



THE ECONOMIC IMPACT OF DOWNTOWN MIAMI

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Regional Economic Models, Inc. (REMI)

REMI is a Massachusetts- and Washington, DC-based firm specializing in economic services related to modeling. It began with a research project by a professor at the University of Massachusetts-Amherst, Dr. George I. Treyz, in the 1970s when he looked into assessing the economic impact of redeveloping the I-90 corridor from Boston, then to Worcester, Springfield, and eventually out to Albany and Buffalo. In 1980, Dr. Treyz founded a firm around his research, which grew over the past thirty years to the present company. REMI provides software, support services, and issue expertise in nearly every state, the District of Columbia, and in several foreign nations. Model users are primarily in state governments, but they also include federal agencies, planning organizations, consulting firms, universities, and private industry involved in policy and infrastructure development.

Currently in Florida, REMI works with Florida State University, the University of West Florida, and all of the regional planning councils within the state. REMI provides training support on the models' operation for all of our clients. This includes help with the interface, vetting data and variables, interpreting results, running in-house simulations, and finalizing the results.

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Introduction

Downtown areas throughout the United States have historically been and continue to be hubs of economic and demographic activity. The density of population and infrastructure enables industries to easily access both skilled labor and consumer markets. As such, the strong economic activity of downtowns tends to spur on indirect and induced economic benefits for surrounding regions. The goal of this report is to analyze and discern the comprehensive impact or “economic footprint” Downtown Miami imparts on Miami-Dade County, the South Florida Region (Miami MSA)¹, and the State of Florida.

Greater Downtown Miami has witnessed exponential growth in the past decade. From 2000 to 2011, the downtown area saw growth of 63% in households, 78% in population, and 165% in aggregate household income.ⁱ As Downtown Miami’s economy has grown along a myriad of indicators, so has its influence on Miami-Dade County and other regions throughout Florida. Downtown Miami serves as a hub for both economic and demographic activity, and its relative expansion in macroeconomic terms should continue to have significant effects on both Miami-Dade County and the rest of the state.

Modeling Downtown Miami in REMI

In order to plan appropriately for the future development of Downtown Miami as an integral part of the broader regional and state economy, it is imperative to understand the economic and demographic ties between Downtown Miami and the areas it influences. As such, Miami Downtown Development Authority (DDA) contracted Regional Economic Models, Inc. (REMI) to analyze the macroeconomic impacts. We used PI⁺, which is our economic and demographic model of sub-national units of the United States’ economy, for the economic and demographic analysis. The intention of the analysis is to provide baseline information, backed by the best possible economic theory, data, and methodology, in order to appropriately plan for the future.

A research project of this scope is more complicated than a typical impact analysis because all of the economic activity in the downtown area already exists and has influenced the current macroeconomic makeup of the region and the state as a whole. Therefore, we ran what is called a “counterfactual” simulation where we removed certain variables from the region in order to assess just how much of the surrounding macroeconomic activity is predicated on Downtown Miami.

Economic activity in Downtown Miami is responsible for 263,000 jobs in Miami-Dade County, along with \$16 billion in total personal income and \$24 billion in Gross Regional Product (GRP). Beyond Miami-Dade County, Downtown Miami supports over 297,000 jobs in South Florida and approximately \$20 billion in personal income. Overall, Downtown Miami generates over 305,000 jobs, \$21 billion of personal income, and \$28 billion in Gross State Product (GSP) for the State of Florida.

The top five private non-farm industries within the State of Florida supported by Downtown Miami for employment are:

1. Professional, scientific, and technical services;
2. Retail trade;
3. Administrative and support services;
4. Construction; and

¹ The Office of Management and Budget defines the Miami-Fort Lauderdale-West Palm Beach Metropolitan Statistical Area (MSA) as being comprised of Miami-Dade, Broward, and Palm Beach Counties.

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5. Food services and drinking places.

It is also important to note that the opportunity cost of Downtown Miami was not included in this report. A simple example of opportunity cost is choosing to shop for a book in Downtown Miami or watch a movie elsewhere in the county. The choice of one implies the loss of the other: the opportunity cost. The goal of the simulations and analyses carried out and described in this report is not to measure the effect of removing Downtown Miami from Florida but rather to ascertain its economic footprint. As such, the inclusion of opportunity cost would prove detrimental to the analysis because it would inaccurately portray the economic space occupied by Downtown Miami.

For a detailed breakdown of the exact inputs used in this simulation, please see Appendix B.

Analysis Results

Countywide Results and Analysis – *Impacts on Miami-Dade County*

Out of all of the regions in our analysis, Miami-Dade County is impacted the greatest by economic activity in Downtown Miami. Over 263,000 non-farm jobs within the county are supported by Downtown Miami, approximately 157,000 of which are in private non-farm industries. Table 1 details the employment in primary industries within Miami-Dade County that is supported from Downtown Miami's economic activity.²

Table 1: Top non-farm industry employment in Miami-Dade County generated by Downtown Miami economic activity

Rank	Industry	Employment Impact (Jobs)	County Industry Total (Jobs)*	% of County Total
1	State and Local Government	105,693	137,930	76.63%
2	Professional, Scientific, and Technical Services	21,359	118,590	18.01%
3	Retail Trade	19,533	159,151	12.27%
4	Administrative and Support Services	16,787	133,262	12.60%
5	Construction	14,793	75,359	19.63%
6	Food Services and Drinking Places	13,556	85,850	15.79%
7	Ambulatory Health Care Services	7,094	82,258	8.62%
8	Financial Services ³	6,695	26,734	25.04%
	All other	57,764	816,235	7.08%
	Total	263,274	1,635,369	16.10%

*10 year average of total county industry employment from 2013-2022

Downtown Miami is also responsible for a large portion of the county's Gross Regional Product (GRP).⁴ The economic activity in downtown supports \$24.09 billion in annual GRP for Miami-Dade County, primarily due to

² Employment comprises estimates of the number of jobs, full-time plus part-time, by place of work. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

³ Exact NAICS title is Monetary Authorities – Central Bank; Credit Intermediation and Related Activities; Funds, Trusts, & Other Financial Vehicles

⁴ Gross Regional Product (GRP) is the market value of goods and services produced by labor and property within the region, regardless of nationality.

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personal consumption expenditures totaling \$8.836 billion.⁵ Downtown's GRP contribution amounts to 15.46% of Miami-Dade County's GRP.

Aside from employment and GRP, Downtown Miami supports billions of dollars in personal income for Miami-Dade County residents.⁶ The downtown activity creates \$16.14 billion in personal income, \$14.06 billion of which is disposable personal income.⁷ This amounts to 12.60% of the county's personal income and 12.25% of its disposable personal income. When adjusted for the regional population, Downtown Miami stimulates \$1,426 in real personal income per capita and \$1,153 in real disposable personal income per capita. This accounts for 3.87% of Miami-Dade's real personal income per capita and 3.48% of its real disposable income per capita. Table 2 shows the wages and salaries in primary industries within Miami-Dade County that are supported from Downtown Miami's economic activity.⁸

⁵ Personal consumption expenditures are the goods and services purchased by persons.

⁶ Personal income is the income received by persons from all sources. It includes income received from participation in production as well as from government and business transfer payments. It is the sum of compensation of employees (received), supplements to wages and salaries, proprietors' income with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj), rental income of persons with CCAdj, personal income receipts on assets, and personal current transfer receipts, less contributions for government social insurance.

⁷ Disposable personal income is the total after tax-income received by persons; it is the income available to persons for spending or saving.

⁸ Wages and salaries are defined as the monetary remuneration of employees, including the compensation of corporate officers; commissions, tips, and bonuses; voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans; and receipts in kind that represent income.

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Table 2: Top non-farm industry wages and salaries in Miami-Dade County generated by Downtown Miami economic activity

Rank	Industry	Wage and Salary Impact (Billions of Fixed [2012] Dollars)	County Industry Total (Billions of Fixed [2012] Dollars)*	% of County Total
1	State and Local Government	\$6.15	\$7.88	78.05%
2	Professional, Scientific, and Technical Services	\$1.42	\$6.66	21.32%
3	Retail Trade	\$0.72	\$4.78	15.06%
4	Wholesale Trade	\$0.59	\$6.07	9.72%
5	Construction	\$0.58	\$2.53	22.92%
6	Financial Services	\$0.54	\$1.94	27.84%
7	Administrative and Support Services	\$0.49	\$3.12	15.71%
8	Ambulatory Health Care Services	\$0.45	\$3.76	11.97%
	All other	\$3.81	\$29.45	12.94
	Total	\$14.75	\$66.19	22.28%

*10 year average of total county industry wages and salaries from 2013-2022.

As can be expected, all of the economic activity in Downtown Miami spurs on a large amount of industrial and commercial output to meet both the needs of downtown residents as well as markets throughout Florida and the nation. Downtown Miami supports \$23.11 billion in private non-farm output and \$14.53 billion in state and local government output; this accounts for 10.84% of private non-farm output and 76.47% of state and local government output in Miami-Dade County.⁹ Table 3 shows the output of the primary non-farm industries generated by Downtown Miami.

⁹ Output is the amount of production, including all intermediate goods purchased as well as value added (compensation and profit). It can also be thought of as sales or supply. The components of output are self supply and exports.

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Table 3: Top non-farm industry output in Miami-Dade County generated by Downtown Miami economic activity

Rank	Industry	Output Impact (Billions of Fixed [2012] Dollars)	County Industry Total (Billions of Fixed [2012] Dollars)*	% of County Total
1	State and Local Government	\$14.53	\$19.00	76.47%
2	Professional, Scientific, and Technical Services	\$3.36	\$18.47	18.19%
3	Financial Services	\$3.26	\$12.93	25.21%
4	Real Estate	\$2.11	\$34.88	6.05%
5	Retail Trade	\$1.70	\$13.69	12.42%
6	Construction	\$1.61	\$8.13	19.80%
7	Wholesale Trade	\$1.46	\$20.83	7.01%
8	Rental and Leasing Services; Lessors of Nonfinancial Intangible Assets	\$1.38	\$4.35	31.72%
	All other	\$8.78	\$120.56	7.28%
	Total	\$38.19	\$255.84	14.93%

*10 year average of total county industry output from 2013-2022.

The employment opportunity and compensation of Downtown Miami also attracts a considerable amount of people to live in Miami-Dade County. The sheer amount of jobs simultaneously increases the employment opportunity while also increasing the demand for labor, which in turn bids up the relative compensation rate. These two variables positively impact population within the county as individuals choose to locate close to centers of economic opportunity. Overall, Downtown Miami induces approximately 224,000 people to live in Miami-Dade County. This figure includes all of the economic migrants that choose to locate themselves in areas of potential advancement as well as their dependents. Table 4 summarizes the macroeconomic impact of Downtown Miami.

Table 4: Summary of macroeconomic impacts of Downtown Miami on Miami-Dade County

Category	Impact Amount	Category Total (10 Yr. Average)	Units	% of County Total
Total Employment	263,274	1,635,369	Jobs	16.10%
Gross Regional Product	\$24.09	\$155.823	Billions of Fixed (2012) Dollars	15.46%
Output	\$38.19	\$255.837	Billions of Fixed (2012) Dollars	14.93%
Personal Income	\$16.14	\$128.070	Billions of Fixed (2012) Dollars	12.60%
Disposable Personal Income	\$14.06	\$114.746	Billions of Fixed (2012) Dollars	12.25%
Population	224,006	2,893,286	People	7.74%

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Regional Results and Analysis – *Impacts on South Florida*

Miami-Dade County witnesses the greatest economic benefits from Downtown Miami. It is important to note that Miami-Dade County is the largest county in the South Florida region which is, in turn, the largest metropolitan area in the State of Florida. The economic and demographic activity noted in Miami-Dade County produces indirect and induced benefits on surrounding counties in the region. As such, we also analyzed the economic impact of Downtown Miami on South Florida as a whole. This region consists of Miami-Dade County as well as Broward and Palm Beach Counties (the Miami MSA).

Over 297,000 South Florida jobs are generated by Downtown Miami, more than 180,000 of which are in private non-farm industries. Table 5 details the employment in primary industries within South Florida that is supported by Downtown Miami's economic activity.

Table 5: Top non-farm industry employment in South Florida generated by Downtown Miami economic activity

Rank	Industry	Employment Impact (Jobs)	Regional Industry Total (Jobs)*	% of Regional Total
1	State and Local Government	108,623	301,798	35.99%
2	Professional, Scientific, and Technical Services	24,797	289,578	8.56%
3	Retail Trade	23,781	375,731	6.33%
4	Administrative and Support Services	19,544	307,702	6.35%
5	Construction	18,595	186,469	9.97%
6	Food Services and Drinking Places	15,460	207,774	7.44%
7	Ambulatory Health Care Services	9,405	216,427	4.35%
8	Financial Services	7,472	64,941	11.51%
	All other	69,381	1,706,562	4.07%
	Total	297,058	3,656,982	8.12%

*10 year average of total regional industry employment from 2013-2022.

Downtown Miami also contributes to South Florida's Gross Regional Product (GRP). The economic activity in downtown supports \$27.53 billion in annual GRP for South Florida, largely due to personal consumption expenditures totaling \$11.90 billion. Downtown's influence amounts to 7.80% and 5.49% of South Florida's GRP and personal consumption expenditures, respectively.

In addition to employment and GRP, Downtown Miami generates billions of dollars in personal income for South Florida residents. The downtown activity creates \$20.88 billion in personal income and \$18.21 billion in disposable personal income; this accounts for 6.29% and 6.12% of personal income and disposable personal income, respectively. When adjusted for the regional population, Downtown Miami stimulates \$534 in real personal income per capita and \$409 in real disposable personal income per capita; this represents 1.28% and 1.10% of real

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personal income and real disposable personal income per capita, respectively. Table 6 shows the wages and salaries in primary industries within South Florida that are supported from Downtown Miami's economic activity.

Table 6: Top non-farm industry wages and salaries in South Florida generated by Downtown Miami economic activity

Rank	Industry	Wage and Salary Impact (Billions of Fixed [2012] Dollars)	Regional Industry Total (Billions of Fixed [2012] Dollars)*	% of Region Total
1	State and Local Government	\$6.36	\$17.06	37.28%
2	Professional, Scientific, and Technical Services	\$1.65	\$15.87	10.40%
3	Retail Trade	\$0.89	\$11.45	7.77%
4	Construction	\$0.75	\$6.67	11.24%
5	Wholesale Trade	\$0.70	\$12.28	5.70%
6	Administrative and Support Services	\$0.60	\$8.13	7.38%
7	Financial Services	\$0.59	\$4.20	14.26%
8	Ambulatory Health Care Services	\$0.59	\$10.10	5.84%
	All other	\$3.76	\$40.66	9.25%
	Total	\$15.89	\$126.42	12.57%

*10 year average of total regional industry wages and salaries from 2013-2022.

South Florida witnesses a large amount of industrial and commercial output generated from economic activity in Downtown Miami. The downtown area supports \$27.92 billion in private non-farm output and \$14.94 billion in state and local government output; this accounts for 5.82% of private non-farm output and 36.07% of state and local government output for South Florida. Table 7 details the output of the primary non-farm industries generated by Downtown Miami.

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Table 7: Top non-farm industry output in South Florida generated by Downtown Miami

Rank	Industry	Output Impact (Billions of Fixed [2012] Dollars)	Regional Industry Total (Billions of Fixed [2012] Dollars)*	% of Region Total
1	State and Local Government	\$14.94	\$41.42	36.07%
2	Professional, Scientific, and Technical Services	\$3.96	\$44.14	8.97%
3	Financial Services	\$3.61	\$28.47	12.68%
4	Real Estate	\$2.73	\$88.01	3.10%
5	Construction	\$2.14	\$21.47	9.97%
6	Retail Trade	\$2.13	\$32.80	6.49%
7	Wholesale Trade	\$1.72	\$41.68	4.13%
8	Rental and Leasing Services; Lessors of Nonfinancial Intangible Assets	\$1.43	\$9.74	14.68%
	All other	\$11.03	\$261.80	4.21%
	Total	\$43.69	\$569.53	7.67%

*10 year average of total regional industry output from 2013-2022.

Economic migrants from inside and outside Florida choose to locate in South Florida to take advantage of the employment opportunity and compensation caused by Downtown Miami. The jobs and overall economic activity in Downtown Miami increases the employment opportunity and bids up the demand for labor. In turn, these variables put positive pressure on population within the region as individuals choose to locate close to centers of economic opportunity. Downtown Miami induces approximately 279,000 people to live in South Florida. This figure includes all of the economic migrants that choose to locate themselves in areas of potential advancement as well as their dependents. Table 8 summarizes the overall macroeconomic impact of Downtown Miami on South Florida.

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Table 8: Summary of macroeconomic impacts of Downtown Miami on South Florida

Category	Impact Amount	Category Total (10 Yr. Average)	Units	% of Regional Total
Total Employment	297,058	3,656,982	Jobs	8.12%
Gross Regional Product	\$27.53	352.778	Billions of Fixed (2012) Dollars	7.80%
Output	\$43.69	\$569.53	Billions of Fixed (2012) Dollars	7.67%
Personal Income	\$20.88	\$332.20	Billions of Fixed (2012) Dollars	6.29%
Disposable Personal Income	\$18.21	\$297.75	Billions of Fixed (2012) Dollars	6.12%
Population	279,930	6,325,788	People	4.43%

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Statewide Results and Analysis – *Impacts on the State of Florida*

As a whole, the State of Florida is impacted positively by Downtown Miami. Over 305,000 jobs within the state are supported by Downtown Miami, approximately 195,000 of which are in private non-farm industries. Table 13 details the employment in primary industries within Florida that is supported by Downtown Miami's economic activity.

