



Foreign Investment in the Rural United States

2018

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U.S. Department of Commerce





INTRODUCTION

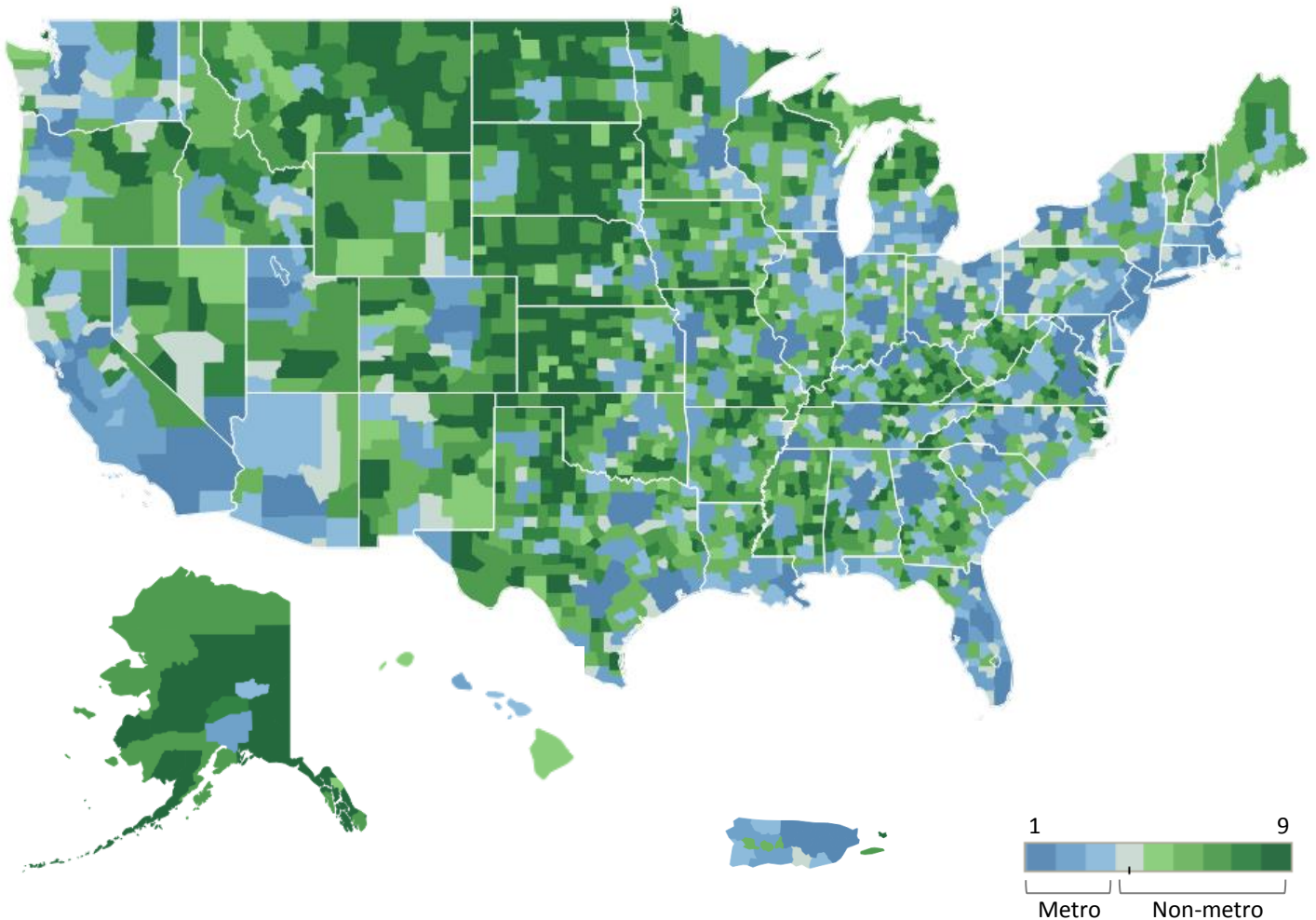
The majority of research on foreign direct investment (FDI) has focused on industry analysis, impact assessments, site selection, and policy implications, yet little research has been devoted to geographic distinctions, particularly in rural areas of the United States. This brief will explore this knowledge gap by assessing the FDI landscape in U.S. rural areas and its specific characteristics.

Though greenfield FDI in rural, or non-metro, areas only accounts for nearly 7 percent of all investment projects analyzed in this study, the role of this investment in our national economy and even more so in local communities is incredibly valuable:

- Since 2003, the value of greenfield FDI in non-metro areas has totaled nearly \$56.8 billion and created nearly 95,000 jobs.

- The average value of an FDI project in a non-metro area is \$64.5 million, which is 89 percent higher than those in metro areas.
- The average number of jobs created by an FDI project in a non-metro area is also greater than that in a metro area: 108 jobs created in a non-metro area, compared to an average of 86 jobs created by projects in metro areas.
- More than 18 percent of all greenfield FDI projects in non-metro areas are in the automotive components sector.
- Other sectors supported by FDI in non-metro areas that are not traditionally common in metro areas include: food & tobacco, alternative/renewable energy, textiles, and automotive original equipment manufacturing (OEM).

FIGURE 1: METRO AND NON-METRO GEOGRAPHY
RURAL-URBAN CONTINUUM CODE, BY COUNTY



Source: 2013 Rural-Urban Continuum Codes, U.S. Department of Agriculture, Economic Research Service



WHAT IS A RURAL AREA?

