

Fiscal and Economic Impact of Raising Minimum Wage in Illinois

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SYNOPSIS - SB 2145

- Increases the minimum wage from \$8.25 to \$9.00 beginning July 1, 2015 and increases it by \$0.50 each July 1 until July 1, 2019, at which point the minimum wage will be \$11.00.
- Limitation on home rule powers does not apply to a specified ordinance adopted by the City Council of City of Chicago.
- Creates a credit against the withholding tax liability of employers with fewer than 50 employees.

Outline and Methodology

- Data source: 2015 Current Population Survey from U.S. Census
- Use REMI (Regional Economic Models Inc.) Tax PI.
- Determine Economic effects of increasing minimum wage as described in SB-2145
- Determine additional effects as we also include changes in eligibility to public assistance programs

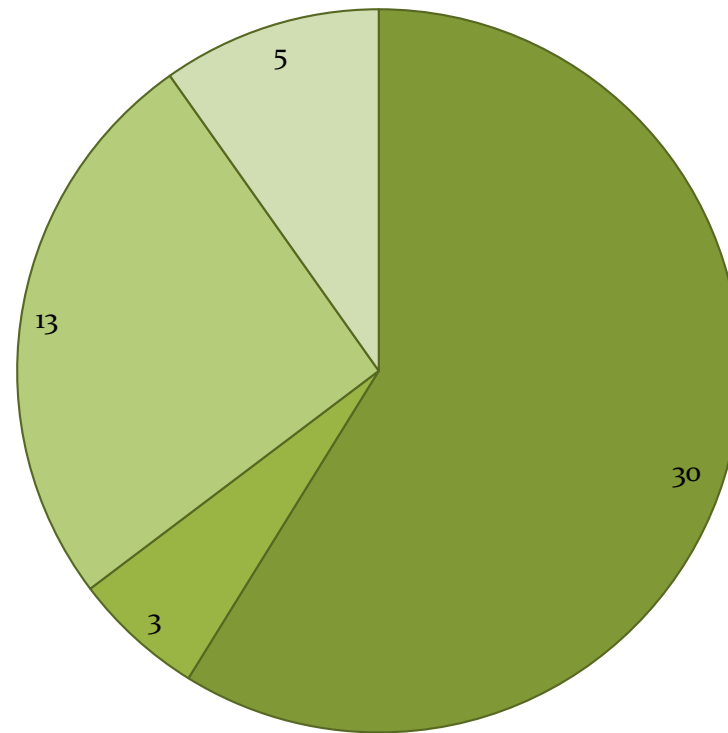
Literature Review

- Government policy to increase minimum wage has always been a controversial topic.
- Various methods in estimating the effect of minimum wage:
 - Time series: the employment-to-population ratio for a particular demographic group, especially young age workers (Neumark and Wascher, 1992, Bernstein and Schmitt 2000)
 - Difference in difference: employment in fast-food restaurants before and after an increase in the minimum wage in New Jersey (Katz and Krueger, 1992)
 - Panel data: Regional variation as response to the federal minimum wage increase (Card 1992), Burkhauser et al. (2000)
 - Case study : The effect of federal minimum wage on fast-food restaurants in Texas (Katz and Krueger 1991)
- Limitations:
 - Backward outlook based on historical data
 - Studies on minimum wage generally employ one-way effect
 - Do not account for dynamic effect of minimum wage policy
 - Case study: adequacy of the control groups, generalizability of findings
 - Interview/survey: data reliability, self-reported bias

Mixed findings

- On youth employment
 - No effect (Card 1992)
 - Negative effect (Neumark and Wascher 1992)
- Cumulative evidence on the effects of the minimum wage
 - An increase in minimum wage has negative effects on the job opportunities for low and unskilled workers (Goldfarb, 1974).
- Proponents:
 - Increasing purchasing power of those at the lowest income bracket
 - Reducing poverty
- Opponents:
 - Layoff, especially unskilled workers
 - Hit labor-intensive industries
 - Hit small-medium employers
 - Reducing state competitiveness

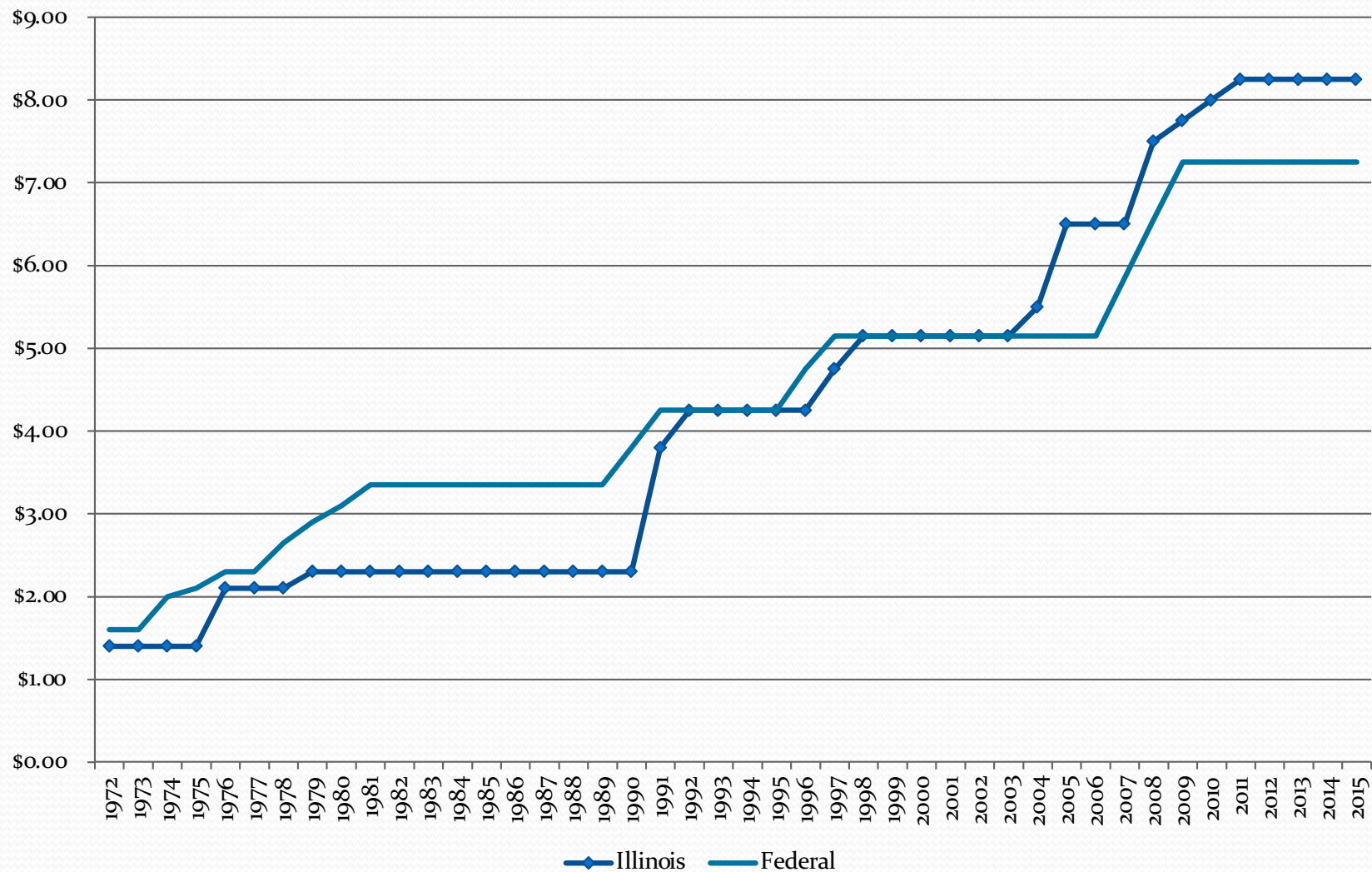
Minimum wage in 50 states and D.C. in 2015



