



CATEGORY 6

THE ECONOMIC IMPACT OF THE UNIVERSITY OF MIAMI



*More than 6 Billion Dollars annually
in Positive Economic Contributions to
the Local Communities, the Region and
the State of Florida*

Prepared By

**BENDIXEN
& AMANDI
INTERNATIONAL**

Lon Hatamiya, MBA, JD
Project Director

*The Total Economic Impact of the
University of Miami
for FY 2011 is*

\$6,103,856,328.00





THE ECONOMIC IMPACT OF THE UNIVERSITY OF MIAMI

Positive Economic Contributions to the Local Communities, the Region and the State of Florida

EXECUTIVE SUMMARY

Bendixen and Amandi International was retained to perform an independent and objective analysis to quantify the economic impact of the University of Miami (“University or UM”) upon the surrounding tri-county region and local communities. We identified certain direct, indirect, and induced economic contributions that the University of Miami makes to the local, regional, and state economy. The positive economic contributions of the University of Miami to the local economy are exceptionally significant and are based upon a sound and well-documented economic impact model that produces economic impact multipliers appropriate for the geography of the University.

METHODOLOGY

Identification and quantification of the direct, indirect, and induced economic contributions of the University of Miami was accomplished by analyzing detailed data provided by the University in various Fiscal Year 2011¹ annual financial reports and applying that data to the appropriate economic input-output model. The model utilized in this study is called *Impact Analysis for Planning* (“*IMPLAN*”). Economic input-output models like *IMPLAN* are the primary tool to measure the total economic impact of a policy or event—in this case the existence and operation of the University of Miami in south Florida.

¹ Fiscal Year 2011 was selected as it is the most recent period of available comprehensive data. In order to best analyze the available data, we were required to make a number of estimates and assumptions relating to the categorization of the data for utilization of the *IMPLAN* input-output model.

SUMMARY OF RESULTS

The University of Miami is a Global Leader in Academic Research and Education

The University of Miami is an internationally recognized and renowned private research institution that is much more than a sum of its various parts. With over 15,000 students, nearly 13,100 faculty and employees, and five distinct operating campuses, it is comprised of 12 schools and colleges serving undergraduate and graduate students in more than 180 majors and programs.

Under the leadership of President Donna Shalala, UM has become by most measures, among the top universities in the United States and it continues to be ranked the top school in the state of Florida.² In addition to its stellar academic and research achievements, the economic impact and contributions of the University are tremendously significant, not only to the south Florida Tri-County region including Miami-Dade, Broward, and Palm Beach Counties, but also to the entire state of Florida.



² http://www6.miami.edu/communications/expression_images/about/points_of_pride_bro_2011.pdf, downloaded 8/2/2012.

[REDACTED]

The University of Miami's Annual Employment and Expenditures are a Major Economic Engine

In FY 2011, the University employed 13,070 full-time faculty and support personnel and paid nearly \$1.5 billion in salaries, wages, and benefits to those employees. In addition, the University spent an additional \$786 million on Operations and Capital Expenditures. In total, the University solely contributed more than \$2.275 billion to the local and regional economy.³

The University of Miami's Student Population Also Contributes to the Economy



In FY 2011, enrollment was approximately 15,703 students, made up of 10,144 undergraduates and 5,559 graduate students. Importantly, 76% of undergraduate and 74% of graduate students originate from outside of Miami-Dade County, which generate additional imported economic contributions to the local and regional economy.⁴ The reputation, prestige, and quality of education attracted these out-of-the-area students to the University and brought with them additional annual expenditures into the local economy.

³ Determined through a review and analysis of Fiscal Year 2011 financial statements, tax documents, and reports provided by the University of Miami.

⁴ Statistics and data provided by the University of Miami.

For purposes of this analysis, we included the expenditures of these students since without the presence of the University they would have more than likely attended other academic institutions outside of Miami-Dade County. Out-of-the-area students spent nearly \$200 million in the local economy in FY 2011.⁵

The Total Economic Impact of the University of Miami is Further Multiplied across the Local and Regional Economy

The University of Miami is a major economic engine that contributes widely across the local and tri-county region. It serves as an economic driver for further economic activity which affects multiple sectors in the economy. The annual expenditures of the University and its student population are multiplied through additional direct, indirect, and induced economic impacts resulting in increased total economic output, employment, gross domestic product, wages, and state and local tax revenues. In this analysis, we aggregated the impacts from the University spending with the impacts from the student spending.

The specific economic impacts are listed below for Miami-Dade County as well as the South Florida Tri-County Region, including Miami-Dade, Broward, and Palm Beach Counties:

- ***Total Economic Impact upon Miami-Dade County***

(See Table MD-1 for details)

- \$5.6 billion in total economic output
- 40,631 jobs created
- \$2.73 billion in labor income
- \$3.5 billion in Gross County Product
- \$126.2 million in state and local taxes

⁵ This figure was calculated based upon number of non-Dade County students times the average out-of-pocket expenditures (undergraduate – \$12,192; graduate -- \$19,847) for Fiscal Year 2011. Student and expenditure data was provided by the University of Miami.

