ASSESSING A NEW VERMONT MINIMUM WAGE: A MAXIMUM LABOR INPUT APPROACH USING THE REMI MODEL

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INTRODUCTION

This presentation focuses on the mechanics of performing a study of proposed new minimum wage levels for Vermont and the impact of implementation.

New minimum wage rate evaluated here are:

$12.50 by 2021 vs.

$13.25 by 2022 vs.

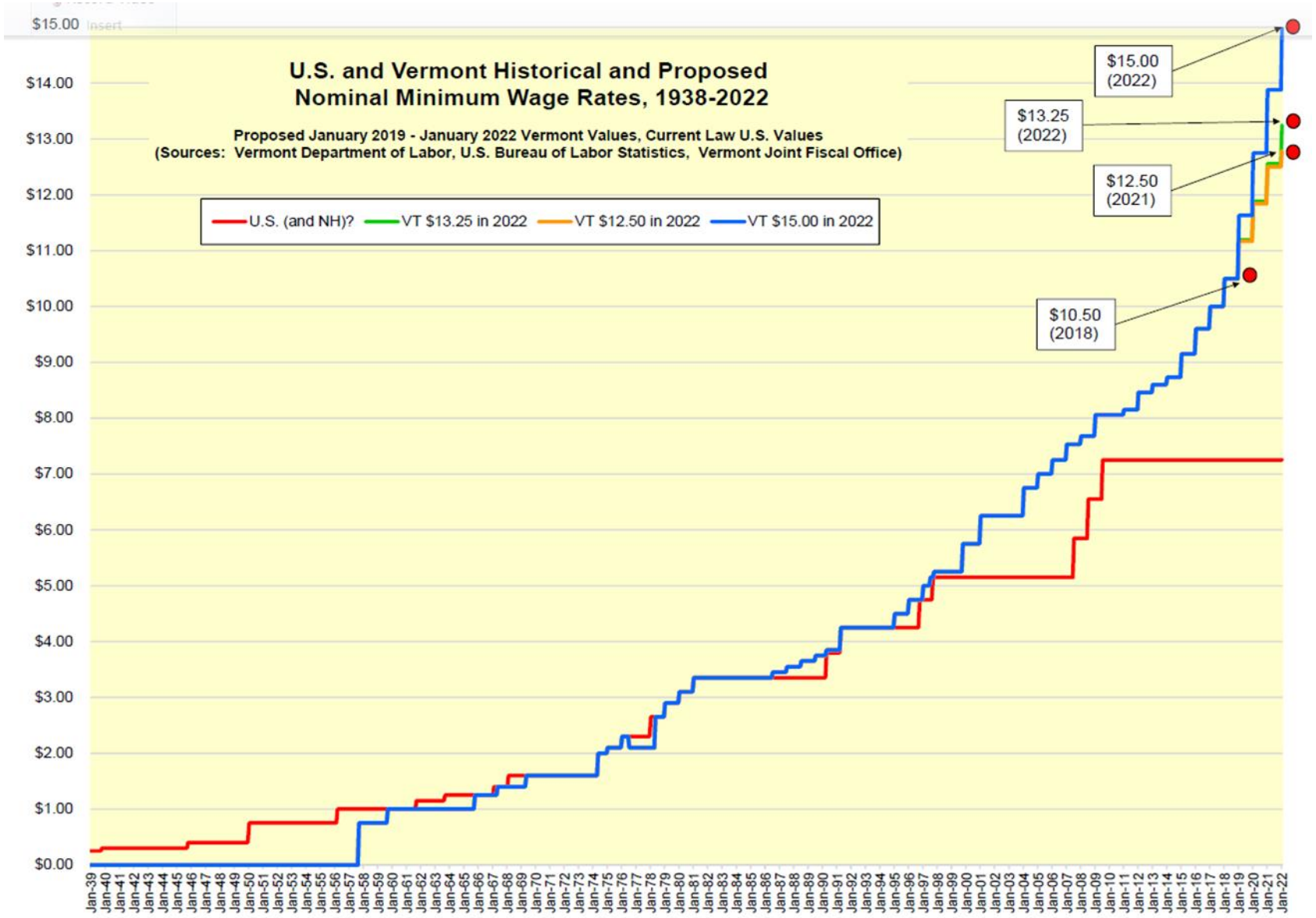
$15.00 by 2022

Our analysis is presented in four parts:

