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Benefits and Costs of an Incentive Project or Program for State Residents: A Model for Flexible Use in Any State

Timothy J. Bartik
W.E. Upjohn Institute for Employment Research, bartik@upjohn.org

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New model for evaluating an incentive project or program

- Intended users: anyone evaluating either a **single incented project**, or an entire **incentive program**, including: state audit bureaus; state legislative committees and agencies; state economic development agencies; public and private interest groups; journalists.

- Model is **flexible**, in that it can evaluate a project or program with an **arbitrary timetable** of planned or actual job creation, and arbitrary timetable of incentive payments. Model allows users to specify state or year, and model is **automatically customized to relevant characteristics of local economy**.

- Model focuses on **tangible benefits and costs** of incentives for **state residents**, in terms of higher **income per capita**. Includes information on different income **types** (e.g. earnings, higher property values, fiscal benefits) and on different **income groups** (e.g., do lower income groups gain? Middle income?)

- Model is **more realistic** in identifying **costs** as well as **benefits** of incentives.

Model more realistic than commonly used incentive evaluations, which often assume 100% success & ignore tradeoffs

Table 1: New Model Considers Incentive Costs, Unlike Common Models

	Common Evaluation Model	This Model
Incented Jobs	100% "but for“	"But for" **often less than 25%**
Per capita income	100% of increases in state personal income are increases in per-capita income	Per-capita income may go up **less than 20%** of income increase, due to population going up by 80% of job increase
Effects of paying for incentives	Ignored or assumed away	Incentives do not pay for themselves **(<25%),** and resulting higher taxes or lower public spending have economic costs

"But for" is realistically <100%. New model allows option of estimating "but for" or assigning it.

- Many incentive evaluations at least **implicitly assume** that 100% of the incented project or program would not have occurred "but for" the incentive.

- But realistic "but for" is much less. For "average" incentive in U.S. – equivalent to perhaps total over time of $50K per job – **"but for" <25%.** (Why? This is really very low % of firm's costs or wages) For more extreme "megadeals" -- $500K per job -- "but for" may be 60 or 70%.

- Model default option of calculating "but for": compare the incentives with firm's total costs, and assign "but for" based on assumed cost-sensitivity.

- Model estimates "expected" benefits: multiply project or program's jobs by "but for" % = "expected" job creation actually induced by incentive. Result: **much lower job creation than common models**.

- Model also allows users to impose a "but for". This allows users to determine **minimum "but for" needed for project or program to have positive net benefits.**

Of new jobs, in medium-run, in average local economy, only 20% go to local residents, 80% to in-migrants

- Counter-intuitive: local hiring seems greater than 20%. But this overlooks **job vacancy chains.**

- New local jobs are filled in three ways: (1) hiring of local residents who are already employed; (2) hiring of local residents who are *not* employed; (3) hiring of in-migrants. But jobs filled by already-employed local residents result in job vacancies, filled in same 3 ways. These **job vacancy chains only terminate when all new jobs either go to local non-employed, or in-migrants.** Therefore, local job growth goes more to in-migrants – and more to non-employed – than might be immediately apparent.

- Local population increase means that **employment rates, earnings per capita, & income per capita in a state go up in % terms much less than state jobs, earnings, or income**.

- Local population increase also increases housing prices, which helps property owners, who tend to be wealthier, while hurting renters on fixed incomes.

- Local population increase also lowers fiscal benefits, which we consider in next slide…..

Incentives are not a free lunch: they do not pay for themselves via state/local fiscal benefits

- The population increase, due to incentives creating jobs, results in need for added public spending to maintain service quality: e.g., with more students, need to hire more teachers to keep class sizes the same.
- Incentives typically have “fiscal benefits” – added state/local tax revenue minus increased need for public spending – that offsets less than 25% of gross incentive costs.
- Net incentive costs must be paid for by increased taxes or cuts in public spending.
- Increased taxes/public spending cuts have demand-side & supply-side economic effects. Lower demand reduces jobs. Labor or capital supply may decrease: e.g., cuts in K-12 spending reduce future earnings.
- Model default: incentives financed half by tax increases, half by spending cuts.
- Model allows fiscal benefit to vary with state-specific estimates of how “elastic” state/local tax revenue is with economic growth.

How to use the model: minimum required inputs

- Number of incented jobs, by year, and how they evolve over time.
- Dollars of incentives provided each year.
- Industry
- Project multiplier: via BEA, IMPLAN, or assume around 2, based on research.
- Enter data into Excel worksheet, or into Python program.
- See details in short paper or technical report on model.

