REPORT ON THE LIKELY ECONOMIC IMPACTS OF THE PROPOSED UNIVERSAL HOME CARE PROGRAM

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Maine State Economist

Department of Administrative and Financial Services

EXECUTIVE SUMMARY

On November 6, 2018, Maine residents will vote on a citizens' initiative referendum question that would apply taxes on individual and family income above the amount subject to Social Security taxes in order to create a Universal Home Care Program. This program would provide eligible seniors and persons with a disability, regardless of income level, with in-home and community support services. The program would be funded by a 3.8 percent tax on wages and combined household income above the amount subject to Social Security taxes—$128,400 in 2018. For most individuals, these taxes would effectively be paid for through a combination of employee and employer contributions, similar to how payroll taxes are applied. As currently drafted, the proposal would also apply to all Maine households filing jointly, thus establishing what can be considered a "marriage penalty" on couples whose individual income is less than $128,400 but whose combined income exceeds that level.

The State Economist has analyzed the potential economic impacts of this proposal using the Regional Economic Models, Inc. (REMI) PI+ modeling software maintained by the Department of Administrative and Financial Services (DAFS). This software provides a dynamic model of Maine's economy that allows the user to modify specific inputs—such as spending and taxes—in order to estimate the future impacts of policy changes on economic and demographic variables.

Results
The results of the analysis indicate that the proposed tax would have a negative effect on the Maine economy. The table below outlines an estimated range for each indicator relative to the baseline forecast in each year. If adopted, the proposal would adversely affect several significant economic and demographic measures:

- Maine population in the first year would be 1,200 to 1,700 lower than the baseline
- Labor force in the first year would be 1,300 to 1,800 lower than the baseline
- Private non-farm employment in the first year would be 2,600 to 3,800 lower than the baseline
- Cumulative losses in total personal income from 2019-2023 would be $1.4 to $2.0 billion
- Cumulative losses in real GDP from 2019-2023 would be $643 to $916 million

Difference Relative to Baseline Forecast					
	2019	**2020**	**2021**	**2022**	**2023**
Population	-1,200 to -1,700	-1,300 to -1,900	-1,500 to -2,200	-1,600 to -2,300	-1,500 to -2,100
Labor Force	-1,300 to -1,800	-1,100 to -1,500	-1,100 to -1,500	-1,000 to -1,500	-900 to -1,300
Private Non-Farm Employment	-2,600 to -3,800	-600 to -900	-700 to -1,000	-400 to -600	+100 to +200
Personal Income (current dollars)	-$300 million to -$500 million	-$300 million to -$400 million	-$300 million to -$400 million	-$300 million to -$400 million	-$200 million to -$300 million
Real GDP (fixed 2009 dollars)	-$200 million to -$300 million	-$100 million to -$200 million	-$100 million to -$200 million	-$100 million to -$200 million	-$100 million

Population

- Population is lower than the baseline forecast due to a combination of out-migration by existing population (primarily higher-income taxpayers) and reduced in-migration. This represents a loss of population relative to what Maine would see without the effects of the proposed policy change.

- The baseline forecast for population is the same as that used in the February 1, 2018, Consensus Economic Forecasting Commission (CEFC) forecast and includes a gradual decline through the forecast period. The 2016 and 2017 population estimates from the U.S. Census Bureau show increased Maine population growth. If the recent growth trend continues, the baseline population would be higher than shown here, but the difference from the baseline resulting from the proposed policy change would still be negative.

Labor Force

- Labor force is lower than the baseline forecast because the population loss largely represents working-age population loss. In the first year, when the taxes would be in full effect but the program spending would be limited, the labor force losses are larger than the population losses as workers leave for economic reasons. There may still be some in-migration of non-working age population (such as retirees) to offset the out-migration of workers. As program spending ramps up, some workers move into the region to fill the jobs created through the additional spending.

Private Non-Farm Employment

- Employment losses are the worst relative to the baseline in the first year, with a net negative effect in each of the first four years. As program spending occurs, employment in the home care related industries would increase, eventually returning total private non-farm employment to the baseline forecast level in 2023.

- The jobs that would be created are likely to be lower-wage jobs, as evidenced by the fact that total personal income losses remain throughout the first five years of the program.

Personal Income (current dollars)

- Personal income losses relative to the baseline forecast in this analysis are largely the result of the out-migration (and reduced in-migration) of higher income taxpayers. This population is highly mobile and for the wealthiest and most mobile, the proposed tax represents a significant increase in tax liability. The reduction in total private non-farm employment also contributes to the lower total personal income.

Real GDP (fixed 2009 dollars)

- Real GDP losses relative to the baseline forecast are caused by a combination of the out-migration (and reduced in-migration) of higher income taxpayers with the losses due to production cost increases for businesses. GDP and total personal income, while roughly equivalent, are not equal here largely because GDP is presented in chain-weighted 2009 dollars while personal income is in current dollars.

Methodology

The methodology for this analysis involved formulating assumptions around personal tax and production cost increases, behavioral responses, and program spending. The State Economist worked with staff from the Office of Tax Policy at Maine Revenue Services (MRS), the Maine Department of Labor (Maine DOL), and REMI in order to develop these assumptions. Four scenarios were simulated generating a range of possible economic outcomes relative to a baseline economic forecast provided in the REMI PI+ model. This baseline was modified using the most recent forecasts for population, employment, and income growth from the February 1, 2018, Consensus Economic Forecasting Commission (CEFC) report, which provides the official economic forecast used in the state's consensus revenue forecasting process.

