

An API For Microsimulation Models

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Abstract—This note describes a simple general Application Programming Interface (API) for controlling microsimulation models.

Index Terms—Microsimulation, APIs

#link("https://microapi.virtual-worlds.scot")
virtual-worlds.scot]

Typical items:

I. INTRODUCTION

This note describes

/model/params/set

/model/settings/set

II. PURPOSE

There have been online, publicly available versions of large Microsimulation models since the mid-1990s; the Institute for Fiscal Studies' Be Your Own Chancellor (1995) and Virtual Economy (1999) were early examples. Contemporary examples include the ADRS suite of South African simulations, TriplePC and the University of Essex's UK Mod.

All these models are implemented very differently. ...

Our experience of building such models suggests to us that there would be advantages in having a standardised method of interacting..

Based on our experience since then ...

Object - run a model from something like Wordpress - without needing to have the model to hand.

/model/output/fetch/item

Swagger Docs.

A.

B. *Problems*

TABLE I: OTHERS

Benefit	Code Module	Notes
Minimum Wages	HouseholdAdjuster.il	

III. CHARACTERISTICS OF MICROSIMULATION MODELS

Long running

Very different implementations

Phases (queues, running)

Different inputs and outputs

Parameters vs Settings

IV. FEATURES

RESTful (sort of). Reference O'Reilly.

Out of scope: security because ...

Learn about exact formats of inputs/outputs

Hacky session management: CORS shit append session_id on each response

Low marginal cost of adding a model (view) to a server

Typically front-ended by Apache/NGINX

Formats: JSON - optionally Markdown/XML/CSV

Describe parameters:

Validate at server end, even if also at client-side

V. THE API

Different for e.g. Julia Scotben, Python Landman so:

REFERENCES