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High-Tech Establishments in Florida

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Editors note: In our last issue, we presented an analysis of High-Tech Jobs in Florida. It showed an interstate comparison of High-Tech job activity between Florida and three other states -Arizona, North Carolina, and Texas - chosen as benchmarks. It also showed an intrastate comparison of the job activity within different High-Tech industry groupings. It revealed a strong correlation between the number of jobs and number of establishments within the High-Tech Industries. The High-Tech Job analysis spanned a period of six years from 1998 to 2003. But the analysis was broken down into two periods, 1998 to 2000 and 2001 to 2003, due to both a change in the industry classification method and the consequent definition of a High-Tech Industry. Similarly, this article presents an analysis of High-Tech Establishments in Florida.

High-Tech Industries typically use state-of-the-art techniques, devote a high proportion of expenditures to research and development, and employ scientific, technical, and engineering personnel. The Bureau of Labor Statistics (BLS) list of High-Tech Industry Groups is generated using data on the amount of employment in an industry accounted for by scientific, technical and engineering personnel engaged in research and development activities. Industries are considered High-Tech if employment in both research and development and in all technology-oriented occupations accounts for an amount of employment that is at least twice the average amount of employees for all industries in the 1998 Occupational Employment Statistics (OES) survey. This list is the basis of the USF Center for

Economic Development Research (CEDR) analysis of High-Tech Establishments in the state of Florida from 1998 through 2000. The BLS revised the Standard Industrial Classification (SIC) – based list in 2002 to reflect the conversion to the North American Industry Classification System (NAICS).

Chapple, et. al. (2004, Feb), Gauging Metropolitan “High-Tech” and “I-Tech” Activity [Electronic Version]. *Economic Development Quarterly*, 18, (1), 10-29, uses the 1998 OES to identify all three-digit SIC manufacturing and service-producing industries with 9% (three times the average of the economy as a whole) of their national workforce in science and engineering jobs to develop a list of High-Tech Industry Groups. Then, Carnegie Mellon University Center for Economic Development takes this list of High-Tech Industry Groups (SIC based) and converts it to a list of High-Tech Industries (NAICS based). Using employment data from the updated 2002 OES and following the same methodology as Chapple, et. al. (2004), the Carnegie Mellon University Center for Economic Development makes a new list, which is the basis of the USF-CEDR’s analysis of High-Tech Establishments in the state of Florida from 2001 through 2003.

Table 1 shows the number of establishments in Florida in 1998, 1999 and 2000 within each High-Tech Industry Group according to SIC. Establishments are the physical locations of a certain economic activity--for example, factories, mines, stores, or offices. A single establishment generally produces a single good or provides a single service. High-Tech Establishments in Florida increased by 10.44% from 1998 to 1999, and increased by 8.88% from 1999 to 2000. *(Continued on page 3)*

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From the Editor...

This is the second issue of *The Tampa Bay Economy* (TBE) for 2005, published solely in electronic form.

“High-Tech Establishments in Florida” is the lead report in this issue. The article analyzes, for the period 1998-2003, trends in Florida high-tech employment, and compares Florida’s experience to those of other selected states.

Another article, “The Do-Not-Call Registry and Telemarketing Employment, 2001-2004,” examines the predicted effects of this law and employment trends in the telemarketing industry.

CEDR will conduct the 29th annual USF Basic Economic Development Course in October 2005. This issue of the TBE includes a brief preview of the course.

The article on “The Impact of Medicaid Expenditures on Florida’s Sales Tax Revenues” summarizes a CEDR research report completed in March 2005.

Dave Sobush and Michael Bernabe wrote articles for this issue of the TBE; however, both left CEDR to pursue other opportunities, prior to this publication.

To help us make the journal add even more value to Tampa Bay’s economic development community, we ask the journal’s readers to send their comments to: cedr@coba.usf.edu with the subject line “Journal Comments.”

(Continued from page 1)

Our Summary Indicator for “High-Tech Establishments” is the percentage of High-Tech Establishments to total establishments in Florida. This indicator assesses whether High-Tech Establishments are increasing relative to total establishments. The

Summary Indicators for this time period show that in 1998, 5.98% of establishments in Florida were in High-Tech Industries. In 1999, the number of establishments in Florida’s High-Tech Industries climbed to 6.47% and up again to 6.90% in 2000. Table 1 also shows the following industry groups to

Table 1
Private Sector High-Tech Establishments in Florida by Industry

SIC Code	Industry Group	Establishments		
		1998	1999	2000
281	Industrial Inorganic Chemicals	44	45	43
282	Plastics Materials and Synthetics	55	54	65
283	Drugs	101	95	94
284	Soap, Cleaners, and Toilet Goods	137	136	135
285	Paints	71	65	76
286	Industrial Organic Chemicals	33	27	18
287	Agricultural Chemicals	89	80	87
289	Miscellaneous Chemical Products	82	87	79
291	Petroleum Refining	nd	nd	11
348	Ordinance and Accessories, N.E.C.	25	23	25
351	Engines and Turbines	29	26	32
353	Construction and Related Machinery	145	155	139
355	Special Industry Machinery	142	143	146
356	General Industrial Machinery	187	195	193
357	Computer and Office Equipment	134	133	115
361	Electric Distribution Equipment	39	34	35
362	Electrical Industrial Apparatus	72	86	92
365	Household Audio and Video Equipment	44	50	57
366	Communications Equipment	194	187	193
367	Electronic Components and Accessories	253	249	262
371	Motor Vehicles and Equipment	202	187	182
372	Aircraft and Parts	184	174	174
376	Guided Missiles, Space Vehicles	22	22	18
381	Search and Navigation Equipment	55	53	49
382	Measuring and Controlling Devices	235	241	240
384	Medical Instruments and Supplies	268	281	254
386	Photographic Equipments and Supplies	32	34	34
737	Computer and Data Processing Services	5,739	6,934	8,585
871	Engineering and Architectural Services	4,451	4,734	5,126
874	Management and Public Relations	12,139	13,303	13,746
	Total Florida High-Tech Establishments	25,203	27,833	30,305
	Total Florida Establishments (Private Sector)	421,782	429,947	439,064
	Summary Indicator	5.98%	6.47%	6.90%

Source: Compiled by CEDR from US Department of Labor, Bureau of Labor Statistics, State and County Employment Wages from Covered Employment and Wages, available at <http://data.bls.gov/cgi-bin/dsrv?ew>

*n/d: Not Disclosable - data do not meet BLS or State Agency disclosure standards, usually because a minimum employment amount has not been met.

have the most High-Tech Establishments: Management and Public Relations (SIC 874), Computer and Data Processing Services (SIC 737), Engineering and Architectural Services (SIC 871), Medical Instruments and Supplies (SIC 384), and Electronic Components and Accessories (SIC 367).