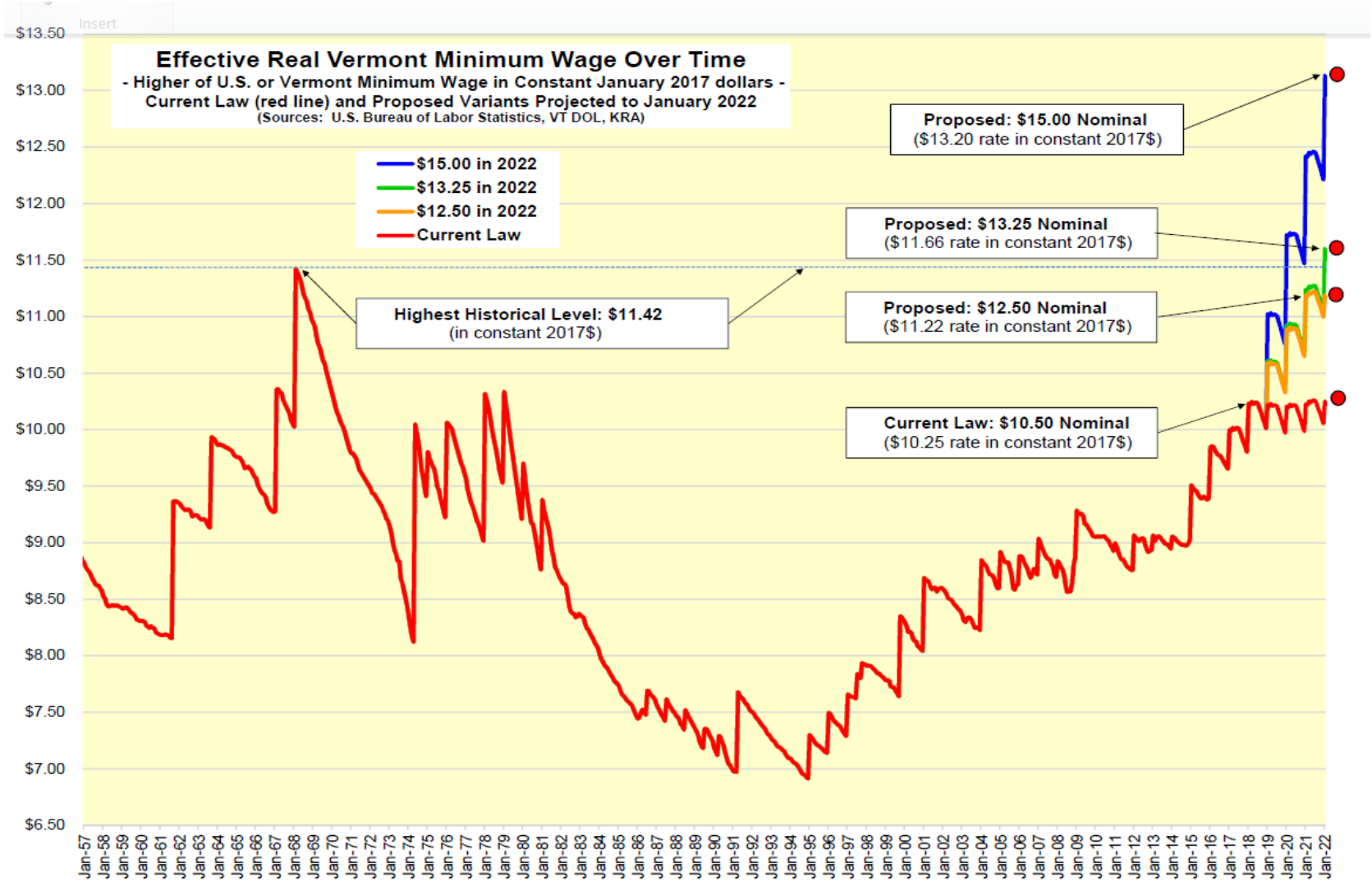
1. Background on Vermont minimum wage history
2. Data and analysis used to estimate the direct effect of different minimum wage levels
3. Results of change alternatives
4. Summary of findings

Background

- The current Vermont minimum wage is $10.00
- It is legislated rise to $10.50 in 2018 and increase thereafter at the annual rate of change in the CPI.
- Since 2000, Vermont's minimum wage has been above the U.S. minimum (and that of it's eastern neighbor, New Hampshire, which uses the federal rate.

