



LEGISLATIVE
FISCAL
ANALYST

Measuring How Tax Changes Affect Utah Families

Travis Eisenbacher

Economist – Office of the Legislative Fiscal Analyst

February 6, 2023

How *do* tax changes affect Utah families?

- Great question – economist answer: it depends.
- Tax changes directly impact those who are taxed
- More broad-based taxes, such as sales and income taxes, impact a broader base, but...
- There's also a lot of variability within that broader base
- How can we assess impacts at the household level?



Incidence Analysis



- Incident or accident? Incidental expenses? What are we talking about again?
- Who pays and/or who benefits
- Also sometimes called distributional analysis
- Among the population of those impacted by a change, how is that impact distributed?
- By what measure(s) should we categorize groups within the potentially impacted population?
- Economists ask a lot of questions...



Incidence Analysis

- A simple analogy – filling buckets
- If I start with one big bucket of water, and I want to split that up between each of your buckets, how much goes into each?
- That's exactly what incidence analysis seeks to work out
- By parsing through prior return data, we can define different “buckets” of taxpayers to assess the impact on each group



Income Tax Incidence Walk-through

- **Hypothetical scenario:** legislators want to cut income taxes
- If the rate were cut to 4.7%, what would be the revenue impact in total, and how would that cut be distributed among filers?
- **Step 1:** define how to group filers – many ways to slice up the data
- **Step 2:** program a model replicating the flow of an income tax return
- **Step 3:** run that model “as if” the final rate applied were 4.7%



The Data We Use

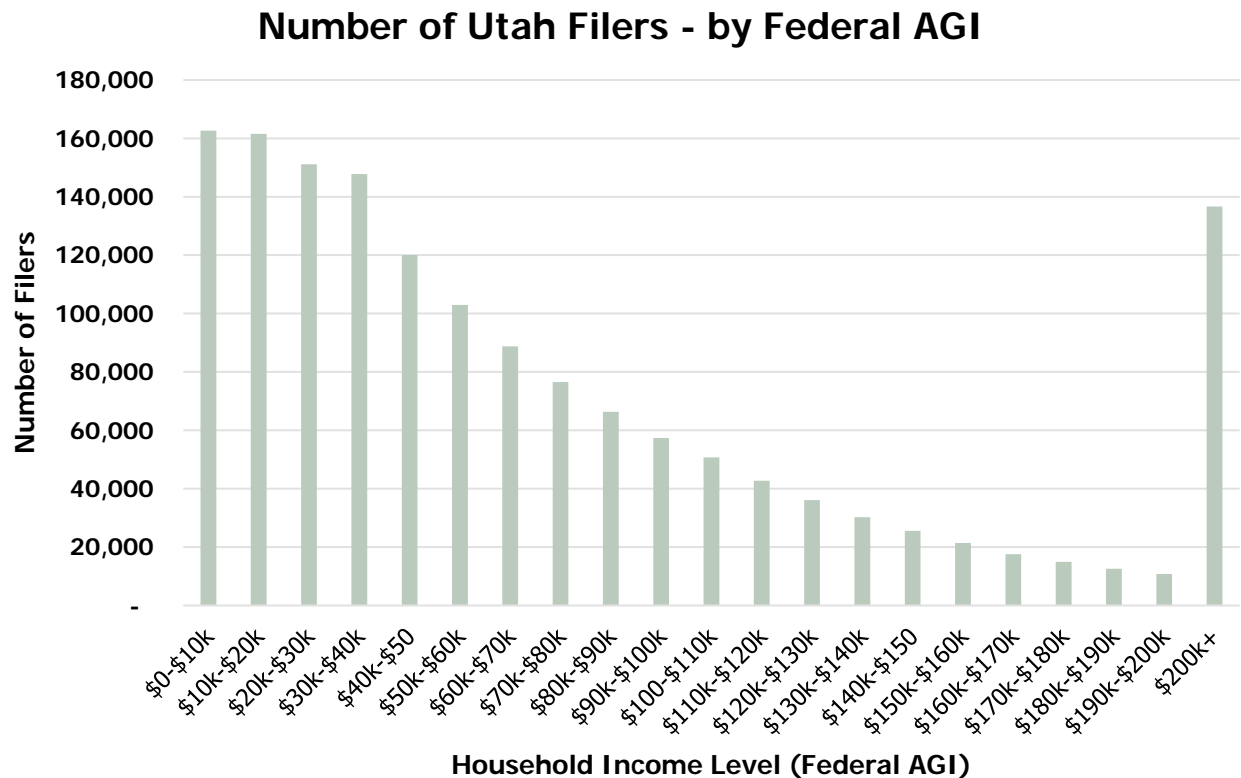


- Taxpayer information is sensitive
- Tax commission stewards this data
- LFA, in partnership with Tax, receives de-identified return data for use in our statistical analyses
- Other tax data is by nature not personally identifiable and not as granular in level of detail available
- Outside data sources supplement internal tax data, including IHS, S&P, Moody's, BEA, BLS, University research, etc.



