Economic impact of the Durand-Arkansaw School District

Division of Extension
Independent research project
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To: Greg Doverspike
    Gavin Luter

From: Steven Deller

Re: Economic Impact of the Durand-Arkansaw School District

As we discussed a few days ago there are three ways to measure the impacts of the Durand-Arkansaw School District on the local community. The first, and natural way, is the impact that the school has on its students in terms of their academic and personal development. The second is how the school contributes to the overall quality of life of the community. The third and final is that the school district is a direct source of economic activity because it employs people, who spend their salary/wages in the local economy, and make other purchases (e.g., utilities, office supplies, etc) that represents spending in the local economy.

This memo details the results of the last type of impact. Specifically, how does accounting for 158 jobs impact the local economy? Based on the financial data that was provided to me on the 9th, I was able to conduct a “standard” economic impact assessment and the general results are:

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment</th>
<th>Labor Income (000$)</th>
<th>Total Income (000$)</th>
<th>Industry Sales (000$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>158</td>
<td>$7,754.2</td>
<td>$7,754.2</td>
<td>$11,705.7</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>5</td>
<td>$239.1</td>
<td>$406.8</td>
<td>$758.5</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>32</td>
<td>$1,095.5</td>
<td>$2,323.9</td>
<td>$4,099.0</td>
</tr>
<tr>
<td>Total Effect</td>
<td>195</td>
<td>$9,088.8</td>
<td>$10,484.8</td>
<td>$16,563.2</td>
</tr>
</tbody>
</table>

Multiplier 1.236 1.172 1.352 1.415
Percent of Pepin County Total 5.0% 6.2% 4.1% 2.9%

A more detailed technical discussion of the elements of this impact is provided below. In a nutshell the District accounts for 195 jobs, or about 5% of total employment in Pepin County, just over $9 million in
labor income (6.2% of County total), $12.5 million in total income (4.1% of County), and $16.5 million in industrial sales/revenue (2.9% of County). The argument here is that the school district is a source of employment and economic activity and budget reductions will create an economic loss: fewer staff is identical to fewer jobs in the community and associated economic impacts.

One thing that is also important to consider is the relative size of the school district to other employers in Pepin County. Consider only those businesses that have paid employees (unfortunately I do not have ready access to the employment counts of other public entities, like employment by Pepin County government). The vast majority of businesses in Pepin County have less than ten employees (55.6% have fewer than five) and only one has employment above 100 (none have employment greater than 250). Which means, that at 158 employees the Durand-Arkansaw School District is one of the top two employers in the County.

As we discussed, the school can also represent a large piece of the “social capital” of a community. The school represents a strong mechanism that ties or binds the community together. For many smaller or more rural communities the school is a source of common identity for residents. The stronger the school is integrated into the fabric of the community, and correspondingly the more the residents feel like they are vested in the school, the stronger the “bridging” social capital of the community. The key here is that the school is more than simply a place that my children, grandchildren, or nieces and nephews attend. The school is a gathering place for the larger community. School sports team is
generally considered a major piece of this puzzle, but too often schools treat the sports teams as the only piece.

Other opportunities, for example is the school auditorium (not the gym, but theater) open to community events (local theater groups can use the auditorium when it does not conflict with the school’s use), are meeting rooms in the school open to community groups for even meetings, is the gym available for non-school basketball (volleyball, badminton, etc) leagues. Is the school library available for book clubs to meet or the school computer lab for “cyber seniors”? Can the school’s facilities be used as an alternative to say a YMCA? One school I know lets the local “cars and coffee” group use the school parking lot for Saturday morning meets (a local coffee shop has a food cart they set up for the two hours of the meet). The use of the new scoreboard for “movie night” open to larger community is an excellent example of the school being a greater resource to the community. The key here is thinking about strategies that bring more community residents to the school beyond parents of students.

