ELEVATE GREATER AKRON

Exports & Foreign Direct Investment: Market Assessment & Plan

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I. Executive Summary

The purpose of this report is to (a) summarize how efforts to boost exports and FDI fit into the vision for the Akron economy described in Elevate Akron, (b) assess the region's performance in terms of exports and FDI in the recent past, and (c) lay out a new approach to these two topics based on this research. The key points are as follows:

- Though FDI attraction and (to a lesser extent) export promotion are key elements of traditional economic development strategies, most strategies are built upon key misunderstandings about how exports and FDI occur and which types of firms benefit.
- Despite having focused heavily on FDI attraction over the past several decades, Akron's situation worsened in terms of total FDI jobs and the quality of its foreign-owned firms and industries. This reflects the difficult of attracting greenfield FDI as well as the fact that the Akron economy did not generate large numbers of local firms that were targeted for M&A by global firms. Its export performance was in line with its peers, but the flagging global competitiveness of the polymer industry nationwide is a significant drag on Akron's export potential.
- Going forward, the Elevate Akron partners should minimize spending on global FDI attraction efforts and instead focus on rebuilding its key traded-sector industries (especially the polymers or advanced materials cluster). Until it has a dynamic cluster with strong connections between government, business, and universities, Akron is unlikely to draw in more high-quality FDI in this sector (as evidenced by the data covering the past two decades). Until Akron's firms have a shared narrative about why being in Akron makes them more competitive, it will be difficult for EDOs to sel that narrative. In other words, Akron needs to focus on improving its "product" rather than intensifying efforts to "sell" that product. In terms of exports, New BRE must involve a proactive effort to connect a targeted number of firms to local services – something that to date has not been a part of Akron's business development efforts.

II. Introduction

Why exports and FDI matter

The basic logic for focusing on global exports (hereafter just referred to as exports) and foreign direct investment (FDI) is the same as focusing on traded sector in economic development in general: both exports and FDI bring new money into a market. But there are three main reasons to pay additional attention to exports and FDI in particular.

1. The world as a whole is obviously a larger market than the U.S., and global markets go through somewhat different cycles and offer different consumer profiles than the U.S. (So not only is China, for example, a large market, but it might be growing when the U.S. isn't and might be purchasing large quantities of consumer goods that the U.S. isn't.)

2. Firms that export and are foreign-owned offer benefits in terms of wages, benefits, and innovation. For example:

    - Firms that export pay 11% more than non-exporters (adjusting for industry and location), and one study found that exporters are 10% more likely to survive over a given time period than non-exporters.

    - Foreign-owned firms pay 22% more than U.S. firms in the Akron metro area, and foreign-owned firms tend to be more innovative – they represent 5% of U.S. employment but 19% of corporate R&D spending.

3. There is a market failure to address that doesn't exist in domestic markets. For exports, these include the barriers that firms face in selling abroad (transaction costs, financing, vetting global customers and partners) and for FDI, they include knowledge gaps that potential investors may have about a region (such as not knowing that Akron even exists or not knowing that it contains certain firms or assets).

Common mistakes that lead to bad strategy

The research cited above – combined with stories like that of Upstate South Carolina, which has reinvented its economy after attracting a BMW plant in 1992[1] – has convinced many regions that boosting exports and attracting FDI offers a means to not only grow jobs but also change the trajectory of the economy. Akron is no exception to this, having focused heavily on FDI attraction over the past several decades.

[1] Case study: https://www.brookings.edu/wp-content/uploads/2018/07/201807_Brookings-Metro_Rethinking-Clusters-Initiatives_SC-CUICAR.pdf

Is there any reason to question this strategy? There is no doubt that exports and FDI matter, and there certainly is a strong justification for extending some effort and resources to address barriers that local firms face in selling abroad or that foreign firms face in investing in the U.S.

But many export- and FDI-heavy economic development strategies are based on misinterpretations of the research summarized above. Before examining where Akron stands on exports and FDI, and what its strategy should be, it is important to unpack common oversimplifications and misunderstandings that lead to bad strategy.

Exports

Since the research shows that exporters pay 11% more than non-exporters and are 10% more likely to survive a given period than non-exporters (among other benefits), many EDOs assume that if they can help a given firm to enter export markets, then that firm will begin to sell more, pay workers more, become more competitive, and be more likely to survive.

There are two key mistakes with this belief:

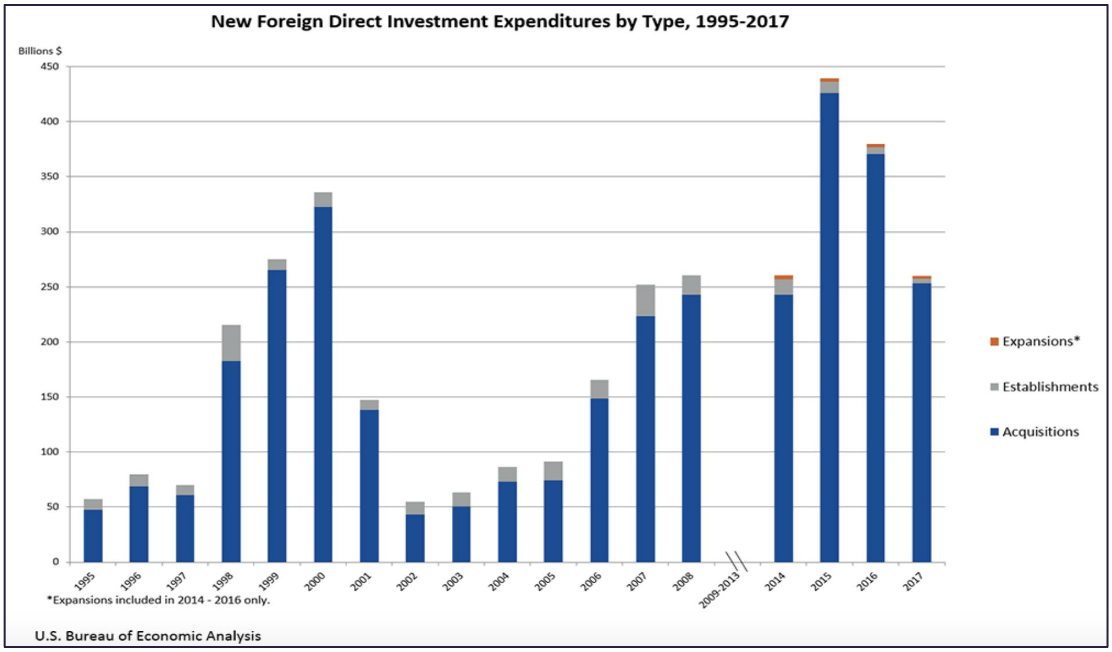
1. The positive outcomes that are associated with exporters are not *caused by* exporting. Rather, companies that are good enough at what they do to innovate, pay high wages, and stay in business tend to *end up* exporting. In other words, the best firms self-select into export markets. The clearest evidence of this is as follows:
    - A study of U.S. manufacturers by Bernard and Jensen (1999) found that several years before ever exporting, firms that are future exporters were already 20-45% larger, 7-8% more productive, growing faster, and offering 2-4% higher pay than than future non-exporters.
    - A study of German manufacturers by Schank et al (2008) found that three years prior to exporting, the future exporters already paid 7% more than otherwise identical non-exporters, and that three years after exporting, there was no further divergence in pay.
    - Examining whether firms "learn" to become better *because* of exporting (and thus become able to pay more), Greenaway and Kneller (2007) looked at 15 studies and found that they confirm that "self-selection [of high-performing firms into export markets] is universally more important than learning".
2. The positive outcomes that are associated with exporters are not a result of exporting, but of exporting intensively. (This is important because EDOs normally measure success based on the number of firms that export at all.) The reason is that there are high up-front costs involved in exporting. Therefore, only making a few export sales, or frequently exiting and re-entering export markets, is likely to be worse for firms than not exporting at all.

- Studying German goods exporters, Fryges and Wagner (2010) find that the profitability premium among exporters peaks when exports hit 50 percent of output, while firms that export between 5 and 10 percent or more than 90 percent of output are less profitable than non-exporters.
- Among British manufacturers, a study by Girma et al (2002) found that there is "an inverted U-shaped relationship between employment and sales... and the share of output devoted to exporting". Specifically, employment grows until export intensity hits 34 percent (and thereafter declines), while output grows until export intensity hits 48 percent (and thereafter declines).
- Capar and Kotabe (2003) also find an "inverted U-shaped" relationship between export intensity and performance in major German services firms, with performance increasing until a point at which "product diversification and expansion into markets that are physically and culturally more distant greatly enhances the transaction costs". Conversely, low levels of export intensity (specifically, below 18 percent) are also linked to underperformance.

FDI

There are two key misconceptions about FDI that tend to shape strategy.

1. One myth is that large greenfield FDI investment is fairly common. (This is basically the same misconception that exists around business attraction in general.) Since major investments by foreign firms – like Volvo's investment in South Carolina or Foxconn's in Wisconsin – make headlines, it's often assumed that any region *not* getting such investments is underperforming. In fact, as the below chart from the Bureau of Economic Analysis makes clear, the vast majority of FDI enters in the form of mergers and acquisitions (and some of the remainder is in the form of expansions of existing establishments). Further, the typical investment is not large: between 1991 and 2011, the average new FDI establishment that entered the U.S. via greenfield investment was 35 employees, and the average that entered via M&A was 53 employees.



