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**The Wage and Productivity Impacts of New Jobs on the
Hillsborough County Economy**
Job-creation Initiatives in 1998

An Analysis Performed by

CENTER FOR ECONOMIC DEVELOPMENT RESEARCH
College of Business Administration



1101 Channelside Dr., 2nd Floor N., Tampa, Florida 33602
Office: (813) 905-5854 or Fax: (813) 905-5856

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Preface

This study, *The Wage Impact of New Jobs on the Hillsborough County Economy, Job-creation Initiatives in 1998*, was prepared by the Center for Economic Development Research (CEDR), College of Business Administration, University of South Florida. CEDR provides information and conducts research on issues related to economic growth and development in the Nation, in the state of Florida, and particularly in the central Florida region. The Center serves the faculty, staff, and students of the College of Business Administration, the University, and individuals and organizations in the University's service area. CEDR's activities are designed to further the objectives of the University and specifically the objectives of the College of Business Administration.

Robert Anderson, Dean, College of Business Administration (COBA), USF
Dennis G. Colie, Director, Center for Economic Development Research (CEDR), Economist and
Principal Investigator, COBA, USF
Alex A. McPherson, Research Associate, CEDR, COBA, USF

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EXECUTIVE SUMMARY

This is a report of the findings of analysis of economic development related job-creation initiatives in Hillsborough County, Florida during 1998. That year there were twelve job-creation initiatives implemented in Hillsborough County. The Employers Impact Fee Mitigation Program (EIFMP), approved by the Board of County Commissioners in 1996, governed five initiatives, two of which were also governed by the Employers Water and Wastewater Capacity Fee Mitigation Program (EWWCFMP), approved by the Board of County Commissioners in 1997. Two other initiatives were governed solely by the EWWCFMP. The provisions of Florida's Qualified Target Industry (QTI) Tax Refund Program guided five initiatives.

Based on Covered Employment and Wages (ES-202) data, the weighted-average wage for workers in Hillsborough County in 1998 was \$29,058. Additionally, using a regional economic model, we estimate countywide output per worker at \$77,436 for 1998.

The findings are:

EIFMP/EWWCFMP Initiatives.

- The seven initiatives reported an average direct wage of \$27,954 per annum.
- The initiatives created 1,776 direct jobs and generated 1,494 more indirect and induced jobs.
- The average wage for the total of 3,270 jobs was \$28,569.
- The average effect of the 3,270 jobs is typically 131% of countywide output per worker. Four of the seven initiatives would be expected to increase average output per worker.
- The seven initiatives as a whole tend to decrease the countywide weighted-average wage, while typically raising output per worker overall.

The total effects of the 1998 EIFMP/EWWCFMP initiatives are somewhat mixed. The initiatives tend to slightly decrease average wages for workers in Hillsborough County, while typically raising output per worker overall.

QTI Program Initiatives.

- The five initiatives reported an average direct wage ranging from \$32,000 to \$60,000.
- The initiatives created 1,140 direct jobs and generated 1,165 more indirect and induced jobs.
- The average wage for the total of 2,305 jobs was \$36,718.
- The average effect of the 2,305 jobs is typically 110% of countywide output per worker. Three of the five initiatives would be expected to increase overall output per worker.

- Combined, the five initiatives tend to increase average wages and output per worker. Individually, one tends to boost the countywide weighted-average wage, but decreases overall worker productivity and the other four tend to boost the countywide weighted-average wage and increase overall worker productivity.

The 1998 QTI initiatives tend to both increase the countywide weighted-average wage and output per worker in Hillsborough County.

Based on a trend line, EIFMP/EWWCFMP initiatives in 1998 would need to create direct jobs paying at least 100% of the countywide weighted-average wage, in order that the average wage for all jobs would at least be as much as the countywide weighted-average wage before the initiative was undertaken. Two of the seven EIFMP/EWWCFMP initiatives implemented in 1998 had average direct wages above the 100% threshold.

We also use a trend line to estimate the direct wage of QTI projects necessary to generate total wages that are equal to the countywide weighted-average wage. Based on the trend line, we estimate that direct wages equal to 90% of the countywide weighted-average wage will result in an average wage for all jobs at least as much as the countywide weighted-average wage. All of the QTI initiatives exceeded the necessary average direct wage. The high level of indirect wages - averaging over 110% of the countywide wage - mathematically drives this finding. However, the direct wages for the five QTI initiatives range from 110.125% of the countywide weighted-average to 206.484% of the countywide weighted-average. Using the trend line to make an estimate when the direct wage is outside this range is problematic, especially if indirect wages were not expected to be at least 110% of the countywide weighted-average wage.

The Wage and Productivity Impacts of New Jobs on the Hillsborough County Economy

Job-creation Initiatives in 1998

Introduction.

The purpose of this paper is to report findings of analysis of economic development related job-creation initiatives in Hillsborough County, Florida.

Hillsborough County is located in west central Florida and is one of seven counties often referred to as Tampa Bay. The Hillsborough County Economic Development Department administers programs that sustain and encourage the economic growth of the local economy, including programs that stimulate the creation of quality jobs for the skilled and semi-skilled work force. The Department's Corporate Business Development (CBD) section is committed to increasing quality job opportunities for the community's residents by helping to establish, maintain and project Hillsborough County's business friendly climate to corporations that create and sustain those desirable quality jobs.¹

This study is commissioned by the CBD section of the Hillsborough County Economic Development Department. It encompasses twelve job-creation economic development initiatives in Hillsborough County during the year 1998. The input data for analysis were provided by the CBD and are shown in **Table 1** (page 3). The input data provided by the CBD included Firm Name, Type of Business, Program Type (QTI or EIFMP/EWWCFMP – both of which are explained later), Number of New Direct Jobs Created, Average Direct Wages, and Standard Industry Codes (SICs) for the EIFMP/EWWCFMP program projects. The CBD does not maintain records of confidential data submitted by QTI program applicants, therefore we used the State of Florida's Enhanced Quarterly Unemployment Insurance (EQUI) database (a micro-level version of the ES-202 data, explained below) to look up the SIC submitted by the firms for state unemployment insurance records.

The Qualified Target Industry (QTI) Tax Refund Program is available to Florida communities to encourage the expansion of existing businesses or the location of new-to-Florida businesses. The program provides tax refunds to pre-approved applicants of \$3,000 per new job created (\$6,000 in an Enterprise Zone or rural county). A company that pays an average of at least 150 percent of area wages receives an additional \$1,000 per job. And a company that pays an average of at least 200 percent of area wages receives an additional \$2,000 per job. The QTI program is authorized by s. 288.106 *F.S.*

The Employers Impact Fee Mitigation Program (EIFMP) was approved by the Board of County Commissioners on February 14, 1996 "to encourage employers to add

¹ Source is www.hillsboroughcounty.org/home.html on 9/04/02.

higher paying, quality jobs to the employment base of Hillsborough County.”² The program pays \$1,000 per job created toward development impact fees assessed in unincorporated Hillsborough County. An employer must maintain the new jobs for at least four years. To qualify a job must be full-time, non-seasonal and pay 100% of the local annual average wage or better, excluding benefits. The annual average wage is defined by Covered Employment and Wages (ES-202) data reported for Hillsborough County by the Florida Department of Labor and Employment Security, Bureau of Labor Market Information.

Similarly, the Employer’s Water and Wastewater Capacity Fee Mitigation Program (EWWCFMP) provides that a \$150 or \$300 grant (depending on the wage level) for each newly created job can be awarded toward water & wastewater capacity and accrued guaranteed revenue fees. Jobs with wages from 115% to less than 150% of the county’s average wage (\$33,417 to \$43,587 in 1998) or located within an officially designated economically distressed area are eligible for a \$150 mitigation per job. Jobs with wages meeting or exceeding 150% of the county’s average wage (equivalent to \$43,587) are eligible for a \$300 mitigation per job. To qualify, these jobs must be new to Hillsborough and created within the unincorporated area of the county. Applications must be submitted in advance of any permit application, changing land usage or building occupancy related to the proposed jobs. Exceptions to the above program requirements include waiving the minimum of 25 new jobs and wages at or above the county’s annual average (\$29,058) for projects located within officially designated areas targeting increased employment opportunities. The level of new jobs and wages comprising the mitigation grant must be maintained for four years from initial compliance. In addition, the applicant must agree to provide evidence the new job and wage levels were created. Also, the applicant must provide a secured financial instrument indemnifying the county for the full value of the water and wastewater capacity and accrued guaranteed revenue fee mitigation in case the promised jobs and/or wages are not attained.

The foundation of this analysis is the understanding that job creation in one industry begets additional jobs in related industries. In addition, further jobs are created to support an increased level of aggregate household income and spending resulting from the inter-industry job creation. In this analysis, the job creation process, as it ripples through an economy, is estimated using the *IMPLAN Professional*TM regional economic impact model.

² Reference “A Revised and Simplified Proposal to Mitigate Impact Fees for Employers Who Create New Quality Jobs in Hillsborough County Including a Distressed Area Option,” Hillsborough County Commerce Department, Office of Financial Services, revised 2/1/96.

Table 1

<u>Designation</u>	<u>Type of Business</u>	<u>SIC Code</u>	<u>IMPLAN Sector</u>	<u>Program</u>	<u># of Jobs</u>	<u>Avg. Direct Wages</u>
QTI Project 1	Financial Services Technology Division	6200	458	QTI	100	\$60,000.00
QTI Project 2	International Headquarters	6399	459	QTI	200	\$32,900.00
QTI Project 3	Regional Headquarters	5045	447	QTI	250	\$55,000.00
QTI Project 4	National Administrative Center	8721	507	QTI	460	\$42,741.00
QTI Project 5	Semiconductor Manufacturing Facility	3825	404	QTI	130	\$32,000.00
EIFMP Project 1	Banking	6021	456	EIFMP	1,000	\$25,353.00
EIFMP Project 2	Food Service and Food Related Product Distributor	5141	447	EIFMP	70	\$25,353.00
EIFMP/EW/CFMP Project 3	Truck Body Manufacturer	3713	385	EIFMP & EW/CFMP	30	\$25,353.00
EIFMP Project 4	Recreational Vehicle Sales	5561	451	EIFMP	85	\$25,353.00
EIFMP/EW/CFMP Project 5	Recreational Vehicle Sales	5561	451	EIFMP & EW/CFMP	245	\$38,030.00
EW/CFMP Project 6	Technology Corporation	3674	377	EW/CFMP	50	\$29,728.00
EW/CFMP Project 7	Personal Credit Institutions	6141	457	EW/CFMP	296	\$29,728.00

CONDITION

***EIFMP**

Jobs must be new to Hillsborough County.
 Jobs must be created within unincorporated Hillsborough County.
 Wages of the new jobs must be \$25,353 per year or higher.
 Requires the creation of at least 25 new jobs in order to qualify.
 New jobs must be maintained for at least 4 years.
 Company agrees to provide evidence of the jobs and their wages.
 Company agrees to provide the County with a secure financial instrument.