Table 13: Top non-farm industry employment in Florida generated by Downtown Miami economic activity

Rank	Industry	Employment Impact (Jobs)	State Industry Total (Job)*	% of Regional Total
1	State and Local Government	109,325	1,027,666	10.64%
2	Professional, Scientific, and Technical Services	25,610	826,664	3.10%
3	Retail Trade	24,137	1,233,838	1.96%
4	Construction	19,860	670,012	2.96%
5	Administrative and Support Services	19,858	915,651	2.17%
6	Food Services and Drinking Places	15,464	710,029	2.18%
7	Ambulatory Health Care Services	9,524	666,560	1.43%
8	Financial Services	7,885	234,889	3.36%
	All other	73,508	5,105,499	1.44%
	Total	305,171	11,390,808	2.68%

*10 year average of total state industry employment from 2013-2022.

Downtown Miami also contributes to Florida's Gross State Product (GSP). The economic activity in downtown supports \$28.35 billion in annual GSP for Florida, largely due to personal consumption expenditures and exports totaling \$12.08 billion and \$8.59 billion, respectively. Downtown's influence amounts to 2.67% of Florida's GSP.

In addition to employment and GSP, Downtown Miami generates billions of dollars in personal income for Florida residents. The downtown activity creates \$21.51 billion in personal income and \$18.75 billion in disposable personal income; this accounts for 2.12% and 2.07% of personal income and disposable personal income within the state, respectively. When adjusted for the regional population, Downtown Miami stimulates \$208 in real personal income per capita and \$165 in real disposable personal income per capita; this represents 0.53% and 0.47% of real personal income and real disposable personal income per capita, respectively. Table 14 shows the wages and salaries in primary industries within Florida that are supported from Downtown Miami's economic activity.

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Table 14: Top non-farm industry wages and salaries in Florida generated by Downtown Miami economic activity

Rank	Industry	Wage and Salary Impact (Billions of Fixed [2012] Dollars)	State Industry Total (Billions of Fixed [2012] Dollars)*	% of State Total
1	State and Local Government	\$6.41	\$51.86	12.36%
2	Professional, Scientific, and Technical Services	\$1.70	\$41.88	4.06%
3	Retail Trade	\$0.91	\$35.04	2.60%
4	Construction	\$0.80	\$22.86	3.50%
5	Wholesale Trade	\$0.71	\$26.92	2.64%
6	Financial Services	\$0.62	\$12.73	4.87%
7	Administrative and Support Services	\$0.61	\$23.89	2.55%
8	Food Services and Drinking Places	\$0.42	\$14.02	3.00%
	All other	\$4.15	\$201.75	2.06%
	Total	\$16.33	\$430.95	3.79%

*10 year average of total state industry wages and salaries from 2013-2022.

Florida enjoys quite a bit of industrial and commercial output generated by economic activity in Downtown Miami. The downtown area supports \$29.19 billion in private non-farm output and \$15.02 billion in state and local government output; this accounts for 2.04% and 11.99% of private non-farm and government output in Florida, respectively. Table 15 details the output of the primary non-farm industries generated by Downtown Miami.

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Table 15: Top non-farm industry output in Florida generated by Downtown Miami

Rank	Industry	Output Impact (Billions of Fixed [2012] Dollars)	State Industry Total (Billions of Fixed [2012] Dollars)	% of State Total
1	State and Local Government	\$15.02	\$125.28	11.99%
2	Professional, Scientific, and Technical Services	\$4.08	\$120.65	3.38%
3	Financial Services	\$3.75	\$90.20	4.16%
4	Real Estate	\$2.82	\$242.48	1.16%
5	Construction	\$2.29	\$76.32	3.00%
6	Retail Trade	\$2.16	\$104.51	2.07%
7	Wholesale Trade	\$1.77	\$93.75	1.89%
8	Rental and Leasing Services; Lessors of Nonfinancial Intangible Assets	\$1.43	\$31.00	4.61%
	All others	\$11.81	\$850.28	1.39
	Total	\$45.13	\$1,734.47	2.60%

*10 year average of total state industry output from 2013-2022.

Just as the case is with South Florida and Miami-Dade County, economic migrants choose to locate in the entire state of Florida to take advantage of the employment opportunity and compensation caused by Downtown Miami. The sheer amount of jobs and overall economic activity in Downtown Miami increases the economic opportunity throughout the state. Downtown Miami induces approximately 280,000. This figure includes all of the economic migrants that choose to locate themselves in areas of potential advancement as well as their dependents. Table 16 summarizes the macroeconomic impact of Downtown Miami on Florida.

Table 16: Summary of macroeconomic impacts of Downtown Miami on Florida

Industry	Impact Amount	Category Total (10 Yr. Average)	Units	% of State Total
Total Employment	305,171	11,390,808	Jobs	2.68%
Gross State Product	\$28.35	\$1,060.30	Billions of Fixed (2012) Dollars	2.67%
Output	\$45.13	\$1,734.47	Billions of Fixed (2012) Dollars	2.60%
Personal Income	\$21.51	\$1,012.67	Billions of Fixed (2012) Dollars	2.12%
Disposable Personal Income	\$18.75	\$907.55	Billions of Fixed (2012) Dollars	2.07%
Population	280,409	20,624,591	People	1.36%

Appendix A

The PI⁺ Regional Model

REMI used a multi-region, 70-sector PI⁺ model of several counties in Florida for this study. PI⁺ includes four different quantitative measures in its framework, and this allows them to highlight each other's strengths and compliment their weaknesses. The four methodologies in the model include the following:

1. **Input/output tabulation** – Sometimes referred to as I/O modeling, input-output looks for the transactions between industries and households in the economy. This includes the flow of goods from firm-to-firm through their supply chains, to final sales to households, and then wages paid and spent by individuals and families. The data for the table comes from the Bureau of Labor Statistics,ⁱⁱ and the theoretical foundation comes from work by Nobel laureate Wassily Leontief.
2. **Econometrics** – The REMI model includes statistical parameters for behavioral patterns and responses inside of the economy. These includes elasticity to price and wealth, the response of households and businesses to changes in prices and wages, and the “rate of adjustment” from a shock to a new stability inside of the economy.ⁱⁱⁱ Markets take time to “clear,” returning to relative stability of prices and quantity and a balance between supply and demand, after a shock, which we include in the model's adjustments from year-to-year before an eventual result in the model's structure.
3. **Computable General Equilibrium** – Known as a CGE model, REMI PI⁺ is unique for including the characteristics of I/O and CGE models together. CGE modeling adds market-level concepts and the principles of equilibrium economics. These include markets for labor, as well as housing and consumer goods, composite inputs for firms, and market shares for local industry.
4. **New Economic Geography** – This includes concepts of agglomeration, labor pooling, and economies of scale to the model. Labor-intensive industries, such as healthcare or professional services, tend to cluster in urban centers with an educated labor force with specializations in their exact areas. The same is true on goods-producing industries, which tend to locate themselves near customers, input suppliers, transport hubs, and other “environmental” factors that help them lower their costs or increase productivity. Our model includes these concepts endogenously, adjusting for clusters by region.

The research behind PI⁺ is public and often appeared in peer-reviewed journals. These publications include the *Journal of Regional Science*, the *American Economic Review*, and the *Review of Economics and Statistics*.^{iv} Save small exception, REMI only uses data from public data sources when populating the data and parameters in the model. Baseline data comes from the Bureau of Labor Statistics (BEA), BLS, U.S. Census Bureau, and the Energy Information Administration (EIA) at the United States Departments of Commerce and Energy.^v The one exception to the federal sources is a short-term, business cycle forecast incorporated from the University of Michigan's Research Seminar in Quantitative Economics (RSQE).^{vi} This, combined with a decade out industry-level outlook from the BLS, drives national growth in industries and the labor force. This works with county-level data on local industry mixes, wages, and demography to give the models a customized-sub-national geography with unique responses for different regions to outside shocks, including in Florida.

The model consists of thousands of simultaneous equations with a structure that is relatively straightforward. The exact number of equations used varies depending on the extent of industry, demographic, demand, and other detail in the specific model being used. The overall structure of the model can be summarized in five major blocks: (1) Output and Demand, (2) Labor and Capital Demand, (3) Population and Labor Supply, (4) Compensation, Prices, and Costs, and (5) Market Shares. The blocks and their key interactions are shown in Figures 1 and 2.

Figure 1: REMI Model Linkages

REMI Model Linkages (Excluding Economic Geography Linkages)

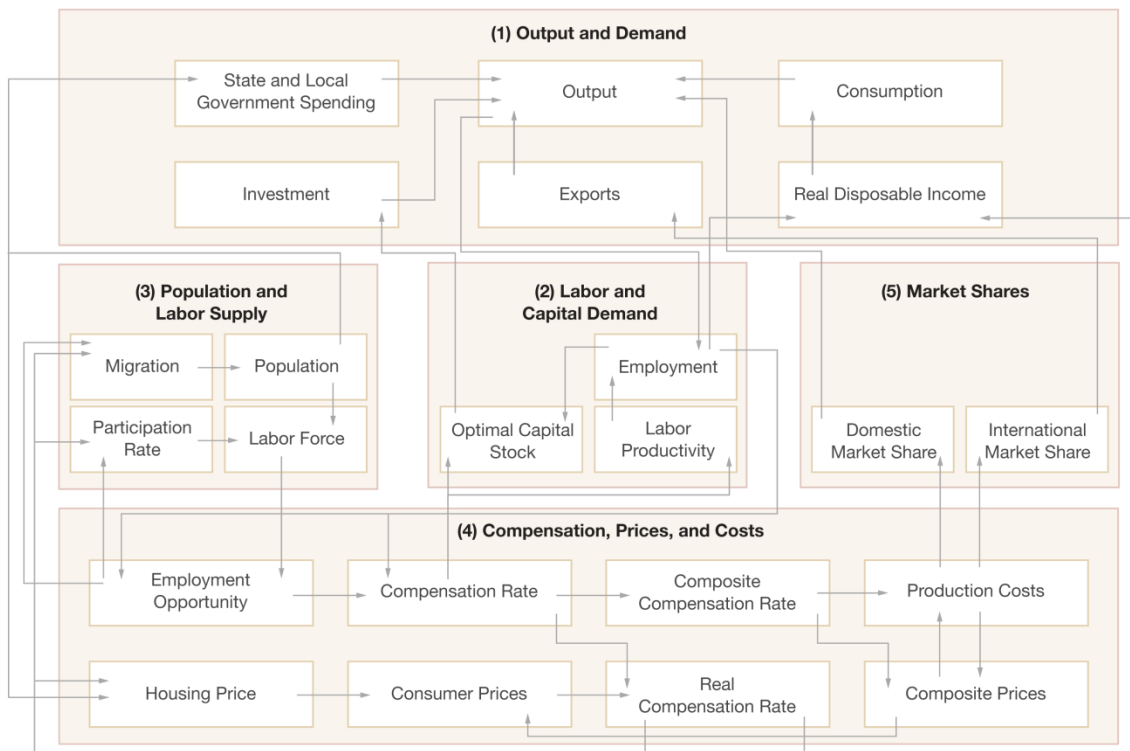
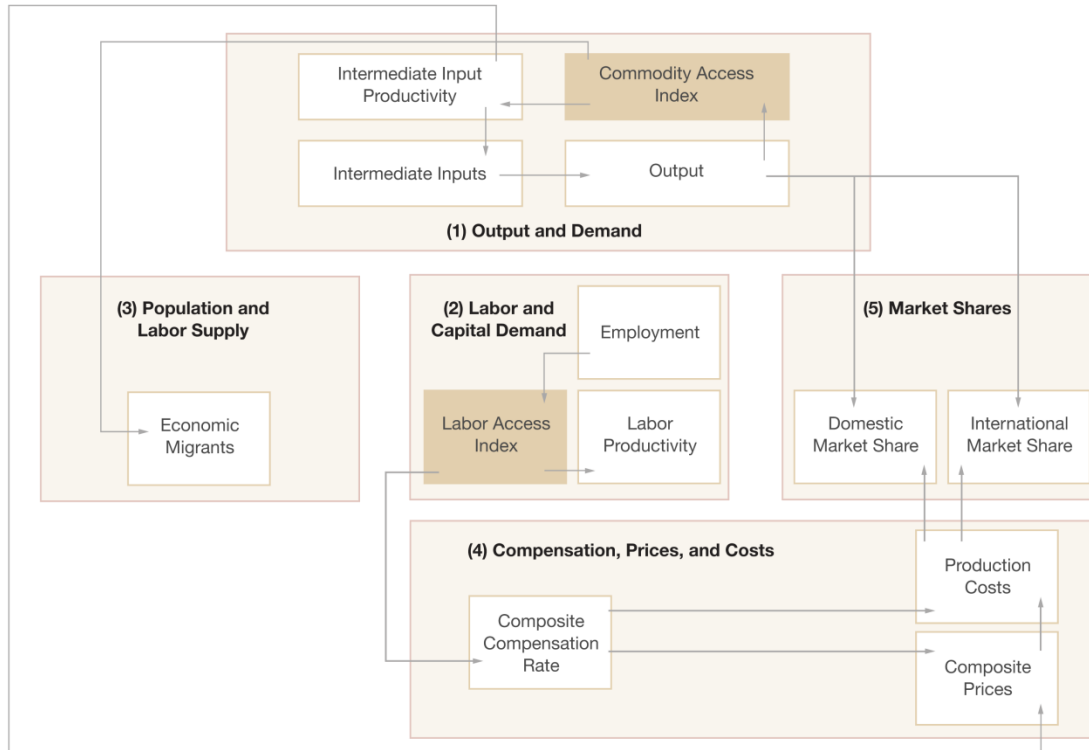


Figure 2: Economic Geography Linkages

Economic Geography Linkages



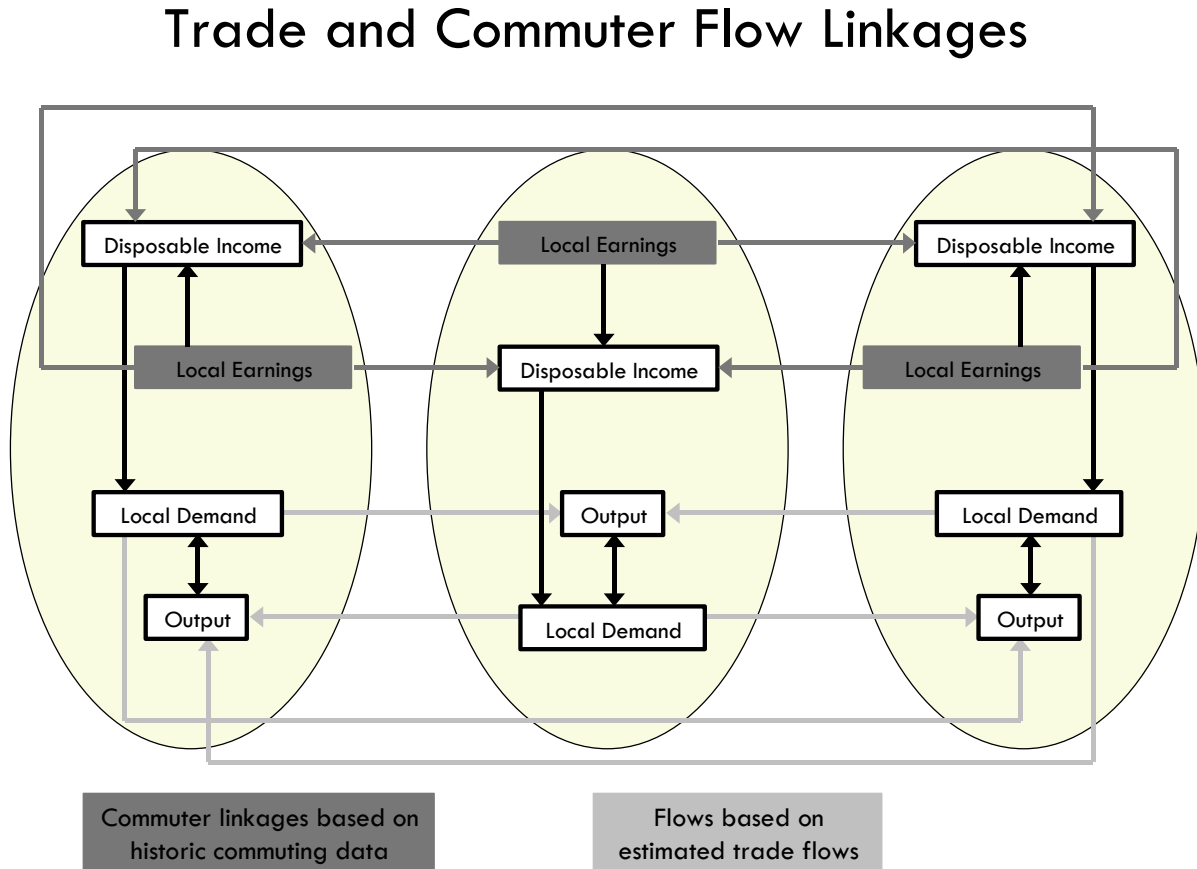
The Output and Demand block consists of output, demand, consumption, investment, government spending, exports, and imports, as well as feedback from output change due to the change in the productivity of intermediate inputs. The Labor and Capital Demand block includes labor intensity and productivity as well as demand for labor and capital. Labor force participation rate and migration equations are in the Population and Labor Supply block. The Compensation, Prices, and Costs block includes composite prices, determinants of production costs, the consumption price deflator, housing prices, and the compensation equations. The proportion of local, inter-regional, and export markets captured by each region is included in the Market Shares block.

Models can be built as single region, multi-region, or multi-region national models. A region is defined broadly as a sub-national area, and could consist of a state, province, county, or city, or any combination of sub-national areas.

Single-region models consist of an individual region, called the home region. The rest of the nation is also represented in the model. However, since the home region is only a small part of the total nation, the changes in the region do not have an endogenous effect on the variables in the rest of the nation.

Multi-regional models have interactions among regions, such as trade and commuting flows. These interactions include trade flows from each region to each of the other regions. These flows are illustrated for a three-region model in Figure 3.

Figure 3: Trade and Commuter Flow Linkages



Multiregional national models also include a central bank monetary response that constrains labor markets. Models that only encompass a relatively small portion of a nation are not endogenously constrained by changes in exchange rates or monetary responses.