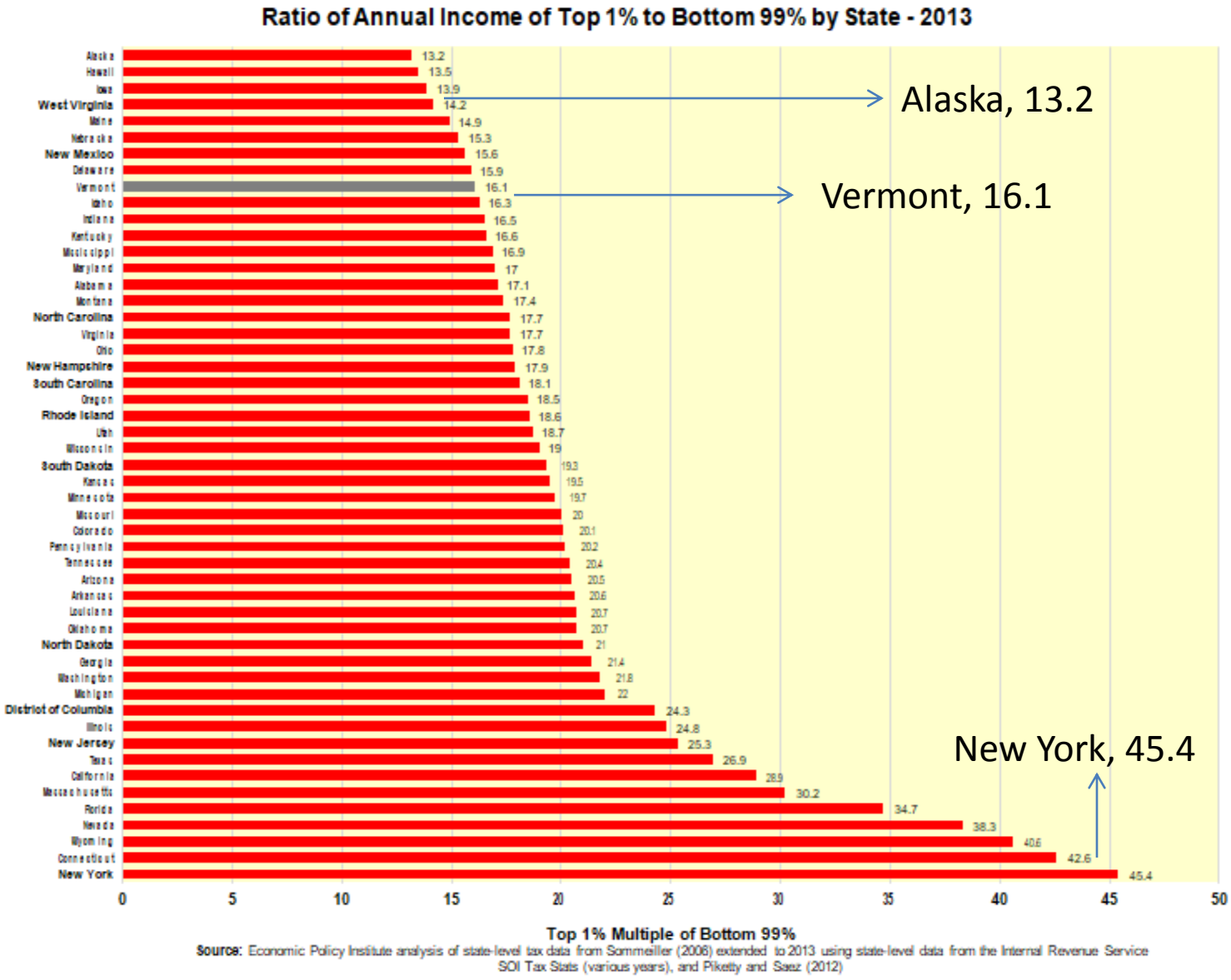

U.S. and Vermont Historical and Proposed
Nominal Minimum Wage Rates, 1938-2022
Proposed January 2019 - January 2022 Vermont Values, Current Law U.S. Values
(Sources: Vermont Department of Labor, U.S. Bureau of Labor Statistics, Vermont Joint Fiscal Office)
U.S. (and NH)?
VT $13.25 in 2022
VT $12.50 in 2022
VT $15.00 in 2022
$15.00 (2022)
$13.25 (2022)
$12.50 (2021)
$10.50 (2018)
$15.00
$14.00
$13.00
$12.00
$11.00
$10.00
$9.00
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00

IN REAL TERMS, THE VERMONT RATE IS LIKELY TO SURPASS ITS HISTORICAL MAXIMUM (REACHED IN 1969!)



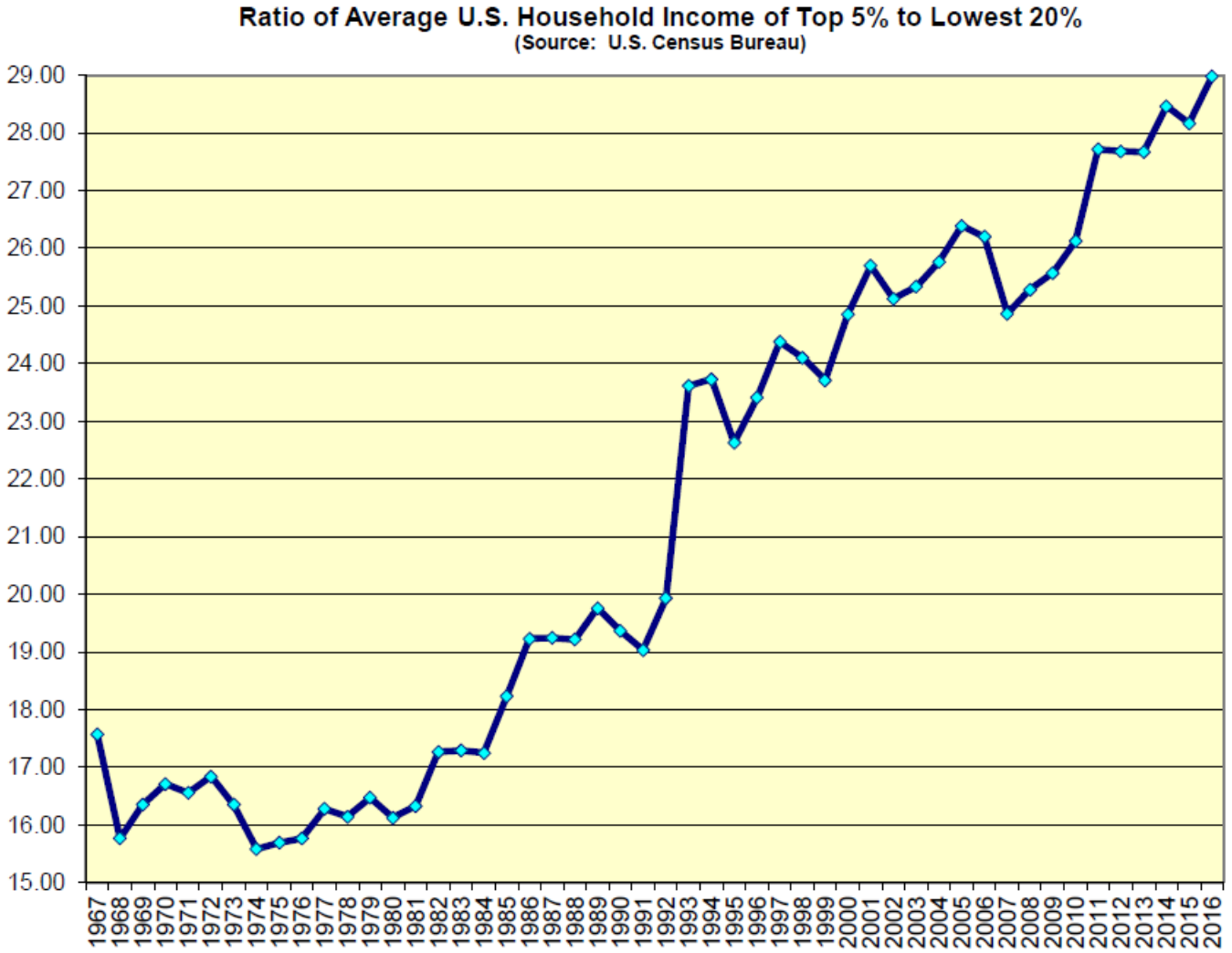
WHY IS A NEW MINIMUM WAGE NEEDED IN VERMONT?