***QTI**

Application for program eligibility must be made before the company decides to locate or expand in Florida.
 Jobs must have wage of at least 115% of the State, County, or Metropolitan average wage.
 Must create a minimum of 100 new jobs or a 10% increase in employment if expanding in Florida.
 Must be maintained for a minimum of 4 years.

Economic Foundation of the Analysis.

When jobs are created in an industry, these jobs motivate the creation of additional jobs in related industries. The Frenchman Francois Quesnay, founder of the physiocratic or “natural order” philosophy of economic thought, first described inter-industry relationships in 1758. The physiocrats depicted the flow of goods and money in a nation, and thus made the first attempt to describe the circular flow of wealth on a macroeconomic basis. Wassily Leontief was born in Russia in 1906 and first studied economic geography at the University of St. Petersburg before moving to Berlin and China. He came to the United States in 1931 and, after a brief 3-month stint at the National Bureau of Economic Research in New York, Harvard University hired him. At Harvard, Professor Leontief undertook a research project that encompassed a 42-industry input-output table showing how changes in one sector of the economy lead to changes in other sectors. From this research, he developed the concept of multipliers from input-output tables, and was subsequently awarded the Nobel prize in economics in 1973 for his development of input-output (I-O) economics.

For example, an increase in purchases (first round) of output from a manufacturing industry in a region may require that the manufacturing industry, in order to expand output, purchase (second round) factor inputs from other industries of the regional economy. In turn, these other industries may have to purchase (third round) inputs to deliver the supporting production of factors to the manufacturing industry. The rounds of spending will continue with each round becoming increasingly weaker in its impact because of leakage from the region attributable to imports, savings, and taxes.

The first round is called the *direct effect* of the change in demand in an industry of the economy. The second and subsequent rounds are collectively referred to as the *indirect effects* of inter-industry purchases in response to direct effect. Changes in spending by households as income increases due to changes in the level of production, i.e. the direct and indirect effects, are called *induced effects*. The *total effect* is the sum of the direct, indirect and induced effects.

Motivation of the Analysis.

The purpose of job-creation programs, like the QTI, EIFMP, and EWWCFMP, is often stated as the improvement of the economic situation of the residents of the region. More specifically, the conditions of a program may require that the new jobs pay an average annual wage that is greater than the current average wage in the region. In 1998, the EIFMP required a wage of \$25,353 or higher and the QTI program required a wage of at least 115% of the statewide, county, or metropolitan area average wage. Because potential program participants are not expected to consider indirect and induced jobs, these wage-rate conditions only apply to the direct jobs. However, policy objectives for such job-creation initiatives include the goal of creating jobs that positively impact the overall economy. Thus, we consider the indirect and induced jobs as critical to a program’s ability to achieve this goal.

Failure to plan for and anticipate the impact of indirect and induced jobs could make an initiative seem to improve a region's economic situation, while the true consequence is a lowering of average wages. A project can lower average wages if the indirect and induced jobs pay below the average wage, and offset the gains made by direct jobs at above average wages. This analysis examines whether the *total effect* of Hillsborough County's 1998 job-creation initiatives increases or decreases average wages for people working in the county.

While an increasing average annual wage in a region may be interpreted as an improvement in the economic situation of the region's residents, increasing productivity is the key to raising living standards and regional competitiveness. That is so, because if workers produce more in a specified time period, firms can sell more, boost profits, and raise incomes at the same time without necessarily raising prices. Thus, this analysis also examines the impact of Hillsborough County's job-creation initiatives on annual countywide worker productivity. In order to discern the *total impact* of an initiative on countywide worker productivity, the indirect and induced jobs are considered as well as the direct jobs.

Output can be thought of as sales.³ Output can also be expressed as the sum of the cost of the intermediate goods, which go into the production process, and the value added to those goods during production. When the product is sold, part of its price covers the cost of the intermediate goods. The residual after paying for the intermediate goods is divided between a return to the owners of capital and the wages of labor. A job-creation initiative that raises average wages, but is expected to lower average output per worker, may reduce the standard of living and regional competitiveness. Hence, a preferred job-creation initiative is one that raises both average wages and average productivity.

The QTI Program and the EIFMP mandate conditions for award of a tax refund. These conditions are outlined in Table 1. We get the link between the conditions for award of a tax refund and the expected improvement in a region's economy by implication.

We select average wages and productivity as measurements for this economic analysis. However, our selection does not imply that these are the only possible measures of expected economic improvement, and consequently the sole measures of the efficacy of either program.

Method of Analysis.

We calculated a countywide weighted-average annual wage for Hillsborough County during 1998. To make this calculation, we determined the distribution of

³ Sales equal output + or - an inventory adjustment. Goods that are produced, but not sold, during the period are placed into inventory. Conversely, goods produced in a prior period may be sold out of inventory during the current period.

employment across the divisions of Hillsborough County's economy.⁴ This distribution is determined from Covered Employment and Wages (ES-202) data for 1998. The ES-202 data are based on information provided to the State of Florida with unemployment insurance premiums paid by employers. Next, again using ES-202 data, we calculated the 1998 average wage in each division of the economy. Then, using the percentages of employment distribution and the average annual divisional wages, we find a weighted-average annual wage in Hillsborough County during 1998. The weighted-average annual wage is the sum of each divisional average wage multiplied by the percent of total jobs in the division. **See Table 2.** The county's weighted- average annual wage in 1998 was \$29,058.

TABLE 2

1998 HILLSBOROUGH COUNTY WEIGHED AVERAGE WAGE

DIVISION	NAME	JOBS	% OF TOTAL JOBS	AVG ANNUAL WAGE	AVG ANNUAL WAGE AS A % OF WEIGHED AVG ANNUAL WAGE
0	AGRICULTURE	11,688	2.12%	\$14,818	50.99%
1	MINING	26	0.00%	\$28,613	98.47%
1	CONSTRUCTION	27,275	4.94%	\$32,370	111.40%
2 & 3	MANUFACTURING	37,377	6.77%	\$31,564	108.62%
4	TRANS&PUBUTIL	35,629	6.45%	\$38,696	133.17%
5	TRADE	125,506	22.72%	\$24,475	84.23%
6	FIRE	45,400	8.22%	\$39,270	135.14%
7 & 8	SERVICES	245,205	44.40%	\$27,580	94.81%
9	PUBADMIN	24,179	4.38%	\$34,040	117.15%
	TOTAL	552,285	100.00%		
			Weighted Avg Annual Wage	\$29,058	

Source: State of Florida Covered Employment and Wages (ES202) annual data for 1998

The direct effect of a job creation initiative is an increase in jobs in a specified industry. We use the IMPLAN model to estimate the indirect and induced effects of the newly created jobs on Hillsborough County. For each initiative, we examine how the new jobs are distributed across the divisions of the county's economy. Then, based on this distribution, we calculate an average wage for the indirect jobs and an average wage for the induced jobs. The total wage effect of an initiative is summarized as the weighted-average of wages for the direct, indirect and induced jobs.

We organize the findings into tables that facilitate comparison of the indirect, induced and total effects with the county's weighted-average wage in the year an initiative is approved. We realize that this may be construed as being a "Monday morning quarterback." Officials responsible for approval / disapproval of these job-creation initiatives would not yet know the average wage for the year in which they are making a decision. However, our intent is to produce reliable estimates of the actual effect on the average wage for approved initiatives. It is not intended to criticize decision-makers, who must call the plays during the game, not on Monday morning.

⁴ Divisions of the economy are defined at the one-digit Standard Industrial Classification (SIC) level. The SIC is a system developed by the US government to classify industries.

We form predictive models for the EIFMP/EWWCFMP and QTI programs. The predictive models are trend lines for the percentages of indirect, induced, and total average wages as a percentage of the 1998 countywide weighted-average wage. The trend lines report percentages of average indirect, induced, and total wages with respect to an initiative's average direct wages.

We also estimate workers' productivity in Hillsborough County. Productivity is calculated as annual output per worker. Output includes all intermediate goods purchased (inputs for the production process) plus the value added to the inputs. Employing a regional economic model, we estimate countywide output per worker at \$77,436 for 1998.⁵

Using the IMPLAN model, we estimate the productivity per worker for the direct, indirect and induced jobs of each initiative. IMPLAN model productivity measurements are based on an industry's productivity before the creation of the new jobs, which are being studied. Therefore, the productivity measurements do not necessarily reflect the productivity of workers in the new jobs, but are typical of the productivity of that industry in Hillsborough County.

The (typical) productivity estimates of the newly created jobs are compared to Hillsborough County's overall annual output of \$77,436 per worker.

Findings.

During 1998 there were five initiatives under the EIFMP, three of which were also governed by the EWWCFMP. Also in 1998, an additional two initiatives were guided solely by the EWWCFMP. Projects governed by the EIFMP and EWWCFMP, which are incentives unique to Hillsborough County, have been analyzed as one group for the predictive model. The projects included in this group are 1) a commercial banking enterprise, 2) a grocery wholesale firm, 3) a truck body manufacturing firm, projects 4) and 5) are recreational vehicle sales firms, project 6) is a semiconductor and related device manufacturer, and 7) a personal credit institution.

Table 3 (next page) reports the effects of the 1,000 jobs created at a commercial banking enterprise (EIFMP Project 1) with an average wage of \$25,353.⁶ (All dollar amounts in these findings are 1998 dollars.) We estimate that these 1,000 direct jobs spur 388 full-time equivalent jobs at related industries within Hillsborough County. The 388 indirect jobs pay an average wage of \$32,042, which is above the countywide weighted-average. Additionally, an increase in household consumption spending induces more

⁵ To estimate output per worker, we used the REMI Policy Insight™ model. REMI includes a county baseline that reports the actual levels of economic variables before a simulation is introduced into the model.

⁶ The CBD section of the Hillsborough County Economic Development Department reported to CEDR that the EIFMP and EWWCFMP initiatives were both approved sometime in 1998. The \$25,353 average annual wage required for these initiatives was based on 1996 data, which was the most current available at the time of approval.