How to Define the Groups?

- How filers are impacted depends on their characteristics
- Effects are not the same because income, family size, etc. is not the same
- Policy objectives are often concerned with targeting (or avoiding targeting) specific groups



How to Define the Groups?

- Let's define filers according to income level and household size
- Typical approach: divide filers into deciles by income and then subdivide each decile by household size
- This approach produces 80 individual buckets to show the impacts in a way that can get us closer to that question of "who benefits?"

Household Income	Income Decile	Household Size							
		1	2	3	4	5	6	7	8
\$0-\$8,526	1	1	2	3	4	5	6	7	8
\$8,527-\$17,410	2	9	10	11	12	13	14	15	16
\$17,411-\$27,376	3	17	18	19	20	21	22	23	24
\$27,377-\$37,267	4	25	26	27	28	29	30	31	32
\$37,268-\$49,390	5	33	34	35	36	37	38	39	40
\$49,391-\$64,659	6	41	42	43	44	45	46	47	48
\$64,660-\$84,573	7	49	50	51	52	53	54	55	56
\$84,574-\$112,706	8	57	58	59	60	61	62	63	64
\$112,707-\$167,839	9	65	66	67	68	69	70	71	72
\$167,840+	10	73	74	75	76	77	78	79	80



Recreating Income Tax Structure

- With our desired groups determined, the next step is to replicate existing tax structure in code
- For income tax, this means TC-40
- First input is Federal AGI, then we go line by line down the form to recreate each item and calculation in our model
- Necessary to capture cascading interactions that individual changes can have

40201
9998

Clear form

Utah State Tax Commission
Utah Individual Income Tax Return
2022 TC-40
All state income tax dollars support education, children and individuals with disabilities.
* Amended Return - enter code: (see instructions)

Your Social Security No. Your first name Your last name Fully-yr Resident? Y/N
Spouse's Soc. Sec. No. Spouse's first name Spouse's last name
Address Telephone number
City State ZIP+4 Foreign country (if not U.S.)

If deceased, complete page 3, Part 1

1 Filing Status - enter code
1 = Single
2 = Married filing jointly
3 = Married filing separately
4 = Head of household
5 = Qualifying widow(er)
If using code 2 or 3, enter spouse's name and SSN above

2 Qualifying Dependents
a Dependents age 16 and under
b Other dependents
c Total (add lines a and b)
Dependents must be claimed for the child tax credit on your federal return. See instructions.

3 Election Campaign Fund
Does not increase your tax or reduce your refund. Enter the code for the party of your choice. Yourself Spouse
See instructions for code letters or go to incometax.utah.gov/elect. If no contribution, enter N.

4 Federal adjusted gross income from federal return • 4 .00
5 Additions to income from TC-40A, Part 1 (attach TC-40A, page 1) • 5 .00
6 Total income - add line 4 and line 5 • 6 .00
7 State tax refund included on federal form 1040, Schedule 1, line 1 (if any) • 7 .00
8 Subtractions from income from TC-40A, Part 2 (attach TC-40A, page 1) • 8 .00
9 Utah taxable income/loss - subtract the sum of lines 7 and 8 from line 6 • 9 .00
10 Utah tax - multiply line 9 by 4.85% (.0485) (not less than zero) • 10 .00
11 Utah personal exemption (multiply line 2c by \$1,802) • 11 .00
12 Federal standard or itemized deductions • 12 .00
13 Add line 11 and line 12 • 13 .00
14 State income tax included in federal itemized deductions • 14 .00
15 Subtract line 14 from line 13 • 15 .00
16 Initial credit before phase-out - multiply line 15 by 6% (.06) • 16 .00
17 Enter: \$15,548 (if single or married filing separately); \$23,322 (if head of household); or \$31,096 (if married filing jointly or qualifying widow) • 17 .00
18 Income subject to phase-out - subtract line 17 from line 9 (not less than zero) • 18 .00
19 Phase-out amount - multiply line 18 by 1.3% (.013) • 19 .00
20 Taxpayer tax credit - subtract line 19 from line 16 (not less than zero) • 20 .00
21 If you are a qualified exempt taxpayer, enter "X" (complete worksheet in instr.) • 21
22 Utah income tax - subtract line 20 from line 10 (not less than zero) • 22 .00