Table MD-1:
The University of Miami's Total Economic Impact Upon Miami-Dade County, FY 2011

	Operations and Capital Spending	Non-local Student Spending	Total Economic Impact
Economic Output	\$5,181,802,661	\$445,758,890	\$5,626,561,551
Employment	38,503	2,128	40,631
Labor Income/Wages	\$2,653,708,066	\$73,504,258	\$2,727,212,324
Gross County Product	\$3,348,674,364	\$166,406,219	\$3,515,080,583
State and Local Taxes	\$110,576,228	\$15,267,557	\$126,203,785

Source:

BENDIXEN & AMANDI
 INTERNATIONAL

- **Total Economic Impact upon the Tri-County Region**

(See Table TC-1 for details)

- \$6.1 billion in total economic output
- 43,703 jobs created
- \$2.88 billion in labor income
- \$3.82 billion in Gross Regional Product
- \$150 million in state and local taxes

Table TC-1:
The University of Miami's Total Economic Impact Upon the Tri-County Region, FY 2011

	Operations and Capital Spending	Non-local Student Spending	Total Economic Impact
Economic Output	\$5,660,902,178	\$442,954,150	\$6,103,856,328
Employment	41,555	2,148	43,703
Labor Income/Wages	\$2,808,577,906	\$72,122,129	\$2,880,700,035
Gross County Product	\$3,653,221,584	\$168,108,821	\$3,821,330,405
State and Local Taxes	\$133,698,547	\$16,322,315	\$150,203,862

Source:

BENDIXEN & AMANDI
 INTERNATIONAL

*The Total Economic Impact of the
University of Miami
is roughly equal to*

20 Super Bowls

**taking place in South Florida
every year.**



[REDACTED]

The University of Miami Provides a Significant Economic Boost to the Economies of Miami-Dade County and the Tri-County Region through Direct, Indirect, and Induced Benefits

For Miami-Dade County alone, the University of Miami's and student annual expenditures create an additional direct, indirect, and induced \$3.15 billion in annual economic output; an additional direct, indirect, and induced 27,561 jobs; nearly \$1.24 billion in additional direct, indirect, and induced wages for local residents; and \$126.2 million in direct, indirect, and induced revenues to state and local governments.⁶ As for the Tri-County Region, the University and student annual expenditures create an additional direct, indirect, and induced \$3.63 billion in annual economic output; an additional direct, indirect, and induced 30,633 jobs; an additional direct, indirect, and induced \$1.39 billion in wages; and over \$150 million in direct, indirect, and induced revenues to state and local governments.⁷

Additionally, the University of Miami Provides a Significant Economic Boost to the Local Economy of the City of Coral Gables through Direct, Indirect, and Induced Benefits

The City of Coral Gables benefits greatly from the presence of the University of Miami within its city limits. The University of Miami's and annual student expenditures create \$1.4 billion in annual economic output; 5,769 jobs; nearly \$600 million in Gross City Product; over \$530 million in wages; and nearly \$10 million annually in state and local taxes.⁸ These are broken down specifically in Table CC-1 below:



⁶ Based upon analytical calculations utilizing the IMPLAN model for Miami-Dade County.

⁷ Based upon analytical calculations utilizing the IMPLAN model for Miami-Dade, Broward and Palm Beach Counties.

⁸ Based upon *Bendixen and Amandi's* analytical calculations utilizing the IMPLAN model for the City of Coral Gables, Florida.

Table CC-1:
University of Miami's Total Economic Impact Upon the City of Coral Gables, FY 2011

	Operations and Capital Spending	Non-local Student Spending	Total Economic Impact
Economic Output	\$1,274,830,977	\$127,814,388	\$1,402,645,365
Employment	5,309	460	5,769
Labor Income/Wages	\$515,042,254	\$15,085,121	\$530,127,375
Gross City Product	\$545,850,116	\$50,544,187	\$596,394,303
State and Local Taxes	\$6,513,580	\$3,429,869	\$9,943,449

Source:


The University of Miami Also Provides an Enormous Contribution to the Local Economy of the City of Miami

Through direct, indirect, and induced contributions to the City of Miami, the University of Miami's annual expenditures along with annual student spending created over \$2.7 billion in economic output; 17,803 jobs; nearly \$1.6 billion in labor income and added wages; almost \$1.8 billion in Gross City Product; and almost \$42 million in state and local taxes.⁹ See Table M-1 below:

Table M-1:
University of Miami's Total Economic Impact Upon the City of Miami, FY 2011

	Operations and Capital Spending	Non-local Student Spending	Total Economic Impact
Economic Output	\$2,512,092,528	\$215,695,149	\$2,727,787,677
Employment	16,906	897	17,803
Labor Income/Wages	\$1,528,952,347	\$28,652,928	\$1,557,605,275
Gross City Product	\$1,723,285,737	\$64,503,052	\$1,787,788,789
State and Local Taxes	\$35,515,708	\$6,263,175	\$41,778,883

Source:


⁹ Based upon *Bendixen and Amandi's* analytical calculations utilizing the IMPLAN model for the City of Miami, Florida.

The University of Miami's Construction Activity in FY 2011 also Generated Considerable Economic Impact on Miami-Dade County

The University continues to implement its Campus Area Development Plan (UMCAD) which includes significant annual construction activities. In FY 2011, the University spent \$61.5 million on construction. The positive impacts of this construction spending generates economic output, jobs, labor income, and state and local tax revenues which are highlighted below for FY 2011:

- ***Total Economic Impact from Construction***

- ***Activity in FY 2011¹⁰***

- \$200.2 million in economic activity
- 1,205 jobs created
- \$85.5 million in labor income
- \$104.7 million in Gross County Product
- \$3.7 million in state and local taxes



¹⁰ Based upon *Bendixen and Amandi's* analytical calculations utilizing the IMPLAN model for Miami-Dade County.

Since 2007
The Total Economic Impact of the
University of Miami
has increased by more than
24 Percent
despite the worst economic climate
since the Great Depression.





CONCLUSIONS

Because universities have the combined function of transmitting knowledge and research, they play a critical role in the socio-economic development of the areas in which they are located. Based upon our analysis of the available data and information, we believe that the presence of the University of Miami has provided various positive and significant economic benefits to the local Miami-Dade County and South Florida Tri-County regional economies. The University of Miami not only contributes to the educational excellence of the population, as well as academic and scientific research to the global community, it also adds greatly to the local, regional, and state economies with its annual operational and capital expenditures. These expenditures along with those of its out-of-the-area student body are further multiplied to create tremendous additional benefits to *Total Economic Output, Employment, Labor Income, Gross Domestic Product, and State and Local Tax Revenues*. These additional benefits provide a solid foundation for the local and regional economies, which would not exist without the presence of the University.