Block 1. Output and Demand

This block includes output, demand, consumption, investment, government spending, import, commodity access, and export concepts. Output for each industry in the home region is determined by industry demand in all regions in the nation, the home region's share of each market, and international exports from the region.

For each industry, demand is determined by the amount of output, consumption, investment, and capital demand on that industry. Consumption depends on real disposable income per capita, relative prices, differential income elasticities, and population. Input productivity depends on access to inputs because a larger choice set of inputs means it is more likely that the input with the specific characteristics required for the job will be found. In the capital stock adjustment process, investment occurs to fill the difference between optimal and actual capital stock for residential, non-residential, and equipment investment. Government spending changes are determined by changes in the population.

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Block 2. Labor and Capital Demand

The Labor and Capital Demand block includes the determination of labor productivity, labor intensity, and the optimal capital stocks. Industry-specific labor productivity depends on the availability of workers with differentiated skills for the occupations used in each industry. The occupational labor supply and commuting costs determine firms' access to a specialized labor force.

Labor intensity is determined by the cost of labor relative to the other factor inputs, capital and fuel. Demand for capital is driven by the optimal capital stock equation for both non-residential capital and equipment. Optimal capital stock for each industry depends on the relative cost of labor and capital, and the employment weighted by capital use for each industry. Employment in private industries is determined by the value added and employment per unit of value added in each industry.

Block 3. Population and Labor Supply

The Population and Labor Supply block includes detailed demographic information about the region. Population data is given for age, gender, and race, with birth and survival rates for each group. The size and labor force participation rate of each group determines the labor supply. These participation rates respond to changes in employment relative to the potential labor force and to changes in the real after-tax compensation rate. Migration includes retirement, military, international, and economic migration. Economic migration is determined by the relative real after-tax compensation rate, relative employment opportunity, and consumer access to variety.

Block 4. Compensation, Prices and Costs

This block includes delivered prices, production costs, equipment cost, the consumption deflator, consumer prices, the price of housing, and the compensation equation. Economic geography concepts account for the productivity and price effects of access to specialized labor, goods, and services.

These prices measure the price of the industry output, taking into account the access to production locations. This access is important due to the specialization of production that takes place within each industry, and because transportation and transaction costs of distance are significant. Composite prices for each industry are then calculated based on the production costs of supplying regions, the effective distance to these regions, and the index of access to the variety of outputs in the industry relative to the access by other uses of the product.

The cost of production for each industry is determined by the cost of labor, capital, fuel, and intermediate inputs. Labor costs reflect a productivity adjustment to account for access to specialized labor, as well as underlying compensation rates. Capital costs include costs of non-residential structures and equipment, while fuel costs incorporate electricity, natural gas, and residual fuels.

The consumption deflator converts industry prices to prices for consumption commodities. For potential migrants, the consumer price is additionally calculated to include housing prices. Housing prices change from their initial level depending on changes in income and population density.

Compensation changes are due to changes in labor demand and supply conditions and changes in the national compensation rate. Changes in employment opportunities relative to the labor force and occupational demand change determine compensation rates by industry.

Block 5. Market Shares

The market shares equations measure the proportion of local and export markets that are captured by each industry. These depend on relative production costs, the estimated price elasticity of demand, and the effective distance between the home region and each of the other regions. The change in share of a specific area in any region depends on changes in its delivered price and the quantity it produces compared with the same factors for competitors in that market. The share of local and external markets then drives the exports from and imports to the home economy.

Appendix B

Methodology, Assumptions, and Inputs

As was discussed briefly in the “Modeling Downtown Miami in REMI” section, we employed what is called a “counterfactual” methodology in this analysis. Put simply, a counterfactual analysis takes certain variables out of the equation (or, in this case, the REMI PI⁺ model) in order to ascertain the economic impact of said variables.

In this simulation, we used three different policy variables (PVs): one PV for private non-farm employment, one PV for government employment, and one PV for consumption reallocation. The Miami Downtown Development Authority (DDA) provided us with a plethora of data concerning variables ranging from consumption to housing, but we focused on employment because removing the employment of Downtown Miami endogenously removed the consumption as well.

The data we used for the employment policy variables came from a Lambert Advisory research document titled “Miami DDA Employment Development Strategy Support.” This report detailed employment totals within specific business types in Downtown Miami. We took this employment data and compiled it into North American Industry Classification System (NAICS) codes in order to enter it into the PI⁺ model.

By exogenously removing private non-farm and government employment, we accurately captured the economic impact of individuals who work and live in Downtown Miami as well as people who work in Downtown Miami but live elsewhere (i.e. commuters). The last piece of the equation was to account for people who live in Downtown Miami but work outside of the area. Due to the fact that our data did not cover this subset, we developed a methodology for accounting for these individuals. We took the gross in (the income of employees who live in the local region and work in another) of Miami-Dade County and divided it by the total personal income of the county. Then we used that ratio to solve for the gross in of the Downtown Miami area (using downtown aggregate personal income data from the DrillDown Lite report as our denominator). Once the gross in of Downtown Miami was calculated, we removed that income via the Consumption Reallocation variable to simulate the impact of the individuals who live in Downtown Miami but work elsewhere.

The exact PVs used were as follows:

- 57,801 private non-farm industry jobs removed from Miami-Dade County starting in 2013 and held constant. Job loss spread by industry according to the business profile in Lambert Advisory report. Exact employment reduction numbers by industry can be found in Appendix C.
- 89,999 state and local government jobs removed starting in 2013 and held constant. Number derived from data provided by Miami DDA.
- \$136.74 million removed from consumption reallocation starting in 2013 and held constant. Number derived from aforementioned methodology.

The REMI PI⁺ model is dynamic rather than static, so the outputs generated by these inputs were reported over a time series ranging from 2013 to 2060. This proved slightly problematic because our research was primarily centered on the overall economic impact of Downtown Miami, not what each region in our analysis might look like year-by-year if Downtown Miami were to somehow vanish. As such, we took ten year averages of each variable discussed in this paper in order to convert the dynamic outputs into more of a static analysis.

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All the inputs to the model were entered as negative values. Because Downtown Miami's economic activity is already included in the baseline scenario, the negative values serve to remove its direct effects to allow the simulation to show the total contribution of the region to the state of Florida. While the raw results from the model were also negative, which corresponds to the vacuum left by the removal of Downtown Miami's employment and consumption, the signs of the results were changed from negative to positive for the results reporting in order to more clearly represent the contributions of Downtown Miami. In other words, the negative results represent what is lost from removing the contributions of Downtown Miami from an economy that already includes them, while the positive results represent adding the contributions to an economy where they did not previously exist. The results are exactly identical and have only had their signs changed to more directly describe the second case above, which more obviously fits the spirit of this analysis.

Appendix C

Non-Farm Industry Employment Reduction Numbers

Industry	Employment Reduction
Oil and gas extraction	-12
Utilities	-37
Construction	-1111
Wood product manufacturing	-43
Primary metal manufacturing	-4
Computer and electronic product manufacturing	-62
Motor vehicles, bodies and trailers, and parts manufacturing	-2
Other transportation equipment manufacturing	-10
Furniture and related product manufacturing	-53
Miscellaneous manufacturing	-237
Food manufacturing	-27
Beverage and tobacco product manufacturing	-14
Textile mills; Textile product mills	-8
Printing and related support activities	-81
Wholesale trade	-1627
Retail trade	-5803
Air transportation	-44
Water transportation	-241
Truck transportation	-140
Couriers and messengers	-30
Transit and ground passenger transportation	-425
Scenic and sightseeing transportation; Support activities for transportation	-610
Warehousing and storage	-41
Publishing industries, except Internet	-638
Internet publishing and broadcasting; ISPs, search portals, and data processing; Other information services	-32
Broadcasting, except Internet	-205
Telecommunications	-752
Monetary authorities - central bank; Credit intermediation and related activities; Funds, trusts, & other financial vehicles	-4921
Securities, commodity contracts, investments	-2169
Insurance carriers and related activities	-736
Real estate	-2523
Rental and leasing services; Lessors of nonfinancial intangible assets	-1431
Professional, scientific, and technical services	-12310
Management of companies and enterprises	-993
Administrative and support services	-3001
Waste management and remediation services	-8
Educational services	-2757
Ambulatory health care services	-381

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Hospitals	-720
Nursing and residential care facilities	-48
Social assistance	-528
Performing arts and spectator sports	-468
Museums, historical sites, zoos, and parks	-806
Amusement, gambling, and recreation	-461
Accommodation	-3342
Food services and drinking places	-5847
Repair and maintenance	-424
Personal and laundry services	-527
Membership associations and organizations	-1078
Fabricated metal product manufacturing	-22
Machinery manufacturing	-11
State and Local Government	-89,999

Appendix D: PI+ Employment Results, Miami-Dade County

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Thousands (Jobs)	22.978	22.911	22.594	22.119	21.591	21.072	20.597	20.184	19.885	19.662	21.3593
Retail trade	Thousands (Jobs)	20.413	20.63	20.577	20.272	19.864	19.441	19.021	18.622	18.355	18.133	19.5328
Administrative and support services	Thousands (Jobs)	18.786	18.541	18.109	17.548	16.961	16.402	15.903	15.475	15.179	14.967	16.7871
Food services and drinking places	Thousands (Jobs)	12.729	13.183	13.475	13.634	13.715	13.754	13.766	13.759	13.765	13.776	13.5556
Construction	Thousands (Jobs)	12.408	15.596	16.859	16.976	16.469	15.659	14.748	13.839	13.033	12.34	14.7927
Ambulatory health care services	Thousands (Jobs)	8.392	7.947	7.594	7.236	6.929	6.701	6.542	6.45	6.511	6.636	7.0938
Financial Services	Thousands (Jobs)	7.411	7.258	7.087	6.9	6.719	6.554	6.409	6.284	6.196	6.127	6.6945
Wholesale trade	Thousands (Jobs)	6.679	6.648	6.534	6.355	6.152	5.95	5.756	5.575	5.431	5.315	6.0395
Real estate	Thousands (Jobs)	6.592	6.422	6.03	5.485	4.888	4.305	3.767	3.295	2.921	2.621	4.6326
Securities, commodity contracts, investments	Thousands (Jobs)	4.802	4.477	4.093	3.676	3.265	2.885	2.542	2.244	2.046	1.898	3.1928
Educational services	Thousands (Jobs)	4.604	4.864	5.062	5.208	5.32	5.41	5.488	5.554	5.62	5.684	5.2814
Accommodation	Thousands (Jobs)	4.525	4.34	4.112	3.866	3.632	3.424	3.248	3.105	3.003	2.933	3.6188
Personal and laundry services	Thousands (Jobs)	3.936	3.605	3.335	3.068	2.829	2.627	2.458	2.322	2.239	2.18	2.8599
Hospitals	Thousands (Jobs)	3.324	3.555	3.703	3.8	3.876	3.947	4.015	4.084	4.176	4.266	3.8746
Membership associations and organizations	Thousands (Jobs)	2.949	3.091	3.168	3.201	3.214	3.22	3.226	3.235	3.261	3.294	3.1859
Private households	Thousands (Jobs)	2.835	2.485	2.197	1.932	1.707	1.53	1.391	1.286	1.255	1.246	1.7864
Repair and maintenance	Thousands (Jobs)	2.812	2.866	2.89	2.889	2.878	2.865	2.854	2.846	2.846	2.852	2.8598
Nursing and residential care facilities	Thousands (Jobs)	1.782	1.976	2.14	2.282	2.413	2.538	2.66	2.778	2.916	3.056	2.4541
Rental and leasing services	Thousands (Jobs)	1.734	1.727	1.713	1.695	1.675	1.655	1.635	1.617	1.605	1.595	1.6651
Performing arts and spectator sports	Thousands (Jobs)	1.649	1.667	1.669	1.659	1.643	1.626	1.61	1.595	1.587	1.583	1.6288
Social assistance	Thousands (Jobs)	1.48	1.613	1.729	1.831	1.923	2.01	2.092	2.171	2.285	2.397	1.9531
Telecommunications	Thousands (Jobs)	1.362	1.352	1.333	1.307	1.279	1.252	1.228	1.206	1.19	1.177	1.2686
Management of companies and enterprises	Thousands (Jobs)	1.352	1.266	1.165	1.06	0.962	0.874	0.8	0.739	0.698	0.67	0.9586
Insurance carriers and related activities	Thousands (Jobs)	1.254	1.247	1.232	1.211	1.189	1.167	1.147	1.13	1.118	1.109	1.1804
Amusement, gambling, and recreation	Thousands (Jobs)	1.152	1.141	1.123	1.098	1.07	1.045	1.023	1.004	0.991	0.983	1.063
Transit and ground passenger transportation	Thousands (Jobs)	1.131	1.135	1.132	1.122	1.111	1.101	1.092	1.085	1.082	1.081	1.1072
Museums, historical sites, zoos, and parks	Thousands (Jobs)	0.88	0.889	0.896	0.902	0.906	0.91	0.913	0.916	0.919	0.922	0.9053
Publishing industries, except Internet	Thousands (Jobs)	0.83	0.822	0.812	0.801	0.791	0.78	0.771	0.763	0.76	0.756	0.7886

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Scenic and sightseeing transportation	Thousands (Jobs)	0.781	0.695	0.589	0.477	0.365	0.261	0.166	0.082	0.017	-0.035	0.3398
Printing and related support activities	Thousands (Jobs)	0.599	0.587	0.571	0.553	0.533	0.513	0.494	0.476	0.46	0.445	0.5231
Truck transportation	Thousands (Jobs)	0.586	0.592	0.586	0.571	0.553	0.535	0.517	0.501	0.489	0.479	0.5409
Broadcasting, except Internet	Thousands (Jobs)	0.575	0.554	0.527	0.497	0.469	0.443	0.42	0.402	0.388	0.378	0.4653
Couriers and messengers	Thousands (Jobs)	0.53	0.521	0.507	0.488	0.467	0.445	0.423	0.402	0.387	0.374	0.4544
Waste management and remediation services	Thousands (Jobs)	0.433	0.439	0.441	0.439	0.435	0.432	0.428	0.426	0.424	0.423	0.432
Utilities	Thousands (Jobs)	0.414	0.425	0.428	0.424	0.416	0.406	0.396	0.385	0.376	0.367	0.4037
Miscellaneous manufacturing	Thousands (Jobs)	0.386	0.375	0.361	0.346	0.332	0.319	0.308	0.299	0.292	0.287	0.3305
Fabricated metal product manufacturing	Thousands (Jobs)	0.34	0.36	0.364	0.357	0.345	0.332	0.317	0.304	0.291	0.281	0.3291
Internet publishing and Other information services	Thousands (Jobs)	0.306	0.307	0.304	0.297	0.288	0.279	0.27	0.261	0.254	0.246	0.2812
Water transportation	Thousands (Jobs)	0.248	0.238	0.226	0.214	0.201	0.19	0.179	0.169	0.16	0.152	0.1977
Nonmetallic mineral product manufacturing	Thousands (Jobs)	0.248	0.268	0.273	0.267	0.256	0.242	0.229	0.216	0.204	0.194	0.2397
Air transportation	Thousands (Jobs)	0.169	0.115	0.05	-0.018	-0.081	-0.137	-0.183	-0.219	-0.255	-0.283	-0.0842
Computer and electronic product manufacturing	Thousands (Jobs)	0.161	0.145	0.128	0.111	0.095	0.082	0.07	0.06	0.054	0.05	0.0956
Chemical manufacturing	Thousands (Jobs)	0.136	0.121	0.104	0.085	0.068	0.052	0.038	0.026	0.017	0.01	0.0657
Furniture and related product manufacturing	Thousands (Jobs)	0.124	0.115	0.105	0.094	0.083	0.073	0.065	0.058	0.053	0.049	0.0819
Wood product manufacturing	Thousands (Jobs)	0.119	0.127	0.129	0.128	0.124	0.12	0.116	0.112	0.109	0.106	0.119
Plastics and rubber product manufacturing	Thousands (Jobs)	0.109	0.11	0.107	0.103	0.098	0.093	0.088	0.084	0.079	0.076	0.0947
Apparel, Leather and allied product manufacturing	Thousands (Jobs)	0.107	0.11	0.111	0.109	0.107	0.104	0.102	0.101	0.102	0.103	0.1056
Agriculture and forestry support activities	Thousands (Jobs)	0.095	0.093	0.09	0.088	0.085	0.083	0.081	0.079	0.077	0.075	0.0846
Warehousing and storage	Thousands (Jobs)	0.095	0.07	0.041	0.012	-0.017	-0.042	-0.064	-0.082	-0.095	-0.105	-0.0187
Food manufacturing	Thousands (Jobs)	0.08	0.076	0.07	0.062	0.055	0.048	0.043	0.038	0.035	0.032	0.0539
Paper manufacturing	Thousands (Jobs)	0.078	0.077	0.076	0.074	0.072	0.069	0.067	0.065	0.062	0.06	0.07
Petroleum and coal products manufacturing	Thousands (Jobs)	0.055	0.057	0.058	0.056	0.054	0.051	0.048	0.045	0.041	0.038	0.0503
Beverage and tobacco product manufacturing	Thousands (Jobs)	0.052	0.054	0.056	0.056	0.056	0.056	0.055	0.055	0.055	0.054	0.0549
Motion picture and sound recording industries	Thousands (Jobs)	0.052	0.042	0.032	0.023	0.015	0.009	0.004	0	-0.003	-0.004	0.017
Oil and gas extraction	Thousands (Jobs)	0.051	0.052	0.051	0.049	0.047	0.044	0.041	0.039	0.037	0.035	0.0446
Electrical equipment and appliance manufacturing	Thousands (Jobs)	0.043	0.042	0.039	0.035	0.03	0.025	0.021	0.018	0.014	0.011	0.0278
Machinery manufacturing	Thousands (Jobs)	0.036	0.037	0.037	0.036	0.035	0.033	0.032	0.03	0.029	0.027	0.0332
Motor vehicles, bodies, trailers, and parts manufacturing	Thousands (Jobs)	0.027	0.026	0.025	0.023	0.022	0.021	0.019	0.018	0.017	0.017	0.0215
Other transportation equipment manufacturing	Thousands (Jobs)	0.025	0.02	0.013	0.006	-0.001	-0.007	-0.013	-0.017	-0.02	-0.022	-0.0016

