Deloitte Review

Social capital: Measuring the community impact of corporate spending

by Steven Ellis, Tony Siesfeld, and Darin Buelow

ILLUSTRATION BY ANDREA COBB

Deloitte.
Insights

Social capital: Measuring the community impact of corporate spending

CITIES CLAMOR FOR CORPORATE INVESTMENT,
EVEN AS THE SOCIAL IMPACT OF SUCH SPENDING REMAINS UNCERTAIN.
OUR NEW MEASUREMENT MODEL SEEKS TO CHANGE THAT

By Steven Ellis, Tony Siesfeld, and Darin Buelow

ILLUSTRATION BY ANDREA COBB

A LARGE CORPORATION plans to open a manufacturing and distribution center outside a midsize, rural city in the United States. The county in which the center will be located hopes the investment will provide economic opportunity, and it has won the company over, in part, by offering multimillion-dollar tax incentives because models show the local economy will benefit from several thousand new jobs the center will introduce. Yet beyond new jobs, the center's social impact—on community concerns such as poverty, homeownership, educational attainment, public health, and civic engagement—remains unknown. Will the investment pay positive social dividends? There's no clear way to tell.

It's not hard to imagine the value to companies, communities, and social-impact stakeholders of being able to forecast the likely social consequences—for specific locations, using defined metrics—of corporate investment. Our Social Impact Measurement Model (SIMM) accurately predicts what could result from a large capital investment—or what may or may not happen in its absence. This machine-learning model estimates the social impact of investments at the US county level for the four years following the investment, analyzing 142 social measures ranging from child poverty and reading proficiency to carpooling and population migration (see sidebar, "Inferring causality: How the SIMM works"). The SIMM helps people better understand what a specific investment's impact might be, as well as why certain locations would see greater or lesser improvements than others. This can support more informed decision-making by companies, community leaders, and policymakers—and enable greater coordination among them to help further the public good.

Shedding light on heated debates

Businesses make many large capital investments each year throughout the United States—investments that many local governments bid fiercely to attract through economic credits and incentives. Often, the tacit assumption is economic growth will support additional social and community benefits. Many argue economic investments directly help communities through mechanisms such as reducing poverty and growing the tax base, enabling the community to better fund police, fire, schools, and public works. But not everyone always agrees corporate investment is an unalloyed good. Opposing citizens may argue a given investment will drive up the cost of housing, harm educational outcomes by creating more crowded classrooms, lead to "urbanization" with a rise in its attendant challenges (such as property crime), and speed environmental degradation.

Both sides typically take strong positions, and communities may become sharply divided. To some degree, public hearings can provide a venue for citizens to express their hopes and concerns, but there is no easy way to resolve people's concerns or validate their hopes except by either moving forward or blocking the investment. Regardless of the ultimate decision, some parties will likely be aggrieved, and the divide in the community may linger.

The ability to quantify the social impacts of a capital investment allows citizens, corporations, governments, and other interested parties to bring data to the debate. This can not only put discussions on an evidence-based footing, but also illuminate opportunities to put in place efforts to accentuate the positives and mitigate the potential negatives. For corporations, it can guide decisions around where to consider making capital investments in the first place, help them evaluate the alignment between their investments and their social impact goals, and allow them to calibrate those goals against realistic expected outcomes. Governments, for their part, can use the information to help determine whether and where to offer incentives for economic development, as well as how much a particular investment proposal is "worth" in terms of incentives, taking into account both social and economic metrics.

INFERRING CAUSALITY: HOW THE SIMM WORKS

While the SIMM does not isolate an investment as the sole cause of a change to a social measure, it does create a causal link between the investment and other contributing factors. The model starts with a database of county-level socioeconomic indicators, combining Deloitte proprietary data on corporate investments in each county with publicly available data on 142 socioeconomic attributes. These attributes are then used to find matched pairs of counties—counties with and without economic investments—over a four-year period, selecting the paired counties to be as similar as possible at the outset of that time frame. Because of the paired counties' baseline similarity, any differences in the change in social measures can be directly attributed to the economic investment. The underlying inference is while many factors will affect social measures, these factors will act similarly in both counties except as they are influenced by investment.

For example, in 2010, Wayne and Baltimore counties showed a high degree of statistical similarity across all 142 socioeconomic attributes. In the absence of investment in either county, it would be expected both would experience the same rate of change in these social measures. However, investment in Baltimore County all but dried up in 2010, while investments continued in Wayne County. Therefore, any difference in the change in social measures in Baltimore and Wayne counties between 2010 and 2014 may be inferred to come directly from the investment in Wayne County.

To be clear, the SIMM estimate is just that—an estimate. It is meant to supplement established methods of gathering information, conducting analyses, and bringing the derived insights into the capital allocation and planning process. What it offers is a quantitative and statistically rigorous way of linking financial inputs to social outcomes in a way that has not been done effectively before.

Generating insights to drive decision-making

Applying the SIMM has already shed light on the ways investments can affect certain communities. Investments of the same amount in the same industry can have different impacts in different locations. For instance, population density often matters: A US$500 million investment in a rural, wealthy county such as Travis County, Texas, is forecast to have less overall social impact than the same level of investment in a more densely populated, wealthy county such as Orange County, California. Similarly, investments can create meaningful change in childhood poverty levels in urban, poorer counties such as Orleans Parish, Louisiana; the poorest children in these counties can also benefit in educational attainment for reading and math scores. On the other hand, perhaps counterintuitively, the same amount of investment in more-rural counties with the same low-income level tends to drive little to no change in math or reading scores or childhood poverty rates—even though the

investment would be higher per capita. However, in these same rural, poor counties, investment would likely decrease the adult poverty rate and adult dependence on government assistance more than the same amount of investment in denser, poor counties. In other words, all else being equal, capital investments tend to see children do better in dense populations, and adults do better in rural populations, when poverty rates are about equal.