In spite of the negative impacts of the worst economic recession since the Great Depression over the past five years, the University of Miami has provided a reliable, consistent, and positive contribution to the South Florida economy. Without these important economic impacts multiplied throughout the communities, Miami-Dade County and the surrounding area would be in far worse economic condition.



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I. Introduction

The University of Miami is an internationally recognized and renowned private research institution that is much more than a sum of its various parts. With over 15,000 students, nearly 13,100 faculty and employees, and five distinct operating campuses, it is led by President Donna Shalala and is comprised of 12 schools and colleges serving undergraduate and graduate students in more than 180 majors and programs. Under the leadership of President Donna Shalala, UM



has become by most measures, among the top universities in the United States and it continues to be ranked the top school in the State of Florida.

Established in 1925, the University is a major research institution engaged in over \$360 million annually in research and sponsored programs. The majority of the research is conducted at the Miller School of Medicine, but also includes dozens of studies in marine science, engineering, education, and psychology. The University has five distinct campuses on 528 acres in Miami-Dade County locations stretching from the City of Coral Gables and the City of Miami to South Dade. The University's main campus is located in the City of Coral Gables, and is home to two colleges, seven schools, and is located on a 230-acre tract. The academic units included within the main campus are the School of Architecture, the College of Arts and Science, the School of Business Administration, the School of Communication, the School of Education, the College of Engineering, the School of Law, the Phillip and Patricia Frost School of Music, and the School of Nursing and Health Studies.



The Leonard M. Miller School of Medicine campus consists of 68 acres within the 153-acre University of Miami/Jackson Memorial Medical Center Complex near downtown Miami. The medical center includes three University-owned hospitals, including the University of Miami Hospital, the Sylvester Comprehensive Cancer Center, and the Anne Bates Leach Eye Hospital. The University of Miami's affiliated hospitals on the medical campus include Jackson Memorial Hospital, Holtz Children's Hospital, and the Miami Veterans Administration Medical Center. Additionally, the Rosenstiel School of Marine and Atmospheric Science is located on an 18-acre waterfront campus on Virginia Key in Biscayne Bay. Located ten miles southwest of the City of Coral Gables on a 136 acre site is the South Campus, which is comprised of six buildings for research and development projects. Lastly, the Richmond Campus is located on a 76-acre site near South Campus. It is home to various research facilities.¹¹

In addition to its stellar academic and research achievements, the economic impact and contributions of the University are tremendously significant, not only to the South Florida Tri-County region including Miami-Dade, Broward, and Palm Beach Counties, but also to the entire state of Florida.

II. Objective of the Report

The objective of this Report is to perform an independent and objective analysis to quantify the economic impact of the University of Miami upon the surrounding tri-county region and local community. We identified certain direct, indirect, and induced economic contributions that the University of Miami makes to the local, regional, and state economy. The positive economic contributions of the University of Miami to the local economy are exceptionally significant and are based upon a sound and well-documented economic impact model that produces economic impact multipliers appropriate for the geography of the University. This economic impact model is described in detail under Methodology below.

¹¹ All information related to the University of Miami was obtained from the University's website at http://www.miami.edu/index.php/about_us/, downloaded 9/20/2012.

III. Major Findings

A. The University of Miami's Annual Employment and Expenditures are a Major Economic Engine

In FY 2011, the University employed 13,070 full-time faculty and support personnel and paid nearly \$1.5 billion in salaries, wages, and benefits to those employees. The University is the second largest private employer in Miami-Dade County.¹² In addition, the University spent an additional \$786 million on Operations and Capital Expenditures. In total, the University solely contributed nearly \$2.275 billion to the local and regional economy.¹³

B. The University of Miami's Student Population Also Contributes to the Economy

In FY 2011, enrollment was approximately 15,703 students, made up of 10,144 undergraduates and 5,559 graduate students. Importantly, 76% of undergraduate and 74% of graduate students originate from outside of Miami-Dade County, which generate additional imported economic contributions to the local and regional economy.¹⁴ The reputation, prestige, and quality of education attracted these out-of-the-area students to the University and brought with them additional annual expenditures into the local economy that would not have occurred with the attractive presence of the University. For purposes of this analysis, we included the expenditures of these students since without the presence of the University they would have more than likely attended other academic institutions outside of Miami-Dade County. Out-of-the-area students spent over \$199 million in the local economy in FY 2011.¹⁵

¹² Based upon a review of various sources including the *Beacon Council*, the *Miami-Dade County Office of Economic Development & International Trade*, and the *Miami-Dade Chamber of Commerce*.

¹³ Determined through a review and analysis of Fiscal Year 2011 financial statements, tax documents, and reports provided by the University of Miami.

¹⁴ Statistics and data provided by the University of Miami.

¹⁵ This figure was calculated based upon number of non-Dade County students times the average out-of-pocket expenditures (undergraduate – \$12,192; graduate -- \$19,847) for Fiscal Year 2011. Student and expenditure data was provided by the University of Miami for Fiscal Year 2011.

C. The Total Economic Impact of the University of Miami is Further Multiplied across the Local and Regional Economy

The University of Miami is a major economic engine that contributes widely across the local and tri-county region. It serves as an economic driver for further economic activity which affects multiple sectors in the economy. The annual expenditures of the University and its student population are multiplied through additional direct, indirect, and induced economic impacts resulting in increased total economic output, employment, gross domestic product, wages, and state and local tax revenues. In this analysis, we aggregated the impacts from the University spending with the impacts from the student spending. The specific economic impacts are listed below for Miami-Dade County as well as the South Florida Tri-County Region, including Miami-Dade, Broward, and Palm Beach Counties:

- ***Total Economic Impact upon Miami-Dade County (See Table MD-1)***
 - \$5.6 billion in total economic output
 - 40,631 jobs created \$2.73 billion in labor income
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Table MD-1:
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State and Local Taxes	\$110,576,228	\$15,267,557	\$126,203,785

Source:
BENDIXEN & AMANDI
INTERNATIONAL

The total economic impact upon Miami-Dade County is the result of annual expenditures made by the University of Miami within Miami-Dade County as well as the resultant multiplicative expenditures made directly and indirectly by other entities within the County. These expenditures by the University are made up of salary and benefits to the faculty and staff; day-to-day operational expenses; annual construction expenses; research and development expenses; all other miscellaneous expenses; as well as the dollars spent by students within the County. More specifically, the major economic impact of University expenditures is felt in Miami-Dade County since 89% of all faculty and 85% of all staff live within the County.¹⁶ In addition as noted above, the University of Miami's five campuses on 528 acres, are all located within Miami-Dade County. As a result, the vast majority of all University expenditures are spent directly within the County, thereby creating the majority of its economic impact within this area.