The U.S. government has devised several classifications to determine what constitutes a rural or urban area in the United States. The classifications devised by the U.S. Census Bureau and the Office of Management and Budget are two of the most commonly used systems in which a metro, or urban, area is distinguished from a non-metro area.

However, there are measurement challenges associated with both definitions and a degree of incompatibility with the dataset of FDI projects used in this study. For this analysis, a rural-urban classification system from the U.S. Department of Agriculture was determined to be the best fit with the source of FDI data available. This classification system, called the Rural-Urban Continuum Codes, distinguishes metropolitan county geographies from nonmetropolitan ones by subdividing the official Office of Management and Budget (OMB) metro and non-metro categories further into a scale of 1-9 that denominates the urban-rural intensity of the county. Counties with codes of 1-3 are considered metro areas while counties with codes of 4-9 are considered non-metro areas. The scale for this county-level classification system is determined based on population size, degree of urbanization, and adjacency to a metro area. The Rural-Urban Continuum Codes were last updated in 2013. Figure 1 provides an illustrative breakdown of each county's classification according to this system. The map scale is shaded from most urban (dark blue) to most rural (dark green).

BUILDING A USABLE DATASET

To analyze the impact of FDI in rural areas of the United States, a blended dataset was created to combine project-specific and county-level data. The time frame analyzed in this study's dataset was January 2003 – February 2017.

For the project-specific data, *fDi Markets* provides a set of greenfield foreign investment projects in the United States. This dataset of projects provides a number of variables, including the industry of the project (classified by *fDi Markets*), the source market, the destination state and county, capital investment expenditure values (some values are estimates), and job creation values (some values are estimates). The standardized county-specific investment data provided the level of analysis needed to

classify each project on the Rural-Urban Continuum scale.

Though the *fDi Markets* dataset is currently the most expansive set of FDI projects available, there are some limitations to the data. One such limitation is that *fDi Markets* does not include data on investments made in the form of mergers and acquisitions (M&A), only greenfield projects. Since the majority of FDI in the United States occurs in the form of M&A, the *fDi Markets* dataset does not capture the full scope of FDI projects in the United States.

In addition to the data provided by *fDi Markets*, this analysis relies on several data points at the county level from both the U.S. Census Bureau and StateBook International. The Census Bureau's American Community Survey set of statistics provided annual figures for the following county-level indicators: total population, percent of population more than 25 years of age with a bachelor's degree or higher, median household income, labor force participation rate, unemployment rate, percent of population in poverty, and housing value to income ratio. The American Community Survey did not begin until 2005 and data for 2017 has not yet been published, so the blended dataset is incomplete for the years 2003-2005 and post-2016. Due to the incomplete county-level data, the number of observations for some indicators is less than others, as can be seen in Table 1 in the Appendix.

StateBook International, an online resource that compiles and aggregates data from a variety of federal data sources, provided two additional figures at the county level for transportation: distance in miles to nearest major airport and number of major ports within a 100-mile radius. These two variables serve as an indication for the level of access to transportation in that county.

Table 1 in the appendix provides a summary of the blended dataset and the indicators used, broken down by metro and non-metro areas. The blended dataset includes a total of 12,621 FDI projects of which 881 (or nearly 7 percent) occurred in a non-metro area. More than 77 percent of the projects occurred in the years 2010 – 2016.