2. The other myth is that M&A is necessarily a bad thing, and that nothing can be done to influence post-M&A outcomes. Unlike greenfield investments, M&A does not yield immediate job gains – it is simply a transition of ownership from domestic to foreign. Thus the question as to whether M&A is good, bad, or neutral depends on what types of firms tend to be acquired and what happens to them post-acquisition. Here is some evidence on that point:

    - A surprisingly large number of firms want to be acquired. This doesn't mean that the resulting acquisition will be good for the region, but it does mean that common stories about "hostile" M&A are not representative. An annual survey of 600 middle market firms by Citizens Bank revealed in 2019 that 62 percent of firms were either actively engaged in an M&A transaction or open to one. Half of that 62 percent expressed a desire to be bought by an international firm "with the hope of retaining the current leadership team and gaining access to global markets".

    - M&A has typically been assumed to be motivated by the desire to cheaply acquire and dismantle the assets of underperforming firms ("lemons"). However, at study by Blonigen et al (2012) shows that acquired firms instead tend to be highly productive and export-oriented firms ("cherries") that are undergoing temporary periods of declining productivity at the time of acquisition. Following acquisition, productivity continues to decline while export networks expand, and then after several years productivity rebounds. This suggests that the acquiring firm makes investments in the acquired firms' production technology and export capacity.

    - Similar findings emerge in a study of Spanish manufacturers by Guadalupe et al (2010): post-acquisition, acquired firms increase sales and productivity by approximately 15%, and total wages increase by 6%. Along the same lines, Sly et al (2014) also show that foreign acquisition results in wage increases of 5%, growing to 6-8% after several years.

    - From a local perspective, foreign acquisition is certainly not always a good thing. Sometimes firms are downsized that wouldn't have been otherwise, and even if the firm is left intact acquisitions can result in less engaged corporate leadership in a community. But it can also provide a cash infusion, new knowledge, and global distribution channels that are hard for a local firm to acquire on its own. And, compared to domestic acquirers, foreign acquirers are more likely to want to use the local firm as a "beachhead" for expansion into the U.S. rather than shutting the acquired firm down to reduce competition.

- Foreign firms often acquire multiple U.S. operations in rapid succession, and then decide on a strategy for consolidating or expanding. Often the executives of the acquired local firm, whether they are the existing pre-acquisition executives or new ones, are expected to make the case for keeping or expanding the local firm. Because those executives are commonly not experts in the local economy or workforce, they aren't very well equipped to make this case. Thus, effective and responsive research and BRE operations are the main way that local EDOs can respond to acquisitions.

General lessons about what this means for strategy

This understanding of the research on the effects of exports and the drivers of FDI leads to some basic implications for strategy that apply in any region. While Akron's specific strategy is outlined later in this document, it is useful to summarize these basic strategic implications before diving into the assessment about Akron's situation.

Basic implications for export strategy

- **For elite firms:** The universe of firms that should be targeted for export support is not all traded-sector firms that are not currently exporting; rather it is the top 10-20% of traded-sector firms (in terms of innovation, productivity, etc.) that either aren't exporting or are under-exporting. This is a small number of firms that can easily be reached via Akron's BRE structure.

- **Integrated into BRE:** Exports should be considered part of the "business development" pipeline: for firms to export successfully, they first need to be innovative and productive. In practice, this means that firms that have gone through innovation- and productivity-related programs (i.e., graduated from an accelerator/incubator and then worked with an EDO or university on productivity/tech adoption) should be targeted for export assistance.

- **Under-exporters not (just) new exporters:** There is more to gain from helping existing exporters stay in export markets or expand the number of export markets that they are in, rather than getting many firms to enter export markets for the first time. Pushing unprepared firms into global markets is not just unproductive, but potentially harmful. In other words, number of new exporters is not itself a good performance measure.

Basic implications for FDI strategy

- **Costs must be weighed against benefits:** Attracting FDI is expensive and very difficult. The travel is expensive and time-consuming, creating marketing materials that are truly distinct and meaningful is expensive and time-consuming, the planning and research required is time consuming. Of course there are potential benefits, but these must be assessed realistically and weighed against costs (including opportunity costs – how many local firms could have been helped with the time and money spent abroad).

- **Not just greenfield investment:** Strategies focused on greenfield FDI are incomplete. M&A is not only by far the largest source of FDI financial inflows, it can also potentially increase the competitiveness of important mid-sized local firms.

- **M&A can be good:** There are benefits to being acquired, especially by a foreign firm. (Anecdotally, foreign buyers are less likely than domestic buyers to shut down the acquired operation, because the point of the acquisition is often to establish an export platform in the U.S. rather than to shut down a rival.) But the potential benefits of M&A are not available to all firms; rather they flow to the already highest-performing firms with robust export networks. It is therefore potentially justifiable to help certain firms – those that would benefit from M&A but are just below the size/performance threshold where it is likely occur naturally – connect to potential foreign buyers.

III. Market Assessment

The first step in creating a strategy for Akron is assessing its starting point on exports and FDI.

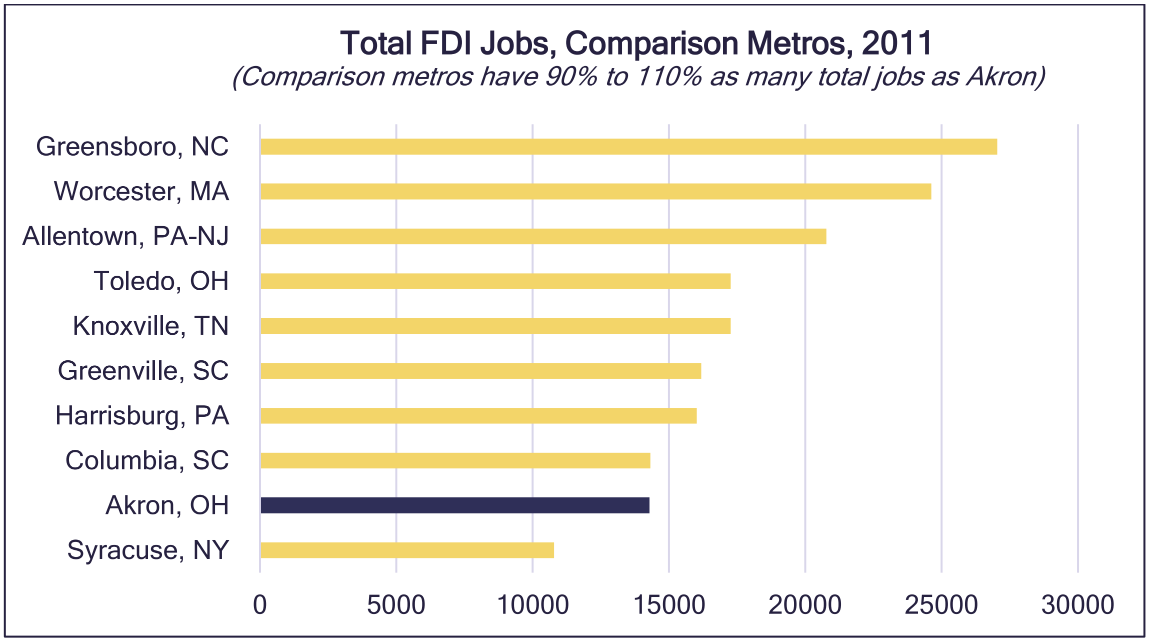
Defining exports: There is no official measure of export production at the local level. Most sources of export data measure exports based on the location from which they are shipped out of the country. This means that if a product is made in Indiana, but then trucked to Ohio and consolidated for shipment out of the U.S., Ohio will get credit for the export even though it didn't produce it. Brookings sought to address this problem with its "Export Monitor" data series, which is the basis for most of the analysis below. The Export Monitor data is an estimate of local export production. Basically, it assumes that if Summit County produces 5% of U.S. output in chemicals, then Summit County is also responsible for 5% of U.S. exports in chemicals. It repeats this process for all goods and services industries, and then aggregates the results to the metropolitan area level. This data should technically be viewed as a measure of export potential, rather than export production. (It is possible that Summit County is somewhat more or somewhat less export-oriented than the national average for a given industry.) While imperfect, it is the best available measure of local export activity that covers goods and services over multiple years. Full methodology is available here.

Defining FDI: There is also no official or complete measure of foreign direct investment at the local level. To fill this gap, Brookings created a dataset that takes advantage of both the local detail of National Establishment Time-Series (or NETS) data, and the greater accuracy of Bureau of Economic Analysis data. Basically, Brookings identified every foreign-owned establishment in every U.S. county between 1991 and 2011 using NETS data. NETS is based on Dun & Bradstreet data, which gathers establishment-level data from individual businesses across the country via millions of telephone surveys annually. Then Brookings identified whether these foreign-owned establishments existed before 1991, became at least 50% foreign-owned via a merger or acquisition between 1991 and 2011, or entered via a greenfield investment between 1991 and 2011. Lastly, Brookings ensured that the NETS-based data fit BEA industry estimates nationwide and total employment estimates statewide. (So if all FDI employment in Ohio according to NETS data was 100,000 but the BEA data showed that FDI employment in Ohio was 120,000, every establishment in the NETS data had its employment increased by 20%.) Because neither NETS nor BEA data is perfect, the Brookings data should be seen as an estimate, and a slightly outdated one at that. But it is the only data that covers greenfield and M&A, as well as post-investment job changes, across industries and metro areas. Full methodology is available here.