To gather information on how the Durand-Arkansaw School District is viewed within the larger community there are three approaches: (1) key informant interviews, (2) focus groups, (3) formal surveys. The ultimate goal is to see how residents view the school and its role in the larger community and identify strategies to improve the school’s role as a “bonding” social capital “weaver”. Key informants might be some of the local elected officials (mayors, council members), business leaders, nonprofit leaders where the idea is to get together one-on-one over coffee and have a conversation. The focus group is aimed at gathering the same information but in a more formal organized group discussion. Maybe two or three focus groups with the membership of each group different (elected officials is one, non-parent residents another, non-elected leaders of the community yet another).

Hopefully, there are some “golden nuggets” of insights that can be used to build stronger support for the school district and also identify new ways to build stronger support (e.g., finding ways to bring more residents of the community into the school itself). In the end, the economic impact analysis provided above is a mechanism to “get your foot in the door” to have a larger conversation about the school district and how it is a vital part of the larger community.

**Technical Notes on Impact Assessment**

The economic impact assessment uses what is called an “input-output” model of the Pepin County economy (the model is for 2017, the most current year we have). You can think of it as a detailed spreadsheet of the economy: across the columns are buyers or demand, down the rows are sellers or supply. Any individual cell is how much money is flowing from a buyer to a seller. Take farming as an example: farmers are both buyers of inputs and sellers of output. Dairy farmers buy feed, veterinarian services, electricity, equipment, etc, so how farmers spend their money to operate is read down the column. They also sell, predominately milk, to processors (in Wisconsin mostly cheese), and to see who they are selling to and how much read across the row.
Now the key here is that supply must equal demand, or the economy is in equilibrium. As such, if one industry (e.g., school districts) changes, then all other industries that are “directly” or “indirectly” ties to schools must also change to match that change in schools. For example, say the school student population increases by 20% so you need to hire five more teachers, that is a change, those five new teachers are spending money in the local economy. The power of the input-output model is that we can trace how that new spending “ripples” throughout the whole of the economy. Those ripples are the multiplier effect.

Now, the multiplier effect is composed of three parts: the direct, the indirect, the induced, and then the three parts added together for the total. The direct effect in our case is the school district itself (158 jobs, $7.75 million in income, and $11.7 million in total “sales”). Now the induced effect is linked to labor spending wages in the economy: teachers/staff spending their wages in the local economy. The indirect effect is link to non-labor spending in the local economy, for example office supplies, the water/electric/phone/internet services. Consider a teacher that takes his/her family to the movies, their spending at the movies is an “induced” impact, but the movie theater takes that income from the movie ticket and some of that goes back to Hollywood, some goes to pay the staff (who respond their income and is another round of induced impact) and the electric bill (a type of indirect). The multiplier captures all these ripple effects. Now, we can gain insights into the industry by comparing the induced and indirect effects: industries that are more labor intensive and/or pay higher wages tend to have larger induced effects, industries that are less reliant on labor and/or pay lower wages tend to have a larger indirect effect. For the Durand-Arkansaw School District the induced effect is much, much, larger than the indirect effect which means that it is the school’s teachers/staff spending their wages is driving the economic impact. Given that a large part of the school’s budget goes to staff, this makes sense.

While the model is based on the flow of money from buyers to sellers (Industry sales in the table) we can calculate employment and income impacts as well. So, we can derive four different measures of the economy: industry sales, employment, labor income (wages, salaries and proprietor income), and total income (labor income plus other sources of income such as dividends, interest, rent and transfer payments such as social security). So each of these multiplier provided in the table are specific to the school district and can be used to look at the potential impacts if the school district grows or shrinks.

Suppose that the school district grows and there is a need to hire five new teachers. With an employment multiplier of 1.236, then the total employment impact will be 5*1.236 ~ 6, or hiring five new teachers will have a total impact on employment of six jobs: the initial or direct 5 jobs at the school and one additional job through the multiplier effect. Suppose that the average salary/pay of those teacher is $60,000 or new wages/salaries of $300,000 injected into the economy. With a labor income multiplier of 1.172 the total impact on labor income will be $351,600: the initial or direct $300,000 plus an additional $51,600 of additional income through the multiplier effect. Similar analysis can be done for total income and industry sales.
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univercityalliance@wisc.edu  608-261-1141  univercity.wisc.edu  @UWUniverCity