Table 3

1998
 EIFMP PROJECT 1
 COMMERCIAL BANKING, SIC 6021 = IMPLAN SECTOR 456
 INCENTIVE TYPE: EIFMP
 1000 JOBS
 AVG. DIRECT WAGE **\$25,353**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County</u>	<u>Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times</u>	<u>% of Emp. Impact</u>	
0 Agriculture	0.8	0.21%	50.99%	\$14,818			\$31	
1 Mining	0.0	0.00%	98.47%	\$28,613			\$0	
1 Construction	6.1	1.57%	111.40%	\$32,370			\$509	
2 & 3 Manufacturing	9.4	2.42%	108.62%	\$31,564			\$765	
4 Trans&Pub Util	19.9	5.13%	133.17%	\$38,696			\$1,985	
5 Trade	12.5	3.22%	84.23%	\$24,475			\$789	
6 FIRE	115.1	29.67%	135.14%	\$39,270			\$11,652	
7 & 8 Services	200.5	51.69%	94.81%	\$27,550			\$14,240	
9 Public Admin	23.6	6.08%	117.15%	\$34,040			\$2,071	
Total	387.9	100.00%					\$32,042	
County Wt. Avg. =					\$29,058			

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County</u>	<u>Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times</u>	<u>% of Emp. Impact</u>	
0 Agriculture	7.4	1.23%	50.99%	\$14,818			\$182	
1 Mining	0.0	0.00%	98.47%	\$28,613			\$0	
1 Construction	11.9	1.97%	111.40%	\$32,370			\$639	
2 & 3 Manufacturing	14.1	2.34%	108.62%	\$31,564			\$738	
4 Trans&Pub Util	19.7	3.27%	133.17%	\$38,696			\$1,264	
5 Trade	211.3	35.03%	84.23%	\$24,475			\$8,574	
6 FIRE	53.7	8.90%	135.14%	\$39,270			\$3,496	
7 & 8 Services	267.3	44.31%	94.81%	\$27,550			\$12,208	
9 Public Admin	17.8	2.95%	117.15%	\$34,040			\$1,004	
Total	603.2	100.00%					\$28,104	
County Wt. Avg. =					\$29,058			

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	1000.0	\$25,353	\$12,733
Indirect	387.9	\$32,042	\$6,242
Induced	603.2	\$28,104	\$8,514
Total	1991.1	Initiative Wt. Avg. =	\$27,490

jobs estimated to be 603 full-time equivalent jobs with an average wage of \$28,104. The induced jobs have an average wage that is slightly below the countywide weighted-average.

The majority (51.69%) of indirect jobs is in the Services division, while a large portion (29.67%) of the indirect jobs is in the Finance, Insurance, and Real Estate (FIRE) division of the Hillsborough County economy. (The distribution of jobs is shown in the column labeled “% of Emp. Impact” and the wage level relative to the county’s weighted-average wage is shown in the column labeled “Divisional Wage as % of County Weighted-average Wage.”) FIRE is also the division of the economy in which the direct jobs are classified. In Hillsborough County, wages in the FIRE division were 135.14% of the countywide average in 1998, while wages in the Services division were 94.81% of the countywide average. Thus, the indirect jobs paid, on average, wages above the countywide average wage for 1998. Most of the induced jobs were created in the relatively low-wage Services (44.31%) and Trade (35.03%) divisions of the Hillsborough County economy. Thus, the induced jobs paid, on average, wages lower than the countywide weighted-average wage for 1998.

However, the average wage for the direct jobs was almost \$4,000 below the 1998 countywide weighted-average wage of \$29,058. Thus, the total effect of the EIFMP Project 1 initiative is 1,991 full-time equivalent jobs in Hillsborough County at an average wage of \$27,490. Hence, this estimate of the wage impact of the new jobs indicates that the EIFMP Project 1 initiative would tend to decrease weighted-average wages for people who work in Hillsborough County.

Table 3.1 (next page) reports the estimated increases in output caused by the 1000 jobs created at the EIFMP Project 1 firm. One thousand jobs in the “commercial banking” industry typically adds \$157.53 million per year to Hillsborough County’s private-sector output. That equates to \$157,526 per worker – over 200% of the countywide output per worker. The 388 indirect jobs produce additional output at almost 113% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is almost \$235.6 million of increased output. This increased output comes at a rate that is 152.79% of the countywide output per worker; hence, the project positively influences a change in output per worker in the county.

Table 3.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “commercial banking” industry adds \$117,500 to the value of the firm’s products during a year. The typical value-added in the industry is significantly more than the average direct wage of \$25,353 (excludes benefits, if any) paid by the EIFMP Project 1 firm for the 1,000 newly created jobs.

Table 3.1

1998
 EIFMP PROJECT 1
 COMMERCIAL BANKING, SIC 6021
 = IMPLAN SECTOR 456
 INCENTIVE TYPE: EIFMP
 Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	1000.0	\$157,525,936	\$157,526	203.43%	\$117,500
Indirect	387.9	\$33,856,195	\$87,281	112.71%	\$60,923
Induced	603.2	\$44,187,762	\$73,256	94.60%	\$48,702
Total	1991.1	\$235,569,893	\$118,311	152.79%	\$85,636

We find that the EIFMP Project 1 initiative would tend to decrease the average wage but have a positive impact on overall productivity in Hillsborough County.

Table 4 (next page) reports the effects of the 70 jobs created at a grocery wholesale firm (EIFMP Project 2) with an average wage of \$25,353. We estimate that these 70 direct jobs generate 27.9 full-time equivalent jobs at related industries within Hillsborough County. The 27.9 indirect jobs pay an average wage of \$29,317, which is slightly above the countywide weighted-average. Additionally, an increase in household consumption spending induces more jobs estimated to be 44.6 full-time equivalent jobs with an average wage of \$28,140. The induced jobs have an average wage that is slightly below the countywide weighted-average.

A majority of the indirect and induced jobs are created in the relatively low-wage Services and Trade divisions of the Hillsborough County economy. The average wage for the direct and the average wage for the induced jobs were both below the 1998 countywide weighted-average of \$29,058. Thus, the total effect of the EIFMP Project 2 initiative is 142.5 full-time equivalent jobs in Hillsborough County at an average wage of \$27,001. Hence, this estimate of the wage impact of the new jobs indicates that the EIFMP Project 2 initiative would tend to decrease weighted-average wages for people working in Hillsborough County.

Table 4

1998
 EIFMP PROJECT 2
 GROCERY WHOLESALER, SIC 5141 = IMPLAN SECTOR 447
 INCENTIVE TYPE: EIFMP
 70 JOBS
 AVG. DIRECT WAGE **\$25,353**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.1	0.36%	50.99%	\$14,818	\$53
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.8	2.87%	111.40%	\$32,370	\$928
2 & 3 Manufacturing	1.6	5.73%	108.62%	\$31,564	\$1,810
4 Trans&Pub Util	1.8	6.45%	133.17%	\$38,696	\$2,497
5 Trade	2.9	10.39%	84.23%	\$24,475	\$2,544
6 FIRE	2.1	7.53%	135.14%	\$39,270	\$2,956
7 & 8 Services	17.9	64.16%	94.81%	\$27,550	\$17,675
9 Public Admin	0.7	2.51%	117.15%	\$34,040	\$854
Total	27.9	100.00%			\$29,317
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.5	1.12%	50.99%	\$14,818	\$166
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.9	2.02%	111.40%	\$32,370	\$653
2 & 3 Manufacturing	0.9	2.02%	108.62%	\$31,564	\$637
4 Trans&Pub Util	1.5	3.36%	133.17%	\$38,696	\$1,301
5 Trade	15.6	34.98%	84.23%	\$24,475	\$8,561
6 FIRE	4.0	8.97%	135.14%	\$39,270	\$3,522
7 & 8 Services	19.8	44.39%	94.81%	\$27,550	\$12,231
9 Public Admin	1.4	3.14%	117.15%	\$34,040	\$1,069
Total	44.6	100.00%			\$28,140
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	70.0	\$25,353	\$12,454
Indirect	27.9	\$29,317	\$5,740
Induced	44.6	\$28,140	\$8,807
Total	142.5	Initiative Wt. Avg. =	\$27,001

Table 4.1 reports the estimated increases in output caused by the 70 jobs created by EIFMP Project 2. Seventy jobs in the “grocery wholesale” industry typically add \$8.37 million per year to Hillsborough County’s private-sector output. That equates to \$119,581 per worker – nearly 154% of the countywide output per worker. The indirect jobs produce additional output at almost 105% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is almost \$13.9 million of increased output. This increased output comes at a rate that is 125.96% of the countywide output per worker. Hence, this job-creation initiative can be expected to promote rising productivity in Hillsborough County.

Table 4.1

1998
EIFMP PROJECT 2
GROCERY WHOLESALER, SIC 5141
= IMPLAN SECTOR 447
INCENTIVE TYPE: EIFMP
Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	70.0	\$8,370,691	\$119,581	154.43%	\$81,918
Indirect	27.9	\$2,260,570	\$81,024	104.63%	\$51,417
Induced	44.6	\$3,268,300	\$73,280	94.63%	\$48,719
Total	142.5	\$13,899,563	\$97,541	125.96%	\$65,555

Table 4.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “grocery wholesale” industry adds \$81,918 to the value of the firm’s products during a year. An average direct wage of \$25,353 (excludes benefits, if any) paid by the EIFMP Project 2 firm for the 70 newly created jobs seems low in relation to the typical value-added per worker in the industry.

We find that the EIFMP Project 2 initiative would tend to decrease the average wage but raise overall productivity in Hillsborough County.

Table 5 (page 14) reports the effects of the 30 jobs created at a truck body manufacturing firm (EIFMP/EWWCFMP Project 3) with an average wage of \$25,353. We estimate that these 30 direct jobs lead to 7.3 full-time equivalent jobs at related industries within Hillsborough County. The 7.3 indirect jobs pay an average wage of \$29,167, which is slightly more than the countywide weighted-average. Additionally, an increase in household consumption spending induces 12.9 more full-time equivalent jobs at an average wage of \$28,032. The induced jobs have an average wage that is about \$1,000 below the countywide weighted-average.

Most of the indirect jobs are in the relatively low-wage Services (42.47%) division and Trade (23.29%) division of the Hillsborough County economy. In Hillsborough County, wages in the Services and Trade divisions were 94.81% and 84.23%, respectively, of the countywide weighted-average in 1998. Similarly, most of the induced jobs are in the Services division (44.19%) and the Trade division (34.88%) of the county's economy.

The total effect of the EIFMP/EWWCFMP Project 3 initiative is 50.2 full-time equivalent jobs in Hillsborough County at an average wage of \$26,596. This estimate of the wage impact of the new jobs indicates that the EIFMP/EWWCFMP Project 3 initiative would tend to lower weighted-average wages for people who work in Hillsborough County.

Table 5

1998
 EIFMP & EWWCFMP PROJECT 3
 TRUCK BODY MANUFACTURER, SIC 3713 = IMPLAN SECTOR 385
 INCENTIVE TYPE: EIFMP & EWWCFMP
 30 JOBS
 AVG. DIRECT WAGE **\$25,353**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.0	0.00%	50.99%	\$14,818	\$0
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.2	2.74%	111.40%	\$32,370	\$887
2 & 3 Manufacturing	1.3	17.81%	108.62%	\$31,564	\$5,621
4 Trans&Pub Util	0.6	8.22%	133.17%	\$38,696	\$3,180
5 Trade	1.7	23.29%	84.23%	\$24,475	\$5,700
6 FIRE	0.3	4.11%	135.14%	\$39,270	\$1,614
7 & 8 Services	3.1	42.47%	94.81%	\$27,550	\$11,699
9 Public Admin	0.1	1.37%	117.15%	\$34,040	\$466
Total	7.3	100.00%			\$29,167
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.2	1.55%	50.99%	\$14,818	\$230
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.3	2.33%	111.40%	\$32,370	\$753
2 & 3 Manufacturing	0.3	2.33%	108.62%	\$31,564	\$734
4 Trans&Pub Util	0.4	3.10%	133.17%	\$38,696	\$1,200
5 Trade	4.5	34.88%	84.23%	\$24,475	\$8,538
6 FIRE	1.1	8.53%	135.14%	\$39,270	\$3,349
7 & 8 Services	5.7	44.19%	94.81%	\$27,550	\$12,173
9 Public Admin	0.4	3.10%	117.15%	\$34,040	\$1,056
Total	12.9	100.00%			\$28,032
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	30.0	\$25,353	\$15,151
Indirect	7.3	\$29,167	\$4,241
Induced	12.9	\$28,032	\$7,203
Total	50.2	Initiative Wt. Avg. =	\$26,596

Table 5.1 reports the estimated increases in output caused by the 30 jobs created by EIFMP/EWWCFMP Project 3. Thirty jobs in the “truck body manufacturing” industry typically add \$5.85 million per year to Hillsborough County’s private-sector output. That equates to \$195,068 per worker – over 250% of the countywide output per worker. The indirect jobs produce additional output at more than 125% of the average output per worker, while the induced jobs produce at about 94% of average output. The total impact on productivity of this initiative is over \$7.50 million of increased output. The increased output comes at a rate that is almost 193% of countywide output per worker and would be expected to raise productivity in Hillsborough County.