■ Above Federal Minimum Wage ■ Below Federal Minimum Wage
■ Equal to Federal Minimum Wage ■ No State Minimum Wage

Source: U.S. Department of Labor

Minimum Wage evolution IL vs US 1972-2015



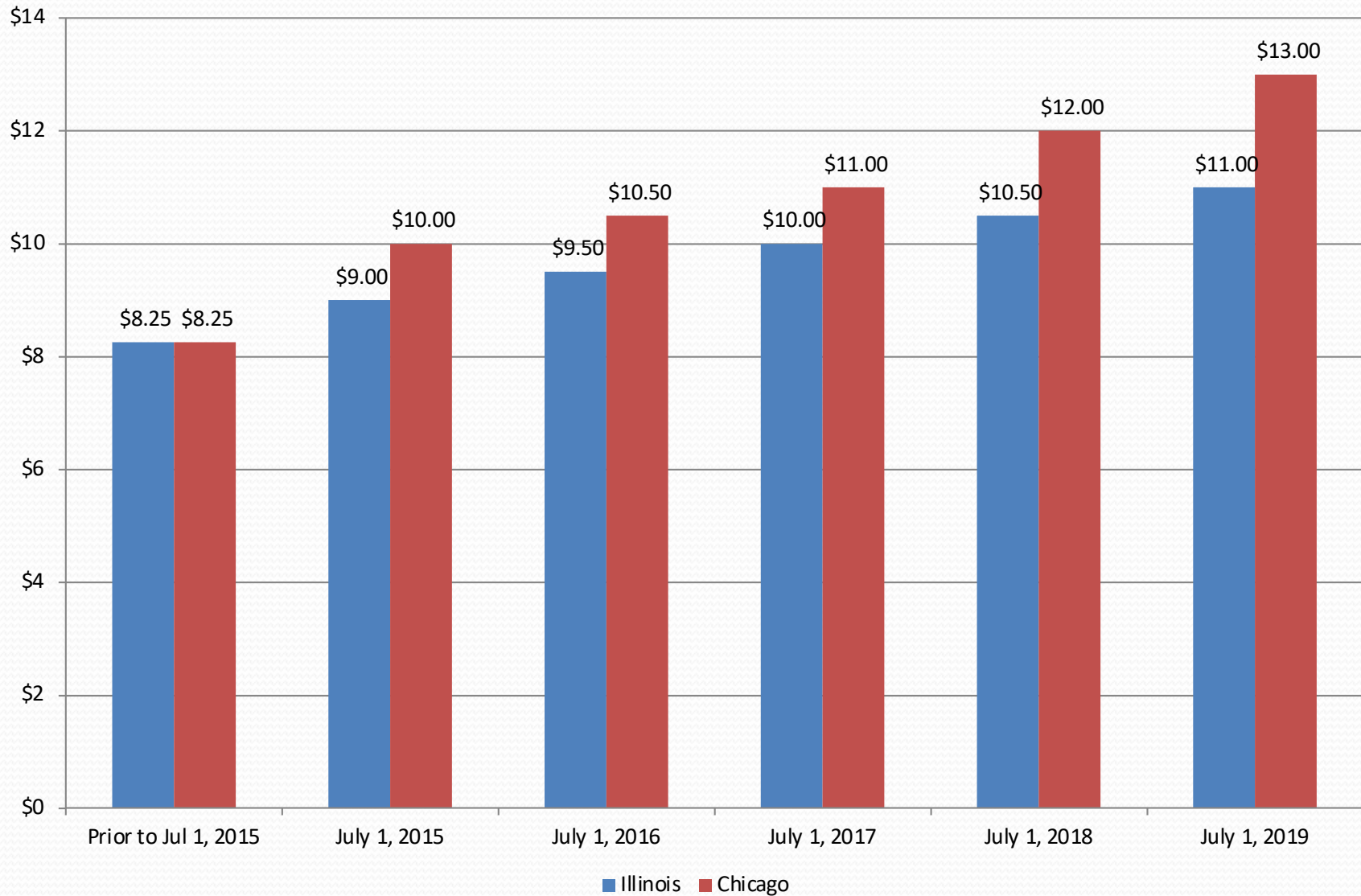
Historical Records of Unemployment and Minimum Wage in Illinois

