549.3	$523.7	$541.7	$559.7	$573.7	$592.9	$613.1	$634.5	$661.2
Employee		$611.2	$636.9	$662.2	$631.5	$653.1	$674.9	$691.7	$714.9	$739.2	$765.0	$791.7
Total		$1,118.1	$1,165.2	$1,211.5	$1,155.2	$1,194.8	$1,234.6	$1,265.4	$1,307.8	$1,352.3	$1,399.5	$1,452.9
Investment Income ($)		$3.8	$10.5	$12.4	$31.2	$32.4	$33.7	$34.8	$36.0	$37.1	$38.4	$39.8
Fund Balance ($M)		$1,062.6	$1,224.8	$1,437.5	$1,513.6	$1,574.3	$1,636.3	$1,690.2	$1,745.2	$1,802.7	$1,863.4	$1,930.7
Target Fund Balance ($M)		$49.4	$28.4	$1,409.4	$1,413.1	$1,528.1	$1,631.3	$1,687.1	$1,743.4	$1,802.7	$1,863.0	$1,926.3
Difference ($M)		$1,013.1	$1,196.4	$28.1	$100.5	$46.2	$5.0	$3.1	$1.8	$0.0	$0.4	$4.4

Source: Milliman (2021)

Section 4: Literature Review of PFML Economic, Social, and Demographic Effects

This section reviews the academic empirical literature on the economic, social, and demographic effects of PFML programs.[17] It generally screens for peer-reviewed research, and research using contemporary causal econometric methods (e.g., difference in differences, regression discontinuity), since such studies provide a higher standard of evidence. It also focuses mainly on empirical research conducted for the U.S., including federal unpaid leave (i.e., FMLA), state PFML programs, and state mandated paid sick leave. There are several reasons for focusing on U.S. programs. The programs of most developed country counterparts have existed for a longer time period and are much more generous in terms of duration allowance and other program features than U.S. programs. Moreover, the U.S. differs from those countries culturally, economically, and in the size of the overall social support system. Thus, the results of those studies may be less transferable to the U.S. context.

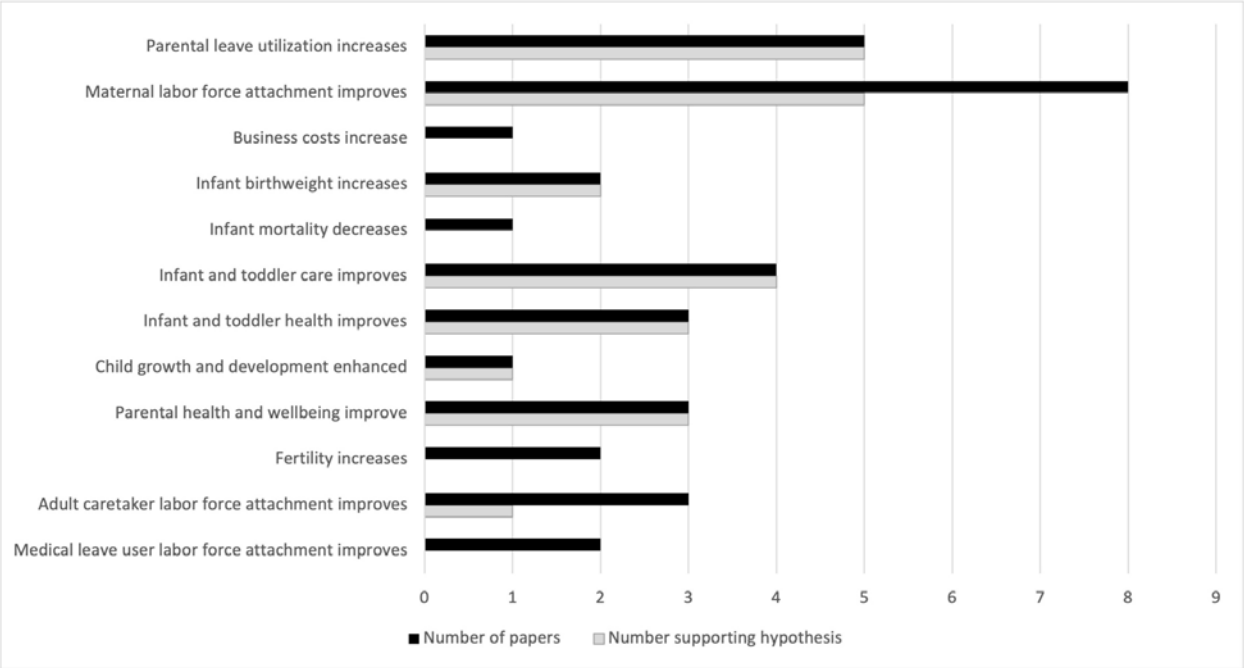
The outcomes are organized into three broad components of PFML: parental leave for bonding with a new child, other family caretaking leave, and short-term disability (otherwise known as "medical leave"). There is substantially much more literature on parental leave than other types of caretaker family leave and precious little on public short-term disability programs, although the latter have been in existence longer and account for the bulk of PFML expenditures. This disparity in treatment is largely attributed to data availability issues. Many of the empirical studies rely on longitudinal data sets with substantial household demographic detail, allowing researchers to identify with greater accuracy households eligible for paid parental leave due to the recent birth of a child while eligibility for other types of leave due to family illness and own illness/disability is harder to identify with the same degree of accuracy (Donovan 2020). Family leave durations are also less variable than medical leave ones, which differ based on the severity of documented medical conditions and state medical guidelines.

Figure 4.1 provides a tally of research findings for major PFML outcomes, indicating the number of causal empirical studies reviewed here that address a hypothesis about a particular outcome accompanied by a determination of the number of studies supporting the hypothesis. Individual study summaries, including brief descriptions of area of study, data sources, methodology, and key findings are included in **Appendix E**. To summarize, there is ample causal evidence that PFML increases leave utilization. Several studies also find that infant and toddler care and outcomes and parental wellbeing improve along various dimensions. Studies

[17] The review does not examine the effect of PFML on several other policy-relevant financial and economic outcomes, primarily because there is no research on the subject for PFML or the U.S. For example, some research suggests that social insurance programs can affect consumer precautionary saving levels, but comparable research on this issue for PFML is not available. Examining the effect of unemployment insurance, Engen and Gruber (1995) find that increasing UI replacement rates by 10 percent results in 1.4-5.6 percent reduction in financial asset holding. This translates into UI crowd-out effects of up to half of private savings for the average unemployment duration. The mechanisms for this crowd-out are reduced need for precautionary savings because of the unemployment safety net and "taxing away individual savings through means testing to qualify for government assistance." Another example of an issue not examined, in this case because of an absence of U.S. studies, is business entrepreneurship. A study of Canadian PFL (Gottlieb et al. 2021) suggests that mothers with access to extended job-protected leave were 1.9 percent more likely to form new ventures.

of maternal labor outcomes find mixed results, and as will be discussed further below can be divided into studies of short-term (1-2 years after childbirth) that find generally positive outcomes and a few longer-term studies that find no such effects. There is generally little evidence that other outcomes such as adult caretaker or medical leave users realize improved labor outcomes.

Figure 4.1: Summary of Paid Family and Medical Leave Study Findings



Note: Only causal empirical studies reviewed here are summarized.

4.1 PFML Utilization and Duration

PFML utilization rates indicate the degree to which program participants file benefit claims. Along with length of leave, it is a key determinant of program costs. Utilization rates typically vary by the type of leave, with short-term disability benefits higher than parental leave which are in turn higher than other types of family leave (Greenfield and Cole 2019). Less is known about claim behavior for less common program qualifying events such as leave related to military service members or domestic violence (Greenfield and Cole 2019).

A substantial body of empirical research shows that utilization and length of parental bonding leave increases following the introduction of both unpaid and paid family leave (Han, Ruhm, and Waldfogel 2009; Rossin 2011; Baum and Ruhm 2016; Bartel et al. 2018), but there is less causal empirical evidence about other forms of family leave taking (Morefield et al. 2016) and short-term disability. Han, Ruhm, and Waldfogel (2009) find that federal and state family leave laws which expanded unpaid leave resulted in greater utilization by both women and men, with rights to 10 additional weeks of leave associated with a 4-6 percent increase in leave-taking for women and 2-3 percent for men. Estimated effects were higher for college-educated and married women than women from disadvantaged backgrounds, which is consistent with findings reported elsewhere that lower earners encounter greater obstacles in taking leave. Rossin-Slater, Ruhm, and Waldfogel (2013) find that the CA-PFL program increased the likelihood of maternal leave-taking by 6 percent and more than doubled the average length of leave from 2.8 to 6 weeks. In contrast to unpaid leave findings, these effects were particularly large effect for disadvantaged groups. Baum and Ruhm (2016) observe that CA-PFL maternal leave use increased by 23 percent and paternal use by 10 percent two weeks after childbirth, accounting for increases of 5 weeks and 2-3 days respectively. Bartel et al. (2018) find that California's PFL increases fathers' likelihood of leave taking by 46 percent and an estimated additional 2.4 days of leave, with

larger effects for fathers of first-born children than later born children. Increased benefit levels may also have lagged utilization effects. Bana, Bedard, and Rossin-Slater (2019) find that raising leave benefits by 10 percent during a mothers' first period of leave increases their likelihood of another PFML claim within the subsequent three years by 0.8 percent to 1.6 percent.

Several program design variables appear to influence utilization rates across time and various demographic groups. However, even after adjusting for these kinds of factors, substantial unexplained differences remain in state utilization rates (Spring 2019).

4.1.1 Program Design Elements

Various program eligibility, benefit levels, job protection measures and other program features might be expected to influence program utilization. Claims incidence modelling by Spring (2019) (although not causal design) indicates that state differences in benefit characteristics and access are important. Increases in the wage replacement rate, improved job protection, and decreases in the waiting period improve utilization rates according to their estimates. Causal empirical evidence that these policy features affect utilization is not available.[18] Bana et al. (2018) describes several international studies that fail to find a link between program replacement rates and utilization for disability insurance, sick leave, and maternity leave. In a study of CA-PFL, Bana, Bedard, and Rossin-Slater (2019) find no association between wage replacement and increased maternity leave duration for higher earning mothers. In another CA-PFL study, Bana, Bedard, and Rossin-Slater (2019) find that the 50 employee firm employment threshold used for determining FMLA job protection eligibility does not form a level around which take-up rates differ, suggesting that FMLA job protection may not play an important role in utilization.

4.1.2 Longevity of Program and Program Awareness

Empirical evidence suggests that program participation improves over time due to greater program awareness, program experience, and changing cultural norms.[19] Data from PFL programs indicate that utilization rates are generally increasing over time as the programs mature and awareness increases (Jacobs 2019). California PFL trends are being propelled by increases in male use of family leave, which may reflect evolving attitudes towards male caretaking roles (Spring 2019; Milkman and Appelbaum 2013). Bana, Bedard, and Rossin-Slater (2019) finds that increases in benefits received during an earlier period increases the likelihood of filing a PFML claim within the next three years.

There are demographic disparities in program knowledge with lower earners, minorities, and workers with lower degree of educational attainment generally exhibiting less awareness of state PFML programs (Milkman and Appelbaum 2013). These disparities might also be due to the greater difficulties disadvantaged populations have in navigating new and perhaps complex administrative procedures. Levels of awareness also differ among PFML components, with PML being more widely recognized than PFL (Groves et al. 2016). These demographic and programmatic disparities motivate education and marketing programs, including special targeting of underserved residents.

4.1.3 State Demographics

State demographics are a key driver of variation in state aggregate PFML utilization levels (Spring 2019). The number of females of childbearing age (20-44) and childbearing trends rates affect maternal leave (Spring 2019). PML usage varies with age while PFL caretakers are disproportionately older and female (44 years and older) (Spring 2019). Despite increasing uptake trends, men are much lower users of family leave, a pattern that is attributable to maternal childbirth, male breadwinner roles, and cultural norms (Bartel et al. 2018).

[18] The dearth of U.S. studies examining this issue may stem from the lack of adequate history for established state PFML programs to provide policy design heterogeneity and changes useful for empirical testing.

[19] Technological advancements over time in health care treatments and care could result in decreased medical leave durations that, ceteris paribus, decrease program costs. A 1 percent technological cost decrease trend was used in a recent Colorado actuarial study (AMI Risk Consultants 2019).

4.1.4 Workplace Factors

Workers in small firms and firms in certain lower paying industries (e.g., food service, accommodation) typically exhibit lower levels of PFML usage. This phenomenon has been linked to a "workplace culture" that fosters greater worker uncertainty about job security and promotion (Bana et al. 2018). Bana et al. (2018) find that worker protections are not sufficient to mitigate disparities in utilization since employers may use less overt means to discourage participation.

The duration of leave has also been linked to program design features such as the statutory maximum period of leave and benefit levels. However, the evidence is generally not causal. For example, Spring (2019) finds that maximum leave allowance is more closely related to parental care than other types of family and medical leave (Spring 2019). While empirical evidence suggests that participation duration increases with benefit level for some social insurance programs, the evidence is quite limited for PFML (Bana, Bedard, and Rossin-Slater 2019). Bedard and Rossin-Slater (2016) find that a $1,000 increase in quarterly PFL benefits is associated with a 0.02 week, 0.14 week, and 0.20 week increase in total leave duration for family bonding, female PML and male PML. In contrast, Bana, Bedard, and Rossin-Slater (2019) find no evidence that leave duration increases in response to higher weekly benefit amounts.

4.2 Parental Leave

4.2.1 Labor Market Outcomes

At least eight studies have examined the effect of paid family leave on labor market outcomes using causal empirical frameworks.[20] Generally, these studies examine the experience of California since it has the oldest PFL program, but more recent studies have included later adopters such as New Jersey in their analyses such as Byker (2016) and Jones and Wilcher (2020). Among the outcomes examined include mother's labor force participation, employment, unemployment and wages. Most studies find that state PFML programs have positive labor market effects in the short term, including improved labor force participation and increased earnings (Bailey et al. 2019).[21] These outcomes seem to be more prevalent for more disadvantaged groups. Many of these studies rely on longitudinal data sets with relatively small treated samples. A few studies, some using larger administrative datasets or examining longer time frames, have found negligible or even some negative effects.

PFL could be expected to have either favorable or detrimental effects on maternal labor force outcomes, such as labor force attachment. It could increase female labor force participation if mothers would have quit work in the absence of PFL (Baum and Ruhm 2016). PFL could also prove beneficial to employers by decreasing PFL user job turnover and avoiding the costs associated with new employees, including search, hiring, training, and bringing new hires up to a similar level of productivity. These costs may be particularly high in hard-to-hire occupations requiring more education and skills. Alternatively, PFL could have negative effects on female labor participation if worker leave causes firms to incur additional expenses such as increased administrative costs, a need to hire temporary replacements and payment of overtime to existing workers, any of which could motivate them to substitute hires less likely to take paid leave (Olivetti and Petrongolo 2017; Stock and Inglis 2021). Although anti-discrimination laws exist to prevent this, they are difficult to monitor and enforce in actual practice. Longer maternity leaves may also contribute to the erosion of human capital and jobs skills which inhibits the return of mothers to employment (Olivetti and Petrongolo 2017). This outcome has been detected in a study of European PFL programs at one year of duration, but programs of comparable length are not found in the U.S. (Ruhm 1998). Alternatively, longer leaves could change parental tastes for parenting lifestyles and encourage women to drop out of the labor market and invest more time with their children (Bailey et al. 2019).

[20] In an early study of the effect of FMLA on female employment, Han et al. (2009) did not find that federal and state expanded unpaid leave led to changes in employment rates.

[21] Recent reviews of the broader international and U.S. literature have characterized the empirical work on PFL labor market outcomes literature as either "inconclusive" or "mixed." For example, Olivetti and Petrongolo (2017) state: "No obvious consensus on the labor market impact of parental leave rights and benefits emerges from the empirical literature. . . In a nutshell, there is little compelling evidence that extended parental leave rights have an overall positive effect on female outcomes."

Several studies have found some positive effects of PFL on female labor market outcomes. Baum and Ruhm (2016) found that CA-PFL boosted maternal employment by 18 percent one year after childbirth and increased hours worked during the second year by 11 percent but had no statistically significant effects on wages. Another CA-PFL study found that hours worked increased by 10 to 17 percent for employed mothers 1-3 years after birth but probability of employment was unchanged (Rossin-Slater, Ruhm, and Waldfogel 2013). A study of California and New Jersey found that PFL programs have statistically significant positive impacts on maternal labor-force participation (Byker 2016). The results are driven by those without a college education. Another study of those two states' laws found that maternal labor force participation increases by more than 5 percent in the birth year with decreasing, but still statistically significant, improvements detected five years later (i.e., until child enters first grade) (Jones and Wilcher 2020). In contrast to Byker's findings, these effects are higher with greater educational attainment and smaller or nonexistent for ethnic minorities. Additionally, the authors find no effects of PML on maternal unemployment. Bana, Bedard, and Rossin-Slater (2019) examine the effect of PFL replacement rates on high earning women near the state's maximum benefit threshold. They find that the CA-PFL replacement rate is not associated with adverse post-birth labor market outcomes for these women. However, increase in the rate is associated with a higher likelihood of returning to the pre-birth employer.

Three studies have found primarily negative female employment effects. Two of these studies focus on longer term labor market outcomes and two look at females of child-bearing age rather than mothers per se. Das and Polachek (2015) examined the impact of CA-PFL on young women's labor force participation rate, the unemployment rate, and duration of unemployment. They found that PFL led to increases in all three measures with labor force participation increasing by 1.5 percent, unemployment by between 0.3 percent and 1.5 percent and unemployment duration by 4-9 percent. Bailey et al. (2019) examined CA-PFL for first-time mothers, finding that employment and earnings were reduced 6-11 years later. They find that PFL decreased employment by 7 percent and lowered wages by 8 percent 6-10 years after childbirth. Stock and Inglis (2021) also examines long-term impacts of CA-PFL. They find that the law had little impact on young women's labor force participation, unemployment duration, and earnings, but steady negative effects on employment 10 years after implementation. Effects were concentrated among college-educated women.

4.2.2 Employer Outcomes

There is a relatively small literature on the employer impacts of PFML programs. The empirical evidence consists of several surveys of businesses and residents in states that had earlier adopted PFML in what often amounts to before and after assessments. One new study uses longitudinal firm survey data for causal empirical analysis (Bartel et al. 2021a). These studies generally suggest that employer impacts are relatively small. One possible reason for such findings is that employers do not bear the full direct costs of funding the PFML programs; statutory rates are usually split between workers and employers and the actual tax incidence is likely mostly borne by workers. Another explanation is that businesses experience some productivity or retention improvements that offset other higher costs that some firms may experience.

Employers may incur several costs from introduction of the program, including both administrative costs and costs resulting from worker absences. Evidence suggests that firms adjust to worker absences by: (1) shifting work to other workers without overtime, (2) shifting to other workers with overtime, (3) putting work on hold until an employee return, (4) hiring temporary workers, and (5) hiring permanent replacements (Groves et al. 2016; Milkman and Appelbaum 2013; Ramirez 2012). The former three methods of covering workers on leave are much more common responses than the latter two (Milkman and Appelbaum 2013).

Employers could also realize lower costs. Employee wage costs could potentially decrease if temporary replacement workers are hired at wages below those of permanent workers or labor turnover decreases. These turnover costs, which can run from an estimated 17-23 percent of employee annual compensation include: (1) screening applicants and doing paperwork, (2) agency fees, advertising costs and related expenses, (3) training time, and (4) time for a new employees to achieve full productivity (Milkman and Appelbaum 2013).

Larger firms might be expected to have lower costs of implementing leave policies than smaller firms. They are better able to make adjustment for worker absences through the routine activity of regularly hiring new workers to replenish workforces due to a variety of types of worker separations. They are also more likely to

have staffed human resources departments and existing procedures for dealing with other types of leave (e.g., sick leave, vacation leave, workers compensation, military leave). In contrast, small businesses may not have the same infrastructure or processes in place and may resort to ad hoc arrangements for covering worker absences.

A few longitudinal econometric studies of employers find no evidence that PFML appreciably increases employer costs, although one suggests that the findings are not as representative for smaller employers. Bedard and Rossin-Slater (2016) examined employer turnover and wage costs for California as a function of employee-leave taking rates. Results indicate that increased leave taking is associated with a statistically significant effect on the average worker wage bill (suggesting that firms do not replace workers on leave) but a very small but statistically significant increase in employee turnover. In a study of New York PFL, Bartel et al. (2021a) observes that the law improves employers' ratings of the ease which they are able to handle long employee absences. These effects occur among firms with 50-99 employees in the first year but are not found in the second year. Nor are the effects evident for very small employers (1-49 employees). Furthermore, leave-taking increases 20.8 percent percentage points in the second year, driven by smaller employers. The authors found no significant impacts on employers' evaluations in several areas of employee performance (i.e., attendance, commitment, cooperation, productivity). Finally, survey data on employer attitudes toward paid family leave indicate that most firms support ("very supportive" or "somewhat supportive") PFL and that the percentage of employers opposed has grown over time. These negative attitudes are more common for small employers (1-49 employees). However, supplemental survey data collected by Bartel et al. (2021b) for New Jersey and New York small firms before and during the COVID-19 pandemic indicates that they became more supportive of PFL programs during the pandemic.

Several state PFML employer surveys also examine perceptions of PFML programs after they were introduced:

- California. Milkman and Appelbaum (2013) surveyed 250 firms four years after CA-PFL was started about the program's effect on firm profitability/performance, employee productivity, and employee turnover. Although approximately 90 percent of employers indicated that they were either not affected or experienced positive effects from the introduction of PFL, the percentage of firms reporting negative impacts in each of the areas were more common than positive impacts. Contrary to expectations, small business responses were more favorable than those of larger businesses.

- New Jersey. Ramirez (2012) surveyed 259 New Jersey businesses about that's state's PFL program, 59 percent of which had employees who had used paid leave during the previous 12 months. Similar to the Milkman and Applebaum California survey findings, most businesses in all size categories indicated that they had experienced no effects from the introduction of the program. However, the percentage of businesses that reported negative effects on various dimensions (31 percent for profitability/performance; 42 percent for employer productivity) was much higher. Moreover, responses were less favorable for smaller businesses. For instance, 44 percent of small businesses, 30 percent of medium-sized businesses, and 23 percent of large businesses reported negative effects on profitability/performance.

- Rhode Island. Bartel et al. (2016) conducted surveys of Rhode Island, Connecticut, and Massachusetts small employers in 2013 (before a RI-PFL policy was implemented) and 2015 (after the RI-PFL policy was in place) with a focus on food service and manufacturing sectors. At the time, Connecticut and Massachusetts did not have PFML programs and served as a control group, while Rhode Island had implemented its PFL policy in 2014. The survey elicited 237 responses; it found no statistically significant differences between Rhode Island and other state employer responses for productivity and other performance metrics. They also found that 61 percent of all Rhode Island employers strongly supported the PFL program, while a smaller majority of small employers were supportive of the policy.

- San Francisco. Goodman, Elser, and Dow (2020) surveyed employers in San Francisco after the passage of a San Francisco's PFL mandate that required employers to provide supplemental full wage replacement from a 60-70 percent CA-PFL baseline replacement rate. One might expect employer sentiment to be less positive for a mandate rather than the other programs examined here that are funded at least partly by employee contributions; however, the benefit increment is also significantly smaller than stand-alone PFL programs. Survey results indicated that 82.2 percent of employers coved by the policy "strongly supported" or "supported" it. About half of employers (53.1 percent) reported

having difficulty implementing the policy, though few reported that it had negative effects on firm profitability, productivity, employee retention, customer service, or employee morale. These results were reportedly similar across various employer features.

4.2.3 Health Outcomes

A growing empirical literature examines the health and wellbeing benefits of PFML for infants, children and parents. Several mechanisms are thought to be at work in cultivating positive outcomes. For maternity leave, health improvements may result from: (1) decreased prenatal mental and physical stress, (2) greater time availability for doctor visits, and (3) increased incomes that facilitate better nutrition and access to health care (Stearns 2015). Bonding leave can affect infant and child health and development outcomes through similar mechanisms: (1) lower parental stress levels due to fewer competing demands for time from jobs and family, (2) more time available for mothers to spend with infants on caretaking, breastfeeding and doctor visits, (3) income improvements that enhance access to better nutrition and medical care, and (4) reduced nonparental care that results in greater exposure to diseases, and income effects (Bullinger 2019; Lichtman-Sadot and Bell 2017; Rossin 2011).

Studies that examine the effect of unpaid FML programs such as FMLA find that it has positive effects that are restricted to more advantaged households, presumably because it allows mothers with sufficient financial resources to take leave while lower earners are less likely to be able to afford taking time off (Rossin 2011). When paid leave is introduced, lower earning families are more likely to experience health benefits.

Evidence suggests that PFML affects infant and children outcomes through intermediate improvements such as better feeding practices, improved vaccination, and reductions in low weight births. There is no evidence that PFML decreases overall infant mortality, perhaps because it does not improve outcomes for infants who are at greatest risk. Several studies address other infant, children, and parent outcomes. They are described more completely under the headings: (a) infant birthweight, (b) infant mortality, (c) breastfeeding, (c) vaccinations, (d) other infant health outcomes, (e) long-term child development, and (f) parental health and wellbeing. These studies generally link PFML with improved outcomes in these areas.