Table 5.1

1998
EIFMP/EWWCFMP PROJECT 3
TRUCK BODY MANUFACTURER, SIC 3713
= IMPLAN SECTOR 385
INCENTIVE TYPE: EIFMP & EWWCFMP
Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	30.0	\$5,852,039	\$195,068	251.91%	\$68,423
Indirect	7.3	\$708,965	\$97,118	125.42%	\$55,907
Induced	12.9	\$941,190	\$72,960	94.22%	\$48,506
Total	50.2	\$7,502,191	\$149,446	192.99%	\$61,485

Table 5.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “truck body manufacturing” industry adds \$68,423 to the value of the firm’s products during a year. The typical value-added in the industry is significantly more than the average direct wage of \$25,353 (excludes benefits, if any) paid by the EIFMP/EWWCFMP Project 3 firm for the 30 newly created jobs.

We find that the EIFMP/EWWCFMP Project 3 initiative would tend to decrease the average wage but raise overall productivity in Hillsborough County.

Table 6 (page 17) shows the effects of the 85 jobs created at a recreational vehicle sales business (EIFMP Project 4). The direct jobs have an average wage of \$25,353, which is significantly below the countywide 1998 weighted-average of \$29,058. We estimate that these 85 direct jobs generate 8.7 full-time equivalent jobs at related industries within Hillsborough County. The 8.7 indirect jobs pay an average wage of \$29,982, which is almost \$1,000 more than the countywide weighted-average. Additionally, an increase in household consumption spending induces 37.6 more full-time equivalent jobs at an average wage of \$28,002. The induced jobs have an average wage that is a little more than \$1,000 below the countywide weighted-average.

Although a majority of the indirect jobs is created in the Services (58.62%) division of the economy, most of the remaining indirect jobs are created in the relatively high-wage divisions of the economy. In 1998, wages in the Services division paid only 94.81% of the countywide weighted-average wage. Most of the induced jobs are in the Trade division (35.37%) and the Services division (44.95%) of the county's economy. The Trade division also pays below weighted-average wages.

The total effect of the EIFMP Project 4 initiative is 131.3 full-time equivalent jobs in Hillsborough County at an average wage of \$26,415. This estimate of the wage impact of the new jobs indicates that the EIFMP Project 4 initiative would tend to decrease weighted-average wages for people who work in Hillsborough County.

Table 6

1998
 EIFMP PROJECT 4
 RECREATIONAL VEHICLE SALES, SIC 5561 = IMPLAN SECTOR 451
 INCENTIVE TYPE: EIFMP
 85 JOBS
 AVG. DIRECT WAGE **\$25,353**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.1	1.15%	50.99%	\$14,818	\$170
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.5	5.75%	111.40%	\$32,370	\$1,860
2 & 3 Manufacturing	0.7	8.05%	108.62%	\$31,564	\$2,540
4 Trans&Pub Util	0.5	5.75%	133.17%	\$38,696	\$2,224
5 Trade	0.6	6.90%	84.23%	\$24,475	\$1,688
6 FIRE	1.0	11.49%	135.14%	\$39,270	\$4,514
7 & 8 Services	5.1	58.62%	94.81%	\$27,550	\$16,150
9 Public Admin	0.2	2.30%	117.15%	\$34,040	\$783
Total	8.7	100.00%			\$29,928
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.5	1.33%	50.99%	\$14,818	\$197
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.7	1.86%	111.40%	\$32,370	\$603
2 & 3 Manufacturing	0.7	1.86%	108.62%	\$31,564	\$588
4 Trans&Pub Util	1.1	2.93%	133.17%	\$38,696	\$1,132
5 Trade	13.3	35.37%	84.23%	\$24,475	\$8,657
6 FIRE	3.3	8.78%	135.14%	\$39,270	\$3,447
7 & 8 Services	16.9	44.95%	94.81%	\$27,550	\$12,383
9 Public Admin	1.1	2.93%	117.15%	\$34,040	\$996
Total	37.6	100.00%			\$28,002
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	85.0	\$25,353	\$16,413
Indirect	8.7	\$29,928	\$1,983
Induced	37.6	\$28,002	\$8,019
Total	131.3	Initiative Wt. Avg. =	\$26,415

Table 6.1 reports the productivity effects caused by the 85 jobs created by EIFMP Project 4. Eighty-five jobs in the “recreational vehicle sales” industry typically add almost \$6.10 million per year to Hillsborough County’s private-sector output. That equates to \$71,761 per worker – slightly less than the countywide output per worker. The indirect jobs produce additional output at 112% of the average output per worker, while the induced jobs produce at about 96% of average output. The total impact on productivity of this initiative is over \$9.6 million of increased output. The increased output comes at a rate that is slightly less than the countywide output per worker and would be expected to decrease productivity in Hillsborough County.

Table 6.1

1998
EIFMP PROJECT 4
RECREATIONAL VEHICLE SALES, SIC 5561
= IMPLAN SECTOR 451
INCENTIVE TYPE: EIFMP
Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	85.0	\$6,099,656	\$71,761	92.67%	\$62,148
Indirect	8.7	\$756,312	\$86,932	112.26%	\$55,189
Induced	37.6	\$2,787,906	\$74,146	95.75%	\$49,295
Total	131.3	\$9,643,876	\$73,449	94.85%	\$58,006

Table 6.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “recreational vehicle sales” industry adds \$62,148 to the value of the firm’s products during a year. An average direct wage of \$25,353 (excludes benefits, if any) paid by the EIFMP Project 4 firm appears to be somewhat low in relation to the typical value-added per worker in the industry.

We find that the EIFMP Project 4 initiative would tend to decrease the average wage and decrease overall productivity in Hillsborough County.

Table 7 (page 20) displays the effects of the 245 jobs created by another recreational vehicle sales firm (EIFMP/EWWCFMP Project 5). The direct jobs have an average wage of \$38,030, which is above the countywide 1998 weighted-average of \$29,058. We estimate that these 245 direct jobs generate 25.5 full-time equivalent jobs at related industries within Hillsborough County. The 25.5 indirect jobs pay an average wage of \$30,287, which is also above the countywide weighted-average. Additionally, an increase in household consumption spending induces 109.5 more full-time equivalent jobs at an average wage of \$28,103. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

Although a majority of the indirect jobs is created in the Services (56.86%) division of the economy, most of the remaining indirect jobs are created in the relatively high-wage divisions of the economy. Most of the induced jobs are in the Trade division (35.07%) and the Services division (44.29%) of the county's economy.

The total effect of the EIFMP/EWWCFMP Project 5 initiative is 380.0 full-time equivalent jobs in Hillsborough County at an average wage of \$34,650. This estimate of the wage impact of the new jobs indicates that the EIFMP/EWWCFMP Project 5 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 7

1998
 EIFMP & EWWCFMP PROJECT 5
 RECREATIONAL VEHICLE SALES, SIC 5561 = IMPLAN SECTOR 451
 INCENTIVE TYPE: EIFMP & EWWCFMP
 245 JOBS
 AVG. DIRECT WAGE **\$38,030**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.2	0.78%	50.99%	\$14,818	\$116
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	1.5	5.88%	111.40%	\$32,370	\$1,904
2 & 3 Manufacturing	2.2	8.63%	108.62%	\$31,564	\$2,723
4 Trans&Pub Util	1.9	7.45%	133.17%	\$38,696	\$2,883
5 Trade	1.5	5.88%	84.23%	\$24,475	\$1,440
6 FIRE	3.0	11.76%	135.14%	\$39,270	\$4,620
7 & 8 Services	14.5	56.86%	94.81%	\$27,550	\$15,666
9 Public Admin	0.7	2.75%	117.15%	\$34,040	\$934
Total	25.5	100.00%			\$30,287
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	1.3	1.19%	50.99%	\$14,818	\$176
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	2.2	2.01%	111.40%	\$32,370	\$650
2 & 3 Manufacturing	2.6	2.37%	108.62%	\$31,564	\$749
4 Trans&Pub Util	3.5	3.20%	133.17%	\$38,696	\$1,237
5 Trade	38.4	35.07%	84.23%	\$24,475	\$8,583
6 FIRE	9.7	8.86%	135.14%	\$39,270	\$3,479
7 & 8 Services	48.5	44.29%	94.81%	\$27,550	\$12,203
9 Public Admin	3.3	3.01%	117.15%	\$34,040	\$1,026
Total	109.5	100.00%			\$28,103
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	245.0	\$38,030	\$24,519
Indirect	25.5	\$30,287	\$2,032
Induced	109.5	\$28,103	\$8,098
Total	380.0	Initiative Wt. Avg. =	\$34,650

Table 7.1 reports the estimated productivity increases caused by the 245 jobs created by EIFMP/EWWCFMP Project 5. Two hundred forty-five jobs in the “recreational vehicle sales” industry typically add \$17.58 million per year to Hillsborough County’s private-sector output. That equates to \$71,761 per worker – about 93% of the countywide output per worker. The indirect jobs produce additional output at 110% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is almost \$27.8 million of increased output. The increased output comes at a rate that is 94.47% of the countywide output per worker and would be expected to lower productivity in Hillsborough County.

Table 7.1

1998
EIFMP/EWWCFMP PROJECT 5
RECREATIONAL VEHICLE SALES, SIC 5561
= IMPLAN SECTOR 451
INCENTIVE TYPE: EIFMP & EWWCFMP
Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	245.0	\$17,581,362	\$71,761	92.67%	\$62,148
Indirect	25.5	\$2,179,960	\$85,489	110.40%	\$54,273
Induced	109.5	\$8,035,738	\$73,386	94.77%	\$48,789
Total	380.0	\$27,797,057	\$73,150	94.47%	\$57,770

Table 7.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “recreational vehicle sales” industry adds \$62,148 to the value of the firm’s products during a year. The average direct wage of \$38,030 (excludes benefits, if any) paid by the EIFMP/EWWCFMP Project 5 firm for the 245 newly created jobs appears to be somewhat low in relation to the typical value-added per worker in the industry.