DATA HIGHLIGHTS: FDI IN METRO VS. NON-METRO AREAS

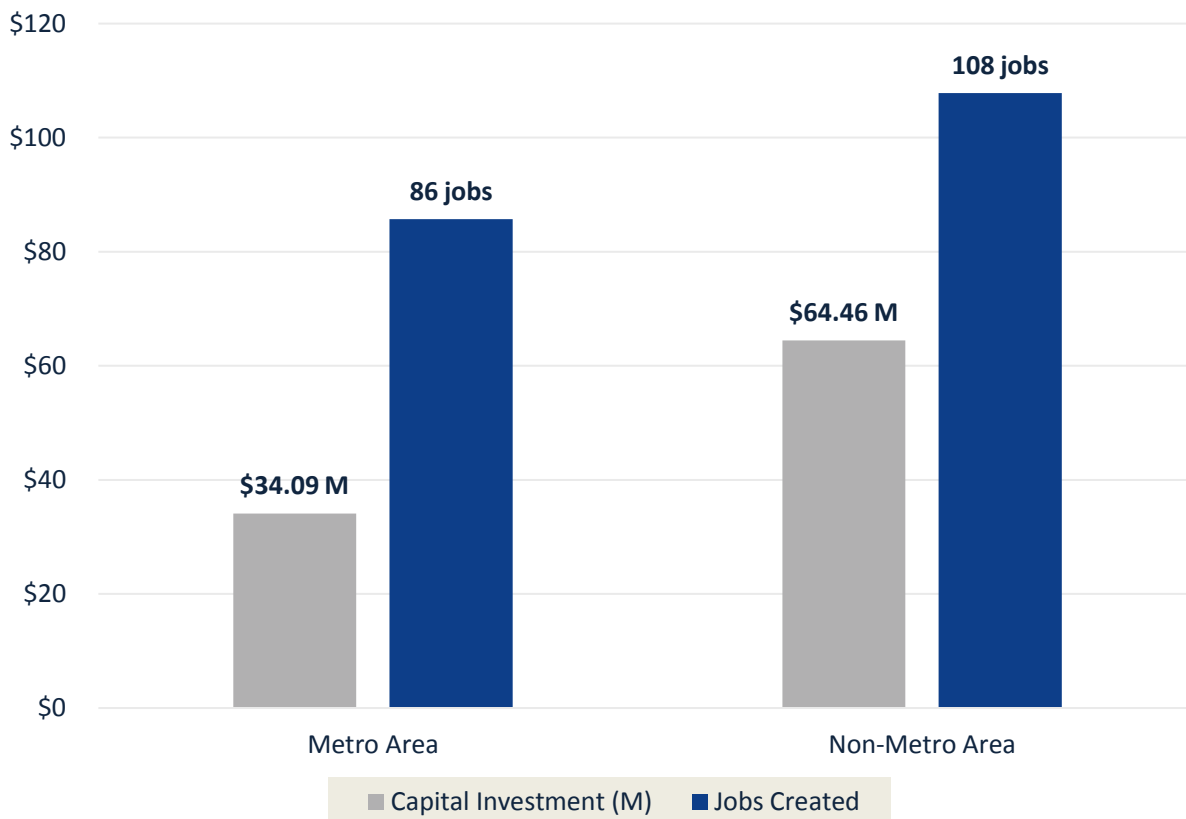
INVESTMENT VALUE AND JOBS CREATED

Though the vast majority of FDI is invested in metro areas, there are some interesting and distinguishing features of FDI in rural areas that warrant further investigation into this small subset. One of the more surprising findings from our analysis is that the size of a greenfield FDI project in a non-metro area is larger than that of a metro area. The average value of an FDI project in a non-metro area is \$64.5 million, compared to the average in a metro area: \$34.1 million (see Figure 2). On average, non-metro areas receive foreign investment projects that are 89 percent larger than those in metro areas in terms of capital investment.

Not only is the average size of a greenfield investment project in non-metro areas larger than that of metro areas, but the average number of jobs created is also larger. An FDI project in a non-metro area will create 108 jobs on average, compared to an average of 86 jobs created in a metro area, a 26 percent difference. In areas with smaller populations, the impact of a larger number of jobs created is even more strongly felt.

One explanation for the difference in capital expenditures between metro and non-metro areas is that investment in non-metro areas is highly concentrated in the manufacturing sector, which is often more capital-intensive than other industries.¹ This could explain the larger amounts of capital needed for ongoing expenses such as land, facilities, infrastructure, and major equipment.

FIGURE 2: AVERAGE SIZE OF AN FDI PROJECT
GREENFIELD PROJECTS, CAPITAL INVESTMENT AND JOBS CREATED, BY METRO AND NON-METRO



Source: fDi Markets, www.fdimarkets.com and GRT calculations. Accessed February 2017, data from Jan. 2003 – Feb. 2017



FIGURE 3: TOP NON-METRO INDUSTRIES
BY NUMBER OF OBSERVATIONS AND PERCENT

		OBS.	PERCENT OF TOTAL
1	Automotive Components	162	18.4%
2	Metals	79	9.0%
3	Industrial Machinery, Equip. & Tools	75	8.5%
4	Plastics	65	7.4%
5	Food & Tobacco	61	6.9%
6	Alt./Renewable Energy	54	6.1%
7	Chemicals	51	5.8%
8	Textiles	28	3.2%
9	Automotive OEM	25	2.8%
10	Electronic Components	24	2.7%

FIGURE 4: TOP METRO INDUSTRIES
BY NUMBER OF OBSERVATIONS AND PERCENT

		OBS.	PERCENT OF TOTAL
1	Software & IT Services	2,115	18.0%
2	Business Services	1,468	12.5%
3	Industrial Machinery, Equip. & Tools	918	7.8%
4	Financial Services	881	7.5%
5	Communications	607	5.2%
6	Automotive Components	587	5.0%
7	Chemicals	391	3.3%
8	Electronic Components	372	3.2%
9	Metals	362	3.1%
10	Plastics	347	3.0%

Source: fDi Markets, www.fdimarkets.com and GRT calculations. Accessed February 2017, data from Jan. 2003 – Feb. 2017



VARIATION IN INDUSTRY SECTORS

Metro and non-metro areas also vary in the FDI landscape by the differing types of industries that receive investment. Figure 3 displays the top industries in non-metro areas that are receiving investment. These industries are highly concentrated in the manufacturing sector. Over 18 percent of investment projects in non-metro areas are in the automotive components sector, followed by the metals sector with 9 percent, industrial machinery, equipment and tools with 8.5 percent, and the plastics sector with 7.4 percent. The top 10 industries in non-metro areas that do not appear in the top 10 industries receiving investment in metro areas are food and tobacco, alternative/renewable energy, textiles, and automotive OEM.

Metro areas, on the other hand, tend to receive more investment concentrated in services sectors, as seen in Figure 4. The top two FDI sectors in metro areas are related to services; the software and IT services sector receives the largest volume of projects in metro areas at 18 percent, followed by the business services sector with 12.5 percent of all projects. The financial services sector and the communications sector also differ from greenfield FDI in non-metro areas, as neither of these sectors appear in the top 10 industries in non-metro areas.

While there is some variation in industries attracting FDI across non-metro and metro areas, the differences between the two are not overly profound. Six of the top 10 industries are common among both metro and non-metro areas, suggesting that the United States as a whole possesses a competitive advantage in these industries that attract investment in all geographic areas.

