

# Integrating CGEs and ABMs

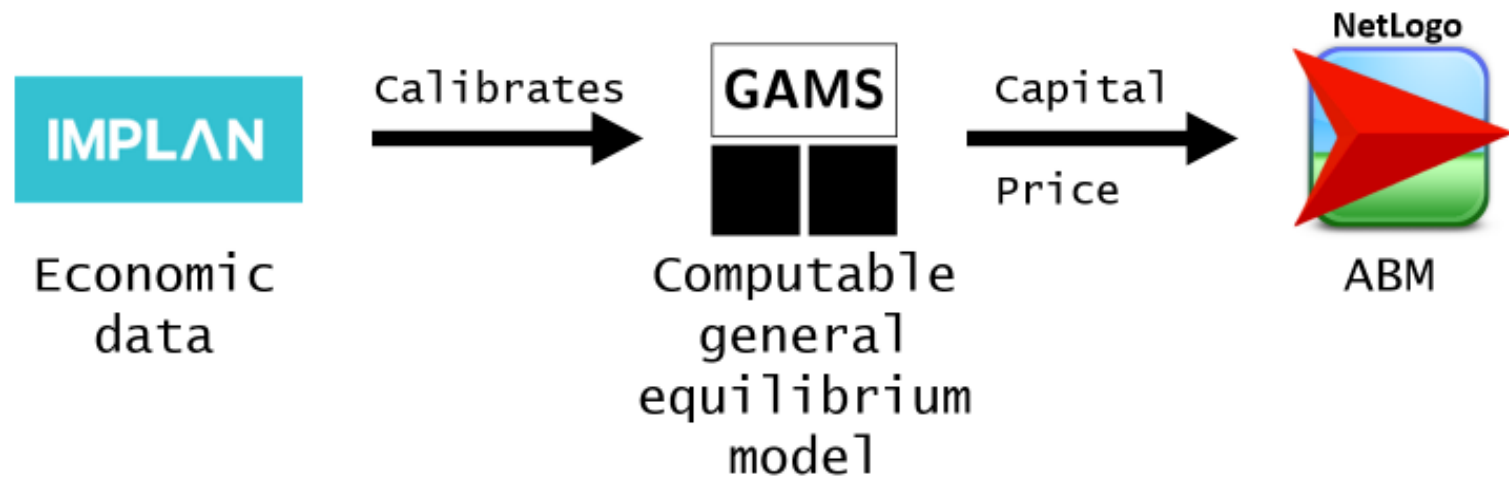
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ALL HANDS  
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# The structure



# Computable general equilibrium model based on IMPLAN data

- IMPLAN data familiar to city and regional planners
- CGE can be customized to region
- Sector *and* structure
- Detailed down to zip-code
- Link to land use to determine K load
- As a function of market incentives as well as taxes and subsidies

# IMPLAN Data-15 Agricultural sectors

Industry Code	Description	Employment	Output	Employee Compensation	Proprietor Income	Other Property Type Income	Tax on Production and Imports
1	Oilseed farming	5.3	\$2,233,767	\$14,205	\$618,972	\$182,455	\$1,477
2	Grain farming	85.3	\$17,428,144	\$372,123	\$1,321,565	\$2,047,645	\$45,429
3	Vegetable and melon farming	23.2	\$2,838,348	\$568,963	\$1,026,021	\$623,616	(\$4,628)
4	Fruit farming	634.4	\$31,788,380	\$9,008,087	\$10,657,824	\$5,842,251	(\$108,202)
5	Tree nut farming	0.9	\$77,627	\$25,517	\$21,600	\$16,037	(\$263)
6	Greenhouse, nursery, and fl...	447.7	\$38,907,619	\$13,163,711	\$9,561,628	\$4,588,951	(\$68,633)
10	All other crop farming	4,534.4	\$154,130,722	\$42,427,078	\$29,319,557	\$16,914,555	(\$411,209)
11	Beef cattle ranching and far...	1,118.4	\$93,570,000	\$2,404,099	\$15,676,780	\$10,381,357	(\$3,788,179)
12	Dairy cattle and milk produc...	2,530.9	\$676,005,005	\$42,311,279	\$140,384,552	\$65,767,632	\$10,093,094
13	Poultry and egg production	105.7	\$44,462,376	\$3,448,658	\$4,832,829	\$1,836,456	\$207,142
14	Animal production, except c...	197.3	\$13,249,627	\$1,418,388	\$4,872,167	\$1,135,541	\$245,185
15	Forestry, forest products, an...	47.7	\$3,031,430	\$219,101	\$923,053	(\$34,253)	\$58,129
16	Commercial logging	1,940.4	\$110,292,633	\$9,581,410	\$34,954,811	(\$984,164)	\$1,979,409
18	Commercial hunting and tra...	91.7	\$2,788,779	\$0	\$572,421	\$0	\$311,337
19	Support activities for agricult...	1,474.0	\$58,137,283	\$17,848,267	\$10,327,865	\$9,893,364	\$729,662

# Dynamic CGEs

- Must have stock-flow relationship
- Updated at each sweep of the model
- Calibrated to **time series**
- **Must account for tech change and productivity growth**