- **Growing income disparity**
- **Unbalanced income distribution**
- **General fairness and equity, as a lopsided income distribution creates unequal opportunity for those born into families at the lower end.**

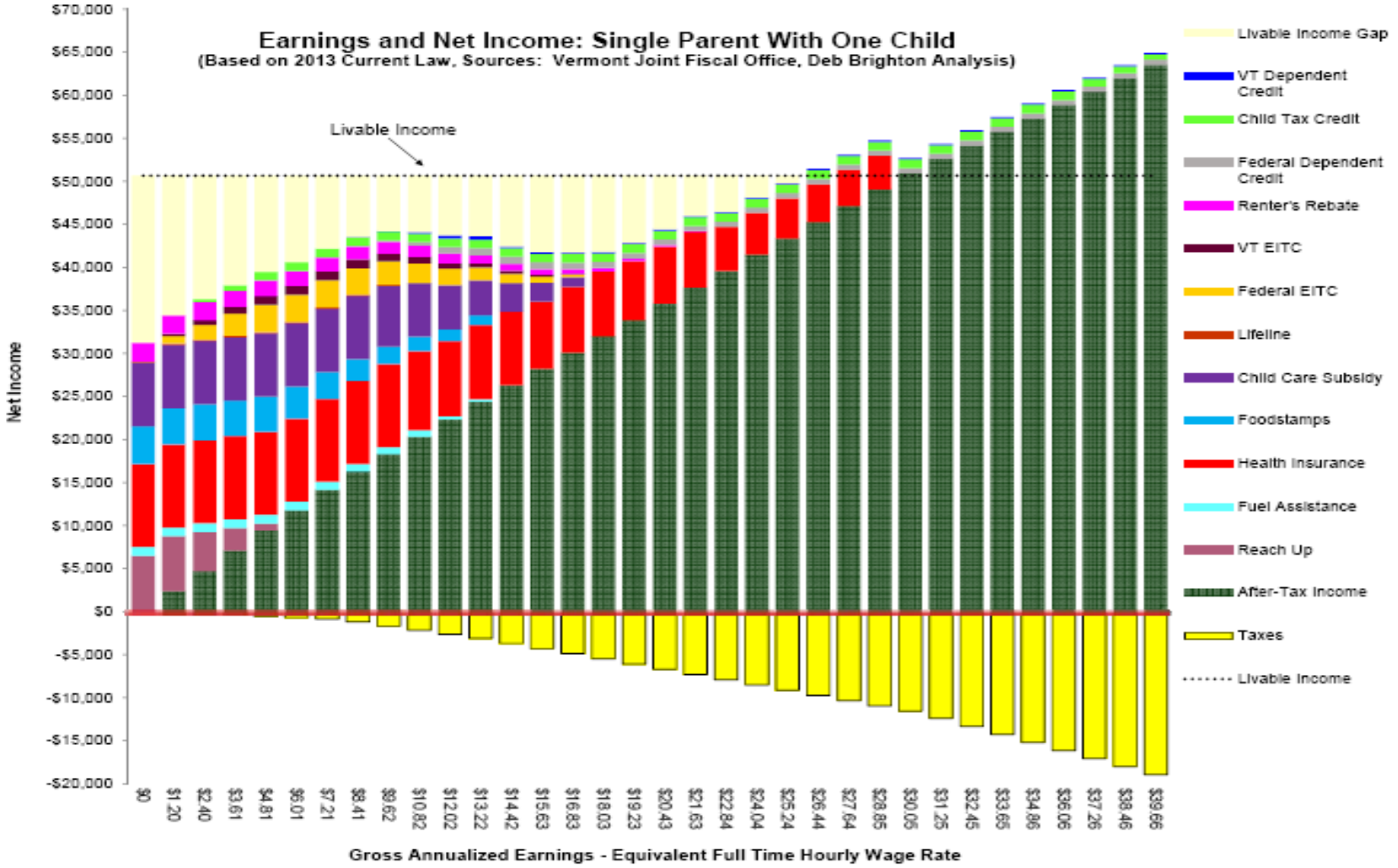


Source: Economic Policy Institute analysis of state-level tax data from Sommeiller (2006) extended to 2013 using state-level data from the Internal Revenue Service SOI Tax Stats (various years), and Piketty and Saez (2012)