Table 2 provides a comparison of the Summary Indicators for Private Sector High-Tech Establishments in Florida with a group of selected

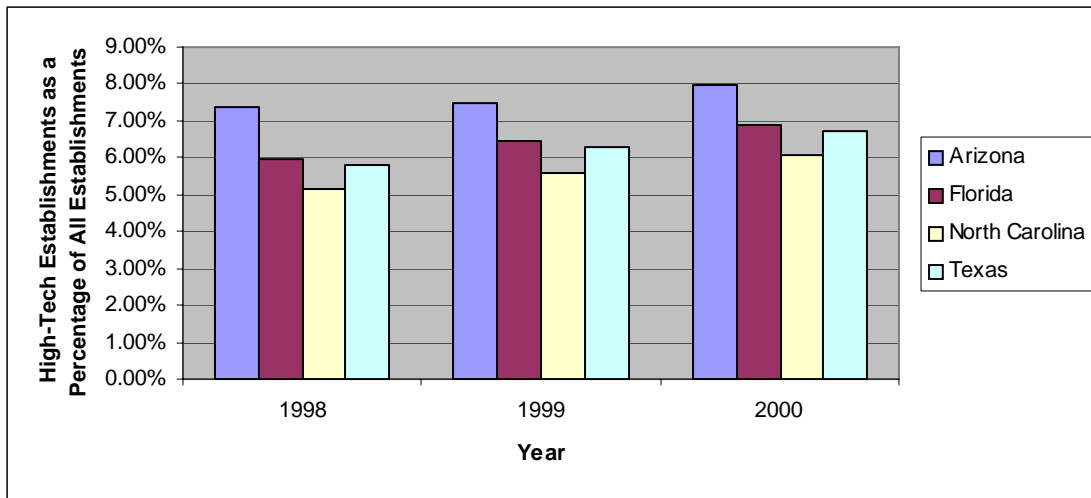
states as benchmarks. **Chart 1** is a visual comparison. All four states (Arizona, Florida, North Carolina, and Texas) experienced a year-to-year increase in the absolute value of High-Tech Establishments and High-Tech Establishments as a percent of total establishments. Texas's summary indicator shows the largest increase at .96% over the period, North Carolina comes a close second with an increase of .95% and Florida third with an increase of .92%.

Table 2
Summary Indicators for Private High-Tech Establishments

Year	Measure	State:	Arizona	Florida	North Carolina	Texas
1998						
	High-Tech Establishments		8,075	25,203	10,067	26,610
	Total Establishments		109,686	421,782	196,219	460,472
	Summary Indicator		7.36%	5.98%	5.13%	5.78%
1999						
	High-Tech Establishments		8,315	27,833	11,570	29,245
	Total Establishments		110,858	429,947	206,673	467,014
	Summary Indicator		7.50%	6.47%	5.60%	6.26%
2000						
	High-Tech Establishments		9,040	30,305	12,997	31,942
	Total Establishments		113,394	439,064	213,803	475,294
	Summary Indicator		7.97%	6.90%	6.08%	6.72%

Source: US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>

Chart 1
Summary Indicators – High-Tech Establishments



Source: US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>

Table 3 indicates the year-over-year percent change in number of establishments within each High-Tech Industry Group in Florida. From 1998 to 1999 the Computer and Data Processing Services (SIC 737) industry experienced the largest percent increase of about 21%, while the Industrial Organic Chemicals (SIC 286) industry experienced the largest percent decrease of approximately -18%. Similarly, from 1999 to 2000 the Computer and Data Processing Services (SIC 737) industry experienced the largest

percent increase of nearly 24%, and the Industrial Organic Chemicals (SIC 286) industry experienced the largest percent decrease of about -33%. Only 4 High-Tech Industry Groups experienced positive growth in both 2002 and 2003 with 2003's growth being larger than 2002's. Those industries are: Special Industry Machinery (SIC 355), Household Audio and Video Equipment (SIC 365), Computer and Data Processing Services (SIC 737), and Engineering and Architectural Services (SIC 871).

Table 3
Percent Change in Private Sector High-Tech Establishments in Florida
(by Industry)

SIC Code	Industry Group	% Change	
		1998 to 1999	1999 to 2000
281	Industrial Inorganic Chemicals	2.27%	-4.44%
282	Plastics Materials and Synthetics	-1.82%	20.37%
283	Drugs	-5.94%	-1.05%
284	Soap, Cleaners, and Toilet Goods	-0.73%	-0.74%
285	Paints	-8.45%	16.92%
286	Industrial Organic Chemicals	-18.18%	-33.33%
287	Agricultural Chemicals	-10.11%	8.75%
289	Miscellaneous Chemical Products	6.10%	-9.20%
291	Petroleum Refining	N/A	N/A
348	Ordinance and Accessories, N.E.C.	-8.00%	8.70%
351	Engines and Turbines	-10.34%	23.08%
353	Construction and Related Machinery	6.90%	-10.32%
355	Special Industry Machinery	0.70%	2.10%
356	General Industrial Machinery	4.28%	-1.03%
357	Computer and Office Equipment	-0.75%	-13.53%
361	Electric Distribution Equipment	-12.82%	2.94%
362	Electrical Industrial Apparatus	19.44%	6.98%
365	Household Audio and Video Equipment	13.64%	14.00%
366	Communications Equipment	-3.61%	3.21%
367	Electronic Components and Accessories	-1.58%	5.22%
371	Motor Vehicles and Equipment	-7.43%	-2.67%
372	Aircraft and Parts	-5.43%	0.00%
376	Guided Missiles, Space Vehicles	0.00%	-18.18%
381	Search and Navigation Equipment	-3.64%	-7.55%
382	Measuring and Controlling Devices	2.55%	-0.41%
384	Medical Instruments and Supplies	4.85%	-9.61%
386	Photographic Equipments and Supplies	6.25%	0.00%
737	Computer and Data Processing Services	20.82%	23.81%
871	Engineering and Architectural Services	6.36%	8.28%
874	Management and Public Relations	9.59%	3.33%