FDI assessment

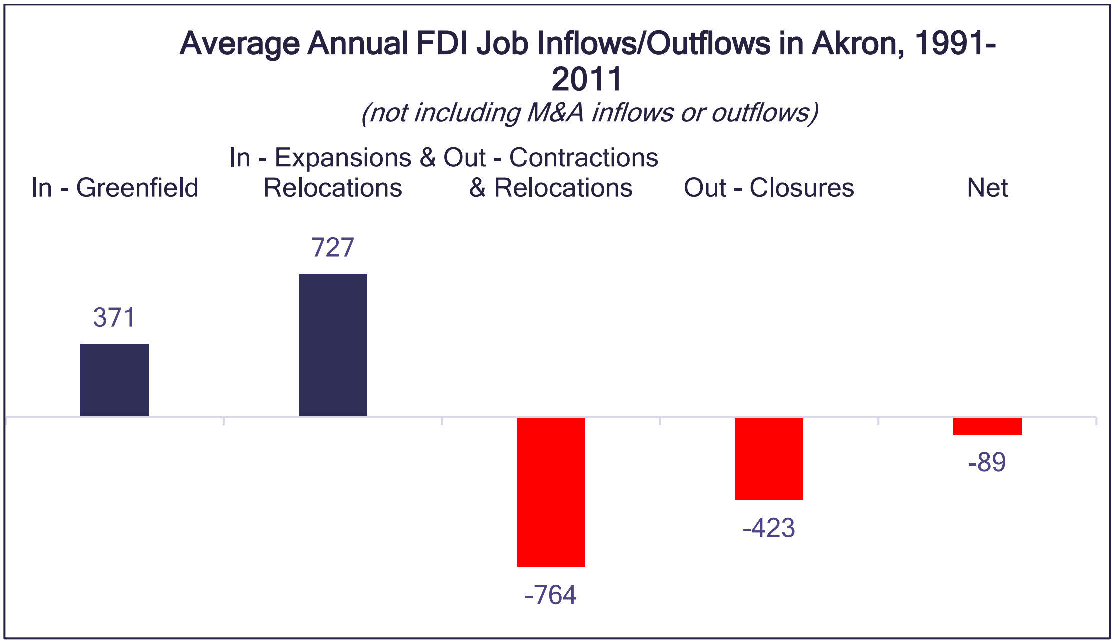
The first question is how much FDI Akron has. This provides a sense of Akron's unmet potential, or how many more FDI jobs Akron might have with the optimal strategy. This helps clarify what scale of investment might be justifiable: if Akron is already performing close to the top of its peer group, that would suggest that a major investment in FDI attraction would not be likely to yield significant gains.

As of 1991, Akron had approximately 12,000 jobs in foreign-owned establishments (FOEs). By 2011, Akron had approximately 14,000 jobs in FOEs. In each year, this represented about 5% of total employment, which in both cases was about equal to the U.S. average. Below is how Akron compared to a selection of peer markets (all of these peer markets have between 90% and 110% as many total jobs as Akron).



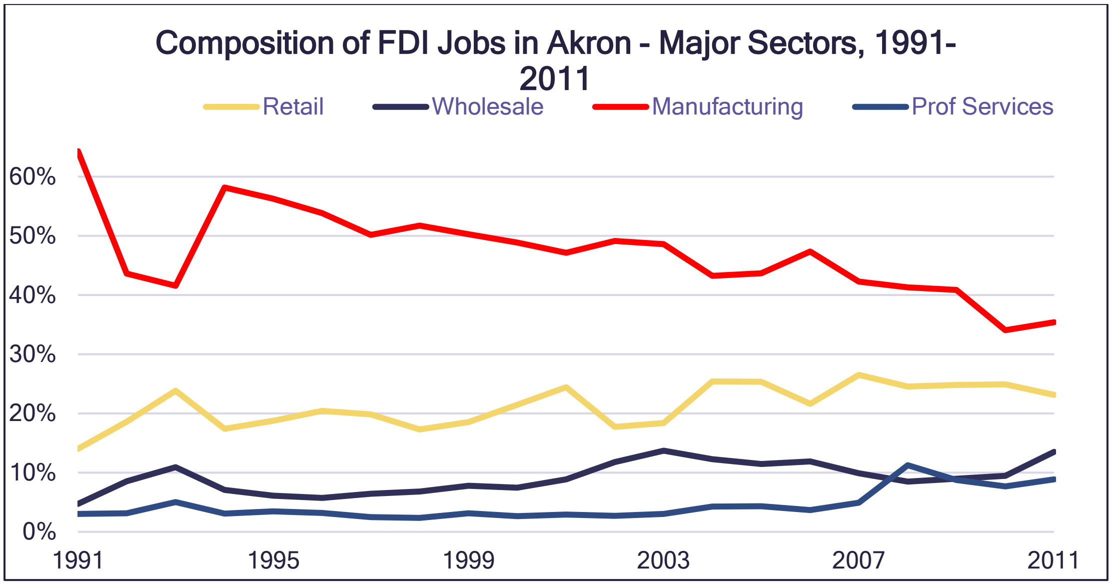
What accounted for the 2,000 job increase between 1991 and 2011? To answer this question, it is important to look at what happened with and without M&A activity. Recall that an M&A transaction does not increase the actual number of jobs in Akron, it simply is a change in ownership that increases the number of jobs that are categorized as being in FOEs. Therefore, net job changes in FOEs come from just the non-M&A components of employment change that are shown in the below chart.

The takeaway is that, if you remove jobs that were added to or removed from the FDI pool via M&A transactions, Akron actually lost an average of 89 FDI jobs annually from 1991 to 2011. (Though 371 jobs entered annually via greenfield investments, 423 jobs were lost via closures of FOEs. Meanwhile, expansions and contractions basically cancelled one another out.) To put it simply, in the average year from 1991 to 2011 Akron actually lost jobs in FOEs via the combination of forces that are normally thought of as organically create or destroy jobs in an economy. Its total number of FDI jobs only grew by 2,000 over the two decades because each year about 100 more jobs were recategorized as being FDI jobs via M&A transactions than had been lost the previous year via contractions and closures.

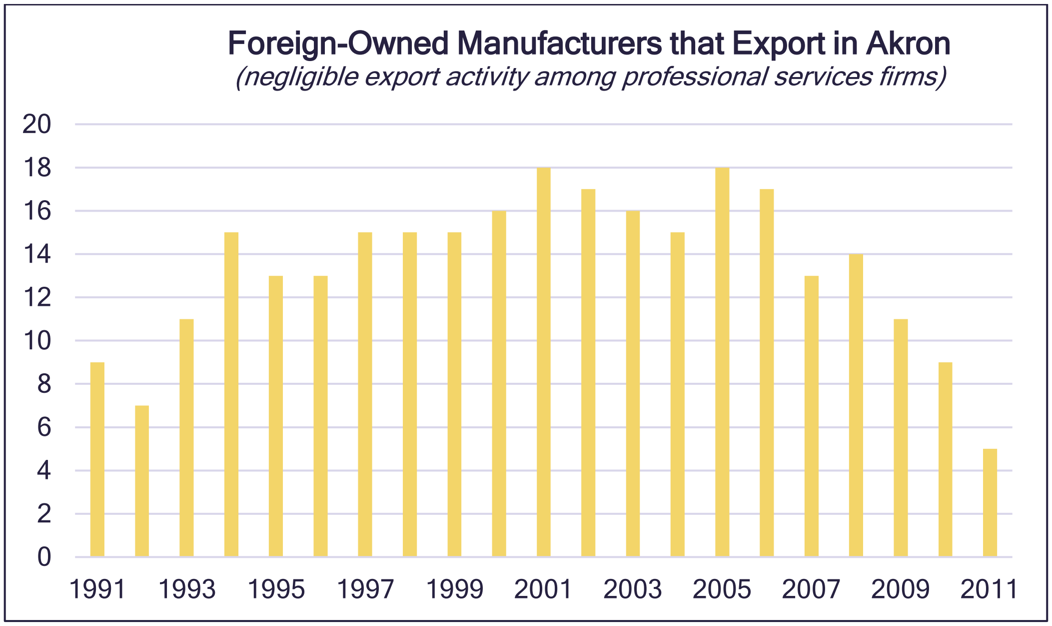


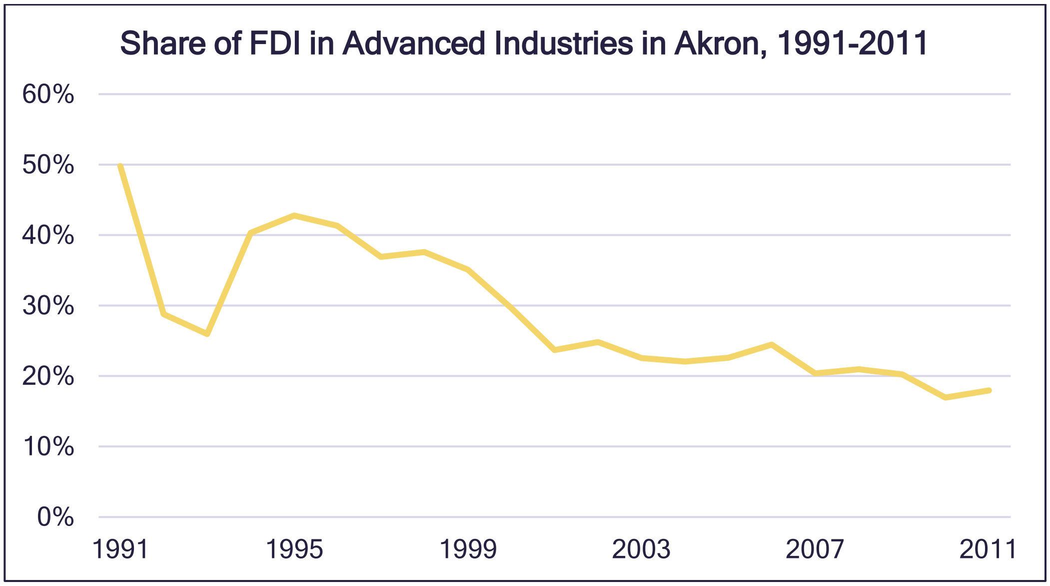
The next question is what kind of FDI does Akron have? This reveals whether Akron's overall FDI job numbers understate or overstate the importance of FDI to the economy overall. While EDOs think about FDI in terms of traded sector manufacturers, much of the FDI in the U.S. is actually in non-traded industries that do little to drive economic growth. (For example, 7-11 convenience stores are owned by a Japanese company, and therefore count as FDI.)