Infant Birthweight: Two studies examined the effect of PFML on infant birthweight. Rossin (2011) found that unpaid maternity leave from the FMLA was associated with birthweight increases and lessened likelihood of a premature birth. However, these results were restricted to college-educated and married mothers. In a study of PFL programs in California, Hawaii, New Jersey, New York, and Rhode Island, Stearns (2015) observed that paid medical leave was associated with a reduction in low birth weight births of 3.2 percent and decreased early term birth likelihood by 6.6 percent. These impacts were more pronounced for unmarried and black mothers.

Infant mortality: U.S. studies on infant mortality are quite limited. Rossin (2011) found that unpaid maternity leave led to substantial decreases in infant mortality for children of college educated and married mothers but no statistically significant effects on infant mortality in a less-educated and unmarried sub-sample. Stearns (2015) suggest that one explanation why PFML might have limited effect on reduced infant mortality is that very early births or very low birth weights who are at highest risk do not appear to be affected by the policy.[22]

Breastfeeding: Three studies find that CA-PFML supports improved breastfeeding practices. However, details regarding the types of breastfeeding (all breastfeeding practices or exclusive breastfeeding) promoted, whether paid leave affects initiation and/or duration, and demographic dimensions of impact differ. Huang and Yang (2014) find that exclusive breastfeeding (use of only mother's breast milk) increased 3-5 percent while overall breastfeeding improved 10-20 percent at different periods of infancy. Pac et al. (2019) observe that it did not improve the likelihood of taking up breastfeeding. However, the policy was associated with an increased breastfeeding duration of 18 days and 5 percent improved likelihood of breastfeeding for at least six months for those who already breastfed. These effects were larger for some disadvantaged groups. Hamad,

[22]Results for two studies of other developed countries indicate that PFML has the potential to reduce infant mortality. In a study of 16 European countries (1969-1994), Ruhm (2000) finds that an additional 10 weeks of parental leave decreases post-neonatal deaths by 4.5 to 6.6 percent. Another study of OECD countries (Tanaka 2005) found that extending paid family leave by 10 weeks decreases infant morality rates by 2.6 percent and post-neonatal mortality rates by 4.1 percent.

Modrek, and White (2019) find that PFL is associated with a 1.3 percent increased likelihood of children being exclusively breastfed at six months.

Vaccinations: One study suggests that PFML improves the frequency of scheduled infant vaccinations. Choudhury and Polachek (2021) find that CA-PFL reduced late vaccinations by up to 5 percentage points or approximately 10 percent for children born to parents in California after the policy was implemented.

Other Infant Health Outcomes: Three studies examine the effect of CA-PFL on other short-term infant and toddler health outcomes. Pihl and Basso (2019) studied the effect of California's law using hospital discharges data. They found that PFL was associated with a 3-6 percent reduction in infant hospitalization, with the reductions concentrated among medical conditions most likely to be affected by improved childcare. Infant admissions due to upper respiratory illnesses decreased by 25-33 percent, while admissions due to gastrointestinal infections declined by 9-15 percent. Bullinger (2019) observed that the percentage of parents reporting that infant and toddler health was good or excellent increased 4.8-8.6 percent. The study also found that those reporting asthma decreased 80 percent, while no effects were detected for reported respiratory or food allergies. The final study examined infant and toddler hospital admissions for pediatric head trauma (Klevens et al. 2016), finding that PFL was associated with a significant decrease in pediatric head trauma for infants and toddlers. The researchers hypothesize that PFL may reduce physical abuse by decreasing family stress.

Long-term Child Growth and Development: Long -term outcomes are more difficult to measure because of the length of time that must elapse after program initiation for benefits to occur and limitations in longitudinal data sets. Lichtman-Sadot and Bell (2017) is the only study that looks at outcomes for school age children. The study found that CA-PFL was associated with improved assessments of overall child health, overweight condition, ADHD, hearing problems, and ear infections. These improvements were observed for children of disadvantaged mothers.

Parental Health and Wellbeing: Three studies find that CA-PFL is associated with improved parental mental or physical health. Bullinger (2019) finds that maternal mental health status improved 1-2 percent and that parents are 3-5 percent more likely to report that they are "able to cope with the day-to-day demands of parenting." These effects were more pronounced for low income households. Irish et al. (2021) find that PFL is associated with a 25 percent decrease in parents' psychological distress score. Lee et al. (2020) report that PFL improved self-rated health and decreased distress, likelihood of being overweight and alcohol use. The health and psychological improvements were greater for mothers while decreased alcohol use was greater for fathers.

Fertility: Although policies elsewhere in developed countries are often at least partly motivated by a desire to boost the number of births (Olivetti and Petrongolo 2017), international evidence is quite inconclusive in this regard. One study of the federal FMLA found that the law was associated with changes in birth parity but no net increase in fertility because increases in first parity births were offset by decreases in later parity births (Rossin 2011). Bailey et al. (2019) finds that CA-PFL is associated with a reduced number of births.

4.3 Paid Family Caretaking

The bulk of empirical research on PFL is concerned with paid parental leave. Far fewer studies have examined other caretaking leave, largely because of data availability issues, including the ability to identify potential caretakers with longitudinal datasets. Three recent studies examine the effect of other paid family caretaking leave such as care for an ill or disabled family member on leave-taking behavior, caretaker labor outcomes, and nursing home utilization. One might expect the outcomes for such cases to be similar to parent bonding leave (Anand et al. 2021). However, the demographics are markedly different: the largest demographic of users are older females that have lower educational levels and are more likely to experience lower levels of workplace engagement. Moreover, the nature of the leave differs also; it is more likely to involve intermittent spells needed for providing care to elderly adults than a block of continuous leave (Morefield et al. 2016).

Saad-Lessler (2020) finds that the CA-PFL program improved unpaid care providers' labor force attachment, increasing the likelihood of being in the labor force by 1 percent for women and individuals with higher

education. Another study by Anand et al. (2021) examined the effect of CA-PFL and NJ-PFL on potential caregivers for disabled and ill spouses. They find that that paid leave decreases the likelihood that caregivers reduce work hours for spousal caregiving due to a work-limiting disability or chronic health condition, attributable to female and lower educated caregivers. But they find no effects on other employment outcomes such as earnings and working full-time. A third study by Morefield et al. (2016) of CA-PFL and NJ-PFL programs found no evidence that paid leave increased leave taking or improved labor force outcomes of likely caretakers. Potential explanations offered for limited findings on caretakers employment outcomes were lack of awareness about the program, reluctance of workers to take leave because of possible negative employment consequences, or program features that were not conducive to adult caretaking (Morefield et al. 2016; Anand et al. 2021).

One other study provides indirect evidence that caretaking leaves increases after PFML. Arora and Wolf (2018) examine the effect of CA-PFL on the proportion of the elderly population in nursing homes. They find that the proportion dropped by 0.65 percent, which equates to 11 percent decrease in nursing home use. They attribute increased leave taking by family caregivers, in part, for the relationship. Decreasing nursing home utilization may also result in additional state fiscal benefits since Medicaid "is the primary payer for over 63 percent of nursing home residents" and states pay a substantial portion off this expense (Arora and Wolf 2018).[23]

4.4 Medical Leave

Short term disability leave is by far the largest expenditure component for state PFML programs. However, it is also, in many ways the least understood with far less empirical research than paid family leave. Medical leave provides paid leave for beneficiaries with own medical condition or disability. But, conditions vary, the length of leave permitted is quite variable, and transitions back to work are not always possible. Anand et al. (2021) distinguish between three different types of medical that are likely to have quite different expected impacts: (a) permanent health shocks and disabilities for which paid leave has limited ability to improve employment outcomes, (b) work limiting chronic health condition or disability, and (c) temporary health shocks, which provide a more recognizable path back to employment. The former categories are more likely to result in transition to long-term disability such as Social Security Disability Insurance (SSDI) instead of back into the workplace.

Two empirical studies have examined the effect of PML programs on labor outcomes. Anand et al. (2021) examined the effect of CA-PFML and NJ-PFML on individuals that experienced a work-limiting disability or health condition but found no statistically significant effects on employment outcomes. Another study by Jolls (2020) examined the effect of the introduction of the FMLA on employment for the states that had no job protections for short-term disability in place prior to the federal law. Results indicate that there were some short-term employment effects after introduction of the law, but the significance and magnitude of the effects dwindled over time.

Due to the meager amount of research on PML, some researchers have suggested that empirical findings for family leave, sick paid, and long-term disability may be used for inferring PML effects (Ben Shalom 2020). We have already reviewed the former. Long-term disability is likely to provide an imperfect reference point for comparison. Long-term disability has much more stringent eligibility requirements. It is issued when prospects of return to the labor force are limited, and program rules do not facilitate rejoining the workforce (Ben-Shalom 2020).

A significant body of empirical research shows that long-term disability programs drastically reduce labor force participation (Ben-Shalom 2020). However, short-term disabilty should have much smaller effects; indeed, if leave facilitates recovery, the effects on employment and labor force attachment could be positive as some family leave studies show.

Sick leave, which lasts from hours to a few weeks offers a much reference point since it is of temporary

[23]Several studies find that family leave recipients are less likely to draw on safety net programs such as public assistance and food stamps (Greenfield and Cole 2019). However, those studies do not utilize causal empirical designs like the studies reviewed here.

duration and the time period even overlaps with some sick leave durations (Ben-Shalom 2020). However, even here the comparison is imperfect because paid leave includes time for medical office visits and leave for longer illnesses and injuries. The balance of empirical evidence suggests that sick leave has neutral or even beneficial effects on labor market outcomes Although Ahn and Yelowitz (2014) find that the Connecticut sick pay mandate had a negative impact on working likelihood and positive effect on being unemployed, particularly for workers in middle age brackets, three other studies suggest that the effects are negligible or even positive. Pichler and Ziebarth (2020) find that state and local sick pay mandates do not have negative impacts on employment or wage growth. Another recent study using different study regions, data and methods finds that no evidence that paid sick leave affects total hours worked (Maclean, Pichler, and Ziebarth 2020). They attribute these findings to potential improvement in workplace attendance due to slower transmission of communicable diseases. Stearns and White (2018) find that leave-taking is reduced by up to 18 percent following introduction of mandated sick leave in Connecticut and the District of Columbia. These effects persist for Connecticut but diminish for D.C. They attribute these findings to improved workplace attendance due to reduced likelihood of spreading communicable diseases to coworkers.

Section 5: PFML State Economic Impacts

Weldon Cooper Center staff conducted economic impact analyses of various PFML scenarios using REMI PI+ (Regional Economic Models Inc. Policy Insight Plus) software. REMI PI+ is a dynamic, multi-sector regional economic simulation model used for economic forecasting and measuring the economic impact of public policy changes on state and regional economies (Treyz 1993). The model combines different contemporary regional economic modeling approaches such as input-output analysis, econometric forecasting, computable general equilibrium, and New Economic Geography to characterize the mechanics and path of a regional economy. The model has been extensively peer-reviewed and is widely used by federal, state and local agencies, private firms, and non-profit organizations elsewhere in the nation to model economic and tax revenue impacts of federal, state, and regional public policies, including PFML programs (Groves et al. 2016; Chow 2019). The model used for this analysis was customized for the state of Virginia. Outcome variables examined here include total employment and real state gross domestic product (GDP). In addition, a state tax revenue impact analysis was conducted based on a methodology described in Regional Economic Models Inc. (2012). Details regarding the specific input modelling assumptions and REMI PI+ policy variables used is provided in **Appendix F**.

Nine PFML scenarios in total were modelled, which are summarized in **Table 5.1**. They included three program implementation or operation scenarios based on the actuarial analyses described in Section 3 that provide different estimates of program costs and expenditures, namely: (a) the baseline HB2016/SB1330 legislation scenario (***Baseline***), (b) a more generous benefit scenario (***Alternative 1***) and (c) a less generous benefit scenario (***Alternative 2***). In addition to these three program operation scenarios, two other groups of scenarios were examined. The first group explores the effect of shifting tax burdens between workers and businesses using baseline expenditure levels and tax contributions. The 50-50 percent split of payroll taxes between workers and firms specified in the baseline scenario is changed to one scenario where 100 percent of the payroll burden is assumed by the worker (***Employee Payroll Tax***) and another where the total payroll burden is borne by the firm (***Employer Payroll Tax***). These additional scenarios show how sensitive the results are to modelling how tax revenues are obtained. The second group of scenarios explores the economic impacts of potential PFML secondary economic and demographic outcomes for which suitable REMI PI+ policy handles are available. These scenarios are much more speculative; they are based on program effects suggested by specific empirical studies of PFML or other information. The first scenario boosts maternal labor force participation (***Labor Force Attachment***). This scenario is based on substantial empirical evidence that PFML boosts female labor force attachment. The second scenario considers the effect of reduced labor productivity (***Labor Productivity***). While the empirical evidence of PFML effects on worker productivity is mixed, most survey data suggest proportionally more firms report negative productivity effects than positive effects. The third scenario considers the effect of an increase in infant population due to reduced infant mortality and/or increased fertility rates (***Infant Population***). The evidence for this outcome is limited; while PFL appears to improve parenting practices and child health, only a few studies show effects on infant mortality and U.S. empirical evidence of fertility effects is even more limited. The final scenario (***Federal Tax Credit***) considers the effect that the loss of firms' continued eligibility to receive a federal tax credit for company-provided PFML benefits might have if Virginia adopted a PFML program.

Table 5.1: Summary of Scenarios for REMI PI+ Analysis

Scenario	Description
Baseline	Baseline legislative PFML scenario
Alternative 1	More generous benefit model
Alternative 2	Less generous benefit model
Employee Payroll Tax	Workers assume 100 percent burden of payroll tax
Employer Payroll Tax	Businesses assume 100 percent burden of payroll tax
Labor Force Attachment	Female childbearing age labor participation rate increases
Labor Productivity	Labor productivity decreases
Infant Population	Female childbearing age fertility increases
Federal Tax Credit	State PFML program adoption leads to loss of federal business tax credits

The remainder of this section is arranged into two subsections. The next subsection describes each scenario in more detail and discusses the assumptions used to prepare the REMI PI+ inputs for use in economic impact analysis. The final subsection presents and describes the model results.

5.1 Model Inputs and Assumptions

5.1.1 Program Operation Scenarios

Payroll Tax Statutory and Actual Incidence

As discussed in section 2, statutory tax assignment and actual tax incidence can differ. Empirical research suggests that workers bear approximately half of employer payroll taxes in the short-run and two-thirds in the long-run. For comparing the three operational scenarios (***Baseline***, ***Alternative 1***, and ***Alternative 2***), it will be assumed that statutory and actual tax incidence align, with a 50 percent tax burden assigned to workers and 50 percent to employers. Within the REMI PI+ model, increased worker payroll taxes are modelled as an increase in personal income taxes, which reduces disposable personal income. Employer taxes are modelled as an increase in firm production costs.

Administration Operational Expenditures

PFML requires expenditures for program administration. They include expenditures for program startup, claims management, marketing, and other services. For the purposes of this analysis, it will be assumed that these expenses will be provided by a state agency and not outsourced to a private entity. For simplification and because a detailed capital budget is not available, no increases in capital equipment is assumed. Administrative spending is modeled in REMI PI+ as an increase in state government spending.

Benefit Expenditures

Benefit spending includes payment for PFML claims. These claims are divided into PFL and PML for REMI modeling purposes. The benefits are modeled as transfer payment recipients to individuals, with PFL treated as a form of unemployment insurance benefit and PML as disability benefits.

5.1.2 Scenarios Varying Payroll Tax Contribution Shares

Two scenarios are presented that vary payroll tax burden from the even 50-50 percent split for workers and firms, with one modelling the costs of the program as borne entirely by workers and the other assumed by firms. In the former scenario, the payroll tax is modeled entirely as an increase in personal income taxes, while in the latter scenario it is modeled as an increase in firm production costs.

5.1.3 Economic and Demographic Outcome Scenarios

Female Childbearing Age Labor Force Participation Increase Scenario

The empirical literature generally supports the finding that PFML enhances female labor force attachment in the form of improved labor force participation or employment, although the specific details vary from study to study. This scenario assumes that female childbearing age labor force participation for PFML impacted female workers increases by 1.37 percentage points as found in Das and Polachek (2015). In order to maintain labor market clearing, employment is increased by a commensurate amount to maintain approximate full employment equilibrium (Treyz and Evangelakis 2018). Although positive employment impacts are not supported by Das and Polachek (2015), some other studies have found positive employment impacts. For example, Baum and Ruhm (2016) found that PFML boosted maternal employment by 18 percent one year after childbirth. Since the birth rate is approximately 60 per 1,000 (ages 15-44), this equates to a 1 percent increase in employment of women of child-bearing age. This scenario is modelled in REMI as a 1.37 percentage point increase in the labor force participation rate for childbearing age females and parallel increase in employment that is 95 percent of the increase in labor force to ensure market clearing.

Labor Productivity Loss Scenario

Five firm surveys were reviewed in section 4. These surveys generally found that most firms reported no effects or in some cases positive effects from PFML. However, three surveys indicated that a small minority of firms reported negative worker productivity effects of PFML. These productivity effects likely stem from the need to hire temporary replacement workers, delay work, and commit additional time or resources to administrative tasks. Milkman and Appelbaum (2013) found that 1.6 percent of firms reported positive effects of CA-PFL while 10.5 percent reported negative effects for a net percentage of 9.9 percent negative impact if one assumes that one firm's loss is offset by another firm's gain.

For the purposes of constructing this scenario, it is assumed that surveyed firms are similar in size; thus, 9.9 percent of workers projected to take leave experience reduced productivity when receiving PFML benefits. It will be assumed further that these workers lost their full productivity in terms of worker weeks on the job for the duration of their leave.

According to actuarial projections, 3,385,900 employees are eligible for leave in 2024 rising to 3,489,831 in 2032. Moreover, the average PFML incidence rate is 88.4 per 1,000 population (rising from 78.3 in 2024 to 91.5 in 2032) from the actuarial analysis and average leave duration is 7.1 weeks (rising from 7.09 in 2024 to 7.13 in 3032). Thus, the average estimated number of weeks on leave rises from approximately 1.882 million weeks to 2.276 million weeks over the 2024-2032 period. Assuming the average PFML eligible Virginia worker worked 46 weeks per year (based on data from the U.S. Census Bureau's American Community Survey for Virginia in 2019 –Table B23022–Sex by Work Status in the Past 12 Months by Usual Hours Worked Per Week in the Past 12 Months by Weeks Worked in the Past 12 Months for the Population 16 to 64 Years) and that the estimated total number of workers rises from 4,147,082 in 2024 to 4,274,378, this represents lost productivity of 0.99 percent in 2024 rising to 1.16 by 2032. However, the assumption is made that only 9.9 percent of workers experience this loss in productivity. Thus, the Virginia-wide labor productivity loss is assumed to climb from 0.098 percent to 0.115 percent over the period. This was modelled within REMI PI+ as a decrease in labor productivity.

Infant Population Improvement Scenario

This scenario assumes that the child population increases as a result of PFML. An increase in the number of children could occur through two channels: (a) decreases in infant and child mortality and (b) increases to fertility rates. Although the empirical literature is inconclusive about these outcomes, several papers not reviewed in Section 4 because they did not meet the selection criteria for inclusion (i.e., not focusing on U.S., not published, and not using causal empirical designs) have reported such effects. For example, in a study of CA-PFL, Golightly (2020) finds that the program is associated with a 16 percent increase in fertility rates for eligible females of childbearing age (20-39). Studies of other developed countries have also reported fertility effects associated with PFL policies (Kalwij 2010). Likewise, a handful of international studies report that PFML reduces infant mortality. In a study of 16 European countries over the 1969-1994 period, Ruhm (2000) finds that a 10-week increase in PFL decreases infant mortality by 1-1.7 percent. Another study

(Tanaka 2005) of 18 OECD counties for 1969-2000 finds that a 10-week extension in PFL decreases infant, post-neonatal, and child mortality by 2.6 percent, 4.1 percent, and by 3 percent respectively.

This scenario is modelled by assuming that births to PFML eligible female employees within the ages of 20 to 39 increase by 16 percent. This equates to just a 9.8 percent increase in the overall birth rate for this age group because the female labor force participation rate is 75 percent and an estimated 82 percent of all Virginia workers are eligible for PFML under the baseline scenario (i.e., $0.75 * 0.82 * 0.16 = 0.098$).

Federal Tax Credit Lost Revenue Scenario

This policy scenario considers the economic impact resulting from the potential loss of the Federal Employer Credit for Paid Family and Medical Leave when the Virginia PFML program is fully implemented. This federal tax credit was created in 2017 on a pilot basis but has continued to be extended, currently at least through the end of 2025. It provides a credit of from 12.5 percent to 25 percent of paid leave wages to firms for qualifying employees for up to 12 weeks of PFML per year and is restricted to use for employees that earn less than $72,000.[24] The credit reduced federal tax revenue by $4.3 billion with most of the revenue loss occurring in FY2019 and FY2020 (Sherlock 2020). According to the federal statute, the credit cannot be claimed by firms in states where there are state PFML mandates.

The financial impact of the loss of the credit on Virginia firms is estimated by apportioning the annual value of the credit nationwide to Virginia firms on the basis of its share of national population. According to Sherlock (2020), about $2 billion of tax credits have been issued each tax year. Four states in 2018 had PFML programs/mandates, including California, New Jersey, Rhode Island, and New York. Thus, 79 percent of the U.S. population were in the 46 states where firms were eligible to use the credit. Virginia population represents approximately 3.3 percent of the total population in those eligible states. Assuming firm PFML providers with qualified workers used the tax expenditures in that proportion, 3.3 percent x $2 billion or $65.8 million in tax credits could potentially be lost to Virginia employers each year.

Several additional assumptions are made for this REMI PI+ simulation. It will be assumed that this federal tax credit program continues to be renewed throughout the 2024-2032 period of analysis, and that it will no longer be available to Virginia firms. It will also be assumed that the firms use the entire value of the tax credits against federal tax liability in the year issued. The total estimated amount of the credit for Virginia firms is assigned as an increase in firm production costs.

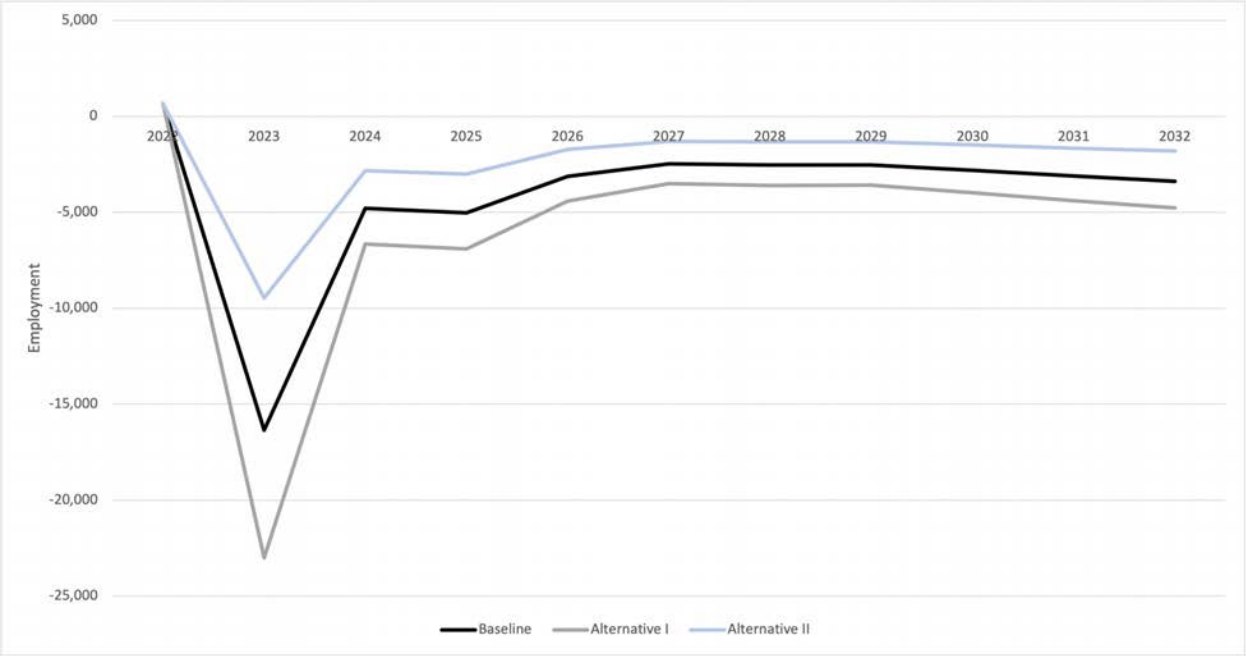
5.2 Results

State economic activity is represented by two metrics: employment and real gross domestic product. Employment includes full-time and part-time workers and the self-employed and is measured by place-of-work. State tax revenue represents general and non-general fund revenue derived from taxes and is a nominal value. Gross-domestic product represents the value of final goods and services produced in Virginia and is expressed in terms of 2012 dollars.

Figure 5.1 shows the total employment impact results for the three operational scenarios (***Baseline***, ***Alternative 1***, and ***Alternative 2***). Average annual employment, real GDP, and state tax revenues for each of the nine scenarios over the 2024-2032 period are shown in **Table 5.2**. Complete annual results are provided in ***Appendix Table G.1***. These results reflect the multiplier effects (direct, indirect, induced, and dynamic) of PFML expenditures and payroll taxes on the state economy.

[24] https://www.mercer.com/our-thinking/law-and-policy-group/congress-extends-tax-credit-for-paid-family-and-medical-leave.html

Figure 5.1: Employment Impacts of Virginia PFML, 2022-2032 by scenarios.



