CENTER FOR Competitive Florida
A Florida TaxWatch Center of Excellence

Economic Commentary

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A monthly look at Florida's Economy

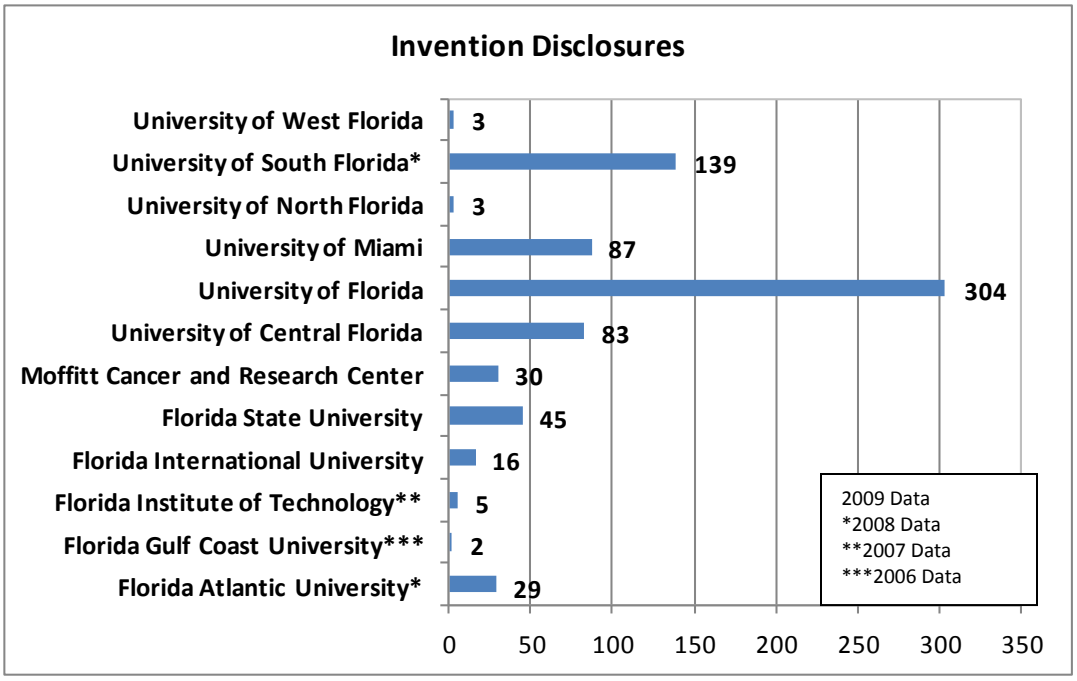
The Florida TaxWatch Center for Competitive Florida .... Resolving issues vital to Florida's global economic competitiveness.

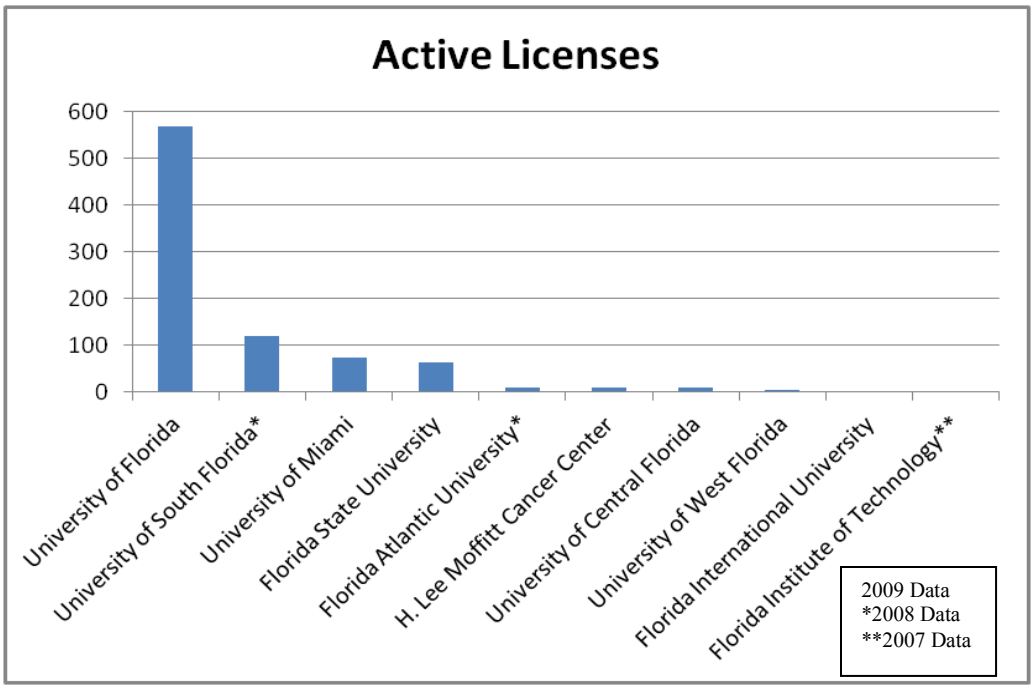
Florida's Universities and Technology Transfer