Electronic filing is quick, easy and free, and will speed up your refund. To learn more, go to tap.utah.gov



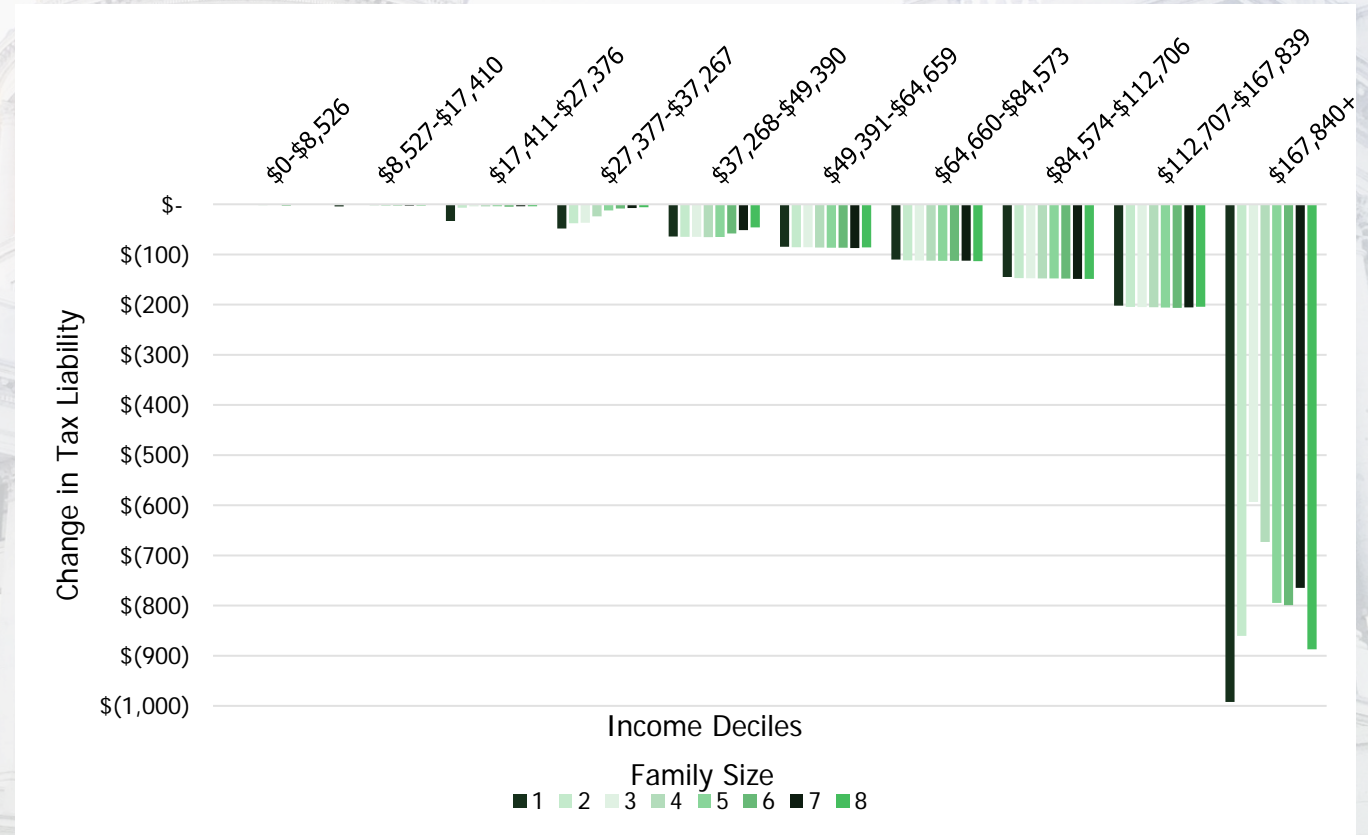
How is the Impact Distributed?

- In terms of straight, nominal dollars, what do we expect the impact to look like for each of these groups?