Unemployment and Minimum Wage in Illinois



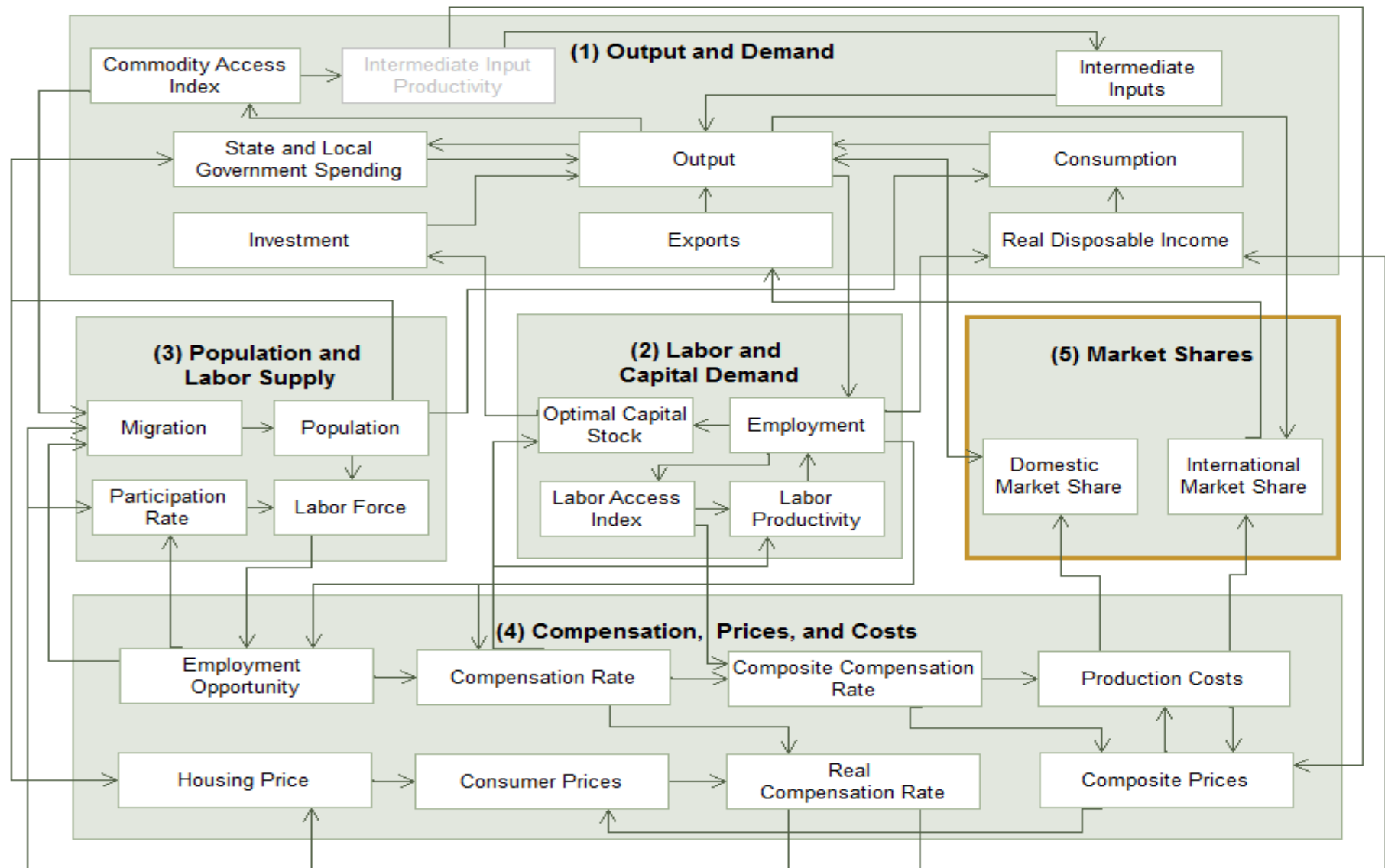
Timeline – SB 2145

Timeline of minimum wage increase



METHODOLOGY

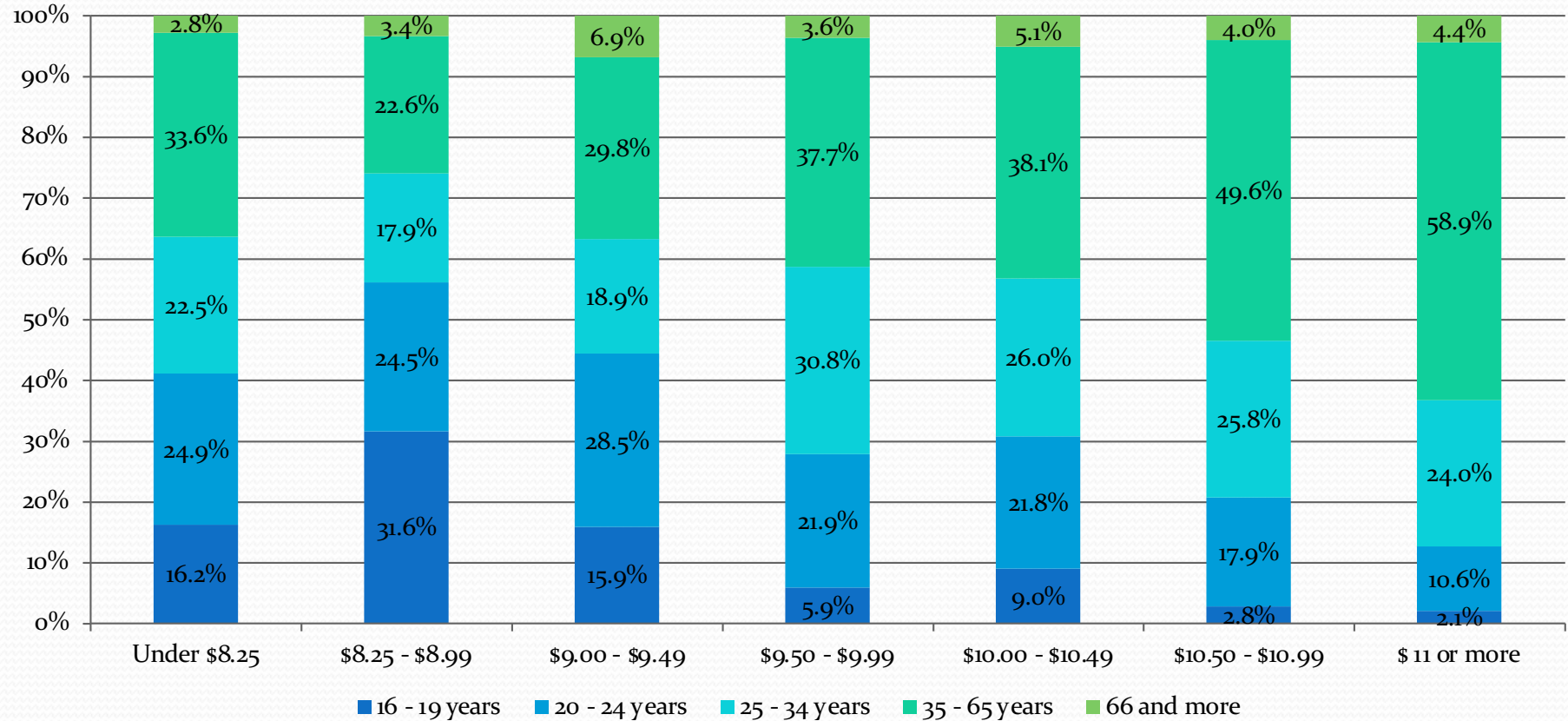
- REMI model:



Workers by Wage Rate and Age Cohort in Illinois, 2015

Age cohort	Under \$8.25	\$8.25 - \$8.99	\$9.00 - \$9.49	\$9.50 - \$9.99	\$10.00 - \$10.49	\$10.50 - \$10.99	\$ 11 or more	Total
16 - 19 years	21,005	62,772	22,584	4,933	26,069	1,936	46,004	185,303
20 - 24 years	32,179	48,549	40,642	18,254	63,268	12,259	238,184	453,335
25 - 34 years	29,131	35,594	26,935	25,677	75,379	17,671	538,648	749,035
35 - 65 years	43,500	44,875	42,498	31,439	110,691	33,963	1,322,143	1,629,109
66 and more	3,607	6,671	9,776	3,017	14,770	2,713	97,974	138,528
Total Hourly Workers	129,422	198,461	142,435	83,320	290,177	68,542	2,242,953	3,155,310