Sources: Compiled by CEDR from - 1) Carnegie Mellon University Center for Economic Development (CED), Table 1: Technology Employers, <http://www.ssti.org/Publications/online.htm> 2) US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>

*N/A: Not Available – a percent change was not available due to no data disclosed to make a calculation

**Table 4
Private High-Tech Establishments in Florida by Industry**

NAICS	Industry	ESTABLISHMENTS		
		2001	2002	2003
211111	Crude Petroleum and Natural Gas Extraction	19	nd	19
325110	Petrochemical Manufacturing	nd	nd	nd
325120	Industrial Gas Manufacturing	17	20	18
325131	Inorganic Dye and Pigment Manufacturing	5	5	6
325188	All Other Basic Inorganic Chemical Manufacturing	nd	nd	nd
325192	Cyclic Crude and Intermediate Manufacturing	nd	0	nd
325199	All Other Basic Organic Chemical Manufacturing	10	nd	11
325411	Medicinal and Botanical Manufacturing	15	14	13
325412	Pharmaceutical Preparation Manufacturing	57	55	61
325413	In-Vitro Diagnostic Substance Manufacturing	nd	8	8
325414	Biological Product (except Diagnostic) Manufacturing	nd	4	4
333210	Sawmill and Woodworking Machinery Manufacturing	8	6	nd
333292	Plastics and Rubber Industry Machinery Manufacturing	nd	nd	nd
333293	Textile Machinery Manufacturing	31	28	25
333294	Printing Machinery and Equipment Manufacturing	23	19	19
333295	Semiconductor Machinery Manufacturing	nd	nd	nd
333298	All Other Industrial Machinery Manufacturing	37	36	38
333313	Office Machinery Manufacturing	15	13	12
333314	Optical Instrument and Lens Manufacturing	35	29	25
333315	Photographic and Photocopying Equipment Manufacturing	13	12	14
333319	Other Commercial and Service Industry Machinery Manufacturing	104	100	96
334111	Electronic Computer Manufacturing	45	41	42
334113	Computer Terminal Manufacturing	6	5	7
334119	Other Computer Peripheral Equipment Manufacturing	38	42	44
334210	Telephone Apparatus Manufacturing	44	41	38
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	103	95	95
334290	Other Communications Equipment Manufacturing	48	47	46
334310	Audio and Video Equipment Manufacturing	46	40	38
334412	Bare Printed Circuit Board Manufacturing	71	65	63
334413	Semiconductor and Related Device Manufacturing	50	53	45
334414	Electronic Capacitor Manufacturing	8	7	6
334415	Electronic Resistor Manufacturing	8	7	6
334417	Electronic Connector Manufacturing	12	11	12
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	46	49	42
334419	Other Electronic Component Manufacturing	39	40	42
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	43	40	45
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	53	51	52
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	27	25	22
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	57	51	53
334514	Totalizing Fluid Meter and Counting Device Manufacturing	24	21	20
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	51	45	45
334516	Analytical Laboratory Instrument Manufacturing	23	20	21
334517	Irradiation Apparatus Manufacturing	10	9	12
334519	Other Measuring and Controlling Device Manufacturing	29	36	40
336411	Aircraft Manufacturing	44	49	56
336412	Aircraft Engine and Engine Parts Manufacturing	57	54	52
336413	Other Aircraft Part and Auxiliary Equipment Manufacturing	51	52	49
336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	nd	nd	nd
511210	Software Publishers	210	230	249
541310	Architectural, Engineering, and Related Services	1,576	1,629	1,701
541330	Engineering Services	3,354	3,584	3,775
541370	Surveying and Mapping (except Geophysical) Services	682	698	735
541380	Testing Laboratories	379	379	388
541511	Custom Computer Programming Services	3,337	3,511	3,858
541512	Computer Systems Design Services	2,953	2,991	3,106
541710	Research and Development in the Physical, Engineering, and Life Sciences	601	580	594
541720	Research and Development in the Social Sciences and Humanities	184	171	167
	Total High-Tech Establishments	14,698	15,118	15,935
	Total Establishments (Private Sector)	448,336	469,164	488,591
	Summary Indicator	3.28%	3.22%	3.26%

Sources: Compiled by CEDR from - 1) Carnegie Mellon University Center for Economic Development (CED), Table 1: Technology Employers, <http://www.ssti.org/Publications/online.htm> 2) US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>
*nd: Not Disclosable - data do not meet BLS or State Agency disclosure standards, usually because a minimum employment amount has not been met.

Table 4 shows the number of establishments in Florida in 2001, 2002 and 2003 within each High-Tech Industry, classified by NAICS. High-Tech establishments in Florida increased by 2.86% from 2001 to 2002, and increased by 5.40% from 2002 to 2003. The Summary Indicators for this time period shows that in 2001, 3.28% of establishments in Florida were in High-Tech Industries. In 2002, the number of establishments in Florida's High-Tech Industries dropped to 3.22% but climbed back up to 3.26% in 2003. Table 4 also shows the following industries to hold the most High-Tech Establishments: Engineering Services (NAICS 541330), Custom Computer Programming Systems (NAICS 541511), Computer Systems Design Devices (NAICS 541512), Architectural, Engineering, and Related Services (NAICS 541310) and Surveying and Mapping (except Geophysical Services (NAICS 541370).