Narrowing the data to just the past five years to get a better sense of recent trends, the top industries in non-metro areas are generally the same, with a few exceptions. Automotive components still tops the list, with 106 projects, followed by industrial machinery, equipment, and tools (48 projects); plastics (45 projects); and metals (43 projects). Automotive OEM and electronic components fall out of the top 10, replaced by the wood product industry (19 projects) and the building and construction materials industry (14 projects). The top 10 metro industries are also all the same, with the

exception of the food and tobacco industry (201 projects), which replaced electronic components.

SOURCE MARKETS SUPPORTING RURAL INVESTMENT

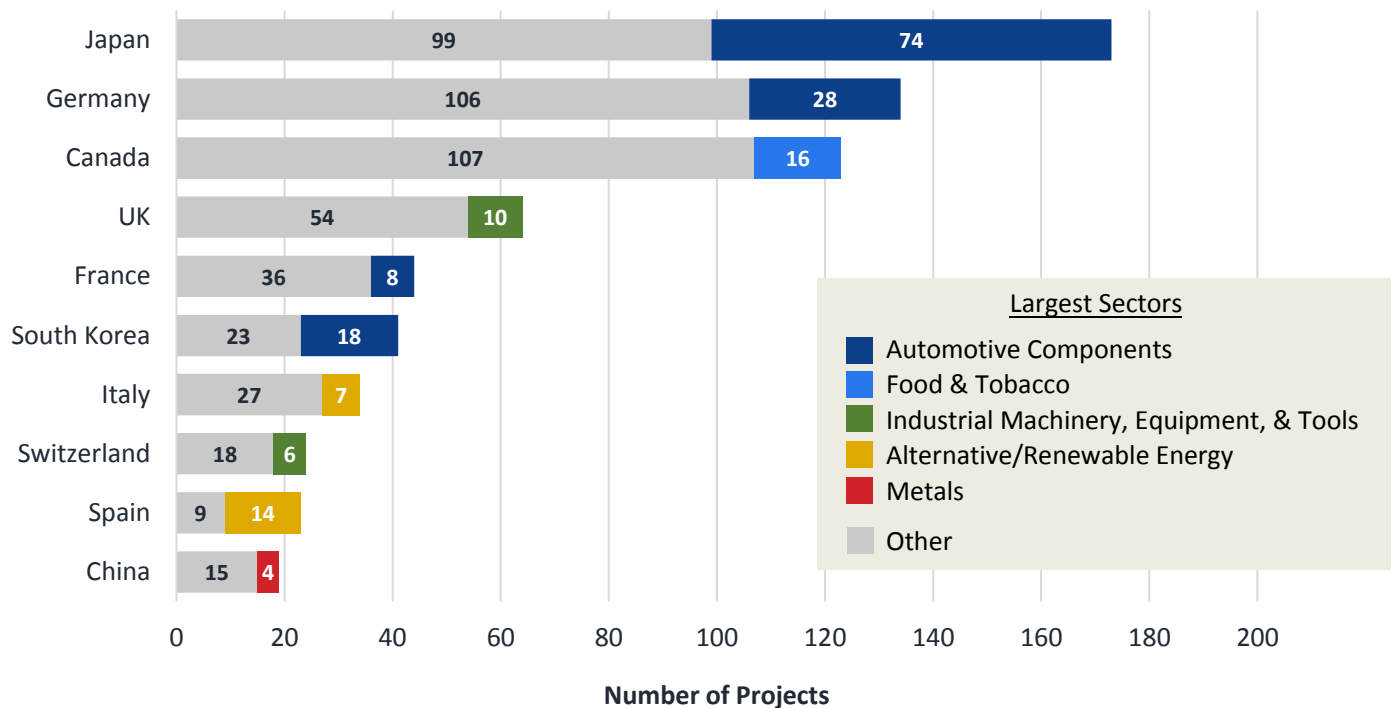
A total of 47 source markets from all regions of the world support investment in U.S. non-metro areas. The top 10 are outlined in Figure 5 and account for more than 77 percent of all greenfield foreign investment projects in rural areas of the United States. Japan has invested in the greatest number of non-metro greenfield projects in the United States, totaling 173 projects, or nearly 20 percent of all non-metro U.S. investment. Following Japan is Germany with 134 projects (15 percent of all non-metro U.S. investment) and Canada with 123 projects (14 percent). Other countries that appear in the top 10 include the United Kingdom, France, South Korea, Italy, Switzerland, Spain, and China.

Japan and Germany heavily invest in the U.S. automotive components sector, though the greatest number of Canadian projects is in the food and tobacco sector. Other industries supported by the largest investors in rural areas include industrial machinery, equipment, and tools, alternative or renewable energy, and metals.

Limiting to just the past five years, the top 10 source markets are the same apart from the Netherlands, which replaces Spain. As many of these source markets are also our top trading and investment partners, their presence in more non-urban areas of the United States highlights the strength of these economic relationships.



FIGURE 5: TOP SOURCE MARKETS AND SECTORS
BY NUMBER OF PROJECTS IN NON-METRO AREAS



Source: fDi Markets, www.fdimarkets.com and GRT calculations. Accessed February 2017, data from Jan. 2003 – Feb. 2017

MAPPING FDI IN NON-METRO AREAS

To provide insight into the geographic distribution of foreign investment in rural areas, Figures 6 through 8 illustrate the number of FDI projects, capital investment dollars, and jobs created in non-metro areas.