The scenarios that were simulated included differing levels of behavioral response. Some of the possible responses include:

- Individual taxpayers who change their filing status from married filing joint to married filing single
- Taxpayers who change residency
- Sole proprietorships that change to corporations
- Taxpayers who reduce their tax liability through various means, including income sheltering and delaying or reducing capital gains
- Employers who modify compensation packages
- Workers who reduce hours or leave the labor force

In each scenario, the behavioral response is modeled as a reduction of revenues received by the state from the proposed taxes. The scenarios ranged from no reduction in tax revenue to a thirty percent offset of the additional revenues raised. Both personal taxes and production costs were increased as a result of the proposed taxes. Home care program expenditures were divided among the industries whose modeled effects would most closely match the real-world economic effects. Additional income loss was estimated to take into account the fact that these taxes specifically target higher income taxpayers while the model applies the policy change to an average taxpayer.

When interpreting the results, it is important to consider a few caveats:

- Differences given are relative to a baseline economic forecast and do not represent year-over-year changes
- Differences represent an approximation of the range of possible economic impacts
- Changes in other policies or the larger economic climate are not captured in these results
- The negative economic effects from the behavioral responses are likely understated because of the modeling methodology—tax revenue and program spending reductions are both captured, but the root causes of the behavioral responses (such as workers reducing hours) are not fully incorporated

More information on the assumptions used in this analysis and considerations for interpreting the results can be found in the Appendix.

OVERVIEW OF THE PROPOSED LAW

The following citizens' initiative referendum question will appear on the Tuesday, November 6, 2018, Referendum Election ballot:

QUESTION 1: An Act To Establish Universal Home Care for Seniors and Persons with Disabilities.

"Do you want to create the Universal Home Care Program to provide home-based assistance to people with disabilities and senior citizens, regardless of income, funded by a new 3.8% tax on individuals and families with Maine wage and adjusted gross income above the amount subject to Social Security taxes, which is $128,400 in 2018?"

The Universal Home Care Trust Fund and the Universal Home Care Trust Fund Board established by this referendum would be funded by new taxes that would come into effect on January 1, 2019. These taxes, which are applied to combined household income above the amount subject to Social Security taxes ($128,400 in 2018), consist of a 1.9 percent excise payroll tax on employers, a 1.9 percent wage income tax on employees, and a 3.8 percent income tax on the Maine adjusted gross income of individuals and families above the income threshold. The 3.8 percent tax is reduced by a credit for the total amount paid by employers and employees for the two 1.9 percent taxes. As currently drafted, the proposed question would apply to all Maine households filing taxes, whether individually or jointly, thus establishing what can be considered a "marriage penalty" on couples whose individual income is less than $128,400 but whose combined household income exceeds it. For example:

- A single individual earning $150,000 would effectively pay 1.9 percent of their wages above $128,400, with their employer also paying 1.9 percent above the threshold.
- A married couple household with two income earners, both earning $80,000, totaling $160,000 in wages, would pay 3.8 percent of their combined income above the threshold.
- Any individual who earns less than $128,400, but has other sources of income, such as rental income or capital gains, would be required to pay 3.8 percent on their combined income that exceeds the threshold.
- A small business owner who earns more than the Social Security threshold is required to pay the full 3.8 percent tax on their wages and profits in excess of the $128,400 threshold.

For nonresidents of Maine, the portion of adjusted gross income that applies to the state is broadly defined as the part of the taxpayer's federal adjusted gross income derived from sources within Maine. Therefore, this method treats a nonresident with a low Maine source of income the same as a resident with low total income.

The program would provide eligible individuals with universal in-home care and community support services. Eligibility is established for those seniors and persons with a disability living in Maine outside of a care facility who need assistance with at least one activity of daily living, regardless of income level. Program spending is limited to the amount of revenue raised by the taxes.

BASELINE

The REMI PI+ baseline forecast for Maine was modified in the model to better reflect the CEFC report of February 1, 2018, which represents the current official economic forecast at the time the analysis was conducted. Three modifications were made to the model's standard regional control for Maine:

- The population forecast through 2023 was replaced with the forecast used in the CEFC report.
- The CEFC forecast for total nonfarm wage and salary employment growth was applied to a modified version of REMI total employment to produce a revised employment baseline that reflects the REMI total employment *levels* and the CEFC *growth rates*.
- The total personal income growth forecast from the CEFC was compared to the REMI personal income forecast after the population and employment modifications were made; the difference between the two was used to bring the model's personal income growth rates in line with the CEFC forecast.

INPUTS AND SCENARIOS

There were six different inputs to the model, outlined below:

Production cost: This variable reflects the increase in taxes paid by non-residents and in-state businesses, shared out by industry. All of the non-resident income taxes and a portion of the resident income taxes (approximately 18 percent) are assumed to be paid by proprietors and represent an increase in the production cost for the business. Additionally, because a portion of the taxes are established as a payroll tax on businesses, half of the revenue raised through the wage portion of the income tax was estimated to come from business, resulting in an increased production cost.