We find that the EIFMP/EWWCFMP Project 5 initiative would tend to increase the average wage but lower overall productivity in Hillsborough County.

Table 8 (page 23) displays the effects of the 50 jobs created by a semiconductor and related device manufacturing firm (EWWCFMP Project 6). The direct jobs have an average wage of \$29,728, which is above the countywide 1998 weighted-average of \$29,058. We estimate that these 50 direct jobs generate 32.7 full-time equivalent jobs at related industries within Hillsborough County. The 32.7 indirect jobs pay an average wage of \$29,027, which is just under the countywide weighted-average. Additionally, an increase in household consumption spending induces 50.7 more full-time equivalent jobs

at an average wage of \$28,073. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

Although a majority of the indirect jobs are in the Services division, the remaining indirect jobs are distributed among the relatively high-wage divisions of the Hillsborough County economy, resulting in an average wage that approximates the countywide weighted-average. Most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the EWWCFMP Project 6 initiative is 133.4 full-time equivalent jobs in Hillsborough County at an average wage of \$28,927. This estimate of the wage impact of the new jobs indicates that the EWWCFMP Project 6 initiative would tend to slightly decrease weighted-average wages for people who work in Hillsborough County.

Table 8

1998
 EWWCFMP PROJECT 6
 SEMICONDUCTOR & RELATED DEVICE MANUFACTURING, SIC 3674 = IMPLAN SECTOR 377
 INCENTIVE TYPE: EWWCFMP
 50 JOBS
 AVG. DIRECT WAGE **\$29,728**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.3	0.92%	50.99%	\$14,818	\$136
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	3.4	10.40%	111.40%	\$32,370	\$3,366
2 & 3 Manufacturing	2.9	8.87%	108.62%	\$31,564	\$2,799
4 Trans&Pub Util	1.9	5.81%	133.17%	\$38,696	\$2,248
5 Trade	5.4	16.51%	84.23%	\$24,475	\$4,042
6 FIRE	1.5	4.59%	135.14%	\$39,270	\$1,801
7 & 8 Services	17.0	51.99%	94.81%	\$27,550	\$14,323
9 Public Admin	0.3	0.92%	117.15%	\$34,040	\$312
Total	32.7	100.00%			\$29,027
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.6	1.18%	50.99%	\$14,818	\$175
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	1.0	1.97%	111.40%	\$32,370	\$638
2 & 3 Manufacturing	1.0	1.97%	108.62%	\$31,564	\$623
4 Trans&Pub Util	1.5	2.96%	133.17%	\$38,696	\$1,145
5 Trade	17.9	35.31%	84.23%	\$24,475	\$8,641
6 FIRE	4.6	9.07%	135.14%	\$39,270	\$3,563
7 & 8 Services	22.6	44.58%	94.81%	\$27,550	\$12,281
9 Public Admin	1.5	2.96%	117.15%	\$34,040	\$1,007
Total	50.7	100.00%			\$28,073
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	50.0	\$29,728	\$11,142
Indirect	32.7	\$29,027	\$7,115
Induced	50.7	\$28,073	\$10,669
Total	133.4	Initiative Wt. Avg. =	\$28,927

Table 8.1 reports the estimated productivity increases caused by the 50 jobs created by EWWCFMP Project 6. Fifty jobs in the “semiconductor and related device manufacturing” industry typically add \$12.14 million per year to Hillsborough County’s private-sector output. That equates to \$242,808 per worker – about 314% of the countywide output per worker. The indirect jobs produce additional output at 111% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is over \$18.7 million of increased output. The increased output comes at a rate that is 181.05% of the countywide output per worker and would be expected to increase productivity in Hillsborough County.

Table 8.1

1998
 EWWCFMP PROJECT 6
 SEMICONDUCTOR & RELATED DEVICE MANUFACTURING, SIC 3674
 = IMPLAN SECTOR 377
 INCENTIVE TYPE: EWWCFMP
 Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	50.0	\$12,140,422	\$242,808	313.56%	\$148,304
Indirect	32.7	\$2,819,699	\$86,229	111.36%	\$53,947
Induced	50.7	\$3,742,086	\$73,808	95.32%	\$49,070
Total	133.4	\$18,702,209	\$140,196	181.05%	\$87,460

Table 8.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “semiconductor and related devices manufacturing” industry adds \$148,304 to the value of the firm’s products during a year. The average direct wage of \$29,728 (excludes benefits, if any) paid by the EWWCFMP Project 6 firm for the 50 newly created jobs appears to be somewhat low in relation to the typical value-added per worker in the industry.

We find that the EWWCFMP Project 6 initiative would tend to lower the average wage but increase overall productivity in Hillsborough County.

Table 9 (page 26) displays the effects of the 296 jobs created by a personal credit institution (EWWCFMP Project 7). The direct jobs have an average wage of \$29,728, which is above the countywide 1998 weighted-average of \$29,058. We estimate that these 296 direct jobs generate 19.9 full-time equivalent jobs at related industries within Hillsborough County. The 19.9 indirect jobs pay an average wage of \$34,034, which is more than the countywide weighted-average. Additionally, an increase in household consumption spending induces 125.4 more full-time equivalent jobs at an average wage

of \$28,110. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

The personal credit industry requires little input from other industries in the region. Almost 49% of the indirect jobs are in the relatively high-wage FIRE division of the county's economy, hence the average wage of the indirect jobs exceeds the countywide weighted-average wage for all jobs. As is usually the case, most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the EWWCFMP Project 7 initiative is 441.3 full-time equivalent jobs in Hillsborough County at an average wage of \$29,462. This estimate of the wage impact of the new jobs indicates that the EWWCFMP Project 7 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 9

1998
 EWWCFMP PROJECT 7
 PERSONAL CREDIT INSTITUTION, SIC 6141 = IMPLAN SECTOR 457
 INCENTIVE TYPE: EWWCFMP
 296 JOBS
 AVG. DIRECT WAGE **\$29,728**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.0	0.00%	50.99%	\$14,818	\$0
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.2	1.01%	111.40%	\$32,370	\$325
2 & 3 Manufacturing	0.4	2.01%	108.62%	\$31,564	\$634
4 Trans&Pub Util	0.5	2.51%	133.17%	\$38,696	\$972
5 Trade	0.4	2.01%	84.23%	\$24,475	\$492
6 FIRE	9.7	48.74%	135.14%	\$39,270	\$19,142
7 & 8 Services	7.4	37.19%	94.81%	\$27,550	\$10,245
9 Public Admin	1.3	6.53%	117.15%	\$34,040	\$2,224
Total	19.9	100.00%			\$34,034
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	1.6	1.28%	50.99%	\$14,818	\$189
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	2.5	1.99%	111.40%	\$32,370	\$645
2 & 3 Manufacturing	2.9	2.31%	108.62%	\$31,564	\$730
4 Trans&Pub Util	4.2	3.35%	133.17%	\$38,696	\$1,296
5 Trade	43.8	34.93%	84.23%	\$24,475	\$8,549
6 FIRE	11.1	8.85%	135.14%	\$39,270	\$3,476
7 & 8 Services	55.5	44.26%	94.81%	\$27,550	\$12,193
9 Public Admin	3.8	3.03%	117.15%	\$34,040	\$1,032
Total	125.4	100.00%			\$28,110
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	296.0	\$29,728	\$19,940
Indirect	19.9	\$34,034	\$1,535
Induced	125.4	\$28,110	\$7,988
Total	441.3	Initiative Wt. Avg. =	\$29,462

Table 9.1 reports the estimated productivity increases caused by the 296 jobs created by the EWWCFMP Project 7. Two hundred ninety-six jobs in the “personal credit” industry typically add almost \$17.62 million per year to Hillsborough County’s private-sector output. That equates to \$59,526 per worker – about 77% of the countywide output per worker. The indirect jobs produce additional output at 118% of the average output per worker, while the induced jobs produce at about 94% of average output. The total impact on productivity of this initiative is over \$28.6 million of increased output. The increased output comes at a rate that is 83.7% of the countywide output per worker and would be expected to lower productivity in Hillsborough County.

Table 9.1

1998
 EWWCFMP PROJECT 7
 PERSONAL CREDIT INSTITUTION, SIC 6141
 = IMPLAN SECTOR 457
 INCENTIVE TYPE: EWWCFMP
 Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	296.0	\$17,619,780	\$59,526	76.87%	\$51,987
Indirect	19.9	\$1,813,929	\$91,152	117.71%	\$65,593
Induced	125.4	\$9,167,350	\$73,105	94.41%	\$48,602
Total	441.3	\$28,601,056	\$64,811	83.70%	\$51,639

Table 9.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “personal credit” industry adds \$51,987 to the value of the firm’s products during a year. The average direct wage of \$29,728 (excludes benefits, if any) paid by the EWWCFMP Project 7 firm for the 296 newly created jobs appears to be somewhat low in relation to the typical value-added per worker in the industry.

We find that the EWWCFMP Project 7 initiative would tend to increase the average wage but lower overall productivity in Hillsborough County.

During 1998 there were five initiatives under the QTI program: 1) a financial services technology firm, 2) an insurance carrier, 3) a computer and peripheral equipment wholesale trade firm, 4) an accounting firm, and 5) a firm that manufactures instruments to measure electricity.

Table 10 (page 29) displays the effects of the 100 jobs created by a financial services technology firm (QTI Project 1). The direct jobs have an average wage of \$60,000, which is far above the countywide 1998 weighted-average of \$29,058. We estimate that these 100 direct jobs generate 17.9 full-time equivalent jobs at related industries within Hillsborough County. The 17.9 indirect jobs pay an average wage of

\$35,202, which is above the countywide weighted-average. Additionally, an increase in household consumption spending induces 105.0 more full-time equivalent jobs at an average wage of \$28,112. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

Similar to EWWCFMP Project 7, a majority of the indirect jobs are in the relatively high-wage FIRE division, hence the average wage of the indirect jobs far exceeds the countywide weighted-average wage for all jobs. As is usually the case, most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the QTI Project 1 initiative is 222.9 full-time equivalent jobs in Hillsborough County at an average wage of \$42,987. This estimate of the wage impact of the new jobs indicates that the QTI Project 1 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 10

1998
 QTI PROJECT 1
 FINANCIAL SERVICES TECHNOLOGY DIVISION, SIC 6200 = IMPLAN SECTOR 458
 INCENTIVE TYPE: QTI
 100 JOBS
 AVG. DIRECT WAGE **\$60,000**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.0	0.00%	50.99%	\$14,818	\$0
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.2	1.12%	111.40%	\$32,370	\$362
2 & 3 Manufacturing	0.3	1.68%	108.62%	\$31,564	\$529
4 Trans&Pub Util	0.6	3.35%	133.17%	\$38,696	\$1,297
5 Trade	0.3	1.68%	84.23%	\$24,475	\$410
6 FIRE	10.9	60.89%	135.14%	\$39,270	\$23,913
7 & 8 Services	5.4	30.17%	94.81%	\$27,550	\$8,311
9 Public Admin	0.2	1.12%	117.15%	\$34,040	\$380
Total	17.9	100.00%			\$35,202
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	1.3	1.24%	50.99%	\$14,818	\$183
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	2.1	2.00%	111.40%	\$32,370	\$647
2 & 3 Manufacturing	2.4	2.29%	108.62%	\$31,564	\$721
4 Trans&Pub Util	3.5	3.33%	133.17%	\$38,696	\$1,290
5 Trade	36.7	34.95%	84.23%	\$24,475	\$8,555
6 FIRE	9.4	8.95%	135.14%	\$39,270	\$3,516
7 & 8 Services	46.6	44.38%	94.81%	\$27,550	\$12,227
9 Public Admin	3.0	2.86%	117.15%	\$34,040	\$973
Total	105.0	100.00%			\$28,112
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	100.0	\$60,000	\$26,918
Indirect	17.9	\$35,202	\$2,827
Induced	105.0	\$28,112	\$13,242
Total	222.9	Initiative Wt. Avg. =	\$42,987

Table 10.1 reports the estimated productivity increases caused by the 100 jobs created by the QTI Project 1. One hundred jobs in the “financial services technology” industry typically add \$12.15 million per year to Hillsborough County’s private-sector output. That equates to \$121,470 per worker – about 157% of the countywide output per worker. The indirect jobs produce additional output at 143% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is over \$21.8 million of increased output. The increased output comes at a rate that is 126.45% of the countywide output per worker and would be expected to raise productivity in Hillsborough County.