As shown in the chart below, between 1991 and 2011 Akron's FDI employment went from being very manufacturing-oriented (about 65% of jobs) to more retail- and services-oriented. This is an extreme version of a nationwide trend: from 1991 to 2011, U.S. FDI went from 51% in goods-producing industries to 43%. During the same time period, Akron's fell from 64% to 37%.



This trend away from the most sought-after forms of FDI (multinational manufacturers) is also visible in the below charts. The number of foreign-owned manufacturers that reported export activity in Akron peaked at about 18 in the early 2000s but had fallen to less than a third of that by 2011. And the share of FDI jobs in advanced industries fell from 50% in 1991 to less than 20% in 2011.[2]





Comparing Akron to the same set of peer metros as before provides a clearer sense of the degree to which Akron underperforms in terms of FDI in advanced industries. Akron has the second fewest FDI jobs total (80%

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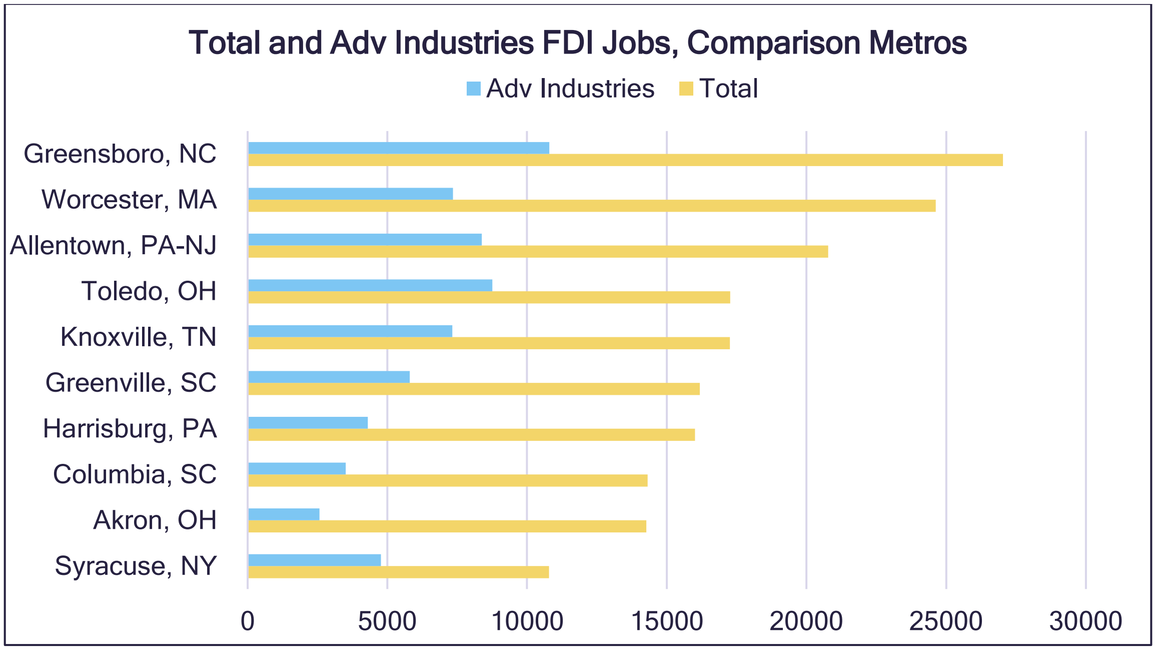
[2] Advanced industries are defined by Brookings as a collection of R&D and STEM-intensive industries. Formal definition available here: https://www.brookings.edu/wp-content/uploads/2015/02/Advanced-Industries-Data-and-Methods-Appendix.pdf

of the average), but the fewest FDI jobs in advanced industries by a considerable amount (just 40% of the average).



A final way to assess the quality of Akron's FDI is by comparing its industry specializations (as measured by location quotients, or LQs) to the U.S., both in terms of FDI jobs and overall jobs.

As shown in the below table, Akron in 1991 was both relatively specialized in manufacturing overall and a higher-than-average share of its manufacturing jobs were in foreign owned firms. By 2011, however, Akron's specialization in manufacturing had increased relative to the U.S., but its manufacturing base had simultaneously become less FDI-intensive than the U.S. In other words, as of 2011 Akron's manufacturing base including surprisingly few FDI jobs.

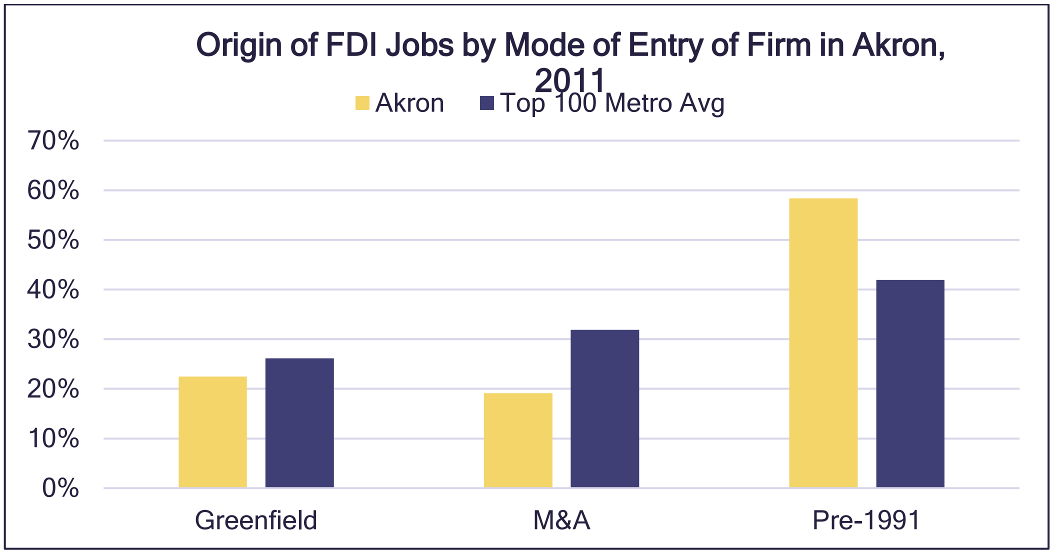
Meanwhile, between 1991 and 2011 both its overall and FDI specialization in wholesale trade increased (this industry included firms like Hitachi Medical Systems and Newark Corporation). In other key traded sector industries, Akron is only somewhat less specialized than the U.S. overall (LQ of 0.8 in both finance/insurance and professional, scientific, and technical services) but significantly less FDI-intensive than the U.S. overall (LQ of 0.3 and 0.2, respectively).

	FDI LQ (*Foreign share of total jobs in industry relative to U.S.*)		Domestic LQ (*Industry share of total jobs in region relative to U.S.*)	
Industry	**1991**	**2011**	**1991**	**2011**
Manufacturing	1.3	0.7	1.3	1.4
Wholesale trade	0.6	1.1	1.0	1.3
Finance and insurance	0.0	0.3	0.7	0.8
Prof, sci, tech services	0.6	0.2	0.9	0.8

The next question is how did foreign firms enter the Akron market? Understanding the method by which companies entered the market (greenfield or M&A), and from which countries, can inform Akron's approach to attracting FDI in the future.

Brookings data identifies three "mode of entry" for FDI establishments – they either existed in the market prior to 1991, entered the market via a greenfield investment, or entered via M&A (only counting when a foreign buyer gains at least 50% ownership).

A clear pattern emerges when Akron is compared to the typical profile of FDI in the largest 100 metro areas. Akron's FDI jobs are somewhat less likely to be in firms that entered via greenfield, significantly less likely to be in a firm that entered via M&A, and far more likely to be in a firm that entered the Akron market before 1991. Nearly 60 percent of Akron's FDI jobs in 2011 were in firms that had been in Akron for at least 20 years.



In terms of the countries from which FDI arrived, England and Switzerland are the two locations that stand out. Not only does Akron have a significant number of absolute jobs and establishments from England and Switzerland, but these countries also represent a larger share of Akron's total FDI jobs than these countries tend to represent in other metro areas. (In other words, Akron "specializes" in FDI from England and Switzerland.) Japan, France, and Germany comprise a second category, in that there are many total jobs but no more so than one would expect for a market of Akron's size (indeed there are somewhat fewer than one would expect for a market of Akron's size).

As noted at the bottom of the chart, it is important to interpret the below data cautiously. Specifically, it is important to note that Bermuda is really just a single firm that is only nominally located in Bermuda (presumably for tax reasons), and Canada's employment numbers mostly reflect the ownership of the Beacon Journal by a Canadian firm, and its establishment numbers mostly reflects a chain of convenience stores. Only 1 of the 73 Canadian establishments is traded sector. Also, some of these firms no longer exist or have been acquired by yet another owner.