State and local government spending: This variable reflects the increase in taxes paid by state and local governments for those workers with wages above the threshold. The increase in taxes reduces funds available for other programmatic spending.

Personal taxes: This variable reflects the increase in income taxes paid by non-business residents. This is the wage portion of the income tax coming from workers as well as other personal taxes (e.g. capital gains) paid by individuals.

Consumption reallocation: This variable reflects the marginal propensity to consume and assumes that one-third of income is ultimately invested or spent out of state, reducing the negative in-state impacts of a decrease in disposable personal income.

Personal income: This variable reflects the fact that the average income of a taxpayer affected by these taxes is higher than the average income of a standard taxpayer in the REMI PI+ model, and the outmigration of these taxpayers results in an additional income loss.

Exogenous final demand: This variable reflects the increase in demand for home care related services resulting from the program. The value is equal to the total revenue raised; while a portion will be used by the Trust Fund Board for administrative purposes, that amount will be minimal and is not broken out in this analysis. Four related industries were selected to estimate the relative impact on the state economy: nursing and residential care facilities, social assistance, personal and laundry services, and private households. While the individuals receiving services from this program would not be living in nursing and residential care facilities, that industry best represents the relationship certain types of services being provided by the program have with the economy.

Four different scenarios were run to gauge the range of potential economic impacts from this proposal. The only difference between the scenarios was the level of behavioral response resulting in an offset to the additional tax revenues raised. All other aspects of the analysis remained the same. The four scenarios included no behavioral response (zero percent offset), minimal behavioral response (10 percent offset), moderate behavioral response (20 percent offset), and strong behavioral response (30 percent offset). The behavioral response encompasses a range of different reactions, including but not limited to:

- individual taxpayers who change their filing status from married filing joint to married filing single
- taxpayers who change residency
- sole proprietorships that change to corporations
- taxpayers who reduce their tax liability through various means, including income sheltering and delaying or reducing capital gains
- employers who modify compensation packages
- workers who reduce hours or leave the labor force

While the behavioral responses as modeled reflect both changes to tax revenues and program spending, they do not reflect the full extent of the impacts from the underlying behaviors themselves. For example, workers who would reduce their hours due to the new taxes not only will experience a reduction in income tax liability but also a decrease in disposable personal income. The negative effects from the behavioral responses are thus likely to be understated in the final analysis results.
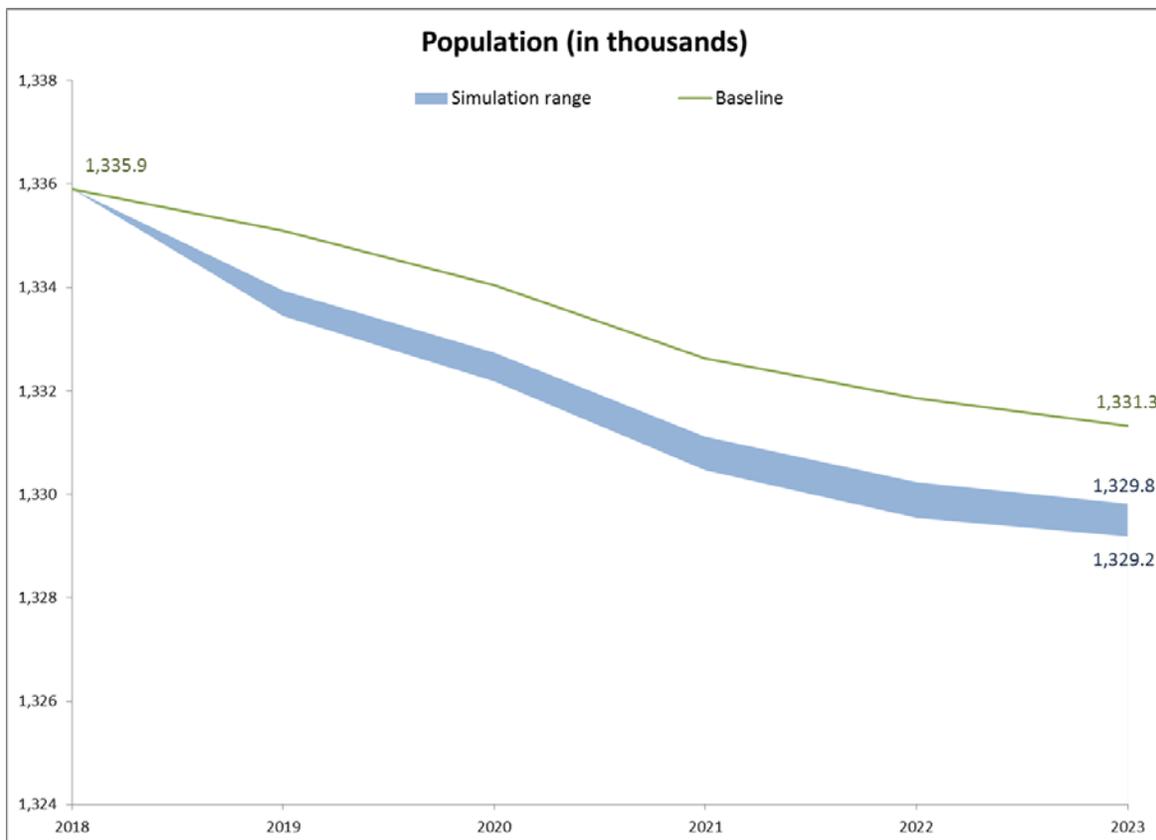
RESULTS

The simulations were run for 2019 through 2023 and then compared to the modified baseline scenario. In each table below, the baseline forecast level is shown along with the upper and lower limits of the estimated impact range for that indicator.