- ***Total Economic Impact upon the Tri-County Region***

(See Table TC-1 for details)

- \$6.1 billion in total economic output
- 43,703 jobs created
- \$2.88 billion in labor income
- \$3.82 billion in Gross Regional Product
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State and Local Taxes	\$133,698,547	\$16,322,315	\$150,0203,862

Source:
BENDIXEN
& AMANDI
INTERNATIONAL

¹⁶ Data provided by the University of Miami Human Resources Department.



As indicated by the aforementioned data, the University's annual expenditures provide additional, multiplicative economic benefits to the entire south Florida Tri-County area. Nearly 100% of all University expenditures are made within the Tri-County area, including the majority within Miami-Dade County, with the remainder being expended to a lesser extent in Broward and Palm Beach Counties.

In addition, nearly 100% of all faculty, staff, and students live within these counties. Therefore, these University expenditures have a far reaching economic impact upon the entire region, and not just solely upon Miami-Dade County.

D. The University of Miami Provides a Significant Economic Boost to the Economies of Miami-Dade County and the Tri-County Region through Direct, Indirect, and Induced Benefits

For Miami-Dade County alone, the University of Miami's and annual student expenditures create an additional direct, indirect, and induced \$3.15 billion in annual economic output; an additional direct, indirect, and induced 27,561 jobs; nearly \$1.24 billion in additional direct, indirect, and induced wages for local residents; and \$126.2 million in direct, indirect, and induced revenues to state and local governments.¹⁷ As for the Tri-County Region, the University and student annual expenditures created an additional direct, indirect, and induced \$3.63 billion in annual economic output; an additional direct, indirect, and induced 30,633 jobs; an additional direct, indirect, and induced \$1.39 billion in wages; and over \$150 million in direct, indirect, and induced revenues to state and local governments.¹⁸

¹⁷ Based upon *Bendixen and Amandi's* analytical calculations utilizing the IMPLAN model for Miami-Dade County.

¹⁸ Based upon *Bendixen and Amandi's* analytical calculations utilizing the IMPLAN model for Miami-Dade, Broward and Palm Beach Counties.

E. Additionally, the University of Miami Provides a Significant Economic Boost to the Local Economy of the City of Coral Gables though Direct, Indirect, and Induced Benefits

The City of Coral Gables benefits greatly from the presence of the University of Miami within its city limits. The University of Miami's and annual student expenditures create \$1.4 billion in annual economic output; 5,769 jobs; nearly \$600 million in Gross City Product; over \$530 million in wages; and nearly \$10 million annually in state and local taxes.¹⁹ These are broken down specifically in Tables CC-1 below:

Table CC-1:
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Gross City Product	\$545,850,116	\$50,544,187	\$596,394,303
State and Local Taxes	\$6,513,580	\$3,429,869	\$9,943,449

Source:
**BENDIXEN
& AMANDI**
INTERNATIONAL

The University of Miami has its most focused economic impact upon the City of Coral Gables since it is the home to the main campus with its two colleges and seven schools on 230 acres. Coral Gables is also home to 44% of all faculty and 25% of all University staff.²⁰ In addition, several major construction projects have also been built on the Coral Gables campus (and discussed in further detail below under Section G).

¹⁹ Based upon *Bendixen and Amandi's* analytical calculations utilizing the IMPLAN model for the City of Coral Gables, Florida.

²⁰ Data provided by the University of Miami Human Resources Department.

F. The University of Miami Also Provides an Enormous Contribution to the Local Economy of the City of Miami

Through direct, indirect, and induced economic contributions to the City of Miami, the University of Miami’s annual expenditures along with annual student spending created **over \$2.7 billion in economic output; 17,803 jobs; nearly \$1.6 billion in labor income and added wages; almost \$1.8 billion in Gross City Product; and almost \$42 million in state and local taxes.** See Table M-1 below:

Table M-1:
University of Miami’s Total Economic Impact Upon the City of Miami, FY 2011

	Operations and Capital Spending	Non-local Student Spending	Total Economic Impact
Economic Output	\$2,512,092,528	\$215,695,149	\$2,727,787,677
Employment	16,906	897	17,803
Labor Income/Wages	\$1,528,952,347	\$28,652,928	\$1,557,605,275
Gross City Product	\$1,723,285,737	\$64,503,052	\$1,787,788,789
State and Local Taxes	\$35,515,708	\$6,263,175	\$41,778,883

Source:
BENDIXEN & AMANDI
INTERNATIONAL

With the presence of the Leonard M. Miller School of Medicine campus in the Health District near downtown Miami, the University of Miami has a major economic impact upon the City of Miami. The medical center includes three University-owned hospitals that make up the University of Miami



Health System (“UHealth”): University of Miami Hospital, Sylvester Comprehensive Cancer Center, and Anne Bates Leach Eye Hospital, home to the top-ranked Bascom Palmer Eye Institute.

Affiliated hospitals on the medical campus include Jackson Memorial Hospital, Holtz Children's Hospital, and the Miami VA Medical Center. Miller School of Medicine faculty conduct more than 2,000 research projects in basic science and clinical care bringing with it substantial levels of research funding. Over 50% of all University of Miami faculty and nearly 75% of all staff is based in the City of Miami. This significant presence of personnel and resources results in enormous economic impacts within the city limits.

