Economic Development Performance Evaluation

2003 - 2013

Pinellas County, Florida

prepared for the

Pinellas County Board of County Commissioners

November 2014

POLICOM CORPORATION

Economic Analysis Everyone Understands

POLICOM Corporation

POLICOM Corporation is an independent economic research firm specializing in analyzing local and state economies. Through its research, it determines if an area is growing or declining, identifies what is causing this to happen, and offers ideas and solutions to improve the situation.

William H. Fruth, its president and researcher for this study, has analyzed the data for more than 800 local economies, created more than 200 community economic studies, and has provided economic presentations and workshops in 39 states.

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Summary

The purpose of this study is to determine if Pinellas County achieved creating the number of primary industry jobs on an annual basis from 2003 to 2013 as determined in the 20002 Goal Study.

In December of 2002, POLICOM created an Economic Development Goal Study for Pinellas County. The purpose of the study was to create a path to follow to increase the size and improve the quality of the economy.

The Goal Study projected Pinellas County would create 40,000 new jobs from 2003 to 2013 if the community did little or nothing to improve the economy. Since the Projections were based upon the county doing little to cause economic growth, the Researcher predicted there would be a decline in employment in the later years as a result of the county reaching a "build-out" of greenfield industrial property.

To increase the size and improve the quality (wages) of the Pinellas economy over what was projected, POLICOM created annual milestones for the creation of new primary jobs. From 2003 to 2013, the community needed to have a net gain of about 28,000 new primary jobs in order to achieve the goal.

If the community reached the goal by creating the primary jobs listed in the annual milestones, approximately 137,000 new jobs would have been created from 2003 to 2013.

To determine if Pinellas County created the number of primary jobs determined by the annual milestones, POLICOM applied employment, earnings, and wage data by industrial sector to the Primary Job Matrix. For each year from 2003 through 2013, ES - 202 industry data for the United States, Florida, and Pinellas County was extracted, formatted, and evaluated.

It has been determined that instead of creating the 28,000 new primary jobs; from 2003 to 2013 the county lost about 8,000 primary jobs.

As a result, there are 195,000 fewer jobs in the county in 2013 than there would be if the milestones had been achieved.

Goal Annual Milestones

GOAL	New Primary Jobs	Prmary Jobs Wage	Actual Gain/ Loss	Prmary Jobs Wage
2003	2,352	44,750	-1,708	44,477
2004	2,449	45,745	-2,542	47,364
2005	2,519	47,530	-1	48,457
2006	2,592	49,380	3,424	49,838
2007	2,667	51,299	-147	51,544
2008	2,658	53,051	-4,409	52,225
2009	2,645	54,918	-5,770	54,178
2010	2,718	57,188	-3,192	56,874
2011	2,794	59,551	1,726	59,241
2012	2,872	62,011	1,421	65,003
2013	2,544	64,107	3,188	61,603
Total	28,808		-8,011	

In 2013, total employed (including proprietors) was estimated to be 541,687. This is the fewest number of workers in the county since 1998 when employment in the county was 526,467.

Introduction

A local economy will grow and expand, decline and fall in direct proportion to the amount of money flowing into the area. Money is imported to a local economy by way of its contributory or primary industries.

Typically, this is done through the business activity of companies which sell their goods or services outside the economy. The quality of a local economy (standard of living) depends upon the wage level paid to the workers employed in primary jobs.

In conjunction with several other economic development studies, in December of 2002 POLICOM Corporation created an Economic Development Goal Study for Pinellas County. This study discussed the existing condition of the economy, projected the condition of the economy if "things were left to chance," and established a reasonable economic Goal to increase the size and improve the quality of the economy by the year 2025.

In order to achieve the economic Goal, POLICOM created annual milestones for new primary industry jobs and their associated wage levels which, if attained, would cause the Pinellas County to reach the desired level.

Primary employers and the number of employees are not identified in labor, economic data. As a result, POLICOM created a mathematical matrix which extracts from general industry data the number of primary industry jobs and their associated average wage by industrial subsector. The formulas were used to create the baseline data for 2002 which identified the number of primary jobs for that year. Please see Methodology at the end of this study.

From this baseline, POLICOM created annual milestones.

The purpose of the report is to determine if the community achieved the annual milestones from 2003 through 2013.

To create this evaluation, for each year of the study period, data is applied to the baseline formulas to determine the net loss or gain of primary jobs. From these calculations, it can be determined if the annual milestones have been achieved.