Source: Based on Weldon Cooper Center for Public Service Analysis using Virginia REMI PI+ Model.

The results indicate that the baseline scenario initially has a small positive economic impact. This occurs because administrative expenditures are made one year before the onset of payroll taxes and two years before benefits are received by eligible employees to build the infrastructure and staffing for the program. This economic impact becomes negative in 2023 as the payroll taxes equal to .95 percent of payroll are levied to build the trust fund without a concomitant increase in benefit spending. The impacts for GDP and state tax revenue parallel those of employment. Although the economic impacts are large in absolute size, they are generally negligible relative to the size of the Virginia economy. The average employment and real GDP impacts of over the 2022-2032 period represents less than 0.1 percent of average Virginia REMI PI+ forecasted total employment and real GDP over the period. The estimated total state tax revenue impacts of -$114.5 million over the period represent just 0.5 percent of the total $21.180 billion in tax revenue collected from PFML payroll taxes over the period. The lone exception is the 2023 employment impact of -16,349. Although still representing just 0.3 percent of total forecasted Virginia employment in 2023, the employment impact represents 35 percent of the REMI PI+ forecasted employment increase of 46,358 that would occur in the absence of a new PFML program. To avoid this disruption in employment, the General Assembly may want to consider issuing a revenue bond to smooth startup program costs over time.

The economic impacts are negative over the 2024-2032 period for essentially two reasons. First, program operation requires that excess reserves be maintained to ensure program solvency. Thus, program expenditures during the first two years of benefit payouts are approximately 86 percent of contributions and never exceed 98.2 percent over the entire period. The bulk of these funds are removed from the Virginia economy as Trust Fund savings that are invested in national capital markets. Second, business taxes charged to fund half of program expenses have slightly more deleterious effects on employment than personal taxes because of capital substitution for labor and effects on state industry competitiveness.

The other two benefit scenarios either amplify or diminish the magnitude of economic impacts. Alternative 1, which enhances worker benefits by introducing a progressive wage replacement structure and expanding the number of weeks of eligible leave, results in higher payroll taxes and program expenditures which have more negative economic impacts throughout the period. Compared to the average annual baseline scenario impacts of -3,311 jobs, -$442.2 million in real GDP, and -$5.7 million in state tax revenue over the 2024-2032 period, this scenario results in an average annual impact of -4,644 jobs, -$620.8 million in real GDP, and -$8.1 million in state tax revenue. Alternative 1, which decreases the replacement rate and makes eligibility

more difficult, results in a significantly lower payroll tax, smaller program-related expenditures, and smaller negative economic impacts. The average annual employment impact is -1,832, real GDP impact -$242.9 million and state tax revenue impact -$4.0 million over the 2024-2032 period.

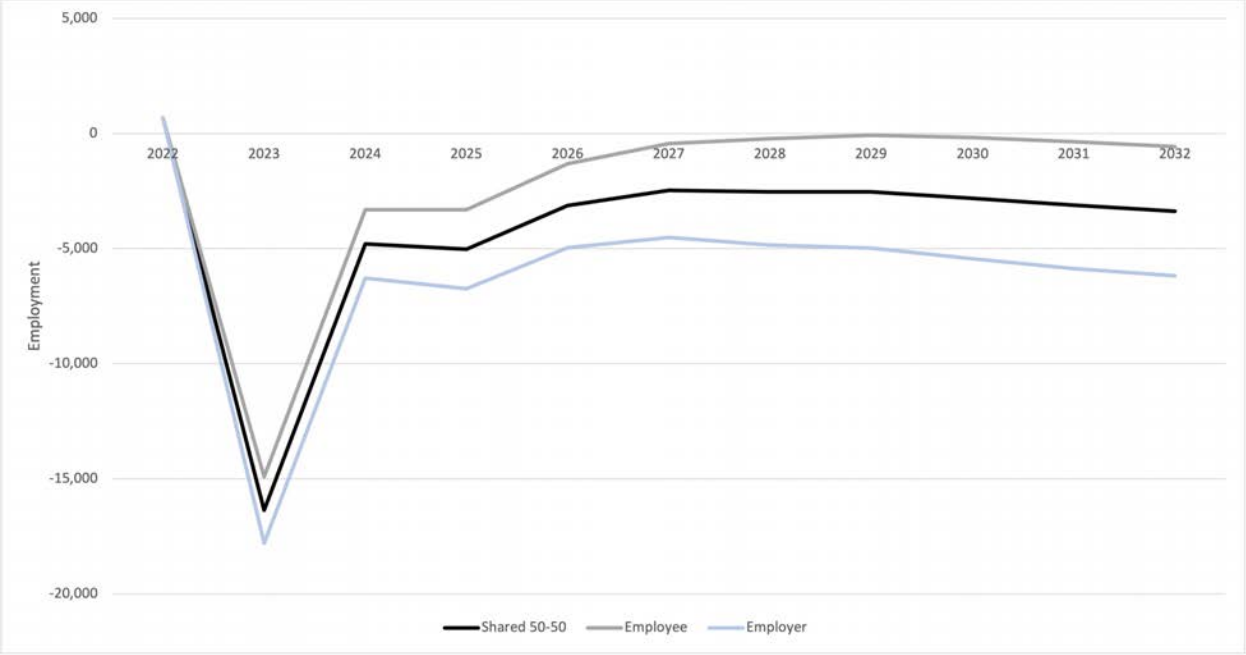
Table 5.2 Summary of Average Annual Results by Scenario (Annual Average 2024-2032)

Scenario	Employment	Real GDP (millions)	State Tax Revenue (millions)
Baseline	-3,310.54	-$442.15	-$5.74
Alternative 1	-4,644.15	-$620.77	-$8.06
Alternative 2	-1,831.66	-$242.94	-$4.03
Employee Payroll Tax	-1,085.65	-$128.92	-$17.08
Employer Payroll Tax	-5,533.19	-$754.83	$5.62
Labor Force Attachment	7,726.49	$839.97	$28.06
Labor Productivity	-4,157.56	-$385.34	-$18.42
Infant Population	7,959.76	$714.85	$66.15
Federal Tax Credit	-747.26	-$73.67	-$3.27

Source: Based on Weldon Cooper Center for Public Service Analysis using Virginia REMI PI+ Model.

Figure 5.2 shows the employment impacts for two alternative assumptions about the burden of the payroll tax compared to the baseline scenario. Average annual employment, real GDP, and state tax revenues for each the scenarios are again exhibited in **Table 5.2**. Complete annual results are provided in ***Appendix Table G.2***. Results indicate that shifting the payroll tax from employers to employees reduces the magnitude of the negative employment and real GDP impacts while shifting it to employers increases the magnitude of the negative impacts. On the other hand, an employer payroll tax has a positive effect on state tax revenue. This result is obtained because payroll taxes raised on workers reduces consumer disposable incomes and consumer expenditures on goods that have a disproportionate impact on sales tax collections.

Figure 5.2: Employment Impacts of Virginia PFML, 2022-2032 by Payroll Tax Burden scenarios.

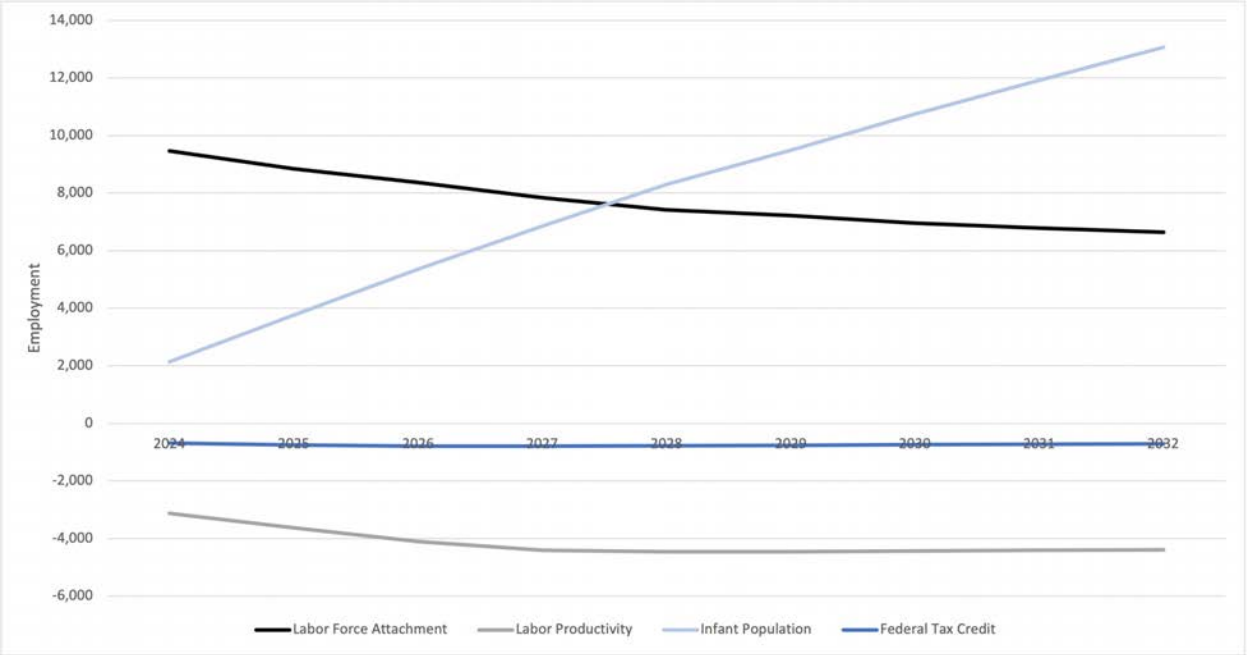


Source: Based on Weldon Cooper Center for Public Service Analysis using Virginia REMI PI+ Model.

Figure 5.3 shows the total employment impact results for the four other economic and demographic scenarios (***Labor Force Attachment***, ***Labor Productivity***, ***Infant Population***, and ***Federal Tax Credit***) for the

period 2024-2032 (there are no economic impacts for 2022 and 2023 unlike the program operation scenarios). Average annual employment, real GDP, and state tax revenues for each of the scenarios are presented again in **Table 5.2**. Complete annual results are provided in ***Appendix Table G.3***.

Figure 5.3: Employment Impacts of Virginia PFML, 2024-2032 by Economic and Demographic Scenarios



Source: Based on Weldon Cooper Center for Public Service Analysis using Virginia REMI PI+ Model.

The first scenario (***Labor Force Attachment***) shows the effect of increasing the labor force participation rate of childbearing age females by 1.37 percentage points. This scenario results in an average employment impact of 7,726, real GDP impact of $840.0 million and state tax revenue impact of $28.1 million over the 2024-2032 period. The hypothetical scenario more than offsets the negative employment, real GDP and state tax revenue impacts of the baseline PFML operational scenario.

The second scenario shows the effect of a loss in worker productivity due to PFML (***Labor Productivity***). Firms respond to the loss in labor productivity (and thereby comparatively higher expense of labor) by substituting capital for labor. This scenario reinforces the negative economic impacts of the baseline scenario, resulting in an average annual impact of -4,158 jobs, -$385 million in real GDP, and -$18.4 million in state tax revenue.

The third scenario shows the effects of an increased birth rate for PFML eligible childbearing age females (***Infant Population***). One major effect of the population growth is increased consumer spending, which contributes to an average annual impact of 7,960 jobs, $714.9 million in real GDP, and $66.2 million in state tax revenue over the 2024-2032 period. The economic impacts gradually grow over time as the additional births add to the Virginia population starting from a base of zero in 2023 and gradually growing to approximately 72,000 additional people in 2032.

The final scenario shows the economic impact of the loss of the federal PFML tax credit because of federal restrictions in using the credit in states with mandatory PFML programs (***Federal Tax Credit***). The scenario shows by far the smallest economic impacts of any scenario. Results indicate that loss of the federal credit would have an average economic impact of -747 jobs, -$73.7 million in real GDP, and -$3.3 in state tax revenues.

These results have several implications. First, although the baseline legislative scenario has a relatively small negative impact on state economic activity, uncertainty surrounding other secondary economic and demographic impacts due to changes in female labor attachments, labor productivity, infant population, and

federal tax credit eligibility mean that one cannot rule out that the overall long-run economic impacts of PFML are either more positive or negative when these other factors are taken into consideration. Second, although the effects are relatively small compared to the size of the Virginia economy, instituting the payroll tax before dispensing benefits creates a sizeable temporary leakage from the Virginia economy that has a significant impact on employment for 2023 compared to expected growth during that year. Thus, the state may want to consider alternatives to full implementation of the payroll tax before offering benefits. Third, results indicate that a fuller shifting of payroll taxes to workers can reduce the negative economic impacts of PFML. However, this comes at the expense of larger negative tax revenue impacts. In any event, it is unclear how state statutory payroll tax laws can change the actual tax incidence of the payroll tax. Empirical estimates of incidence suggest that approximately two-thirds of payroll tax incidence is ultimately borne by workers in the long-run regardless of who statutorily is mandated to pay the tax.

Appendices

Appendix A: HB2016/SB1330

21102792D

HOUSE BILL NO. 2016

Offered January 13, 2021

Prefiled January 12, 2021

A BILL to amend the Code of Virginia by adding in Title 60.2 a chapter numbered 8, consisting of sections numbered 60.2-800 through 60.2-820, relating to the establishment of family and medical leave insurance program; financing through payroll taxes.

Patrons—Ayala, Sickles, Adams, D.M., Bagby, Carr, Cole, J.G., Convirs-Fowler, Guzman, Helmer, Hope, Hurst, Kory, Mundon King, Rasoul, Samirah, Simon, Simonds, Sullivan and Willett; Senator: McClellan

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Referred to Committee on Labor and Commerce

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 60.2 a chapter numbered 8, consisting of sections numbered 60.2-800 through 60.2-820, as follows:

CHAPTER 8.

PAID FAMILY AND MEDICAL LEAVE PROGRAM.

§ 60.2-800. Definitions.

As used in this chapter, unless the context requires a different meaning:

"Application year" means the 12-month period beginning on the first day of the calendar week in which an individual files an application for family and medical leave insurance benefits.

"Armed Forces" means the Armed Forces of the United States, the Reserves of the Armed Forces of the United States, or the Virginia National Guard.

"Child" includes a child of any age, including an adult child.

"Covered individual" means any individual who:

1. Either:

a. Meets the monetary eligibility criteria set forth in subdivision 1 of § 60.2-612; or

b. Is self-employed, elects coverage, and meets the requirements of § 60.2-813;

2. Meets the administrative requirements outlined in this chapter and in regulations; and

3. Submits an application.

"Covered service member" means either (i) a member of the Armed Forces who is (a) undergoing medical treatment, recuperation, or therapy; (b) otherwise in outpatient status; or (c) otherwise on the temporary disability retired list for a serious injury or illness that was incurred by the member in the line of duty while on active duty in the Armed Forces, or a serious injury or illness that existed before the beginning of the member's active duty and was aggravated by service in the line of duty while on active duty in the Armed Forces, or (ii) a former member of the Armed Forces who is undergoing medical treatment, recuperation, or therapy for a serious injury or illness that was incurred by the member in the line of duty while on active duty in the Armed Forces, or a serious injury or illness that existed before the beginning of the member's active duty and was aggravated by service in the line of duty while on active duty in the Armed Forces and manifested before or after the member was discharged or released from service.

"Domestic partner" is a person not less than 18 years of age who (i) is dependent upon the covered individual for support as shown by either unilateral dependence or mutual interdependence that is evidenced by a nexus of factors, including but not limited to (a) common ownership of real or personal property, (b) common householding, (c) children in common, (d) signs of intent to marry, (e) shared budgeting, and (f) the length of the personal relationship with the covered individual, or (ii) has registered as the domestic partner of the covered individual with any registry of domestic partnerships maintained by the employer of either party, or in any state, county, city, town, or village in the United States.

"Employer" includes the Commonwealth and all agencies and political subdivisions, including school boards, thereof.

"Family and medical leave insurance benefits" means the benefits provided under the terms of this chapter.

"Family member" means:

1. A biological, adopted, or foster child, a stepchild or legal ward, a child of a domestic partner, or a child to whom the covered individual stands in loco parentis;

2. A biological, adoptive, or foster parent, stepparent, or legal guardian of a covered individual or a covered individual's spouse or domestic partner, or a person who stood in loco parentis when the

covered individual or the covered individual's spouse or domestic partner was a minor child;

3. A person to whom the covered individual is legally married under the laws of any state, or a domestic partner of a covered individual; or

4. A grandparent, grandchild, or sibling, whether through a biological, foster, adoptive, or step relationship, of the covered individual or the covered individual's spouse or domestic partner.

"FMLA" means the federal Family and Medical Leave Act, 29 U.S.C. § 2601 et seq.

"Fund" means the Family and Medical Leave Insurance Trust Fund established under § 60.2-816.

"Health care provider" means a person licensed under federal or Virginia law to provide medical or emergency services, including doctors, nurses, emergency room personnel, and certified midwives.

"Military member" means a member of the Armed Forces.

"Next of kin" has the meaning ascribed thereto in § 101(17) of the FMLA, 29 U.S.C. § 2611(17).

"Qualifying exigency leave" means leave based on a need arising out of a covered individual's family member's active duty service or notice of an impending call or order to active duty in the Armed Forces, including providing for the care or other needs of the military member's child or other family member, making financial or legal arrangements for the military member, attending counseling, attending military events or ceremonies, spending time with the military member during a rest and recuperation leave or following return from deployment, or making arrangements following the death of the military member.

"Retaliatory personnel action" means denial of any right guaranteed under this chapter, including but not limited to any threat, discharge, suspension, demotion, or reduction of hours, any other adverse action against an employee for the exercise of any right guaranteed herein, or reporting or threatening to report an employee's suspected citizenship or immigration status or the suspected citizenship or immigration status of a family member of the employee to a federal, state, or local agency. "Retaliatory personnel action" also includes interference with or punishment for in any manner participating in or assisting an investigation, proceeding, or hearing under this chapter.

"Serious health condition" means an illness, injury, impairment, pregnancy, recovery from childbirth, or physical or mental condition that involves inpatient care in a hospital, hospice, or residential medical care facility or continuing treatment by a health care provider.

"Work week" means a calendar week.

§ 60.2-801. Eligibility for benefits.

Beginning January 1, 2024, family and medical leave insurance benefits are payable to any covered individual who either:

1. Because of birth, adoption, or placement through foster care, is caring for a new child during the first year after the birth, adoption, or placement of that child;

2. Is caring for a family member with a serious health condition;

3. Has a serious health condition that makes the covered individual unable to perform the functions of the position of such employee;

4. Is caring for a covered service member who is the covered individual's next of kin or other family member; or

5. Is eligible for qualifying exigency leave arising out of the fact that a family member of the covered individual is on active duty, or has been notified of an impending call or order to active duty, in the Armed Forces.

§ 60.2-802. Duration of benefits.

A. The maximum number of weeks during which family and medical leave insurance benefits are payable under § 60.2-801 in an application year is 12 weeks. A covered individual is eligible for a combined maximum of 12 weeks total of family and medical leave insurance benefits in an application year for a single purpose or a combination of purposes enumerated in subdivisions 1 through 5 of § 60.2-801.

B. Family and medical leave insurance benefits start immediately. There is no waiting period. The benefits are payable starting the first calendar day in an application year that a covered individual meets the eligibility requirements of § 60.2-801.

C. The first payment of benefits shall be made to an individual within two weeks after the claim is filed, and subsequent payments shall be made every two weeks thereafter.

§ 60.2-803. Amount of benefits.

A. The weekly benefit shall be 80 percent of the covered individual's average weekly wages during the 12 months preceding submission of the application, or the average weekly wages during the time the covered individual worked if less than 12 months, up to a maximum set in subsection C.

B. The minimum weekly benefit shall not be less than $100 per week except that if the employee's average weekly wage is less than $100 per week, the weekly benefit shall be the employee's full wage.

C. The maximum weekly benefit shall be 80 percent of the state average weekly wage, as defined in subsection B of § 65.2-500. By September 30 of each year, the Commission shall adjust the maximum weekly benefit to reflect any changes in such state average weekly wage. The adjusted maximum weekly

benefit amount takes effect on the following January 1.

D. Family and medical leave insurance benefits are not payable for less than eight hours of family and medical leave taken in one work week.

§ 60.2-804. Contributions.

A. Payroll contributions shall be authorized in order to finance the payment of benefits under and the administration of the family and medical leave insurance program.

B. Beginning on January 1, 2023, for each employee, an employer shall remit to the Fund contributions in the form and manner determined by the Commission. Annually, not later than October 1, the Commissioner shall fix the contribution rate for the coming calendar year in the manner described in this subsection, taking into account the reimbursement requirement provided for in subsection D of § 60.2-816. For calendar years 2023 and 2024, the Commissioner shall do so based on sound actuarial principles. For calendar year 2025 and thereafter, the Commissioner shall first certify and publish the following information:

1. The total amount of family and medical leave insurance benefits paid by the Commission during the previous fiscal year;

2. The total amount remaining in the Fund at the close of such fiscal year;

3. The total amount equal to 140 percent of the previous fiscal year's expenditure for family and medical leave insurance benefits paid and for the administration of the family and medical leave insurance program;

4. The amount by which the total amount remaining in the Fund at the close of the previous fiscal year is less than or greater than 140 percent of the previous fiscal year's expenditure for family and medical leave insurance benefits paid and for the administration of the family and medical leave insurance program; and

5. The amount by which the contribution rate shall be adjusted to ensure that the Fund shall maintain or achieve an annualized amount of not less than 140 percent of the previous fiscal year's expenditure for family and medical leave insurance benefits paid and for the administration of the family and medical leave insurance program. The contribution rate adjustment, if any, made as the result of the Commissioner's certification and report under this subsection shall supersede the rate previously set forth and shall become effective on January 1 of the following calendar year.

C. A self-employed individual who is electing coverage under § 60.2-813 shall be responsible for the employee share of contributions set forth in subsection B on that individual's income from self-employment.

D. Each employer shall (i) deduct from each employee's wages an amount equal to 50 percent, or such lesser percentage as may be agreed upon by the employer and employee, of the contribution required for the employee by subsection B and (ii) remit the full contribution required under subsection B to the Commission for deposit in the Fund.

E. Contributions under this section shall not be required for an employee's wages or an individual's income from self-employment above the contribution and benefit base limit established annually by the federal Social Security Administration for purposes of the Federal Old-Age, Survivors, and Disability Insurance Benefits program limits pursuant to 42 U.S.C. § 430.

§ 60.2-805. Reduced leave schedule.

A. A covered individual shall be entitled, at the option of the covered individual, to take paid family and medical leave on an intermittent or reduced leave schedule in which all of the leave authorized under this chapter is not taken sequentially. Family and medical leave insurance benefits for intermittent or reduced leave schedules shall be prorated.

B. The covered individual shall make a reasonable effort to schedule paid family and medical leave under this section so as not to unduly disrupt the operations of the employer. The covered individual shall provide the employer with prior notice of the schedule on which the covered individual will be taking the leave, to the extent practicable. Paid family and medical leave taken under this section shall not result in a reduction of the total amount of leave to which an employee is entitled beyond the amount of leave actually taken.

C. Nothing in this section shall be construed to entitle a covered individual to more leave than required under § 60.2-802.

§ 60.2-806. Leave and employment protection; remedies.

A. Any covered individual who exercises the covered individual's right to family and medical leave insurance benefits shall, upon the expiration of that leave, be entitled to be restored by the employer to the position held by the covered individual when the leave commenced, or to a position with equivalent seniority, status, employment benefits, pay, and other terms and conditions of employment, including fringe benefits and service credits, that the covered individual had been entitled at the commencement of leave.

B. During any leave taken pursuant to § 60.2-801, the employer shall maintain any health care

benefits the covered individual had prior to taking such leave for the duration of the leave as if the covered individual had continued in employment continuously from the date such individual commenced the leave until the date the family and medical leave insurance benefits terminate; however, the covered individual shall continue to pay the covered individual's share of the cost of health benefits as required prior to the commencement of the leave.

C. Any employer who violates this section or § 60.2-807 shall be liable to any eligible employee affected:

1. For damages equal to:

a. The amount of:

(1) Any wages, salary, employment benefits, or other compensation denied or lost to such employee by reason of the violation; or

(2) In a case in which wages, salary, employment benefits, or other compensation has not been denied or lost to the employee, any actual monetary losses sustained by the employee as a direct result of the violation, such as the cost of providing care, up to a sum equal to 12 weeks of wages or salary for the employee;

b. Interest on the amount described in subdivision a calculated at the legal rate; and

c. An additional amount as liquidated damages equal to the sum of the amount described in subdivision a and the interest described in subdivision b, except that if an employer who has violated this section or § 60.2-807 proves to the satisfaction of the court that the act or omission that violated this section or § 60.2-807 was in good faith and that the employer had reasonable grounds for believing that the act or omission was not a violation of this section or § 60.2-807, such court may, in its discretion, reduce the amount of the liability to the amount and interest determined under subdivisions a and b, respectively; and

2. For such equitable relief as may be appropriate, including employment, reinstatement, and promotion.

D. An action to recover the damages or equitable relief prescribed in subsection C may be maintained against any employer, including a public agency, in any federal or state court of competent jurisdiction by any one or more employees for and on behalf of the employees or the employees and other employees similarly situated.

E. The court in such an action shall, in addition to any judgment awarded to the plaintiff, allow reasonable attorney fees, reasonable expert witness fees, and other costs of the action to be paid by the defendant.

F. Except as provided in subsection G, an action may be brought for a violation of this section or § 60.2-807 not later than two years after the date of the last event constituting the alleged violation for which the action is brought.