G. The University of Miami's Construction Activity in FY 2011 also Generated Considerable Economic Impact on Miami-Dade County

The University continues to implement its Campus Area Development Plan (UMCAD) which includes significant annual construction activities. In the past ten years a number of major new facilities have been added to the Coral Gables campus—the BankUnited Center, the Martha and Austin Weeks Music Library and Technology Center, the Fred C. and Helen D. Flipse Building, the David Epstein and Bernie Kosar Faculty Building at the School of Business Administration, the Hecht Athletic Center, the Yaron Field House, Francis L. Wolfson Building at the School of Communication and Cobb Stadium, the Jorge M. Perez Architecture Center, the M. Christine Schwartz Center for Nursing and Health Studies, the School of Communication Student Center, the Sheldon and Myrna Palley Pavillion for Contemporary Glass and Studio Arts at the Lowe Art Museum, and University Village (the first housing project, which includes 800 student beds, in more than 35 years).²¹



The Medical Campus has also undergone major renovation and construction. The recent addition of the UM Life Science & Technology Park with two million square feet of space adjacent to the medical campus will bring together academia and industry for collaboration in bioscience research and innovation.

²¹ All information related to the University of Miami construction was obtained from the University's website at http://www.miami.edu/index.php/about_us/campuses_and_facilities/, downloaded September 30, 2012.



In 2006 the University opened the new 15-story Clinical Research Building, which accommodates researchers from a wide range of disciplines. The nine-story, Biomedical Research Institute, opened in 2009, has significantly increased the medical school's basic science space.

Moreover, under President Shalala's active direction and leadership for environmental stewardship and social values, the University has undertaken construction that is energy efficient and sustainable with *LEEDTM* certified 433,000 square feet of *Green Building* to date with an additional 700,000 square feet of *LEEDTM* certified facilities in the works.

In FY 2011, the University spent approximately \$61.5 million on construction.²² Among the construction projects included during this period are the Cox Neuroscience and Health Annex; the Hecht Athletic Center – Football Training and Academic Center Addition; the Life Science and Technology Park located in Miami's Health District; and the Student Activities Center, which was conceived to showcase the University's commitment to sustainable development.

The positive impacts of this construction spending generate economic output, jobs, labor income, and state and local tax revenues which are highlighted below for FY 2011:

1. Total Economic Impact from Construction Activity in FY 2011

- The University's various construction projects created **\$200.2 million in economic activity**.
- These construction projects assisted in the creation of **1,205 jobs**.
- Those jobs resulted in **\$85.5 million in labor income**.
- University construction resulted in **\$104.7 million in Gross County Product**.
- University Construction also created **\$3.7 million in state and local taxes**.

Most importantly, the University's continued plans for new buildings and construction will provide significant economic impacts for the foreseeable future. Construction is an important component in the University's ongoing economic contribution to the local and regional economy.

²² Construction data provided by the University of Miami.

IV. Results of Analysis

The University of Miami, similar to other major research institutions across the United States, is a major contributor to the economic make-up and fabric of the local, regional, and statewide economies. The University's activities through its faculty, students, and staff is both a stimulus and producer of creative economic value that provide positive benefits to many more than those directly involved with the University. This analysis has highlighted the significant economic contributions that the University makes to the City of Coral Gables, Miami-Dade County, and the Tri-County Region of south Florida. However, this analysis would not be complete without examining the University's quantifiable results as part of the larger context of the entire local and regional economies. The following section further analyzes the University's relative ranking among other economic industry sectors.

A. The University of Miami's Relative Ranking among Industries within the Local and Regional Economies is prominent.

Section II above highlighted the quantifiable estimates of the University's annual economic impact upon Miami-Dade County. As the following Tables MD-2, MD-3, and MD-4 clearly illustrate, the University's annual economic contribution to the Miami-Dade County economy is not only significant, but is among the highest among all industry sectors.

MIAMI-DADE IMPACT

Table MD-2: Top Industries in Miami-Dade County by Economic Impact

<i>Industry Sector</i>	<i>Economic Output</i>
Wholesale trade	\$11,385,790,000
Rentals properties	\$8,810,679,000
Real Estate	\$7,986,099,000
UNIVERSITY OF MIAMI	\$5,626,561,551
Monetary authorities	\$5,116,341,000
Private hospitals	\$4,921,290,000

Source:
**BENDIXEN
& AMANDI**
INTERNATIONAL

Table MD-3: Top Industries in Miami-Dade County by Employment

<i>Industry Sector</i>	<i>Employment</i>
Food services	79,020
State and Local Government	70,935
Wholesale trade	70,874
Real estate establishments	53,899
Private household	47,993
Office of physicians, dentists and other healthcare practitioners	43,562
UNIVERSITY OF MIAMI	40,631

Source:


Table MD 4: Top Industries in Miami-Dade County by Labor Income

<i>Industry Sector</i>	<i>Labor Income</i>
State & Local Government	\$7,445,803,000
Wholesale trade	\$4,990,288,000
UNIVERSITY OF MIAMI	\$2,727,212,324
Private hospitals	\$2,581,900,000
Legal services	\$2,550,694,000
Offices of physicians, dentists and other healthcare practitioners	\$2,518,392,000

Source:


Importantly, if the University was considered an industry sector alone, it would provide the 4th highest economic output level among all industries in Miami-Dade County at \$5.6 billion per year (see Table MD-2). Moreover, the University would also be 7th largest producer of jobs in Miami-Dade County (see Table MD-3). Additionally, the University is an enormous generator of labor income and would rank as the 3rd highest industry in Miami-Dade County (see Table MD-4).

CITY OF CORAL GABLES IMPACT

The significance of the University of Miami is even more pronounced with its impact upon the City of Coral Gables as further illustrated in the following Tables CC-2, CC-3, and CC-4.