The database used for this analysis is called ES-202 or covered workers data.[1] It includes only wage and salaried workers and does not include proprietors or workers not covered by the unemployment compensation program.

[1] ES-202 data is published by the Bureau of Labor Statistics. The data set includes only those workers included in the "unemployment compensation" program. It is utilized as it is the only data set which provides employment, worker earnings, and worker wages to the 5 digit NAICS industry level.

2002 Economic Goal Study

In December of 2002, POLICOM created an Economic Development Goal Study for Pinellas County. The purpose of the study was to create a path to follow to increase the size and improve the quality of the economy.

The first step in creating the study was to project the future condition of the economy. Based upon historic trends, the composition of the economy, and assuming there would be a "minimum effort" to cause the formation of new primary jobs, the projections reflected what would occur if the community simply "let things happen."

At the time the projections were created, year 2000 data was the most recent data set available. As a result, estimates were made for the existing condition in 2001 and 2002.

The chart shows the projections for employment and wages from 2001 through 2013, the term of this evaluation. The jobs on the chart include all full and part-time wage and salaried jobs and all proprietors.[2]

The Projections provided the county would create 40,000 new jobs from 2003 to 2013. Note it was projected the county would have a decline in employment beginning in 2011.

Since the Projections were based upon the county doing little to cause economic growth, the Researcher predicted there would be a decline in employment as a result of the county reaching a "build-out" of Greenfield industrial property.

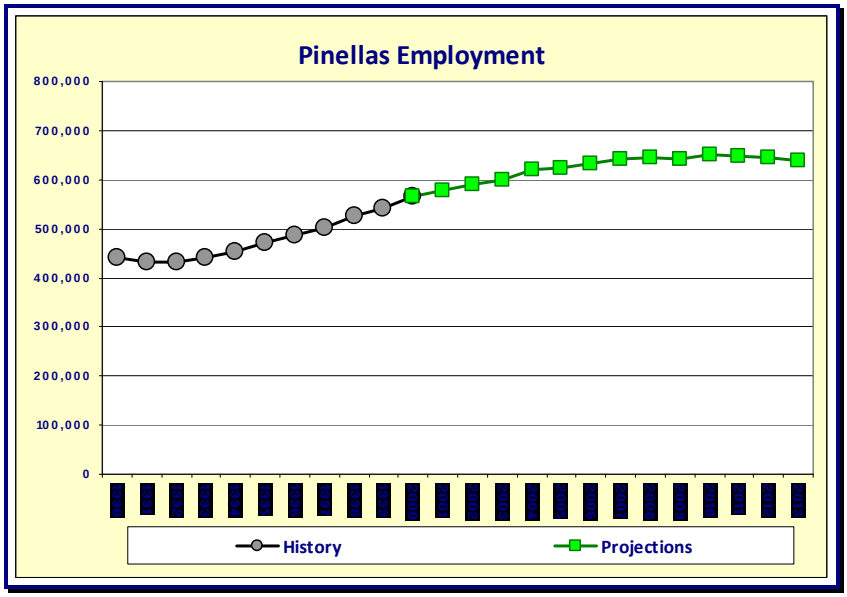
Additionally, the average wage for the county was projected to reach $45,358 by 2013. This reflects an average annual increase of wages of 3%.