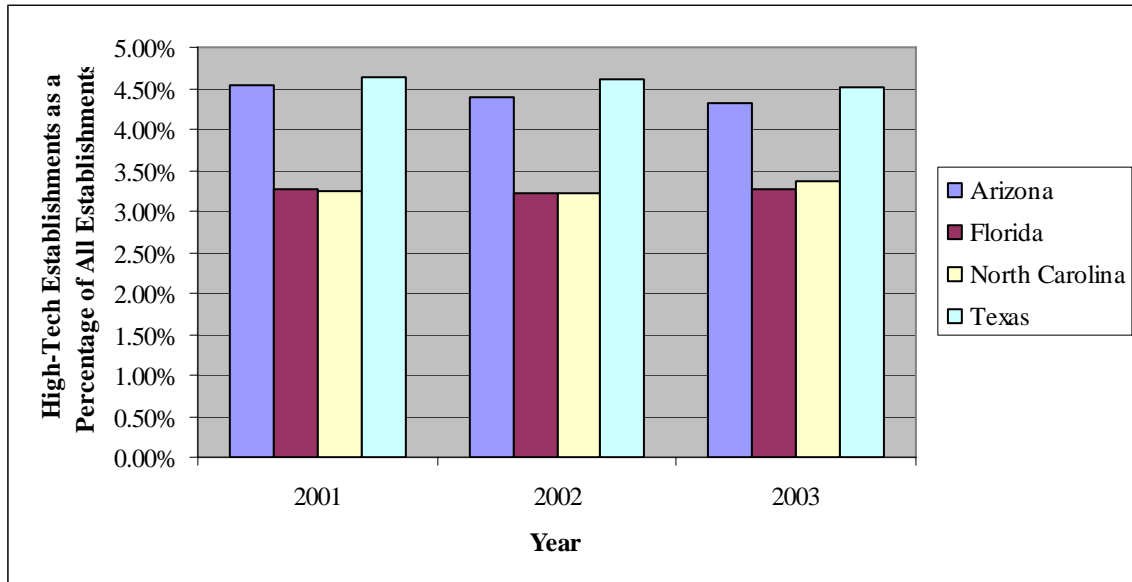
Table 5 provides a comparison of the Summary Indicators for Private Sector High-Tech Establishments in Florida with a group of selected states as benchmarks. **Chart 2** is a visual comparison. Three of the four states (Arizona, Florida, and Texas) experienced a year-to-year increase in the absolute value of total establishments. Only Florida and North Carolina experienced a year-to-year increase in the absolute values of High-Tech Establishments throughout the period. North Carolina was the only state that did not show a decline in their summary indicator in the period 2001 to 2003. Florida's summary indicator showed the least variability within the time period, indicating some consistency between the number of High-Tech Establishments relative to the number of total establishments.

Table 5
Summary Indicators for Private High-Tech Establishments

Year Measure	State:	Arizona	Florida	N. Carolina	Texas
2001					
High-Tech Establishments		5,304	14,698	6,980	22,188
Total Establishments		116,748	448,336	215,872	479,492
Summary indicator		4.54%	3.28%	3.23%	4.63%
2002					
High-Tech Establishments		5,230	15,118	7,249	22,256
Total Establishments		118,870	469,164	224,623	483,890
Summary indicator		4.40%	3.22%	3.23%	4.60%
2003					
High-Tech Establishments		5,335	15,935	7,295	22,007
Total Establishments		123,825	488,591	217,053	488,251
Summary indicator		4.31%	3.26%	3.36%	4.51%

Source: US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>

Chart 2
Summary Indicators – High-Tech Establishments



Source: US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>

Table 6 indicates the year-over-year percent change in number of establishments within each High-Tech Industry in Florida. From 2001 to 2002 the Other Measuring and Controlling Device Manufacturing (NAICS 334519) industry experienced the largest percent increase of about 24%, while the Sawmill and Woodworking Machinery Manufacturing (NAICS 333210) industry experienced the largest percent decrease -25%. From 2002 to 2003 (preliminary data) the Computer Terminal Manufacturing (NAICS 334113) industry experienced the largest percent increase of 40%, and the Semiconductor and Related Device Manufacturing

(NAICS 334413) industry experienced the largest percent decrease -15%. Only 6 High-Tech industries experienced positive growth in both 2002 and 2003 with 2003's growth being larger than 2002's. Those industries are: Other Electronic Component Manufacturing (NAICS 334419), Aircraft Manufacturing (NAICS 336411), Architectural, Engineering, and Related Services (NAICS 541310), Surveying and Mapping (except Geophysical) Services (NAICS 541370), Custom Computer Programming Services (NAICS 541511), and Computer Systems Design Devices (NAICS 541512).

Table 6
Percent Change in Private Sector High-Tech Establishments in Florida (by Industry)