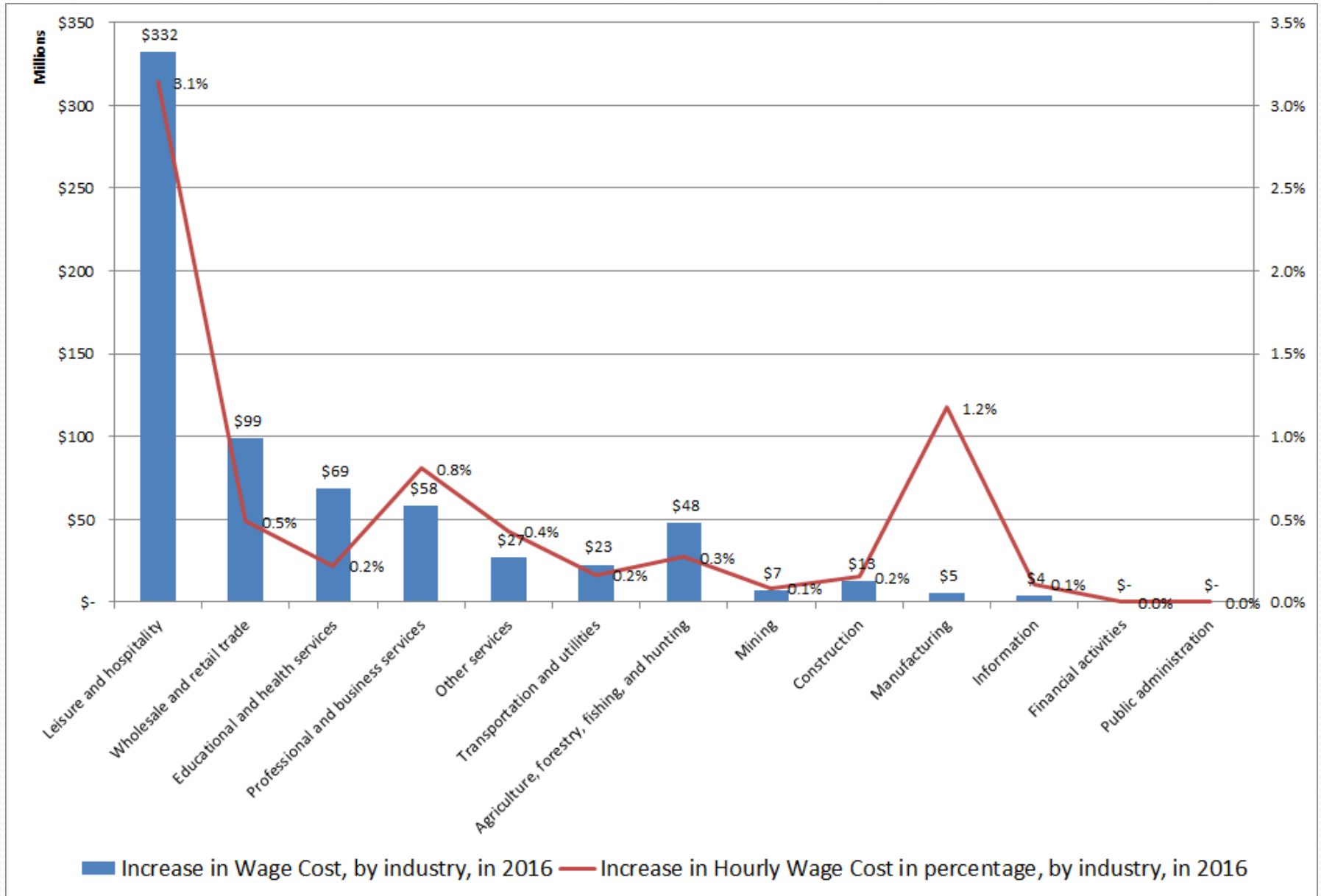
Distribution of workers by wage rate and age cohort in Illinois, 2015



Workers by Wage Rate and Industry in Illinois, 2015

Industry	Under \$8.25	\$8.25 - \$8.99	\$9.00 - \$9.49	\$9.50 - \$9.99	\$10.00 - \$10.49	\$10.50 - \$10.99	\$ 11 or more	Total
Leisure and hospitality	51,075	65,895	41,120	9,865	52,163	10,039	191,968	422,125
Wholesale and retail trade	22,121	57,561	39,180	19,476	54,454	17,469	292,723	502,984
Educational and health services	14,365	30,449	24,000	13,856	52,864	13,807	550,621	699,962
Transportation and utilities	8,845	2,767	2,886	3,600	12,301	3,999	153,111	187,509
Other services	8,704	15,298	9,821	5,541	21,051	1,160	101,205	162,780
Professional and business services	8,661	7,583	16,520	8,753	27,951	4,678	188,526	262,672
Manufacturing	7,619	12,414	2,818	14,507	32,805	5,231	322,335	397,729
Financial activities	3,187	2,015	4,362	3,140	12,669	5,659	124,431	155,463
Construction	2,674	1,138	-	-	10,668	1,131	157,022	172,633
Agriculture, forestry, fishing, and hunting	1,174	-	-	2,239	-	1,081	11,478	15,972
Information	997	3,340	-	-	6,578	2,050	42,769	55,734
Mining	-	-	-	-	-	-	5,568	5,568
Public administration	-	-	1,727	2,343	6,675	2,237	101,195	114,177
Total hourly workers	129,422	198,460	142,434	83,320	290,179	68,541	2,242,952	3,155,308
Total hourly workers (in %)	4.1%	6.3%	4.5%	2.6%	9.2%	2.2%	71.1%	100.0%

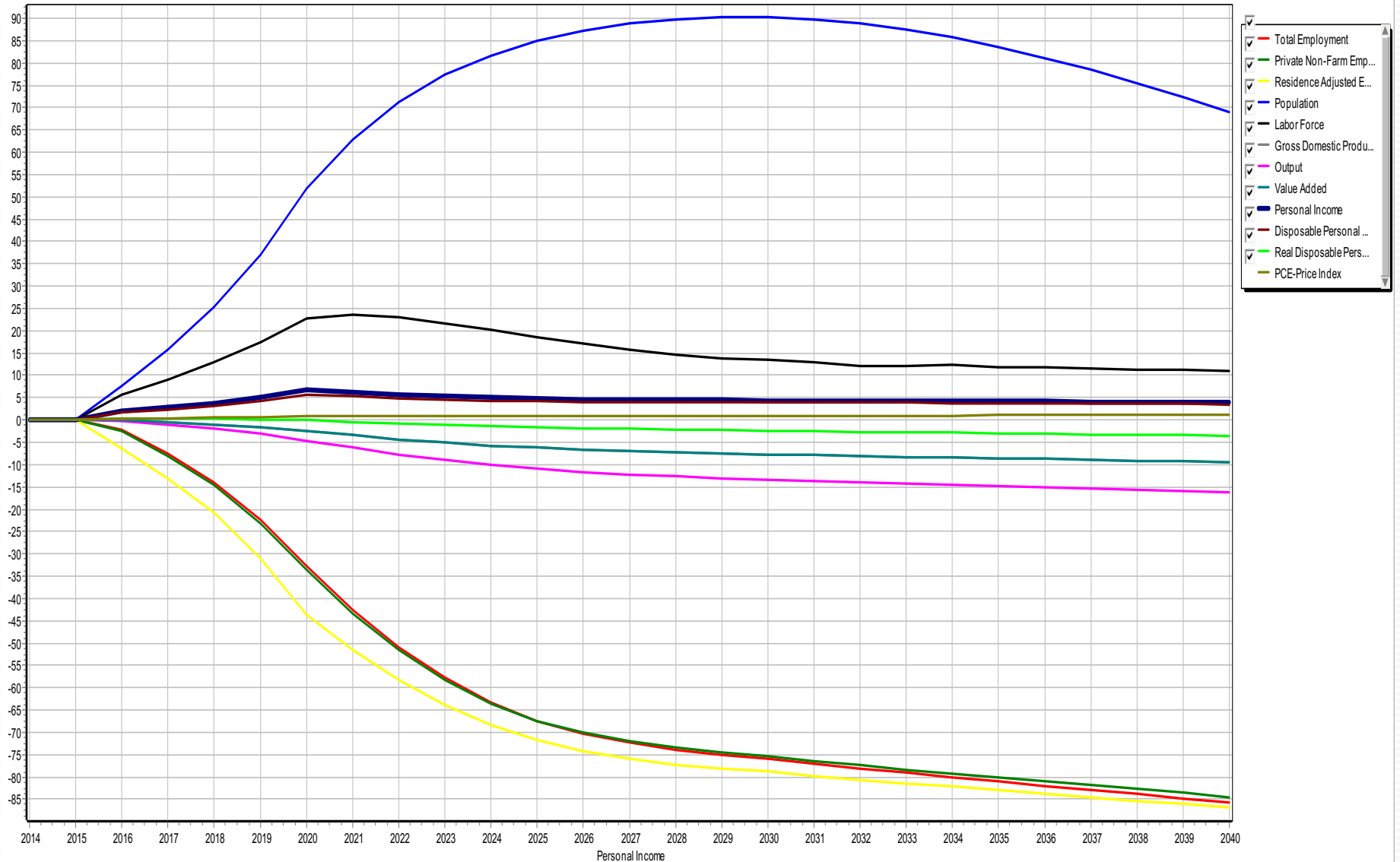
Wage cost effect of minimum wage increase (by industry, 2016)