G. In the case of such action brought for a willful violation of this section or § 60.2-807, such action may be brought within three years of the date of the last event constituting the alleged violation for which such action is brought.

§ 60.2-807. Retaliatory personnel actions prohibited.

A. It is unlawful for an employer or any other person to interfere with, restrain, or deny the exercise of, or the attempt to exercise, any right protected under this chapter.

B. An employer, temporary help company, employment agency, employee organization, or other person shall not take retaliatory personnel action or otherwise discriminate against an individual because the individual exercised rights protected under this chapter. Such rights include the right to request, file for, apply for, or use benefits provided for under this chapter; the right to communicate to the employer or any other person or entity an intent to file a claim, a complaint with the Commission or courts, or an appeal, or has testified or is about to testify or has assisted in any investigation, hearing, or proceeding under this chapter, at any time, including during the waiting period and the period in which the person receives family and medical leave insurance benefits under this chapter; the right to inform any person about any employer's alleged violation of this chapter; and the right to inform any individual of the individual's rights under this chapter.

C. It is unlawful for an employer's absence control policy to count paid family and medical leave taken under this chapter as an absence that may lead to or result in discipline, discharge, demotion, suspension, or any other adverse action.

D. Protections of this section shall apply to any person who mistakenly but in good faith alleges violations of this chapter.

E. This section shall be enforced as provided in subsections C through G of § 60.2-806.

§ 60.2-808. Coordination of benefits.

A. Leave taken with wage replacement under this chapter that also qualifies as leave under the FMLA shall run concurrently with leave taken under the FMLA.

B. An employer may require that payment made pursuant to this chapter be made concurrently or otherwise coordinated with payment made or leave allowed under the terms of disability or family care

leave under a collective bargaining agreement or employer policy. The employer shall give employees written notice of this requirement.

C. This chapter does not diminish an employer's obligation to comply with any of the following that provide more generous leave:

1. A collective bargaining agreement;

2. An employer policy; or

3. Any law.

D. An individual's right to leave under this chapter may not be diminished by a collective bargaining agreement entered into or renewed, or an employer policy adopted or retained, after January 1, 2022. Any agreement by an individual to waive the individual's rights under this chapter is void as against public policy.

§ 60.2-809. Notice.

A. Each employer shall provide written notice as prescribed in this subsection to each employee upon hiring and annually thereafter. An employer shall also provide such written notice to an employee when the employee requests leave under this chapter or when the employer acquires knowledge that an employee's leave may be for a qualifying reason under § 60.2-801. Such notice shall include (i) the employee's right to family and medical leave insurance benefits under this chapter and the terms under which it may be used; (ii) the amount of family and medical leave insurance benefits; (iii) the procedure for filing a claim for family and medical leave insurance benefits; (iv) the right to job protection and benefits continuation under § 60.2-806; (v) that discrimination and retaliatory personnel actions against a person for requesting, applying for, or using family and medical leave insurance benefits is prohibited under § 60.2-807; and (vi) that the employee has a right to file a complaint for violations of this chapter. An employer shall also display and maintain a poster in a conspicuous place accessible to employees at the employer's place of business that contains the information required by this section in English, Spanish, and any language that is the first language spoken by at least five percent of the employer's workforce, provided that such poster has been provided by the Commission. The Commissioner may adopt regulations to establish additional requirements concerning the means by which employers shall provide such notice.

B. Employees shall provide notice to their employers as soon as practicable of their intention to take leave under this chapter.

§ 60.2-810. Appeals.

A. The Commissioner shall establish a system for appeals in the case of a denial of family and medical leave insurance benefits. In establishing such system, the Commissioner may utilize any and all procedures and appeals mechanisms established under this title.

B. Judicial review of any decision with respect to family and medical leave insurance benefits shall be permitted in a court of competent jurisdiction after a party aggrieved thereby has exhausted all administrative remedies established by the Commissioner.

C. The Commissioner shall implement procedures to ensure confidentiality of all information related to any claims filed or appeals taken to the maximum extent permitted by applicable laws.

§ 60.2-811. Enforcement.

A. Contributions under § 60.2-804 unpaid on the date on which they are due and payable, as prescribed by the Commissioner under this chapter, shall bear interest at the rate of one and one-half percent per month from and after such date until payment plus accrued interest is received by the Commission. Interest collected pursuant to this chapter shall be paid into the Fund. An employer who fails to timely remit a contribution or any portion thereof under § 60.2-804 shall be solely responsible for the interest due under this section.

B. If, after notice, any employer defaults in any payment of contributions or interest the amount due shall be collected by civil action in the name of the Commissioner. The employer adjudged in default shall pay the fees and costs of such action. Civil actions brought under this article to collect contributions or interest or any penalty from an employer shall be heard by the court at the earliest possible date. Such civil actions may be brought against any officer, employee, or agent of a corporation or partnership in his individual, personal capacity when that person willfully fails to cause the employer to pay the appropriate contributions or interest and he had the authority to do so. No person shall be subject to this section unless it is proved (i) that such person had knowledge of the failure or attempt to make such payment and (ii) that such person had authority to prevent such failure or attempt. In addition to the foregoing remedies, the Commissioner shall have such other remedies as are available to the State Tax Commissioner and county and city treasurers for the collection of taxes generally. The Commissioner is authorized to compromise, settle, and adjust any contributions, including interest, or any penalty assessed against any employer where in the judgment of the Commissioner the best interests of the Commonwealth will be promoted or served. The Commissioner may in such cases accept in full settlement of the contributions assessed an amount less than that assessed.

C. When an unsatisfied execution has been returned by an officer, and the employer against whom the judgment has been obtained on which the execution was issued continues in default of payment of contributions, or any portion thereof, such employer may be enjoined from operating and doing business in the Commonwealth until such contributions have been paid. The Circuit Court of the City of Richmond shall have exclusive original jurisdiction to grant such injunction upon the complaint of the Commissioner. Notice of the time and place when the application for the injunction will be made shall be served on the employer, and a copy of the bill of complaint shall be served with the notice.

§ 60.2-812. Erroneous payments and disqualification for benefits.

A. A covered individual is disqualified from family and medical leave insurance benefits for one year if the individual is determined by the Commissioner to have willfully made a false statement or misrepresentation regarding a material fact, or willfully failed to report a material fact, to obtain benefits under this chapter.

B. If family and medical leave insurance benefits are paid erroneously or as a result of willful misrepresentation, or if a claim for family and medical leave insurance benefits is rejected after benefits are paid, the Commission may seek repayment of benefits from the recipient. The Commissioner shall exercise his discretion to waive, in whole or in part, the amount of any such payments where the recovery would be against equity and good conscience.

§ 60.2-813. Elective coverage.

A. A self-employed person, including a sole proprietor, partner, or joint venturer, may elect coverage under this chapter for an initial period of not less than three years. The self-employed person shall file a notice of election in writing with the Commissioner, as required by the Commission. The election becomes effective on the date the notice is filed. As a condition of election, the self-employed person is required to agree to supply any information concerning income that the Commission deems necessary.

B. A self-employed person who has elected coverage may withdraw from coverage within 30 days after the end of the three-year period of coverage, or at such other times as the Commissioner may prescribe by rule, by filing written notice with the Commissioner, such withdrawal to take effect not sooner than 30 days after filing the notice.

§ 60.2-814. Family and medical leave insurance program.

A. By January 1, 2023, the Commission shall establish and administer a family and medical leave insurance program and begin collecting contributions as specified in this chapter. By January 1, 2024, the Commission shall start receiving claims from and paying family and medical leave insurance benefits to covered individuals.

B. All claims shall include a certification supporting a request for leave under this chapter.

1. Certification for a covered individual taking family and medical leave insurance benefits due to a serious health condition of the covered individual shall be sufficient if it states the date on which the serious health condition commenced, the probable duration of the condition, a statement that the employee is unable to perform the functions of the position of the employee, and the appropriate medical facts within the knowledge of the health care provider as required by the Commission.

2. Certification for a covered individual taking family and medical leave insurance benefits because of the serious health condition of a family member of the covered individual shall be sufficient if it states the date on which the serious health condition commenced, the probable duration of the condition, the appropriate medical facts within the knowledge of the health care provider as required by the Commission, a statement that the covered individual is needed to care for the family member and an estimate of the amount of time that the covered individual is needed to care for the family member.

3. Certification for a covered individual taking family and medical leave insurance benefits because of the birth of a child of the covered individual shall be sufficient if the covered individual provides either the child's birth certificate or a document issued by the health care provider of the child or the health care provider of the person who gave birth, stating the child's birth date. (

4. Certification for a covered individual taking family and medical leave insurance benefits because of the placement of a child with the covered individual for adoption or foster care shall be sufficient if the covered individual provides a document issued by the health care provider of the child, an adoption or foster care agency involved in the placement or by other individuals as determined by the Commission that confirms the placement and the date of placement.

5. Certification for a covered individual taking family and medical leave insurance benefits because of a qualifying exigency shall be sufficient if it includes: (i) a copy of the family member's active-duty orders; (ii) other documentation issued by the Armed Forces; or (iii) other documentation permitted by the Commission.

6. Certification for a covered individual taking family and medical leave insurance benefits to care for a family member who is a covered service member shall be sufficient if it includes: (i) the date on which the serious health condition commenced; (ii) the probable duration of the condition; (iii) the appropriate medical facts within the knowledge of the health care provider as required by the department; (iv) a statement that the covered individual is needed to care for the family member; (v) an

estimate of the amount of time that the covered individual is needed to care for the family member; and (vi) an attestation by the covered individual that the health condition is connected to the covered service member's military service as required by this chapter.

7. Any medical or health information required under this section shall be confidential and shall not be disclosed except with permission from the covered individual who provided it unless disclosure is otherwise required by law. Nothing in this section shall be construed to require a covered individual to provide as certification any information from a health care provider that would be in violation of § 32.1-127.1:03, § 1177 of the Social Security Act, 42 U.S.C. 1320d-6, or the regulations promulgated under § 264(c) of the Health Insurance Portability and Accountability Act of 1996, P.L. 104-191.

The Commission shall establish reasonable procedures and forms for filing claims for benefits under this chapter and shall specify what supporting documentation is necessary to support a claim for benefits, including any documentation required from a health care provider for proof of a serious health condition.

C. The Commission shall notify the employer within five business days of a claim being filed pursuant to this chapter.

D. The Commission shall use information sharing and integration technology to facilitate the disclosure of relevant information or records provided an individual consents to the disclosure.

E. Information contained in the files and records pertaining to an individual under this chapter are confidential and not open to public inspection, other than to public employees in the performance of their official duties. However, the individual or an authorized representative of an individual may review the records or receive specific information from the records upon the presentation of the individual's signed authorization.

F. The Commissioner shall adopt regulations as necessary to implement this chapter.

§ 60.2-815. Federal income tax.

If the Internal Revenue Service determines that family and medical leave insurance benefits under this chapter are subject to federal income tax, the Commission shall advise an individual filing a new claim for family and medical leave insurance benefits, at the time of filing such claim, that:

1. The Internal Revenue Service has determined that benefits are subject to federal income tax;

2. Requirements exist pertaining to estimated tax payments;

3. The individual may elect to have federal income tax deducted and withheld from the individual's payment of benefits in the amount specified in the federal Internal Revenue Code; and

4. The individual is permitted to change a previously elected withholding status.

§ 60.2-816. Family and Medical Leave Insurance Trust Fund; prohibition on appropriation; reimbursement.

A. There is hereby created in the state treasury a special nonreverting fund to be known as the Family and Medical Leave Insurance Trust Fund. The Fund shall be established on the books of the Comptroller. All payroll contributions remitted pursuant to this chapter, all funds appropriated for the purposes of the Fund and any gifts, donations, grants, bequests, and other shall be paid into the state treasury and credited to the Fund. Interest earned on moneys in the Fund shall remain in the Fund and be credited to it. Any moneys remaining in the Fund, including interest thereon, at the end of each fiscal year shall not revert to the general fund but shall remain in the Fund.

B. Moneys in the Fund shall be used solely for the payment of benefits under the family and medical leave insurance program established by the Commission pursuant to this chapter, the administration of such program, and any start-up costs associated with such program, including general fund reimbursement as provided in subsection D.

C. The General Assembly shall not appropriate or transfer any of the payroll contributions remitted to the Fund for any purpose other than purposes provided for in this section.

D. Any moneys appropriated and expended from the general fund for the purposes of establishing the paid family and medical leave insurance program shall be reimbursed from the Fund to the general fund by January 1, 2025.

E. Expenditures and disbursements from the Fund shall be made by the State Treasurer on warrants issued by the Comptroller upon written request signed by the Commissioner or his designee.

§ 60.2-817. Reports.

Beginning January 1, 2025, the Commission shall report to the General Assembly by April 1 of each year on projected and actual program participation by purpose listed in § 60.2-801, gender of beneficiary, race and ethnicity of beneficiary, age of beneficiary, amount of benefits paid to each beneficiary per week, premium rates, fund balances, outreach efforts, and, for leaves taken under subdivision 2 of § 60.2-801, family members for whom leave was taken to provide care.

§ 60.2-818. Public education.

The Commission shall conduct a public education campaign to inform workers and employers regarding the availability of family and medical leave insurance benefits. Such campaign shall include

multiple ways to communicate to employers and employees about the new benefit system and leave rights, contributions, timeline, and eligibility requirements. In conducting and planning such campaign, the Commission shall consult with the Paid Family and Medical Leave Advisory Board and work with other stakeholders, including chambers of commerce, trade associations, nonprofit organizations, and labor unions, to develop and implement a statewide communication strategy. The campaign shall also include targeted outreach and education for small business. Outreach information shall be available in English, Spanish, Korean, Tagalog, Vietnamese, Urdu, Arabic, and other languages spoken by more than five percent of the Commonwealth's population.

§ 60.2-819. Sharing technology.

The Commission is encouraged to use state data collection and technology to the extent possible and to integrate the provisions of this chapter with existing state policies.

§ 60.2-820. Paid Family and Medical Leave Advisory Board.

A. The Paid Family and Medical Leave Advisory Board (the Board) is established as an advisory board, within the meaning of § 2.2-2100, in the executive branch of state government. The purpose of the Board is to report to and advise the Commissioner on the implementation and administration of this chapter.

B. The Board shall have a total membership of 14 members that shall consist of two legislative members and 12 nonlegislative citizen members. Members shall be appointed as follows: one member of the Senate, to be appointed by the Senate Committee on Rules; one member of the House of Delegates, to be appointed by the Speaker of the House of Delegates; one nonlegislative citizen member to be appointed by the Senate Committee on Rules; one nonlegislative citizen member to be appointed by the Speaker of the House of Delegates; and 10 nonlegislative citizen members to be appointed by the Governor, one of whom shall be a representative of the Virginia Chamber of Commerce, one of whom shall be a representative of Main Street Alliance of Virginia, one of whom shall be a representative of the AFL-CIO, one of whom shall be a representative of Campaign for Family Friendly Economy, Virginia, one of whom shall be a representative of AARP, one of whom shall be a representative of Voices for Virginia's Children, one of whom shall be a representative of an organization that advocates on behalf of people with disabilities, one of whom shall be a representative of an organization that advocates for people with serious health conditions, one person with skill, knowledge, and experience in family and medical leave programs, and one of whom shall be an attorney advocating for the rights, benefits, and opportunities of employees.

Nonlegislative citizen members of the Board shall be citizens of the Commonwealth. Legislative members of the Board shall serve terms coincident with their terms of office.

C. Nonlegislative citizen members shall be appointed for a term of four years. Appointments to fill vacancies, other than by expiration of a term, shall be for the unexpired terms. Vacancies shall be filled in the same manner as the original appointments. No nonlegislative citizen member shall serve more than two consecutive four-year terms. The remainder of any term to which a member is appointed to fill a vacancy shall not constitute a term in determining the member's eligibility for reappointment.

D. The Board shall elect a chairman and vice-chairman from among its membership. A majority of the members shall constitute a quorum. The meetings of the Board shall be held at the call of the chairman, but no less than four times a year.

E. Legislative members of the Board shall receive such compensation as provided in § 30-19.12. Members of the Board shall not receive compensation but shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§ 2.2-2813 and 2.2-2825.

2. That the Virginia Employment Commission shall promulgate all rules and regulations necessary for implementation of the first enactment of this act by July 1, 2022.

3. That the Virginia Employment Commission shall procure an independent actuarial study to determine the full amount needed in the Family and Medical Leave Insurance Trust Fund (the Fund) established in § 60.2-816 of the Code of Virginia, as created by this act, to begin paying benefits by January 1, 2024, as provided in this act. Such study shall include a recommendation on the rate of payroll contributions under § 60.2-804 of the Code of Virginia, as created by this act, which shall be the lowest rate that will ensure the solvency of the Fund. The Commissioner of the Virginia Employment Commission shall take such recommendation into account when fixing the contribution rate pursuant to subsection B of § 60.2-804 of the Code of Virginia, as created by this act.

Appendix B: Comparative State Programs

Table B.1: State Program Design Matrix (Part 1)

Feature	California	Colorado	Connecticut	District of Columbia	Massachusetts
Funding					
Financing mechanism	Public social insurance with regulated private options	Public social insurance with regulated private options	Public social insurance program with regulated private options	Public social insurance	Public social insurance program, with regulated private options
Payroll tax contribution split	100 percent from employee	Employers can withhold up to 50 percent of the premium from employee wages, then cover the remaining cost. Employers with fewer than 10 employees are not required to pay the employer portion.	100 percent employee funded	Employers cover the full premium.	For medical leave, employers may withhold up to 40 percent of the premium from employee wages, then must cover the remaining portion of the premium. Employers with fewer than 25 employees are not required to pay the employer portion. Workers cover the full cost of family leave.
Taxable wages and salaries ceiling	Maximum contribution set at $128,298	Maximum contribution set at Social Security contribution base	Social security contribution base	No maximum taxable income specified	Maximum contribution set to the Social Security contribution base
Payroll tax rate	1.2 percent of wages	0.9 percent of wages initially. Adjusted annually, not to exceed 1.2 percent	Payroll tax not to exceed 0.5 percent, currently at 0.5 percent	0.62 percent of covered employee wages	Initially, 0.75 percent of wages. For each following year, the premium rate is adjusted based on the fund's expenditures.
Eligibility Requirements					
Employment requirements	Workers must have earned at least $300 during the base period. The base period is the first 4 of the 5 most recently completed quarters or may include earlier quarters if the worker was unemployed during part of the base period. This can combine income from more than one employer.	Workers must have earned at least $2,500 during the base period. The base period is the first 4 of the last 5 completed quarters or the 4 most recently completed quarters. This can combine income from more than one employer.	Must have earned at least $2,325 from one or more employers during the highest-earning quarter of the base period and have been employed by an employer in the previous 12 weeks. The base period is the first 4 of the 5 most recently completed quarters.	Employee must spend more than 50 percent of work time in D.C. for a covered employer or be based in D.C. and regularly spend a substantial amount of work time for the covered employer in D.C. and not more than 50 percent of work time for that covered employer in another jurisdiction; and must have been a covered employee for some or all of the 52 calendar weeks preceding the covered event.	Must meet the financial eligibility requirements of the state unemployment insurance law (currently, one must have earned at least $5,400 in the last four completed calendar quarters and at least 26 times the weekly unemployment benefit amount that person would be eligible to collect).

Feature	California	Colorado	Connecticut	District of Columbia	Massachusetts
Qualifying family members/definition of family	(1) Child, (2) parent, (3) grandparent, (4) grandchild, (5) sibling, (6)spouse, (7) registered domestic partner, (8) parent of a worker's spouse or registered domestic partner.	(1) Child, (2) parent, (3) parent of a spouse or domestic partner, (4) spouse, (5) domestic partner, (6) grandparent, (7) grandparent of a spouse or domestic partner, (8) grandchild, (9) grandchild of a spouse or domestic partner, (10) sibling, (11) sibling of a spouse or domestic partner, or as shown by the worker, any other individual with whom the worker has a significant personal bond that is or is like a family relationship, regardless of biological or legal relationship.	(1) Child, (2) parent, (3) parent-in-law, (4) spouse, (5) grandparent, (6) grandchild, (7) sibling, (8) individual related by blood or affinity whose close association the employee shows to be the equivalent of those family relationships.	(1) Child, (2) parent, (3) parent-in- law, (4) spouse, (5) grandparent, (6) sibling, (7) registered domestic partner.	A family member includes a worker's spouse, domestic partner, child, parent, parent of a spouse or domestic partner, grandchild, grandparent, or sibling. The law's definition of domestic partner does not require registration.
Qualifying events	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own disability (must be unable to perform regular or customary work), includes pregnancy 4. Qualifying exigency arising out of spouse, domestic partner, child or parent being on active duty (or having been notified of an impending call or order to active duty).	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own serious health condition 4. Qualifying exigency arising out of family member being on active duty (or having been notified of an impending call or order to active duty) 5. Engaging in certain activities related to individual or family member being victim of domestic violence, stalking, sexual assault or abuse.	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own serious health condition 4. Serving as organ or bone marrow donor 5. Qualifying exigency arising out of spouse, child or parent being on active duty (or having been notified of an impending call or order to active duty).	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own serious health condition.	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own serious health condition 4. Qualifying exigency arising out of family member being on active duty (or having been notified of an impending call or order to active duty) 5. Care for family member who is a covered servicemember.
Opt-in for self employed	Yes	Yes	Yes	Yes	Yes
Industry/firm exemptions	Employees covered by the state unemployment insurance law, except for most public employees, are covered. Many public employers can opt in to coverage, but may need to do so through a negotiated agreement with an authorized bargaining unit. Domestic workers are covered subject to a low minimum payment requirement.	Almost all employees are covered. Public sector workers are automatically covered. However, local government employers may decline coverage. Local government employees whose employers declined coverage can opt in to wage replacement benefits. Domestic workers are covered as well.	All private sector employers are covered. State or local collective bargaining units can opt in.	Private sector employers covered by the D.C. Unemployment Compensation Act are covered. Public sector workers are not automatically covered. Employees of the D.C. city government and the federal government, or of any employer the District is not authorized to tax under federal law or treaty, are not covered. Domestic workers are covered subject to a low minimum payment requirement.	Employees covered by the state unemployment insurance law, except for some public employees, are covered. State employees are automatically covered. Local government employees are not automatically covered. Public sector employers not covered by the law can opt in to coverage. Domestic workers are covered. Certain self-employed individuals may be covered automatically.
Allowance of competitive plans	Yes. Employers can apply for approval of a voluntary plan, which must provide benefits greater than those available through the state.	Yes. Employers can apply for approval of a private plan, which must provide benefits at least equivalent to those available through the state.	Yes. By default, workers are covered by the state fund. Employers can apply for approval of a private plan, which must provide benefits at least equivalent to those available through the state.	No.	Yes. Employers can apply for approval of a private plan, which must provide benefits at least equivalent to those available through the state.

Feature	California	Colorado	Connecticut	District of Columbia	Massachusetts
Advanced Notice Requirements	Not specified	30 days, or as soon as is feasible given unforeseen circumstances.	NA	At least 10 days in advance.	At least 30 days in advance.
Benefits					
Replacement rate and structure	For workers whose quarterly earnings are at least $929 but less than 1/3 of the state average quarterly wage, the weekly benefit will be 70 percent of the worker's weekly wage. For workers whose quarterly earnings are at least 1/3 of the state average quarterly wage, the weekly benefit rate will be 23.3 percent of the state average weekly wage OR 60 percent of the worker's weekly wage, whichever is greater.	Bracketed. 90 percent of a worker's average weekly wage up to an amount equal to 50 percent of the state average weekly wage, and 50 percent of a worker's average weekly wage above an amount equal to 50 percent of the state average weekly wage	For income less than or equal to the state minimum wage multiplied by 40, the weekly benefit rate is 95 percent of the worker's average weekly wage (AWW) rate. For income more than the state minimum wage multiplied by 40, the weekly benefit rate is 95 percent of the state minimum wage multiplied by 40 plus 60 percent of the amount by which the worker's AWW exceeds the state minimum wage multiplied by 40.	90 percent of a worker's average weekly wage up to an amount equal to 40 times 150 percent of the D.C. minimum wage and 50 percent of a worker's average weekly wage above an amount equal to 40 times 150 percent of the D.C. minimum wage. Workers with less than a year of total covered employment will receive a smaller benefit, pro-rated based on the numbers of weeks the worker has worked in covered employment.	80 percent of a worker's average weekly wage up to an amount equal to 50 percent of the state average weekly wage and 50 percent of a worker's average weekly wage above an amount equal to 50 percent of the state average weekly wage.
Maximum leave	8 weeks for family leave, 52 weeks for own disability.	Up to 12 weeks in an application year. Workers with certain pregnancy- and childbirth-related health needs may receive up to an additional 4 weeks of benefits, which can be combined with other uses up to a total of 16 weeks in a 12-month period.	12 weeks (14 if employee experiences incapacitating serious health condition that occurs during pregnancy); if two spouses work for same employer, can only take 12 weeks combined.	Own health: Up to 2 weeks in a 52-week period. Caring for a seriously ill relative: Up to 6 weeks in a 52-week period. Bonding with a new child: Up to 8 weeks in a 52-week period. Total: Up to 8 weeks in a 52-week period.	Own health: Up to 20 weeks in any benefit year.Family leave: Up to 12 weeks in any benefit year. Total: Up to 26 weeks in any benefit year. Military caregivers can receive up to 26 weeks of family leave in any benefit year.
Minimum leave	No minimum length of leave time specified	One hour.	Not specified	One day.	No minimum specified
Taxation of benefits	Yes, federal.	NA	Yes.	Yes, federal and District.	No consensus at this time.
Minimum and maximum benefit	Maximum set at about 100 percent of the statewide average weekly wage (Current: $1,357/week) (ABB combined PFML chart). Minimum: Workers with quarterly earnings less than $929 will receive a weekly benefit of $50.	Maximum set to $1,100 per week initially, adjusted annually after the first year to 90 percent of the statewide average weekly wage.	Maximum of 60 times the state minimum wage. When benefits begin in 2022, the maximum weekly benefit will be $780.	Maximum of $1,000 per week, adjusted annually based on inflation.	Maximum benefit of $850 per week initially, adjusted annually after the first year to 64 percent of the statewide average weekly wage.
Leave stacking	Not specified	Yes, 16 weeks.	Not specified	Yes, until 8 weeks total.	Yes, until 26 weeks total.
Interaction of employer benefits	Permits employer supplemented wages. Employers may require that employees utilize up to 2 weeks of earned but unused vacation leave prior to receipt of benefits.	Must be used before paid sick leave/annual leave.	Employer may require or allow an employee to use their PTO concurrently with PFML.	Employer-determined.	Employer determined.
Benefit waiting period	Own health: 7 day unpaid. Family leave: No.	No.	No.	Yes—there is a 1-week unpaid waiting period. Only one waiting period per year regardless of the number of qualifying events for which a worker takes leave.	Yes—there is a 7-day unpaid waiting period. Waiting period is not required for family leave taken immediately after a period of medical leave for pregnancy or childbirth recovery.