NAICS Industry	% Change	
	2001-2002	2002-2003
211111 Crude Petroleum and Natural Gas Extraction	N/A *	N/A
325100 Basic Chemical Manufacturing	N/A	N/A
325110 Petrochemical Manufacturing	N/A	N/A
325120 Industrial Gas Manufacturing	17.65%	-10.00%
325131 Inorganic Dye and Pigment Manufacturing	0.00%	20.00%
325182 Carbon Black Manufacturing	N/A	N/A
325188 All Other Basic Inorganic Chemical Manufacturing	N/A	N/A
325192 Cyclic Crude and Intermediate Manufacturing	N/A	N/A
325199 All Other Basic Organic Chemical Manufacturing	N/A	N/A
325411 Medicinal and Botanical Manufacturing	-6.67%	-7.14%
325412 Pharmaceutical Preparation Manufacturing	-3.51%	10.91%
325413 In-Vitro Diagnostic Substance Manufacturing	N/A	0.00%
325414 Biological Product (except Diagnostic) Manufacturing	N/A	0.00%
333210 Sawmill and Woodworking Machinery Manufacturing	-25.00%	N/A
333292 Plastics and Rubber Industry Machinery Manufacturing	N/A	N/A
333293 Textile Machinery Manufacturing	-9.68%	-10.71%
333294 Printing Machinery and Equipment Manufacturing	-17.39%	0.00%
333295 Semiconductor Machinery Manufacturing	N/A	N/A
333298 All Other Industrial Machinery Manufacturing	-2.70%	5.56%
333313 Office Machinery Manufacturing	-13.33%	-7.69%
333314 Optical Instrument and Lens Manufacturing	-17.14%	-13.79%
333315 Photographic and Photocopying Equipment Manufacturing	-7.69%	16.67%
333319 Other Commercial and Service Industry Machinery Manufacturing	-3.85%	-4.00%
334111 Electronic Computer Manufacturing	-8.89%	2.44%
334113 Computer Terminal Manufacturing	-16.67%	40.00%
334119 Other Computer Peripheral Equipment Manufacturing	10.53%	4.76%
334210 Telephone Apparatus Manufacturing	-6.82%	-7.32%
334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	-7.77%	0.00%
334290 Other Communications Equipment Manufacturing	-2.08%	-2.13%
334310 Audio and Video Equipment Manufacturing	-13.04%	-5.00%
334412 Bare Printed Circuit Board Manufacturing	-8.45%	-3.08%
334413 Semiconductor and Related Device Manufacturing	6.00%	-15.09%
334414 Electronic Capacitor Manufacturing	-12.50%	-14.29%
334415 Electronic Resistor Manufacturing	-12.50%	-14.29%
334417 Electronic Connector Manufacturing	-8.33%	9.09%
334418 Printed Circuit Assembly (Electronic Assembly) Manufacturing	6.52%	-14.29%
334419 Other Electronic Component Manufacturing	2.56%	5.00%
334510 Electromedical and Electrotherapeutic Apparatus Manufacturing	-6.98%	12.50%
334511 Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	-3.77%	1.96%
334512 Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	-7.41%	-12.00%
334513 Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	-10.53%	3.92%
334514 Totalizing Fluid Meter and Counting Device Manufacturing	-12.50%	-4.76%
334515 Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	-11.76%	0.00%
334516 Analytical Laboratory Instrument Manufacturing	-13.04%	5.00%
334517 Irradiation Apparatus Manufacturing	-10.00%	33.33%
334519 Other Measuring and Controlling Device Manufacturing	24.14%	11.11%
336411 Aircraft Manufacturing	11.36%	14.29%
336412 Aircraft Engine and Engine Parts Manufacturing	-5.26%	-3.70%
336413 Other Aircraft Part and Auxiliary Equipment Manufacturing	1.96%	-5.77%
336419 Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	N/A	N/A
511210 Software Publishers	9.52%	8.26%
541310 Architectural, Engineering, and Related Services	3.36%	4.42%
541330 Engineering Services	6.86%	5.33%
541370 Surveying and Mapping (except Geophysical) Services	2.35%	5.30%
541380 Testing Laboratories	0.00%	2.37%
541511 Custom Computer Programming Services	5.21%	9.88%
541512 Computer Systems Design Devices	1.29%	3.84%
541710 Research and Development in the Physical, Engineering, and Life Sciences	-3.49%	2.41%
541720 Research and Development in the Social Sciences and Humanities	-7.07%	-2.34%

Sources: Compiled by CEDR from - 1) Carnegie Mellon University Center for Economic Development (CED), Table 1: Technology Employers, <http://www.ssti.org/Publications/online.htm> 2) US Department of Labor, Bureau of Labor Statistics, State and County Employment and Wages from the Quarterly Census of Employment and Wages (2001 forward), <http://www.bls.gov/data/home.htm>
*N/A: Not Available – a percent change was not available due to no data disclosed to make a calculation

<p>Under the earlier definition of High-Tech Industries and under the Standard Industrial Classification system the state of Florida's summary indicators came second only to Arizona's among the benchmark states during 1998 to 2000. During the same time span the number of private sector High-Tech Establishments in the state of Florida were second only to Texas among the benchmark states. Then during 2000 to 2003, using a new definition of High-Tech Industries and now the North American Industry Classification System, Florida did not fare so well in comparison to the benchmark states. As indicated by the summary indicators, while Florida</p>	<p>remained consistent regarding the number of High-Tech Establishments compared to the number of total establishments, it was also the state with the lowest indicator during the two most recent years (2002 and 2003). This shows that in comparison to the other benchmark states, Florida is showing a trend of having relatively, the least amount of establishments belonging in High-Tech Industries. But on a positive note, although Florida is showing the most year-to-year growth in High-Tech Establishments, total establishments are growing by a relatively larger amount each year.</p>
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USF's Basic Economic Development Course

<p style="text-align: center;"><i>By Nolan Kimball, Coordinator of Information/Publications with the Center for Economic Development Research, University of South Florida (USF)</i></p> <p>This year marks the 29th Annual USF Economic Development Course. The course will be held at the DoubleTree Guest Suites of Tampa Bay in Tampa, Florida from October 23 – 28, 2005.</p> <p>The weeklong course, which is accredited by the International Economic Development Council (IEDC), serves as an introduction to economic development. Eighteen universities and state agencies around the U.S. offer the IEDC accredited basic economic development course (BEDC) at different times throughout the year.</p>	<p>The course is the first step for anyone planning to become certified in the economic development field. USF's BEDC offers a diverse and experienced faculty, composed of both academicians and practitioners providing an excellent blend of theory and practice.</p> <p>Because participation and discussion are strongly encouraged, the class capacity is limited to 50 people. For further information on the course, contact Ms. Nolan Kimball at (813) 905 - 5854 or nkimball@coba.usf.edu</p>
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The Do-Not-Call Registry and Telemarketing Employment, 2001-2004

By Dave Sobush, Economist with the Center for Economic Development Research

The purpose of this article is to present employment data on both a regional and national level for the telemarketing industry and also to compare reported predicted effects of the National Do Not Call Registry, prohibiting certain telemarketers' sales pitches, with the post-enactment experience.

Telemarketing bureaus provide "telemarketing services on a contract or fee basis for others." These services typically fall into one of the following categories:

- Promotion of clients' products or services by telephone
- Taking orders by telephone for clients' products and services
- Providing information or soliciting contributions for clients by telephone.