Table CC-2: Top Industries in Coral Gables by Economic Output

<i>Industry Sector</i>	<i>Economic Output</i>
Real Estate establishments	\$1,717,755,000
UNIVERSITY OF MIAMI	\$1,402,645,365
Legal services	\$1,277,204,000
Monetary authorities	\$890,221,400
Offices of physicians, dentists and other healthcare practitioners	\$868,203,500
Securities and commodities investments	\$783,919,600

Source:

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Table CC-3: Top Industries in Coral Gables by Employment

<i>Industry Sector</i>	<i>Employment</i>
Real Estate establishments	11,593
Food services	10,294
Offices of physicians, dentists and other healthcare practitioners	8,655
Legal services	8,143
Non-depository credit	6,056
UNIVERSITY OF MIAMI	5,769
Private hospitals	5,532

Source:

**BENDIXEN
 & AMANDI**
 INTERNATIONAL

Table CC-4: Top Industries in Coral Gables by Labor Income

<i>Industry Sector</i>	<i>Labor Income</i>
Legal services	\$761,382,000
UNIVERSITY OF MIAMI	\$530,127,375
Offices of physicians, dentists and other healthcare practitioners	\$500,383,100
State and local government	\$403,632,500
Non-depository credit	\$381,631,600
Private hospitals	\$372,610,100
Real estate establishments	\$283,498,800

Source:
**BENDIXEN
& AMANDI**
INTERNATIONAL

Once again, when considered as an independent industry sector, the University would be a dominant force upon the local economy of the City of Coral Gables. The University provides the 2nd highest level of economic output within the City Coral Gables, following closely behind the real estate industry (see Table CC-2). UM is also the 6th largest producer of jobs (see Table CC-3), but more importantly, the 2nd largest generator of labor income for the City. The importance of the University to the economy of the City of Coral Gables cannot be underestimated nor ignored. Therefore, it is incontrovertible that the University of Miami is a critical component to the engines of the local and regional economies.

CITY OF MIAMI IMPACT

The prominence of the University of Miami is also significant upon the various economic sectors within the City of Miami as indicated in Tables M-2, M-3, and M-4 below:

Table M-2: Top Industries in Miami by Economic Output

<i>Industry Sector</i>	<i>Economic Output</i>
Real Estate establishments	\$3,542,933,000
Legal services	\$3,081,743,000
UNIVERSITY OF MIAMI	\$2,727,787,677
Monetary authorities	\$2,621,175,000
Transport by Water	\$2,427,344,000
Securities and commodities investments	\$2,420,756,000

Source:
BENDIXEN
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Table M-3: Top Industries in Miami by Employment

<i>Industry Sector</i>	<i>Employment</i>
Food services	31,951
Real estate establishments	23,912
Legal services	19,649
UNIVERSITY OF MIAMI	17,803
State and local Government	15,235
Wholesale trade	14,755

Source:
BENDIXEN
& AMANDI
INTERNATIONAL

Table M-4: Top Industries in Miami by Labor Income

<i>Industry Sector</i>	<i>Labor Income</i>
Legal services	\$1,837,125,000
UNIVERSITY OF MIAMI	\$1,557,605,275
Wholesale trade	\$1,038,878,000
Private hospitals	\$962,590,800
Non-depository credit	\$856,237,800
Securities, commodity contracts, investments	\$833,417,300
Food services	\$778,201,700

Source:
BENDIXEN
& AMANDI
INTERNATIONAL

When considered as an independent industry sector, the University would also be the dominant force upon the local economy of the City of Miami. The University provides the 3rd highest level of economic output within the City of Miami (see Table M-2). UM is also the 4th largest producer of jobs (see Table M-3), but more importantly, the 2nd largest generator of labor income for the City. Without a doubt, the University is a major economic factor within the City of Miami.

B. Comparative Analysis of the University of Miami's Annual Economic Impact with other Entities within the Local and Regional Economies

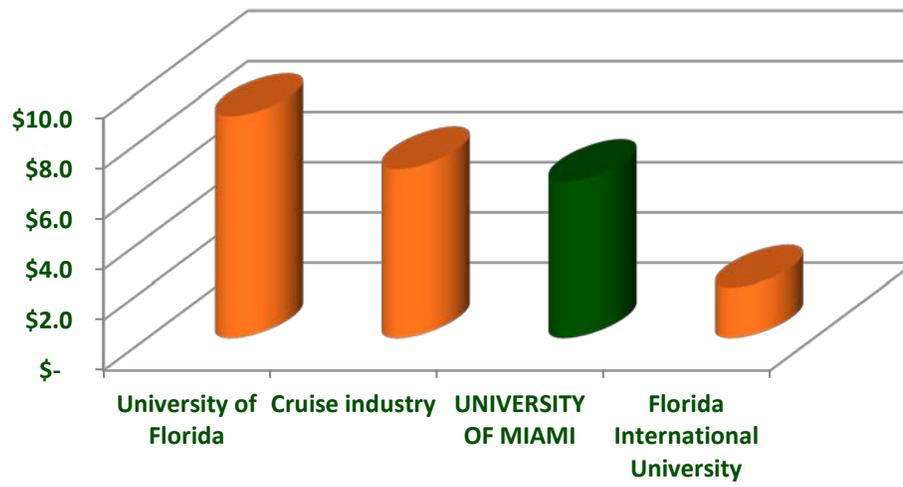
In order to further highlight the significance of the economic impact of the University of Miami upon the local, regional, and statewide economies, we also compared the University's relative economic impact with those of other entities in Florida. This was accomplished by examining available economic impact studies of various institutions that were available from 2008-2011. This is a relevant time frame as it is concurrent with the recent global economic recession. Each of the economic impact studies were publicly available and performed utilizing a similar IMPLAN model. Furthermore, they all indicate statewide economic impacts for Florida, and are listed as follows in Table EI-1 and graphically presented below.