Feature	California	Colorado	Connecticut	District of Columbia	Massachusetts
Employment guarantee	Leave for family care and own disability is protected, but not more than FMLA and CFRA. Leave for parental leave is protected for individuals at employers with 20 or more employees Leave for pregnancy disability is protected for individuals at employers with five or more employees.	Yes, if they have been employed by their employer for at least 180 days before taking leave.	Yes, if employee has been employed for at least three months immediately preceding request for leave, except for leaves taken for safe time. Safe time may be protected under state's family violence leave law.	Not more than FMLA and D.C. FMLA (D.C. FMLA covers individuals at employers with 20 or more employees).	Yes.
Administration/Other					
Public or private program administration	NA	NA	Public Administration by the Paid Family and Medical Leave Insurance Authority under the Connecticut Department of Administrative Services.	NA	Public administration by a department of of family and medical leave within the executive office of labor and workforce development.

Source: A Better Balance (2021); California Employment Development Department (2021); Connecticut Paid Leave Authority (2021); District of Columbia Department of Employment Services(2021); Lincoln Financial Group (2021); National Partnership for Women and Families (2021); Representative Williamson et al. (2019); Washington Employment Security Department (2021).

Table B.2: State Program Design Matrix (Part 2)

Feature	New Jersey	New York	Oregon	Rhode Island	Washington
Funding					
Financing mechanism	Public social insurance program with regulated private options	Public social insurance program	Public social insurance program with regulated private options	Public social insurance program	Public social insurance program with regulated private options
Payroll tax contribution split	Workers and employers share the cost of TDI. Workers cover the full cost of FLI.	Workers and employers share the cost of TDI.Workers cover the full cost of PFL. A self-employed individual who elects coverage is required to pay the full cost of TDI and PFL premiums. An employer not covered by the law who elects coverage is required to pay the portion of the premium not covered by wages withheld from workers.	60 percent employee, 40 percent employer. Employers with fewer than 25 employees are not required to pay their share. If they do pay, the are eligible for state assistance.	Workers cover the full cost of both TDI and TCI	Workers and employers share the cost of medical leave. Up to 45 percent from employees, with employers covering what remains. Employers with fewer than 50 employees are not required to cover the employer's share. Workers cover the full cost of family leave.
Taxable wages and salaries ceiling	TDI: The percentage contribution for employees does not apply to a worker's wages above $138,200/year; the percentage contribution for employers does not apply to a worker's wages above $36,200/year. FLI: Taxable wage ceiling of $138,200/year.	Deduction/taxable wage ceiling at wages above an average of $1,450.17/ week.	Max taxable wages set at $132,900/year.	Taxable wage ceiling at $74,000/year.	Taxable wage ceiling: wages above the Social Security contribution base.
Payroll tax rate	TDI: Workers contribute 0.47 percent of their wages. Employers contribute a percentage of workers' wages ranging from 0.10 percent to 0.75 percent FLI: 0.28 percent of wages.	TDI: Employers can withhold 0.5 percent of workers' wages to pay for coverage, up to $0.60/week; employers cover the remaining cost. PFL: Payroll deduction, currently set at 0.511 percent of wages.	Payroll tax not to exceed 1 percent (contributions to begin in 2022).	Flat payroll tax of 1.3 percent of wages.	Premium for medical leave: 0.27 percent of wages. Premium for family leave: 0.13 percent of wages.
Eligibility Requirements					

Feature	New Jersey	New York	Oregon	Rhode Island	Washington
Employment requirements	Workers must have either earned at least 20 times the minimum wage (currently, $220) in at least 20 weeks or earned at least 1,000 times the minimum wage (currently, $11,000) during the base year. The base year is the first 4 of the 5 most recently completed quarters or the 4 most recent completed quarters or the 3 most recent completed quarters and the portion of the current quarter that has already occurred. This can combine income from more than one employer.	Own health: Workers generally must have been employed for at least 4 consecutive weeks by a single employer (or 25 days of employment for part-time employees); previously qualified workers qualify immediately upon the start of employment with a new covered employer. Paid family leave: Workers generally must have been employed by their current employer for at least 26 consecutive weeks; those who work less than 20 hours per week must have worked at least 175 days for their current employer.	Workers must have earned at least $1,000 during the base year and paid into the Paid Family and Medical Leave Insurance Fund. The base year is the first 4 of the last 5 completed quarters or the 4 most recently completed quarters. This can combine income from more than one employer.	Employee must have been paid wages in state and paid into the TDI/TCI fund and must have been paid at least $12,600 in the base period Alternately, workers must have earned wages in 1 quarter of the base period of at least 200 times the minimum wage (currently, $2,300), must have earned income across the base period of at least 1.5 times the worker's highest earning quarter, and must have earned at least 400 times the minimum wage (currently, $4,600) over the entire base period. The base period is the first 4 of the 5 most recently completed quarters or the 4 most recent completed quarters. This can combine income from more than one employer.	Workers must have worked at least 820 hours in the qualifying period. The qualifying period means the first 4 of the 5 most recently completed quarters or the 4 most recent completed quarters. This can combine hours worked at more than one employer.
Qualifying family members/definition of family	A family member includes a worker's child, parent, parent-in-law, sibling, grandparent, grandchild, spouse, registered domestic partner, civil union partner, any other person related to the worker by blood, and any other person that the worker shows to have a close association with the worker which is the equivalent of a family relationship.	(1) Child, (2) parent, (3) parent-in-law, (4) spouse, (5) grandchild, (6) grandparent, (7) domestic partner.	(1) Child, (2) parent or parent of a spouse or domestic partner, (3) spouse, (4) domestic partner, (5) grandparent or grandparent's spouse or domestic partner, (6) grandchild or grandchild's spouse or domestic partner, (7) sibling or sibling's spouse or domestic partner, (8) individual related by blood or affinity whose close association with the employee is the equivalent of a family relationship.	(1) Child, (2) parent, (3) parent-in-law or parent of the worker's registered domestic partner, (4) grandparent, (5) spouse, (6) registered domestic partner.	(1) Child, (2) child's spouse or domestic partner, (3) grandchild, (4) grandparent, (5) parent, (6) parent-in-law or parent of the worker's registered domestic partner, (7) sibling, (8) spouse, (9) registered domestic partner, (10) any individual who regularly resides in a worker's home where there is an expectation that the worker care for the individual; or any individual where the relationship creates the expectation that the worker care for the individual and that individual depends on the worker for care.
Qualifying events	1. Care for new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own disability (must be continuously and totally unable to perform customary work), includes pregnancy 4. Engaging in certain activities related to individual or family member being victim of domestic or sexual violence.	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Qualifying exigency arising out of spouse, domestic partner, child or parent being on active duty (or having been notified of an impending call or order to active duty) 4. Care for own disability (must be unable to perform work).	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own serious health condition 4. Certain purposes arising out of employee or employee's minor child/dependent experiencing domestic violence, harassment, sexual assault or stalking.	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own disability (must be unable to perform regular or customary work; partially unemployed workers may be able to claim benefits).	1. Bonding with new child (birth, adoption, foster) 2. Care for family member with serious health condition 3. Care for own serious health condition 4. Qualifying exigency arising out of family member being on active duty (or having been notified of an impending call or order to active duty).
Opt-in for self employed	No. Mandatory enrollment.	Yes	Yes	No	Yes

Feature	New Jersey	New York	Oregon	Rhode Island	Washington
Industry/firm exemptions	Employees covered by the state unemployment insurance law are covered, with some exceptions for public sector employees. Public sector employees are not automatically covered for Own Health, with a few exceptions. Public employers can opt in to coverage. Public sector employees are automatically covered for paid family leave. Domestic workers are covered, subject to a low minimum payment requirement.	Most private sector employees are covered. Public employers can opt in to coverage and unions covering public sector workers can opt in to paid family leave through the collective bargaining process. Full-time domestic workers (those who work at least 40 hours per week for a single employer) are covered.	All employers are covered.	Employees covered by the state unemployment insurance law, except for public employees, are covered. Public employers can opt in to coverage, as can some unions covering public sector workers through the collective bargaining process. Domestic workers are covered subject to a low minimum payment requirement.	All employees are covered.
Allowance of Competitive Plans	Yes. Employers can apply for approval of a private plan, which must provide benefits at least equivalent to those available through the state.	Yes. Employers can provide coverage by purchasing insurance (either from the state fund or a private insurer) or by becoming an approved self-insurer.	Yes. By default, workers are covered by the state fund. Employers can apply for approval of an equivalent plan, which must provide benefits at least equivalent to those available through the state.	No.	Yes. Employers can apply for approval of a voluntary plan, which must provide benefits at least equivalent to those available through the state.
Advanced Notice Requirements	If you claim family leave benefits to care for a family member with a serious health condition, you must give your employer reasonable advance notice unless you need to take leave time unexpectedly, or the time of the leave changes for reasons you could not foresee. If you claim family leave benefits intermittently, you must give your employer 15 days' notice. If you claim benefits to bond with a newborn or newly adopted child, you must give your employer 30 days' notice before the leave starts.	At least 30 days in advance, if foreseeable	NA	Yes, the law requires an employee to provide the employer with 30-days notice, in writing, unless "unforeseeable circumstances" prevail.	Yes, requires employees to provide at least 30 days notice as circumstances allow.
Benefits					
Replacement rate and structure	Flat rate, 85 percent of a worker's average weekly wage.	Own health (TDI): 50 percent of a worker's average weekly wage Family leave: 67 percent of a worker's average weekly wage.	100 percent of a worker's average weekly wage up to an amount equal to 65 percent of the state average weekly wage and 50 percent of a worker's average weekly wage above an amount equal to 65 percent of the state average weekly wage.	About 60 percent of a worker's average weekly wage (formally, 4.62 percent of a worker's wages in the highest earning quarter of the base year). Workers may also be entitled to a dependency allowance for minor children or adult children who are incapacitated due to physical or mental illness.	Progressive: 90 percent of a worker's average weekly wage up to an amount equal to 50 percent of the state average weekly wage and 50 percent of a worker's average weekly wage above an amount equal to 50 percent of the state average weekly wage.

Feature	New Jersey	New York	Oregon	Rhode Island	Washington
Maximum leave	Own health (TDI): Up to 26 weeks for any period of disability.Family leave: Up to 12 weeks in a 12-month period. New Jersey does not specify a cumulative limit.	Own health (TDI): Up to 26 weeks for any period of disability or in any 52-week period. Family leave: Up to 12 weeks in a 52-week period. Total: Up to 26 weeks in a 52-week period.	12 weeks (14 if employee experiences limitations related to pregnancy, childbirth or a related medical condition, including but not limited to lactation).	Own health (TDI): Up to 30 weeks in a 52-week period. Family leave (TCI): Up to 4 weeks in a 52-week period. Total: Up to 30 weeks in a 52-week period.	Own health: Up to 12 weeks in a 52-week period. Family leave: Up to 12 weeks in a 52-week period. Total: Up to 16 weeks in a 52-week period. Workers with certain pregnancy-related health needs may receive up to an additional 2 weeks of benefits, which can be combined with other uses up to a total of 18 weeks in a 52-week period.
Minimum leave	No minimum specified	1 day	1 work day	1 week for TDI	8 consecutive hours.
Taxation of benefits	Yes, federal.	Yes.	Not specified at this time	Yes, federal and state	Not specified at this time
Minimum and maximum benefit	Maximum benefit of 70 percent of the statewide average weekly wage Current: $903/week.	Maximum benefits:Own health (TDI): $170/week Family leave: 67 percent of the statewide average weekly wage Current: $971.61/week. Minimum benefit: $20	The maximum weekly benefit is 120 percent of the statewide AWW, and the minimum weekly benefit is 5 percent of the statewide AWW.	Maximum benefits: 85 percent of the statewide average weekly wage Current: $978/week. Minimum benefit: $107/week.	Maximum benefits: 90 percent of the statewide average weekly wage Current: $1,206/week.
Leave stacking (maximum usage of both family and medical leave in one year)	Not specified	Yes, up to 26 weeks total.	Not specified	Yes, up to 30 weeks total.	Yes, up to 16 weeks total.
Interaction of employer benefits	Employers may require employees to use accrued paid time off before claiming TDI benefits.	Employer may require PFML to run concurrently with FMLA. Short-term disability cannot be taken at the same time. Cannot claim PFML at the same time as Workers' Comp. Employer decides how to handle other maternity or paternity leave policies they may have. Sick and vacation time interaction is up to the employer.	PFML runs concurrently with FMLA leave.	Employee can be paid salary, sick, and/or vacation pay while in receipt of TDI. The employer can count weeks of TDI/TCI concurrently with FMLA.	PFML does not need to be counted concurrently with FMLA leave.
Benefit waiting period	No.	TDI: 7-day unpaid waiting period. PFL: No.	No.	No.	Bonding leave: No. All other leaves: Yes, 7-day unpaid waiting period.
Employment guarantee	Not more than FMLA and NJ FLA. NJ FLA applies to employers with 30 or more employees.	TDI: No more than under FMLA or NY PFMLA. PFL: Yes.	Yes, if they have been employed by their employer for at least 90 days before taking leave.	TDI: No more than under FMLA or RI PFMLA. TCI: Yes.	Not more than FMLA or WA FMLA. Leave for pregnancy disability is protected for 6 weeks for individuals at employers with 8 or more employees.
Administration/Other					
Public or private program administration	Public administration by Division of Temporary Disability and Family Leave Insurance under Department of Labor and Workforce Development	NA	NA	NA	NA

Source: A Better Balance (2021); California Employment Development Department (2021); Connecticut Paid Leave Authority (2021); District of Columbia Department of Employment Services(2021); Lincoln Financial Group (2021); National Partnership for Women and Families (2021); Representative Williamson et al. (2019); Washington Employment Security Department (2021).

Appendix C: Milliman Actuarial Analysis

MILLIMAN REPORT

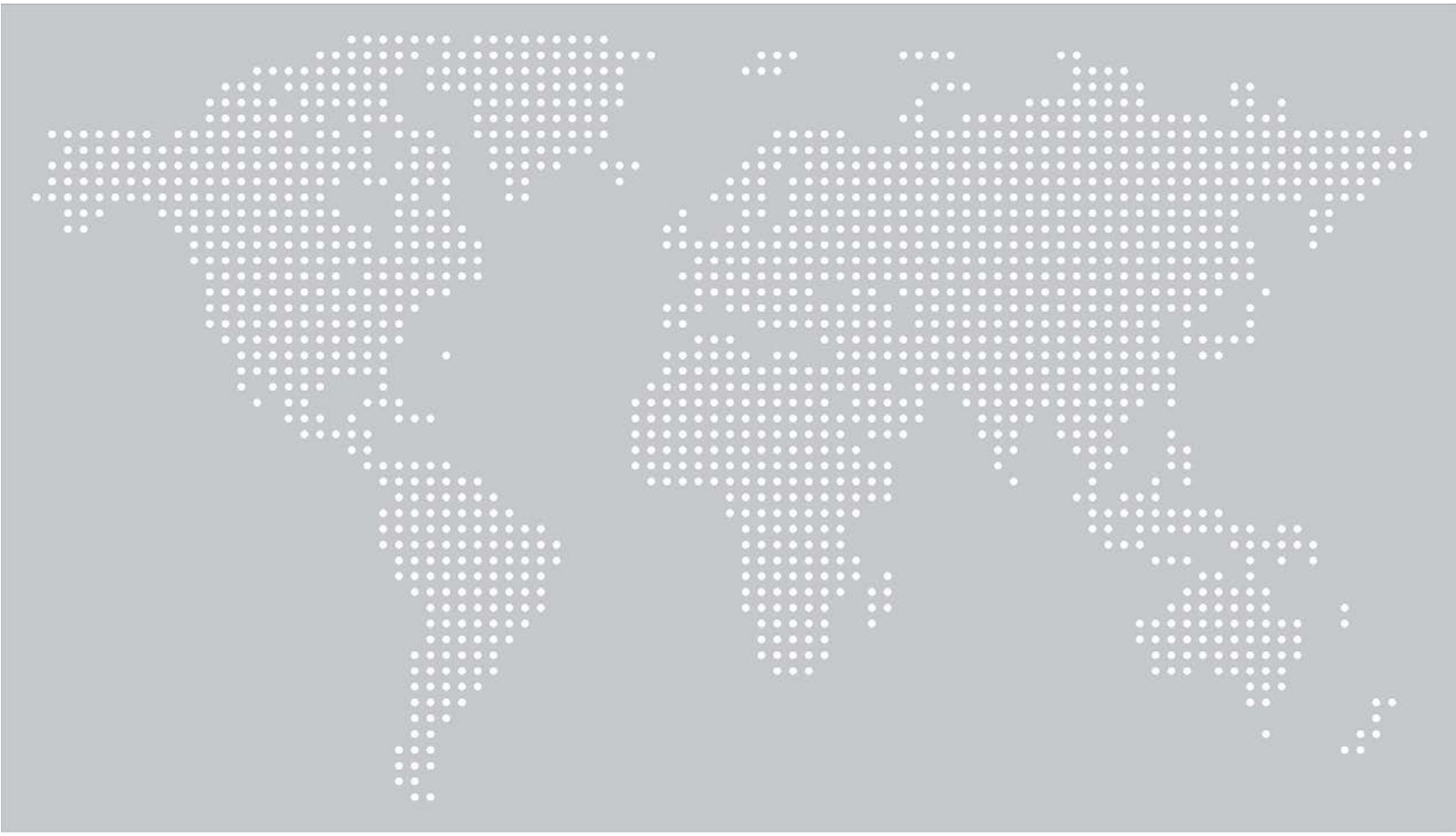
Virginia Paid Family and Medical Leave Program

Actuarial Study

Commissioned by The Rector and Visitors of the University of Virginia

October 2021

Paul Correia FSA, MAAA



Milliman


Milliman

Table of Contents

Introduction

Milliman, Inc. ("Milliman") was retained by The Rector and Visitors of the University of Virginia (UVA) to perform an actuarial analysis focusing on paid family and medical leave (PFML) benefits in the state of Virginia. This analysis included researching PFML experience in states that have mandated benefits, developing actuarial assumptions, building a model for projecting future cash flows, and estimating the contributions required to meet short-term and long-term solvency objectives in Virginia.

We have analyzed three different PFML scenarios that reflect different program design features. The first scenario (Baseline) adheres to the original legislation. The second scenario (Option 1) features more generous benefits and different eligibility requirements than the Baseline scenario. The third scenario (Option 2) includes less generous benefits and different eligibility requirements than the Baseline scenario. For each of these scenarios, contributions from employers and employees are assumed to begin on January 1, 2023, and PFML benefits are assumed to be effective on January 1, 2024. Appendix C contains a summary of the program options.

The results of our analysis are provided in the following sections of this report:

- **Study Objectives** – List of primary objectives for the actuarial study;
- **PFML Projections** – Projection of PFML experience from 2022 through 2033 for each of the program design scenarios;
- **Results** – Summary of the key results from our analysis;
- **Appendix A: Data, Assumptions, and Methods** – Documentation of the data, assumptions, and methods used in our analysis;
- **Appendix B: Overview of Mandated PFML Programs in Other States** – Information on PFML programs in other states;
- **Appendix C**: **Virginia PFML Program Options** – Summary of benefits and eligibility requirements for the three program options; and
- **Appendix D: Reliance Items** – List of primary sources of data.

Data Reliance

In conducting our analysis, Milliman relied upon information provided by UVA and public information available through online queries, the principal items of which are listed in Appendix D of this report. Milliman did not audit or independently verify any of the information furnished, except that we did review the data for reasonableness and consistency. To the extent that any of the data or other information supplied to us was incorrect or inaccurate, the results of our analysis could be materially affected.

Distribution

Milliman's work is prepared solely for the use and benefit of UVA in accordance with its statutory and regulatory requirements. Milliman recognizes that this report may be public records subject to disclosure to third parties. Milliman does not intend to benefit and assumes no duty or liability to any third party recipients of the report. To the extent that this report is not subject to disclosure under applicable public records laws, UVA shall not disclose Milliman's work to any third parties without Milliman's prior written consent.

Variability of Results

The projections contained herein are estimates based on carefully constructed assumptions and methodologies that have been described in this report. Actual experience, however, will differ from those assumptions. As such, actual results will vary from the estimates provided and the cost of benefits provided under the proposed PFML program may be either higher or lower than the amounts illustrated in this report. In preparing this information, we have utilized actuarial models as defined by Actuarial Standards of Practice. The intended purpose of these models is to project future claim costs for paid family and medical leave benefits.

Qualifications

I, Paul L. Correia, am a consulting actuary for Milliman, Inc. I am a member of the American Academy of Actuaries and meet its qualification standards for rendering this opinion.

Study Objectives

The primary objectives of the Virginia PFML study are listed below. These objectives were specified by UVA and apply to all three program design scenarios:

1. Estimate revenue needed to fund benefit payments, direct and indirect costs of the operation and administration, and maintain a fund balance not less than 140% of the previous fiscal year expenditure for: (a) one year, (b) two to five years, and (c) six to ten years.

2. Estimate and project the payroll contribution rate necessary for program operation (i.e., claim payments, administration, and fund balance). Describe the variables and trends and how they affect payroll rate calculations.

3. Project the annual revenue for the Fund for the next ten (10) fiscal years beginning with January 1, 2023.

4. Project annual expenditures of the Fund for the next ten (10) fiscal years beginning January 1, 2024.

5. Project the total number of open claims for the Fund, by each fiscal year, for the next ten (10) fiscal years, beginning with January 1, 2024.

6. Provide information on Paid Family Leave and Paid Medical Leave programs in other states, including definition of qualifying events, periods of leave, and other pertinent policy design features that influence utilization rates (distinguishing between claims submitted, claims approved, and actual benefits utilized) by workers of each type of leave in each state for existing paid family and medical leave programs for the last ten years or for each year the programs have been in place (if fewer than ten years).

7. Provide projections for Fund reserves and evaluate the adequacy of such reserves, by each fiscal year, for the next ten fiscal years, beginning with January 1, 2024. In addition, provide recommendations on optimal long-term reserve and solvency ratios, accounting for variations in economic trends.

PFML Projections

This section contains a projection of PFML experience for each of the program options. The following items are included in the projections:

- **Eligible Employees** – Projection of eligible employees from 2024 through 2033 based on program eligibility requirements and Virginia employment data from 2018, adjusted for expected job growth between 2018 and 2024. The projection of eligible employees excludes federal workers and assumes 3.3% total job growth between 2018 and 2024[1]. We did not assume any aging of the population over the projection period.

- **Taxable Wages** – Projection of taxable wages from 2023 through 2033 based on program eligibility requirements including a limit on taxable wages consistent with the benefit base limit established for Social Security contributions. The projection of taxable wages was developed from Virginia employment data from 2018 and assumes 17.6% growth in wages between 2018 and 2023.

- **Claims** – Projection of the number of claims approved for benefits between 2024 and 2033, for paid family leave, paid medical leave, and in total. The projection assumes that claim incidence rates will increase gradually during the first four years as the program phases in, a dynamic seen in other states that have mandated PFML benefits. Also, the number of claims in 2024 assumes certain conditions that occurred before the January 1, 2024 effective date will be eligible for benefits, such as childbearing.

- **Benefit Payments ($ millions)** – Projection of benefit payments between 2024 and 2033 for paid family leave, paid medical leave, and in total. The benefit payments in 2024 assume certain conditions that occurred before the January 1, 2024 effective date will be eligible for benefits.

- **Expenses ($ millions)** – Projection of start-up and ongoing administrative expenses from 2022 through 2033 for paid family leave, paid medical leave, and in total. The start-up expenses in 2022 and 2023 are consistent with the estimated expenses in the Paid Family and Medical Leave Study report from the Offices of the Secretary of Commerce and Trade and the Chief Workforce Development Advisor. The ongoing administrative expenses in 2024 and beyond represent 10.0% of total paid family leave costs and 12.5% of total paid medical leave costs in every year.