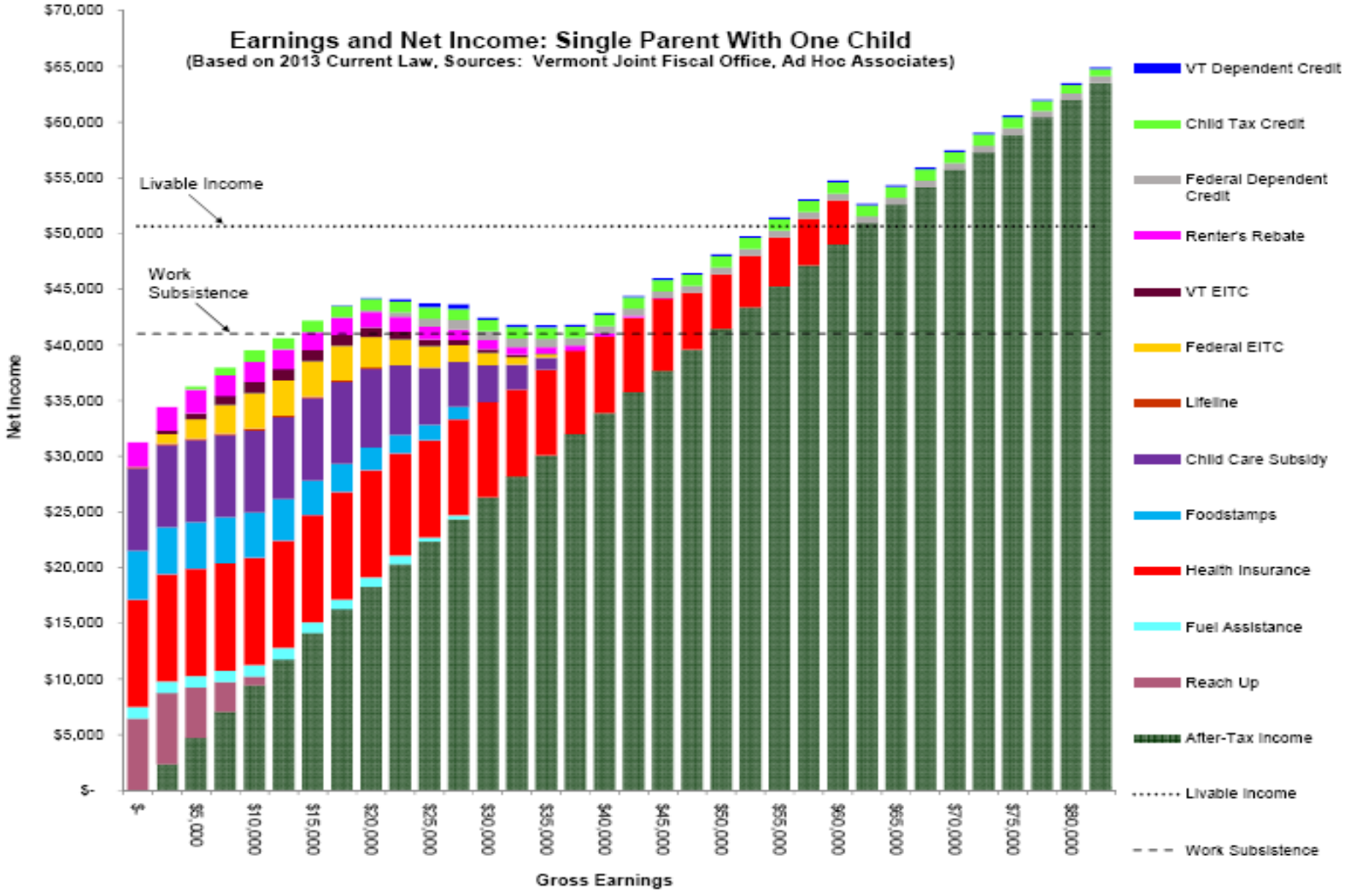
THE GROWING DISPARITY IN HOUSEHOLD INCOMES



Vermont's Minimum Wage is Not A Livable Wage (i.e., <$26.44 in $2013)



Vermont Annual Livable Wage by Income Source, $2013



Data Selection and Preparation: Maximum Labor Input in Two Parts

1. Because there are no models of the Vermont economy that decompose labor hours and compensation based on wage-rate categories, we had to do this first to prepare the aggregate effect of wage rate changes as an input to REMI.