Government leaders across the country are looking at all potential sources of economic development in an effort to help produce jobs for their economies. Some of the most promising creators of jobs, as well as new companies, are research centers and Florida's public and private universities.

Some of the most recognizable inventions in the country are from Florida's University system. Of notable mention are; Gatorade®, invented at the University of Florida, and a process to synthesize Taxol® (a chemotherapy drug) developed at Florida State University. These inventions alone have provided millions of dollars for their universities. More recent Florida university inventions include: SolarWindow®, a spray-on product that turns windows into solar collectors, invented at the University of South Florida; the Solar Sausage, an interesting solar collector system invented at Florida State University; a system to detect corrosion under painted surfaces at the University of Miami; and the first Energy Star rated ceiling fan, created by Danny Parker from the UCF's Florida Solar Energy Center. Licensing agreements of this fan have led to sales of over 1.7 million fans so far.

The technology transfer process starts with invention disclosures. Professors and other university personnel are required to report inventions to their university's Technology Transfer Office (TTO). The chart below shows the amount of inventions that were disclosed to Florida research centers and universities in 2009 or the most recent year available. One can see that the University of Florida had 304 invention disclosures (approximately 41 percent of the reported state total), followed by the University of South Florida with 139 (19 percent). The University of Miami and the University of Central Florida were the only other two with more than 50 invention disclosures. These four universities account for approximately 82 percent of the total of 746 invention disclosures for the state of Florida.





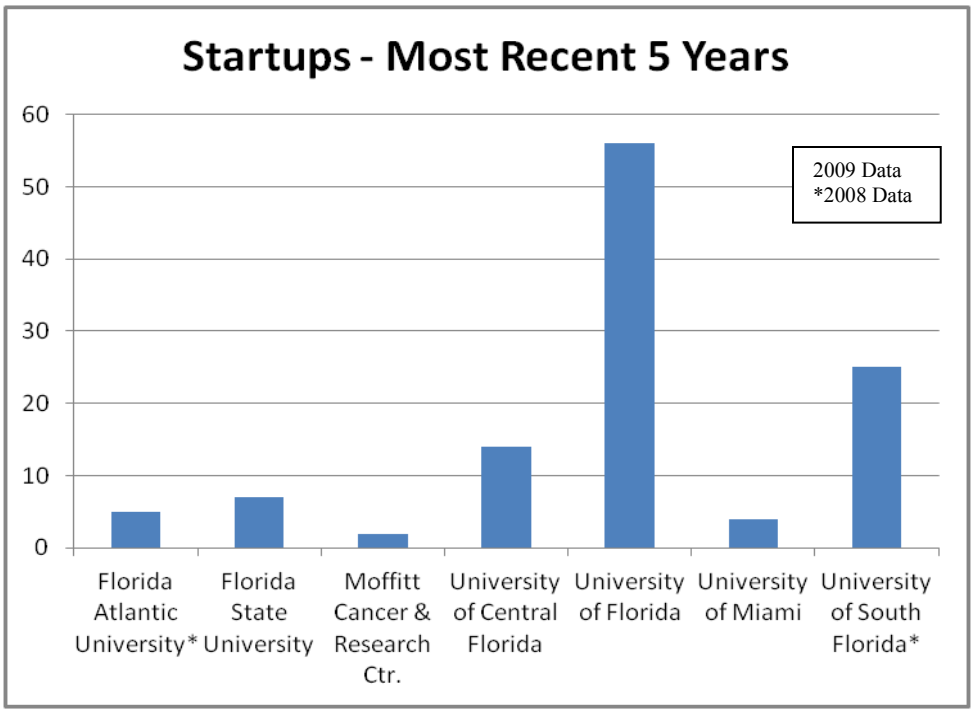
Once inventions are disclosed, the University's TTO evaluates the invention and begins to commercialize those inventions that have commercial value. At the larger universities that have active TTOs, there are staff dedicated to licensing and management of licenses. University TTOs regularly meet with private-sector firms looking for new inventions and processes that come from University research. TTOs and inventors are highly interested in the revenues that licensing inventions can bring. The common problem for both sides is the valuation of inventions, as it is especially challenging for those inventions with payoffs far into the future, which may need significant amounts of research money and time before the realization of any commercial payoff. Examples of this type of invention are drugs and biomedical inventions, which must be developed and tested, sometimes for several years, before FDA approval can be granted and the product can reach the market. When these technologies are licensed to companies for a determined fee or financial arrangement, these agreements become active licenses. The above chart shows the most recent number of active licenses at Florida universities and research centers.