- **Total Expenditure ($ millions)** – Projection of total costs from 2022 through 2033 for paid family leave, paid medical leave, and in total. The projection of total expenditure represents the sum of benefit payments and administrative expenses in every year.

- **Contribution Rate** – Illustrative contribution rates that satisfy the funding requirements established in the study objectives—i.e., covering benefits and expenses and maintaining a fund balance not less than 140% of the previous year expenditure. Separate contribution rates are shown for employers and employees, although these rates are the same because employers and employees are assumed to share the costs equally[2].

[1] Additional detail of the assumptions is provided in Appendix A.

[2] Option 2 includes a small business exemption in which employers with fewer than 50 employees would be exempt from contributing, with subsidies from employees and larger sized employers.

- **Contributions** (**$ millions**) – Projection of contributions based on the illustrative contribution rates and the assumed taxable wages from 2023 through 2033, for employers, employees, and in total. The contributions begin on January 1, 2023, one year before the effective date of benefits. The employer contributions in Option 2 assume a small business exception where employers with fewer than 50 employees are not required to make contributions towards program funding.

- **Fund Balance ($ millions**) – Projection of fund balances from 2023 through 2033 equal to the contributions in a given year, minus total expenditure in that year, plus the assumed investment income on fund balances in that year. The projection of investment income is based on an assumption that funds will earn income from short-term investments made through the Virginia Treasury Local Government Investment Pool.

- **Target Fund Balance ($ millions**) – Projection of the target fund balance equal to 140% of the previous year expenditure.

- **Difference ($ millions**) – Projection of the difference between the fund balances and target fund balances between 2023 and 2033. This difference represents the surplus above the target fund balance.

Program: Baseline

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Eligible Employees			3,385,900	3,408,924	3,424,605	3,442,755	3,453,428	3,461,371	3,471,409	3,479,740	3,489,831	3,503,093
Taxable Wages ($ millions)		$198,587	$206,936	$215,164	$223,009	$230,635	$238,332	$246,433	$254,682	$263,339	$272,534	$282,050
Claims												
Family			75,567	58,098	60,700	62,853	63,047	63,192	63,376	63,528	63,712	63,954
Medical			236,489	243,904	254,827	263,863	264,681	265,290	266,059	266,698	267,471	268,487
Total			***312,056***	***302,002***	***315,527***	***326,716***	***327,728***	***328,482***	***329,435***	***330,225***	***331,183***	***332,442***
Benefit Payments ($ millions)												
Family			$333.8	$265.6	$287.2	$306.6	$317.1	$327.7	$338.8	$350.2	$362.1	$374.7
Medical			$1,173.5	$1,252.7	$1,354.6	$1,446.1	$1,495.5	$1,545.4	$1,598.0	$1,651.4	$1,707.6	$1,767.2
Total			***$1,507.3***	***$1,518.3***	***$1,641.8***	***$1,752.7***	***$1,812.6***	***$1,873.1***	***$1,936.8***	***$2,001.6***	***$2,069.7***	***$2,141.9***
Expenses ($ millions)												
Family			$37.1	$29.5	$31.9	$34.1	$35.2	$36.4	$37.6	$38.9	$40.2	$41.6
Medical			$167.6	$179.0	$193.5	$206.6	$213.6	$220.8	$228.3	$235.9	$243.9	$252.5
Total	**$35.3**	**$20.3**	**$204.7**	**$208.5**	**$225.4**	**$240.7**	**$248.9**	**$257.2**	**$265.9**	**$274.8**	**$284.2**	**$294.1**
Total Expenditure ($ millions)												
Family			$370.9	$295.1	$319.1	$340.7	$352.3	$364.1	$376.5	$389.1	$402.3	$416.4
Medical			$1,341.1	$1,431.6	$1,548.1	$1,652.6	$1,709.2	$1,766.2	$1,826.2	$1,887.4	$1,951.5	$2,019.7
Total	**$35.3**	**$20.3**	**$1,712.0**	**$1,726.7**	**$1,867.2**	**$1,993.3**	**$2,061.5**	**$2,130.3**	**$2,202.7**	**$2,276.5**	**$2,353.8**	**$2,436.0**
Contribution Rate												
Employer		0.475%	0.475%	0.475%	0.445%	0.445%	0.445%	0.440%	0.440%	0.440%	0.440%	0.440%
Employee		0.475%	0.475%	0.475%	0.445%	0.445%	0.445%	0.440%	0.440%	0.440%	0.440%	0.440%
Total		**0.950%**	**0.950%**	**0.950%**	**0.890%**	**0.890%**	**0.890%**	**0.880%**	**0.880%**	**0.880%**	**0.880%**	**0.880%**
Contributions ($ millions)												
Employer		$943.3	$982.9	$1,022.0	$992.4	$1,026.3	$1,060.6	$1,084.3	$1,120.6	$1,158.7	$1,199.1	$1,241.0
Employee		$943.3	$982.9	$1,022.0	$992.4	$1,026.3	$1,060.6	$1,084.3	$1,120.6	$1,158.7	$1,199.1	$1,241.0
Total		***$1,886.6***	***$1,965.9***	***$2,044.1***	***$1,984.8***	***$2,052.7***	***$2,121.2***	***$2,168.6***	***$2,241.2***	***$2,317.4***	***$2,398.3***	***$2,482.0***
Investment Income ($ millions)		*$6.6*	*$18.0*	*$20.9*	*$52.8*	*$55.2*	*$57.5*	*$59.5*	*$61.5*	*$63.6*	*$65.8*	*$68.2*
Fund Balance		$1,831.0	$2,091.4	$2,426.7	$2,565.2	$2,677.4	$2,792.1	$2,888.0	$2,986.0	$3,088.4	$3,196.5	$3,308.4
Target Fund Balance ($ millions)		$49.4	$28.4	$2,396.8	$2,417.4	$2,614.1	$2,790.7	$2,886.1	$2,982.4	$3,083.8	$3,187.0	$3,295.4
Difference ($ millions)		*$1,781.6*	*$2,063.0*	*$29.9*	*$147.8*	*$63.3*	*$1.5*	*$1.9*	*$3.5*	*$4.6*	*$9.5*	*$13.0*

Program: Option 1

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Eligible Employees			3,578,498	3,602,832	3,619,405	3,638,588	3,649,867	3,658,262	3,668,871	3,677,676	3,688,341	3,702,357
Taxable Wages ($ millions)		$199,198	$207,572	$215,825	$223,695	$231,345	$239,065	$247,191	$255,465	$264,148	$273,372	$282,917
Claims												
Family			82,377	63,334	66,171	68,517	68,729	68,887	69,087	69,253	69,454	69,718
Medical			261,302	269,495	281,564	291,548	292,452	293,125	293,975	294,680	295,535	296,658
Total			***343,679***	***332,829***	***347,735***	***360,065***	***361,181***	***362,012***	***363,062***	***363,933***	***364,988***	***366,375***
Benefit Payments ($ millions)												
Family			$440.2	$350.3	$378.8	$404.4	$418.2	$432.2	$446.9	$461.8	$477.5	$494.2
Medical			$1,671.2	$1,783.9	$1,929.0	$2,059.4	$2,129.8	$2,200.8	$2,275.7	$2,351.8	$2,431.8	$2,516.7
Total			***$2,111.4***	***$2,134.2***	***$2,307.8***	***$2,463.7***	***$2,548.0***	***$2,633.0***	***$2,722.5***	***$2,813.7***	***$2,909.3***	***$3,010.9***
Expenses ($ millions)												
Family			$48.9	$38.9	$42.1	$44.9	$46.5	$48.0	$49.7	$51.3	$53.1	$54.9
Medical			$238.7	$254.8	$275.6	$294.2	$304.3	$314.4	$325.1	$336.0	$347.4	$359.5
Total	**$35.3**	**$20.3**	**$287.7**	**$293.8**	**$317.7**	**$339.1**	**$350.7**	**$362.4**	**$374.7**	**$387.3**	**$400.5**	**$414.4**
Total Expenditure ($ millions)												
Family			$489.1	$389.2	$420.9	$449.3	$464.7	$480.2	$496.5	$513.1	$530.6	$549.1
Medical			$1,909.9	$2,038.8	$2,204.6	$2,353.5	$2,434.0	$2,515.3	$2,600.7	$2,687.8	$2,779.2	$2,876.2
Total	**$35.3**	**$20.3**	**$2,399.1**	**$2,428.0**	**$2,625.5**	**$2,802.9**	**$2,898.7**	**$2,995.5**	**$3,097.3**	**$3,201.0**	**$3,309.8**	**$3,425.3**
Contribution Rate												
Employer		0.663%	0.663%	0.663%	0.625%	0.625%	0.625%	0.618%	0.618%	0.618%	0.618%	0.618%
Employee		0.663%	0.663%	0.663%	0.625%	0.625%	0.625%	0.618%	0.618%	0.618%	0.618%	0.618%
Total		**1.325%**	**1.325%**	**1.325%**	**1.250%**	**1.250%**	**1.250%**	**1.235%**	**1.235%**	**1.235%**	**1.235%**	**1.235%**
Contributions ($ millions)												
Employer		$1,319.7	$1,375.2	$1,429.8	$1,398.1	$1,445.9	$1,494.2	$1,526.4	$1,577.5	$1,631.1	$1,688.1	$1,747.0
Employee		$1,319.7	$1,375.2	$1,429.8	$1,398.1	$1,445.9	$1,494.2	$1,526.4	$1,577.5	$1,631.1	$1,688.1	$1,747.0
Total		***$2,639.4***	***$2,750.3***	***$2,859.7***	***$2,796.2***	***$2,891.8***	***$2,988.3***	***$3,052.8***	***$3,155.0***	***$3,262.2***	***$3,376.1***	***$3,494.0***
Investment Income ($ millions)		*$9.3*	*$25.3*	*$29.3*	*$74.2*	*$77.5*	*$81.0*	*$83.8*	*$86.8*	*$89.8*	*$93.0*	*$96.4*
Fund Balance		$2,583.8	$2,944.3	$3,401.4	$3,601.3	$3,764.4	$3,931.6	$4,069.9	$4,211.5	$4,359.5	$4,515.7	$4,677.4
Target Fund Balance ($ millions)		$49.4	$28.4	$3,358.7	$3,399.2	$3,675.7	$3,924.0	$4,058.2	$4,193.6	$4,336.2	$4,481.3	$4,633.7
Difference ($ millions)		*$2,534.4*	*$2,915.9*	*$42.7*	*$202.1*	*$88.7*	*$7.5*	*$11.7*	*$17.8*	*$23.3*	*$34.4*	*$43.8*

Program: Option 2

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Eligible Employees			3,075,823	3,096,738	3,110,983	3,127,472	3,137,167	3,144,382	3,153,501	3,161,069	3,170,236	3,182,283
Taxable Wages ($ millions)		$195,592	$203,814	$211,918	$219,645	$227,156	$234,737	$242,716	$250,840	$259,366	$268,423	$277,796
Claims												
Family			57,559	44,253	46,235	47,875	48,023	48,133	48,273	48,389	48,529	48,714
Medical			166,006	171,211	178,879	185,222	185,796	186,223	186,763	187,211	187,754	188,468
Total			***223,565***	***215,465***	***225,114***	***233,096***	***233,819***	***234,357***	***235,036***	***235,600***	***236,284***	***237,182***
Benefit Payments ($ millions)												
Family			$216.2	$172.0	$186.0	$198.6	$205.4	$212.2	$219.4	$226.8	$234.5	$242.7
Medical			$670.7	$716.0	$774.2	$826.5	$854.8	$883.3	$913.3	$943.9	$976.0	$1,010.1
Total			***$886.9***	***$888.0***	***$960.2***	***$1,025.1***	***$1,060.1***	***$1,095.5***	***$1,132.8***	***$1,170.7***	***$1,210.5***	***$1,252.7***
Expenses ($ millions)												
Family			$24.0	$19.1	$20.7	$22.1	$22.8	$23.6	$24.4	$25.2	$26.1	$27.0
Medical			$95.8	$102.3	$110.6	$118.1	$122.1	$126.2	$130.5	$134.8	$139.4	$144.3
Total	**$35.3**	**$20.3**	**$119.8**	**$121.4**	**$131.3**	**$140.1**	**$144.9**	**$149.8**	**$154.9**	**$160.0**	**$165.5**	**$171.3**
Total Expenditure ($ millions)												
Family			$240.2	$191.1	$206.7	$220.6	$228.2	$235.8	$243.8	$252.0	$260.5	$269.6
Medical			$766.5	$818.3	$884.8	$944.6	$976.9	$1,009.5	$1,043.8	$1,078.8	$1,115.4	$1,154.4
Total	**$35.3**	**$20.3**	**$1,006.7**	**$1,009.4**	**$1,091.5**	**$1,165.2**	**$1,205.1**	**$1,245.3**	**$1,287.6**	**$1,330.7**	**$1,375.9**	**$1,424.0**
Contribution Rate												
Employer		0.313%	0.313%	0.313%	0.288%	0.288%	0.288%	0.285%	0.285%	0.285%	0.285%	0.285%
Employee		0.313%	0.313%	0.313%	0.288%	0.288%	0.288%	0.285%	0.285%	0.285%	0.285%	0.285%
Total		**0.625%**	**0.625%**	**0.625%**	**0.575%**	**0.575%**	**0.575%**	**0.570%**	**0.570%**	**0.570%**	**0.570%**	**0.570%**
Contributions ($ millions)												
Employer		$506.9	$528.3	$549.3	$523.7	$541.7	$559.7	$573.7	$592.9	$613.1	$634.5	$661.2
Employee		$611.2	$636.9	$662.2	$631.5	$653.1	$674.9	$691.7	$714.9	$739.2	$765.0	$791.7
Total		***$1,118.2***	***$1,165.2***	***$1,211.5***	***$1,155.2***	***$1,194.7***	***$1,234.6***	***$1,265.5***	***$1,307.8***	***$1,352.3***	***$1,399.5***	***$1,452.9***
Investment Income ($ millions)		*$3.8*	*$10.5*	*$12.4*	*$31.2*	*$32.4*	*$33.7*	*$34.8*	*$36.0*	*$37.1*	*$38.4*	*$39.8*
Fund Balance		$1,062.6	$1,224.8	$1,437.5	$1,513.6	$1,574.3	$1,636.3	$1,690.2	$1,745.2	$1,802.7	$1,863.4	$1,930.7
Target Fund Balance ($ millions)		$49.4	$28.4	$1,409.4	$1,413.1	$1,528.1	$1,631.3	$1,687.1	$1,743.4	$1,802.7	$1,863.0	$1,926.3
Difference ($ millions)		*$1,013.1*	*$1,196.4*	*$28.1*	*$100.5*	*$46.2*	*$5.0*	*$3.1*	*$1.8*	*$0.0*	*$0.4*	*$4.4*

Results

The key results of our analysis are provided below with reference to the study objectives:

1. **Estimate revenue needed to fund benefit payments, direct and indirect costs of the operation and administration, and maintain at a fund balance not less than 140% of the previous fiscal year expenditure for: (a) one year, (b) two to five years, and (c) six to ten years.**

   The estimated revenues for the Virginia PFML program options are provided in Table 1. We have included two one-year estimates for 2023 and 2024 because contributions begin in 2023, whereas benefit payments only begin in 2024.

Table 1
Estimated Revenue for Virginia Paid Family and Medical Leave Program
($ Millions)

Program	2023	2024	2025 – 2028	2029 - 2033
Baseline	$1,887	$1,966	$8,203	$11,608
Option 1	$2,639	$2,750	$11,536	$16,340
Option 2	$1,118	$1,165	$4,796	$6,778

2. **Estimate and project the payroll contribution rate necessary for program operation (i.e., claim payments, administration, and fund balance). Describe the variables and trends and how they affect payroll rate calculations.**

   Table 2 provides illustrative contribution rates for the PFML program options. Based on our assumptions and projection methods, these rates are expected to provide adequate funding and meet program objectives—i.e., cover benefit payments and administration, and meet target fund levels in every year. In addition, the contribution rates maintain a modest level of surplus above the target fund balance over time.

Table 2
Illustrative Contribution Rates for Virginia Paid Family and Medical Leave Program

Program	2023 - 2025	2026 - 2028	2029 - 2033
Baseline	0.950%	0.890%	0.880%
Option 1	1.325%	1.250%	1.235%
Option 2	0.625%	0.575%	0.570%

   The rates are higher in early years, in part, to support the large increase in the target fund balance in 2025. Also, incidence rates are assumed to increase between 2024 and 2027 as the program phases in, and 2024 benefit payments are assumed to be elevated because certain conditions that existed before the effective date would be eligible for benefits. For these reasons, the contribution rates are higher in early years for each of the programs.

The contribution rates decrease over time, in part, because the assumed claim incidence rates stabilize in 2028 and beyond. Also, we have assumed an increasing trend in investment income on fund balances, and this additional revenue stream supports funding objectives and justifies reducing the contribution rates in later years.

3. Project the annual revenue for the Fund for the next ten (10) fiscal years beginning with January 1, 2023.

Table 3 shows a projection of revenue for each of the program options. The estimated revenues shown below exclude investment income.

Table 3
Projected Revenue for Virginia Paid Family and Medical Leave Program
($ Millions)

Program	2023	2024	2025	2026	2027
Baseline	$1,886.6	$1,965.9	$2,044.1	$1,984.8	$2,052.7
Option 1	$2,639.4	$2,750.3	$2,859.7	$2,796.2	$2,891.8
Option 2	$1,118.2	$1,165.2	$1,211.5	$1,155.2	$1,194.7

Table 3
Projected Revenue for Virginia Paid Family and Medical Leave Program
($ Millions)

Program	2028	2029	2030	2031	2032
Baseline	$2,121.2	$2,168.6	$2,241.2	$2,317.4	$2,398.3
Option 1	$2,988.3	$3,052.8	$3,155.0	$3,262.2	$3,376.1
Option 2	$1,234.6	$1,265.5	$1,307.8	$1,352.3	$1,399.5

4. Project annual expenditures of the Fund for the next ten (10) fiscal years beginning January 1, 2024.

Table 4 shows a projection of annual expenditure from 2024 through 2033 for each of the program options. The expenditure represents the sum of benefit payments and administrative expenses in every year. The projections do not include any start-up expenses assumed in 2022 and 2023.

Table 4
Projected Expenditure for Virginia Paid Family and Medical Leave Program
($ Millions)

Program	2024	2025	2026	2027	2028
Baseline	$1,712.0	$1,726.7	$1,867.2	$1,993.3	$2,061.5
Option 1	$2,399.1	$2,428.0	$2,625.5	$2,802.9	$2,898.7
Option 2	$1,006.7	$1,009.4	$1,091.5	$1,165.2	$1,205.1

Table 4 Projected Expenditure for Virginia Paid Family and Medical Leave Program ($ Millions)					
Program	**2029**	**2030**	**2031**	**2032**	**2033**
Baseline	$2,130.3	$2,202.7	$2,276.5	$2,353.8	$2,436.0
Option 1	$2,995.5	$3,097.3	$3,201.0	$3,309.8	$3,425.3
Option 2	$1,245.3	$1,287.6	$1,330.7	$1,375.9	$1,424.0

5. Project the total number of open claims for the Fund, by each fiscal year, for the next ten (10) fiscal years, beginning with January 1, 2024.

Table 5 shows a projection of the number of claims incurred between 2024 and 2033 for each of the program options. The projections assume claim incidence rates will increase gradually between 2024 and 2027 as the program phases in. Also, the estimated claims in 2024 assumes that certain conditions that existed before the effective date will be eligible for benefits.

Table 5 Estimated Claims for Virginia Paid Family and Medical Leave Program					
Program	**2024**	**2025**	**2026**	**2027**	**2028**
Baseline	312,056	302,002	315,527	326,716	327,728
Option 1	343,679	332,829	347,735	360,065	361,181
Option 2	223,565	215,465	225,114	233,096	233,819

Table 5 Estimated Claims for Virginia Paid Family and Medical Leave Program					
Program	**2029**	**2030**	**2031**	**2032**	**2033**
Baseline	328,482	329,435	330,225	331,183	332,442
Option 1	362,012	363,062	363,933	364,988	366,375
Option 2	234,357	235,036	235,600	236,284	237,182

6. Provide information on Paid Family Leave and Paid Medical Leave programs in other states, including definition of qualifying events, periods of leave, and other pertinent policy design features that influence utilization rates (distinguishing between claims submitted, claims approved, and actual benefits utilized) by workers of each type of leave in each state for existing paid family and medical leave programs for the last ten years or for each year the programs have been in place (if fewer than ten years).

See Appendix B.

7. Provide projections for Fund reserves and evaluate the adequacy of such reserves, by each fiscal year, for the next ten fiscal years, beginning with January 1, 2024. In

addition, provide recommendations on optimal long-term reserve and solvency ratios, accounting for variations in economic trends.

Table 6 shows a projection of the fund reserves from 2024 through 2033 for each of the program options. The projected values represent the amount of contributions in a given year, minus total expenditure in that year, plus investment income on fund balances in that year.

Table 6
Estimated Fund Reserves for Virginia Paid Family and Medical Leave Program
($ Millions)

Program	2024	2025	2026	2027	2028
Baseline	$2,091.4	$2,426.7	$2,565.2	$2,677.4	$2,792.1
Option 1	$2,944.3	$3,401.4	$3,601.3	$3,764.4	$3,931.6
Option 2	$1,224.8	$1,437.5	$1,513.6	$1,574.3	$1,636.3

Table 6
Estimated Fund Reserves for Virginia Paid Family and Medical Leave Program
($ Millions)

Program	2029	2030	2031	2032	2033
Baseline	$2,888.0	$2,986.0	$3,088.4	$3,196.5	$3,308.4
Option 1	$4,069.9	$4,211.5	$4,359.5	$4,515.7	$4,677.4
Option 2	$1,690.2	$1,745.2	$1,802.7	$1,863.4	$1,930.7

The fund balances exceed the target fund (140% of previous year expenditure) in every year for each of the program options. The estimated surplus above target fund levels is shown below in millions of dollars and as a percentage of target fund balances.

Table 7
Estimated Surplus Above Target Fund Balances

Program	2024	2025	2026	2027	2028
Baseline ($M)	$2,063.0	$29.9	$147.8	$63.3	$1.5
Option 1 ($M)	$2,915.9	$42.7	$202.1	$88.7	$7.5
Option 2 ($M)	$1,196.4	$28.1	$100.5	$46.2	$5.0
Baseline (%)	7,259.0%	1.2%	6.1%	2.4%	0.1%
Option 1 (%)	10,260.1%	1.3%	5.9%	2.4%	0.2%
Option 2 (%)	4,209.8%	2.0%	7.1%	3.0%	0.3%

Table 3.7 Estimated Surplus Above Target Fund Balances					
Program	**2029**	**2030**	**2031**	**2032**	**2033**
Baseline ($M)	$1.9	$3.5	$4.6	$9.5	$13.0
Option 1 ($M)	$11.7	$17.8	$23.3	$34.4	$43.8
Option 2 ($M)	$3.1	$1.8	$0.0	$0.4	$4.4
Baseline (%)	0.1%	0.1%	0.1%	0.3%	0.4%
Option 1 (%)	0.3%	0.4%	0.5%	0.8%	0.9%
Option 2 (%)	0.2%	0.1%	0.0%	0.0%	0.2%

The estimated surplus above target fund balances is greatest in 2024 because 2024 target fund balances are relatively low (they are based on the previous year (2023) expenditure which only includes start-up costs and does not include benefit payments). The estimated surplus is volatile in early years because we have assumed incidence rates will increase gradually as the program phases in, and we have assumed that investment returns will increase in early years as well. The contribution rates, on the other hand, are level during that period. The estimated surplus stabilizes over time because the morbidity and investment income assumptions are uniform (i.e., do not vary) in later years.

Generally speaking, the fund balances are sensitive to the contributions, benefit payments, administrative expenses, and investment income. For example, when we assume investment income is uniform throughout the projection and equal to 0.5% every year, the fund balances reduce below target levels in our models, and the contribution rates would need to be increased in order to meet funding objectives.

8. Other Considerations

Since the PFML program in Virginia is a start-up program, it is challenging to develop cost projections because there is no program or state-specific data to use. Virginia may wish to consider establishing mechanisms to closely monitor the emerging costs of the program, and perform annual reviews to support any adjustments to contribution rates as experience develops and stabilizes.

Employers have the option to self-insure or provide PFML benefits through the private insurance market in program Option 2. This means the revenues and costs for this option may be lower than the values shown above because we did not carve out employers who might self-insure benefits or purchase coverage from insurance companies. Also, in Option 2, it is possible that the participating employers would be biased in some way, for example they may be smaller than average if the employers who choose to self-insure benefits are larger employers.

Appendix A: Data, Assumptions, and Methods

Demographic data was provided to Milliman by UVA, and was used to develop assumptions for eligible employees and taxable wages for each of the program options. The data included a distribution of employees who earned above the PFML eligibility thresholds in 2018 by gender, age, salary, and program option. The data also included taxable wages based on the benefit base limit for Social Security contributions in 2018. We have assumed that the number of eligible employees will increase by 3.3% between 2018 and 2024, and that total wages will increase by 17.6% between 2018 and 2023. The wage growth assumption is based on the employment cost index from the 2021 Budget and Economic Outlook report by the US Congressional Budget Office, whereas the employment growth assumption is based on a projection from the Weldon Cooper Center Virginia REMI PI+ model. The modest growth in the number of employees reflects employment disruptions from the COVID-19 pandemic.