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Primary metal manufacturing	Thousands (Jobs)	0.013	0.011	0.008	0.005	0.002	-0.001	-0.003	-0.004	-0.006	-0.006	0.0019
Textile mills; Textile product mills	Thousands (Jobs)	0.01	0.009	0.008	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.0051
Forestry and logging; Fishing, hunting, and trapping	Thousands (Jobs)	0.005	0.004	0.004	0.003	0.002	0.001	0	-0.001	-0.001	-0.002	0.0015
Rail transportation	Thousands (Jobs)	0.001	0.001	0	-0.001	-0.002	-0.002	-0.003	-0.004	-0.004	-0.005	-0.0019
Pipeline transportation	Thousands (Jobs)	0	0	0	0	0	0	0	0	0	0	0
Mining (except oil and gas)	Thousands (Jobs)	0	0	0	0	0	0	0	0	0	0	0
Support activities for mining	Thousands (Jobs)	0	0	0	0	0	0	0	0	0	0	0

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Appendix E: Downtown Miami's Wage and Salary Impact on Miami-Dade County

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Billions of Current Dollars	1.315	1.414	1.485	1.536	1.573	1.605	1.632	1.659	1.704	1.753	1.568
Retail trade	Billions of Current Dollars	0.633	0.700	0.746	0.775	0.792	0.804	0.812	0.817	0.832	0.848	0.776
Wholesale trade	Billions of Current Dollars	0.498	0.566	0.612	0.639	0.655	0.663	0.666	0.666	0.670	0.677	0.631
Financial Services	Billions of Current Dollars	0.497	0.518	0.532	0.542	0.550	0.557	0.563	0.570	0.584	0.599	0.551
Ambulatory health care services	Billions of Current Dollars	0.428	0.456	0.480	0.496	0.509	0.522	0.534	0.549	0.575	0.606	0.516
Construction	Billions of Current Dollars	0.403	0.534	0.607	0.642	0.654	0.653	0.645	0.633	0.627	0.623	0.602
Administrative and support services	Billions of Current Dollars	0.386	0.418	0.439	0.452	0.461	0.467	0.471	0.475	0.485	0.496	0.455
Food services and drinking places	Billions of Current Dollars	0.321	0.361	0.392	0.416	0.435	0.451	0.465	0.478	0.495	0.513	0.433
Hospitals	Billions of Current Dollars	0.212	0.261	0.298	0.325	0.346	0.364	0.379	0.393	0.412	0.431	0.342
Educational services	Billions of Current Dollars	0.196	0.231	0.259	0.281	0.300	0.317	0.331	0.345	0.361	0.378	0.300
Securities, commodity contracts, investments	Billions of Current Dollars	0.184	0.194	0.198	0.196	0.192	0.187	0.180	0.173	0.170	0.169	0.184
Accommodation	Billions of Current Dollars	0.171	0.180	0.185	0.186	0.184	0.183	0.181	0.179	0.180	0.182	0.181
Management of companies and enterprises	Billions of Current Dollars	0.153	0.163	0.166	0.166	0.164	0.160	0.156	0.152	0.151	0.151	0.158
Membership associations and organizations	Billions of Current Dollars	0.114	0.135	0.151	0.162	0.171	0.179	0.185	0.191	0.199	0.208	0.170
Insurance carriers and related activities	Billions of Current Dollars	0.109	0.126	0.138	0.146	0.152	0.156	0.159	0.162	0.166	0.169	0.148
Rental and leasing services	Billions of Current Dollars	0.102	0.107	0.111	0.114	0.117	0.120	0.122	0.125	0.129	0.133	0.118
Telecommunications	Billions of Current Dollars	0.097	0.105	0.110	0.113	0.116	0.118	0.119	0.120	0.123	0.126	0.115
Real estate	Billions of Current Dollars	0.087	0.097	0.101	0.102	0.100	0.096	0.092	0.088	0.085	0.082	0.093
Performing arts and spectator sports	Billions of Current Dollars	0.075	0.085	0.093	0.099	0.103	0.106	0.108	0.110	0.114	0.117	0.101
Personal and laundry services	Billions of Current Dollars	0.063	0.064	0.065	0.064	0.063	0.061	0.060	0.059	0.058	0.059	0.062
Publishing industries, except Internet	Billions of Current Dollars	0.061	0.064	0.066	0.067	0.069	0.070	0.072	0.073	0.075	0.078	0.070
Nursing and residential care facilities	Billions of Current Dollars	0.059	0.074	0.086	0.097	0.106	0.115	0.124	0.132	0.143	0.154	0.109
Repair and maintenance	Billions of Current Dollars	0.055	0.060	0.064	0.067	0.070	0.072	0.074	0.077	0.079	0.082	0.070
Broadcasting, except Internet	Billions of Current Dollars	0.049	0.054	0.058	0.059	0.060	0.060	0.060	0.059	0.059	0.060	0.058
Scenic and sightseeing transportation	Billions of Current Dollars	0.046	0.054	0.058	0.059	0.059	0.057	0.054	0.051	0.049	0.046	0.053
Utilities	Billions of Current Dollars	0.039	0.044	0.049	0.051	0.053	0.054	0.055	0.055	0.056	0.057	0.051
Social assistance	Billions of Current Dollars	0.037	0.048	0.058	0.065	0.072	0.078	0.084	0.089	0.096	0.103	0.073

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Amusement, gambling, and recreation	Billions of Current Dollars	0.030	0.033	0.035	0.036	0.037	0.038	0.039	0.039	0.040	0.041	0.037
Museums, historical sites, zoos, and parks	Billions of Current Dollars	0.028	0.029	0.030	0.032	0.033	0.034	0.035	0.037	0.038	0.040	0.034
Water transportation	Billions of Current Dollars	0.027	0.033	0.038	0.041	0.043	0.044	0.044	0.044	0.043	0.043	0.040
Waste management and remediation services	Billions of Current Dollars	0.026	0.028	0.030	0.032	0.033	0.034	0.035	0.036	0.038	0.039	0.033
Transit and ground passenger transportation	Billions of Current Dollars	0.026	0.028	0.029	0.030	0.031	0.032	0.033	0.034	0.035	0.036	0.031
Internet publishing and Other information services	Billions of Current Dollars	0.024	0.027	0.028	0.029	0.030	0.030	0.030	0.030	0.030	0.030	0.029
Printing and related support activities	Billions of Current Dollars	0.024	0.025	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026
Air transportation	Billions of Current Dollars	0.024	0.031	0.034	0.034	0.033	0.030	0.027	0.023	0.019	0.015	0.027
Couriers and messengers	Billions of Current Dollars	0.020	0.025	0.029	0.032	0.033	0.034	0.035	0.035	0.035	0.036	0.031
Miscellaneous manufacturing	Billions of Current Dollars	0.018	0.020	0.022	0.023	0.023	0.023	0.023	0.023	0.023	0.024	0.022
Private households	Billions of Current Dollars	0.017	0.016	0.015	0.014	0.013	0.012	0.010	0.009	0.009	0.008	0.012
Truck transportation	Billions of Current Dollars	0.016	0.019	0.022	0.023	0.024	0.024	0.025	0.025	0.025	0.026	0.023
Fabricated metal product manufacturing	Billions of Current Dollars	0.016	0.018	0.020	0.021	0.022	0.022	0.022	0.022	0.022	0.022	0.021
Computer and electronic product manufacturing	Billions of Current Dollars	0.013	0.015	0.016	0.016	0.015	0.015	0.014	0.013	0.013	0.013	0.014
Nonmetallic mineral product manufacturing	Billions of Current Dollars	0.013	0.015	0.017	0.017	0.018	0.018	0.018	0.018	0.017	0.017	0.017
Chemical manufacturing	Billions of Current Dollars	0.011	0.013	0.013	0.013	0.013	0.012	0.012	0.011	0.010	0.010	0.012
Plastics and rubber product manufacturing	Billions of Current Dollars	0.006	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Food manufacturing	Billions of Current Dollars	0.006	0.008	0.009	0.010	0.010	0.010	0.010	0.010	0.009	0.009	0.009
Paper manufacturing	Billions of Current Dollars	0.005	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Warehousing and storage	Billions of Current Dollars	0.005	0.006	0.006	0.006	0.006	0.005	0.004	0.003	0.003	0.002	0.005
Furniture and related product manufacturing	Billions of Current Dollars	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.005
Petroleum and coal products manufacturing	Billions of Current Dollars	0.004	0.005	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.006
Motion picture and sound recording industries	Billions of Current Dollars	0.004	0.006	0.006	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.006
Other transportation equipment manufacturing	Billions of Current Dollars	0.004	0.005	0.006	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.006
Wood product manufacturing	Billions of Current Dollars	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Beverage and tobacco product manufacturing	Billions of Current Dollars	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.005
Apparel, Leather and allied product manufacturing	Billions of Current Dollars	0.003	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Machinery manufacturing	Billions of Current Dollars	0.003	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.004	0.004	0.004
Electrical equipment and appliance manufacturing	Billions of Current Dollars	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.003
Agriculture and forestry support activities	Billions of Current Dollars	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003

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Motor vehicles, bodies, trailers, and parts manufacturing	Billions of Current Dollars	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Primary metal manufacturing	Billions of Current Dollars	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Textile mills; Textile product mills	Billions of Current Dollars	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Rail transportation	Billions of Current Dollars	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Oil and gas extraction	Billions of Current Dollars	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Forestry and logging; Fishing, hunting, and trapping	Billions of Current Dollars	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pipeline transportation	Billions of Current Dollars	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mining (except oil and gas)	Billions of Current Dollars	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Support activities for mining	Billions of Current Dollars	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Appendix F: Downtown Miami's Output Impact on Miami-Dade County

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Billions of Fixed (2012) Dollars	3.427	3.455	3.445	3.413	3.372	3.335	3.302	3.28	3.277	3.289	3.360
Financial Services	Billions of Fixed (2012) Dollars	3.12	3.159	3.188	3.21	3.23	3.258	3.29	3.331	3.391	3.463	3.264
Real estate	Billions of Fixed (2012) Dollars	2.804	2.783	2.662	2.469	2.244	2.017	1.799	1.603	1.446	1.318	2.115
Retail trade	Billions of Fixed (2012) Dollars	1.578	1.639	1.678	1.698	1.708	1.718	1.725	1.733	1.755	1.781	1.701
Wholesale trade	Billions of Fixed (2012) Dollars	1.43	1.461	1.475	1.475	1.469	1.462	1.455	1.45	1.454	1.464	1.460
Rental and leasing services	Billions of Fixed (2012) Dollars	1.295	1.321	1.34	1.356	1.369	1.383	1.398	1.413	1.434	1.459	1.377
Construction	Billions of Fixed (2012) Dollars	1.266	1.614	1.77	1.808	1.781	1.721	1.648	1.572	1.507	1.453	1.614
Administrative and support services	Billions of Fixed (2012) Dollars	0.993	0.994	0.984	0.967	0.949	0.932	0.918	0.908	0.906	0.909	0.946
Ambulatory health care services	Billions of Fixed (2012) Dollars	0.902	0.852	0.812	0.773	0.74	0.716	0.699	0.689	0.696	0.71	0.759
Food services and drinking places	Billions of Fixed (2012) Dollars	0.89	0.937	0.973	1	1.022	1.042	1.06	1.076	1.095	1.115	1.021
Telecommunications	Billions of Fixed (2012) Dollars	0.775	0.795	0.809	0.819	0.828	0.838	0.848	0.861	0.878	0.898	0.835
Accommodation	Billions of Fixed (2012) Dollars	0.626	0.611	0.589	0.564	0.54	0.518	0.501	0.487	0.48	0.478	0.539
Securities, commodity contracts, investments	Billions of Fixed (2012) Dollars	0.594	0.569	0.536	0.496	0.456	0.417	0.381	0.349	0.33	0.317	0.445
Hospitals	Billions of Fixed (2012) Dollars	0.431	0.465	0.488	0.505	0.519	0.532	0.545	0.559	0.575	0.592	0.521
Insurance carriers and related activities	Billions of Fixed (2012) Dollars	0.369	0.372	0.372	0.371	0.368	0.367	0.365	0.365	0.366	0.368	0.368
Educational services	Billions of Fixed (2012) Dollars	0.35	0.367	0.379	0.387	0.393	0.397	0.401	0.404	0.408	0.412	0.390
Publishing industries, except Internet	Billions of Fixed (2012) Dollars	0.341	0.356	0.37	0.384	0.397	0.412	0.427	0.443	0.461	0.482	0.407
Utilities	Billions of Fixed (2012) Dollars	0.302	0.32	0.333	0.341	0.346	0.35	0.354	0.357	0.362	0.368	0.343
Management of companies and enterprises	Billions of Fixed (2012) Dollars	0.27	0.263	0.251	0.238	0.224	0.212	0.202	0.194	0.191	0.191	0.224
Repair and maintenance	Billions of Fixed (2012) Dollars	0.253	0.262	0.267	0.27	0.273	0.275	0.277	0.28	0.284	0.289	0.273
Personal and laundry services	Billions of Fixed (2012) Dollars	0.227	0.212	0.199	0.187	0.175	0.165	0.157	0.151	0.148	0.146	0.177
Broadcasting, except Internet	Billions of Fixed (2012) Dollars	0.22	0.217	0.211	0.204	0.196	0.19	0.184	0.18	0.178	0.177	0.196
Membership associations and organizations	Billions of Fixed (2012) Dollars	0.218	0.23	0.237	0.241	0.244	0.246	0.248	0.251	0.255	0.261	0.243
Petroleum and coal products manufacturing	Billions of Fixed (2012) Dollars	0.204	0.217	0.222	0.224	0.223	0.221	0.218	0.216	0.214	0.212	0.217
Performing arts and spectator sports	Billions of Fixed (2012) Dollars	0.193	0.198	0.201	0.203	0.204	0.205	0.206	0.207	0.209	0.213	0.204
Water transportation	Billions of Fixed (2012) Dollars	0.13	0.129	0.128	0.126	0.125	0.124	0.123	0.122	0.122	0.122	0.125
Museums, historical sites, zoos, and parks	Billions of Fixed (2012) Dollars	0.123	0.126	0.128	0.13	0.133	0.135	0.137	0.139	0.142	0.145	0.134

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Nursing and residential care facilities	Billions of Fixed (2012) Dollars	0.119	0.133	0.144	0.154	0.164	0.173	0.182	0.191	0.201	0.212	0.167
Internet publishing and Other information services	Billions of Fixed (2012) Dollars	0.113	0.12	0.125	0.129	0.133	0.136	0.139	0.142	0.146	0.15	0.133
Waste management and remediation services	Billions of Fixed (2012) Dollars	0.104	0.106	0.107	0.107	0.107	0.107	0.107	0.107	0.107	0.108	0.107
Printing and related support activities	Billions of Fixed (2012) Dollars	0.094	0.095	0.096	0.096	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Chemical manufacturing	Billions of Fixed (2012) Dollars	0.092	0.087	0.08	0.071	0.063	0.055	0.047	0.041	0.036	0.032	0.060
Scenic and sightseeing transportation	Billions of Fixed (2012) Dollars	0.089	0.081	0.071	0.06	0.049	0.038	0.027	0.018	0.01	0.004	0.045
Miscellaneous manufacturing	Billions of Fixed (2012) Dollars	0.083	0.083	0.082	0.081	0.08	0.08	0.08	0.08	0.08	0.081	0.081
Fabricated metal product manufacturing	Billions of Fixed (2012) Dollars	0.072	0.078	0.079	0.079	0.078	0.076	0.073	0.071	0.07	0.068	0.074
Social assistance	Billions of Fixed (2012) Dollars	0.072	0.078	0.084	0.088	0.093	0.097	0.101	0.104	0.11	0.115	0.094
Truck transportation	Billions of Fixed (2012) Dollars	0.068	0.07	0.071	0.071	0.07	0.069	0.069	0.068	0.068	0.068	0.069
Transit and ground passenger transportation	Billions of Fixed (2012) Dollars	0.068	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.07	0.069
Amusement, gambling, and recreation	Billions of Fixed (2012) Dollars	0.066	0.066	0.066	0.065	0.064	0.063	0.062	0.061	0.061	0.061	0.064
Nonmetallic mineral product manufacturing	Billions of Fixed (2012) Dollars	0.06	0.066	0.068	0.067	0.065	0.063	0.06	0.058	0.055	0.053	0.062
Air transportation	Billions of Fixed (2012) Dollars	0.057	0.043	0.024	0.004	-0.015	-0.032	-0.047	-0.058	-0.071	-0.08	-0.018
Couriers and messengers	Billions of Fixed (2012) Dollars	0.057	0.056	0.054	0.051	0.049	0.046	0.044	0.042	0.041	0.041	0.048
Beverage and tobacco product manufacturing	Billions of Fixed (2012) Dollars	0.047	0.05	0.051	0.052	0.053	0.053	0.053	0.053	0.053	0.053	0.052
Computer and electronic product manufacturing	Billions of Fixed (2012) Dollars	0.044	0.042	0.04	0.037	0.034	0.031	0.029	0.027	0.026	0.025	0.034
Food manufacturing	Billions of Fixed (2012) Dollars	0.034	0.033	0.032	0.03	0.028	0.026	0.024	0.023	0.022	0.022	0.027
Plastics and rubber product manufacturing	Billions of Fixed (2012) Dollars	0.032	0.033	0.033	0.032	0.032	0.031	0.03	0.029	0.028	0.027	0.031
Paper manufacturing	Billions of Fixed (2012) Dollars	0.032	0.033	0.034	0.034	0.034	0.033	0.033	0.033	0.033	0.033	0.033
Wood product manufacturing	Billions of Fixed (2012) Dollars	0.023	0.025	0.026	0.026	0.025	0.024	0.024	0.023	0.023	0.022	0.024
Private households	Billions of Fixed (2012) Dollars	0.02	0.018	0.016	0.014	0.013	0.012	0.011	0.01	0.01	0.01	0.013
Furniture and related product manufacturing	Billions of Fixed (2012) Dollars	0.019	0.018	0.017	0.015	0.014	0.012	0.011	0.01	0.009	0.009	0.013
Electrical equipment and appliance manufacturing	Billions of Fixed (2012) Dollars	0.011	0.011	0.011	0.01	0.009	0.008	0.007	0.007	0.006	0.005	0.009
Motor vehicles, bodies and trailers, and parts manufacturing	Billions of Fixed (2012) Dollars	0.011	0.011	0.011	0.011	0.011	0.01	0.01	0.01	0.01	0.01	0.011
Motion picture and sound recording industries	Billions of Fixed (2012) Dollars	0.01	0.01	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.007
Machinery manufacturing	Billions of Fixed (2012) Dollars	0.008	0.009	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.010
Other transportation equipment manufacturing	Billions of Fixed (2012) Dollars	0.008	0.007	0.005	0.004	0.002	0	-0.001	-0.003	-0.004	-0.004	0.001
Apparel, Leather and allied product manufacturing	Billions of Fixed (2012) Dollars	0.008	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.01	0.009

