Overview

The Policy Simulation Library (PSL) is an open source software library for public-policy decisionmaking. The models in PSL are developed by independent projects that conform to PSL criteria for transparency. Modeling projects may also adopt PSL's criteria for interoperability and community building, which take the form of suggestions for interface design and organizational activity.

The PSL project is also building a community of people who develop, use, and are interested in open source policy analysis. Through the PSL Meeting series and the forthcoming newsletter, PSL strives to create a collaborative, active, and engaged policy modelling community that will ultimately lead to better policy analysis.

Major Updates

PSL has recently completed its first six months of operation and the first half of its fiscal year 2019 (running from July 1, 2018 through December 31, 2018). H1 FY19 saw three major developments for PSL:

- Four open source tax policy models successfully met PSL criteria and joined the PSL Catalog, and 11 incubating models from a wide range of policy areas expressed an intent to join.

- The inaugural PSL DC Meeting was held at American Enterprise Institute (AEI) headquarters in Washington, DC.

- PSL entered the AEI Open Source Policy Center (OSPC) incubator to

accelerate adoption among US policy users.

This report will describe each of these developments in some detail as well as a roadmap for H2 FY19.

The PSL Catalog

PSL's primary purpose is to serve as a hub for open source policy simulation models. To this end, the PSL Catalog centralizes and introduces each PSL model and its key attributes.

For a model to join the PSL Catalog, it must fulfill a set of criteria to meet thresholds for transparency, ease of use, and functionality. To ensure transparency, PSL offers guidelines regarding data, licensing, communication, and versioning schemes. For ease of use, PSL requires a project overview, installation directions, suggested citation, and appropriate GitHub repository location. Finally, cataloged projects must include appropriate model tests to ensure that the model functions as intended.

In addition to these mandatory criteria, PSL encourages optional steps to facilitate interoperability and community-building. For example, to enhance interoperability, cataloged projects are asked to document all input and output variables and developers are asked to write programs in an open source language. Optional community-building recommendations include steps to encourage collaboration between maintainers, contributors, and users.

Once a project has met PSL criteria, using a configuration file created by the project's maintainer(s), the project and its key attributes are displayed on the PSL website, at https://www.pslmodels.org/Catalog/. At the end of H1 FY19, four models successfully met all of the required criteria and joined the PSL Catalog.

- B-Tax evaluates the effect of US federal taxes on the investment incentives of corporate and non-corporate businesses. B-Tax is written in Python and works in concert with Tax-Calculator, another PSL-Cataloged model, in modeling the effects of changes to the individual income tax code.

- Behavioral-Responses estimates partial-equilibrium behavioral responses to changes in the US federal individual income and payroll tax system as

simulated by Tax-Calculator. Behavioral-Responses is written in Python.

- OG-USA is an overlapping-generations (OG) model of the US economy that allows for dynamic general equilibrium analysis of federal tax policy. The model output focuses on changes in macroeconomic aggregates, wages, interest rates, and the stream of tax revenues over time. OG-USA in written in Python.

- Tax-Calculator simulates the US federal individual income and payroll tax system. Using micro data that represent the US population, Tax-Calculator can estimate the aggregate revenue and distributional effects of tax reforms under static assumptions and, with other modules, non-static assumptions. Tax-Calculator is written in Python.

At the time of the publication of this report, 11 other policy models are "PSL-Incubating," working towards PSL compliance. The models that are in the process of joining the PSL Catalog will add policy breadth to the suite of tax policy models that are already "PSL-Cataloged". Among PSL-Incubating models are the Policy Change Index, which predicts authoritarian regime behavior by analyzing state-run media, and the Paid Family Leave - Cost Model, which evaluates the total cost of paid family and medical leave policy proposals.

PSL DC Meeting Series

In addition to serving as a hub for open source policy simulation models, PSL strives to build a community around these models. In November, PSL introduced the monthly PSL DC Meeting series. The Meeting series gives policy modelers the opportunity to present their projects to users and others interested in their models. The informal atmosphere of the Meetings, complete with snacks, time to socialize, and ample time for Q&A, facilitates an atmosphere of collaboration and engagement.

The first PSL DC Meeting took place on November 27th in the auditorium at the American Enterprise Institute (AEI) in Washington, DC. The event featured presentations from Cody Kallen (University of Wisconsin - Madison) on the Paid Family Leave - Cost Model (PFL-CM) and Weifeng Zhong (AEI) on the Policy Change Index for China (PCI-China). Both presentations spurred high-quality Q&A discussions immediately following the presentations and continued in an

informal setting during the social portion of the event. The Meeting was well attending as well as live streamed by over 100 people. PFL-CM and PCI-China are both currently working towards PSL compliance so that they may join the Catalog.

The PSL Meeting series is advertised through Meetup.com, a website for building a community and advertising gatherings, and AEI mailing lists. After the first Meeting, the PSL Meetup community exceeded 70 people and will grow with each subsequent event. In addition to advertising for specific PSL Meetings, a strong Meetup community will help build a dedicated user base for PSL's models.

The Open Source Policy Center (OSPC) Incubator

At the beginning of H1 FY19, PSL entered OSPC's one-year incubator. OSPC is a center of the American Enterprise Institute that promotes and accelerates the development of open source projects for public policy analysis. As part of OSPC's incubator program, projects receive one year of training, mentorship, and other support and services.

In the first six months in the incubator, PSL has received substantial support from OSPC and AEI in the areas of community development and marketing. PSL news and events have also featured prominently in OSPC's biweekly newsletter, which reaches approximately 5,000 subscribers.

Looking ahead to H2 FY19

We forecast significant growth of the PSL Catalog in H2 FY19. Several new modeling projects from a wide range of policy areas will be joining the catalog in H2, and we will continue growing the PSL user base and community of supporters. Additionally, PSL will be adding additional institutional infrastructure to support cataloged projects in fundraising and dissemination. If you would like to follow PSL's progress, please sign up for our newsletter, here, and Twitter account, here.