Top 15 Countries for FDI Jobs, 2011

Country	FDI Jobs	FDI Estabs.	LQ *(country share of FDI jobs vs U.S.)*	Key Establishments
England	2260	46	1.1	Meggitt, Newark Corp
Bermuda*	1913	9	11.5	Sterling Jewerly
Canada**	1804	73	1.5	Beacon Journal, Extendicare
Switzerland	1594	15	1.7	ADO Staffing, Coltene/Whaledent
Japan	1495	31	0.9	Hitachi, Audio-Technica
France	928	14	0.8	Saint-Gobain
Germany	918	32	0.7	Rotek, Pepperl & Fuchs
Belgium	908	3	2.1	Bekaert, Flexalloy
Sweden	315	4	0.8	Trelleborg Wheel Systems
Italy	246	17	0.5	Chrysler Group
New Zealand	234	3	2.3	ASC Industries
Netherlands	228	13	0.3	Lexi-Comp
Luxembourg	187	6	1.0	Arcelormittal
Finland	186	2	2.3	Waltco Lift Corp
Mexico	148	5	0.8	Hydro Conduit Corp

* Bermuda employment is all Sterling Jewelers, acquired in 1987 by Signet, a UK-based firm but technically headquartered in Bermuda.

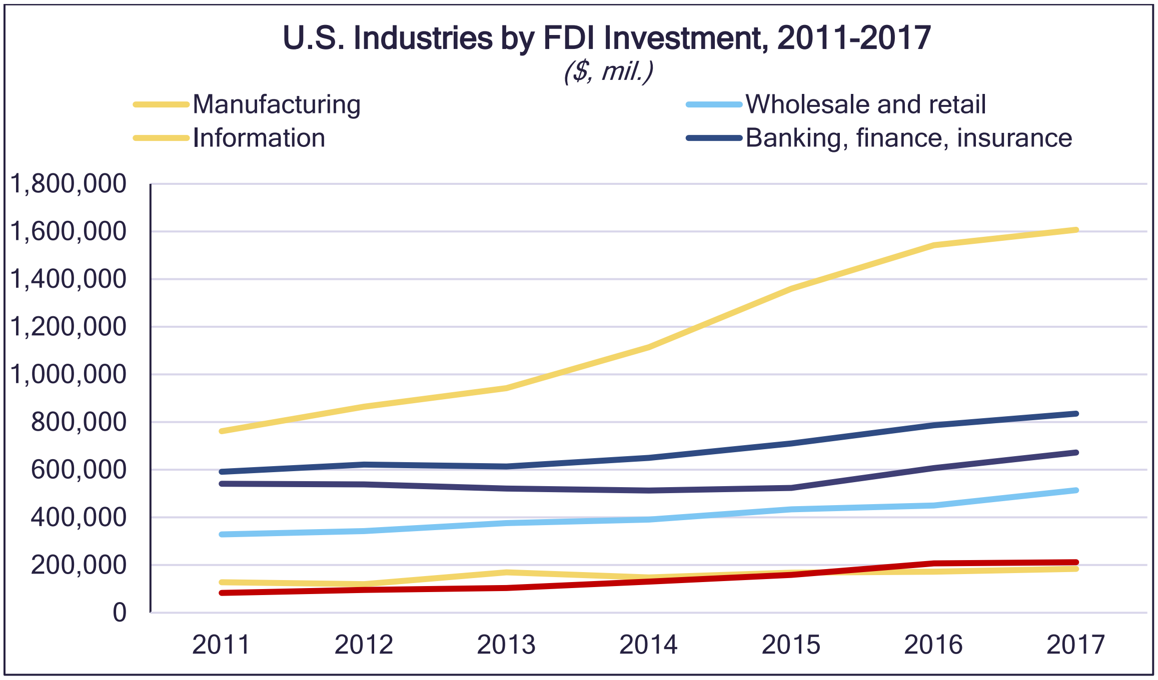
* Nearly 800 of the 1,800 Canada employees are related to the ownership of the Akron Beacon-Journal by Canada-based Black Press.

Because the above data includes a lot of "low value" FDI like the Canadian-owned convenience stores, it is important to look specifically at the sources of Akron's "high value" FDI. It is difficult to establish any meaningful patterns, however, simply because the pool of high-value FDI establishments is small. Looking at all foreign-owned firms in Akron that have at least 10 employees and entered after 1991, only Germany stands out as a clear outlier, with four establishments and the only post-1991 greenfield investment (Linde Gas in Twinsburg).

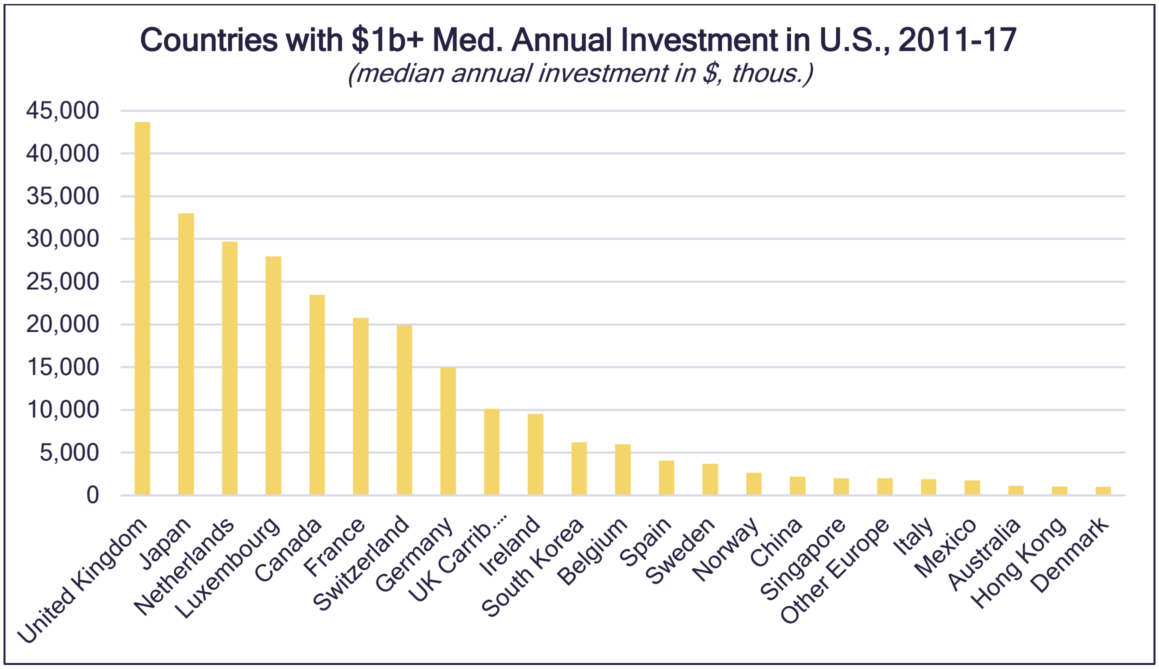
All Advanced Industries Firms with 10+ Employees by Country, 2011

	Firms	Entered Post-1991 via Greenfield
Germany	4	1 (greenfield)
Japan	3	0
Switzerland	2	0
England	2	0
Australia	1	0
Finland	1	0
France	1	0
Luxembourg	1	0
New Zealand	1	1 (M&A)

The final question is what has happened since 2011? After 2011, there is no available source of metro-level data on FDI. However, we can examine national and state-level patterns to determine whether it is likely that Akron's fundamental situation has changed considerably since 2011. Nationally, FDI across most industry sectors grew from 2011 to 2017, with the largest bump by far in manufacturing (take caution when interpreting this, however: much of the increase in manufacturing is likely due to Chrysler merging with Fiat in 2014).



In terms of investment by country, annual flows fluctuate considerably, so the below chart captures the median (rather than average) annual investment by country since 2011. Largely reflecting Akron's existing FDI strengths, the UK, Japan, Canada, and a set of Northern European markets are by far the largest sources. There is a steep drop off after Switzerland, and the drop is even steeper when taking into account that the Caribbean Islands and Ireland are likely to be the formal headquarters of firms whose decision-making functions are likely in one of the top handful of countries on the chart.



In Ohio, manufacturing is by far the largest industry for FDI jobs, and FDI jobs in key traded-sector industries grew by between 3 and 4 percent annually since 2011.

Ohio Industries by FDI Employment, 2016

Industry	Ohio jobs (thous.)	Ann. growth rate, 2011-16
Manufacturing	144.0	3.1%
Other industries	60.6	2.6%
Retail trade	19.9	5.4%
Wholesale trade	18.0	5.0%
Prof, sci, tech svcs	12.5	4.3%
Information	7.0	3.5%
Finance and insurance	5.6	0.0%