Industry	additional cost per industry at given minimum wage				
	\$9	\$9.50	\$10	\$10.50	\$11
Leisure and hospitality	3.1%	4.3%	5.6%	7.2%	9.1%
Wholesale and retail trade	0.5%	0.9%	1.5%	2.2%	3.1%
Educational and health services	0.2%	0.4%	0.6%	0.9%	1.3%
Professional and business services	0.8%	1.0%	1.2%	1.5%	1.9%
Other services	0.4%	0.8%	1.3%	2.0%	2.8%
Transportation and utilities	0.2%	0.3%	0.6%	0.9%	1.4%
Agriculture, forestry, fishing, and hunting	0.3%	0.4%	0.5%	0.8%	1.2%
Mining	0.1%	0.2%	0.3%	0.5%	0.8%
Construction	0.2%	0.2%	0.2%	0.3%	0.5%
Manufacturing	1.2%	1.4%	1.9%	2.6%	3.3%
Information	0.1%	0.2%	0.3%	0.5%	0.8%
Financial activities	0.0%	0.0%	0.0%	0.0%	0.0%
Public administration	0.0%	0.0%	0.1%	0.2%	0.4%
Armed Forces	0.0%	0.0%	0.0%	0.0%	0.0%
Annual increase in wage costs	0.5%	0.8%	1.1%	1.6%	2.2%

REMI RESULTS:

Economic Summary



Remi results:

10/14/2016

Min wage 11 AM Mar 31 2016.rwb

Regional Simulation 1 compared to Standard Regional Control - % Change

Region = Illinois

Browser

Tax-PI Illinois v1.7.106 (Build 4117)

Category	Units	2016	2020	2025	2030	2035	2040
Total Employment	Thousands (Jobs)	-0.028983033	-0.411436682	-0.851661679	-0.963025203	-1.003537279	-1.036508453
Private Non-Farm Employment	Thousands (Jobs)	-0.037529917	-0.480957769	-0.964973852	-1.081134559	-1.114273519	-1.138245834
Residence Adjusted Employment	Thousands	-0.084196102	-0.555513495	-0.911164373	-1.004448912	-1.034217653	-1.055598678
Population	Thousands	0.057888443	0.386695214	0.620282515	0.648279246	0.590193933	0.478262831
Labor Force	Thousands	0.085674009	0.334634226	0.267543134	0.187805338	0.164260247	0.147127385
Gross Domestic Product	Billions of Fixed (2009) Dollars	-0.01156564	-0.316834498	-0.714923512	-0.807821699	-0.830494623	-0.846257893
Output	Billions of Fixed (2009) Dollars	-0.018407728	-0.33833491	-0.739029896	-0.831156031	-0.851902489	-0.865009054
Value Added	Billions of Fixed (2009) Dollars	-0.01156564	-0.316834498	-0.714923512	-0.807821699	-0.830494623	-0.846257893
Personal Income	Billions of Current Dollars	0.295142678	0.795678648	0.462600542	0.34418744	0.277532026	0.21634428
Disposable Personal Income	Billions of Current Dollars	0.287421457	0.782538171	0.471880203	0.361018013	0.294907859	0.231744844
Real Disposable Personal Income	Billions of Fixed (2009) Dollars	0.065681281	0.006173247	-0.242682424	-0.316281589	-0.361462931	-0.407395134
PCE-Price Index	2009=100 (Nation)	0.221594629	0.776317	0.716300964	0.679448573	0.658751935	0.641754455

Impact - employment by sector:

10/11/2016

Min wage 11 AM Oct 11 2016.rwb

Regional Simulation 1 compared to Standard Regional Control - Difference

Region = Illinois

Browser

Tax-PI Illinois v1.7.106 (Build 4117)

Category	Units	2016	2020	2025	2030	2035	2040
Management, business, and financial occupations	Thousands (Jobs)	-0.0528575	-2.4138598	-5.6964416	-6.3012718	-6.5789334	-6.8759803
Computer, mathematical, architecture, and engineering occupations	Thousands (Jobs)	-0.1408791	-1.4906287	-3.0217387	-3.3888081	-3.6165761	-3.8266796
Life, physical, and social science occupations	Thousands (Jobs)	-0.003843	-0.1228689	-0.2995984	-0.3572609	-0.3969793	-0.4366547
Community and social service occupations	Thousands (Jobs)	0.06888	0.0152488	-0.2331958	-0.2864025	-0.321106	-0.3756217
Legal occupations	Thousands (Jobs)	-0.0086461	-0.1400278	-0.3307605	-0.3927341	-0.4377895	-0.4828327
Education, training, and library occupations	Thousands (Jobs)	0.192434	0.2829372	-0.4217123	-0.6805204	-0.8539521	-1.0732019
Arts, design, entertainment, sports, and media occupations	Thousands (Jobs)	-0.1009761	-0.8037748	-1.5054668	-1.7027086	-1.8353686	-1.9422862
Healthcare occupations	Thousands (Jobs)	0.3235053	-0.7323302	-2.4213977	-2.8090912	-3.0942462	-3.4863814
Protective service occupations	Thousands (Jobs)	-0.0116739	-0.3449659	-0.8640821	-1.0424428	-1.1698184	-1.3016917
Food preparation and serving related occupations	Thousands (Jobs)	-2.2313249	-9.849852	-14.64639	-16.547705	-18.114719	-19.502847
Building and grounds cleaning and maintenance, personal care and service occupations	Thousands (Jobs)	-0.1380276	-2.8621949	-5.6166317	-6.401065	-6.9631024	-7.5148241
Sales and related, office and administrative support occupations	Thousands (Jobs)	0.0255066	-7.2489172	-15.815629	-17.678565	-18.706556	-19.614241
Farming, fishing, and forestry occupations	Thousands (Jobs)	-0.0055916	-0.0547361	-0.1004217	-0.1095196	-0.1132131	-0.1154872
Construction and extraction occupations	Thousands (Jobs)	0.4754473	1.090594	-1.3037665	-1.8592927	-1.9045332	-2.0256729
Installation, maintenance, and repair occupations	Thousands (Jobs)	0.0347277	-1.0420256	-2.5724662	-2.9078506	-3.0648213	-3.2158846
Production occupations	Thousands (Jobs)	-0.5078437	-3.9401633	-6.912905	-7.0998775	-7.1135967	-7.0750733
Transportation and material moving occupations	Thousands (Jobs)	-0.1905887	-2.9654566	-5.7405802	-6.334627	-6.6751348	-6.9508137
Military	Thousands (Jobs)	0	0	0	0	0	0

So, what did REMI say?