Population

In each of the first five years following the policy change, population is lower than in the baseline forecast. The baseline forecast itself has population decreasing slightly each year—the policy change exacerbates that loss. The baseline forecast for population is the same as that used in the most recent CEFC forecast. While it includes a gradual decline through the forecast period, the 2016 and 2017 population estimates from the U.S. Census Bureau show increased Maine population growth. *If the population growth trend continues, the baseline population would be higher than shown here, but the difference from the baseline resulting from the proposed policy change would still be negative.*
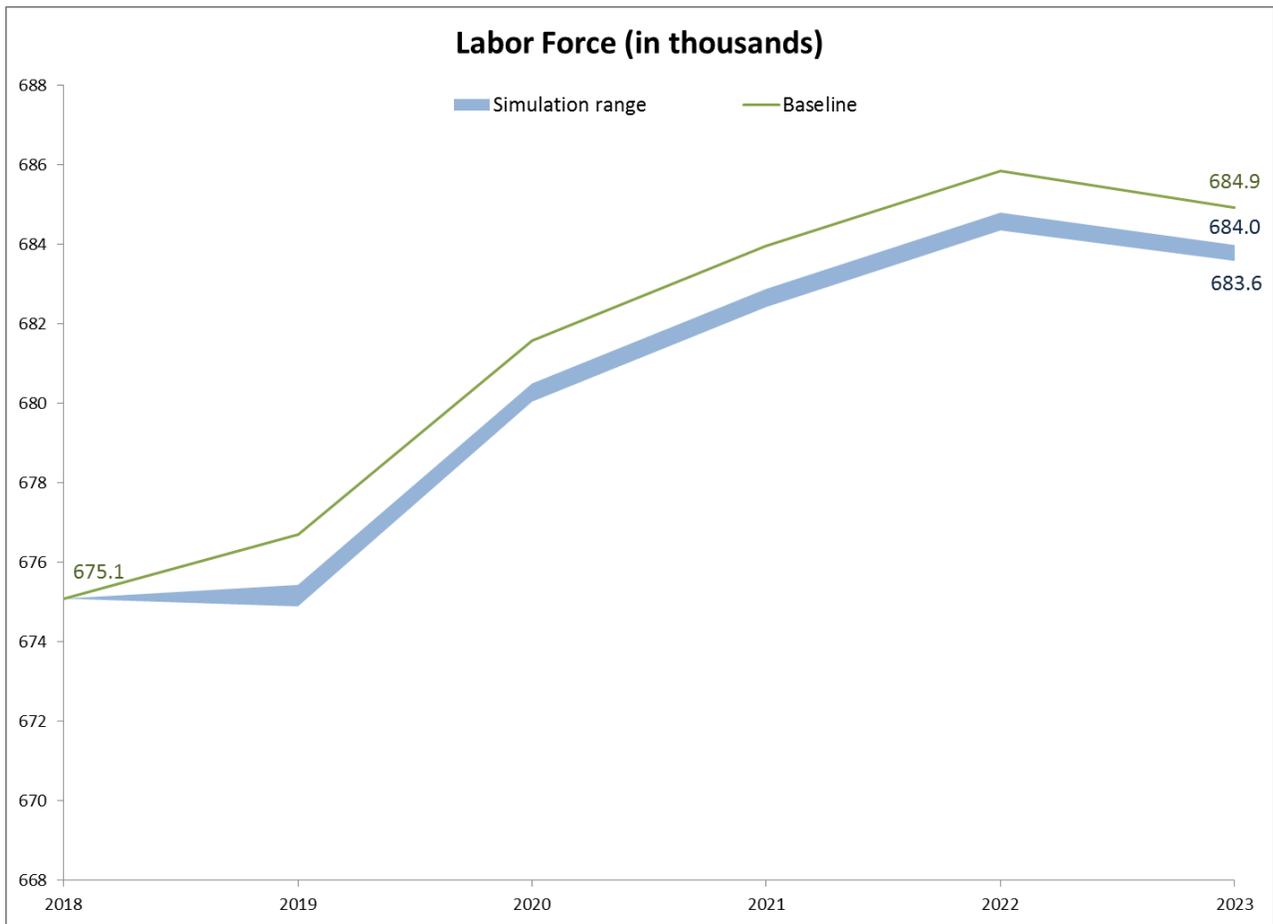
Population						
	2018	**2019**	**2020**	**2021**	**2022**	**2023**
Baseline	1,335,900	1,335,100	1,334,000	1,332,600	1,331,900	1,331,300
Difference from Baseline Levels						
Upper limit		-1,200	-1,300	-1,500	-1,600	-1,500
Lower limit		-1,700	-1,900	-2,200	-2,300	-2,100