Table EI 1: Annual Economic Impact upon the State of Florida

<i>Entity</i>	<i>Economic Impact</i>
Miami International Airport	\$26.7B
University of Florida	\$8.8B
Statewide Cruise Industry	\$6.7B
UNIVERSITY OF MIAMI	\$6.2 Billion
Florida International University	\$2.0B
Miami-Dade Arts & Culture Industry	\$1.0B
2010 Super Bowl	\$333M
Homestead Air Reserve Base	\$207M

Source: Various economic impact studies, 2008-2011

ANNUAL ECONOMIC IMPACT (\$Billions)

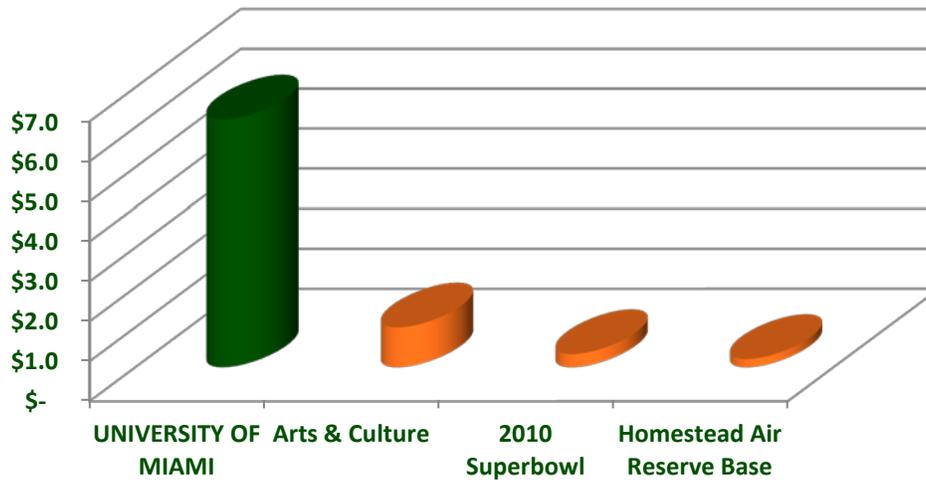


Several observations from these comparative economic impacts studies are important to note:

- The University of Miami's annual economic impact is significant when compared to other Florida entities.
- Among the educational institutions compared, the University of Miami has the smallest enrollment and faculty, yet an enormous economic contribution due mainly to its research and medical school components.
- The University of Miami's annual economic impact is constant and reliable and is roughly equal in scale to the Florida Cruise Industry.



ANNUAL ECONOMIC IMPACT (\$Billions)



Some additional observations regarding the University's relative economic impact:

- Although the National Football League's Super Bowl is a glamour event and one of the largest in professional sports, it occurs only once every few years in South Florida and brought



nearly \$333 million in economic impact in 2010. In contrast, the University of Miami's economic impact is over \$6.1 billion or the equivalent of 20 Super Bowls taking place every year. The University's economic impact is a consistent annual contribution to the local and regional economy.

- Although not as readily visible as arts, culture, sporting events, and/or a military presence, the University's various activities annually add up to a significant and essential economic impact.



V. Conclusions

Because universities have the combined function of transmitting knowledge and research, they play a critical role in the socio-economic development of the areas in which they are located. Based upon our analysis of the available data and information, we believe that the presence of the University of Miami has provided various positive and significant economic benefits to the local City of Coral Gable, Miami-Dade County, and South Florida Tri-County regional economies. The University of Miami not only contributes to the educational excellence of the population, as well as academic and scientific research to the global community, it also adds greatly to the local, regional, and state economies with its annual operational and capital expenditures. These expenditures along with those of its out-of-the-area student body are further multiplied to create tremendous additional benefits to *Total Economic Output, Employment, Labor Income, Gross Domestic Product, and State and Local Tax Revenues*. These additional benefits provide a solid foundation for the local and regional economies, which would not exist without the presence of the University.

In spite of the negative impacts of the worst economic recession since the Great Depression over the past five years, the University of Miami has provided a reliable, consistent, and positive contribution to the South Florida economy. Without these important economic impacts multiplied throughout the communities, Miami-Dade County and the surrounding area would be in far worse economic condition.

\$6,103,856,328.00





VI. Methodology

Identification and quantification of direct, indirect, and induced economic contributions of the University of Miami was accomplished by analyzing detailed data provided by the University in various Fiscal Year 2011 annual financial reports and applying that data to the appropriate economic input-output model. The model utilized in this study is called *Impact Analysis for Planning* (“IMPLAN”). Economic input-output models like *IMPLAN* are the primary tool to measure the total economic impact of a policy or event—in this case the existence and operation of the University of Miami in South Florida. The theory behind economic impact analysis is that the total economic impact of an existing entity within a geographic region is not merely limited to the number of employees the entity hires, the payroll associated with these employees, or the operational or capital expenditures it annually makes. The total economic impact also includes additional, multiplicative impacts. Additional impacts occur as the entity spends money on goods and services and as the wages of their employees find their way through the local and regional economy.

Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total industry purchases of commodities, services, employment compensation, value added, and imports are equal to the value of the commodities produced. Purchases for final use (final demand) drive the IMPLAN model. Industries produce goods and services for final demand and purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakages from the region (imports and value added) stop the cycle. Moreover, any direct expenditure associated with an entity will have “ripple” effects throughout the economy. In other words, each dollar of direct expenditure generates more than one dollar in the economy.

For purposes of this analysis, the *direct impacts* are the direct result of the existence and operation of the University of Miami and its direct expenditures. The *indirect impacts* are generated from the expenditures of the persons who benefit from the direct impact (suppliers, contractors, service providers to the University, etc.).



The *induced impacts* are the result of increased household income and related spending which is driven by the direct and indirect impacts. From these inputs, the IMPLAN model was used to calculate direct, indirect, and induced changes to employment, gross domestic product, wages, and state and local tax revenues. All of these impacts are measured based upon their economic contributions to Miami-Dade County. Additionally, we have analyzed the economic impacts upon the entire south Florida Tri-County Region, including Miami-Dade, Broward, and Palm Beach Counties. (See a more detailed description of the Methodology for IMPLAN application in attached *Appendix 1*).