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Warehousing and storage	Billions of Fixed (2012) Dollars	0.007	0.006	0.004	0.001	-0.001	-0.003	-0.005	-0.006	-0.007	-0.008	-0.001
Primary metal manufacturing	Billions of Fixed (2012) Dollars	0.006	0.005	0.004	0.003	0.002	0.001	0	-0.001	-0.001	-0.002	0.002
Oil and gas extraction	Billions of Fixed (2012) Dollars	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.003
Agriculture and forestry support activities	Billions of Fixed (2012) Dollars	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Textile mills; Textile product mills	Billions of Fixed (2012) Dollars	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Rail transportation	Billions of Fixed (2012) Dollars	0.001	0	0	0	0	-0.001	-0.001	-0.001	-0.001	-0.001	0.000
Forestry and logging; Fishing, hunting, and trapping	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0.000
Pipeline transportation	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0.000
Mining (except oil and gas)	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0.000
Support activities for mining	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0.000

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Appendix G: Summary of Downtown Miami's Economic Impact on Miami-Dade County

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Total Employment	Thousands (Jobs)	272.673	275.628	274.730	271.176	266.536	261.774	257.277	253.301	250.726	248.913	263.274
Total Employment as % of Nation	Percent	0.150	0.149	0.146	0.142	0.137	0.132	0.128	0.124	0.121	0.119	0.135
Private Non-Farm Employment	Thousands (Jobs)	167.869	170.133	168.880	165.208	160.583	155.883	151.479	147.590	145.014	143.166	157.581
Private Non-Farm Employment as % of Nation	Percent	0.108	0.107	0.105	0.101	0.096	0.092	0.088	0.084	0.082	0.079	0.094
Gross Domestic Product	Billions of Fixed (2012) Dollars	23.792	24.238	24.380	24.317	24.169	24.033	23.922	23.876	23.975	24.161	24.086
GDP as % of Nation	Percent	0.145	0.143	0.140	0.135	0.130	0.125	0.121	0.117	0.113	0.111	0.128
Output	Billions of Fixed (2012) Dollars	37.642	38.458	38.743	38.669	38.431	38.189	37.965	37.824	37.905	38.123	38.195
Value Added	Billions of Fixed (2012) Dollars	23.792	24.238	24.380	24.317	24.169	24.033	23.922	23.876	23.975	24.161	24.086
Personal Income	Billions of Fixed (2012) Dollars	12.960	14.275	15.194	15.838	16.307	16.692	17.013	17.316	17.692	18.079	16.137
Personal Income as % of Nation	Percent	0.088	0.094	0.097	0.098	0.098	0.097	0.096	0.094	0.093	0.092	0.095
Disposable Personal Income (DPI)	Billions of Fixed (2012) Dollars	11.334	12.486	13.281	13.830	14.219	14.532	14.787	15.021	15.366	15.717	14.057
DPI as % of Nation	Percent	0.087	0.094	0.097	0.098	0.098	0.097	0.096	0.094	0.093	0.092	0.095
PCE-Price Index	2005=100 (Nation)	0.553	1.245	1.620	1.881	2.053	2.160	2.220	2.246	2.255	2.256	1.849
Real DPI	Billions of Fixed (2012) Dollars	10.887	11.477	11.961	12.284	12.515	12.719	12.900	13.085	13.395	13.720	12.494
Real DPI as % of Nation	Percent	0.090	0.092	0.094	0.094	0.093	0.091	0.090	0.088	0.088	0.087	0.091
Population	Thousands	68.273	121.963	166.195	202.570	232.365	256.744	276.566	292.677	305.921	316.792	224.007
Population as % of Nation	Percent	0.021	0.038	0.051	0.062	0.070	0.077	0.082	0.086	0.089	0.092	0.067

Regional Economic Models, Inc.

Appendix H: PI+ Employment Results, South Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Thousands (Jobs)	25.768	25.899	25.754	25.417	25.01	24.605	24.238	23.927	23.736	23.614	24.7968
Retail trade	Thousands (Jobs)	24.423	24.812	24.887	24.621	24.208	23.763	23.307	22.866	22.579	22.339	23.7805
Administrative and support services	Thousands (Jobs)	21.519	21.298	20.88	20.31	19.709	19.142	18.641	18.218	17.949	17.771	19.5437
Construction	Thousands (Jobs)	15.325	19.532	21.235	21.429	20.794	19.757	18.583	17.408	16.38	15.503	18.5946
Food services and drinking places	Thousands (Jobs)	14.08	14.733	15.193	15.478	15.659	15.777	15.851	15.893	15.943	15.99	15.4597
Ambulatory health care services	Thousands (Jobs)	10.949	10.403	9.996	9.566	9.194	8.922	8.735	8.634	8.735	8.915	9.4049
Financial Services	Thousands (Jobs)	8.387	8.184	7.969	7.731	7.5	7.291	7.107	6.949	6.841	6.757	7.4716
Wholesale trade	Thousands (Jobs)	7.632	7.63	7.531	7.344	7.124	6.902	6.688	6.487	6.332	6.208	6.9878
Real estate	Thousands (Jobs)	7.597	7.532	7.216	6.707	6.126	5.553	5.022	4.557	4.195	3.91	5.8415
Securities, commodity contracts, investments	Thousands (Jobs)	5.966	5.562	5.102	4.606	4.123	3.68	3.285	2.944	2.733	2.579	4.058
Educational services	Thousands (Jobs)	5.136	5.481	5.752	5.958	6.121	6.255	6.373	6.476	6.578	6.677	6.0807
Accommodation	Thousands (Jobs)	4.819	4.647	4.434	4.203	3.981	3.787	3.623	3.492	3.403	3.344	3.9733
Personal and laundry services	Thousands (Jobs)	4.74	4.341	4.03	3.719	3.438	3.201	3.004	2.845	2.75	2.684	3.4752
Private households	Thousands (Jobs)	3.636	3.197	2.844	2.516	2.236	2.013	1.836	1.7	1.66	1.645	2.3283
Hospitals	Thousands (Jobs)	3.608	3.911	4.138	4.313	4.464	4.602	4.732	4.855	4.993	5.122	4.4738
Repair and maintenance	Thousands (Jobs)	3.469	3.564	3.622	3.644	3.651	3.654	3.657	3.662	3.678	3.7	3.6301
Membership associations and organizations	Thousands (Jobs)	3.319	3.518	3.649	3.729	3.784	3.829	3.871	3.913	3.971	4.035	3.7618
Nursing and residential care facilities	Thousands (Jobs)	2.118	2.37	2.587	2.775	2.949	3.116	3.277	3.433	3.611	3.79	3.0026
Performing arts and spectator sports	Thousands (Jobs)	1.905	1.935	1.946	1.941	1.928	1.912	1.897	1.883	1.877	1.875	1.9099
Social assistance	Thousands (Jobs)	1.842	2.025	2.186	2.328	2.457	2.58	2.697	2.81	2.967	3.122	2.5014
Rental and leasing services	Thousands (Jobs)	1.826	1.821	1.806	1.784	1.759	1.734	1.71	1.687	1.672	1.661	1.746
Insurance carriers and related activities	Thousands (Jobs)	1.671	1.655	1.628	1.591	1.552	1.517	1.487	1.461	1.444	1.432	1.5438
Amusement, gambling, and recreation	Thousands (Jobs)	1.664	1.655	1.639	1.609	1.575	1.544	1.516	1.493	1.481	1.475	1.5651
Telecommunications	Thousands (Jobs)	1.655	1.65	1.632	1.604	1.573	1.543	1.514	1.489	1.471	1.456	1.5587

Regional Economic Models, Inc.

Management of companies and enterprises	Thousands (Jobs)	1.513	1.411	1.295	1.176	1.065	0.968	0.886	0.818	0.776	0.747	1.0655
Transit and ground passenger transportation	Thousands (Jobs)	1.263	1.275	1.277	1.273	1.267	1.261	1.257	1.255	1.257	1.261	1.2646
Publishing industries, except Internet	Thousands (Jobs)	1.039	1.024	1.008	0.99	0.973	0.957	0.943	0.931	0.926	0.921	0.9712
Museums, historical sites, zoos, and parks	Thousands (Jobs)	0.887	0.895	0.902	0.907	0.912	0.916	0.919	0.923	0.927	0.93	0.9118
Scenic and sightseeing transportation	Thousands (Jobs)	0.808	0.719	0.607	0.489	0.372	0.263	0.164	0.076	0.009	-0.044	0.3463
Truck transportation	Thousands (Jobs)	0.735	0.745	0.74	0.723	0.702	0.68	0.659	0.639	0.625	0.614	0.6862
Printing and related support activities	Thousands (Jobs)	0.705	0.69	0.671	0.649	0.625	0.602	0.579	0.557	0.539	0.522	0.6139
Couriers and messengers	Thousands (Jobs)	0.63	0.621	0.606	0.586	0.562	0.538	0.514	0.491	0.476	0.463	0.5487
Broadcasting, except Internet	Thousands (Jobs)	0.609	0.589	0.562	0.533	0.504	0.479	0.457	0.439	0.425	0.416	0.5013
Waste management and remediation services	Thousands (Jobs)	0.558	0.57	0.576	0.576	0.575	0.573	0.571	0.57	0.57	0.571	0.571
Utilities	Thousands (Jobs)	0.462	0.479	0.487	0.485	0.48	0.472	0.463	0.454	0.446	0.437	0.4665
Fabricated metal product manufacturing	Thousands (Jobs)	0.45	0.48	0.487	0.478	0.463	0.444	0.425	0.407	0.389	0.375	0.4398
Internet publishing, broadcasting and information services	Thousands (Jobs)	0.444	0.452	0.453	0.448	0.441	0.431	0.421	0.411	0.403	0.394	0.4298
Miscellaneous manufacturing	Thousands (Jobs)	0.436	0.421	0.403	0.384	0.366	0.35	0.336	0.324	0.316	0.309	0.3645
Nonmetallic mineral product manufacturing	Thousands (Jobs)	0.305	0.332	0.34	0.334	0.321	0.305	0.288	0.273	0.258	0.246	0.3002
Computer and electronic product manufacturing	Thousands (Jobs)	0.254	0.226	0.197	0.168	0.142	0.119	0.101	0.085	0.076	0.069	0.1437
Water transportation	Thousands (Jobs)	0.249	0.238	0.226	0.213	0.2	0.188	0.177	0.166	0.158	0.15	0.1965
Air transportation	Thousands (Jobs)	0.185	0.13	0.062	-0.008	-0.074	-0.131	-0.178	-0.214	-0.252	-0.281	-0.0761
Chemical manufacturing	Thousands (Jobs)	0.172	0.155	0.135	0.113	0.093	0.075	0.059	0.045	0.035	0.027	0.0909
Furniture and related product manufacturing	Thousands (Jobs)	0.162	0.15	0.137	0.122	0.108	0.095	0.084	0.076	0.069	0.064	0.1067
Wood product manufacturing	Thousands (Jobs)	0.149	0.161	0.165	0.164	0.159	0.153	0.148	0.142	0.137	0.133	0.1511
Warehousing and storage	Thousands (Jobs)	0.134	0.103	0.067	0.03	-0.005	-0.036	-0.062	-0.083	-0.099	-0.11	-0.0061
Plastics and rubber product manufacturing	Thousands (Jobs)	0.133	0.135	0.132	0.127	0.121	0.115	0.11	0.104	0.099	0.095	0.1171
Agriculture and forestry support activities	Thousands (Jobs)	0.122	0.117	0.113	0.109	0.105	0.102	0.099	0.096	0.094	0.091	0.1048
Apparel manufacturing; Leather and allied product manufacturing	Thousands (Jobs)	0.12	0.124	0.125	0.124	0.121	0.119	0.117	0.116	0.117	0.118	0.1201
Food manufacturing	Thousands (Jobs)	0.096	0.092	0.085	0.077	0.07	0.063	0.056	0.051	0.048	0.045	0.0683
Paper manufacturing	Thousands (Jobs)	0.08	0.08	0.079	0.077	0.075	0.072	0.07	0.067	0.065	0.063	0.0728

Regional Economic Models, Inc.

Motion picture and sound recording industries	Thousands (Jobs)	0.074	0.061	0.049	0.037	0.027	0.018	0.012	0.008	0.004	0.001	0.0291
Oil and gas extraction	Thousands (Jobs)	0.07	0.071	0.071	0.069	0.066	0.063	0.06	0.058	0.055	0.053	0.0636
Beverage and tobacco product manufacturing	Thousands (Jobs)	0.068	0.072	0.074	0.075	0.076	0.076	0.076	0.076	0.075	0.075	0.0743
Electrical equipment and appliance manufacturing	Thousands (Jobs)	0.062	0.062	0.059	0.053	0.047	0.04	0.035	0.03	0.025	0.021	0.0434
Petroleum and coal products manufacturing	Thousands (Jobs)	0.057	0.059	0.06	0.059	0.056	0.053	0.05	0.047	0.043	0.04	0.0524
Machinery manufacturing	Thousands (Jobs)	0.054	0.056	0.056	0.054	0.052	0.05	0.048	0.046	0.043	0.041	0.05
Motor vehicles, bodies and trailers, and parts manufacturing	Thousands (Jobs)	0.045	0.044	0.042	0.039	0.037	0.035	0.032	0.03	0.029	0.028	0.0361
Other transportation equipment manufacturing	Thousands (Jobs)	0.035	0.027	0.017	0.008	-0.001	-0.008	-0.015	-0.02	-0.024	-0.026	-0.0007
Primary metal manufacturing	Thousands (Jobs)	0.014	0.012	0.009	0.006	0.002	0	-0.003	-0.005	-0.006	-0.007	0.0022
Forestry and logging; Fishing, hunting, and trapping	Thousands (Jobs)	0.012	0.012	0.01	0.009	0.007	0.006	0.005	0.004	0.003	0.002	0.007
Textile mills; Textile product mills	Thousands (Jobs)	0.012	0.01	0.008	0.006	0.004	0.003	0.002	0.001	0	0	0.0046
Support activities for mining	Thousands (Jobs)	0.008	0.011	0.012	0.012	0.011	0.01	0.009	0.008	0.007	0.006	0.0094
Mining (except oil and gas)	Thousands (Jobs)	0.005	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.0049
Rail transportation	Thousands (Jobs)	0.002	0.001	0	-0.001	-0.001	-0.002	-0.003	-0.004	-0.004	-0.004	-0.0016
Pipeline transportation	Thousands (Jobs)	0	0	0	0	0	0	0	0	0	-0.001	-0.0001

Regional Economic Models, Inc.