- **Negative effect on employment**
 - Given that increase in wage is not due to increase in productivity, workforce will be reduced to compensate for increase in labor cost. This loss reaches over 4/10 of a percent by the fifth year of implementation. Food preparation and serving related occupations & sales and related, office and administrative occupations have the most negative effects.
- **Negative effect on Gross Domestic Product**
 - Higher labor cost & higher cost of goods and services have a detrimental effect on competitiveness. This leads to decrease in exports and business investment. This loss reaches over 3/10 of a percent by the fifth year of implementation.
- **Negative effect on prices**
 - Raising labor cost will be translated into higher prices.
- **Positive effect on Personal (and disposable) income**
 - Raising minimum wage will increase earnings – personal income- of eligible workers (those that remain employed)
- **Negative effect on Real personal disposable income**
 - Given the increase in prices, there is a negative effect on real personal income.
- **Positive effect on population growth.**
 - Increased net economic migrants, probably explained by an improved consumption access index in IL and by improved relative real compensation rate in the state.

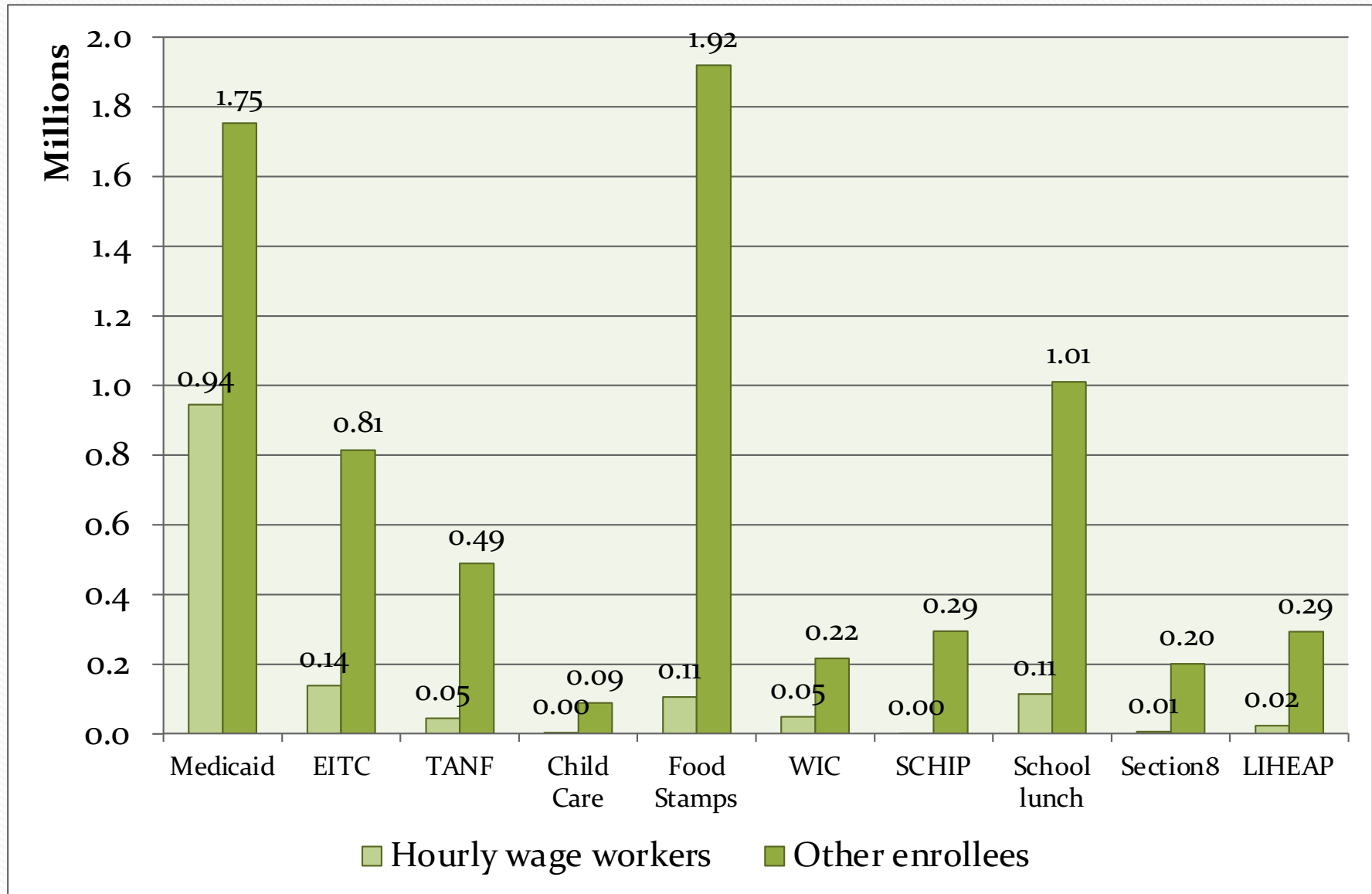
Increase in Min. Wage - Other Effects: Public Assistance Programs:

- As the recipient's income increases due to higher wage per hour, she/he may no longer be eligible to receive public assistance since her/his total income is greater than the maximum income limit.
- **Illinois participates in 10 public assistance programs:**
 - Medicaid,*
 - The Earned Income Tax Credit,*
 - TANF,*
 - Child Care,*
 - Food Stamps,*
 - Women, Infants, and Children Nutrition Program (WIC),*
 - Healthy Families (SCHIP),*
 - Free or Reduced Price Lunch,*
 - Section 8 Rental Assistance and*
 - Low Income Heat and Energy Assistance*