2. To gauge the direct effect of minimum wage rate changes on State and federal transfer payment and income protection programs, we had to identify program-by-program how many workers would be affected and whether their eligibility would change. With these data inputs, we could estimate the total impact of these changes in State and federal outlays.

To Estimate The Size of a New Minimum Wage, We Used VT-DOL Data

Data Request for: Joint Fiscal Office

Vermont Department of Labor - Economic and Labor Market Information

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1 - Vermont Minimum Wage, Jan 2015		9.15	9.21	9.31	9.41	9.51	9.61	9.71	9.81	9.91
(s) - estimate suppressed, can not publish		9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	10.00
Source: Occupational Employment Statistics										
Prepared by VTLMI 2/17/2017		9.18	9.26	9.36	9.46	9.56	9.66	9.76	9.86	9.96

NAICS Industry code	NAICS Industry Title	Total Jobs	Hourly Wage Ranges								
			9.15[1] - 9.20	9.21 - 9.30	9.31 - 9.40	9.41 - 9.50	9.51 - 9.60	9.61 - 9.70	9.71 - 9.80	9.81 - 9.90	9.91 - 10.00
113	Forestry and Logging	173.00	0.59	1.28	1.43	1.48	1.47	0.78	0.53	0.53	0.54
115	Support Activities for Agriculture and Forestry	254.00	2.23	4.47	3.71	2.98	2.98	3.18	2.88	2.51	2.51
212	Mining (except Oil and Gas)	668.00	0.13	0.25	0.79	1.33	1.26	1.18	1.19	1.19	1.19
221	Utilities	1,632.00	1.39	2.78	2.92	3.06	1.96	0.71	0.71	0.70	0.71
236	Construction of Buildings	4,081.00	8.35	17.06	9.93	2.82	2.59	2.34	3.43	4.49	4.49
237	Heavy and Civil Engineering Construction	1,778.00	2.24	3.98	4.07	5.17	5.52	4.20	3.77	3.72	3.73
238	Specialty Trade Contractors	9,846.00	11.41	23.45	19.37	17.36	21.51	26.91	28.32	28.47	28.46
311	Food Manufacturing	5,585.30	49.09	99.70	99.27	74.02	43.17	30.82	24.12	18.80	18.79
312	Beverage and Tobacco Product Manufacturing	685.43	9.92	10.90	2.12	2.39	2.45	2.79	4.37	5.80	5.80
313	Textile Mills	170.08	0.00	0.00	0.00	0.00	1.28	2.72	2.73	2.72	2.73
314	Textile Product Mills	87.59	0.78	1.57	1.68	2.13	1.80	1.30	1.41	1.40	1.41
315	Apparel Manufacturing	187.40	3.87	7.85	7.96	8.26	8.56	8.56	5.39	2.25	2.24
316	Leather and Allied Product Manufacturing	0.00	0	0	0	0	0	0	0	0	0
321	Wood Product Manufacturing	1,693.00	13.17	25.25	24.13	24.53	26.05	19.74	14.36	11.64	11.65
322	Paper Manufacturing	741.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.46	0.45
323	Printing and Related Support Activities	1,032.00	5.25	9.85	9.26	9.57	9.76	4.60	2.71	2.61	2.61
324	Petroleum and Coal Products Manufacturing	0	0	0	0	0	0	0	0	0	0
325	Chemical Manufacturing	1,343.00	0.98	2.71	3.94	4.49	4.48	5.22	5.49	5.45	5.46
326	Plastics and Rubber Products Manufacturing	1,235.00	1.64	2.70	2.04	2.57	3.16	5.88	7.05	7.26	7.27

35 Wage Rate Intervals in $0.10 Increments

83 Industries

To Estimate Aggregate Wage Change

- **Take the job counts from the BLS/VTDOL Occupational Employment Survey by industry**
- **Apply the average weekly and annual hours *by industry* for wage groups up to the new minimum wage plus spillover of 15% above the new minimum, as suggested in the recent literature on wage rate increase impact.**
- **Map NAICS into REMI**

Wage effects simulated in REMI include:

- Wage bill change by industry
- Production cost change
- Consumption adjustment (using Consumer Expenditure Survey, not REMI reallocation) by income groups for the three lowest household income categories
- Adjustment to production cost changes due to lower turnover costs, efficiency wages, and wage compression

To Estimate the federal and State Transfer Payment Program Effects

Change from $12.50/hour in 2018 -- (Million 2015 dollars)