Inventors and universities share in the licensing income generated by inventions. Typically companies take the invention through the prototype stage and into production. Income from licenses varies widely, and it is typically dependent upon the amount of further research that will be required to make an invention ready for the market. It is not uncommon that one or two of the licenses produce the majority of any university's license income. Gross licensing income for the most recent time period available is shown in the table below, clearly displaying that the University of Florida received the vast majority of the licensing income for the reporting Florida universities and research centers during 2009.

	Gross Licensing Income
University of Florida	$53,804,476
University of South Florida*	$1,831,000
University of Miami	$1,442,697
Florida State University	$1,192,448
University of Central Florida	$640,008
Florida Atlantic University*	$198,880
Moffitt Cancer and Research Center	$115,537
Florida Institute of Technology**	$69,907
Florida International University	$39,819

Having an effective technology transfer office is just part of what makes a university successful in taking inventions to market. Far from being a receiver only of invention disclosures, it is highly likely that the invention reporting process is to some extent endogenous. Those universities that train their professors and reward them are likely to get more, and better quality, inventions dis-

closed (indeed tenure decisions at some universities include production of commercial inventions as a criteria). Therefore, effective TTO managers are likely spending time with professors and other inventors, not waiting around for them to disclose. TTO personnel have indicated that some professors might not realize that they have something of commercial value, and in some cases, the inventor makes the decision to concentrate on something else so their time is not taken up with the commercialization process.



In a growing number of cases, inventors are encouraged to turn their inventions into startup companies. Some universities have encouraged this practice, allowing professors to spend time running the startup company while maintaining their university position.

The chart above shows that the University of Florida has, by far, the most startup companies over the five-year period that this data was available. The University of South Florida and the University of Central Florida were second and third, respectively, in the amount of startup companies during this period. None of the other Florida universities reported startup companies being formed over this period.

The Future

There is no doubt that Florida universities must become more of a focus for potential economic development and job creation. Tech transfer managers have indicated that approximately one-third of companies who start using technology licensed from Florida universities end up in another state. That means that around two-thirds of the newly-created companies stay in Florida. Approximately half of these companies that stay in Florida remain in the area of the university where the license agreement took place. Therefore, state leaders, as well as local leaders, should begin to focus on both the job-creating and the company-creating potential of their local universities.

Endnote: Florida TaxWatch would like to thank the Center for Economic Forecasting & Analysis (CEFA) at Florida State University for providing support on this subject, including the data used in creating the above graphs and tables. Data used in this paper is from the Association of University Technology Managers (AUTM). The data is voluntarily reported by participating Universities in an annual survey.

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