

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

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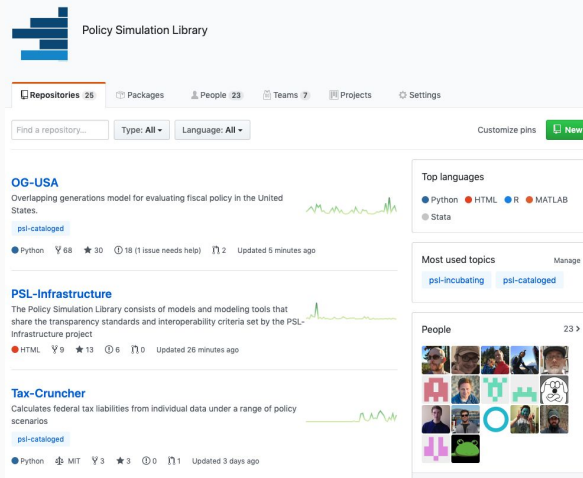


Agenda

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

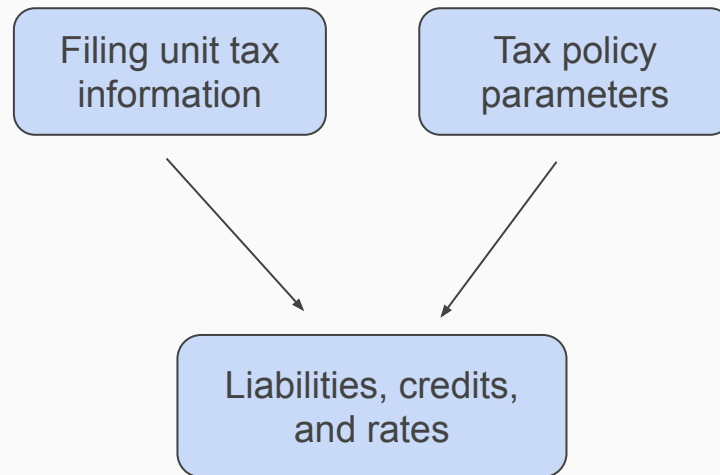


The screenshot shows the GitHub repository page for the Policy Simulation Library. The page features a navigation bar with 'Repositories 25', 'Packages', 'People 23', 'Teams 7', 'Projects', and 'Settings'. Below the navigation bar, there is a search bar and filters for 'Type: All' and 'Language: All'. The main content area displays three repository cards: 'OG-USA' (Python, 68 stars, updated 5 minutes ago), 'PSL-Infrastructure' (HTML, 9 stars, updated 26 minutes ago), and 'Tax-Cruncher' (Python, MIT, 3 stars, updated 3 days ago). Each card includes a brief description and a small line graph. To the right of the repository cards, there are sections for 'Top languages' (Python, HTML, R, MATLAB, Stata), 'Most used topics' (psl-incubating, psl-cataloged), and 'People' (23 members).



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	UI in AGI	OASDI in AGI	Itemized Deductions	Taxable Inc	Regular Tax
0	1.0	23397.147200	21137.96192	160000.0	164500.0	0.0	0.0	0.0	146096.8	27397.1472
1	2.0	-5385.396064	7267.50000	47500.0	47800.0	0.0	0.0	0.0	23262.4	2365.9536
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	124200.0	0.0	0.0	0.0	99662.4	13538.8176
4	5.0	40659.745600	23747.96192	250000.0	251200.0	0.0	0.0	0.0	226662.4	42614.1456
5	6.0	-530.630000	1683.00000	11000.0	11000.0	0.0	0.0	0.0	0.0	0.0000
6	7.0	-3402.289388	5967.00000	39000.0	39250.0	0.0	0.0	0.0	20846.8	2193.5232

7 rows x 22 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
\$200k	-\$6,188	-\$6,188	-\$5,313	-\$6,088	-\$6,863	-\$7,638
\$500k	\$374	\$374	-\$20,825	-\$20,825	-\$20,825	-\$21,825

Open source ecosystem

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



Tax-Cruncher

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