	$15 in 2022	$13.25 in 2022	$12.50 in 2021
Federal			
Income Tax	26.6	9.2	5.9
Payroll Tax employee**	13.8	5.4	3.4
Payroll Tax employer**	13.8	5.4	3.4
EITC savings	2.9	1.5	1.0
Medicaid savings	14.5	6.5	5.5
Health Subsidy savings (cost)	-$11.6	-5.2	-4.4
Child Medicaid/SCHIP savings	2.1	0.6	0.6
Federal Total	68.9		17.4
State			
Income Tax	6.9	2.4	1.6
HO Rebate savings	0.4	0.3	0.2
Renter Rebate savings	0.2	0.1	0.1
PTA savings	1.5	0.6	0.4
CCFAP savings	5.0	2.3	1.6
VT EITC savings	0.9	0.5	0.3
Medicaid	6.2	2.5	2.2
premium + cost sharing (cost)	-0.9	-0.4	-0.3
DD savings	2.0	-0.6	0.5
LIHEAP savings	0.9	0.3	0.3
State Total	23.3	8.1	6.9

** Assuming 80% wages subject to payroll tax
90% wage earners pay income taxes
50% people losing Medicaid buy insurance on the exchange
Utilization rate of other benefit programs based on current rates x income
Job loss not accounted for

CCFAP and LIHEAP savings would probably stay in the program because both are underfunded

Comparisons of Selected Metrics for Proposed Minimum Wage Changes

	$15.00 in 2022 Variant 1	$13.25 in 2022 Variant 2	$12.50 in 2021 Variant 3
Number of Jobs Below Proposed Minimum Wage - DOL Basis	76,537	51,084	43,866
Share of Jobs Below Proposed Minimum Wage - DOL Basis	25.3%	16.9%	14.5%
Initial Wage Bill Change from 2018 Minimum to Proposed ($2015M)*	$240.6	$87.6	$55.0
Initial Wage Bill Change as a Share of Total Wages and Salaries	2.1%	0.8%	0.5%
Percent Change from 2018 Minimum - Nominal $	43%	26%	19%
Percent Change from 2018 Minimum - Constant $	29%	14%	10%
Percent Change from 2014 Minimum - Nominal $	72%	52%	43%
Percent Change from 2014 Minimum - Constant $	45%	28%	24%
Net Annual Long-Term Disemployment Impact (REMI Basis)**	2,830	1,237	903
Percent of Total Employment (REMI Basis)	0.6%	0.3%	0.2%
Percent of Minimum Wage Jobs (DOL Basis)	3.7%	2.4%	2.1%
Net Fiscal Change - State Level	$23.3	$8.1	$6.9
Net Fiscal Change - Federal Level (represents a net loss to VT)	$68.9	$26.5	$17.4
Differential with U.S. and NH Minimum Wage, Assuming No Change***	107%	83%	72%
Proposed Real Minimum Wage Relative to Record High (Feb. 1968)	16%	2%	-2%

Impact of Minimum Wage Increase

- **Production cost increase affects state export industries despite having relatively high wage**

  Notably:

  - **Furniture and wood product manufacturing**
  - **Textile and apparel manufacturing**
  - **Food product manufacturing sector.**

- **Largest employment losses:**
  - **Retail trade**
  - **Food service**
  - **Accommodation industries**

These three sectors are expected to account for nearly half of the disemployment effects through reduced hours, labor substitution and job relocation or closure.