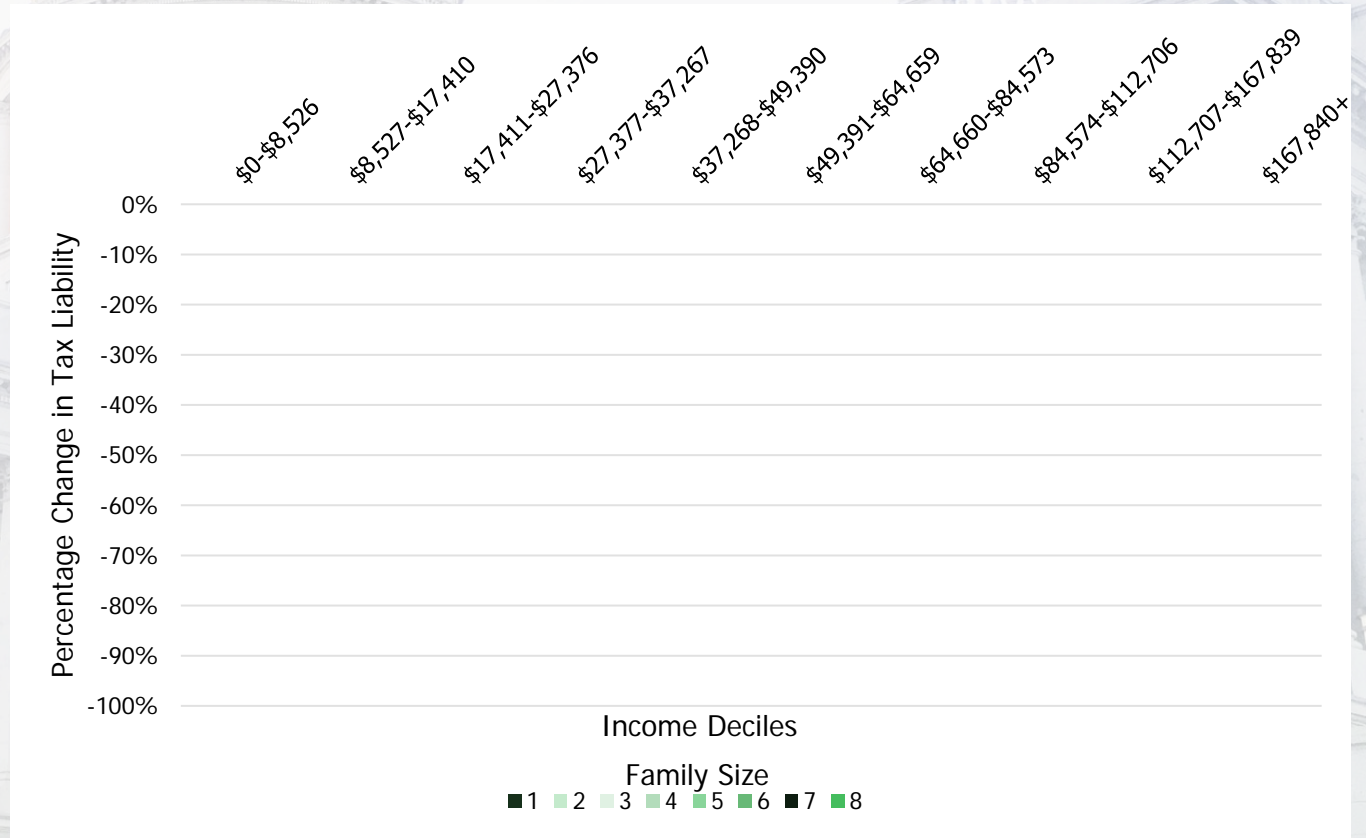
How is the Impact Distributed?

- In terms of straight, nominal dollars, what do we expect the impact to look like for each of these groups?
- Those with higher income levels see larger dollar changes
- What about % of liability though?