We have assumed the following distribution of eligible employees in 2024 for each of the program options. These were derived from Virginia employment data from 2018 provided to Milliman by UVA, and increased by 3.3% for expected growth between 2018 and 2024.

Table A.1
2024 Eligible Employees
Virginia Paid Family and Medical Leave Program

Age Band	Baseline		Option 1		Option 2	
	Female	Male	Female	Male	Female	Male
< 25	216,626	216,542	278,960	267,045	147,963	158,887
25 - 34	370,220	409,024	385,246	418,434	336,609	387,591
35 - 44	345,425	382,643	357,019	387,361	321,290	370,973
45 - 54	374,297	384,737	383,926	388,669	348,560	374,251
55 - 64	265,785	276,352	273,497	280,913	244,292	265,898
65 <	65,691	78,559	73,285	84,143	51,704	67,805
Total	**1,638,043**	**1,747,857**	**1,751,932**	**1,826,566**	**1,450,418**	**1,625,405**

The population of eligible employees is assumed to increase between 2024 and 2033 based on the following growth projection from the Weldon Cooper Center Virginia REMI PI+ model:

Table A.2
Employment Growth Rates
Virginia Paid Family and Medical Leave Program

Year	Growth Rate
2024	0.68%
2025	0.46%
2026	0.53%
2027	0.31%
2028	0.23%
2029	0.29%
2030	0.24%
2031	0.29%
2032	0.38%

The taxable wages assumed in 2024 are provided below for each of the program options. We projected taxable wages in 2025 and beyond by assuming job growth (see above) and annual wage growth of 3.5% in 2024 and 2025, and 3.1% in 2026 through 2033 based on the employment cost index from the Budget and Economic Outlook report[3] from the US Congressional Budget Office.

Table A.3
2024 Taxable Wages
Virginia Paid Family and Medical Leave Program

Wage Band	Baseline	Option 1	Option 2
$0 -$24,999	$16,578,371,003	$17,214,571,758	$13,456,763,835
$25,000 - $49,999	$47,699,271,225	$47,699,271,225	$47,699,271,225
$50,000 - $74,999	$46,446,359,521	$46,446,359,521	$46,446,359,521
$75,000 - $99,999	$29,922,777,124	$29,922,777,124	$29,922,777,124
$100,000 - $124,999	$22,829,763,372	$22,829,763,372	$22,829,763,372
$125,000 - $149,999	$15,114,507,367	$15,114,507,367	$15,114,507,367
$150,000 - $174,999	$9,151,279,775	$9,151,279,775	$9,151,279,775
$175,000 - $199,999	$5,074,833,934	$5,074,833,934	$5,074,833,934
$200k and above	$14,118,511,608	$14,118,511,608	$14,118,511,608
Total	**$206,935,674,929**	**$207,571,875,684**	**$203,814,067,761**

We projected PFML benefit payments between 2024 and 2033 by multiplying the expected number of claims by the expected claim durations by the average benefit amounts for every age/gender combination. The morbidity assumptions (i.e., claim incidence rates and durations) were developed from historical PFML experience in states with existing PFML programs, for which the data is publicly available (i.e., California, New Jersey, New York, Rhode Island, and Washington). We also used experience from group short-term disability (STD) insurance products in developing the morbidity assumptions for paid medical leave benefits, because STD benefits and paid medical leave benefits are similar in many ways. The average benefit amounts were calculated based on the benefit design for each program option, and on a distribution of wages in Virginia by gender and age.

Tables A.4 and A.5 show the claim incidence rates assumed in our analysis. These rates were used to project the number of claims approved for benefits based on the assumed population of eligible employees. The incidence rates vary by age, gender, program option, and benefit type (i.e., paid family leave and paid medical leave benefits). We have assumed that claim incidence rates will increase by 5% in 2025, by 4% in 2026, by 3% in 2027, and will remain level in 2028 and beyond. The incidence rates shown below represent the ultimate levels assumed for 2028 and beyond in our projections. The paid family leave and paid medical leave incidence rates are generally higher for younger than older female employees due to the prevalence of bonding claims and maternity claims, respectively. Generally speaking, approximately three fourths of paid family leave claims are for bonding with newborn or newly adopted children, and the majority of bonding leaves are taken by female employees. Also, maternity claims typically represent approximately one third of paid medical leave claims.

[3] Source: (https://www.cbo.gov/system/files/2021-07/57263-outlook.pdf

Table A.4 Claim Incidence Rates per 1,000 Covered Employees Paid Family Leave						
Age Band	**Baseline**		**Option 1**		**Option 2**	
	Female	Male	Female	Male	Female	Male
< 25	11.99	2.96	12.37	3.05	10.06	2.48
25 - 34	69.30	22.46	71.48	23.17	58.11	18.83
35 - 44	37.58	16.14	38.76	16.65	31.51	13.53
45 - 54	5.67	3.42	5.85	3.53	4.75	2.87
55 - 64	6.79	2.03	7.00	2.09	5.69	1.70
65 +	3.09	2.52	3.19	2.60	2.59	2.12

Table A.5 Claim Incidence Rates per 1,000 Covered Employees Paid Medical Leave						
Age Band	**Baseline**		**Option 1**		**Option 2**	
	Female	Male	Female	Male	Female	Male
< 25	107.60	24.30	112.49	25.40	83.15	18.77
25 - 34	127.70	22.20	133.50	23.21	98.68	17.16
35 - 44	99.96	38.55	104.50	40.30	77.24	29.79
45 - 54	79.09	69.70	82.68	72.87	61.11	53.86
55 - 64	98.65	93.48	103.14	97.72	76.23	72.23
65 +	105.57	104.58	110.37	109.33	81.58	80.81

Tables A.6 and A.7 show the PFML claim durations assumed in our analysis, in weeks. These durations reflect an assumption that bonding claims are longer, on average, than other paid family leave claims, and that maternity claims are shorter, on average, than other paid medical leave claims. The Option 1 durations are longer than the Baseline durations because Option 1 features more generous benefits including a longer benefit period for paid medical leave benefits. Conversely, Option 2 durations are shorter than the Baseline durations because Option 2 provides less generous benefits.

Table A.6 Claim Durations in Weeks Paid Family Leave						
Age Band	**Baseline**		**Option 1**		**Option 2**	
	Female	Male	Female	Male	Female	Male
< 25	8.31	8.31	8.83	8.83	7.27	7.27
25 - 34	8.31	8.31	8.83	8.83	7.27	7.27
35 - 44	7.38	7.38	7.85	7.85	6.46	6.46
45 - 54	6.46	6.46	6.87	6.87	5.65	5.65
55 - 64	6.46	6.46	6.87	6.87	5.65	5.65
65 +	6.46	6.46	6.87	6.87	5.65	5.65

Table A.7 Claim Durations in Weeks Paid Medical Leave						
Age Band	Baseline		Option 1		Option 2	
	Female	Male	Female	Male	Female	Male
< 25	7.06	8.37	8.57	10.17	6.18	7.33
25 - 34	7.06	8.37	8.57	10.17	6.18	7.33
35 - 44	7.72	8.37	9.37	10.17	6.75	7.33
45 - 54	8.37	8.37	10.17	10.17	7.33	7.33
55 - 64	8.37	8.37	10.17	10.17	7.33	7.33
65 +	8.37	8.37	10.17	10.17	7.33	7.33

Table A.8 provides the average weekly benefit amounts assumed in 2024. The average benefit amounts for 2025 and beyond were calculated from these values by assuming annual growth of 3.5% in 2024 and 2025, and 3.1% in 2026 through 2033. These growth assumptions are consistent with the growth rates assumed for projecting taxable wages.

Table A.8 2024 Average Weekly Benefit Amounts Paid Family Leave and Paid Medical Leave						
Age Band	Baseline		Option 1		Option 2	
	Female	Male	Female	Male	Female	Male
< 25	$403	$426	$403	$426	$357	$377
25 - 34	$583	$652	$584	$652	$516	$576
35 - 44	$670	$825	$670	$825	$592	$730
45 - 54	$669	$863	$669	$863	$591	$763
55 - 64	$654	$841	$654	$841	$578	$743
65 +	$614	$764	$614	$764	$543	$675

We estimated total PFML benefit payments by combining the expected paid family leave and paid medical leave payments, then adjusting the combined values by the factors shown below to account for the 12-week aggregate maximum benefit period for the Baseline and Option 2 programs (there is no aggregate cap in Option 1, hence the factors are all 100%). The factors shown below were developed from a stochastic model that projected 10,000 claims to determine the likelihood that both a paid family leave and paid medical leave claim are incurred by the same employee within a 12-month period. The factors shown below are lower for younger female employees than other employees because they have greater probability of taking paid medical leave and paid family leave within a 12-month period for maternity and bonding. Also, the factors for the Baseline program are lower than Option 2 because we have assumed longer claim durations for the Baseline program (see Tables A.6 and A.7), therefore the likelihood of hitting the aggregate cap is greater for the Baseline program.

Table A.9 PFML Adjustment Factors for Aggregate Maximum Benefit Period						
Age Band	Baseline		Option 1		Option 2	
	Female	Male	Female	Male	Female	Male
< 25	78%	100%	100%	100%	89%	100%
25 - 34	78%	99%	100%	100%	89%	100%
35 - 44	79%	100%	100%	100%	91%	100%
45 - 54	100%	100%	100%	100%	100%	100%
55 - 64	100%	100%	100%	100%	100%	100%
65 +	100%	100%	100%	100%	100%	100%

The assumed start-up costs of $35.3 million in 2022 and $20.3 million in 2023 are based on budget estimates from the Paid Family and Medical Leave Study report from the Offices of the Secretary of Commerce and Trade and the Chief Workforce Development Advisor. The assumed ongoing administrative expenses are equal to 12.5% of total paid medical leave costs and 10.0% of total paid family leave costs between 2024 and 2033. These assumptions were developed from a variety of different sources including financial exhibits from states with mandated benefits, target loss ratios used by New York Department of Financial Services for determining PFL premium rates and risk adjustments, and average expenses reported by insurance companies for administering group short-term disability and paid family leave benefits.

Fund balances are assumed to earn income from short-term investments made through the Virginia Treasury Local Government Investment Pool. The following yield rates were used to project investment income:

Table A.10 Investment Income Assumptions Virginia Paid Family and Medical Leave Program	
Year	Yield
2023	0.36%
2024	0.86%
2025	0.86%
2026	2.06%
2027	2.06%
2028	2.06%
2029	2.06%
2030	2.06%
2031	2.06%
2032	2.06%

The yields shown above are based on the three-month treasury yields forecast by the Congressional Budget Office in its updated Budget and Economic Outlook for 2021 through 2031[4]. Those rates were then increased by 16 basis points to project the yield on assets in the

[4] Source: https://www.cbo.gov/system/files/2021-07/57263-outlook.pdf

Virginia Treasury Local Government Investment Pool, which generally tracks the three-month treasury yield with a small markup. Although the CBO report did not include a forecast of 2032 yields, we have assumed the same yield as 2031.

Appendix B: Overview of Mandated PFML Programs in Other States[5]

Program Feature	CA	CO	CT	DC	MA	NJ	NY	OR	RI	WA
Participation Among Public Employers	Not required to participate, but can opt in.	Yes, but local employers may decline to participate.	State and local employers can participate under collective bargaining processes.	No	State employees are covered, local employers can opt in.	Yes for paid family leave program. Employers can opt into paid medical leave program.	Not required to participate, but can opt in.	Yes, except employees of federal and tribal governments. Tribal governments can opt in.	Not required to participate, but can opt in.	Yes
Funding Methods	Employee payroll deduction (currently 1.2% of wages)	Employers and employees share the cost (currently 0.9% of wages)	Employee payroll deduction (currently 0.5% of wages)	Employer contribution (currently 0.62% of wages)	Employers and employees share the cost of paid medical leave, and employees cover the cost of paid family leave (currently 0.75% of wages)	Employers and employees share the cost of paid medical leave, and employees cover the cost of paid family leave (currently between 0.85% and 1.50% of wages)	Employers and employees share the cost of paid medical leave, and employees cover the cost of paid family leave (currently approximately 1.0% of wages)	Employers and employees share the cost (currently not exceeding 1.0% of wages)	Employee payroll deduction (currently 1.3% of wages)	Employers and employees share the cost of paid medical leave, and employees cover the cost of paid family leave (currently 0.4% of wages)

[5] Source: Comparative Chart of Paid Family and Medical Leave Laws in the United States, abetterbalance.org

Maximum Income Replacement	70% of wages	90% of wages	95% of wages	90% of wages	80% of wages	85% of wages	50% of wages (medical) and 67% of wages (family)	100% of wages	60% of wages	90% of wages
Maximum weekly benefit amount (current)	$1,357	$1,000	$780	$1,009	$850	$903	$170 (medical) and $972 (family)	120% of state average weekly wage	$978	$1,206
Maximum benefit period	52 weeks (medical) and 8 weeks (family)	12 weeks	12 weeks	8 weeks	26 weeks	26 weeks (medical) and 12 weeks (family)	26 weeks	12 weeks	30 weeks	16 weeks
Definition of Family Member	Child, parent, grandparent, grandchild, sibling, spouse, registered domestic partner, or the parent of a spouse or registered domestic partner.	Child, parent, parent of a spouse or domestic partner, spouse, domestic partner, grandparent, grandparent of a spouse or domestic partner, grandchild, grandchild of a spouse or domestic partner, sibling, sibling of a	Spouse, sibling, son or daughter, grandparent, grandchild, parent, parent-in-law, or an individual related to the employee by blood or affinity whose close association the employee shows to be the equivalent of	Child, parent, parent-in-law, spouse, grandparent, sibling, or registered domestic partner.	Spouse, domestic partner, child, parent, parent of a spouse or domestic partner, grandchild, grandparent, or sibling. The law's definition of domestic partner is flexible and does not require registration.	Child, parent, parent-in-law, sibling, grandparent, grandchild, spouse, registered domestic partner, civil union partner, any other person related to the worker by blood, and any other person that the worker shows to	Child, parent, parent-in-law, spouse, grandchild, grandparent, or domestic partner.	Spouse or registered domestic partner, sibling, child, child's spouse or domestic partner, grandparent, grandchild, parent, parent-in-law or parent of the worker's registered domestic partner, or any individual related by blood or	Child, parent, parent-in-law or parent of the worker's registered domestic partner, grandparent, spouse, or registered domestic partner.	Child, child's spouse or domestic partner, grandchild, grandparent, parent, parent of the worker's registered domestic partner, sibling, spouse, registered domestic partner, any individual who regularly resides in a worker's home where there is

		spouse or domestic partner, or any other individual with whom the worker has a significant personal bond that is or is like a family relationship, regardless of biological or legal relationship.	those family relationships.			have a close association with the worker which is the equivalent of a family relationship.		affinity whose close association with a covered individual is the equivalent of a family relationship.		an expectation that the worker care for the individual, or any individual where the relationship creates the expectation that the worker care for the individual and that individual depends on the worker for care.

Appendix C: Virginia PFML Program Options

A summary of the program options is provided below.

Program	Baseline	Option 1	Option 2
Eligibility Requirements	Eligibility is based on earnings in two highest earning quarters according to UI covered employment benefit table. Base period is previous four quarters.	At least $1,000 during base period (last 4 quarters).	Employee must have been paid at least $14,400 in the base period (1,200 hours)
Benefit Percent	80% of worker's average weekly wages.	90% of a worker's average weekly wage up to an amount equal to 50% of the statewide average weekly wage, and 50% of a worker's average weekly wage above an amount equal to 50% of the statewide average weekly wage.	60% of worker's average weekly wages.
Minimum Benefit Amount	$100	$100	$100
Maximum Benefit Amount	80% of state average weekly wage.	90% of the state average weekly wage.	70% of the state average weekly wage.
Waiting Period	No waiting period.	No waiting period	7-day waiting period for paid medical leave benefits.
Benefit Period	12 weeks total.	Paid medical leave: Up to 26 weeks for any period of disability. Paid family leave: Up to 12 weeks in a 12-month period.	12 weeks total.
Job Protection	Yes	Yes	Yes
Intermittent Leave	Yes	Yes	Yes
Funding Method	Employers and employees share the costs via payroll taxes.	Employers and employees share the costs via payroll taxes.	Employers and employees share the costs via payroll taxes. Small business exception (per Governor's Workforce Advisor Report) in which employers with fewer than 50 employees are not required to pay their share.

Appendix D: Reliance Items

The primary sources of data used for this analysis are provided below:

- **California SDI and PFL**:
  - Disability_Insurance__DI__-_Monthly_Data.csv
  - California Paid_Family_Leave__PFL__-_Monthly_Data.csv
  - Fact Sheet – Paid Family Leave
  - qsdi_DI_Program_Statistics.pdf
  - qsdi_Claims_Filed.pdf
  - qsdi_Benefits_Paid.pdf
- **New Jersey TDI and FL**I:
  - FLI Annual Summary Reports from 2014 through 2019
  - TDI Annual Summary Reports from 2014 through 2019
- **New York DBL and PFL:**
  - DBL rate manuals and actuarial memoranda filed by insurers in New York
  - Regulation 211 (11 NYCRR 363) on PFL Risk Adjustments
  - Society of Actuaries Webinar, September 15, 2020, Paid Family and Medical Leave
- **Rhode Island TDI and TCI:**
  - Rhode Island Department of Labor and Training TDI and TCI Annual Updates from 2014 through 2020
- **Washington PFML:**
  - Advisory Committee monthly presentation slides from January 2020 through June 2021
- Group short-term disability rating manuals, actuarial memoranda, and other publicly available material filed by insurance companies
- Virginia employment and demographic data provided to Milliman by UVA as described above
- Employment data from the US Bureau of Labor Statistics

Milliman

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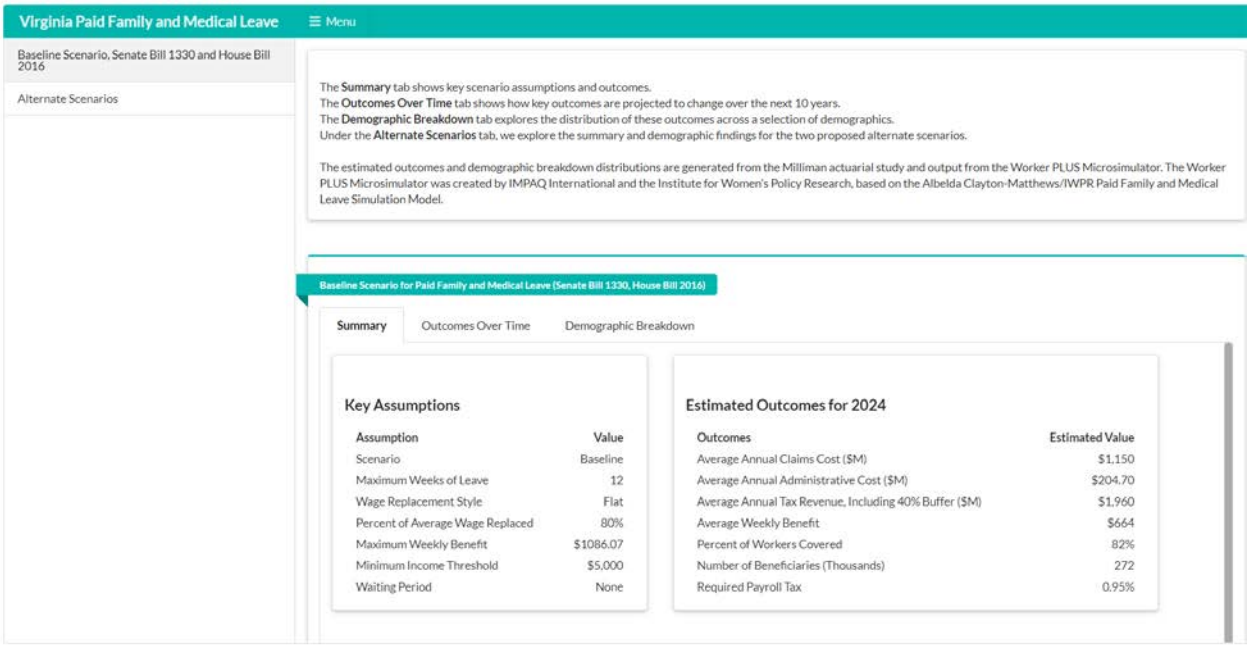
Appendix D: Paid Family and Medical Leave Interactive Dashboard

The Paid Family and Medical Leave dashboard synthesizes results from the actuarial study by Milliman and the Worker Paid Leave Usage Simulator (Worker PLUS) model from the U.S. Department of Labor. The aim of this dashboard is to provide a way to explore the effect of PFML program scenario parameters on program outcomes over time such as the number of annual claims, average claims costs, total claims costs, program tax revenue generated, and contribution tax rate required to fund the program. In addition, the dashboard breaks out the program eligible population, the population that needed leave, revenue contributions, annual payouts and other information by worker demographics. With this information, the user can explore the distribution of eligibility, need, benefit payouts, and tax contributions and take a closer look at who is paying for the program, who needs it, and who is likely to use it. This information can be used to examine disparities in program eligibility, utilization, and net benefits received. Among the demographic characteristics that can be selected for stratifying results are (a) income bracket, (b) age, (c) gender, (d) employer size, (f) ethnicity, (g) class of worker, (h) occupation, and (i) industry.

The results are split into two main sections, the Baseline scenario and the two alternative scenarios. Within these sections are key scenario parameters, model outcomes, time series graphs of results, and demographic graphs that show the distribution of several outcomes across a user-selected demographic. The dashboard can be found here: https://paid-family-and-medical-leave.shinyapps.io/PFML_dashboard/

Figure D.1 Paid Family and Medical Leave Interactive Dashboard



The Worker PLUS model

The Worker PLUS model was developed by IMPAQ International and the Institute for Women's Policy Research (IWPR) for the Chief Evaluation Office of the U.S. Department of Labor. IMPAQ International and the IWPR based this tool on the existing Albelda Clayton-Matthews/IWPR Paid Family and Medical Leave Simulation Model (ACM model). These models were developed to provide estimates of PFML policy usage and costs for research purposes. The Worker PLUS model allows a great deal of flexibility in setting policy parameters including replacement rates, replacement structure (flat or progressive), earnings and work requirements, weeks of leave for each specified leave type, and the types of workers covered.

The Worker PLUS model runs a machine learning algorithm on sample microdata constructed from the American Community Survey, Current Population Survey, and Family and Medical Leave Act survey data to produce estimates for the given PFML scenario cost and use outcomes. The default algorithm is Logistic

Regression, but other options are available. For more detail on how the model is designed and operates, see here: https://www.dol.gov/agencies/oasp/evaluation/completedstudies/Microsimulation-Model-on-Worker-Leave.

Milliman results incorporated into Worker PLUS model

A key result from the Milliman actuarial study is the projected take-up rates for each scenario. These inputs are needed to run the Worker PLUS model. Moreover, using the results from the actuarial study helps align the model predictions with the study for consistent results. Additionally, the actuarial study provides an estimate of the administrative costs, which the Worker PLUS model does not provide.

Appendix E: Summary of Studies on PFML Outcomes

Table E.1: Summary of Studies on PFML Outcomes

Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
PFL(Parental)-Labor Outcomes							
Han, Ruhm, and Waldfogel (2009)	United States	FMLA and state leave laws	Parents of infants 0-12 months old	Employment, leave-taking	Difference-in-difference	Current Population Survey (CPS), 1987-1994	Expanded leave increases maternal and paternal leave-taking but is not associated with employment. Leave laws have higher effects for mothers with some college or more.
Rossin-Slater, Ruhm, and Waldfogel (2013)	United States	CA-PFL	Women aged 15 to 64 years of age	Employment, leave-taking	Difference-in-difference	Current Population Survey (CPS), 1999-2010	Maternal employment was unchanged 1-3 years after childbirth, but hours worked increased.
Das and Polachek (2015)	United States	CA-PFL	State, gender, age group means	Labor force participation, unemployment rate, unemployment duration	Difference-in-difference; Triple difference, Quadruple difference	Current Population Survey (CPS), 1996-2009	PFL led to increases in all three measures with labor force participation up by about 1.5 percent, unemployment between 0.3 percent and 1.5 percent and unemployment duration by 4-9 percent.
Byker (2016)	Sample of women who gave birth in California, Florida, New Jersey, New York, and Texas	CA-PFL, NJ-PFL	Mothers aged 24 to 45	Labor force participation	Event study difference-in-difference	Survey of Income and Program Participation (SIPP), 1996, 2001, 2004 and 2008 panels	PFL policies have statistically significant impact on maternal labor-force participation. The results are driven by those without a college education.

Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
Bahm and Ruhm (2016)	United States	CA-PFL	Parents who had a child between 2000 and 2010	Employment, leave-taking	Difference-in-difference	1997 cohort of National Longitudinal Survey of Youth (NLSY)	Policy boosted maternal employment by 18 percent one year after childbirth. It also increased weeks and hours worked during second year by 18 percent and 11 percent. No statistically significant effect on wages.
Bailey et al. (2019)	United States	CA-PFL	Women giving birth in 3rd quarter 2004; control group of women giving birth in 2003, 2005, and 2006	Employment, wages, leave taking	Event study	IRS tax data (2001-2015) linked with Social Security Administration data on household member birth dates. National Vital Statistics System (NVSS) natality files.	PFL decreased employment by 7 percent and lowered wages by 8 percent 6-10 years after childbirth. They also find that access to leave was not associated with greater likelihood of returning to a pre-birth employer.
Bana, Bedard, and Rossin-Slater (2019)	California	CA-PFL	Mothers 20-44 with PFL bonding claims	Employment, earnings, leave taking	Regression kink design	Administrative data from California Employment Development Department (EDD) for universe of PFL claims (2005-2014) and quarterly earnings (2000-2014)	Replacement rate is not associated with adverse post-birth labor market outcomes for high earning mothers. However, increases in the rate are associated with a higher likelihood of returning to the pre-birth employer.

Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
Jones and Wilcher (2020)	United States	CA-PFL, NJ-PFL	Civilian women aged 25 to 54	Labor force participation, unemployment, full-time working status, working in professional or managerial occupation	Event study difference-in-difference	Current Population Survey (CPS), 1999-2019	Maternal labor force participation increases by more than 5 percent in the birth year with decreasing, but still statistically significant, improvements detected five years later. These effects are higher with greater educational attainment and are smaller or nonexistent for ethnic minorities. PFL has no effect on maternal unemployment.
Stock and Inglis (2021)	United States	CA-PFL	Individuals 18-64	Labor force participation, employment, unemployment duration, earnings	Difference-in-difference; Triple difference	Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) Integrated public Use Microdata Series from 1996-2016	PFL had little impact on young women's labor force participation, unemployment duration, and earnings, but steady effects on employment 10 years after implementation. Effects were concentrated among college-educated women.
PFL-Employers							
Bartel et al. (2021a)	New York	PFL	Firms	Ratings of employee performance (attendance, commitment, cooperation, productivity, teamwork), ratings of ease of coordination and handling of employee absences, employee leave-taking, views about PFL policy	Difference-in-difference; Event-study	Longitudinal survey of approximately 4,500 employers.	Employers with 50-99 workers indicate improved ease of handling long employees absences but effect disappears in second policy year. Small firms experience increase in employee leave-taking in second policy year. Opposition to PFL is small but growing.

Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
PFL(Parental)-Health							
Rossin (2011)	United States	FMLA	Birth year, birth month, county, mother education, mother race, mother age, mother marital status counts	Birth outcomes (birth weight, low birth weight, premature infant) and infant mortality	Difference-in-difference; Triple difference	National Center for Health Statistics National Vital Statistics System (NVSS)	FMLA had small effects on birth weight and likelihood of premature birth. Effects were larger and statistically significant for college-educated and married mothers.
Huang and Yang (2015)	United States	CA-PFL	Child-Mother pairs	Various measures of breastfeeding initiation and duration	Difference-in-difference	Infant Feeding Practices Study, Wave 1 and Wave II	PFL increases breastfeeding prevalence by 10-20 percentage points and 3-5 percentage points for exclusive breastfeeding.
Stearns (2015)	United States	States with Short-Term Disability programs in 1978 (i.e., California, Hawaii, New York, New Jersey, and Rhode Island)	Child-Mother pairs	Birth outcomes (birth weight, low birth weight, premature infant) and infant mortality	Difference in difference with synthetic control	National Center for Health Statistics National Vital Statistics System (NVSS), 1972-1985	STD reduces share of low birth weight births by 3.2 percent and likelihood of early term birth by 6.6 percent. Low birth weight effects are larger for black and unmarried women. STD does not have effect on overall infant mortality but small effects for high employment counties and black infants.
Lichtman-Sadot and Bell (2017)	U.S. states covered in ECLS	CA-PFL	Children who reside with biological mother, born in US, and do not have twin sibling.	Parent reported child outcomes for overweight, attention deficit/hyperactivity disorder (ADHD), child's overall health, hearing problems, communication problems, and frequent ear infections.	Difference-in-difference	National Center for Education Statistics (NCES) Early Childhood Longitudinal Studies (ECLS), 1999 and 2011 and CDC early Hearing Detection and Intervention screening data.	PFL is associated with improvement in elementary school children health outcomes. Decreases in children reported overweight, ADHD, hearing problems, and frequent ear infections. Results are driven by children from disadvantaged backgrounds.

Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
Bullinger (2019)	United States	CA-PFL	Parents	Various measures of child health and parental mental health	Difference-in-difference	National Survey of Children's Health (NSCH)	PFL program associated with overall child health, asthma and maternal mental health improvements. No effects for food and respiratory allergies or parental mental health.
Hamad, Modrek, and White (2019)	United States	CA-PFL and NJ-PFL	Child-Mother pairs	Various measures of breastfeeding initiation and duration	Difference-in-difference	National Immunization Survey (NIS), 2003-2015	PFL is associated with increase in likelihood of children being exclusively breastfed at 6 months. Effects are more positive for advantaged mothers.
Pac et al. (2019)	United States	CA-PFL	Child-Mother pairs	Various measures of breastfeeding initiation and duration	Difference in difference with synthetic control	National Immunization Survey (NIS), 2003-2014	PFL increases duration of breastfeeding by almost 18 days and likelihood of breastfeeding for at least 6 months by 5 percentage points. Effects are more positive for disadvantaged mothers.
Pihl and Basso (2019)	Arizona, California, New York,and Washington	CA-PFL	Infants	Admissions for lower respiratory illness, upper respiratory illness, gastrointestinal infections, skin infections, and cancer	Difference-in-difference	Hospitalization data from California Office of Statewide Health Planning and Development and Health Care Utilization Project (HCUP) data for Arizona, New York, and Washington State	PFL is associated with 3-6 percent decline in infant hospital admissions. Upper respiratory admissions declined 25-33 percent and gastrointestinal admissions by 9-15 percent.
Lee et al. (2020)	United States excluding New Jersey and Rhode Island	CA-PFL	Parents of child under two with recorded birth, at least one parent employed before child's birth, and excluding households with children born before PFL.	Parent self-reported health, psychological distress, BMI, and alcohol use	Difference-in-difference	Panel Study of Income Dynamics (PSID), 1993-2017	PFL effects include improved self-rated health, lower distress, lower likelihood of being overweight, and lower alcohol use.

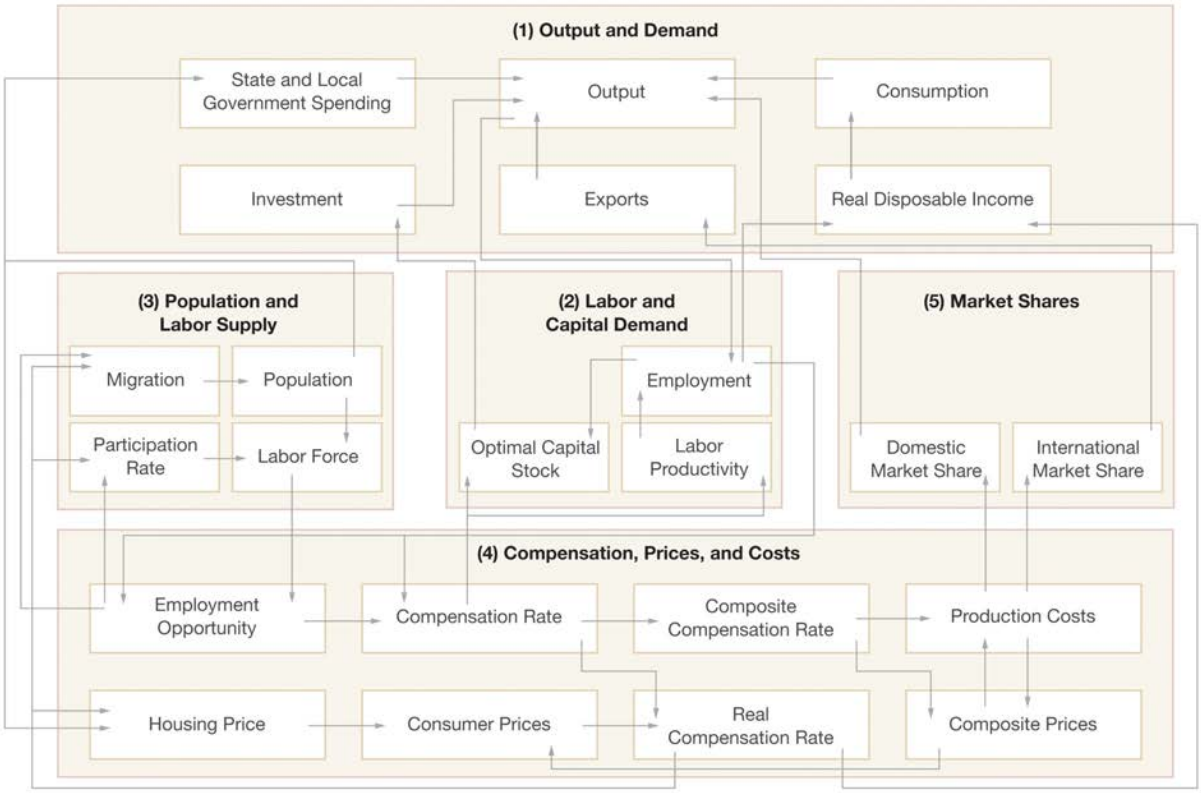
Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
Choudhury and Polachek (2021)	United States	CA-PFL	Infants	On-time vaccination for HepB, DTP, DTP, and HIB	Difference in difference with synthetic control	National Immunization Survey (NIS), 2000-2010	PFL decreases probability of being late for vaccination for poorer households.
Irish et al. (2021)	United States	CA-PFL and NJ-PFL	Working adults and their children for which measures were available.	Parental psychological distress and child behavioral problem indicators	Difference-in-difference	National Health Interview Survey (NHIS), 1997-2016.	PFL is associated with 25 percent decrease in parents' psychological distress score but no change in children's behavioral problem indicator.
PFL-Caretaker Effects							
Morefield et al. (2016)	United States	CA-PFL and NJ-PFL	Individuals aged 40-64	Employment status, labor force participation status	Difference-in-difference	U.S. Census Bureau American Community Survey (2000-2013) and Rand Corporation Health and Retirement Study (HRS) (1998-2012)	PFL is not associated with changes in leave-taking, employment, or labor force participation for likely caregivers.
Arora and Wolf (2018)	United States	CA-PFL	States	Nursing home utilization	Difference-in-difference	Center for Medicare and Medicaid Services (SMS Nursing Home Compendium, and Minimum Data Set (MDS) assessments, 1999-2008	PFL is associated with reduction in proportion of elderly population in nursing homes by 0.5-0.7, which represents approximately 11 percent decline in nursing home utilization.
Saad-Lessler (2020)	United States	CA-PFL	Individuals 20-65 who are not business owners	Incidence of being a care provider and labor force participation	Difference-in-difference	Survey of Income and Program Participation, 1998, 2003, 2006, and 2011	PFL is associated with 1 percent increase in likelihood of being unpaid care provider in the labor force.
Short-Term-Disability							
Jolls (2020)	United States	States in which FMLA provided Medical Leave mandate	Individuals aged 21-58	Number of weeks worker per year	Event study difference-in-difference	Current Population Survey (CPS), 1990-1999	Results show some short-term employment effects after introduction of the law, but the significance and magnitude of the effects diminish toward the end of the 1990s.

Paper	Region	Program	Units of Analysis	Dependent Variables	Method	Data Source	Findings
Paid Sick Leave							
Ahn and Yelowitz (2014)	United States	Connecticut Paid Sick Leave Mandate	Individuals aged 16-64	Labor force participation, working, unemployed	Difference-in-difference	American Community Survey (ACS) Public Use Microdata Sample, 2009-2012	Policy has negative labor market impacts. It increases likelihood of being unemployed and decreases likelihood of working. Negative effects are concentrated among males 30-54 years of age and females 40-54.
Stearns and White (2018)	United States	Connecticut and DC Paid Sick Leave Mandates	Full-time workers aged 16-64	Leave-taking	Difference in difference with synthetic control	Current Population Survey (CPS), 2006-2015	Leave-taking is reduced by up to 18 percent following introduction of policies. Effects persist for Connecticut but diminish for the District of Columbia.
Pichler and Ziebarth (2020)	United States	City and State Paid Sick Leave Mandates	Counties and states	Private sector employment and wages	Difference in difference with synthetic control	Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW)	No evidence of negative employment or wage effect.
Maclean, Pichler, and Ziebarth (2020)	United States	State Paid Sick Leave Mandates	Employees	Employee utilization of paid and unpaid sick leave, hours worked.	Difference-in-difference	National Compensation Survey, 2000-2017	No evidence that sick leave affects hours worked. However, mandate increases sick leave time by two days per year.

Appendix F: REMI PI+ Model Description

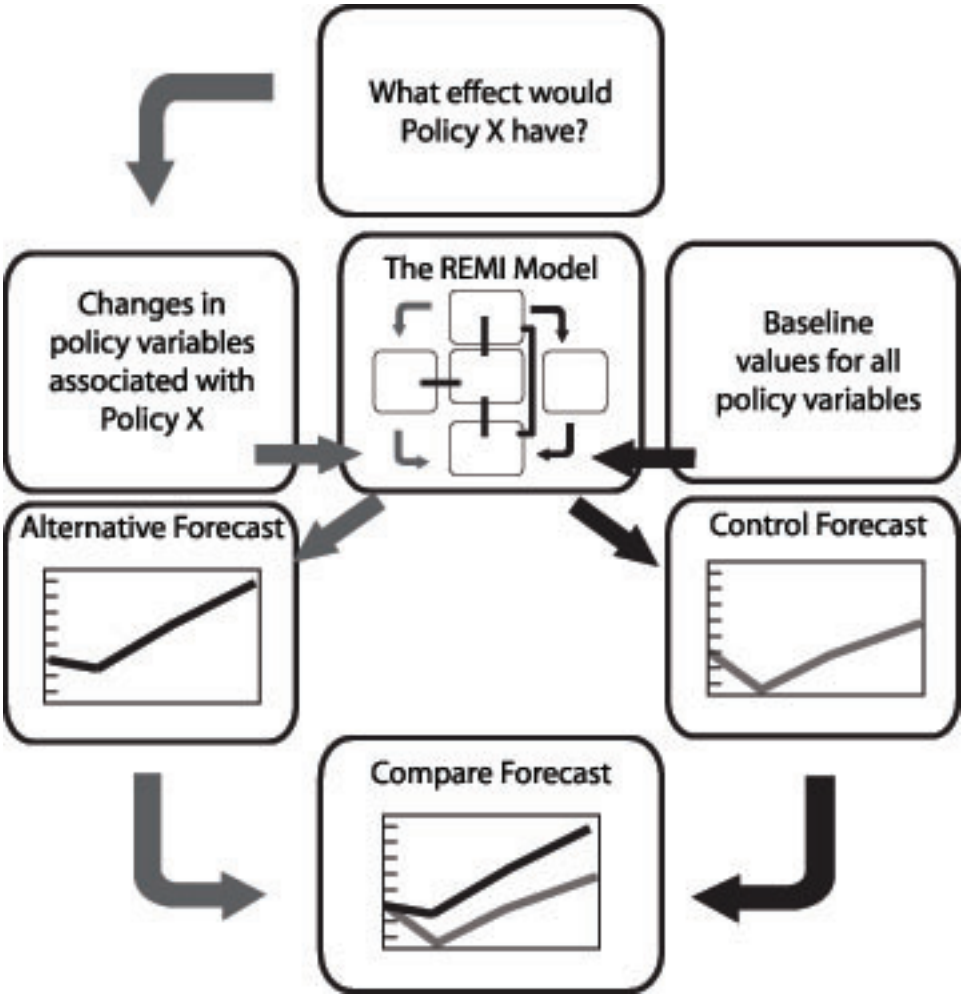
The REMI PI+ model is made up of five major modules or blocks (see **Figure F.1**), which interact simultaneously. The Output Block determines expenditures for final demand, including consumption, investment, government and imports as well as demand for intermediate inputs. Final demand responds to changes in other model blocks. This module contains a key engine in the model, an input-output model based on the Bureau of Economic Analysis (BEA) benchmark transactions table that measures flows of goods and services among industries. The Labor and Capital Demand Block determines employment, capital and fuel demand as well as labor productivity. The Population and Labor Force Block models the population characteristics of the state, including age, race and sex composition. Labor force participation adjusts in response to changes in wages and employment opportunities. A key driver of population changes is migration, which is influenced by relative wage levels as well as amenities. The Wage, Price and Costs Block determines factor and product price. The Market Shares Block helps to measure exports from and imports to the state. Changes in market share are driven by production costs, demand characteristics, distance to markets and output.

Figure F.1. Simplified Economic Structure of the Key Interactions in Regional Economies Based on the REMI PI+ Model



The basic procedure used to obtain PFML economic impacts is illustrated in **Figure F.2** and briefly summarized here. A control forecast for the Virginia economy was generated using REMI PI+. An alternative forecast was then run in which input data associated with the particular PFML scenario were used. For instance, in the reduced labor productivity scenario, negative values were entered for the REMI PI+ labor productivity policy variable in the Labor and Capital Demand block (2) for 2024 to 2032. The difference between the baseline control forecast and the alternative forecast provides an estimation of the economic impact of reduced labor productivity.

Figure F.2 REMI PI+ Model Simulation Flow



REMI PI+ does not provide state tax revenue estimates. In order to conduct tax revenue analysis, this study utilized a method outlined in Regional Economic Models Inc. (2012). State tax revenues were obtained from the Census of Government's Annual Survey of State Tax Collections for 2019. Revenue estimates are calculated by multiplying state revenue rates by the corresponding base quantity, which included state-level demand for selected industries (general sales tax, selective sales tax, license taxes), state-level personal income less transfer payments (individual income tax), corporate income tax (gross domestic product), and personal income (other taxes).

The modeling of each program component and scenario was conducted differently depending on the type of expenditure, tax, and economic or demographic outcome considered. **Table F.1** describes the REMI modeling inputs for each feature on REMI modeling blocks and policy variables.

Table F.1 REMI Policy Variables

PFML Feature/Outcome	REMI Model Policy Variables	Modeling Description	Source of Data/Assumption
Payroll Tax	(1) Employer Tax. Compensation and Prices->Production Costs->Production Costs (grouped industries) (2) Employee Tax. Output and Demand->Real Disposable Income->Personal Taxes	Model business payroll tax increase as reduced production costs. Model worker payroll increase as increase in personal taxes.	Actuarial Study Estimates
Program Start-up and Administration Costs	Output and Demand->State and Local Government Spending Policy Variable	Model administrative spending as increase in state and local government spending.	Actuarial Study Estimates
Benefit Payments	(1) Medical Leave. Personal Income->Personal Current Transfer Receipts->Transfer Payments->Other Retirement and Disability Insurance Payments (2) Family Leave. Personal Income->Personal Current Transfer Receipts->Transfer Payments->State Unemployment Insurance Compensation	Model PFML benefit payments as transfer payment. Medical leave is modeled as other retirement and disability insurance payments. Family leave is modeled as state unemployment insurance compensation.	Actuarial Study Estimates
Labor Force Attachment	(1) Population and Labor Supply>-Labor Force>-Participation Rate->Female->Ages 18-41 (2) Labor and Capital Demand>-Employment>-Firm(grouped industries)	Model increase in labor force participation and employment for females of childbearing age.	Das and Polachek (2015) empirical result of 1.37 percentage point increase in labor force participation rate for females aged 18 to 41 accompanied by labor market clearing assumption.
Labor Productivity	Labor and Capital Demand->Labor Productivity->Immediate Market Share Response, Include Effect on Labor Intensity* (grouped industries)	Model labor productivity decrease for firms.	Survey data from Milkman and Applebaum (2013). Assume 9.9 percent of firms lose productivity of workers on leave. This translates into a statewide loss of productivity of 0.098 percent to 0.115 percent.

PFML Feature/Outcome	REMI Model Policy Variables	Modeling Description	Source of Data/Assumption
Infant Population	Population and Labor Supply>-Population>-Birth Rate->Ages 20-39	Model increase in fertility rate as birth rate increase.	Golightly (2019) empirical result which translates into 9.8 percent increase in birth rate of female child-bearing population.
Federal Tax Credit	Compensation and Prices->Production Costs->Production Costs (grouped industries)	Model loss of Federal Employer Credit for Paid Family and Medical Leave for Virginia firms	Average credit value is estimated as $65.8 million per year.

* Decrease in labor intensity is modeled because the change is expected to make labor less attractive to businesses.

Appendix G: Results of State Economic and Tax Revenue Impact Analyses

Table G.1: Employment Impacts of Virginia PFML, 2022-2032 by scenarios.

Scenario	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Baseline											
Employment	672	-16,349	-4,790	-5,025	-3,131	-2,474	-2,537	-2,532	-2,812	-3,117	-3,377
Real GDP ($ millions)	$51.18	-$1,451.04	-$518.51	-$555.63	-$401.33	-$357.36	-$375.14	-$386.19	-$423.34	-$463.10	-$498.76
State Tax Revenue ($ millions)	$2.39	-$65.20	-$12.59	-$13.84	-$5.54	-$1.70	-$1.74	-$1.61	-$3.08	-$4.97	-$6.61
Alternative I											
Employment	672	-23,008	-6,655	-6,914	-4,406	-3,502	-3,601	-3,582	-3,973	-4,398	-4,766
Real GDP ($ millions)	$51.18	-$2,040.12	-$721.53	-$767.60	-$564.68	-$504.64	-$530.70	-$545.12	-$597.02	-$652.65	-$702.98
State Tax Revenue ($ millions)	$2.39	-$91.8	-$17.49	-$18.83	-$7.76	-$2.49	-$2.62	-$2.40	-$4.45	-$7.10	-$9.42
Alternative II											
Employment	672	-9,460	-2,831	-3,013	-1,728	-1,314	-1,320	-1,326	-1,484	-1,659	-1,810
Real GDP ($ millions)	$51.18	-$837.53	-$301.70	-$326.63	-$220.13	-$191.28	-$198.40	-$205.32	-$225.96	-$248.35	-$268.66
State Tax Revenue ($ millions)	$2.39	-$38.92	-$8.62	-$9.66	-$4.00	-$1.59	-$1.43	-$1.36	-$2.18	-$3.25	-$4.20

Table G.2: Employment Impacts of Virginia PFML, 2022-2032 by Payroll Tax Burden Scenarios.

Scenario	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Baseline (50-50 Split)											
Employment	672	-1,6349	-4,790	-5,025	-3,131	-2,474	-2,537	-2,532	-2,812	-3,117	-3,377
Real GDP ($ millions)	$51.18	-$1,451.04	-$518.51	-$555.63	-$401.33	-$357.36	-$375.14	-$386.19	-$423.34	-$463.1	-$498.76
State Tax Revenue ($ millions)	$2.39	-$65.20	-$12.59	-$13.84	-$5.54	-$1.70	-$1.74	-$1.61	-$3.08	-$4.97	-$6.61
Employee Payroll Tax											
Employment	672	-14,908	-3,309	-3,315	-1,308	-434	-227	-80	-177	-355	-565
Real GDP ($ millions)	$51.18	-$1,249.75	-$303.98	-$310.91	-$142.21	-$70.02	-$54.89	-$45.22	-$57.08	-$76.63	-$99.34
State Tax Revenue ($ millions)	$2.39	-$81.77	-$28.71	-$29.02	-$18.75	-$14.00	-$12.63	-$11.49	-$11.86	-$12.95	-$14.34
Employer Payroll Tax											
Employment	672	-17,790	-6,271	-6,735	-4,953	-4,514	-4,844	-4,981	-5,444	-5,872	-6,185
Real GDP ($ millions)	$51.18	-$1,652.09	-$732.82	-$800.10	-$660.17	-$644.32	-$694.85	-$726.61	-$788.82	-$848.43	-$897.33
State Tax Revenue ($ millions)	$2.39	-$48.62	$3.54	$1.35	$7.68	$10.60	$9.15	$8.29	$5.73	$3.07	$1.16

Table G.3: Employment Impacts of Virginia PFML, 2022-2032 by Economic and Demographic Scenarios.

Scenario	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Labor Force Attachment											
Employment	0	0	9,467	8,848	8,367	7,843	7,419	7,222	6,953	6,781	6,639
Real GDP ($ millions)	$0	$0	$963.01	$913.26	$878.64	$840.12	$811.49	$803.34	$788.63	$782.72	$778.50
State Tax Revenue ($ millions)	$0	$0	$32.91	$31.97	$30.21	$28.12	$26.65	$26.47	$25.61	$25.36	$25.28
Labor Productivity											
Employment	0	0	-3,129	-3,628	-4,110	-4,401	-4,455	-4,465	-4,435	-4,405	-4,390
Real GDP ($ millions)	$0	$0	-$271.44	-$319.42	-$367.20	-$399.09	-$410.59	-$418.43	-$422.63	-$426.95	-$432.25
State Tax Revenue ($ millions)	$0	$0	-$9.19	-$12.68	-$15.75	-$18.15	-$19.77	-$21.08	-$22.09	-$23.07	-$24.03
Infant Population											
Employment	0	0	2,143	3,769	5,361	6,852	8,300	9,491	10,741	11,918	13,064
Real GDP ($ millions)	$0	$0	$182.60	$324.38	$465.80	$600.91	$735.68	$850.05	$972.97	$1,092.02	$1,209.26
State Tax Revenue ($ millions)	$0	$0	$12.30	$23.87	$36.52	$49.82	$64.32	$78.25	$93.76	$110.01	$126.52
Federal Tax Credit											
Employment	0	0	-679	-752	-788	-792	-781	-763	-742	-722	-706
Real GDP ($ millions)	$0	$0	-$63.40	-$70.75	-$75.01	-$76.46	-$76.62	-$76.21	-$75.44	-$74.77	-$74.38
State Tax Revenue ($ millions)	$0	$0	-$1.93	-$2.60	-$3.04	-$3.31	-$3.49	-$3.63	-$3.73	-$3.81	-$3.89

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