Hypothetical project and incentive program in Michigan, 2024 start

Table 2: Hypothetical Project and Its Incentives

Calendar year	Simulation year	Full-time equivalent jobs	Nominal incentives
2024-2039	1 to 16	10,000	Zero first year, $50M per year ($5K per job), years 2 to 16
2040 and following	17 and following	10,000	Zero

Other project features: Michigan, average industry, multiplier of 2

Impacts of hypothetical project on present value of income, different income types and groups

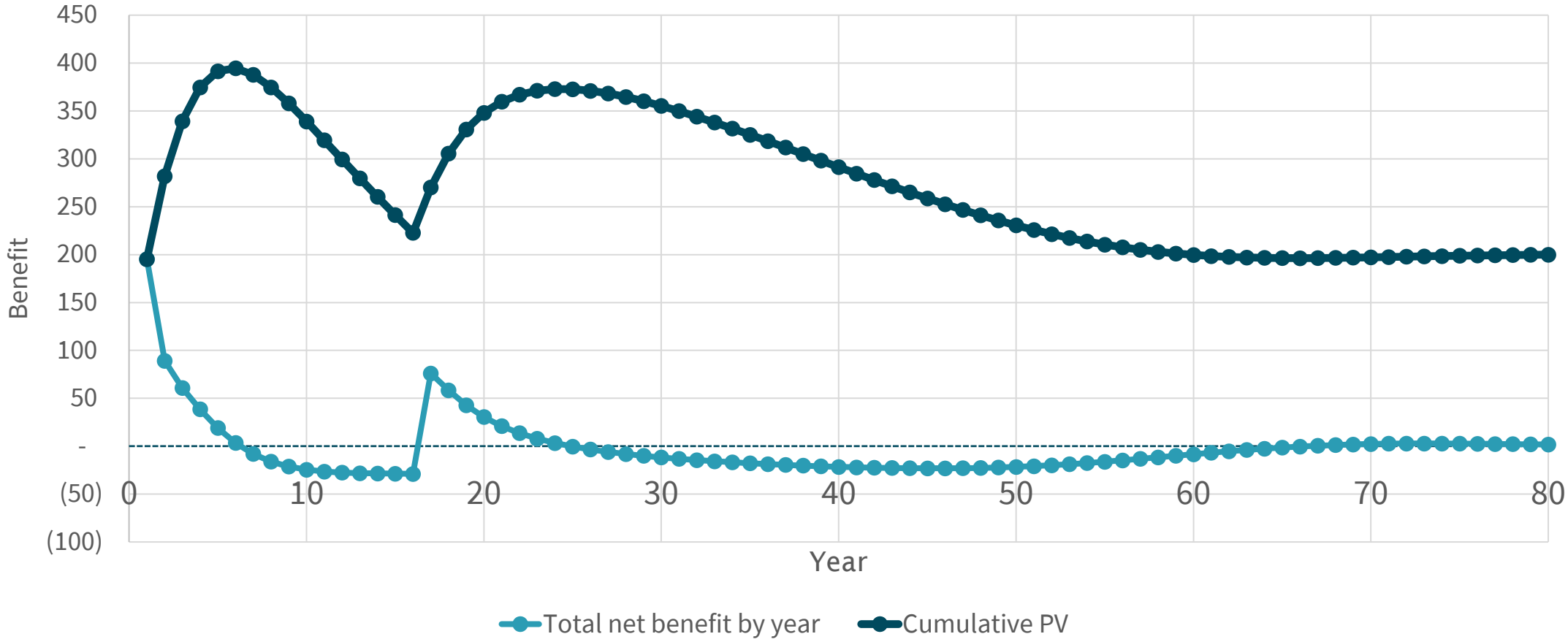
Table 3: Present Value of Per-Capita Income Benefits of Hypothetical Project

		Quintile		
	Total	Lowest income	Middle income	Highest income
Quintile income share (in percent)	100.0	5.1	13.7	52.0
Labor market benefits	738	86	192	235
Property value benefits	165	5	11	121
Incentive costs & other effects	(475)	(40)	(70)	(223)
Education cutbacks	(228)	(54)	(44)	(39)
Total net benefits	200	(3)	89	93

Notes: All figures in millions of dollars except for quintile share.
Negative numbers are in parentheses. Total net benefits=sum of other income types. Incentive cost present value is $511M.

Impacts of hypothetical project over time

Net benefit & cumulative present value over 80 years (in millions of dollars)



Impacts of hypothetical project on present value of income, in distressed local labor market versus average local labor market

	Project if local area has 5 pp lower employment rate		Baseline (average Michigan area, from before)	
	Total	Lowest income quintile	Total	Lowest income quintile
Quintile income share (in percent)	100.0	5.1	100.0	5.1
Labor market benefits	1,067	125	738	86
Property value benefits	162	5	165	5
Incentive costs & other effects	(429)	(36)	(475)	(40)
Education cutbacks	(200)	(47)	(228)	(54)
Total net benefits	599	47	200	(3)

Notes: All figures in millions of dollars except for quintile share.

Impacts of hypothetical project on present value of income, if incentives 100% financed by public spending cuts, versus baseline of 50%

	Project if 100% financed by public spending cuts		Baseline (50% public spending cuts, 50% tax increases)	
	Total	Lowest income quintile	Total	Lowest income quintile
Quintile income share (in percent)	100.0	5.1	100.0	5.1
Labor market benefits	692	81	738	86
Property value benefits	156	5	165	5
Incentive costs & other effects	(561)	(65)	(475)	(40)
Education cutbacks	(502)	(119)	(228)	(54)
Total net benefits	(215)	(98)	200	(3)

Notes: All figures in millions of dollars except for quintile share.

Conclusion:

- Model can be used for any state and incentive program, and automatically adapts to the characteristics of the state and the program.
- Model shows how incentives affect different income types for different income groups of state residents.
- Model can be adjusted to incorporate various assumptions: % “but for”; whether project is in distressed or booming area of state; how the project’s incentives are financed.

Questions:

Tim Bartik
Senior Economist
bartik@upjohn.org
Twitter:@TimBartik