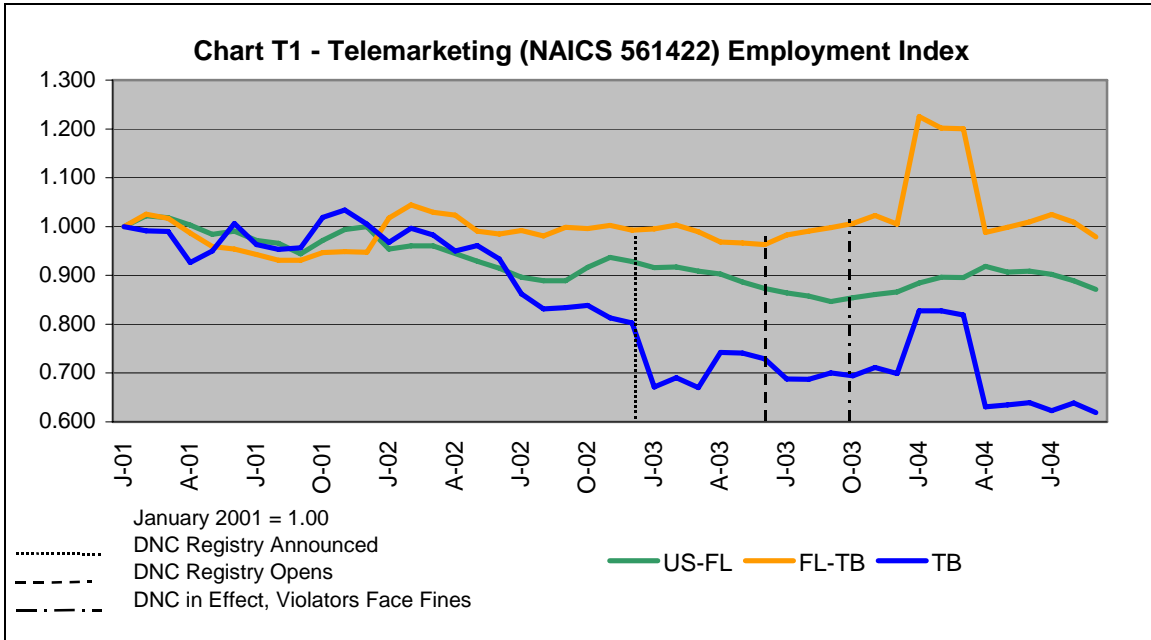
On March 11, 2003, President George W. Bush authorized the creation of the National Do Not Call (DNC) Registry. The registry, managed by the Federal Trade Commission (FTC), was created to "offer consumers a choice regarding telemarketing calls." The legislation allows consumers to submit their phone numbers to a national database, and beginning October 1, 2003, telemarketers faced fines of \$11,000 for each call made to registered numbers. The DNC Registry permits calls to be made on behalf of political or charitable groups, for purposes of survey, and to individuals with whom the caller's client enjoys a prior business relationship.

An industry advocacy group, American Teleservices Association (ATA), predicted a reduction of 2 million telemarketing jobs, although the U.S. Bureau of Labor Statistics counted only slightly more than 297,000 telemarketing employees at the time of the ATA statement. In the Tampa Bay region, an economic development professional stated the legislation would have little effect on local call center

employment, due to the region's lack of telemarketing establishments.

Prior to its replacement with the North American Industry Classification System (NAICS), the Standard Industrial Classification (SIC) lumped telemarketing in the category of Business Services, Not Elsewhere Classified (SIC 7389) along with industries such as parade float decoration, wig styling, and baby shoe bronzing. When the government introduced the NAICS in 1997, telemarketing received its own code – NAICS 561422. The Bureau of Labor Statistics (BLS) ES-202 dataset reports monthly telemarketing employment data from January 2001 forward, and state and county data on an annual basis. However, Florida's Agency for Workforce Innovation (AWI) makes available to CEDR the Enhanced Quarterly Unemployment Insurance (EQUI) database, which permits us to examine and report aggregated – thus protecting sensitive data for individual firms from disclosure – telemarketing employment data for Florida as well as the seven-county Tampa Bay region.

Using January 2001 as a baseline, **Chart T1** on the following page displays trends in telemarketing employment from January 2001 to September 2004 – the latest date for which data is available – for three regions: (a) the United States (less Florida), (b) Florida (less the Tampa Bay region), and (c) the Tampa Bay Region (Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, and Sarasota counties).



Over the 3.75 years reported, telemarketing employment in the U.S. (less Florida) region has gradually declined to about 88% of its January 2001 level. Telemarketing employment in the Florida (less the Tampa Bay region) has fluctuated over the period of interest, but has lost less than 3% of its value. In the Tampa Bay region, telemarketing employment has declined precipitously since January 2001. In this time period, more than 1/3 of such jobs have disappeared.

Chart T1 depicts three events relative to our analysis: the announcement of the DNC Registry, the opening of the DNC Registry, and the date the violators of the DNC Registry began to face fines. In the quarter after the DNC Registry announcement, telemarketing employment in all three regions declined, most dramatically in the Tampa Bay region. When the DNC Registry opened, U.S. (less Florida) and Tampa Bay regional telemarketing employment declined slightly in that quarter, while Florida (less the Tampa Bay region) telemarketing employment increased. In the quarter following the enactment – the penalty stage – of the DNC legislation, employment levels in all three regions changed only slightly.

We noticed the 1st quarter (January-March) 2004 spike in telemarketing employment for Florida and Tampa Bay. Thorough analysis of the individual firms and establishments (a firm may have more than one establishment) explains the spike. The upswing in telemarketing employment was due to new firms entering the market, whereas the downswing was due to fewer employees at existing firms.

As it turns out, national telemarketing employment did not suffer a tremendous decline nor did like employment in the Tampa Bay region emerge unscathed, although in the latter case telemarketing employment had been on a downward slide prior to the formal announcement of the DNC Registry. Both prognosticators' predictions turned out to be inaccurate. Analysis of pre-announcement telemarketing data might have led to better forecasts of employment change due to the DNC Registry legislation.