The map presented in Figure 6 is shaded according to the number of projects each non-metro county has received, from those that have received no projects (white) to those that have received the most projects (dark red). Metro areas are shaded in gray. The top non-metro counties with over 10 projects include Jackson County, Indiana (14 projects), Troup County, Georgia (14 projects), Orangeburg County, South Carolina (12 projects), Gibson County, Indiana (12 projects), and Cherokee County, South Carolina (10 projects). In total, nearly 23 percent of all non-metro counties in the United States have received greenfield FDI.

Figure 7 shows the depth of foreign investment in non-metro areas by the level of investment dollars. The non-metro counties that have received the most greenfield

foreign investment are Calhoun County, Texas (\$2.5 billion); Troup County, Georgia (\$2.4 billion); Lincoln County, Nevada (\$1.8 billion); Matagorda County, Texas (\$1.6 billion); and Lee County, Iowa (\$1.3 billion).

The contrast between Figure 6 and Figure 7 tells an interesting story: Figure 6 makes it clear that most of the non-metro counties that have received foreign investment have only received this investment through a small number of projects. In fact, nearly 80 percent of all non-metro counties receiving FDI have only received one or two projects since January 2003. Figure 7 shows that though the number of projects is small, the amount of capital investment going into each county is quite large (as seen by the ubiquity of dark red). For example, looking at Nevada, only three counties have received a total of five projects, yet total capital investment amounted to over \$2.1 billion, the eighth largest of all states. The contrast between maps visually represents our data findings that the average value of a greenfield FDI project in a non-metro area is larger than that of a project in a metro area.



FIGURE 6: GREENFIELD FDI PROJECTS IN NON-METRO AREAS
BY NUMBER OF PROJECTS

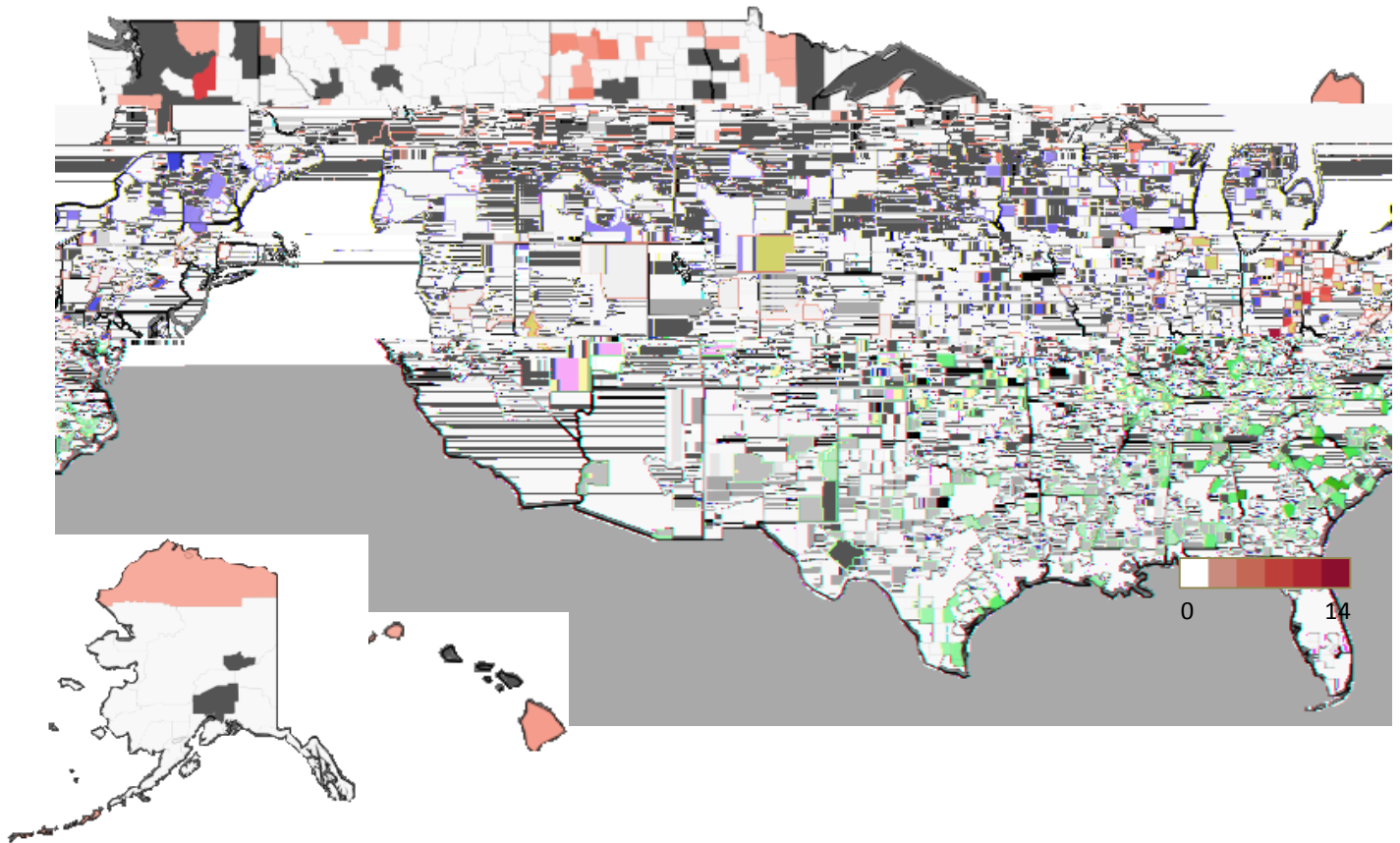
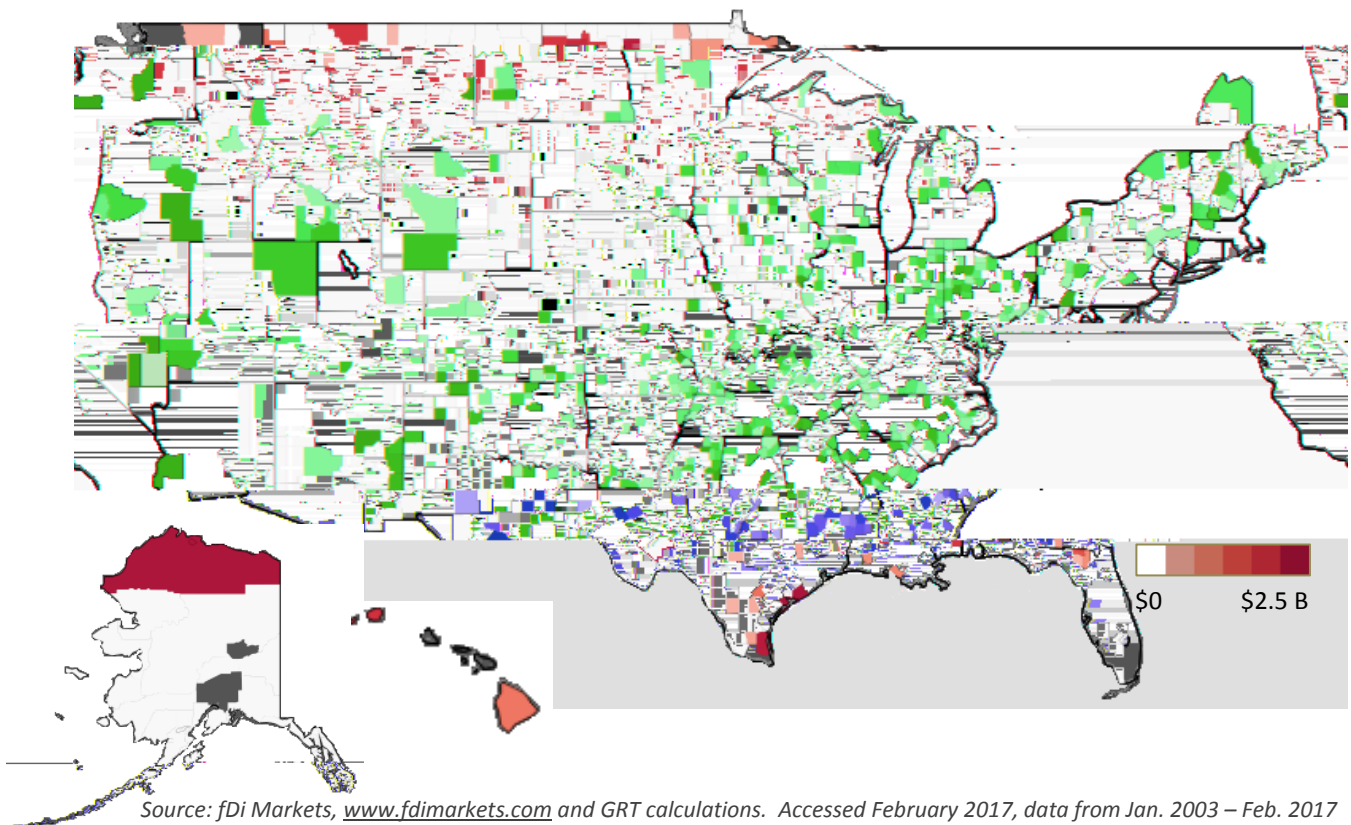