Table 10.1

1998
QTI PROJECT 1
FINANCIAL SERVICES TECHNOLOGY DIVISION, SIC 6200
= IMPLAN SECTOR 458
INCENTIVE TYPE: QTI
Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	100.0	\$12,147,008	\$121,470	156.87%	\$95,975
Indirect	17.9	\$1,982,272	\$110,741	143.01%	\$82,729
Induced	105.0	\$7,696,025	\$73,295	94.65%	\$48,729
Total	222.9	\$21,825,305	\$97,915	126.45%	\$72,655

Table 10.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “financial services technology” industry adds \$95,975 to the value of the firm’s products during a year. The average direct wage of \$60,000 (excludes benefits, if any) paid by the QTI Project 1 firm for the 100 newly created jobs appears to be somewhat low in relation to the typical value-added per worker in the industry.

We find that the QTI Project 1 initiative would tend to increase the average wage and increase overall productivity in Hillsborough County.

Table 11 (page 32) displays the effects of the 200 jobs created by an insurance carrier (QTI Project 2). The direct jobs have an average wage of \$32,900, which is above the countywide 1998 weighted-average of \$29,058. We estimate that these 200 direct jobs generate 151.3 full-time equivalent jobs at related industries within Hillsborough County. The 151.3 indirect jobs pay an average wage of \$37,052, which is above the countywide weighted-average. Additionally, an increase in household consumption spending induces 131.9 more full-time equivalent jobs at an average wage of \$28,106. The induced jobs have an average wage that is below the countywide weighted-average.

The insurance carrier industry requires little input from other industries in the region. Over 79% of the indirect jobs are in the relatively high-wage FIRE division of the county's economy, hence the average wage of the indirect jobs is significantly more than the countywide weighted-average wage for all jobs.

Additionally, this project is unique among the QTI initiatives analyzed in this report, because average indirect wages are substantially higher than average direct wages. However, most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the QTI Project 2 initiative is 483.4 full-time equivalent jobs in Hillsborough County at an average wage of \$32,892. This estimate of the wage impact of the new jobs indicates that the QTI Project 2 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 11

1998
 QTI PROJECT 2
 INSURANCE CARRIER, SIC 6399 = IMPLAN SECTOR 459
 INCENTIVE TYPE: QTI
 200 JOBS
 AVG. DIRECT WAGE **\$32,900**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	0.1	0.07%	50.99%	\$14,818	\$10
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	0.9	0.59%	111.40%	\$32,370	\$193
2 & 3 Manufacturing	1.0	0.66%	108.62%	\$31,564	\$209
4 Trans&Pub Util	2.1	1.39%	133.17%	\$38,696	\$537
5 Trade	1.9	1.26%	84.23%	\$24,475	\$307
6 FIRE	119.9	79.25%	135.14%	\$39,270	\$31,120
7 & 8 Services	24.2	15.99%	94.81%	\$27,550	\$4,407
9 Public Admin	1.2	0.79%	117.15%	\$34,040	\$270
Total	151.3	100.00%			\$37,052
County Wt. Avg. =				\$29,058	

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0 Agriculture	1.6	1.21%	50.99%	\$14,818	\$180
1 Mining	0.0	0.00%	98.47%	\$28,613	\$0
1 Construction	2.6	1.97%	111.40%	\$32,370	\$638
2 & 3 Manufacturing	3.0	2.27%	108.62%	\$31,564	\$718
4 Trans&Pub Util	4.3	3.26%	133.17%	\$38,696	\$1,262
5 Trade	46.3	35.10%	84.23%	\$24,475	\$8,591
6 FIRE	11.8	8.95%	135.14%	\$39,270	\$3,513
7 & 8 Services	58.4	44.28%	94.81%	\$27,550	\$12,198
9 Public Admin	3.9	2.96%	117.15%	\$34,040	\$1,006
Total	131.9	100.00%			\$28,106
County Wt. Avg. =				\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	200.0	\$32,900	\$13,618
Indirect	151.3	\$37,052	\$11,602
Induced	131.9	\$28,106	\$7,672
Total	483.2	Initiative Wt. Avg. =	\$32,892

Table 11.1 reports the estimated productivity increases caused by the 200 jobs created by the QTI Project 2. Two hundred jobs in the “insurance carrier” industry typically add \$22.80 million per year to Hillsborough County’s private-sector output. That equates to \$114,019 per worker – about 147% of the countywide output per worker. The indirect jobs produce additional output at 74% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is over \$41.2 million of increased output. The increased output comes at a rate that is 110.12% of the countywide output per worker and would be expected to raise productivity in Hillsborough County.

Table 11.1

1998
QTI PROJECT 2
INTERNATIONAL HEADQUARTERS, SIC 6399
= IMPLAN SECTOR 459
INCENTIVE TYPE: QTI
Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	200.0	\$22,803,850	\$114,019	147.24%	\$60,061
Indirect	151.3	\$8,714,412	\$57,597	74.38%	\$42,905
Induced	131.9	\$9,686,423	\$73,438	94.84%	\$13,322
Total	483.2	\$41,204,685	\$85,275	110.12%	\$29,883

Table 11.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “insurance carrier” industry adds \$60,061 to the value of the firm’s products during a year. The average direct wage of \$32,900 (excludes benefits, if any) paid by the QTI Project 2 firm for the 200 newly created jobs appears to be somewhat low in relation to the typical value-added per worker in the industry.

We find that the QTI Project 2 initiative would tend to increase the average wage and increase overall productivity in Hillsborough County.

Table 12 (page 35) displays the effects of the 250 jobs created by a computer and peripheral equipment wholesale trade firm (QTI Project 3). The direct jobs have an average wage of \$55,000, which is far above the countywide 1998 weighted-average of \$29,058. We estimate that these 250 direct jobs generate 101.0 full-time equivalent jobs at related industries within Hillsborough County. The 101.0 indirect jobs pay an average wage of \$29,295, which is slightly higher than the countywide weighted-average. Additionally, an increase in household consumption spending induces 159.1 more full-time equivalent jobs at an average wage of \$28,101. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

Although a majority of the indirect jobs are in the Services (64.06%) division, most of the remaining indirect jobs are distributed among the relatively high-wage divisions of the Hillsborough County economy. The distribution of jobs is sufficient to keep the average wage for all indirect jobs approximately equal to the countywide weighted-average wage. As is usually the case, most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the QTI Project 3 initiative is 510.1 full-time equivalent jobs in Hillsborough County at an average wage of \$41,521. This estimate of the wage impact of the new jobs indicates that the QTI Project 3 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 12

1998
 QTI PROJECT 3
 COMPUTER AND PERIPHERAL EQUIPMENT WHOLESALE TRADE, SIC 5045 = IMPLAN SECTOR 447
 INCENTIVE TYPE: QTI
 250 JOBS
 AVG. DIRECT WAGE **\$55,000**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times</u>	<u>% of Emp. Impact</u>
0 Agriculture	0.4	0.40%	50.99%	\$14,818		\$59
1 Mining	0.0	0.00%	98.47%	\$28,613		\$0
1 Construction	3.0	2.97%	111.40%	\$32,370		\$961
2 & 3 Manufacturing	6.4	6.34%	108.62%	\$31,564		\$2,000
4 Trans&Pub Util	6.8	6.73%	133.17%	\$38,696		\$2,605
5 Trade	10.3	10.20%	84.23%	\$24,475		\$2,496
6 FIRE	6.9	6.83%	135.14%	\$39,270		\$2,683
7 & 8 Services	64.7	64.06%	94.81%	\$27,550		\$17,648
9 Public Admin	2.5	2.48%	117.15%	\$34,040		\$843
Total	101.0	100.00%				\$29,295
County Wt. Avg. =				\$29,058		

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times</u>	<u>% of Emp. Impact</u>
0 Agriculture	1.9	1.19%	50.99%	\$14,818		\$177
1 Mining	0.0	0.00%	98.47%	\$28,613		\$0
1 Construction	3.1	1.95%	111.40%	\$32,370		\$631
2 & 3 Manufacturing	3.5	2.20%	108.62%	\$31,564		\$694
4 Trans&Pub Util	5.1	3.21%	133.17%	\$38,696		\$1,240
5 Trade	55.8	35.07%	84.23%	\$24,475		\$8,584
6 FIRE	14.2	8.93%	135.14%	\$39,270		\$3,505
7 & 8 Services	70.7	44.44%	94.81%	\$27,550		\$12,243
9 Public Admin	4.8	3.02%	117.15%	\$34,040		\$1,027
Total	159.1	100.00%				\$28,101
County Wt. Avg. =				\$29,058		

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	250.0	\$55,000	\$26,955
Indirect	101.0	\$29,295	\$5,800
Induced	159.1	\$28,101	\$8,765
Total	510.1	Initiative Wt. Avg. =	\$41,521

Table 12.1 reports the estimated productivity increases caused by the 250 jobs created by QTI Project 3. Two hundred fifty jobs in the “computer and peripheral wholesale trade” industry typically add \$29.90 million per year to Hillsborough County’s private-sector output. That equates to \$119,581 per worker – about 154% of the countywide output per worker. The indirect jobs produce additional output at 103% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is over \$49.6 million of increased output. The increased output comes at a rate that is 125.67% of the countywide output per worker and would be expected to raise productivity in Hillsborough County.