The Impact of Medicaid Expenditures on Florida's Sales Tax Revenues

By Dennis G. Colie, Ph.D., Director, Center for Economic Development Research

The Florida Hospital Association (FHA) is a statewide organization representing the interests of hospitals and health care systems. The FHA provides advocacy before the state legislature, Congress, state, and federal regulatory agencies, and the court system. The FHA commissioned this analysis and USF - CEDR sent its report of analysis to the FHA in March 2005. This article is a summary of that report, which is available in full at <http://cedr.coba.usf.edu>.

According to the U.S. Centers for Medicare and Medicaid Services, "Medicaid is a program that pays for medical assistance for certain individuals and families with low incomes and resources. This program became law in 1965 and is jointly funded by the Federal and State governments (including the District of Columbia and the Territories) to assist States in providing medical long-term care assistance to people who meet certain eligibility criteria. Medicaid is the largest source of funding for medical and health-related services for people with limited income."¹

In Florida, the State's Agency for Health Care Administration (AHCA) administers the Medicaid program, which is authorized under Chapter 409, F.S., and Chapter 59-G, F.A.C. The program is funded through federal and state cost-sharing and with Florida counties contributing a portion of inpatient hospital care and nursing home services costs. Matching federal funds are contingent upon the State's continued compliance with Title XIX of the Social Security Act and regulations in Title 42 of the Code of Federal Regulations.

Eligibility for Medicaid participation is determined by one of two agencies: the Department of Children and Families for low income children and family programs and the institutional care program, or the Social Security Administration for aged, blind, or disabled recipients. Each agency has separate and

distinct requirements for eligibility.

Performance-based program budgeting is used in ACHA's budget process to determine how established goals are being met in the use of public funds. Analysis of results for 58 separate measures is compared to legislated targets to judge the program efficiency.¹ In 2003, average monthly caseload exceeded 2 million individuals. Budgeted expenditures of \$12.5 billion were available for FY 2003-04.

In this analysis, we estimate the fiscal impact of FY 2004-05 Medicaid expenditures on Florida's sales tax revenues. We use the REMITM Policy Insight model to make our estimate of the fiscal impact. To implement the model we use the traditional counterfactual approach. That is, we virtually remove the projected FY 2004-05 Medicaid expenditures from Florida's economy and allow the model to find a new general equilibrium. The new general equilibrium takes into account the loss of continued circulation of the initial Medicaid expenditures throughout Florida's economy. Then, we compare the estimated sales tax revenues at the new equilibrium with the projected sales tax revenues before removal of the projected Medicaid expenditures.

Table 1 shows projected FY 2004-05 Medicaid expenditures. The basic data is from the February 25, 2005 Social Services Estimating Conference and provided to us by the FHA. Based on the description provided with the data, we can determine applicable industry subsectors of the economy in which these funds will purchase goods and services. The North American Industry Classification System (NAICS) was developed jointly by the U.S., Canada, and Mexico to provide comparability in statistics about business activity across North America and defines all categories of economic activity. We take the basic data, shown in the "Expense" column of Table 1 and allocate these expenses to various NAICS industry subsectors as shown in the columns to the right of the "Expense" column. This allows us to input the dollar amounts of

(Continued on page 16)

Table 1
Florida FY 04-05 Projected Medicaid Expenditures

MEDICAID SERVICES TO INDIVIDUALS

Service	NAICS	Expense	NAICS 446	NAICS 524	NAICS 621	NAICS 622	NAICS 623	NAICS 624	NAICS 923
Case Management Services	621	\$101,219,926			\$101,219,926				
Therapeutic Services for Children	621	\$235,994,239			\$235,994,239				
Community Mental Health Services	621	\$59,772,790			\$59,772,790				
Adult Dental Services	621	\$14,517,907			\$14,517,907				
Dev Evaluation / Early Intervention Svcs	621	\$3,599,931			\$3,599,931				
Early & Periodic Screening / Children	621	\$127,261,066			\$127,261,066				
G/A Rural Hosp Financial Assist / DSH	622	\$12,746,090				\$12,746,090			
Family Planning Services	621	\$7,724,249			\$7,724,249				
Healthy Start Services	621	\$13,634,401			\$13,634,401				
Home Health Services	621	\$165,070,061			\$165,070,061				
Hospice Services	623	\$218,870,458					\$218,870,458		
Hospital Inpatient Services	622	\$1,999,907,739				\$1,999,907,739			
Hospital Inpatient Special Medicaid Payments	622	\$582,196,096				\$582,196,096			
Regular Disproportionate Share	622	\$226,923,978				\$226,923,978			
Freestanding Dialysis Centers	621	\$13,434,427			\$13,434,427				
Hospital Insurance Benefits	524	\$140,962,450		\$140,962,450					
Hospital Outpatient Services	621	\$551,312,544			\$551,312,544				
Hospital Outpatient - Special Medicaid Pymts	621	\$8,383,501			\$8,383,501				
Respiratory Therapy Services	621	\$4,716,108			\$4,716,108				
Nurse Practioner Services	621	\$5,341,798			\$5,341,798				
Birthing Center Services	621	\$1,243,176			\$1,243,176				
Other Lab and X-ray Services	621	\$45,687,802			\$45,687,802				
Patient Transportation	621	\$112,690,977			\$112,690,977				
Physician Assistant Services	621	\$2,128,163			\$2,128,163				
Personal Care Services	621	\$21,472,458			\$21,472,458				
Physical Therapy Services	621	\$17,844,485			\$17,844,485				
Physician Services	621	\$666,766,804			\$666,766,804				
Physician Svcs - Special Medicaid Payments	621	\$102,196,275			\$102,196,275				
Prescribed Medicine / Drugs	446	\$2,617,296,082	\$2,617,296,082						
Private Duty Nursing Services	621	\$128,057,073			\$128,057,073				
Rural Health Clinics	621	\$53,814,512			\$53,814,512				
Speech Therapy Services	621	\$29,719,809			\$29,719,809				
MediPass Services	621	\$28,860,500			\$28,860,500				
G/A RPICC DSH	622	\$168,300				\$168,300			
Supplemental Medical Insurance	524	\$603,660,421		\$603,660,421					
Occupational Therapy Services	621	\$21,777,436			\$21,777,436				
Clinic Services	621	\$74,350,063			\$74,350,063				
Medicaid School Refinancing	923	\$50,000,000							\$50,000,000
Total Medicaid Services to Individuals		\$9,071,324,095	\$2,617,296,082	\$744,622,871	\$2,618,592,481	\$2,821,942,203	\$218,870,458	\$0	\$50,000,000