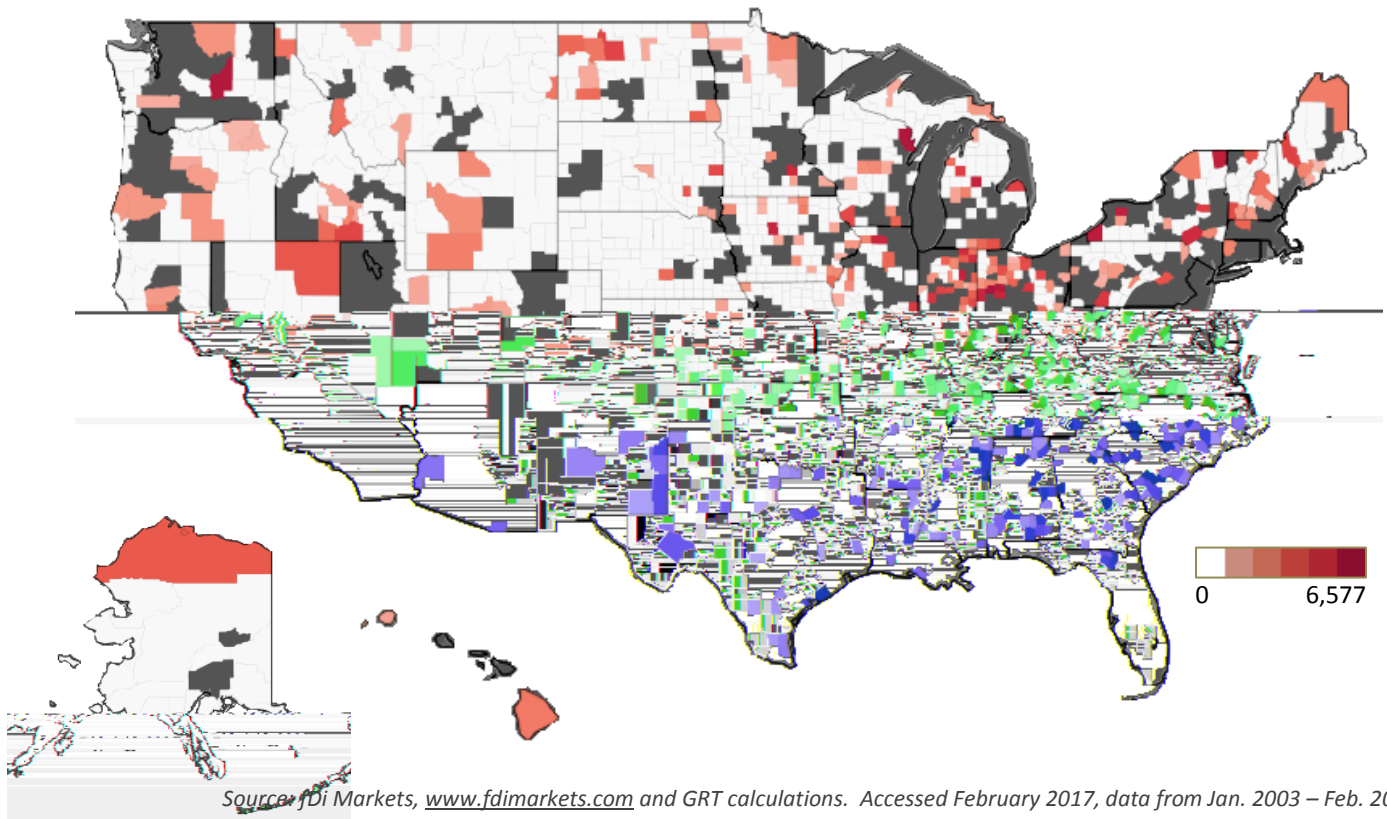
FIGURE 7: GREENFIELD FDI CAPITAL IN NON-METRO AREAS
BY CAPITAL INVESTMENT VALUE



Source: fDi Markets, www.fdimarkets.com and GRT calculations. Accessed February 2017, data from Jan. 2003 – Feb. 2017



FIGURE 8: GREENFIELD FDI JOBS IN NON-METRO AREAS
BY JOBS CREATED



The third geographic visualization in Figure 8 illustrates the amount of foreign investment in non-metro areas by the number of jobs created. The contrasts to Figure 6 are apparent in this map as well, with a fewer number of FDI projects creating a larger number of jobs in non-metro areas. The leading counties with the most job creation from FDI are: Troup County, Georgia (6,577 jobs); Shelby County, Ohio (2,108 jobs); Decatur County, Indiana (2,055 jobs); Union County, Mississippi (2,000 jobs); and Gibson County, Indiana (1,988 jobs).

Looking at Nevada again, we can see that the greater capital investment value did not translate into an equally large number of jobs, as Nevada sits more firmly in the

middle of the pack in terms of FDI employment, with only 423 jobs created by FDI in its non-metro counties.

CASE STUDIES

Who are the foreign companies that are investing in non-metro areas of the United States? The dataset used in this study provides valuable insight into some of the foreign investment projects that have been undertaken in non-metro areas in recent years. These examples highlight the top sectors, source markets, and regional geographies that are at the forefront of rural investment in the United States.

HONDA MOTOR COMPANY

HONDA

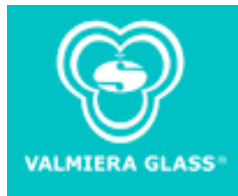
The Power of Dreams

Parent Company		Honda
Source Market		Japan
Location of U.S. Investment		Shelby County, OH
Sector		Auto Components
Amount of Investment		\$340 million
Jobs Created		1,275 (estimated)

In January 2015, Honda announced a \$340 million investment to expand its Anna Engine Plant in Shelby County, OH, its largest engine plant in the world. The investment will add a third line to a new 4-cylinder VTEC turbo engine, one of several new products announced by the company.²



VALMIERA GLASS



Valmiera Glass Group, a Latvian-based fiberglass manufacturer, announced in January 2016 plans to expand its U.S. headquarters in Laurens County, Georgia. About \$90 million will be invested into the expansion effort, which will go towards a new building and equipment and will create 425 new jobs. Valmiera Glass manufactures fiberglass for several industries including aerospace and oil and gas.³

Parent Company		Valmiera SS
Source Market		Latvia
Location of U.S. Investment		Laurens County, GA
Sector		Plastics Manufacturing
Amount of Investment		\$90 million
Jobs Created		425

ENEL GREEN POWER



Parent Company		Enel
Source Market		Italy
Location of U.S. Investment		Clark County, KS
Sector		Alt./Renewable Energy
Amount of Investment		\$610 million
Jobs Created		350 construction 10-12 full-time

Enel Green Power North America began construction in April 2016 on a wind farm project that is spread across 40,000 acres of land in Clark County, Kansas, and will operate 400 MW by completion.⁴ Clark County is considered one of the most rural counties in the nation, according to the USDA Rural-Urban Continuum Code, receiving an index of 9 on the nine-point scale.