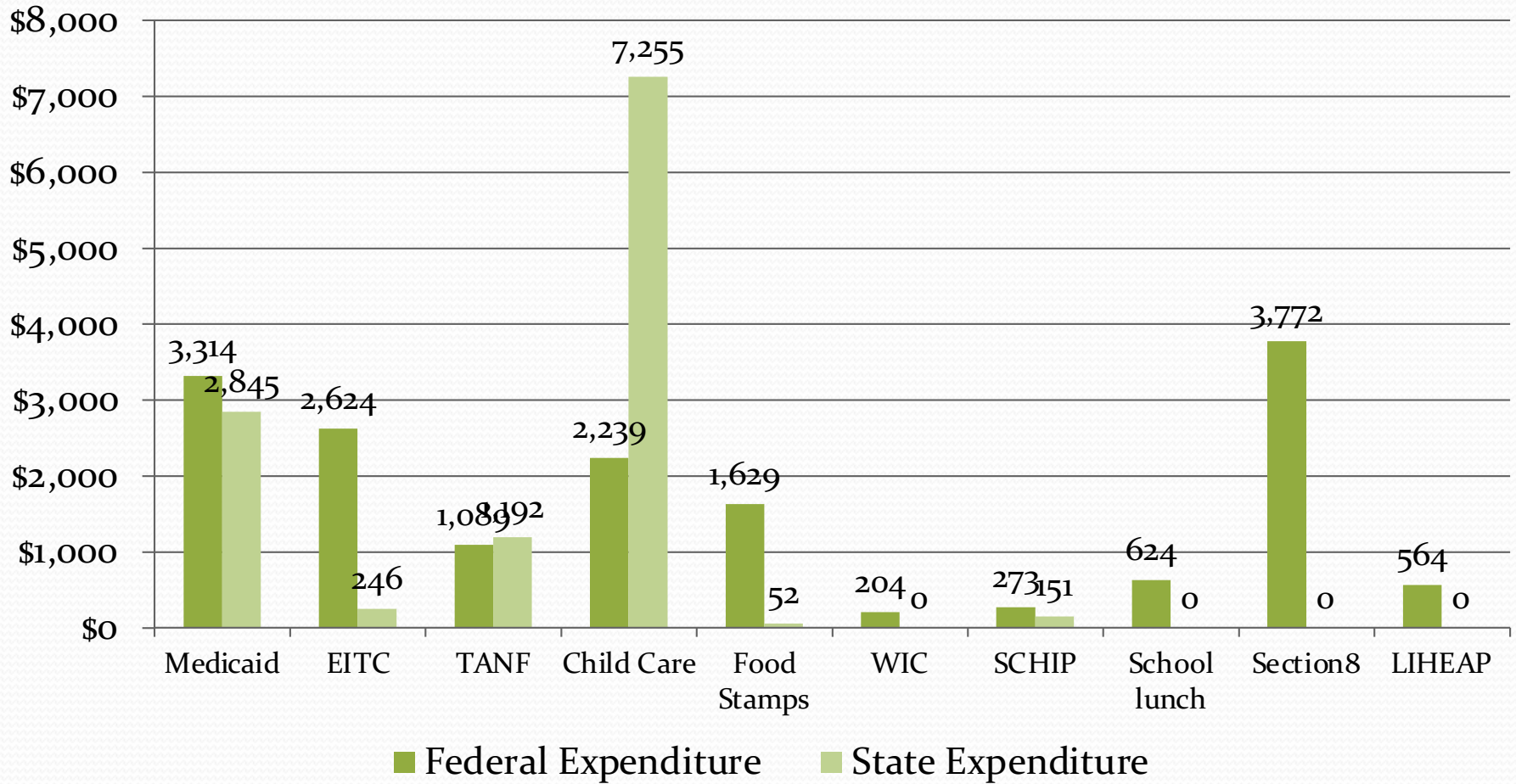
Data source:

- Administrative data from each program.
 - Advantage: official information about government spending and enrollments.
 - Limitation: It does not provide information about demographic, economic, and income characteristics of the recipients which are required to estimate the expenditure effect of minimum wage increase.
- Current Population Survey (CPS) March Supplement from U.S. Census
 - Advantage: Demographic, industry, economic, and income characteristics of the recipients.
 - Limitation: Less reliable information about enrollment and government spending on each program.

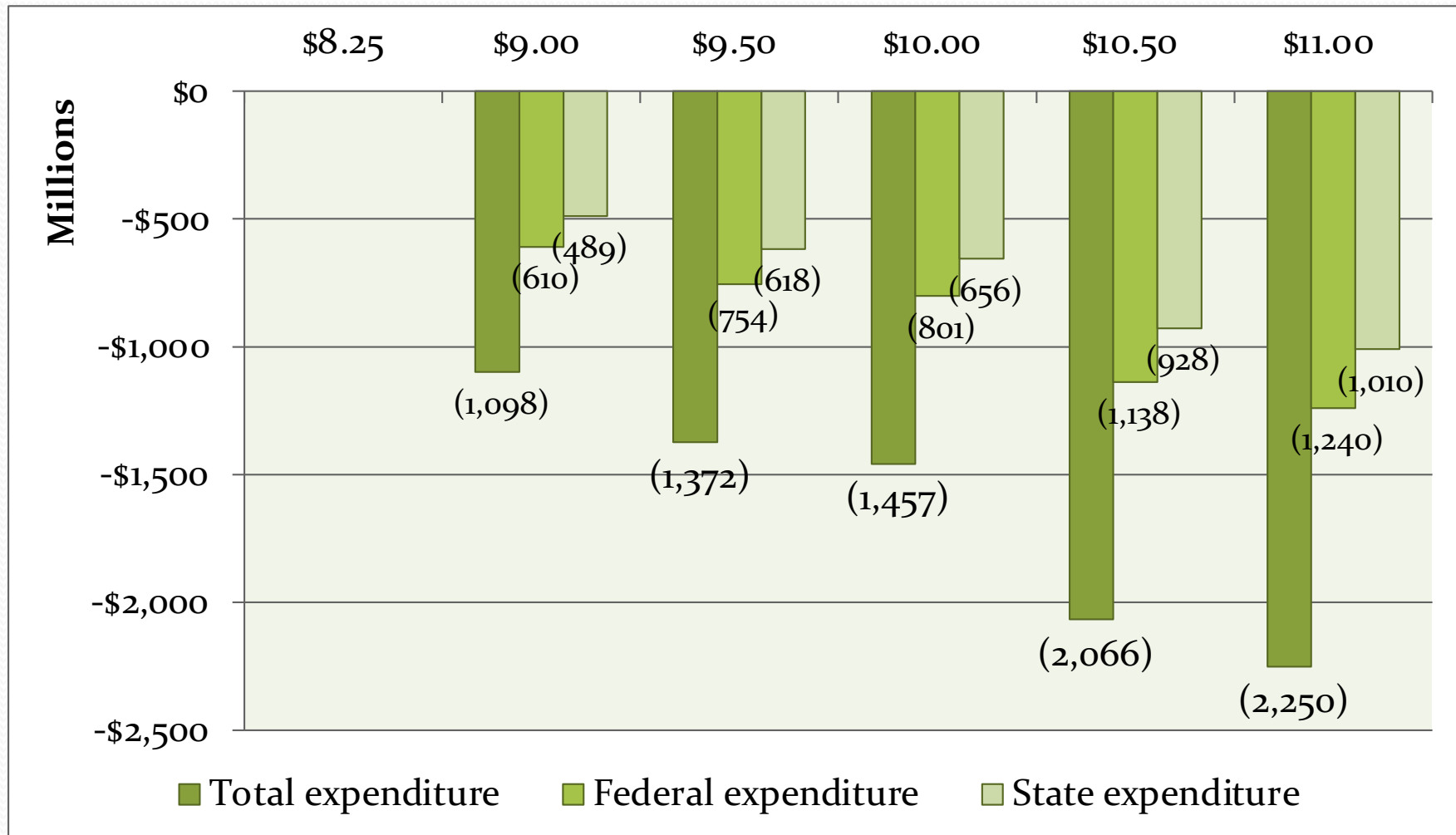
People receiving public assistance in Illinois, 2014



Average cost per beneficiary of public assistance in Illinois, by program, 2014



Predicted change in public assistance expenditure



* Estimated using the average value of benefit in administrative data

Remi results when we include a decrease in public assistance programs spending.