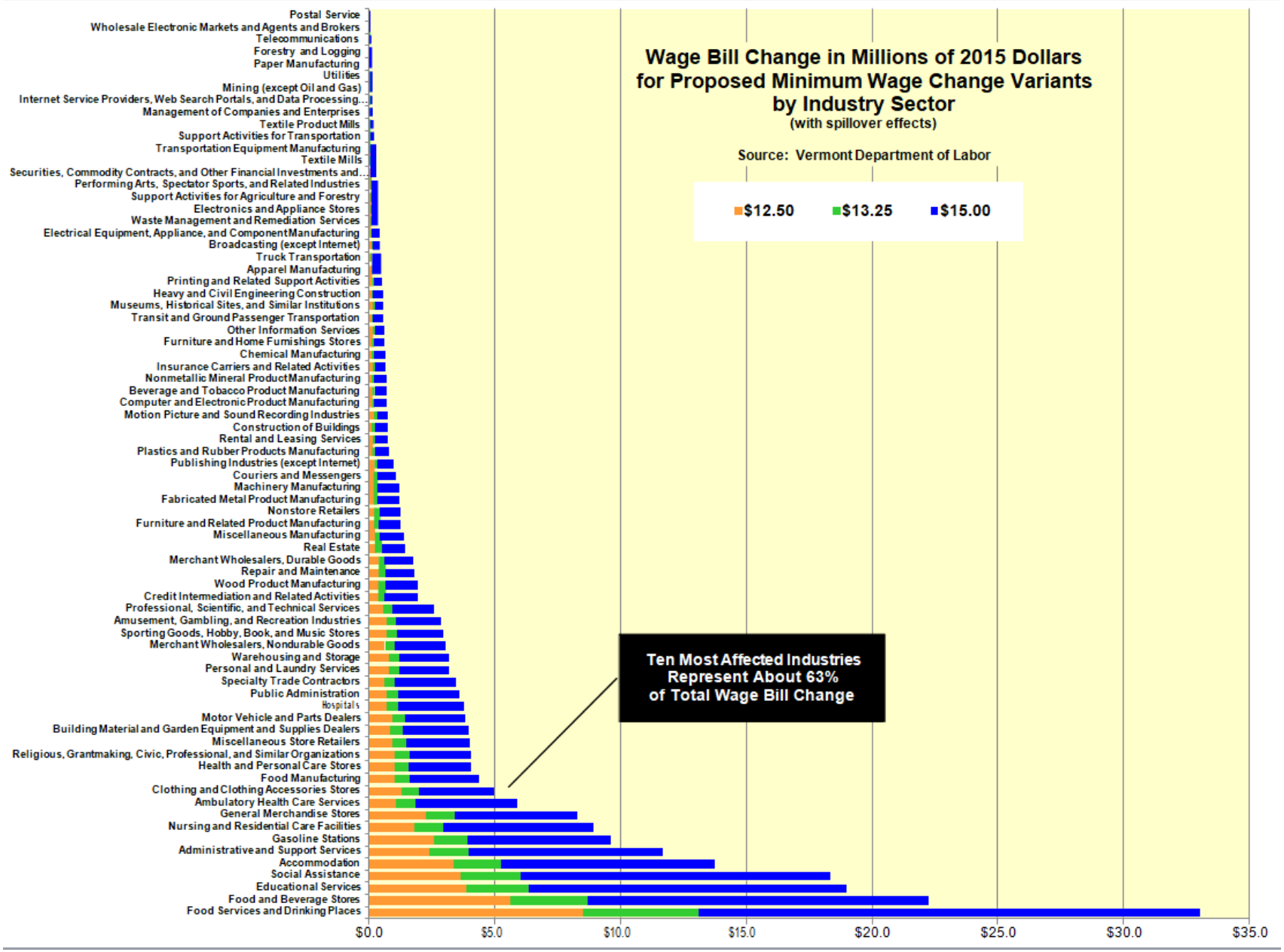
Items Requiring Further Analysis

1. Cross-Border Relocation Potential

Minimum wage differential between NH and VT could grow to between 76% and 107% by 2022, the largest historical spread on record

- **Problem for Vermont because there is already a sales tax differential of 6%**
- **Act 250 (1970) restricts development of projects >10 acres (in large towns) or 1 acre in towns with zoning**

2. Internet Retailing May See Accelerated Growth


Wage Bill Change in Millions of 2015 Dollars
for Proposed Minimum Wage Change Variants
by Industry Sector
(with spillover effects)
Source: Vermont Department of Labor
$12.50
$13.25
$15.00
Ten Most Affected Industries
Represent About 63%
of Total Wage Bill Change
Postal Service
Wholesale Electronic Markets and Agents and Brokers
Telecommunications
Forestry and Logging
Paper Manufacturing
Utilities
Mining (except Oil and Gas)
Internet Service Providers, Web Search Portals, and Data Processing...
Management of Companies and Enterprises
Textile Product Mills
Support Activities for Transportation
Transportation Equipment Manufacturing
Textile Mills
Securities, Commodity Contracts, and Other Financial Investments and...
Performing Arts, Spectator Sports, and Related Industries
Support Activities for Agriculture and Forestry
Electronics and Appliance Stores
Waste Management and Remediation Services
Electrical Equipment, Appliance, and Component Manufacturing
Broadcasting (except Internet)
Truck Transportation
Apparel Manufacturing
Printing and Related Support Activities
Heavy and Civil Engineering Construction
Museums, Historical Sites, and Similar Institutions
Transit and Ground Passenger Transportation
Other Information Services
Furniture and Home Furnishings Stores
Chemical Manufacturing
Insurance Carriers and Related Activities
Nonmetallic Mineral Product Manufacturing
Beverage and Tobacco Product Manufacturing
Computer and Electronic Product Manufacturing
Motion Picture and Sound Recording Industries
Construction of Buildings
Rental and Leasing Services
Plastics and Rubber Products Manufacturing
Publishing Industries (except Internet)
Couriers and Messengers
Machinery Manufacturing
Fabricated Metal Product Manufacturing
Nonstore Retailers
Furniture and Related Product Manufacturing
Miscellaneous Manufacturing
Real Estate
Merchant Wholesalers, Durable Goods
Repair and Maintenance
Wood Product Manufacturing
Credit Intermediation and Related Activities
Professional, Scientific, and Technical Services
Amusement, Gambling, and Recreation Industries
Sporting Goods, Hobby, Book, and Music Stores
Merchant Wholesalers, Nondurable Goods
Warehousing and Storage
Personal and Laundry Services
Specialty Trade Contractors
Public Administration
Hospitals
Motor Vehicle and Parts Dealers
Building Material and Garden Equipment and Supplies Dealers
Miscellaneous Store Retailers
Religious, Grantmaking, Civic, Professional, and Similar Organizations
Health and Personal Care Stores
Food Manufacturing
Clothing and Clothing Accessories Stores
Ambulatory Health Care Services
General Merchandise Stores
Nursing and Residential Care Facilities
Gasoline Stations
Administrative and Support Services
Accommodation
Social Assistance
Educational Services
Food and Beverage Stores
Food Services and Drinking Places
$0.0
$5.0
$10.0
$15.0
$20.0
$25.0
$30.0
$35.0

Summary

- **Our approach is highly labor and data intensive before the REMI work starts**
- **REMI continues to offer the greatest flexibility and range of policy variable alternatives in modeling for state and regional analysis.**