AGROPUR



Parent Company		Agropur
Source Market		Canada
Location of U.S. Investment		Waupaca County, WI
Sector		Food & Tobacco
Amount of Investment		\$55 million
Jobs Created		22

In November 2014, Agropur Inc., a Canadian dairy cooperative, announced its plans to invest more than \$55 million in its Wisconsin facility to increase its feta cheese production capacity. The expansion is expected to create 22 new jobs. Agropur has four plants in Wisconsin and eight in the rest of the United States.⁵



AREAS FOR FUTURE ANALYSIS

There are still many opportunities for future research and analysis on the effects of FDI on rural America. In particular, there are many opportunities to utilize our blended dataset for analysis on investment site selection. Future research is needed to determine which variables impact an investment decision to locate in a rural area and how those factors differ from decisions to not invest or to invest in an urban area instead.

Another area that has not yet been explored is how the impact of FDI on factors such as jobs, R&D, exports, and other economic variables, differs in rural areas as compared to urban areas. Beyond investment, future research could also explore trade and exports from rural areas in the United States, a topic that also has not yet been fully examined. While these insights are much needed, it could be challenging to find available data to execute a deeper dive into these topics.

CONCLUSION

Though foreign investment in rural areas of the United States is still a very small subset of all FDI entering the country, it still plays an important role in our economy, especially at the local level. The average investment value of a greenfield project in a non-metro area is \$64.5 million, which is 89 percent higher than that of a metro area. The average number of jobs created is also higher in a non-metro area: 108 jobs created by project on average, compared to 86 in a metro area. In rural areas where the population is smaller than that of an urban area, the impact of the jobs created numbers is likely to be even more strongly felt. Since 2003, the total number of jobs created by FDI in non-metro areas has amounted to nearly 95,000.

Just as global investment brings many benefits to local communities in the United States, FDI activity in both metro and non-metro areas greatly benefits international firms as well. Their participation in the U.S. market and their ties to the U.S. economy help these firms remain competitive on a global scale, a beneficial partnership for all.

REFERENCES

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- ⁵Dairy Cooperative Agropur Announces \$55 Million Expansion in Weyauwega. (2014, November 10). Agropur Dairy Cooperative News Release. Retrieved from <http://www.agropurchase.com>



APPENDIX

TABLE 1: DESCRIPTIVE STATISTICS
COUNTY-LEVEL UNITS, 2003-2016

	Total					Metro					Nonmetro				
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
Capital Investment (USD Millions)	12,621	36.21	218.7	0	18,500	11,740	34.09	222.3	0	18,500	881	64.46	160.2	0.2	1,800
Jobs Created	12,621	87.27	206.9	0	4,000	11,740	85.73	209.2	0	4,000	881	107.8	172.5	1	2,500
Rural-Urban Continuum Code	12,621	1.536	1.251	1	9	11,740	1.237	0.527	1	3	881	5.516	1.298	4	9
Distance to Major Airports (miles)	12,618	15.99	15.08	0.844	151.4	11,737	13.64	11.45	0.844	88.81	881	47.24	21.48	1.011	151.4
Number of Major Ports (Within 100 miles)	12,621	2.952	2.503	0	10	11,740	3.109	2.501	0	10	881	0.86	1.309	0	8
Population	11,982	1,461,000	2,030,000	415	10,140,000	11,125	1,570,000	2,067,000	3,898	10,140,000	857	45,380	27,555	415	191,147
High School Degree or Higher (%)*	11,870	85.83	4.869	52.8	97.6	11,089	86.06	4.686	59.3	97.6	781	82.6	6.114	52.8	95.9
Bachelor Degree or Higher (%)*	11,870	36.51	13.35	6	74.3	11,089	37.89	12.62	6.6	74.3	781	16.81	5.499	6	49.3
Household Income (USD)	11,870	60,346	15,571	22,154	134,464	11,089	61,590	15,197	29,994	134,464	781	42,689	8,498	22,154	88,013
Labor Force Participation (%)**	11,864	71.79	7.728	0	100	11,084	72.18	7.004	8.5	97.8	780	66.29	13.38	0	100
Unemployment (%)**	11,863	8.367	4.219	0	100	11,084	8.257	3.604	0	34.8	779	9.941	9.149	0	100
Percent in Poverty	10,987	15.2	4.672	3.5	42.3	10,219	15	4.522	3.5	37.3	768	17.84	5.719	5.8	42.3
Nonmetro =1	12,621	0.0698	0.255	0	1	11,740	0	0	0	0	881	1	0	1	1
% Housing Value to HH Income <2	10,967	28.09	17.11	3	73.9	10,795	27.81	17.03	3	73.9	172	45.68	11.96	6.3	70.9
% Housing Value to HH Income <3	10,967	49.82	21.39	7.9	90.5	10,795	49.52	21.38	7.9	90.5	172	68.91	11.04	17	87.2

*Population 20 to 64 years

**Population 25 years and over

Note: High unemployment rates reflect the age group of the sample and trends in national unemployment rates post-Recession. More than 77 percent of the projects in the sample occurred in the years 2010-2016.

Source: fDi Markets, U.S. Census Bureau, StateBook International



ABOUT SELECTUSA

SelectUSA is a U.S. Department of Commerce-led program with the mission to facilitate job-creating business investment into the United States and raise awareness of the critical role that foreign direct investment (FDI) plays in the U.S. economy. Since its inception, SelectUSA has facilitated more than \$25 billion in investment, creating and/or retaining thousands of U.S. jobs.



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