Export assessment

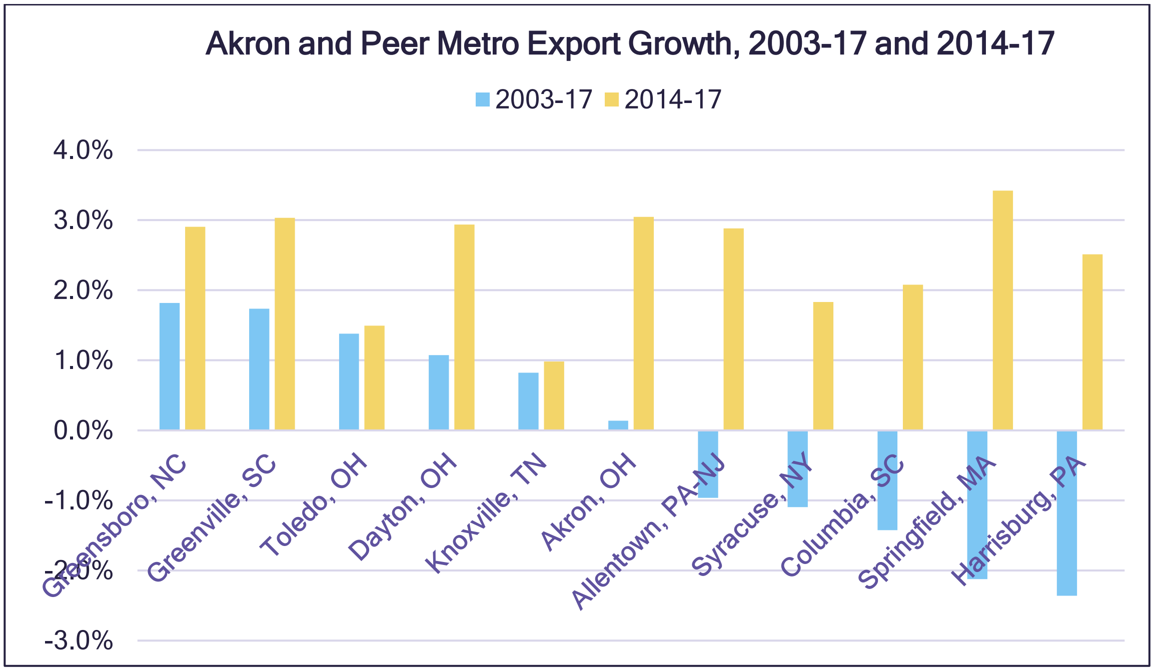
As described previously, there is no way to measure actual export activity among firms at the local level. The data below is an indicator of the Akron economy's export potential over time, based on its industry mix and global demand for those industries. (However, for simplicity, the measures of export potential will just be referred to as "exports".) Therefore, what is presented below should be interpreted as indicative of which of Akron's industries are most globally competitive. Strong and fast-growing firms in these industries that aren't exporting or only exporting inconsistently should be seen as prime targets for export assistance. And industries with high export potential are most likely to be targets for foreign investment (or are already FDI-intensive, as is the case with the aircraft products & parts industry, for example).

The first question is how much does Akron export? As with FDI, here it is worth comparing Akron to a set of peer metro areas. (These are largely the same peers as Akron was compared to on FDI, with a few differences based on data availability.) In terms of total exports in 2017, Akron ranks right in the middle of its peer group, with $4.3 billion in exports.

Akron and Peer Metro Exports, 2017

Metro Area	Total Exports (Mil.)	Export Share of GDP
Greensboro, NC	6,844	15.5%
Greenville, SC	6,005	14.3%
Toledo, OH	4,904	13.3%
Dayton, OH	4,675	10.7%
Knoxville, TN	4,651	10.6%
Akron, OH	4,286	11.1%
Allentown, PA-NJ	3,867	9.0%
Syracuse, NY	3,752	8.2%
Columbia, SC	3,738	8.6%
Springfield, MA	2,425	6.7%
Harrisburg, PA	2,344	5.9%

In terms of export growth, Akron again ranks right in the middle of its peer group. Over the long-term (2003 to 2017) Akron's exports were essentially flat, while exports grew in five peers and shrank in five. In the shorter-term (2014 to 2017), Akron's exports grew by about three percent annually, right in line with its peers.



The next question is which of Akron's industries meets the standard of being truly globally competitive, since there are 124 different industries in which Akron has some export activity. The standard used to define "truly globally competitive" is as follows:

- Specialization: Akron's location quotient in the industry is greater than 1
- Size: the industry accounts for at least 1% of Akron's total exports
- Growth: exports grew by 3% annually between 2003 and 2017

Akron's 12 Globally Competitive Industries

Sector (NAICS 2-digit)	Industry (NAICS 4-digit)	Exports ($, mil.)	Direct Export Supported Jobs	Share of Total Akron Exports	Industry LQ (Rel. to US)
Manufacturing	Aircraft Prod.& Parts	425	863	9.9%	1.6
Manufacturing	Cleaning Products	266	360	6.2%	7.6
Manufacturing	Industrial Machinery	223	614	5.2%	4.5
Mining, Oil, Gas	Oil & Gas Extraction	204	146	4.8%	2.2
Eds, Meds, Tourism	Educational Services	153	1534	3.6%	1.6
Manufacturing	Misc. Machinery	151	328	3.5%	2.4
Manufacturing	Nonferrous Metal Prod.	112	145	2.6%	1.6
Manufacturing	Tanks & Containers	80	193	1.9%	10.1
Engineering	Equipment Instal. Svcs	66	345	1.5%	1.2
Info & Tech	Chem. Mfg. Royalties	64	490	1.5%	1.8
Manufacturing	Misc. Goods	63	202	1.5%	1.6
Finance, Insurance	Insurance Carriers	57	140	1.3%	1.6

There is one industry that is conspicuously absent from the above list, which is the polymer/materials industry. If the growth criteria from the above chart is removed, six new industries emerge that are specialized and large but growing less than 3% annually. Four of these six industries effectively constitute the polymer cluster.

Akron's Large but Struggling Industries

Sector (NAICS 2-digit)	Industry (NAICS 4-digit)	Exports ($, mil.)	Direct Export Supported Jobs	Share of Total Akron Exports	Industry LQ (Rel. to US)
Manufacturing	Resins & Synth. Rubbers	302	211	7.0%	3.9
Manufacturing	Basic Chemicals	157	102	3.7%	1.3
Manufacturing	Plastics	153	434	3.6%	3.4
Manufacturing	Rubber Products	115	347	2.7%	6.0
Manufacturing	Ag., Constr., Mining Machinery	51	90	1.2%	1.0
Manufacturing	Misc. Elec. Equipment	51	121	1.2%	1.1

This raises the question of **which of Akron's industries are driving export growth?** To begin, the answer is not necessarily Akron's largest export industries. Below are the ten largest export industries in the region ranked by total exports, and their contribution to the region's total export growth from 2003 to 2017 and 2014-2017. (Totals add to more than 100% because some industries made negative contributions to growth.) While some large industries also contributed significantly to growth (aircraft products, cleaning products, oil & gas), many did not (resins & synthetic rubbers), and some even shrank considerably (plastics, rubber).

10 Largest Export Industries – Contribution to Export Growth

(polymer/materials-related industries in blue)

Industry (NAICS 4-digit)	Contribution to Total 2003-17 Export Growth	Contribution to Total 2014-17 Export Growth
Aircraft Products & Parts	11.6%	49.2%
Resins & Synthetic Rubbers	4.1%	2.5%
Cleaning Products	16.1%	25.7%
Industrial Machinery	10.7%	24.3%
Oil & Gas Extraction	14.3%	80.5%
Basic Chemicals	1.1%	5.4%
Plastics	0.5%	-11.8%
Educational Services	7.1%	22.9%
Misc. General Purpose Machinery	4.2%	-7.2%
Rubber Products	1.2%	-19.2%

Below are the ten industries that did contribute most to growth from 2003 to 2017 (as well as their contribution from 2014 to 2017). Several of these industries are not among Akron's largest overall, including nonferrous metal products, equipment installation, and R&D services. While there is no firm-level export data available, the below data clearly points to the importance of just a few key firms in driving Akron exports, namely GOJO (cleaning products) and Meggitt Aircraft Breaking Systems (aircraft products).

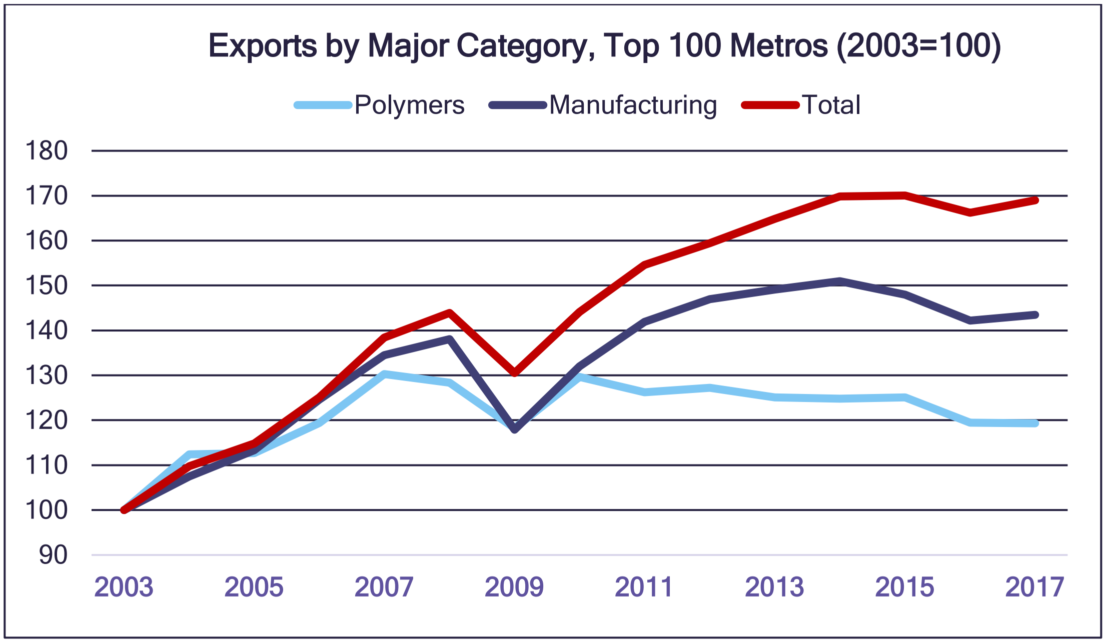
10 Industries that Contributed Most to Export Growth, 2003-17

(industries outside the 10 largest in blue)

Industry (NAICS 4-digit)	Contribution to Total 2003-17 Export Growth	Contribution to Total 2014-17 Export Growth*
Cleaning Products	16.1%	25.7%
Oil & Gas Extraction	14.3%	80.5%
Aircraft Products & Parts	11.6%	49.2%
Industrial Machinery	10.7%	24.3%
Educational Services	7.1%	22.9%
Nonferrous Metal Products	5.4%	14.6%
Misc. General Purpose Machinery	4.2%	-7.2%
Resins & Synthetic Rubbers	4.1%	2.5%
Equipment Installation Services	3.4%	3.3%
R & D Services	3.0%	6.3%

* Note that these contributions do not add to 100% because industries that grew add up to more than Akron's entire net growth, because industries that grew were offset by industries that shrank (these industries that shrank by a large amount are not shown).

