

Analyze, visualize, and ... itemize: Tax policy analysis with Tax-Cruncher

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Agenda

1. Policy Simulation Library (PSL)
2. What is Tax-Cruncher?
3. Web application demo
4. Python API overview
5. Getting started

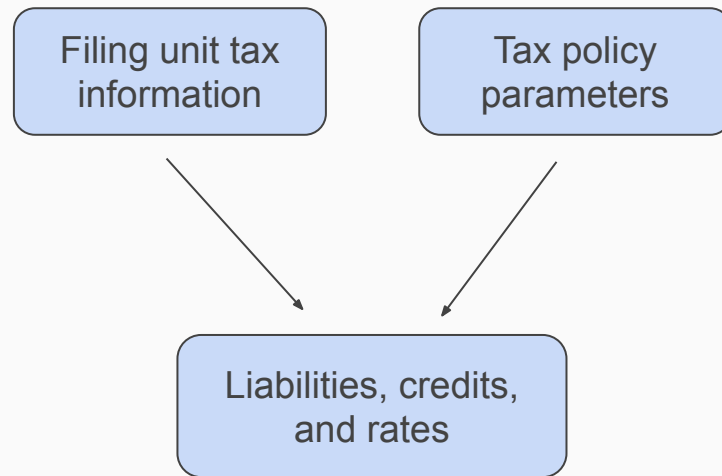
Policy Simulation Library

- Open source ecosystem
- Policy modeling community



Geena Kim, CBO economist, presenting HISIM2

- Open source software for analyzing how tax policy affects household finances
- Calculates individual income and payroll tax liabilities for any year between 2013 and 2028
- Design your own tax reform using over two hundred parametrized features of the US tax code



Tax-Cruncher Interfaces

- Web application
 - No programming knowledge necessary
 - Generate tables and interactive charts
- Python API
 - Broader capabilities
 - Greater flexibility

Web application demo

<https://compute.studio/PSLmodels/Tax-Cruncher/>

Python API Overview

- Analyze multiple households at a time
- Create custom output
- Compare two reforms

<https://github.com/PSLmodels/Tax-Cruncher>

```
In [1]: import taxcrunch.Multi_cruncher as mc
crunch = mc.Batch('./docs/example_input.csv')
crunch.create_table()
```

Out [1]:

	ID	Individual Income Tax	Payroll Tax	Wages	AGI	LE in AGI	GASDI in AGI	Itemized Deductions	Taxable Inc	Regular Tax
0	1.0	23397.147200	21137.96180	180000.0	164500.0	0.0	0.0	0.0	146096.0	27397.1472
1	2.0	-5385.396064	7267.50000	47500.0	47800.0	0.0	0.0	0.0	33262.4	3365.9536
2	3.0	10049.408800	10710.00000	70000.0	80000.0	0.0	0.0	0.0	67731.2	10049.4088
3	4.0	7538.817600	18819.00000	123000.0	124000.0	0.0	0.0	0.0	99662.4	13538.8176
4	5.0	40999.745600	23747.96180	250000.0	251200.0	0.0	0.0	0.0	228662.4	42614.1496
5	6.0	-530.830000	1683.00000	11000.0	11000.0	0.0	0.0	0.0	0.0	0.0000
6	7.0	-3432.280388	5967.00000	39000.0	39250.0	0.0	0.0	0.0	30846.0	2193.5232

7 rows x 11 columns

2026 TCJA Extension Tax Cuts by Income and Demographics

Income	Single		Married			
	0 Kids	1 Kid	0 Kids	1 Kid	2 Kids	3 Kids
\$10k	\$0	\$0	\$0	-\$125	-\$75	-\$75
\$20k	-\$167	-\$167	\$0	-\$600	-\$625	-\$75
\$40k	-\$685	-\$685	-\$334	-\$844	-\$1,354	-\$1,813
\$60k	-\$1,434	-\$1,434	-\$770	-\$1,035	-\$1,299	-\$1,686
\$100k	-\$2,656	-\$2,656	-\$1,970	-\$2,235	-\$2,499	-\$2,764
\$300k	-\$6,188	-\$6,188	-\$5,313	-\$6,088	-\$6,863	-\$7,638
\$500k	\$374	\$374	-\$20,825	-\$20,825	-\$20,825	-\$21,825

Getting Started

Open source ecosystem

- [Open Source Policy Center](#)
- [Policy Simulation Library](#)



Tax-Cruncher

- [GitHub](#)
- [Compute Studio](#) (web application)