Appendix 1

How IMPLAN works²³ and Methodology

²³ http://implan.com/v4/index.php?option=com_content&view=article&id=282:what-is-implan&catid=152:implan-appliance-&Itemid=2, downloaded, September 28, 2012.



How IMPLAN works

Social Accounting

IMPLAN's Social Accounting Matrices (SAMs) capture the actual dollar amounts of all business transactions taking place in a regional economy as reported each year by businesses and governmental agencies. SAM accounts are a better measure of economic flow than traditional input-output accounts because they include "non-market" transactions. Examples of these transactions would be taxes and unemployment benefits.

Multipliers

Social Accounting Matrices can be constructed to show the effects of a given change on the economy of interest. These are called Multiplier Models. Multiplier Models study the impacts of a user-specified change in the chosen economy for 440 different industries. Because the Multiplier Models are built directly from the region specific Social Accounting Matrices, they will reflect the region's unique structure and trade situation.

Multiplier Models are the framework for building impact analysis questions. Derived mathematically, these models estimate the magnitude and distribution of economic impacts, and measure three types of effects which are displayed in the final report. These are the *direct*, *indirect*, and *induced* changes within the economy. *Direct effects* are determined by the Event as defined by the user (i.e. a \$10 million dollar order is a \$10 million dollar direct effect). The *indirect effects* are determined by the amount of the *direct effect* spent within the study region on supplies, services, labor and taxes. Finally the *induced effect* measures the money that is re-spent in the study area as a result of spending from the *indirect effect*. Each of these steps recognizes an important leakage from the economic study region spent on purchases outside of the defined area. Eventually these leakages will stop the cycle.

Trade Flows Method

Unique to IMPLAN data, 2008 and forward, is a method of tracking regional purchases by estimating trade flows.

An updated and improved method for calculating and tracking the movement of commodities between industries within a region, this method tracks over 500 commodities in each study area, and allows more accurate capturing of *indirect* and *induced effects*. This new method of capturing regional purchase coefficients also makes it possible for the Version 3 software to perform Multi-Regional Analysis, so users can see how a change in their local region causes additional affects surrounding areas.

Cost-Effective Modeling

Tremendous amounts of data are required in order to run Social Accounting Matrices and Multiplier Models that will accurately estimate the effects of a given event on an economy. There are numerous factors that need to be taken into account to fully visualize *direct*, *indirect* and *induced effects* of an event. The expense and labor of a company doing this independently are prohibitive. IMPLAN allows even small corporations and local governments to develop models and projections in a cost-effective and efficient manner. By offering the data in many discreet forms, IMPLAN also allows studies to be localized effectively and only data of interest to be purchased.

Methodology

Input-Output Theory

The multiplier economic impacts calculated by the IMPLAN Model software are based on regional Input-Output (I-O) methodology. The following represents the system of equations that comprise the regional economy in an extended I-O model like IMPLAN:

$$\begin{aligned}
 X_1 &= a_{11}X_1 + a_{12}X_2 + a_{13}X_3 + \dots + a_{1k}X_k + a_{1h}X_h + a_{1i}X_i + a_{1g}X_g + f_1 \\
 X_2 &= a_{21}X_1 + a_{22}X_2 + a_{23}X_3 + \dots + a_{2k}X_k + a_{2h}X_h + a_{2i}X_i + a_{2g}X_g + f_2 \\
 X_3 &= a_{31}X_1 + a_{32}X_2 + a_{33}X_3 + \dots + a_{3k}X_k + a_{3h}X_h + a_{3i}X_i + a_{3g}X_g + f_3 \\
 &: \\
 X_k &= a_{k1}X_1 + a_{k2}X_2 + a_{k3}X_3 + \dots + a_{kk}X_k + a_{kh}X_h + a_{ki}X_i + a_{kg}X_g + f_k \\
 X_h &= a_{h1}X_1 + a_{h2}X_2 + a_{h3}X_3 + \dots + a_{hk}X_k + a_{hg}X_g \\
 X_i &= a_{i1}X_1 + a_{i2}X_2 + a_{i3}X_3 + \dots + a_{ik}X_k + a_{ig}X_g \\
 X_g &= a_{g1}X_1 + a_{g2}X_2 + a_{g3}X_3 + \dots + a_{gk}X_k + a_{gh}X_h
 \end{aligned}$$

The variables x_1 to x_k represent total production of output in each industry. The coefficients a_{ik} represent the purchases from industry “i” that are needed to produce a dollar of output in industry “k”. These are known as the *direct requirement* coefficients. The variable x_h refers to household income and coefficients a_{ih} refer to the average amount of household income spent on purchases from industry “i”, or the *average propensities to consume*. The coefficients a_{hi} are similar to the inter-industry purchases (a_{ij} 's), but they represent the household income that is generated from each dollar of output produced in industry “i”. The coefficients a_{ig} represent government purchases from industry “i” per dollar of government revenue. The variable x_g represents state and local government output, and the coefficients a_{gk} represents government revenues collected from each dollar of output produced in industry “k”. Similarly, the variable x_1 represents regional spending on capital goods, and the coefficients a_{ik} represent the spending on capital goods for each dollar of output produced in industry “k”. The variables f_k represent the exogenous final demand faced by each industry, respectively.

This system of equation reduces, using matrix notation, to the following solution for industry output, household income, and state and local government revenue:

$$X = (I - A)^{-1} F$$

X is the vector of industry inputs plus household income and F is a vector of exogenous final demands. The “output multipliers” (the change in industry output and household income that results from a change in final demand for the output of a particular industry) are given in the columns of the $(I-A)^{-1}$ matrix. The IMPLAN software calculates these multipliers for counties, states, certain zip codes, and other sub-state regions. These multipliers can be used to estimate the economic importance of an industry within a specific geographic area. The multiplicative impacts for gross state product, labor income, and government revenues are derived from the basic output multipliers given by $(I-A)^{-1}$.



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