Table 12.1

1998
 QTI PROJECT 3
 REGIONAL HEADQUARTERS, SIC 5045
 = IMPLAN SECTOR 447
 INCENTIVE TYPE: QTI
 Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	250.0	\$29,895,324	\$119,581	154.43%	\$81,918
Indirect	101.0	\$8,073,470	\$79,935	103.23%	\$50,726
Induced	159.1	\$11,672,490	\$73,366	94.74%	\$48,775
Total	510.1	\$49,641,284	\$97,317	125.67%	\$65,405

Table 12.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “computer and peripheral equipment wholesale” industry adds \$81,918 to the value of the firm’s products during a year. The average direct wage of \$55,000 (excludes benefits, if any) paid by the QTI Project 3 firm for the 250 newly created jobs appears to be somewhat low in relation to the typical value-added per worker in the industry

We find that the QTI Project 3 initiative would tend to increase the average wage and increase overall productivity in Hillsborough County.

Table 13 (page 38) displays the effects of the 460 jobs created by an accounting firm (QTI Project 4). The direct jobs have an average wage of \$42,741, which is far above the countywide 1998 weighted-average of \$29,058. We estimate that these 460 direct jobs generate 32.1 full-time equivalent jobs at related industries within Hillsborough County. The 32.1 indirect jobs pay an average wage of \$28,903, which is just under the countywide weighted-average. Additionally, an increase in household consumption spending induces 273.3 more full-time equivalent jobs at an average wage of \$28,104. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

The accounting services industry requires little input from other industries in the region. Over 80% of the indirect jobs are in the Services division of the county's economy, hence the average wage of the indirect jobs falls below the countywide weighted-average wage for all jobs. As is usually the case, most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the QTI Project 4 initiative is 765.4 full-time equivalent jobs in Hillsborough County at an average wage of \$36,934. This estimate of the wage impact of the new jobs indicates that the QTI Project 4 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 13

1998
 QTI PROJECT 4
 ACCOUNTING, AUDITING, AND BOOKKEEPING, SIC 8721 = IMPLAN SECTOR 507
 INCENTIVE TYPE: QTI
 460 JOBS
 AVG. DIRECT WAGE **\$42,741**

Indirect Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times</u>	<u>% of Emp. Impact</u>
0 Agriculture	0.2	0.62%	50.99%	\$14,818		\$92
1 Mining	0.0	0.00%	98.47%	\$28,613		\$0
1 Construction	0.4	1.25%	111.40%	\$32,370		\$403
2 & 3 Manufacturing	0.5	1.56%	108.62%	\$31,564		\$492
4 Trans&Pub Util	0.8	2.49%	133.17%	\$38,696		\$964
5 Trade	1.0	3.12%	84.23%	\$24,475		\$762
6 FIRE	2.7	8.41%	135.14%	\$39,270		\$3,303
7 & 8 Services	25.8	80.37%	94.81%	\$27,550		\$22,143
9 Public Admin	0.7	2.18%	117.15%	\$34,040		\$742
Total	32.1	100.00%				\$28,903
County Wt. Avg. =				\$29,058		

Induced Employment Effects

<u>Division Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times</u>	<u>% of Emp. Impact</u>
0 Agriculture	3.3	1.21%	50.99%	\$14,818		\$179
1 Mining	0.0	0.00%	98.47%	\$28,613		\$0
1 Construction	5.4	1.98%	111.40%	\$32,370		\$640
2 & 3 Manufacturing	6.3	2.31%	108.62%	\$31,564		\$728
4 Trans&Pub Util	8.9	3.26%	133.17%	\$38,696		\$1,260
5 Trade	95.8	35.05%	84.23%	\$24,475		\$8,579
6 FIRE	24.3	8.89%	135.14%	\$39,270		\$3,492
7 & 8 Services	121.2	44.35%	94.81%	\$27,550		\$12,218
9 Public Admin	8.1	2.96%	117.15%	\$34,040		\$1,009
Total	273.3	100.00%				\$28,104
County Wt. Avg. =				\$29,058		

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	460.0	\$42,741	\$25,687
Indirect	32.1	\$28,903	\$1,212
Induced	273.3	\$28,104	\$10,035
Total	765.4	Initiative Wt. Avg. =	\$36,934

Table 13.1 reports the estimated productivity increases caused by the 460 jobs created by QTI Project 4. Four hundred sixty jobs in the “accounting services” industry typically add \$28.78 million per year to Hillsborough County’s private-sector output. That equates to \$62,567 per worker – about 81% of the countywide output per worker. The indirect jobs produce additional output at 103% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is almost \$51.4 million of increased output. The increased output comes at a rate that is 86.67% of the countywide output per worker and would be expected to lower productivity in Hillsborough County.

Table 13.1

1998
 QTI PROJECT 4
 NATIONAL ADMINISTRATIVE CENTER, SIC 8721
 = IMPLAN SECTOR 507
 INCENTIVE TYPE: QTI
 Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	460.0	\$28,780,776	\$62,567	80.80%	\$56,398
Indirect	32.1	\$2,551,088	\$79,473	102.63%	\$57,134
Induced	273.3	\$20,035,982	\$73,311	94.67%	\$48,739
Total	765.4	\$51,367,846	\$67,112	86.67%	\$53,694

Table 13.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “accounting services” industry adds \$56,398 to the value of the firm’s products during a year. The typical value-added in the industry appears somewhat high in relation to the average direct wage of \$42,741 (excludes benefits, if any) paid by QTI Project 4 for the 460 newly created jobs.

We find that the QTI Project 4 initiative would tend to increase the average wage but lower overall productivity in Hillsborough County.

Table 14 (page 41) displays the effects of the 130 jobs created by a semiconductor manufacturing facility (QTI Project 5). The direct jobs have an average wage of \$32,000, which is above the countywide 1998 weighted-average of \$29,058. We estimate that these 130 direct jobs generate 80.3 full-time equivalent jobs at related industries within Hillsborough County. The 80.3 indirect jobs pay an average wage of \$29,517, which is slightly more than the countywide weighted-average. Additionally, an increase in household consumption spending induces 112.8 more full-time equivalent jobs at an average wage of \$28,102. The induced jobs have an average wage that is almost \$1,000 below the countywide weighted-average.

The distribution of indirect jobs among the divisions of the Hillsborough County economy is such that jobs in the relatively high-wage Manufacturing division are almost offset by low-wage jobs in the Services and Trade divisions, resulting in an average wage slightly above the countywide weighted-average. As is usually the case, most induced jobs are in the Trade and Services divisions of the economy resulting in a below countywide weighted-average wage for these jobs.

The total effect of the QTI Project 5 initiative is 323.1 full-time equivalent jobs in Hillsborough County at an average wage of \$30,022. This estimate of the wage impact of the new jobs indicates that the QTI Project 5 initiative would tend to increase weighted-average wages for people who work in Hillsborough County.

Table 14

1998
 QTI PROJECT 5
 SEMICONDUCTOR MANUFACTURING FACILITY, SIC 3825 = IMPLAN SECTOR 404
 INCENTIVE TYPE: QTI
 130 JOBS
 AVG. DIRECT WAGE **\$32,000**

Indirect Employment Effects

<u>Division</u>	<u>Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0	Agriculture	0.3	0.37%	50.99%	\$14,818	\$55
1	Mining	0.0	0.00%	98.47%	\$28,613	\$0
1	Construction	4.0	4.98%	111.40%	\$32,370	\$1,612
2 & 3	Manufacturing	22.9	28.52%	108.62%	\$31,564	\$9,001
4	Trans&Pub Util	4.2	5.23%	133.17%	\$38,696	\$2,024
5	Trade	15.3	19.05%	84.23%	\$24,475	\$4,663
6	FIRE	4.0	4.98%	135.14%	\$39,270	\$1,956
7 & 8	Services	29.0	36.11%	94.81%	\$27,550	\$9,950
9	Public Admin	0.6	0.75%	117.15%	\$34,040	\$254
	Total	80.3	100.00%			\$29,517
County Wt. Avg. =					\$29,058	

Induced Employment Effects

<u>Division</u>	<u>Name</u>	<u>Jobs</u>	<u>% of Emp. Impact</u>	<u>Divisional Wage as % of County Weighted Avg. Wage</u>	<u>Divisional Avg. Wage</u>	<u>Div. Avg. Wage times % of Emp. Impact</u>
0	Agriculture	1.4	1.24%	50.99%	\$14,818	\$184
1	Mining	0.0	0.00%	98.47%	\$28,613	\$0
1	Construction	2.2	1.95%	111.40%	\$32,370	\$631
2 & 3	Manufacturing	2.6	2.30%	108.62%	\$31,564	\$728
4	Trans&Pub Util	3.6	3.19%	133.17%	\$38,696	\$1,235
5	Trade	39.5	35.02%	84.23%	\$24,475	\$8,571
6	FIRE	10.1	8.95%	135.14%	\$39,270	\$3,516
7 & 8	Services	50.0	44.33%	94.81%	\$27,550	\$12,212
9	Public Admin	3.4	3.01%	117.15%	\$34,040	\$1,026
	Total	112.8	100.00%			\$28,102
County Wt. Avg. =					\$29,058	

Total Effect for this Initiative

<u>Effect</u>	<u>Jobs</u>	<u>Average Wage</u>	<u>Contribution to Total Effect</u>
Direct	130.0	\$32,000	\$12,875
Indirect	80.3	\$29,517	\$7,336
Induced	112.8	\$28,102	\$9,811
Total	323.1	Initiative Wt. Avg. =	\$30,022

Table 14.1 reports the estimated productivity increases caused by the 130 jobs created by QTI Project 5. One hundred thirty jobs in the “semiconductor manufacturing” industry typically add \$21.79 million per year to Hillsborough County’s private-sector output. That equates to \$167,588 per worker – about 216% of the countywide output per worker. The indirect jobs produce additional output at 123% of the average output per worker, while the induced jobs produce at about 95% of average output. The total impact on productivity of this initiative is almost \$37.7 million of increased output. The increased output comes at a rate that is 150.62% of the countywide output per worker and would be expected to raise productivity in Hillsborough County.

Table 14.1

1998
 QTI PROJECT 5
 SEMICONDUCTOR MANUFACTURING FACILITY, SIC 3825
 = IMPLAN SECTOR 404
 INCENTIVE TYPE: QTI
 Overall County Output per Worker = \$77,436

Productivity Comparisons

Effect	Jobs	Output	Output per Worker	% of County Output per Worker	Value-added per Worker
Direct	130.0	\$21,786,408	\$167,588	216.42%	\$63,788
Indirect	80.3	\$7,632,137	\$95,045	122.74%	\$54,166
Induced	112.8	\$8,267,137	\$73,290	94.65%	\$48,728
Total	323.1	\$37,685,682	\$116,638	150.62%	\$56,139

Table 14.1 also shows the value-added per worker portion of output per worker. Typically, a worker in the “semiconductor manufacturing” industry adds \$63,788 to the value of the firm’s products during a year. The typical value-added in the industry appears somewhat high in relation to the average direct wage of \$32,000 (excludes benefits, if any) paid by QTI Project 5 for the 130 newly created jobs.

We find that the QTI Project 5 initiative would tend to increase the average wage and increase overall productivity in Hillsborough County.

Predictive Models.