Appendix I: Downtown Miami's Wage and Salary Impact on South Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Billions of Current Dollars	1.474	1.603	1.7	1.77	1.826	1.874	1.917	1.958	2.021	2.088	1.8231
Retail trade	Billions of Current Dollars	0.768	0.856	0.918	0.958	0.983	1	1.012	1.02	1.04	1.061	0.9616
Wholesale trade	Billions of Current Dollars	0.577	0.66	0.716	0.751	0.77	0.781	0.785	0.785	0.791	0.8	0.7416
Ambulatory health care services	Billions of Current Dollars	0.561	0.599	0.632	0.655	0.673	0.691	0.709	0.73	0.766	0.808	0.6824
Financial Services	Billions of Current Dollars	0.549	0.573	0.589	0.599	0.606	0.613	0.618	0.625	0.639	0.655	0.6066
Construction	Billions of Current Dollars	0.518	0.699	0.799	0.847	0.863	0.861	0.849	0.832	0.823	0.816	0.7907
Administrative and support services	Billions of Current Dollars	0.47	0.513	0.543	0.563	0.576	0.586	0.594	0.602	0.616	0.633	0.5696
Food services and drinking places	Billions of Current Dollars	0.356	0.406	0.445	0.475	0.499	0.519	0.537	0.553	0.574	0.595	0.4959
Hospitals	Billions of Current Dollars	0.23	0.287	0.331	0.364	0.392	0.416	0.437	0.457	0.481	0.505	0.39
Educational services	Billions of Current Dollars	0.22	0.261	0.295	0.322	0.345	0.366	0.383	0.4	0.42	0.44	0.3452
Securities, commodity contracts, investments	Billions of Current Dollars	0.217	0.229	0.233	0.232	0.228	0.222	0.215	0.208	0.206	0.205	0.2195
Accommodation	Billions of Current Dollars	0.183	0.195	0.201	0.203	0.204	0.203	0.202	0.202	0.204	0.207	0.2004
Management of companies and enterprises	Billions of Current Dollars	0.174	0.185	0.19	0.19	0.187	0.183	0.179	0.175	0.174	0.174	0.1811
Insurance carriers and related activities	Billions of Current Dollars	0.136	0.156	0.171	0.181	0.188	0.192	0.196	0.198	0.202	0.207	0.1827
Membership associations and organizations	Billions of Current Dollars	0.133	0.159	0.179	0.195	0.208	0.219	0.228	0.237	0.249	0.261	0.2068
Telecommunications	Billions of Current Dollars	0.119	0.128	0.135	0.14	0.143	0.146	0.148	0.15	0.153	0.157	0.1419
Rental and leasing services	Billions of Current Dollars	0.107	0.112	0.117	0.121	0.124	0.126	0.129	0.132	0.136	0.14	0.1244
Real estate	Billions of Current Dollars	0.103	0.116	0.124	0.127	0.126	0.123	0.12	0.116	0.114	0.113	0.1182
Performing arts and spectator sports	Billions of Current Dollars	0.08	0.092	0.101	0.107	0.111	0.115	0.117	0.12	0.123	0.127	0.1093
Personal and laundry services	Billions of Current Dollars	0.08	0.081	0.082	0.081	0.08	0.078	0.077	0.076	0.076	0.076	0.0787
Publishing industries, except Internet	Billions of Current Dollars	0.077	0.082	0.085	0.087	0.089	0.09	0.092	0.093	0.096	0.099	0.089
Repair and maintenance	Billions of Current Dollars	0.072	0.079	0.086	0.09	0.094	0.098	0.101	0.105	0.109	0.114	0.0948
Nursing and residential care facilities	Billions of Current Dollars	0.071	0.089	0.105	0.118	0.131	0.142	0.153	0.164	0.177	0.191	0.1341
Broadcasting, except Internet	Billions of Current Dollars	0.052	0.058	0.061	0.063	0.064	0.064	0.064	0.063	0.064	0.064	0.0617

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Scenic and sightseeing transportation	Billions of Current Dollars	0.048	0.057	0.061	0.063	0.062	0.06	0.058	0.055	0.052	0.049	0.0565
Social assistance	Billions of Current Dollars	0.046	0.06	0.071	0.081	0.09	0.097	0.105	0.111	0.12	0.13	0.0911
Amusement, gambling, and recreation	Billions of Current Dollars	0.044	0.048	0.051	0.054	0.055	0.057	0.058	0.059	0.06	0.062	0.0548
Utilities	Billions of Current Dollars	0.044	0.05	0.055	0.059	0.061	0.062	0.064	0.064	0.066	0.067	0.0592
Internet publishing, broadcasting and information services	Billions of Current Dollars	0.035	0.039	0.042	0.043	0.045	0.045	0.046	0.046	0.047	0.047	0.0435
Waste management and remediation services	Billions of Current Dollars	0.033	0.037	0.039	0.041	0.043	0.045	0.046	0.048	0.05	0.052	0.0434
Printing and related support activities	Billions of Current Dollars	0.029	0.03	0.031	0.032	0.032	0.032	0.032	0.031	0.031	0.031	0.0311
Transit and ground passenger transportation	Billions of Current Dollars	0.029	0.031	0.033	0.034	0.036	0.037	0.038	0.039	0.041	0.042	0.036
Museums, historical sites, zoos, and parks	Billions of Current Dollars	0.028	0.03	0.031	0.032	0.033	0.035	0.036	0.037	0.039	0.041	0.0342
Water transportation	Billions of Current Dollars	0.027	0.034	0.039	0.042	0.043	0.044	0.044	0.044	0.044	0.043	0.0404
Air transportation	Billions of Current Dollars	0.026	0.033	0.037	0.037	0.036	0.033	0.029	0.026	0.022	0.018	0.0297
Couriers and messengers	Billions of Current Dollars	0.023	0.029	0.033	0.036	0.038	0.039	0.04	0.04	0.04	0.041	0.0359
Private households	Billions of Current Dollars	0.022	0.022	0.021	0.019	0.017	0.016	0.014	0.013	0.012	0.011	0.0167
Miscellaneous manufacturing	Billions of Current Dollars	0.021	0.024	0.025	0.026	0.026	0.026	0.026	0.026	0.026	0.027	0.0253
Computer and electronic product manufacturing	Billions of Current Dollars	0.021	0.023	0.024	0.024	0.023	0.022	0.021	0.02	0.019	0.018	0.0215
Fabricated metal product manufacturing	Billions of Current Dollars	0.021	0.025	0.028	0.029	0.029	0.03	0.03	0.029	0.029	0.029	0.0279
Truck transportation	Billions of Current Dollars	0.02	0.024	0.027	0.028	0.029	0.03	0.03	0.031	0.031	0.031	0.0281
Nonmetallic mineral product manufacturing	Billions of Current Dollars	0.016	0.019	0.021	0.022	0.022	0.023	0.022	0.022	0.022	0.022	0.0211
Chemical manufacturing	Billions of Current Dollars	0.014	0.016	0.016	0.016	0.016	0.015	0.015	0.014	0.013	0.013	0.0148
Plastics and rubber product manufacturing	Billions of Current Dollars	0.008	0.009	0.009	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.0096
Warehousing and storage	Billions of Current Dollars	0.007	0.008	0.009	0.008	0.008	0.007	0.006	0.005	0.004	0.004	0.0066
Food manufacturing	Billions of Current Dollars	0.007	0.009	0.011	0.011	0.012	0.012	0.012	0.011	0.011	0.011	0.0107
Furniture and related product manufacturing	Billions of Current Dollars	0.006	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.0065
Paper manufacturing	Billions of Current Dollars	0.005	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.0067
Motion picture and sound recording industries	Billions of Current Dollars	0.005	0.007	0.008	0.008	0.008	0.008	0.007	0.007	0.006	0.006	0.007
Other transportation equipment manufacturing	Billions of Current Dollars	0.005	0.007	0.008	0.008	0.009	0.008	0.008	0.008	0.008	0.007	0.0076
Wood product manufacturing	Billions of Current Dollars	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.0059

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Beverage and tobacco product manufacturing	Billions of Current Dollars	0.005	0.006	0.006	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.0069
Petroleum and coal products manufacturing	Billions of Current Dollars	0.004	0.006	0.006	0.007	0.007	0.007	0.008	0.008	0.008	0.007	0.0068
Machinery manufacturing	Billions of Current Dollars	0.004	0.005	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.0063
Electrical equipment and appliance manufacturing	Billions of Current Dollars	0.004	0.004	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.0042
Apparel manufacturing; Leather and allied product manufacturing	Billions of Current Dollars	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.005
Agriculture and forestry support activities	Billions of Current Dollars	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Motor vehicles, bodies and trailers, and parts manufacturing	Billions of Current Dollars	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.0023
Primary metal manufacturing	Billions of Current Dollars	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.0013
Textile mills; Textile product mills	Billions of Current Dollars	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.0016
Rail transportation	Billions of Current Dollars	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.0017
Oil and gas extraction	Billions of Current Dollars	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Pipeline transportation	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0
Forestry and logging; Fishing, hunting, and trapping	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0
Mining (except oil and gas)	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0
Support activities for mining	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0

Regional Economic Models, Inc.

Appendix J: Downtown Miami's Output Impact on South Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Billions of Fixed (2012) Dollars	3.849	3.93	3.966	3.973	3.967	3.963	3.96	3.966	3.992	4.032	3.9598
Financial Services	Billions of Fixed (2012) Dollars	3.478	3.516	3.545	3.561	3.574	3.596	3.623	3.66	3.721	3.797	3.6071
Real estate	Billions of Fixed (2012) Dollars	3.278	3.318	3.245	3.08	2.873	2.661	2.456	2.271	2.129	2.017	2.7328
Retail trade	Billions of Fixed (2012) Dollars	1.91	2.004	2.073	2.115	2.141	2.165	2.184	2.203	2.236	2.274	2.1305
Wholesale trade	Billions of Fixed (2012) Dollars	1.648	1.698	1.728	1.737	1.737	1.736	1.733	1.732	1.742	1.758	1.7249
Construction	Billions of Fixed (2012) Dollars	1.613	2.098	2.325	2.392	2.367	2.295	2.202	2.104	2.02	1.95	2.1366
Rental and leasing services	Billions of Fixed (2012) Dollars	1.343	1.373	1.395	1.412	1.425	1.44	1.454	1.469	1.492	1.518	1.4321
Ambulatory health care services	Billions of Fixed (2012) Dollars	1.192	1.138	1.097	1.055	1.018	0.992	0.975	0.966	0.979	1.001	1.0413
Administrative and support services	Billions of Fixed (2012) Dollars	1.175	1.188	1.189	1.18	1.168	1.157	1.149	1.144	1.149	1.16	1.1659
Food services and drinking places	Billions of Fixed (2012) Dollars	0.987	1.054	1.108	1.15	1.185	1.216	1.242	1.267	1.294	1.321	1.1824
Telecommunications	Billions of Fixed (2012) Dollars	0.943	0.974	0.998	1.016	1.03	1.045	1.061	1.078	1.101	1.127	1.0373
Securities, commodity contracts, investments	Billions of Fixed (2012) Dollars	0.72	0.695	0.661	0.62	0.577	0.536	0.498	0.465	0.448	0.438	0.5658
Accommodation	Billions of Fixed (2012) Dollars	0.668	0.658	0.64	0.619	0.598	0.58	0.566	0.555	0.551	0.552	0.5987
Insurance carriers and related activities	Billions of Fixed (2012) Dollars	0.472	0.479	0.481	0.48	0.478	0.476	0.475	0.474	0.476	0.479	0.477
Hospitals	Billions of Fixed (2012) Dollars	0.471	0.518	0.554	0.584	0.61	0.634	0.657	0.679	0.704	0.728	0.6139
Publishing industries, except Internet	Billions of Fixed (2012) Dollars	0.433	0.456	0.477	0.497	0.516	0.536	0.557	0.578	0.604	0.632	0.5286
Educational services	Billions of Fixed (2012) Dollars	0.393	0.418	0.437	0.451	0.462	0.471	0.479	0.485	0.492	0.499	0.4587
Utilities	Billions of Fixed (2012) Dollars	0.338	0.363	0.38	0.392	0.401	0.408	0.414	0.421	0.428	0.436	0.3981
Repair and maintenance	Billions of Fixed (2012) Dollars	0.324	0.339	0.351	0.359	0.366	0.372	0.378	0.385	0.392	0.401	0.3667
Management of companies and enterprises	Billions of Fixed (2012) Dollars	0.306	0.299	0.288	0.275	0.261	0.249	0.238	0.23	0.228	0.229	0.2603
Personal and laundry services	Billions of Fixed (2012) Dollars	0.283	0.265	0.251	0.237	0.223	0.212	0.203	0.195	0.192	0.19	0.2251
Membership associations and organizations	Billions of Fixed (2012) Dollars	0.251	0.27	0.284	0.294	0.302	0.309	0.316	0.322	0.33	0.339	0.3017
Broadcasting, except Internet	Billions of Fixed (2012) Dollars	0.233	0.231	0.226	0.219	0.212	0.207	0.202	0.198	0.196	0.196	0.212
Petroleum and coal products manufacturing	Billions of Fixed (2012) Dollars	0.213	0.226	0.233	0.235	0.234	0.232	0.23	0.227	0.226	0.224	0.228

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Performing arts and spectator sports	Billions of Fixed (2012) Dollars	0.212	0.219	0.224	0.227	0.229	0.231	0.233	0.235	0.238	0.242	0.229
Internet publishing, broadcasting and information services	Billions of Fixed (2012) Dollars	0.167	0.18	0.191	0.2	0.209	0.216	0.223	0.23	0.238	0.246	0.21
Nursing and residential care facilities	Billions of Fixed (2012) Dollars	0.143	0.162	0.178	0.193	0.206	0.219	0.232	0.244	0.259	0.273	0.2109
Waste management and remediation services	Billions of Fixed (2012) Dollars	0.134	0.139	0.141	0.143	0.143	0.144	0.145	0.145	0.146	0.148	0.1428
Water transportation	Billions of Fixed (2012) Dollars	0.131	0.13	0.128	0.126	0.125	0.124	0.123	0.122	0.122	0.122	0.1253
Museums, historical sites, zoos, and parks	Billions of Fixed (2012) Dollars	0.125	0.128	0.131	0.133	0.136	0.139	0.141	0.144	0.147	0.149	0.1373
Chemical manufacturing	Billions of Fixed (2012) Dollars	0.121	0.115	0.108	0.098	0.089	0.079	0.071	0.064	0.059	0.054	0.0858
Printing and related support activities	Billions of Fixed (2012) Dollars	0.113	0.115	0.116	0.117	0.117	0.117	0.117	0.117	0.117	0.118	0.1164
Fabricated metal product manufacturing	Billions of Fixed (2012) Dollars	0.099	0.108	0.112	0.112	0.11	0.108	0.105	0.103	0.1	0.098	0.1055
Amusement, gambling, and recreation	Billions of Fixed (2012) Dollars	0.098	0.099	0.099	0.098	0.097	0.096	0.095	0.095	0.095	0.095	0.0967
Miscellaneous manufacturing	Billions of Fixed (2012) Dollars	0.096	0.096	0.095	0.094	0.092	0.092	0.091	0.091	0.091	0.092	0.093
Scenic and sightseeing transportation	Billions of Fixed (2012) Dollars	0.092	0.085	0.075	0.063	0.051	0.04	0.029	0.019	0.012	0.005	0.0471
Social assistance	Billions of Fixed (2012) Dollars	0.091	0.101	0.109	0.116	0.123	0.129	0.135	0.14	0.148	0.156	0.1248
Truck transportation	Billions of Fixed (2012) Dollars	0.086	0.089	0.091	0.091	0.091	0.09	0.09	0.089	0.089	0.09	0.0896
Nonmetallic mineral product manufacturing	Billions of Fixed (2012) Dollars	0.077	0.085	0.088	0.088	0.086	0.083	0.08	0.077	0.074	0.072	0.081
Transit and ground passenger transportation	Billions of Fixed (2012) Dollars	0.076	0.078	0.079	0.079	0.08	0.08	0.08	0.081	0.082	0.083	0.0798
Computer and electronic product manufacturing	Billions of Fixed (2012) Dollars	0.074	0.071	0.068	0.063	0.058	0.053	0.049	0.045	0.044	0.043	0.0568
Couriers and messengers	Billions of Fixed (2012) Dollars	0.068	0.067	0.065	0.063	0.061	0.058	0.056	0.054	0.053	0.053	0.0598
Beverage and tobacco product manufacturing	Billions of Fixed (2012) Dollars	0.064	0.068	0.071	0.073	0.074	0.075	0.076	0.076	0.076	0.077	0.073
Air transportation	Billions of Fixed (2012) Dollars	0.063	0.048	0.029	0.009	-0.011	-0.028	-0.043	-0.054	-0.067	-0.077	-0.0131
Food manufacturing	Billions of Fixed (2012) Dollars	0.042	0.042	0.041	0.039	0.038	0.036	0.034	0.033	0.033	0.032	0.037
Plastics and rubber product manufacturing	Billions of Fixed (2012) Dollars	0.041	0.042	0.042	0.042	0.041	0.039	0.038	0.037	0.036	0.036	0.0394
Paper manufacturing	Billions of Fixed (2012) Dollars	0.033	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.034	0.034	0.0346
Wood product manufacturing	Billions of Fixed (2012) Dollars	0.03	0.033	0.035	0.035	0.034	0.033	0.032	0.031	0.03	0.03	0.0323
Furniture and related product manufacturing	Billions of Fixed (2012) Dollars	0.026	0.025	0.023	0.021	0.019	0.017	0.016	0.015	0.014	0.013	0.0189
Private households	Billions of Fixed (2012) Dollars	0.026	0.023	0.021	0.019	0.017	0.016	0.015	0.014	0.014	0.014	0.0179
Motor vehicles, bodies and trailers, and parts manufacturing	Billions of Fixed (2012) Dollars	0.02	0.021	0.021	0.02	0.02	0.02	0.019	0.019	0.018	0.018	0.0196

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Electrical equipment and appliance manufacturing	Billions of Fixed (2012) Dollars	0.017	0.018	0.018	0.017	0.016	0.014	0.013	0.012	0.011	0.01	0.0146
Motion picture and sound recording industries	Billions of Fixed (2012) Dollars	0.015	0.014	0.013	0.011	0.01	0.009	0.008	0.008	0.007	0.006	0.0101
Machinery manufacturing	Billions of Fixed (2012) Dollars	0.014	0.015	0.016	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.0164
Other transportation equipment manufacturing	Billions of Fixed (2012) Dollars	0.013	0.011	0.009	0.007	0.005	0.003	0.002	0	-0.001	-0.002	0.0047
Warehousing and storage	Billions of Fixed (2012) Dollars	0.011	0.009	0.006	0.004	0.001	-0.001	-0.004	-0.005	-0.007	-0.008	0.0006
Apparel manufacturing; Leather and allied product manufacturing	Billions of Fixed (2012) Dollars	0.009	0.01	0.01	0.01	0.01	0.01	0.01	0.011	0.011	0.012	0.0103
Primary metal manufacturing	Billions of Fixed (2012) Dollars	0.007	0.006	0.005	0.004	0.003	0.001	0	0	-0.001	-0.001	0.0024
Oil and gas extraction	Billions of Fixed (2012) Dollars	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.0044
Agriculture and forestry support activities	Billions of Fixed (2012) Dollars	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Textile mills; Textile product mills	Billions of Fixed (2012) Dollars	0.003	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.0016
Rail transportation	Billions of Fixed (2012) Dollars	0.001	0.001	0	0	0	0	-0.001	-0.001	-0.001	-0.001	-0.0002
Forestry and logging; Fishing, hunting, and trapping	Billions of Fixed (2012) Dollars	0.001	0.001	0.001	0	0	0	0	0	0	0	0.0003
Support activities for mining	Billions of Fixed (2012) Dollars	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Mining (except oil and gas)	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0
Pipeline transportation	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0

Regional Economic Models, Inc.