This industry analysis raises the question of what's going on with the polymer industry? As shown below, manufacturing exports in the top 100 metros overall grew more slowly than total exports from 2003 to 2017. But the polymers portion of the manufacturing sector (broadly defined as the "chemical manufacturing" and "plastics and rubber products" industries) performed particularly poorly. As of 2017, polymer exports were just barely above their levels in the depths of the recession, and barely above 2006 totals. It has been a "lost decade" for the U.S. polymer sector, at least as measured by this indicator of its global competitiveness.



How is Akron faring relative to this difficult national trend? The below chart includes Akron and similar mid-sized metro areas with particularly large polymer industries (again, defined broadly by two 3-digit NAICS codes). Note that Akron is among the most polymer-dependent metro areas in this list, with over a quarter of all exports coming from this one industry.

These metro areas have mixed performance in terms of polymers export trends. Of 12 metro areas, only seven have polymers exports larger in 2017 than in 2003, and only six have polymers exports larger in 2017 than in 2009 (meaning that Greensboro and Greenville grew from 2003 to 2009, but then shrank from 2009 to 2017, and vice versa for Allentown). This means that Akron is one of only five metro areas out of 12 in which polymers exports were higher in 2017 than in both 2003 and 2009. (Of these five consistently growing metro areas, Akron falls in the middle in terms of performance – it was outpaced by Columbus and Columbia, SC over the long-term and by Columbus and Grand Rapids post-recession.)

Akron and Peer Metros, Polymers Exports (NAICS 325/236)

	Industry Share of Total Region Exports	**Total Exports (Mil.)**	***Long-Term*** **2017 Exports vs 2003 Exports (% Growth)**	***Post-Recession*** **2017 Exports vs 2009 Exports (% Growth)**
Greensboro, NC	32%	2,192	25%	-4%
Columbia, SC	27%	993	55%	29%
Akron, OH	26%	1,122	41%	28%
Allentown, PA-NJ	23%	905	-27%	9%
Winston, NC	20%	712	3%	24%
Greenville, SC	18%	1,069	19%	-1%
Buffalo, NY	17%	1,201	-39%	-36%
Worcester, MA-CT	15%	698	-3%	-18%
Columbus, OH	13%	1,380	84%	48%
Rochester, NY	13%	876	-66%	-61%
Pittsburgh, PA	10%	1,464	-39%	-3%
Grand Rapids, MI	10%	874	31%	52%

This points to the following overall conclusion about Akron's polymer industry and its global competitiveness: Akron is unfortunate that its signature industry is one that has been struggling on the global stage overall, in every region across the U.S., since the recession. However, despite this difficult structural context, Akron is outperforming the U.S. and many of its peers. That is of course good news, but also bad news in that it suggests that Akron is already wringing as much out of its polymer industry as can be expected (or close to it). The data here is not definitive, as the polymer cluster in fact extends beyond these two industries, but it remains the case that Akron is unlikely to continue outperforming the fundamentals forever.

Strategy

The basic strategy for Akron should be to re-orient towards "product development" rather than "sales". As outlined below, this involves a first general re-thinking of what global engagement means, and then some tactical considerations for both exports and FDI.

From "sales" to "product development"

Perhaps the key lesson from the research highlighted above – and from five years of work on the Global Cities Initiative at Brookings – is that exports and FDI strategy needs to be integrated into the local business development system (which basically comprises innovation, new firm creation, and BRE). This basic lesson can be interpreted in both relatively narrow (tactical) ways as well as broader (strategic) ways.

Tactically, it means something fairly straightforward: since existing firms drive exports as well as FDI (because M&A comprises the majority of FDI), boosting exports and FDI requires working with existing firms. In other words, integrating export assistance and necessary knowledge-gathering into BRE work. This tactical implication is discussed further below.

Strategically, it means something more complex: the production of exports and the attraction of FDI is not so much a cause of advanced industries growth as it is a result of advanced industries growth. In other words, if a region's goal is to increase exports and attract more FDI, the best strategy might be to invest in innovation or talent – not directly focusing on export promotion or FDI attraction. Many regions do this backwards, for a few reasons:

- **Overestimation of greenfield investment potential:** There's a belief that there are more marquee greenfield FDI projects (like BMW's move to Upstate, SC or Honda's move to the Columbus region even earlier) than there really are. These types of projects continue to trickle into the south (and require huge incentives) but are extremely rare otherwise.

- **Blind spots about underlying weaknesses:** Anecdotally, people who shape local economic development strategy (both staff and stakeholders) are proud of their region and tend to not think objectively about its fundamental weaknesses. The company executives who sit on EDO boards come from companies that are succeeding in the region, and therefore naturally expect that other companies should be able to as well. Thus, the tendency is to assume that if only companies knew more about how great the region is, investment would flow in.

- **Political dynamics:** There are few political downsides to aggressive marketing and FDI attraction. If it works, the success is extremely visible. If it does not work, many constituents at least appreciate the visible efforts to promote the region. By contrast, incremental gains in innovation capacity or the competitiveness of existing firms either does not result in visible "wins" or takes a very long time to produce those.

As noted in the previous section, Akron's polymer cluster is already outperforming the fundamentals but likely cannot continue to do so indefinitely, and on the FDI side the lack of both greenfield investment or M&A over the past two decades suggests that either Akron's polymer assets are simply not attractive to foreign firms or the industry is simply declining in advanced economies. Whatever the answer, it points to a deeper "product development" problem that can't be solved by investing in "sales".

St. Louis offers a tangible example of what this means in practice. The experience that St. Louis has had with FDI attraction recently is far more indicative of the reality that a place like Akron faces than far more commonly referenced stories like Upstate's.

St. Louis, like Akron, has undergone huge structural changes in its economy in recent decades. In response, business and civic leaders have spent the past 20 years investing several hundred million dollars in the region's biosciences cluster (which includes life sciences as well as a significant, dedicated focus on agriculture technology). That story is outlined in detail in a recent Brookings report.3 The region has startup capital, incubators and accelerators, world-class research centers, engaged corporate leadership from multinational firms, and a dedicated team focused on exports and FDI. Yet the region's biggest "win" to date in terms of FDI is a German seed company that is establishing a North American R&D center that is expected to ultimately create 75 jobs. Attracting this firm – winning out over Research Triangle and the Bay Area – required not only the extremely robust ecosystem described above, but also sending a delegation of the region and state's top leaders to Germany (but only $2 million in incentives).

Two lessons emerge. One is that a greenfield FDI "win" today is measured in the tens of jobs, not the hundreds. The second is that firms that have the potential to change the trajectory of a region are rarely lacking in basic information about a region or looking for cost advantages and sites. Rather, they're looking for things like access to specialized talent and partnerships with local firms and research institutions. In other words, they're looking for a cluster.

What this implies for strategy is that while FDI can make a strong cluster stronger, gone are the days that a weak or non-existent cluster can be created via greenfield FDI attraction. Therefore unless Akron is confident that its polymer or advanced materials cluster is close to world-class (with robust startup and spinoff activity, engagement between firms and universities, services for existing firms, etc.), it is better off investing every available dollar on "product development" before spending any more on "sales".

This does not mean that Akron should cease its global engagement activity – there is likely value to maintaining connections that it already has. But it does mean that Akron should see every dollar spent on global engagement as a dollar not spent on necessary "product development", which should shape Akron's emphasis towards lower-cost forms of global engagement (like attending U.S. based trade fairs, trying to attract further investment by global owners of existing local establishments). It also means that Akron should turn its attention more towards attracting other institutions that might strengthen the cluster and attract global attention (like

[3] https://www.brookings.edu/wp-content/uploads/2018/07/201807_Brookings-Metro_Rethinking-Clusters-Initiatives_St-Louis-Agtech-final-version_JUL-25-2018.pdf

Clemson University's recent $6 million NSF grant to create an industry-facing advanced materials research center).4

To make this more tangible, this new orientation around global engagement might look something like Akron (ideally in collaboration with Cleveland and statewide organizations) creating something akin to Milwaukee's Water Council. That story is detailed in the same Brookings report as referenced above.5 This would require dedicating time and resources to working locally to convene firms, understand their needs, and make investments in the cluster – but would ultimately enable Akron to re-emerge on the "global scene" with a much stronger story. As one example, consider the story that Milwaukee is now able to tell about itself as it approaches global audiences (see link here). It isn't selling the Milwaukee brand, or Milwaukee's proximity to U.S. consumer markets, or low costs – rather it is selling a robust cluster. (In other words, it is selling its investments that will yield benefits for local firms even if they don't end up yielding FDI wins.)

Exports

There is little need for the City, County, or Chamber to create their own export services or funding mechanisms. There is almost no example of this happening in other metro areas, with the exception of a few "pitch competitions" that provide potential exporters with funds (JP Morgan funded several of these across the country).

Rather, the task of the City, County, and Chamber is to (a) stimulate demand for export assistance services and then (b) proactively connect firms to those services. Doing this involves a few basic steps, building off of the work that the Elevate Akron partners have already done on New BRE.

Identify firms (to drive demand for services)

As part of New BRE, staff should identify 50 to 60 high-potential scale-up to mid-sized exporters (this reflects an estimate of how many New BRE firms are likely good candidates, plus an assessment of how much capacity BRE staff have to do the required research, vetting, and follow-up work). In general, these firms need to have at least 5 or 10 employees. Exporting requires a serious investment of time and resources by executives, and recall that firms that invest those resources but then fail to consistently export are worse off than those who never try to export in the first place.