10/12/2016

Lang plus min wage 2 year Budget.rwb

Regional Simulation 3 compared to Updated Budget - Revenues + Expenditures - % Change

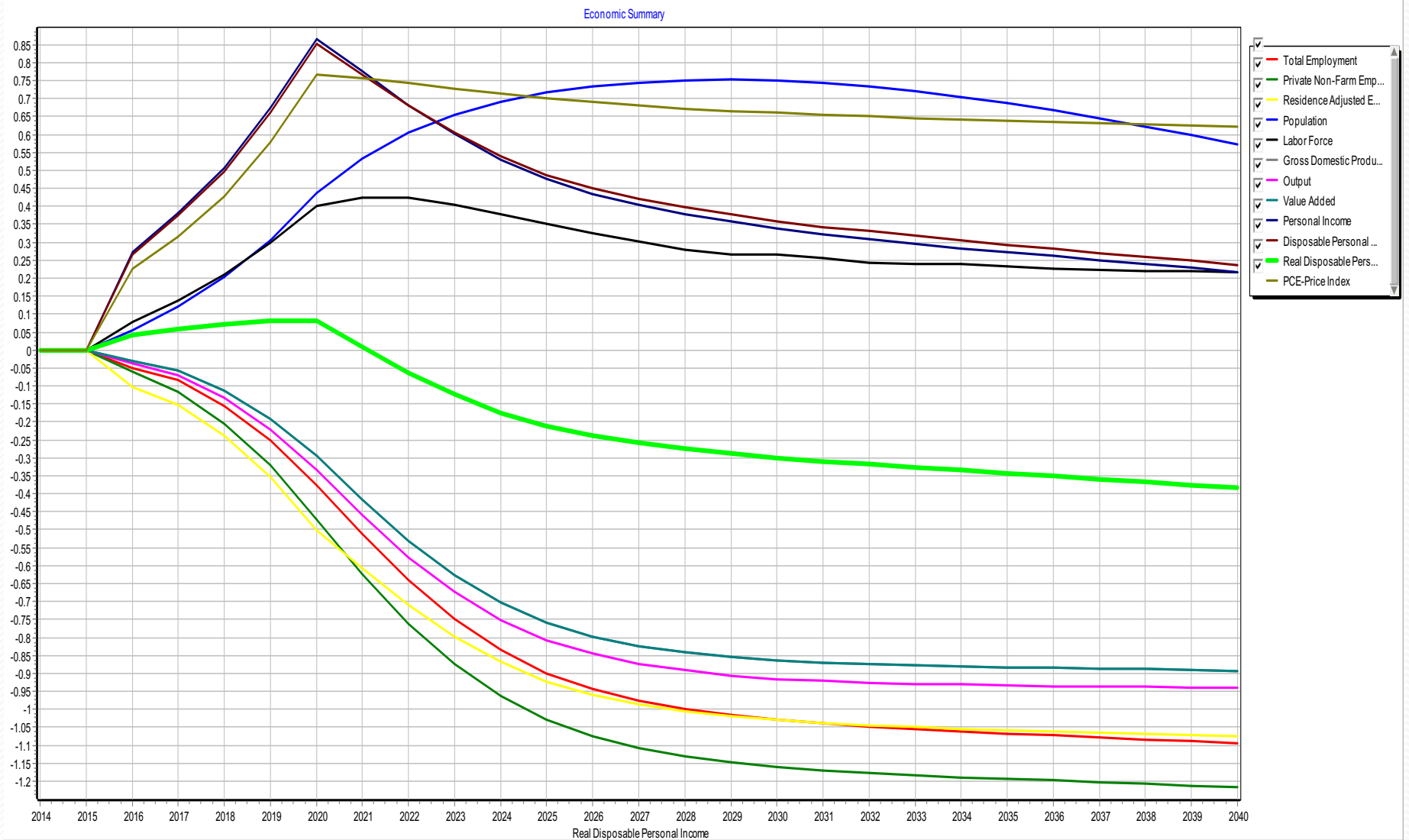
Region = Illinois

Browser

Tax-PI Illinois v1.7.106 (Build 4117)

Category	Units	2016	2020	2025	2030	2035	2040
Total Employment	Thousands (Jobs)	-0.0509742	-0.3749271	-0.8990684	-1.0285457	-1.0666041	-1.0942335
Private Non-Farm Employment	Thousands (Jobs)	-0.0616661	-0.4726314	-1.0288244	-1.16126	-1.1934298	-1.216482
Residence Adjusted Employment	Thousands	-0.1028376	-0.5016676	-0.9219734	-1.0292221	-1.0580685	-1.0747514
Population	Thousands	0.0537591	0.4362798	0.7171068	0.7498005	0.6869912	0.5714165
Labor Force	Thousands	0.0772508	0.4006538	0.3501267	0.2651096	0.2315203	0.2169321
Gross Domestic Product	Billions of Fixed (2009) Dollars	-0.0309989	-0.2943098	-0.7591588	-0.8650446	-0.8830791	-0.8925195
Output	Billions of Fixed (2009) Dollars	-0.0387433	-0.3334348	-0.8071444	-0.9152058	-0.9332352	-0.9413995
Value Added	Billions of Fixed (2009) Dollars	-0.0309989	-0.2943098	-0.7591588	-0.8650446	-0.8830791	-0.8925195
Personal Income	Billions of Current Dollars	0.2730832	0.8653567	0.4755669	0.337246	0.2721513	0.2173872
Disposable Personal Income	Billions of Current Dollars	0.2660371	0.8508335	0.4872166	0.3576377	0.2931641	0.2361104
Real Disposable Personal Income	Billions of Fixed (2009) Dollars	0.040353	0.0826064	-0.2129515	-0.2999591	-0.3427591	-0.3839597
PCE-Price Index	2009=100 (Nation)	0.2255931	0.7675931	0.7016623	0.6595753	0.6381103	0.6224601

Decrease in state spending effect:



In summary:

- An increase in minimum wage from the current \$8.25 to \$11 leads to a loss of employment. This loss is higher when we include the decrease in state spending in public assistance programs - over 1 percent by 2030.
- A crucial assumption is that savings are not assigned to other spending but rather used for payment of debt (no multiplier effect).
- Again there is a negative effect on GDP growth, but more negative than in the first scenario. GDP growth is almost 1 percent lower than the baseline (control) scenario by 2030.
- All other results show the same sign than in our first scenario, but tend to be more negative or less positive (Personal income for example).
- Lessons learned:
 - be meticulous with your initial input or estimate that feeds into REMI.
 - Check that your modeling makes economic sense.