Appendix K: Summary of Downtown Miami's Economic Impact on South Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Total Employment	Thousands (Jobs)	303.246	308.244	308.629	305.545	300.99	296.174	291.576	287.506	285.112	283.555	297.0577
Total Employment as % of Nation	Percent	0.167	0.167	0.164	0.16	0.155	0.15	0.145	0.141	0.138	0.135	0.1522
Private Non-Farm Employment	Thousands (Jobs)	196.275	200.273	200.065	196.7	192.045	187.201	182.625	178.583	176.119	174.461	188.4347
Private Non-Farm Employment as % of Nation	Percent	0.126	0.126	0.124	0.12	0.115	0.11	0.106	0.102	0.099	0.097	0.1125
Gross Domestic Product	Billions of Fixed (2012) Dollars	26.51	27.242	27.603	27.684	27.638	27.59	27.555	27.584	27.779	28.067	27.5252
Gross Domestic Product (GDP) as % of Nation	Percent	0.161	0.161	0.158	0.154	0.149	0.144	0.139	0.135	0.131	0.129	0.1461
Output	Billions of Fixed (2012) Dollars	42.01	43.3	43.938	44.089	44.006	43.888	43.767	43.722	43.932	44.29	43.6942
Value Added	Billions of Fixed (2012) Dollars	26.51	27.242	27.603	27.684	27.638	27.59	27.555	27.584	27.779	28.067	27.5252
Personal Income	Billions of Fixed (2012) Dollars	16.477	18.306	19.594	20.49	21.137	21.662	22.097	22.504	23.002	23.516	20.8785
Personal Income as % of Nation	Percent	0.112	0.121	0.126	0.127	0.127	0.126	0.124	0.122	0.121	0.119	0.1225
Disposable Personal Income	Billions of Fixed (2012) Dollars	14.428	16.032	17.147	17.911	18.45	18.877	19.222	19.537	19.993	20.46	18.2057
Disposable Personal Income as % of Nation	Percent	0.111	0.12	0.125	0.127	0.127	0.127	0.125	0.123	0.122	0.12	0.1227
PCE-Price Index	2005=100 (Nation)	0.211	0.554	0.73	0.849	0.925	0.968	0.988	0.991	0.989	0.985	0.819
Real Disposable Personal Income	Billions of Fixed (2012) Dollars	13.843	14.682	15.387	15.858	16.195	16.487	16.744	17.001	17.42	17.857	16.1474
Real Disposable Personal Income as % of Nation	Percent	0.114	0.118	0.12	0.121	0.12	0.118	0.117	0.115	0.114	0.113	0.117
Population	Thousands	84.679	151.696	207.168	252.869	290.326	320.97	345.91	366.176	382.873	396.628	279.9295
Population as % of Nation	Percent	0.027	0.047	0.064	0.077	0.088	0.096	0.103	0.108	0.112	0.115	0.0837

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Appendix L: PI+ Employment Results, Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Thousands (Jobs)	26.317	26.522	26.452	26.18	25.831	25.474	25.146	24.867	24.704	24.604	25.6097
Retail trade	Thousands (Jobs)	24.854	25.193	25.257	24.98	24.558	24.105	23.643	23.196	22.912	22.675	24.1373
Administrative and support services	Thousands (Jobs)	21.774	21.568	21.172	20.618	20.029	19.471	18.976	18.557	18.294	18.119	19.8578
Construction	Thousands (Jobs)	16.389	20.869	22.671	22.864	22.182	21.079	19.835	18.595	17.516	16.601	19.8601
Food services and drinking places	Thousands (Jobs)	14.156	14.769	15.206	15.473	15.643	15.756	15.83	15.877	15.936	15.995	15.4641
Ambulatory health care services	Thousands (Jobs)	11.14	10.56	10.14	9.697	9.312	9.029	8.831	8.721	8.818	8.995	9.5243
Financial Services	Thousands (Jobs)	8.865	8.643	8.416	8.163	7.916	7.693	7.495	7.326	7.211	7.121	7.8849
Wholesale trade	Thousands (Jobs)	7.773	7.78	7.698	7.527	7.321	7.109	6.903	6.708	6.557	6.436	7.1812
Real estate	Thousands (Jobs)	7.638	7.59	7.313	6.848	6.314	5.787	5.299	4.873	4.547	4.292	6.0501
Securities, commodity contracts, investments	Thousands (Jobs)	6.363	5.946	5.476	4.968	4.47	4.014	3.607	3.254	3.039	2.882	4.4019
Educational services	Thousands (Jobs)	5.207	5.556	5.835	6.051	6.223	6.368	6.495	6.607	6.718	6.825	6.1885
Accommodation	Thousands (Jobs)	4.859	4.703	4.512	4.304	4.105	3.931	3.785	3.669	3.591	3.54	4.0999
Personal and laundry services	Thousands (Jobs)	4.81	4.393	4.082	3.772	3.494	3.261	3.067	2.911	2.819	2.755	3.5364
Hospitals	Thousands (Jobs)	3.708	4.026	4.273	4.467	4.636	4.792	4.938	5.074	5.226	5.366	4.6506
Private households	Thousands (Jobs)	3.689	3.238	2.884	2.555	2.274	2.051	1.873	1.735	1.694	1.679	2.3672
Repair and maintenance	Thousands (Jobs)	3.557	3.653	3.713	3.736	3.744	3.747	3.75	3.756	3.773	3.796	3.7225
Membership associations and organizations	Thousands (Jobs)	3.423	3.631	3.774	3.866	3.934	3.992	4.046	4.098	4.166	4.239	3.9169
Nursing and residential care facilities	Thousands (Jobs)	2.297	2.573	2.815	3.027	3.225	3.414	3.596	3.773	3.973	4.173	3.2866
Social assistance	Thousands (Jobs)	2.021	2.228	2.411	2.572	2.721	2.862	2.998	3.129	3.31	3.489	2.7741
Amusement, gambling, and recreation	Thousands (Jobs)	1.965	1.954	1.939	1.907	1.87	1.836	1.806	1.781	1.768	1.762	1.8588
Insurance carriers and related activities	Thousands (Jobs)	1.925	1.909	1.881	1.84	1.797	1.758	1.723	1.693	1.675	1.661	1.7862
Performing arts and spectator sports	Thousands (Jobs)	1.918	1.945	1.957	1.952	1.94	1.926	1.912	1.899	1.895	1.895	1.9239
Rental and leasing services	Thousands (Jobs)	1.836	1.83	1.814	1.79	1.763	1.736	1.71	1.686	1.67	1.657	1.7492
Telecommunications	Thousands (Jobs)	1.802	1.799	1.784	1.757	1.725	1.694	1.665	1.638	1.62	1.604	1.7088

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Management of companies and enterprises	Thousands (Jobs)	1.636	1.531	1.41	1.286	1.169	1.066	0.977	0.903	0.857	0.825	1.166
Transit and ground passenger transportation	Thousands (Jobs)	1.314	1.329	1.334	1.332	1.328	1.324	1.322	1.321	1.325	1.33	1.3259
Publishing industries, except Internet	Thousands (Jobs)	1.102	1.086	1.069	1.049	1.03	1.012	0.997	0.983	0.976	0.971	1.0275
Truck transportation	Thousands (Jobs)	0.896	0.913	0.911	0.894	0.871	0.846	0.822	0.8	0.783	0.771	0.8507
Museums, historical sites, zoos, and parks	Thousands (Jobs)	0.889	0.895	0.901	0.906	0.91	0.914	0.917	0.921	0.925	0.93	0.9108
Scenic and sightseeing transportation	Thousands (Jobs)	0.821	0.734	0.624	0.506	0.39	0.281	0.182	0.094	0.027	-0.027	0.3632
Printing and related support activities	Thousands (Jobs)	0.755	0.74	0.72	0.695	0.67	0.645	0.621	0.597	0.578	0.559	0.658
Couriers and messengers	Thousands (Jobs)	0.676	0.668	0.654	0.634	0.61	0.586	0.562	0.538	0.523	0.51	0.5961
Waste management and remediation services	Thousands (Jobs)	0.665	0.681	0.69	0.693	0.693	0.693	0.693	0.694	0.695	0.699	0.6896
Broadcasting, except Internet	Thousands (Jobs)	0.624	0.604	0.579	0.552	0.525	0.5	0.479	0.462	0.449	0.44	0.5214
Fabricated metal product manufacturing	Thousands (Jobs)	0.524	0.559	0.568	0.559	0.541	0.519	0.497	0.475	0.455	0.438	0.5135
Utilities	Thousands (Jobs)	0.515	0.538	0.55	0.551	0.548	0.542	0.534	0.526	0.519	0.511	0.5334
Internet publishing, broadcasting and information services	Thousands (Jobs)	0.508	0.517	0.519	0.514	0.506	0.496	0.485	0.473	0.464	0.454	0.4936
Miscellaneous manufacturing	Thousands (Jobs)	0.471	0.454	0.434	0.412	0.391	0.373	0.357	0.344	0.334	0.327	0.3897
Nonmetallic mineral product manufacturing	Thousands (Jobs)	0.344	0.377	0.386	0.38	0.366	0.348	0.33	0.313	0.297	0.284	0.3425
Computer and electronic product manufacturing	Thousands (Jobs)	0.311	0.276	0.24	0.204	0.171	0.143	0.119	0.1	0.087	0.079	0.173
Water transportation	Thousands (Jobs)	0.249	0.238	0.226	0.213	0.2	0.188	0.177	0.167	0.158	0.15	0.1966
Chemical manufacturing	Thousands (Jobs)	0.217	0.196	0.173	0.148	0.124	0.102	0.083	0.067	0.055	0.045	0.121
Wood product manufacturing	Thousands (Jobs)	0.191	0.209	0.215	0.213	0.207	0.199	0.192	0.184	0.177	0.172	0.1959
Air transportation	Thousands (Jobs)	0.189	0.134	0.066	-0.003	-0.068	-0.125	-0.171	-0.207	-0.246	-0.275	-0.0706
Warehousing and storage	Thousands (Jobs)	0.185	0.153	0.115	0.076	0.039	0.006	-0.022	-0.045	-0.062	-0.074	0.0371
Furniture and related product manufacturing	Thousands (Jobs)	0.181	0.168	0.154	0.138	0.122	0.108	0.096	0.087	0.079	0.073	0.1206
Agriculture and forestry support activities	Thousands (Jobs)	0.18	0.173	0.166	0.16	0.154	0.149	0.144	0.14	0.136	0.133	0.1535
Plastics and rubber product manufacturing	Thousands (Jobs)	0.17	0.172	0.17	0.165	0.157	0.15	0.143	0.136	0.13	0.125	0.1518
Food manufacturing	Thousands (Jobs)	0.128	0.125	0.119	0.112	0.104	0.096	0.09	0.085	0.081	0.078	0.1018
Apparel; Leather and allied product manufacturing	Thousands (Jobs)	0.123	0.126	0.127	0.125	0.122	0.12	0.118	0.116	0.117	0.119	0.1213
Paper manufacturing	Thousands (Jobs)	0.104	0.104	0.102	0.1	0.097	0.094	0.09	0.087	0.084	0.081	0.0943

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Motion picture and sound recording industries	Thousands (Jobs)	0.09	0.076	0.062	0.049	0.038	0.029	0.021	0.016	0.011	0.008	0.04
Oil and gas extraction	Thousands (Jobs)	0.088	0.09	0.09	0.088	0.085	0.082	0.079	0.075	0.072	0.07	0.0819
Beverage and tobacco product manufacturing	Thousands (Jobs)	0.085	0.09	0.094	0.096	0.097	0.097	0.097	0.097	0.096	0.096	0.0945
Electrical equipment and appliance manufacturing	Thousands (Jobs)	0.077	0.078	0.073	0.067	0.059	0.052	0.045	0.039	0.033	0.028	0.0551
Machinery manufacturing	Thousands (Jobs)	0.077	0.081	0.082	0.081	0.078	0.075	0.072	0.069	0.065	0.062	0.0742
Petroleum and coal products manufacturing	Thousands (Jobs)	0.062	0.064	0.065	0.064	0.061	0.058	0.055	0.051	0.048	0.044	0.0572
Motor vehicles, bodies and trailers, and parts manufacturing	Thousands (Jobs)	0.06	0.058	0.055	0.052	0.049	0.046	0.043	0.04	0.038	0.037	0.0478
Other transportation equipment manufacturing	Thousands (Jobs)	0.045	0.036	0.025	0.015	0.004	-0.004	-0.012	-0.018	-0.023	-0.026	0.0042
Forestry and logging; Fishing, hunting, and trapping	Thousands (Jobs)	0.029	0.027	0.024	0.021	0.018	0.015	0.012	0.009	0.007	0.005	0.0167
Mining (except oil and gas)	Thousands (Jobs)	0.025	0.027	0.027	0.027	0.026	0.025	0.025	0.024	0.023	0.022	0.0251
Primary metal manufacturing	Thousands (Jobs)	0.018	0.015	0.012	0.008	0.004	0.001	-0.002	-0.004	-0.006	-0.007	0.0039
Support activities for mining	Thousands (Jobs)	0.017	0.023	0.025	0.024	0.023	0.02	0.018	0.016	0.014	0.013	0.0193
Textile mills; Textile product mills	Thousands (Jobs)	0.014	0.012	0.01	0.007	0.005	0.004	0.003	0.002	0.001	0	0.0058
Rail transportation	Thousands (Jobs)	0.005	0.004	0.003	0.002	0.001	0	-0.001	-0.002	-0.002	-0.003	0.0007
Pipeline transportation	Thousands (Jobs)	0	0	0	0	0	0	0	0	0	0	0

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Appendix M: Downtown Miami's Wage and Salary Impact on Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Billions of Current Dollars	1.501	1.637	1.741	1.818	1.879	1.933	1.981	2.027	2.094	2.166	1.8777
Retail trade	Billions of Current Dollars	0.782	0.871	0.936	0.977	1.003	1.022	1.034	1.043	1.064	1.086	0.9818
Wholesale trade	Billions of Current Dollars	0.587	0.672	0.731	0.768	0.79	0.802	0.808	0.809	0.817	0.826	0.761
Ambulatory health care services	Billions of Current Dollars	0.573	0.612	0.647	0.671	0.69	0.71	0.729	0.75	0.787	0.831	0.7
Financial Services	Billions of Current Dollars	0.569	0.593	0.61	0.621	0.628	0.635	0.641	0.648	0.662	0.679	0.6286
Construction	Billions of Current Dollars	0.555	0.748	0.855	0.906	0.924	0.923	0.91	0.893	0.885	0.879	0.8478
Administrative and support services	Billions of Current Dollars	0.478	0.523	0.556	0.577	0.592	0.604	0.613	0.621	0.636	0.654	0.5854
Food services and drinking places	Billions of Current Dollars	0.359	0.409	0.448	0.478	0.503	0.523	0.541	0.558	0.579	0.601	0.4999
Hospitals	Billions of Current Dollars	0.237	0.296	0.342	0.379	0.408	0.434	0.458	0.479	0.505	0.531	0.4069
Securities, commodity contracts, investments	Billions of Current Dollars	0.227	0.239	0.244	0.243	0.239	0.233	0.226	0.219	0.218	0.217	0.2305
Educational services	Billions of Current Dollars	0.222	0.264	0.298	0.327	0.35	0.371	0.389	0.407	0.427	0.448	0.3503
Accommodation	Billions of Current Dollars	0.185	0.198	0.205	0.209	0.21	0.21	0.21	0.211	0.214	0.218	0.207
Management of companies and enterprises	Billions of Current Dollars	0.184	0.196	0.201	0.201	0.199	0.195	0.191	0.186	0.185	0.185	0.1923
Insurance carriers and related activities	Billions of Current Dollars	0.149	0.171	0.187	0.197	0.205	0.21	0.214	0.217	0.222	0.227	0.1999
Membership associations and organizations	Billions of Current Dollars	0.137	0.164	0.186	0.203	0.216	0.228	0.239	0.249	0.262	0.275	0.2159
Telecommunications	Billions of Current Dollars	0.127	0.137	0.145	0.15	0.154	0.157	0.159	0.161	0.165	0.169	0.1524
Rental and leasing services; Lessors of nonfinancial intangible assets	Billions of Current Dollars	0.107	0.113	0.118	0.121	0.124	0.127	0.13	0.133	0.137	0.141	0.1251
Real estate	Billions of Current Dollars	0.103	0.118	0.126	0.129	0.13	0.128	0.125	0.122	0.121	0.12	0.1222
Publishing industries, except Internet	Billions of Current Dollars	0.081	0.086	0.089	0.091	0.093	0.095	0.096	0.098	0.101	0.104	0.0934
Personal and laundry services	Billions of Current Dollars	0.081	0.082	0.084	0.083	0.082	0.08	0.079	0.078	0.078	0.079	0.0806
Performing arts and spectator sports	Billions of Current Dollars	0.081	0.093	0.102	0.108	0.112	0.116	0.119	0.121	0.125	0.128	0.1105
Nursing and residential care facilities	Billions of Current Dollars	0.077	0.097	0.114	0.129	0.143	0.156	0.168	0.18	0.195	0.211	0.147
Repair and maintenance	Billions of Current Dollars	0.074	0.082	0.088	0.093	0.098	0.101	0.105	0.108	0.113	0.118	0.098
Amusement, gambling, and recreation	Billions of Current Dollars	0.054	0.059	0.063	0.066	0.068	0.07	0.072	0.073	0.076	0.078	0.0679