Table 1 (continued)
Florida FY 04-05 Projected Medicaid Expenditures

MEDICAID LONG TERM CARE

Service	NAICS	Expense	NAICS 446	NAICS 524	NAICS 621	NAICS 622	NAICS 623	NAICS 624	NAICS 923
Assistive Care Services	623	\$32,917,835					\$32,917,835		
Home & Community Based Services	624	\$777,778,695						\$777,778,695	
ALF Resident Waiver	623	\$30,022,154					\$30,022,154		
Intermediate Care Fac./ Sunland Ctrs	923	\$139,093,059							\$139,093,059
Intermediate Care Fac./ Community	923	\$199,057,315							\$199,057,315
Nursing Home Care	623	\$2,355,015,969					\$2,355,015,969		
Nursing Home Special Medicaid Payments	623	\$11,069,716					\$11,069,716		
State Mental Health Hospital Services	923	\$7,555,206							\$7,555,206
Mental Health DSH	622	\$68,635,186				\$68,635,186			
TB Hospital DSH	622	\$2,444,444				\$2,444,444			
Community Supported Living Waiver	923	\$21,408,819							\$21,408,819
Nursing Home Diversion Waiver	923	\$131,712,008							\$131,712,008
Total Medicaid Long Term Care		\$3,776,710,406	\$0	\$0	\$0	\$71,079,630	\$2,429,025,674	\$777,778,695	\$498,826,407

MEDICAID PREPAID HEALTH PLANS

Service	NAICS	Expense	NAICS 446	NAICS 524	NAICS 621	NAICS 622	NAICS 623	NAICS 624	NAICS 923
Prepaid Health Plans - Elderly and Disabled	524	\$694,200,692		\$694,200,692					
Prepaid Health Plans - Families	524	\$863,888,370		\$863,888,370					
Total Medicaid Prepaid Health Plans		\$1,558,089,062	\$0	\$1,558,089,062	\$0	\$0	\$0	\$0	\$0

EXECUTIVE DIRECTION & SUPPORT SERVICES

Service	NAICS	Expense	NAICS 446	NAICS 524	NAICS 621	NAICS 622	NAICS 623	NAICS 624	NAICS 923
Medicaid Fiscal Contract	923	\$79,851,714							\$79,851,714

TOTAL MEDICAID **\$14,485,975,277** **\$2,617,296,082** **\$2,302,711,933** **\$2,618,592,481** **\$2,893,021,833** **\$2,647,896,132** **\$777,778,695** **\$628,678,121**

Key to NAICS codes:

- 446 Health and Personal Care Stores (Retail Trade)
- 524 Insurance Carriers and Related Activities
- 621 Ambulatory Health Care Services
- 622 Hospitals
- 623 Nursing and Residential Care Facilities
- 624 Social Assistance
- 923 Administration of Human Resource Programs (Public Administration)

(Continued from page 13)

projected Medicaid spending into appropriate REMI model sectors. For example, NAICS sector 446 – Health and Personal Care Stores and the REMI Retail sector captures Medicaid spending for Prescribed Medicine / Drugs.

Table 2, Florida Sales Taxes, reports the results of our analysis. The first column of Table 2 lists the type of sales tax. The second column reports the model's FY 2004-05 projected sales taxes with Medicaid spending at its projected FY 2004-05 levels reflected in Table 1. The third column reports estimated sales tax revenues without the projected Medicaid spending. An implicit assumption is that Medicaid recipients do not substitute funds from other sources, such as savings or local governments, to continue health care services that would otherwise be paid for by Medicaid. To the extent that there is such substitution the loss of sales tax revenues may be less than reported here.

The fourth column of Table 2 shows the difference in sales tax revenues in dollars, and the fifth column shows the difference expressed as a percentage of total projected sales tax revenues (including sales tax generated by the projected FY 2004-05 Medicaid expenditures).

In summary, if FY 2004-05 projected Medicaid expenditures were withheld from the economy, and without substitute funds, we estimate that Florida's total sales tax revenues would decline by approximately 2.19%, or a decrease of about \$495 million. That is, we estimate that FY 2004-05 projected Medicaid expenditures will contribute \$495 million to Florida in sales tax revenues.

ENDNOTES

ⁱ See <http://www.cms.hhs.gov/medicaid/default.asp?>

ⁱⁱ From The 2003 Annual Report on Medicaid Outcome Measures, AHCA, September, 2003, found at http://www.fdhc.state.fl.us/Medicaid/deputy_secretary/recent_presentations/2003_Medicaid_Outcome_Measures.pdf

**Table 2
Florida Sales Taxes**

Type	Projected with Medicaid Spending FY 2004-05 (2004 \$)	Estimated without Medicaid Spending FY 2004-05 (2004 \$)	Difference w & w/o Medicaid Spending FY 2004-05 (2004 \$)	Difference as % of Projected FY 2004-05
General Sales Tax	\$17,591,000,000	\$17,188,000,000	-\$403,000,000	-2.29%
Motor Fuel Sales Tax	\$1,944,000,000	\$1,908,000,000	-\$36,000,000	-1.85%
Alcoholic Bev Sales Tax	\$694,000,000	\$681,000,000	-\$13,000,000	-1.87%
Tobacco Sales Tax	\$593,000,000	\$589,000,000	-\$4,000,000	-0.67%
Public Utility Sales Tax	\$770,000,000	\$754,000,000	-\$16,000,000	-2.08%
Other Sales Tax	\$988,000,000	\$965,000,000	-\$23,000,000	-2.33%
Total Sales Taxes	\$22,580,000,000	\$22,085,000,000	-\$495,000,000	-2.19%