Labor Force

As with total population, the labor force estimates are lower in each year of the analysis relative to the baseline forecast. The baseline labor force grows through 2022 before declining in 2023; the analysis results follow the same general trend, but at a lower overall level.
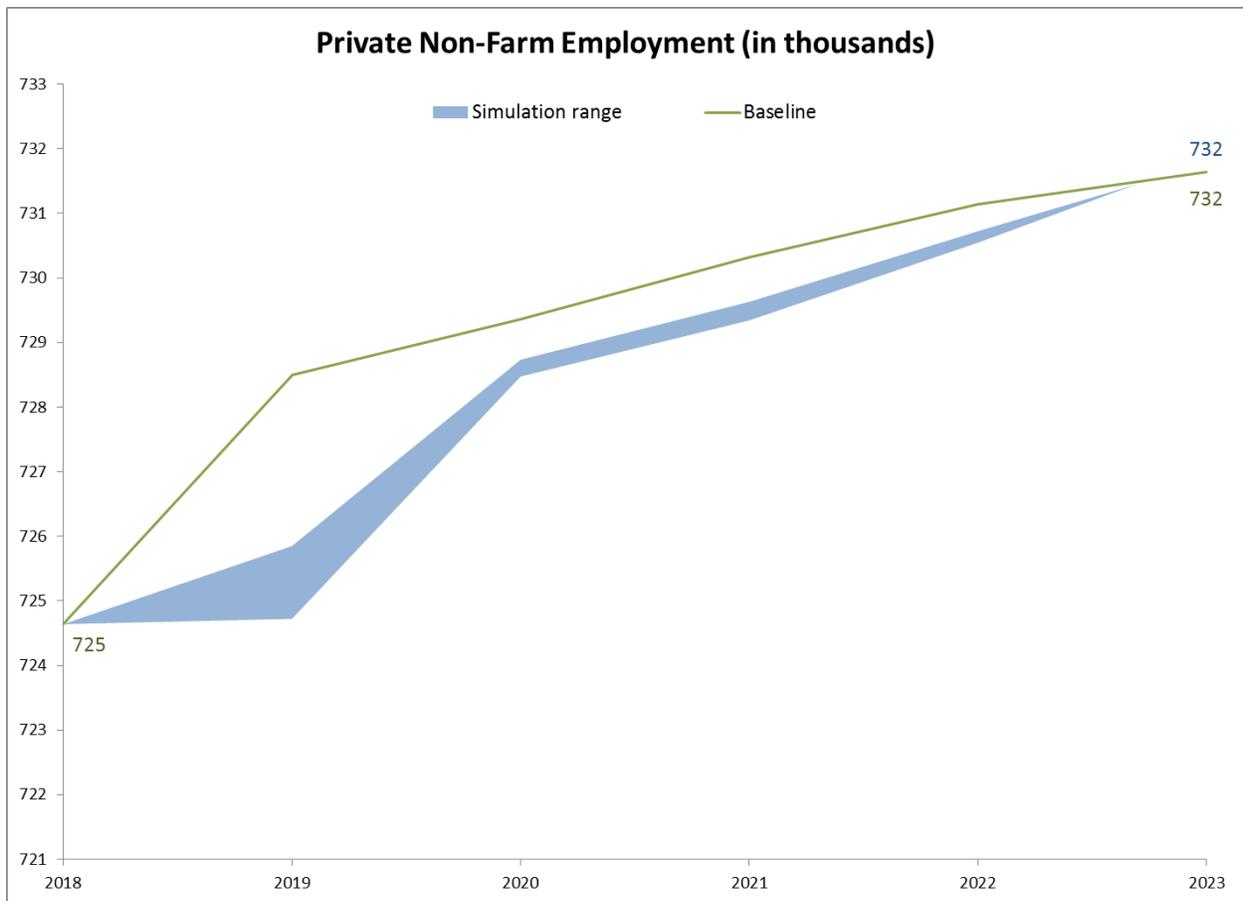
Labor Force						
	2018	2019	2020	2021	2022	2023
Baseline	675,100	676,700	681,600	684,000	685,800	684,900
Difference from Baseline Levels						
Upper limit		-1,300	-1,100	-1,100	-1,000	-900
Lower limit		-1,800	-1,500	-1,500	-1,500	-1,300