The predictive models are based on a wage of \$29,058, which is the weighted-average wage in Hillsborough County for 1998. All observations are stated as a percentage of this weighted-average wage. We form predictive models for the Hillsborough County EIFMP/EWWCFMP program and for the State QTI program⁷. The models in each group describe the trend line for 1) indirect wages as a function of direct wages, 2) induced wages as a function of direct wages, and 3) total wages as a function of

⁷ The three EIFMP projects have been combined with the two EIFMP/EWWCFMP projects and the two EWWCFMP projects to form the predictive model for incentive projects unique to Hillsborough County.

direct wages. That is, given the average direct wages as a percentage of the county's weighted-average wage, the trend lines predict indirect, induced, and total wage percentages.

The EIFMP/EWWCFMP predictive models are based on seven observations. Four of the seven observations have the same average direct wage. The QTI predictive models are derived from five observations. Therefore, we acknowledge that the models may not have general applicability across a wide range of wage levels. The predictive models are shown in **Table 15** (page 45).

The slope of the trend line shows the percentage increase in the dependent variable with respect to a 100% increase in an initiative's average direct wage relative to the countywide weighted-average wage. For example, from Table 15, note that the slope of the function that relates indirect wages to direct wages for the EIFMP / EWWCFMP programs is 0.04037, while the y-intercept is 1.01164. Hence, the trend line is:

$$\text{indirect wages} = 1.01164 + (0.04037) * (\text{direct wages})$$

Suppose an EIFMP / EWWCFMP initiative's average direct wage were equal to (100% of) the countywide weighted-average wage. Then the prediction equation is $1.05201 = 1.01164 + (0.04037) * (1.0)$.

A consistent finding is that an initiative's average wage of induced jobs is about 96% of the countywide weighted-average wage. From Table 15, see this finding by casually observing the percentage of each initiative's induced wage as a percentage of the countywide weighted-average wage. The predictive equations for induced wages as a function of direct wages bears out the finding. For both the EIFMP / EWWCFMP programs and the QTI program, the y-intercept is only slightly larger than 0.96 and the slope is relatively small. In the case of the EIFMP / EWWCFMP programs, the predictive model indicates that the induced wages will usually be 96.359% of the countywide weighted-average wage and increase by only 0.283% for each 100% increase in an initiative's average direct wages with respect to the countywide weighted-average wage. Similarly, in the case of the QTI program, the predictive model indicates that the induced wages will usually be 96.700% of the countywide weighted-average wage and increase by only 0.013% for each 100% increase in an initiative's average direct wages with respect to the countywide weighted-average wage.

Thus, the creation of jobs, which are induced by an increase in household spending due to a job-creation initiative, tends to lower the countywide weighted-average wage. Therefore, for a job-creation initiative to raise the countywide weighted-average wage, the average wages of the direct and indirect jobs must offset the negative impact of the average wage for induced jobs.

Among the EIFMP / EWWCFMP initiatives four out of seven report average direct wages below the countywide weighted-average wage. However, six out of seven have indirect average wages above the countywide weighted-average wage. And, the six

with indirect average wages above the countywide weighted-average include all four initiatives with an average direct wage below the countywide weighted-average wage. On average, an initiative's indirect wage was about 5.1% above the weighted-average countywide wage in 1998. The predictive model reflects the combined effects of these initiatives. If the initiative's average direct wage were equal to (100% of) the countywide weighted-average wage, then the indirect wage averages 5.201% above the countywide weighted-average wage.

Among the QTI initiatives four out of five report average indirect wages above the countywide weighted-average wage. All five QTI initiatives have an average direct wage above the countywide weighted-average wage. And, in the case of Project 2 the average indirect wage is higher than the average direct wage. On average, an initiative's indirect wage was about 10.1% above the weighted-average countywide wage in 1998. The predictive model reflects the combined effects of these initiatives. If the initiative's average direct wage were equal to (100% of) the countywide weighted-average wage, then the indirect wage averages 10.183% above the countywide weighted-average wage.⁸

Additionally, we can use a predictive model to estimate the direct wage necessary to generate total wages that are equal to the countywide weighted-average wage. The prediction equation for the EIFMP / EWWCFMP initiatives is $1.0 = 0.39325 + 0.6061 * (\text{direct wages})$. Solving this prediction equation, we estimate that a direct wage equal to 100.11% of the countywide weighted-average wage was necessary to generate a total average wage equal to 100% of the countywide weighted-average. Three out of seven EIFMP / EWWCFMP initiatives met or exceeded the necessary average direct wage. The average initiative had a direct wage that was 97.784% of the countywide weighted-average wage in 1998.

The prediction equation for the QTI initiatives is $1.0 = 0.61425 + 0.42720 * (\text{direct wages})$. Solving this prediction equation, we estimate that a direct wage equal to 90.30% of the countywide weighted-average was necessary to generate a total average wage equal to 100% of the countywide weighted-average. All of the QTI initiatives exceeded the necessary average direct wage. The high level of indirect wages - averaging over 110% of the countywide wage - mathematically drives the finding of a "necessary average direct wage" of 90.30%. However, the direct wages for the five QTI initiatives range from 110.125% of the countywide weighted-average to 206.484% of the countywide weighted-average. Using the predictive model to calculate a "necessary average direct wage" which is found to be outside this range is problematic.

⁸ The slope of the function of indirect wages to direct wages is -0.00136, which indicates that indirect wages tend to decrease as direct wages increase. But, the slope coefficient is not statistically different from zero. The r-square for the function is 2.01E-05. Thus, we conclude there is no discernible relationship between indirect and direct wages in this sample.

Table 15

1998

Predictive Models

EIFMP & EWWCFMP Programs

<u>Project</u>	<u>Direct</u>	<u>Indirect</u>	<u>Induced</u>	<u>Total</u>
PROJECT 1	0.87250	1.10269	0.96719	0.94603
PROJECT 2	0.87250	1.00892	0.96840	0.92922
PROJECT 3	0.87250	1.00377	0.96468	0.91527
PROJECT 4	0.87250	1.02996	0.96366	0.90904
PROJECT 5	1.30876	1.04228	0.96712	1.19243
PROJECT 6	1.02306	0.99894	0.96610	0.99550
PROJECT 7	1.02306	1.17125	0.96737	1.01392

<u>Function (f)</u>	<u>Slope</u>	<u>y-Intercept</u>
Indirect = f(Direct)	0.04037	1.01164
Induced = f(Direct)	0.00283	0.96359
Total = f(Direct)	0.60610	0.39325

QTI Program

<u>Project</u>	<u>Direct</u>	<u>Indirect</u>	<u>Induced</u>	<u>Total</u>
PROJECT 1	2.06484	1.21146	0.96744	1.47936
PROJECT 2	1.13222	1.27511	0.96725	1.13193
PROJECT 3	1.89277	1.00816	0.96706	1.42889
PROJECT 4	1.47089	0.99465	0.96715	1.27105
PROJECT 5	1.10125	1.01578	0.96712	1.03318

<u>Function (f)</u>	<u>Slope</u>	<u>y-Intercept</u>
Indirect = f(Direct)	-0.00136	1.10311
Induced = f(Direct)	0.00013	0.96700
Total = f(Direct)	0.42720	0.61425

Conclusion.

The purpose of job-creation programs, like the QTI, EIFMP, and EWWCFMP is often stated as the improvement of the economic situation of the residents of the region. To be approved in 1998, the EIFMP and EWWCFMP programs required a wage of \$25,353 or higher and the QTI program required a wage of at least 115% of the statewide, county, or metropolitan area average wage. These wage-rate conditions only applied to the direct jobs. Thus, program conditions do not consider the indirect and induced effects of jobs created by the program.

While an increasing average annual wage in a region may be interpreted as an improvement in the economic situation of the region's residents, increasing productivity is the key to raising living standards and regional competitiveness. That is so, because if workers produce more in a specified time period, firms can sell more, boost profits, and raise incomes at the same time without necessarily raising prices. Hence, a preferred job-creation initiative is one that raises both average wages and average productivity.

In 1998 there were twelve job-creation initiatives approved in Hillsborough County. The Employers Impact Fee Mitigation Program (EIFMP) and/or the Employers Water and Wastewater Capacity Fee Mitigation Program (EWWCFMP) governed seven initiatives and the provisions of Florida's Qualified Target Industry (QTI) Tax Refund Program guided five initiatives.

The EIFMP/EWWCFMP initiatives reported average wages of \$27,954, which was on average above the minimum requirement for the program in 1998. These seven initiatives included the creation of 1,776 direct jobs. These 1,776 jobs generated 1,494 more jobs. The weighted-average wage for these 3,270 jobs was \$28,569 or \$489 below the countywide weighted-average for all jobs in Hillsborough County at that time. Thus, these initiatives would mathematically lower the overall weighted-average wage by \$3.18 per worker, but because the 3,270 jobs earned only slightly less each than the countywide weighted-average, the total wage impact to all workers in Hillsborough County was minimal.⁹

Four of the seven EIFMP/EWWCFMP initiatives would be expected to have a positive effect on worker productivity in Hillsborough County. The other three initiatives would be expected to have a minimally negative effect on worker productivity in Hillsborough County. For all of the jobs generated by the seven EIFMP/EWWCFMP initiatives, the weighted-average effect is typically output per worker at 131% of overall worker productivity.

The total effects of the 1998 EIFMP/EWWCFMP initiatives are somewhat mixed. The initiatives tend to slightly decrease weighted-average wages for workers in Hillsborough County, while typically raising output per worker overall.

The five QTI initiatives reported average wages ranging from \$32,000 to \$60,000 per new job and included the creation of 1,140 direct jobs. These 1,140 jobs generated 1,165 more jobs. The average wage for these 2,305 jobs was \$36,718 or \$7,660 above the average for all jobs in Hillsborough County in 1998. We estimate that the combined impact of the QTI initiatives was to raise weighted-average wages in Hillsborough County by \$35.15 per annum per person working in the county.

Only one of the five QTI initiatives typically would be expected to have a minimally negative effect on output per worker in Hillsborough County. The negative effect is estimated at 86.67% of the overall level of output per worker countywide. The remaining four QTI initiatives were expected to generate jobs with productivity ranging from 110.12% to 150.62% of the countywide level. For all of the jobs generated by the five QTI initiatives, the weighted-average effect is typically output per worker at 110% of overall worker productivity.

The 1998 QTI initiatives tend to both increase weighted-average wages and output per worker in Hillsborough County.

⁹ According to ES202 data, in January 1998 there were 502,304 people employed in Hillsborough County.

We have selected weighted-average wages and productivity as measurements for this economic analysis. However, our selection does not imply that these are the only possible measures of expected economic improvement, and consequently the sole measures of the efficacy of either the QTI or the EIFMP/EWWCFMP initiative. Any objective evaluation of a job-creation initiative depends on the intended goal of the initiative. A goal such as to “improve the economic situation” is vague. Therefore, we recommend that the implementing authority for any job-creation initiative include a specific and measurable criterion or criteria upon which the efficacy of the program may be evaluated.