These 50 to 60 high-potential exporters should be identified based on the following categories (in order of importance – all opportunities in the first category should be exhausted before opportunities in the second are pursued).

[4] https://newsstand.clemson.edu/mediarelations/new-program-will-grow-advanced-materials-education-research-economy-statewide/

[5] https://www.brookings.edu/wp-content/uploads/2018/07/201807_Brookings-Metro_Rethinking-Clusters-Initiatives_Milwaukee-Water-Technology.pdf

- Under-exporters or reactive exporters: firms that occasionally export, or only export reactively when they happen to receive an international order, often from an English-speaking market like Canada or the UK. There is no database to pre-screen firms for export activity, and these firms may not even consider what they do to be "exporting", especially if they are a services firm, so BRE staff will need to be intentional about understanding their international activity.
- Graduates of other economic development programs: firms that have worked with Jumpstart, graduated from Bounce, or worked with Magnet. This is an indication that a firm has an innovative, tradable product and the wherewithal and resources to invest the time required to export consistently.
- Other high-tech, fast-growing firms: these are firms that may not have been involved with the economic development system but match the "Fuse Chicken" profile.
- Other: high-performing firms in BRE portfolios with a tradable product.

Understand available services

Because the federal government has an interest in promoting exports, there are strong services available from federal and state (often federally funded) resources. Firms will rarely express a need for export assistance, so BRE staff have to have a mindset of creating demand for these services, which requires not only having a deep understanding of the firm's situation but also of the services themselves. Below are the two key resources that BRE staff must know.

- **USEAC (contact: Todd Hiser)**
- Key services
    - Gold Key: for $900, U.S. Commercial Services will provide a U.S. firm with a customized, pre-screened set of three to five potential partners/customers in a foreign location (all work vetted by a U.S. government representative with industry expertise in the market). Hugely de-risks the process of overseas customer acquisition.
    - Connections to federal resources: Ex-Im Bank, SelectUSA (FDI)
    - Expertise and counseling on paperwork and logistics of trade: tariff exemptions, certificates of origins, distributors, etc.
- Ideal client profile
    - 30-100 employee company that's chasing orders, lacks a strategy or access to tools and services. However, they have a niche – an innovative product, a competitive advantage – and management buy-in. Maybe in 2-3 foreign markets (likely Canada/Mexico), domestic sales are stagnant and are looking for more global opportunities.
- Opportunity
    - Wants to work with more firms like those described above (has capacity), but currently gets almost zero referrals from Greater Akron economic development organizations (despite being at Kent State and knowing several local economic development staff by name)

- **Cleveland State Export Assistance Network (contact: Alex Simon)**
- Key services

  - IMAGE grant: stands for "international market access grant for exporters". Provides 50% reimbursement on up to $25,000 in international marketing expenses (domestic trade shows, foreign trade shows, participation on trade missions, one-off global trips, website and marketing development, export training, compliance testing).
  - Market prioritization: for $500, EAN will do a 6-day in-depth study based on the firm's particular product and industries (looking at growth potential, risk, firm's internal capacities, international demand).
  - Connection to state programs and events
    - GlobalTarget export mentorship program: $3,000 program, five one-day seminars over nine months. Small- to mid-sized participants paired with a mentor from a larger firm (e.g., Lubrizol, Vitamix). Goal is to leave with a strategy, and knowledge of things like shipping/logistics, finance, payment mechanisms, etc.
    - Export internship program: undergraduate students at business schools take a class on international trade and then are matched with companies (EAN does interviews with both sides and matches). Are provided with $15/hr internship, of which state pays for half. (University of Akron students feed into the EAN at Youngstown State rather than Cleveland State.)
    - Trade missions: state is beginning to lead these; EAN just led its first one to Hannover Messe (brought four firms for Northeast Ohio, could have brought two more).
  - Expertise and counseling on paperwork and market analysis: invoice edits, identifying harmonized tariff codes, informal market research.
- Ideal client profile
  - In terms of advice and expertise, similar to USEAC but generally on the smaller side of the spectrum. If USEAC specializes in 30 to 100 employee firms that are already exporting to a few markets, EAN is probably better suited to 10 to 50 employee firms that are maybe just dabbling in exports. In terms of programs, theirs are mostly suitable for the same types of companies that would use USEAC services; USEAC simply offers more of an international infrastructure. Notably, Earthquaker Devices "used every single one of our services" (SBA exporter of the year).
- Opportunity
  - Like USEAC, currently gets close to zero referrals from Greater Akron economic development organizations.

Proactively connect to services

In the first year, the Elevate Akron partners should make 25 to 30 high-quality referrals (i.e., including active follow-up and verification that the firm was able to benefit from services) to the above service providers. As noted above, the current baseline is less than five referrals per year, and probably closer to zero.

FDI

On FDI, as described above, the key takeaway is that investing in the basic functioning of the polymer cluster (or its next iteration) is the region's most important FDI intervention. There are, however, several tactical implications for Akron's approach to FDI attraction.

Right-size participation in trade shows

Given that:

- Akron's FDI performance depends largely on more fundamental cluster dynamics
- Akron can depend on the state and other Northeast Ohio organizations to do an adequate job of organizing trade and investment events on behalf of Akron-relevant clusters (since the polymer cluster is nearly as important state-wide as it is to Akron)
- There is so much work for mid-level and senior economic development staff to do "on the home front" in Akron

The Elevate Akron partners should ratchet back the time and resources they expend organizing trade shows. Specifically, with the exception of sending one or two representatives to trade shows organized by other entities (Team NEO, State of Ohio) the Elevate Akron partners should focus on attending just one or two shows per year that meet three criteria:

- Domestic location
- Industry specific (i.e., K-show)
- Company demand to attend (demand may need to be created via BRE)

The shows that appear to meet these criteria and will be a focus in 2019-2021 are:

- K-Show – World's Largest Plastics Show (Dusseldorf Germany, October 2019)
- Fakuma – Plastics manufacturing and processing (Friedrichshafen Germany, October 2020)
- NPE – Largest US polymer show (Orlando Florida, May 2021)
- Select USA Investment Summit – Exposition hosting companies interested in investment in US; matchmaking services (Washington DC, Annually in June)
- Focus more on BRE visitations with foreign parent companies – ie potential trip to Japan in 2020 to meet with several C-suite Executives from Japanese companies with investment in Greater Akron.

- Additional polymer-related shows TBD.

This is a significant departure from past practice, but is more in line with how strategic economic development is done in 2019.6

Proactive M&A attraction

There is little evidence that local economic development organizations can become directly involved in facilitating M&A transactions. However, given the evidence that (a) mid-sized traded sector firms are likely to seek acquirers anyway, and (b) global acquirers can produce better results for the local economy, it may be worthwhile for the Elevate Akron partners to proactively create a list of firms that are seeking to be acquired (or at least open to the possibility). Evidence shows that at least 50 percent of mid-sized firms fit this category. Most may not divulge to local economic development staff whether they are seeking to be acquired, but since New BRE involves getting to know firms deeply it is possible that good BRE discussions will lead to a list of perhaps 20 to 30 companies over time. Other metro areas, including Columbus, have had anecdotal success bringing such lists on trade missions.

M&A aftercare

Firms that are foreign owned should not be viewed the same way as locally owned firms of the same size. A 20-employee foreign-owned firm should be seen as a potential 120-employee firm. (Whereas a 20-employee locally owned firm should be seen as a potential 40-employee firm.) The reason is that foreign owners often enter the U.S. market by acquiring a series of firms in rapid succession and then later sorting out where to consolidate and expand its U.S. operations.
A small local operation can very quickly become a much larger one, in a way that rarely occurs through organic growth.

This process may seem random and difficult to influence. That may not be the case, however. It is often the leadership of the local establishment that is responsible for telling its foreign headquarters why the local operation should be expanded (or even kept open). Yet the owners of local firms are busy, often new to the area, and generally unaware of assets and services in the region. They are therefore not in a good position to make a compelling case. This is where local economic development organizations can step in.

The perfect example of this dynamic in Akron is Contitech.

- Its lease came up in 2016, and its headquarters asked whether it should stay in Akron or move elsewhere (South Carolina, Michigan, Chicago, or Atlanta).
- It decided to stay in Akron for a few reasons, including state incentives but also its recognition of the importance of the University of Akron. At the time, Jim Hill (CEO) challenged the director of the R&D center to facilitate more partnerships on both skills and innovation.

- Now Contitech is in a position where it could potentially become a much larger presence in the region. Contitech headquarters recently made the strategic decision to engage in more M&A and partnerships. An executive is coming to Akron to lead this effort locally and will be responsible for making connections with U of A and local firms.
- Despite the firm's importance (as an innovative polymers firm with global ties) and the firm's stated intent to connect more to the Akron economy, Greater Akron economic development actors have had almost no engagement with the firm. According to Jim Hill, "the mayor of Fairlawn has been here twice and been to our location in Germany once… otherwise, maybe one time there was a Summit County or Akron person that stopped by our booth at a trade fair".

Opportunities like Contitech must be taken advantage of going forward. This is some of the lowest-hanging fruit for growth in Akron – far more so than seeking new investment at trade fairs. The Elevate Akron partners must identify 25 foreign-owned firms (which will cut across existing New BRE portfolios), and target them for especially high-quality BRE services (this means treating them with the same seriousness as the top 25 firms in the region, regardless of their current size). These BRE visits should be planned in advance, informed by good research, and should potentially involve not only economic development staff but also representatives from key local institutions (like U of A).