Private Non-Farm Employment

In the first four years following the policy change, private non-farm employment is lower than in the baseline forecast, with the largest impact coming in the first year of the policy when the taxes are in full effect but spending has not yet ramped up. In 2023, employment levels are slightly higher than in the baseline. Note that employment is higher than that typically reported by the Maine Department of Labor—it includes full-time as well as part-time workers. The number is also larger than the labor force number shown above; some people hold multiple jobs and some individuals work in Maine but reside elsewhere, resulting in employment figures that are higher than the labor force.
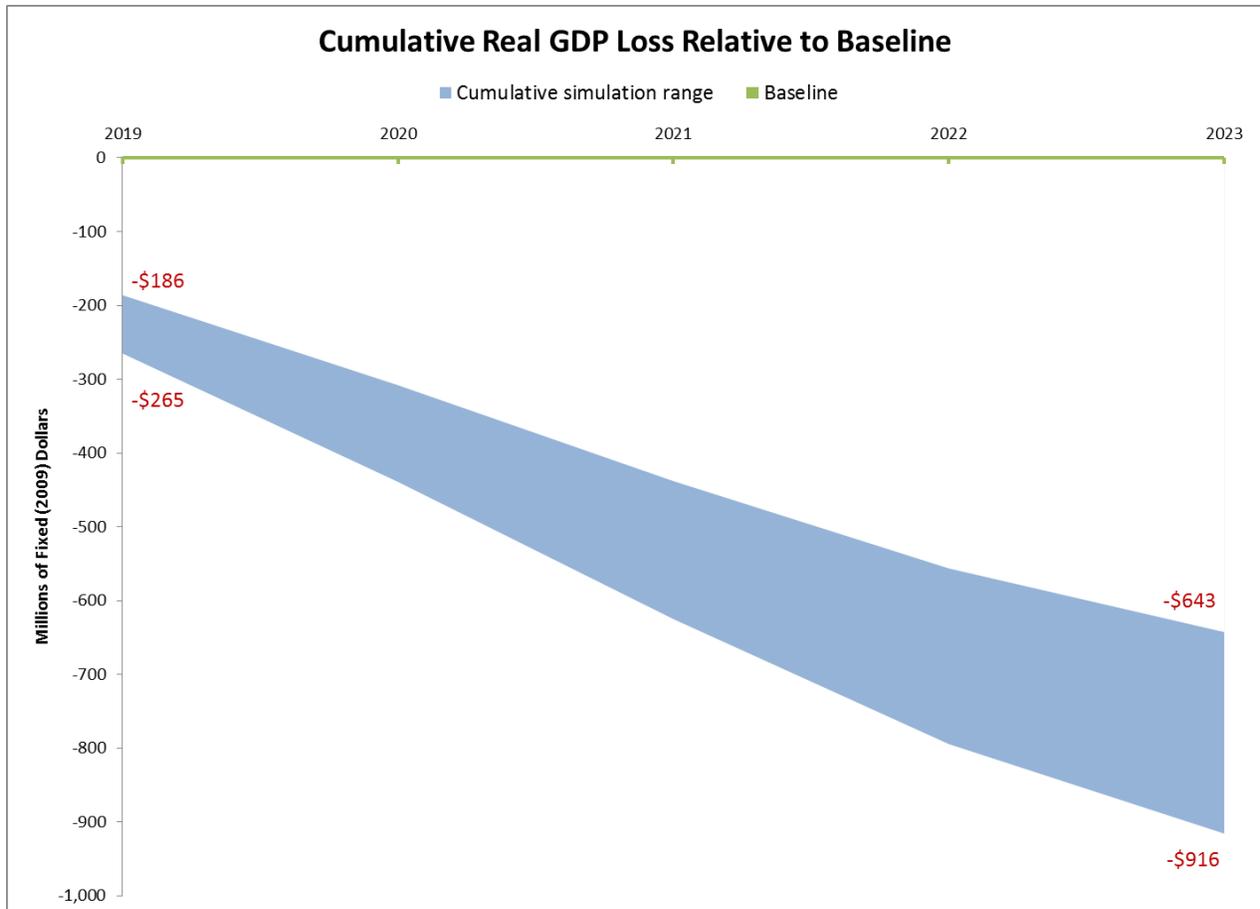
Private Non-Farm Employment						
	2018	2019	2020	2021	2022	2023
Baseline	724,600	728,500	729,400	730,300	731,100	731,600
Difference from Baseline Levels						
Upper limit		-2,600	-600	-700	-400	+200
Lower limit		-3,800	-900	-1,000	-600	+100