Differences exist not just among different types of counties, but among different investment types and amounts for certain subsets of the population regardless of location. Larger investments made anywhere in the United States tend to attract younger, more educated, and more migratory singles, thus changing county demographics, family composition, and job mix. Likewise, our model shows larger investments made in any county at the intersection of the information and communications technology, electronics, and business services industries increase the percentage of the population working in professional, scientific, and technical service jobs by 11–35 percent. Investments at the

intersection of environmental technology and recycling, meanwhile, increase the percentage of the population working in manufacturing jobs by only 2–16 percent.

The model also shows that, despite some concerns to the contrary, the social effects of capital investments do not appear to be zero-sum—that is, improvements in one county's social outcomes do not come at the expense of social outcomes in neighboring counties. In fact, when distance to neighboring counties is taken into account, only 7 out of 142 (or 4.9 percent) of the model's social impact variables are affected by corporate investments in a neighboring county.

Encapsulating information for a broad range of people

It is easy to see that these types of forecasts may better inform decision-makers of all stripes.

In addition to corporate executives making capital allocation decisions and local government officials considering economic incentives, those who are involved in community development, urban planning, or policymaking could benefit from anticipating how a community might absorb and "translate" financial investments into social outcomes. Stakeholders could also use the information to determine what types of social outcomes the community should prioritize to amplify the potential benefits of a large capital investments (see sidebar, "Questions to ask—and answer—about investments"). This kind of insight could be particularly valuable to nonprofits and foundations with a strong place-based focus.

Moreover, in addition to future investments, the SIMM can be applied to investments made in the recent past (up to five years ago) to help businesses evaluate their prior decisions and to help refine targets for their social impact goals in upcoming

---

QUESTIONS TO ASK—AND ANSWER—ABOUT INVESTMENTS

COMMUNITY DEVELOPERS, URBAN PLANNERS, AND POLICYMAKERS

- In absence of any outside investments, how will the social "health" of a community change in three to four years' time?
- To what extent would capital investments change this outlook? How does the size of the investment affect the change in social indicators?
- What is a county's apparent capacity to benefit from capital investment? Are there some places that would benefit more from a similar investment than others? And what are the conditions that create this varied capacity to "metabolize" investments?

A COMPANY TRYING TO DETERMINE SITE SELECTION

- Assuming equal economic returns for the various counties under consideration, in which community would the positive social benefits be the greatest?
- Are the company's capital investments consistent with its expressed mission and statement of social purpose?
- We have made a series of community-specific investments over the past five years. What has been the social "payoff" of these investments? Was the payoff greater, equal to, or less than what would be expected?

LOCAL GOVERNMENTS CONSIDERING THE IMPLICATIONS OF INVESTMENTS

- What are some of the benefits my community can expect from this investment?
- What would it be worth to this community to offer incentives to bring the investment to it? At what point are incentives no longer worth it?
- What might we anticipate as some of the social challenges that might come with such an investment? What could we do to limit these risks?

investments. In this way, the model can help businesses balance the past with the future. Further, should reporting requirements on certain environmental, social, and governance measures change (as they are in the European Union and in some places in Asia), businesses could use the model to help set reasonable and measurable goals. These kinds of analyses may also be useful to impact investors, especially to those with a location focus.

What's next

In its current incarnation, the SIMM establishes a link between capital investments in a county and social outcomes in that county for 142 social measures. However, there are many more dimensions to social data than are currently available in the data used to build the SIMM. While the initial findings are encouraging, they point to the potential benefits of further developing this approach to include other indicators of community well-being, such as measures of public health or civic engagement. Expanding the analysis to include more years

of data as they become available to explore potential variations across time would provide significant additional informative power. This is important because the lag between an investment and some types of indicators are expected to be much longer than four years. For instance, educational attainment measures likely peak on a different time frame from poverty reduction or employment measures.

Nonetheless, the SIMM demonstrates a strong linkage between economic and social outcomes despite limited data. Better data—a wider array of factors, more granular local information, greater timeliness, the development of more common data standards across jurisdictions—will lead to even better insights, and better business and civic decision-making. Those with a strong interest in community development and place-based change now have a powerful tool to help them build coalitions and plan action, as well as a new way to enlist business interests into civic actions. That said, we have only just uncovered the potential for analysis in this area. With more work, more can be done. ●

STEVE ELLIS is Deloitte Consulting LLP's lead data scientist for science-based services. He is based in Philadelphia.

TONY SIESFELD, Deloitte Consulting LLP, is the director of Monitor Institute by Deloitte. He is based in Boston.
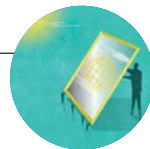
DARIN BUELOW, Deloitte Consulting LLP, is a principal and national leader of Deloitte Consulting's Real Estate and Location Strategy practice. He is based in Chicago.

Read more on www.deloitte.com/insights

Citizenship and social impact: Society holds the mirror

Stakeholders today are taking an intense look at organizations' impact on society, and their expectations for good corporate citizenship are rising. In an effort to meet these expectations, leading organizations are making citizenship a core part of their strategy and identity.

Explore at www.deloitte.com/insights/social-capital

Deloitte.
Insights