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“Lord, Mr. Ford!” The Overall Estimated Economic Impacts of the New BlueOvalSK Battery Park in Glendale, Kentucky¹

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A few weeks ago, the Ford Motor Company and SK Innovation announced the planned construction and opening of a new electric car battery manufacturing plant in Glendale (Hardin County), Kentucky (Northern Kentucky Tribune 2021). The BlueOvalSK Battery Park is scheduled to open in 2025 and involves \$5.8 billion in investment and is projected to create around 5,000 jobs as Ford plans to increase its production of electric cars over the coming years.

Using IMPLAN 2019 data and 2021 price levels (IMPLAN 2021), Table 1 below shows the current economic impact of the industry “Other Motor Vehicle Parts Manufacturing” for the Louisville Consolidated Statistical Area which takes in Hardin County. Each job in the industry itself (direct) pays approximately \$74,000 per year on average. Currently, for the 2,671.55 industry jobs in the region, the job, payroll (labor income), and output (final product) multipliers are 2.26, 1.97, and 1.47 respectively. That is, each job in the industry supports 1.26 other jobs in its suppliers (indirect) and from retailers and home builders (induced) in the region. Retailers, home construction, and household services benefit by seeing the incomes of the industry, its suppliers, and their employees increased. As their pay increases, they spend more money on food, clothing, and housing. Every dollar in the industry’s payroll supports another \$0.97 in payroll from suppliers and other regional businesses. And finally, the industry’s output boosts regional output from suppliers and other establishments by \$0.47 above its own production.

¹ “Lord, Mr. Ford”, a song by Jerry Reed (1973).

When the plant opens in 2025, the approximate number of jobs for the industry should grow by the planned 5,000 or so jobs.

Table 1

Impacts	Employment	Labor Income	Output
1 – Direct	2,671.55	\$199,363,088.93	\$1,282,954,202.59
2 – Indirect	1,691.26	\$109,439,078.42	\$345,512,464.83
3 – Induced	1,665.19	\$84,249,258.32	\$255,659,454.20
Totals	6,027.99	\$393,051,425.67	\$1,884,126,121.62
Multipliers	2.26	1.97	1.47

Additionally, new capital investment and employment in a local economy should generate tax revenues to local, state, and federal governments. See Table 2 below. Currently for every dollar the industry pays to local governments, its suppliers and other businesses pay another \$2.76; for every dollar it pays to state government, its suppliers and other businesses pay another \$2.28; and for each dollar it pays to the federal government, its vendors and other establishments pay another \$1.00. Overall, governments receive an extra \$1.33 in tax revenues for every dollar that the industry pays thanks the economic “ripple” or multiplier effects of the industry’s activities. These numbers, of course, are not net of any government incentives. The latter would have to be balanced against any increases in tax revenues.

Table 2

Impact	Local	State	Federal	Total
1 – Direct	\$ 3,591,956.68	\$ 8,305,308.95	\$ 39,388,133.48	\$ 51,285,399.11
2 - Indirect	\$ 4,920,233.42	\$ 9,536,643.50	\$ 21,998,992.39	\$ 36,455,869.31
3 - Induced	\$ 5,008,192.84	\$ 9,426,300.30	\$ 17,468,539.32	\$ 31,903,032.46
Totals	\$ 13,520,382.94	\$ 27,268,252.76	\$ 78,855,665.19	\$119,644,300.89
Multipliers	3.76	3.28	2.00	2.33

Using the multipliers from above, for the 5,000 jobs that BlueOvalSK creates, another 6,300 in the Louisville region should be created in other industries. An estimate using an average pay of \$74,000 per job in 2021 dollars would also yield a plant payroll of around \$370,000,000, which in turn would almost be matched by labor income in other sectors throughout the area. Therefore, the new plant will have large impacts on the Louisville metro area economy.

References:

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Northern Kentucky Tribune (no author given). 2021. "Ford Motor Company, SK Innovation announce largest economic project in history of state." September 28, 2021.

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IMPLAN is a regional economic analysis software application that is designed to estimate the impact or ripple effect (specifically backward linkages) of a given economic activity within a specific geographic area through the implementation of its Input-Output model. Studies, results, and reports that rely on IMPLAN data or applications are limited by the researcher's assumptions concerning the subject or event being modeled. Studies such as this one are in no way endorsed or verified by IMPLAN Group, LLC unless otherwise stated by a representative of IMPLAN.

IMPLAN provides the estimated Indirect and Induced Effects of the given economic activity as defined by the user's inputs. Some Direct Effects may be estimated by IMPLAN when such information is not specified by the user. While IMPLAN is an excellent tool for its designed purposes, it is the responsibility of analysts using IMPLAN to be sure inputs are defined appropriately and to be aware of the following assumptions within any I-O Model:

- Constant returns to scale
- No supply constraints
- Fixed input structure
- Industry technology assumption
- Constant byproducts coefficients
- The model is static

By design, the following key limitations apply to Input-Output Models such as IMPLAN and should be considered by analysts using the tool:

- **Feasibility:** The assumption that there are no supply constraints and there is fixed input structure means that even if input resources required are scarce, IMPLAN will assume it will still only require the same portion of production value to acquire that input, unless otherwise specified by the user. The assumption of no supply constraints also applies to human resources, so there is assumed to be no constraint on the talent pool from which a business or organization can draw. Analysts should evaluate the logistical feasibility of a business outside of IMPLAN. Similarly, IMPLAN cannot determine whether a given business venture being analyzed will be financially successful.
- **Backward-linked and Static model:** I-O models do not account for forward linkages, nor do I-O models account for offsetting effects such as cannibalization of other existing businesses, diverting funds used for the project from other potential or existing projects, etc. It falls upon the analyst to take such possible countervailing or offsetting effects into account or to note the omission of such possible effects from the analysis.
- **Like the model, prices are also static:** Price changes cannot be modeled in IMPLAN directly; instead, the final demand effects of a price change must be estimated by the analyst before modeling them in IMPLAN to estimate the additional economic impacts of such changes.