Real Gross Domestic Product

Real Gross Domestic Product (GDP) is lower than the baseline in each of the simulation scenarios. The largest difference comes in 2019, coinciding with the largest relative employment losses. GDP does continue to grow throughout the forecast time period, but at a lower level than in the baseline, leading to a larger cumulative loss over time. Cumulative losses over the five year period range from $643 million to $916 million.
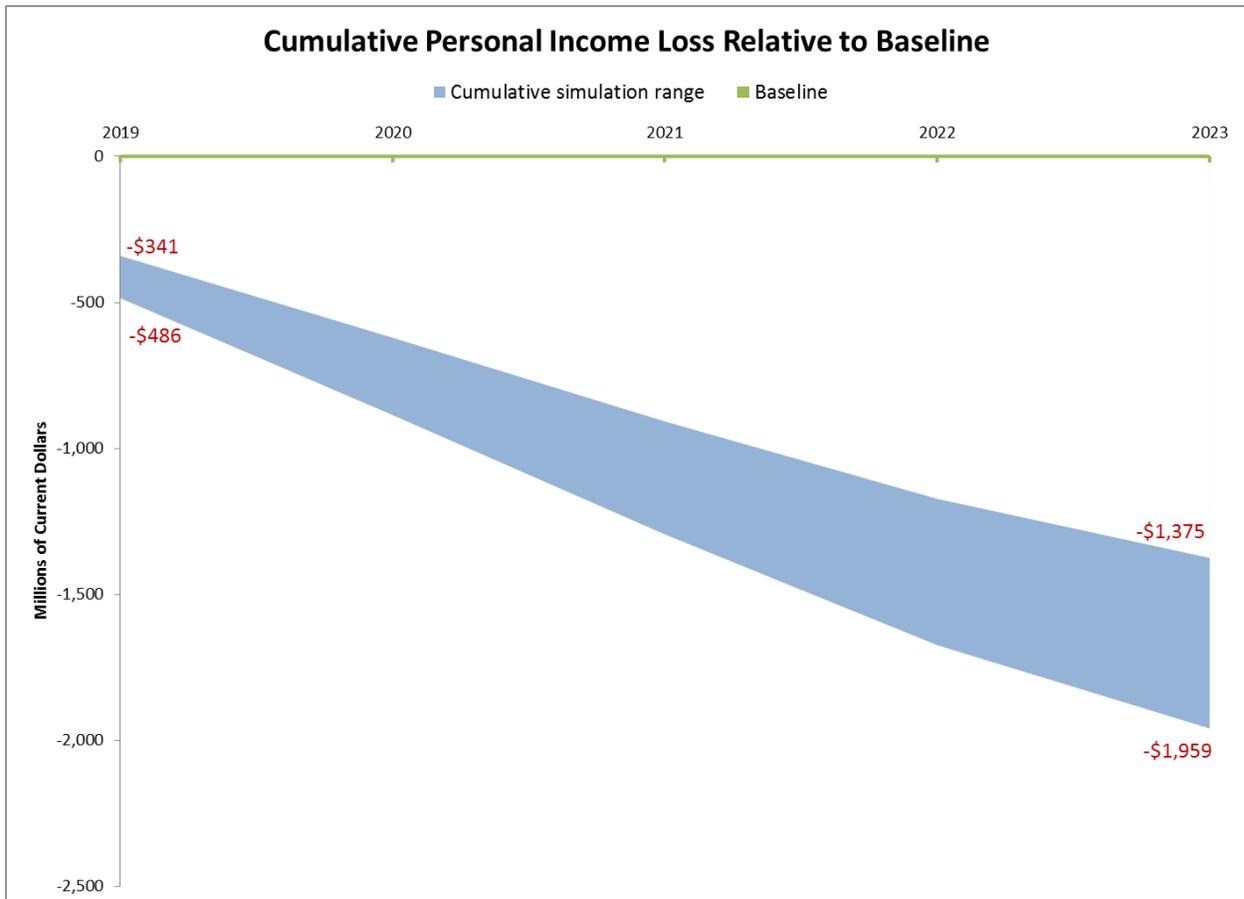
Real GDP (in millions of fixed (2009) dollars)						
	2018	2019	2020	2021	2022	2023
Baseline	59,000	60,000	61,000	61,900	63,200	64,300
Difference from Baseline Levels						
Upper limit		-200	-100	-100	-100	-100
Lower limit		-300	-200	-200	-200	-100
Cumulative Difference from Baseline Levels						
Upper limit		-186	-308	-438	-556	-643
Lower limit		-265	-439	-625	-794	-916

Total Personal Income

As with GDP, total personal income is lower in each scenario than in the baseline, although it does continue to grow through each of the forecast years. The relative loss in personal income combines effects from the lower relative employment as well as the behavioral effects from higher income taxpayers (primarily outmigration). Note that personal income is given in current dollars, unadjusted for inflation. Although employment returns to the baseline forecast level in 2023, personal income remains below the baseline, indicating both that the employment gains are not enough to offset the losses from the behavioral response and that the employment gains are likely coming in lower wage industry sectors. Cumulative losses over the five year period range from $1.4 billion to $2.0 billion.

Total Personal Income (in millions of current dollars)						
	2018	2019	2020	2021	2022	2023
Baseline	63,300	66,000	68,600	71,200	73,400	75,700
Difference from Baseline Levels						
Upper limit		-300	-300	-300	-300	-200
Lower limit		-500	-400	-400	-400	-300
Cumulative Difference from Baseline Levels						
Upper limit		-341	-621	-908	-1,173	-1,375
Lower limit		-486	-886	-1,295	-1,674	-1,959

Cumulative Personal Income Loss Relative to Baseline

CONCLUSION

This report has examined the potential economic impacts of the proposed Universal Home Care program. If adopted, this proposal, which would be funded through three new taxes on individual and combined household income, would have a negative impact on Maine's economy. These taxes are estimated to raise $315 million in 2019, before taking into account reductions due to the behavioral responses discussed in this report. The total revenue generated through the proposed taxes will be used to provide in-home care and community support services to eligible seniors and persons living with a disability, regardless of income level.

Population, labor force, private non-farm employment, real gross domestic product, and personal income levels would all be lower than the baseline economic forecast in the coming years based on the assumptions used in this analysis.

- Maine population in the first year would be 1,200 to 1,700 lower than the baseline
- Labor force in the first year would be 1,300 to 1,800 lower than the baseline
- Private non-farm employment in the first year would be 2,600 to 3,800 lower than the baseline
- Cumulative losses in total personal income from 2019-2023 would be $1.4 to $2.0 billion
- Cumulative losses in real GDP from 2019-2023 would be $643 to $916 million

Maine's economy is currently experiencing growth across all of these measures. In 2017, Maine's population grew at the fastest rate in more than a decade and private non-farm employment reached a record high level. The results of this analysis, with losses relative to the baseline forecast, represent a slowing of future growth, particularly in the first year of the program.

The model assumptions (as noted in the Appendix) were carefully considered and estimated, but they do not take into account every possible response to the proposed policy change. As with any forecast, there is a level of risk to the outcomes: in this case, the risk is that the economic effects could be worse than those described here.