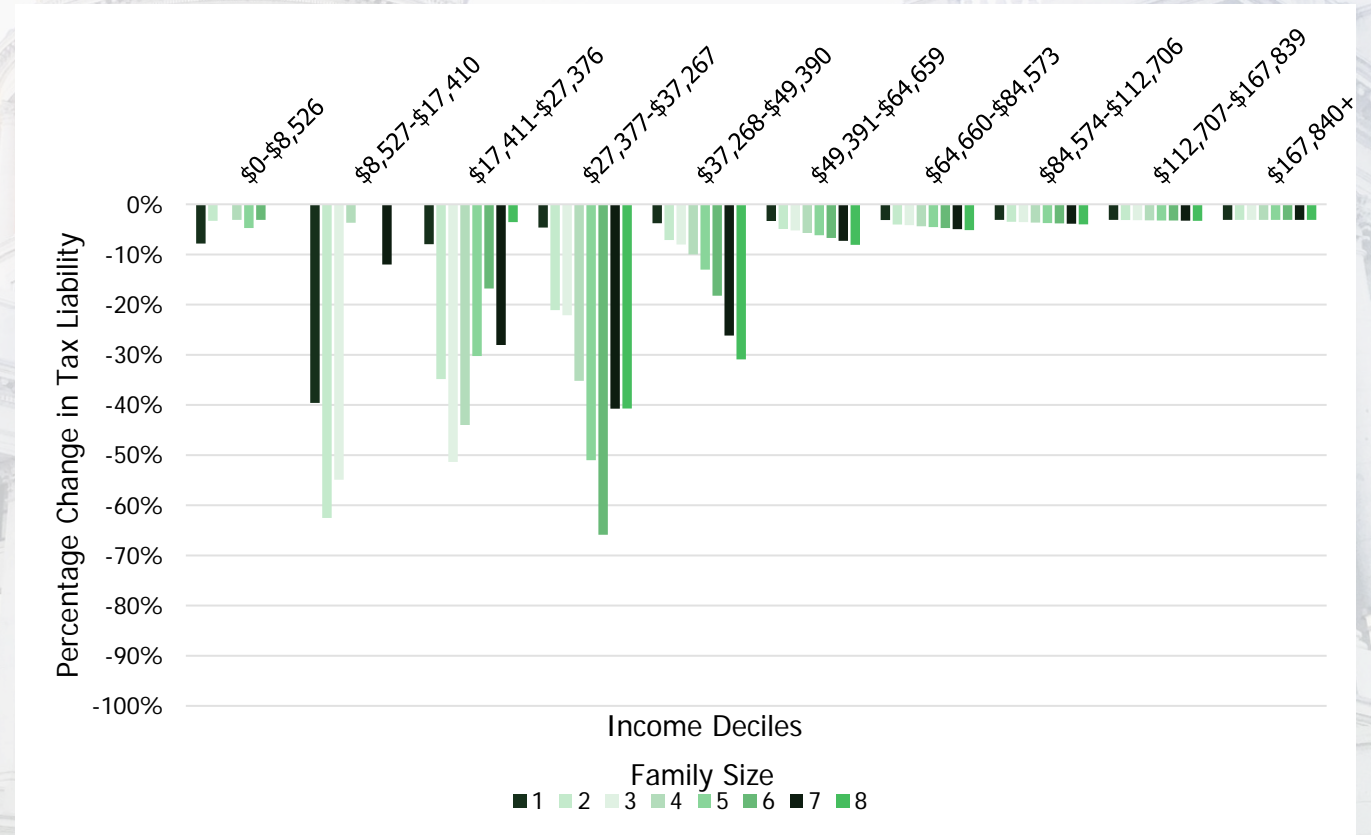
How is the Impact Distributed?

- In terms of percentage change in tax liability, what do we expect the impact to look like for each of these groups?



How is the Impact Distributed?

- In terms of percentage change in tax liability, what do we expect the impact to look like for each of these groups?
- Those with lower income levels see larger percentage changes



Incidence Analysis on Other Tax Types



- The question of “who benefits/pays?” isn’t just for income tax
- Income tax is data rich, other tax types require some additional assumptions and supplemental data to fill in the gaps (new/non-state taxes especially)
- Tradeoff between granularity of the incidence analysis and the number of assumptions
- Bridging incidence from one tax type to another can be problematic



Some Limitations

- What's true for the group isn't necessarily the same for the individual
 - Variability in household situations is nuanced
- Data availability varies by tax type and household situations change over time
 - Not all taxes have data to the level of detail desired for this analysis, and **not everyone files**
 - People get new jobs, get raises, make investments, move around, etc. from one year to the next and tax incidence is **constantly evolving**



Final Thoughts

- Taxation is a complicated topic with a lot of very interested stakeholders
- The impacts of tax policy changes are often not uniformly distributed
- Incidence analysis provides **a powerful tool** for approaching the question of who pays or who benefits, giving policy makers **more detailed information** about the potential effects of policy changes needed to make **well informed decisions**
- And that, is just one of the ways we measure how tax changes affect Utah families



Thank you for listening!

- Any further discussion or questions?



**LEGISLATIVE
FISCAL
ANALYST**