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Broadcasting, except Internet	Billions of Current Dollars	0.053	0.059	0.062	0.064	0.065	0.066	0.066	0.065	0.066	0.067	0.0633
Social assistance	Billions of Current Dollars	0.05	0.065	0.077	0.088	0.097	0.106	0.114	0.122	0.132	0.142	0.0993
Scenic and sightseeing transportation	Billions of Current Dollars	0.049	0.058	0.062	0.064	0.064	0.062	0.059	0.056	0.054	0.051	0.0579
Utilities	Billions of Current Dollars	0.049	0.056	0.062	0.066	0.069	0.071	0.072	0.074	0.075	0.077	0.0671
Internet publishing, broadcasting and information services	Billions of Current Dollars	0.039	0.044	0.047	0.049	0.05	0.051	0.051	0.052	0.053	0.053	0.0489
Waste management and remediation services	Billions of Current Dollars	0.039	0.042	0.045	0.048	0.05	0.052	0.054	0.056	0.058	0.061	0.0505
Printing and related support activities	Billions of Current Dollars	0.031	0.032	0.033	0.034	0.034	0.034	0.034	0.033	0.033	0.034	0.0332
Transit and ground passenger transportation	Billions of Current Dollars	0.03	0.032	0.034	0.036	0.037	0.039	0.04	0.041	0.043	0.045	0.0377
Museums, historical sites, zoos, and parks	Billions of Current Dollars	0.028	0.03	0.031	0.032	0.033	0.035	0.036	0.037	0.039	0.041	0.0342
Water transportation	Billions of Current Dollars	0.027	0.034	0.039	0.042	0.044	0.044	0.045	0.044	0.044	0.043	0.0406
Computer and electronic product manufacturing	Billions of Current Dollars	0.026	0.028	0.029	0.028	0.027	0.026	0.024	0.023	0.022	0.021	0.0254
Air transportation	Billions of Current Dollars	0.026	0.034	0.037	0.038	0.037	0.034	0.03	0.027	0.023	0.019	0.0305
Fabricated metal product manufacturing	Billions of Current Dollars	0.025	0.029	0.032	0.033	0.034	0.034	0.034	0.034	0.034	0.034	0.0323
Couriers and messengers	Billions of Current Dollars	0.025	0.031	0.035	0.038	0.04	0.041	0.042	0.042	0.043	0.043	0.038
Truck transportation	Billions of Current Dollars	0.024	0.029	0.032	0.034	0.035	0.036	0.036	0.037	0.037	0.038	0.0338
Miscellaneous manufacturing	Billions of Current Dollars	0.023	0.026	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.029	0.0273
Private households	Billions of Current Dollars	0.023	0.022	0.021	0.02	0.018	0.016	0.015	0.013	0.012	0.012	0.0172
Nonmetallic mineral product manufacturing	Billions of Current Dollars	0.018	0.021	0.024	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.0238
Chemical manufacturing	Billions of Current Dollars	0.017	0.019	0.019	0.019	0.019	0.018	0.017	0.016	0.015	0.015	0.0174
Plastics and rubber product manufacturing	Billions of Current Dollars	0.009	0.011	0.011	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.0115
Warehousing and storage	Billions of Current Dollars	0.009	0.01	0.011	0.011	0.01	0.009	0.008	0.008	0.007	0.006	0.0089
Food manufacturing	Billions of Current Dollars	0.009	0.011	0.012	0.013	0.014	0.014	0.014	0.014	0.013	0.013	0.0127
Paper manufacturing	Billions of Current Dollars	0.007	0.008	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.0086
Furniture and related product manufacturing	Billions of Current Dollars	0.007	0.007	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.0072
Wood product manufacturing	Billions of Current Dollars	0.006	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.0077
Other transportation equipment manufacturing	Billions of Current Dollars	0.006	0.008	0.009	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.009
Motion picture and sound recording industries	Billions of Current Dollars	0.006	0.007	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.006	0.0072

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Beverage and tobacco product manufacturing	Billions of Current Dollars	0.006	0.007	0.008	0.008	0.009	0.009	0.009	0.009	0.01	0.01	0.0085
Machinery manufacturing	Billions of Current Dollars	0.006	0.007	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.0084
Petroleum and coal products manufacturing	Billions of Current Dollars	0.005	0.006	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.0073
Electrical equipment and appliance manufacturing	Billions of Current Dollars	0.004	0.005	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.005
Agriculture and forestry support activities	Billions of Current Dollars	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.0048
Apparel manufacturing; Leather and allied product manufacturing	Billions of Current Dollars	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.0051
Motor vehicles, bodies and trailers, and parts manufacturing	Billions of Current Dollars	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Primary metal manufacturing	Billions of Current Dollars	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.0016
Rail transportation	Billions of Current Dollars	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.0019
Textile mills; Textile product mills	Billions of Current Dollars	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.0017
Oil and gas extraction	Billions of Current Dollars	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Mining (except oil and gas)	Billions of Current Dollars	0	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0009
Forestry and logging; Fishing, hunting, and trapping	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0
Support activities for mining	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0
Pipeline transportation	Billions of Current Dollars	0	0	0	0	0	0	0	0	0	0	0

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Appendix N: Downtown Miami's Output Impact on Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Professional, scientific, and technical services	Billions of Fixed (2012) Dollars	3.922	4.015	4.063	4.081	4.084	4.089	4.094	4.106	4.139	4.184	4.0777
Financial Services	Billions of Fixed (2012) Dollars	3.628	3.664	3.692	3.707	3.719	3.74	3.766	3.802	3.865	3.942	3.7525
Real estate	Billions of Fixed (2012) Dollars	3.291	3.338	3.281	3.135	2.949	2.758	2.573	2.409	2.285	2.191	2.821
Retail trade	Billions of Fixed (2012) Dollars	1.943	2.035	2.104	2.146	2.173	2.197	2.217	2.236	2.271	2.31	2.1632
Construction	Billions of Fixed (2012) Dollars	1.728	2.246	2.487	2.557	2.529	2.453	2.355	2.252	2.165	2.093	2.2865
Wholesale trade	Billions of Fixed (2012) Dollars	1.677	1.73	1.764	1.778	1.783	1.785	1.786	1.787	1.8	1.818	1.7708
Rental and leasing services	Billions of Fixed (2012) Dollars	1.348	1.378	1.399	1.415	1.428	1.442	1.456	1.47	1.492	1.518	1.4346
Ambulatory health care services	Billions of Fixed (2012) Dollars	1.214	1.156	1.114	1.07	1.032	1.005	0.987	0.977	0.99	1.011	1.0556
Administrative and support services	Billions of Fixed (2012) Dollars	1.19	1.205	1.207	1.199	1.189	1.179	1.172	1.168	1.174	1.185	1.1868
Telecommunications	Billions of Fixed (2012) Dollars	1.015	1.05	1.077	1.098	1.114	1.132	1.15	1.169	1.195	1.224	1.1224
Food services and drinking places	Billions of Fixed (2012) Dollars	0.992	1.057	1.11	1.152	1.186	1.217	1.244	1.269	1.297	1.325	1.1849
Securities, commodity contracts, investments	Billions of Fixed (2012) Dollars	0.758	0.733	0.699	0.658	0.615	0.574	0.536	0.503	0.486	0.476	0.6038
Accommodation	Billions of Fixed (2012) Dollars	0.674	0.666	0.652	0.635	0.617	0.603	0.592	0.584	0.582	0.585	0.619
Insurance carriers and related activities	Billions of Fixed (2012) Dollars	0.531	0.539	0.542	0.541	0.539	0.537	0.536	0.535	0.538	0.541	0.5379
Hospitals	Billions of Fixed (2012) Dollars	0.485	0.534	0.573	0.606	0.634	0.662	0.687	0.711	0.738	0.764	0.6394
Publishing industries, except Internet	Billions of Fixed (2012) Dollars	0.456	0.479	0.501	0.522	0.542	0.563	0.584	0.606	0.633	0.661	0.5547
Educational services	Billions of Fixed (2012) Dollars	0.397	0.423	0.443	0.457	0.469	0.478	0.486	0.494	0.501	0.509	0.4657
Utilities	Billions of Fixed (2012) Dollars	0.381	0.41	0.432	0.447	0.459	0.469	0.478	0.487	0.497	0.507	0.4567
Repair and maintenance	Billions of Fixed (2012) Dollars	0.333	0.348	0.36	0.369	0.376	0.382	0.389	0.395	0.403	0.412	0.3767
Management of companies and enterprises	Billions of Fixed (2012) Dollars	0.328	0.322	0.311	0.297	0.283	0.271	0.26	0.251	0.249	0.25	0.2822
Personal and laundry services	Billions of Fixed (2012) Dollars	0.287	0.268	0.254	0.24	0.227	0.216	0.207	0.2	0.197	0.196	0.2292
Membership associations and organizations	Billions of Fixed (2012) Dollars	0.259	0.279	0.294	0.305	0.314	0.323	0.33	0.338	0.347	0.357	0.3146
Broadcasting, except Internet	Billions of Fixed (2012) Dollars	0.238	0.236	0.232	0.226	0.22	0.214	0.21	0.207	0.206	0.206	0.2195
Petroleum and coal products manufacturing	Billions of Fixed (2012) Dollars	0.23	0.245	0.252	0.255	0.254	0.253	0.25	0.248	0.246	0.245	0.2478

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Performing arts and spectator sports	Billions of Fixed (2012) Dollars	0.213	0.22	0.225	0.228	0.23	0.232	0.234	0.236	0.24	0.244	0.2302
Internet publishing, broadcasting and information services	Billions of Fixed (2012) Dollars	0.19	0.205	0.218	0.228	0.237	0.246	0.254	0.262	0.271	0.281	0.2392
Waste management and remediation services	Billions of Fixed (2012) Dollars	0.157	0.163	0.166	0.168	0.169	0.171	0.172	0.173	0.175	0.177	0.1691
Nursing and residential care facilities	Billions of Fixed (2012) Dollars	0.156	0.176	0.194	0.211	0.226	0.241	0.255	0.269	0.285	0.301	0.2314
Chemical manufacturing	Billions of Fixed (2012) Dollars	0.15	0.144	0.135	0.124	0.113	0.102	0.093	0.085	0.078	0.073	0.1097
Water transportation	Billions of Fixed (2012) Dollars	0.131	0.13	0.128	0.127	0.125	0.124	0.123	0.122	0.122	0.122	0.1254
Museums, historical sites, zoos, and parks	Billions of Fixed (2012) Dollars	0.125	0.128	0.131	0.134	0.137	0.14	0.142	0.145	0.148	0.151	0.1381
Printing and related support activities	Billions of Fixed (2012) Dollars	0.12	0.123	0.124	0.125	0.125	0.125	0.125	0.125	0.125	0.126	0.1243
Amusement, gambling, and recreation	Billions of Fixed (2012) Dollars	0.119	0.12	0.121	0.12	0.119	0.118	0.117	0.117	0.117	0.117	0.1185
Fabricated metal product manufacturing	Billions of Fixed (2012) Dollars	0.117	0.128	0.132	0.133	0.131	0.128	0.125	0.122	0.119	0.117	0.1252
Truck transportation	Billions of Fixed (2012) Dollars	0.106	0.111	0.113	0.114	0.114	0.113	0.112	0.112	0.112	0.113	0.112
Miscellaneous manufacturing	Billions of Fixed (2012) Dollars	0.105	0.104	0.103	0.102	0.1	0.099	0.098	0.097	0.097	0.098	0.1003
Social assistance	Billions of Fixed (2012) Dollars	0.1	0.111	0.12	0.129	0.136	0.143	0.15	0.157	0.166	0.175	0.1387
Computer and electronic product manufacturing	Billions of Fixed (2012) Dollars	0.094	0.091	0.086	0.08	0.073	0.066	0.06	0.055	0.052	0.051	0.0708
Scenic and sightseeing transportation	Billions of Fixed (2012) Dollars	0.094	0.087	0.077	0.065	0.054	0.042	0.032	0.022	0.014	0.008	0.0495
Nonmetallic mineral product manufacturing	Billions of Fixed (2012) Dollars	0.087	0.097	0.101	0.101	0.098	0.095	0.092	0.088	0.085	0.083	0.0927
Beverage and tobacco product manufacturing	Billions of Fixed (2012) Dollars	0.081	0.087	0.091	0.094	0.096	0.097	0.098	0.098	0.099	0.099	0.094
Transit and ground passenger transportation	Billions of Fixed (2012) Dollars	0.079	0.081	0.082	0.083	0.084	0.084	0.085	0.086	0.087	0.088	0.0839
Couriers and messengers	Billions of Fixed (2012) Dollars	0.073	0.072	0.071	0.069	0.066	0.064	0.062	0.06	0.059	0.059	0.0655
Air transportation	Billions of Fixed (2012) Dollars	0.064	0.05	0.031	0.011	-0.008	-0.025	-0.04	-0.051	-0.064	-0.074	-0.0106
Food manufacturing	Billions of Fixed (2012) Dollars	0.056	0.057	0.057	0.056	0.054	0.053	0.051	0.05	0.05	0.05	0.0534
Plastics and rubber product manufacturing	Billions of Fixed (2012) Dollars	0.051	0.052	0.053	0.052	0.051	0.049	0.048	0.047	0.046	0.045	0.0494
Paper manufacturing	Billions of Fixed (2012) Dollars	0.044	0.045	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.0455
Wood product manufacturing	Billions of Fixed (2012) Dollars	0.039	0.044	0.045	0.045	0.045	0.043	0.042	0.041	0.04	0.039	0.0423
Furniture and related product manufacturing	Billions of Fixed (2012) Dollars	0.029	0.028	0.026	0.024	0.022	0.02	0.018	0.017	0.016	0.015	0.0215
Motor vehicles, bodies and trailers, and parts manufacturing	Billions of Fixed (2012) Dollars	0.027	0.027	0.027	0.027	0.027	0.026	0.025	0.025	0.024	0.024	0.0259
Private households	Billions of Fixed (2012) Dollars	0.026	0.023	0.021	0.019	0.018	0.016	0.015	0.014	0.014	0.015	0.0181

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Electrical equipment and appliance manufacturing	Billions of Fixed (2012) Dollars	0.022	0.023	0.023	0.022	0.02	0.019	0.017	0.016	0.014	0.013	0.0189
Machinery manufacturing	Billions of Fixed (2012) Dollars	0.02	0.023	0.024	0.025	0.026	0.026	0.026	0.026	0.026	0.026	0.0248
Motion picture and sound recording industries	Billions of Fixed (2012) Dollars	0.017	0.016	0.015	0.014	0.012	0.011	0.01	0.009	0.009	0.008	0.0121
Other transportation equipment manufacturing	Billions of Fixed (2012) Dollars	0.016	0.015	0.013	0.01	0.008	0.006	0.004	0.002	0.001	0	0.0075
Warehousing and storage	Billions of Fixed (2012) Dollars	0.015	0.013	0.01	0.008	0.005	0.002	0	-0.002	-0.003	-0.004	0.0044
Apparel manufacturing; Leather and allied product manufacturing	Billions of Fixed (2012) Dollars	0.009	0.01	0.01	0.01	0.01	0.01	0.011	0.011	0.011	0.012	0.0104
Primary metal manufacturing	Billions of Fixed (2012) Dollars	0.009	0.008	0.007	0.005	0.004	0.002	0.001	0	-0.001	-0.001	0.0034
Oil and gas extraction	Billions of Fixed (2012) Dollars	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.0056
Agriculture and forestry support activities	Billions of Fixed (2012) Dollars	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Mining (except oil and gas)	Billions of Fixed (2012) Dollars	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.0038
Textile mills; Textile product mills	Billions of Fixed (2012) Dollars	0.003	0.003	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.0018
Rail transportation	Billions of Fixed (2012) Dollars	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0	0	0	0.0012
Forestry and logging; Fishing, hunting, and trapping	Billions of Fixed (2012) Dollars	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.0015
Support activities for mining	Billions of Fixed (2012) Dollars	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.0018
Pipeline transportation	Billions of Fixed (2012) Dollars	0	0	0	0	0	0	0	0	0	0	0

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Appendix O: Summary of Downtown Miami's Economic Impact on Florida

Category	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Total Employment	Thousands (Jobs)	310.494	315.84	316.553	313.646	309.195	304.453	299.911	295.881	293.593	292.142	305.1708
Total Employment as % of Nation	Percent	0.171	0.171	0.168	0.164	0.159	0.154	0.149	0.145	0.142	0.14	0.1563
Private Non-Farm Employment	Thousands (Jobs)	202.943	207.259	207.345	204.129	199.556	194.76	190.219	186.197	183.814	182.237	195.8459
Private Non-Farm Employment as % of Nation	Percent	0.13	0.131	0.129	0.124	0.12	0.115	0.11	0.106	0.103	0.101	0.1169
Gross Domestic Product	Billions of Fixed (2012) Dollars	27.159	27.936	28.346	28.466	28.455	28.44	28.436	28.494	28.724	29.047	28.3503
Gross Domestic Product (GDP) as % of Nation	Percent	0.165	0.165	0.162	0.158	0.153	0.148	0.143	0.139	0.136	0.133	0.1502
Output	Billions of Fixed (2012) Dollars	43.173	44.544	45.261	45.471	45.436	45.362	45.281	45.274	45.531	45.936	45.1269
Value Added	Billions of Fixed (2012) Dollars	27.159	27.936	28.346	28.466	28.455	28.44	28.436	28.494	28.724	29.047	28.3503
Personal Income	Billions of Fixed (2012) Dollars	16.94	18.828	20.165	21.099	21.776	22.327	22.785	23.212	23.737	24.277	21.5146
Personal Income as % of Nation	Percent	0.115	0.124	0.129	0.131	0.131	0.13	0.128	0.126	0.125	0.123	0.1262
Disposable Personal Income	Billions of Fixed (2012) Dollars	14.831	16.484	17.641	18.436	19	19.448	19.811	20.142	20.621	21.111	18.7525
Disposable Personal Income as % of Nation	Percent	0.114	0.124	0.129	0.131	0.131	0.13	0.129	0.127	0.126	0.124	0.1265
PCE-Price Index	2005=100 (Nation)	0.08	0.204	0.268	0.313	0.342	0.359	0.368	0.371	0.372	0.371	0.3048
Real Disposable Personal Income	Billions of Fixed (2012) Dollars	14.153	14.928	15.611	16.065	16.392	16.681	16.939	17.203	17.638	18.092	16.3702
Real Disposable Personal Income as % of Nation	Percent	0.117	0.12	0.122	0.122	0.121	0.12	0.118	0.116	0.115	0.114	0.1185
Population	Thousands	83.982	150.654	206.119	252.072	289.979	321.225	346.859	367.883	385.377	399.941	280.4091
Population as % of Nation	Percent	0.026	0.047	0.064	0.077	0.088	0.096	0.103	0.108	0.112	0.116	0.0837

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