APPENDIX: ASSUMPTIONS AND CAVEATS

In order to conduct an economic impact analysis of the proposed law, the State Economist utilized the REMI PI+ modeling software maintained by DAFS. This software provides a dynamic model of Maine's economy that allows the user to modify specific inputs—such as spending and taxes—in order to estimate the future impacts of policy changes on economic and demographic variables.

The first step in the analysis was to estimate the overall size of the proposed taxes. MRS provided an estimate of $315 million in revenue generated by the taxes in 2019, with $285.5 million coming from full-year residents and $29.5 million coming from out-of-state taxpayers. This estimate is higher than the $310 million included in the June 2018 *Technical Analysis of Initiated Bill (IB) 3* by MRS because of how the behavioral response is accounted for. The $310 million estimate assumes a $5 million loss due to married filing joint taxpayers changing their filing status to married filing single. This analysis groups that change with several other behavioral responses and uses the full $315 million as the starting point. This estimate was inflated through 2023 using the personal income growth rates from the February 1, 2018, CEFC report.

All of the $29.5 million coming from out-of-state taxpayers was assumed to be coming from business-related income and as such is treated in the model as an increase in production costs. Additionally, $50.8 million of the full-year resident revenue is estimated to be business-related, based on the share of Schedule C (sole proprietorship) and Schedule E (rental real estate, royalties, partnerships, S corporations, estates, trusts, and residual interests in real estate mortgage investment conduits) income, and is also treated as an increase in production costs. $173.6 million of the full-year resident revenue is estimated to be taxes on wages; this is split evenly between an increase in production cost and an increase in personal taxes. The remaining $61.1 million is estimated to be taxes on other income (including capital gains) and is treated as an increase in personal taxes.

Increases in production costs were shared out to industries based on data from Maine DOL wage records. Shares were estimated for industries using the 2017 employment count with wages above the threshold and the median wage of those workers. Any industry with an affected employment count less than five was estimated to have no increase in production cost. The personal income growth forecast from the CEFC was again used to adjust the production cost increase through 2023. State and local government impacts are modeled through a decrease in spending, as an increase in taxes paid by the government results in a decrease in programmatic spending elsewhere.

A consumption reallocation equal to 33 percent of total revenue was applied to account for the fact that some income is ultimately spent and invested outside of Maine. This reallocation reduces the negative in-state impacts of a decrease in disposable personal income.

While the proposed law targets higher income taxpayers, the model represents average taxpayers. This makes it necessary to estimate an additional loss of income resulting from the difference between the incomes of average taxpayers and the taxpayers liable for the proposed taxes. The estimate was calculated in two parts: wage and non-wage income. The loss in wage income was estimated using the difference between the average private nonfarm annual wage rate from the REMI PI+ model and the average median earnings of affected workers from Maine DOL. The loss

in non-wage income was estimated using the share of federal total income coming from non-wage sources for the affected taxpayers. The total additional income loss ranged from 0.2 percent to 0.4 percent of total personal income, depending on the scenario and year.

For purposes of this analysis, program expenditures are equal to total revenues raised by the taxes. Expenditures are modeled as an increase in exogenous final demand split between nursing and residential care facilities, social assistance, personal and laundry services, and private households. While the individuals receiving services from this program will not be cared for in nursing and residential care facilities, this industry is a reasonable representation of how the services that would be demanded relate to the larger economy. While the proposed law does include a provision for a ramp-up period through December 31, 2021, the specific structure of this ramp-up was unclear. Given the lack of clarity, the ramp-up period in this analysis was limited to the first year; it was assumed that 25 percent of the total 2019 revenues would be spent in 2019 and that 100 percent of revenues would be spent in the following years. If the ramp-up period lasts longer than this or expenditures are less than the full amount of revenues, the positive economic impacts from these expenditures would also be reduced, pushing the economic results even further below the baseline.

There were four separate scenarios run to estimate a range of potential outcomes depending on the behavioral response of individuals and businesses. Behavioral responses include married filing joint taxpayers switching to married filing single returns, individuals reducing work hours or leaving the workforce, shifts from sole proprietorships to corporations, delays or reductions in capital gains realizations, and changes in compensations packages, among other responses. Offsets ranging from zero percent to thirty percent were applied to the full amount of anticipated revenues. While this does reduce the total program expenditures, it does not fully capture the negative economic effects of the behavioral responses themselves. For example, an individual who reduces work hours in response to this proposal would reduce their tax liability (which is captured in the assumptions) but would also reduce their disposable income (which is not captured in the assumptions). As such, the overall economic results given here are likely more positive than would be the case if the full negative effects of the behavioral response were reflected in the model.

This analysis focuses strictly on the economic impacts of the proposed taxes and program. There are other elements of the proposed law that are not addressed in this particular analysis as well as outstanding questions related to the mechanics of the tax provisions as outlined in the June 2018 *Technical Analysis of Initiated Bill (IB) 3* by MRS. Resolution of these questions in a manner other than the current interpretation could lead to economic impacts different than those described here.

The results are estimates and should be regarded as such. The figures encompass a degree of uncertainty, both statistical and methodological. The changes that are being modeled are taking place in an environment where many other changes are occurring unrelated to this scenario. Other policy changes at the state or federal level and larger macroeconomic conditions, such as a recession, are not accounted for here outside of the few CEFC assumptions incorporated in the baseline modifications.