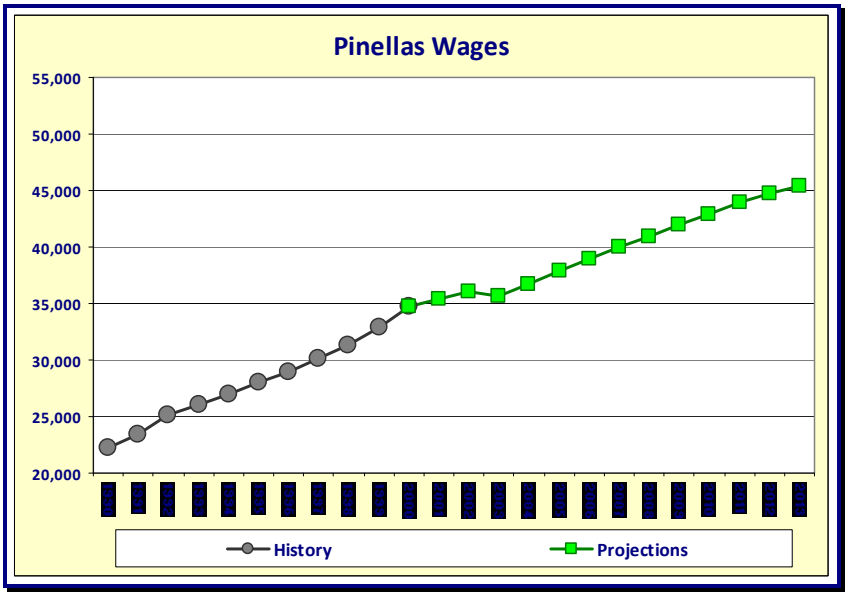
Goal Study

	Projections Jobs	Projections Wages
2001	577,888	35,400
2002	589,444	36,000
2003	600,000	35,627
2004	619,400	36,712
2005	623,000	37,832
2006	634,000	38,988
2007	642,000	40,024
2008	645,000	40,954
2009	643,000	41,909
2010	650,000	42,888
2011	649,000	43,892
2012	645,000	44,720
2013	640,000	45,358

[2] The data source is the Regional Economic Information System (REIS) published by the Bureau of Economic Analysis. This data set is more comprehensive than ES-202 Covered Workers data published by the Bureau of Labor Statistics as it includes all workers and self employed individuals. However, data is not available for employment below the 2 digit industry level.

The following graphs visually show the Projections for Employment and Wages. Also shown is the History of growth from 1990 to 2001.





As previously discussed, a local economy will grow or decline in direct proportion to the money flowing into the area. For the most part, money is imported to the area by way of its primary industries.

To increase the size and improve the quality (wages) of the Pinellas economy over what was projected, POLICOM created annual milestones for the formation of new primary jobs.

The chart shows the annual milestones for the formation of new primary jobs and the average wage for primary jobs in the county. The annual milestones are "net gains" over the previous year.

Specifically not included in the milestones are primary jobs associated with tourism, the retirement industry, Federal and State government employment, or government entitlement programs.

From 2003 to 2013, the community needed to have a net gain of about 28,000 new primary jobs in order to achieve the goal.

The milestones were based upon the community conducting an aggressive economic development program. It would not be possible to create 28,000 new primary jobs without a diligent effort.

Goal Annual Milestones

GOAL	New Primary Jobs	Prmary Jobs Wage
2003	2,352	44,750
2004	2,449	45,745
2005	2,519	47,530
2006	2,592	49,380
2007	2,667	51,299
2008	2,658	53,051
2009	2,645	54,918
2010	2,718	57,188
2011	2,794	59,551
2012	2,872	62,011
2013	2,544	64,107
Total	28,808	

Additionally, the annual milestones were based in part upon the success Pinellas County had during the 1990s in creating new primary jobs which averaged about 2,600 per year.

When creating the annual milestones, it was stressed that in a single year the milestone might not be met, while in other years it would be exceeded. It was important, however, to have a cumulative gain of new primary jobs over the term of the study period.

If the annual milestones were met, thousands of new jobs would be created in the community and the overall wage in the county would rise.

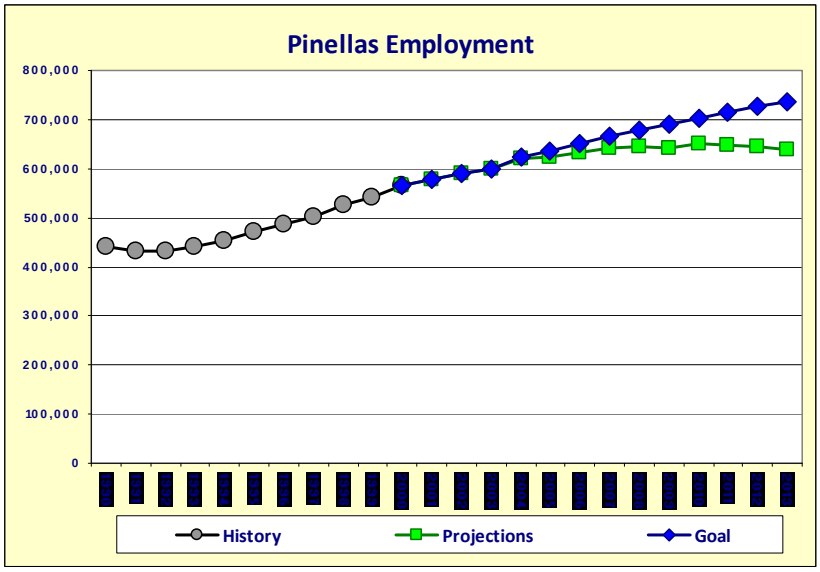
By 2013, more than 136,000 new jobs would have been created. This is about 94,000 more jobs than what was projected.

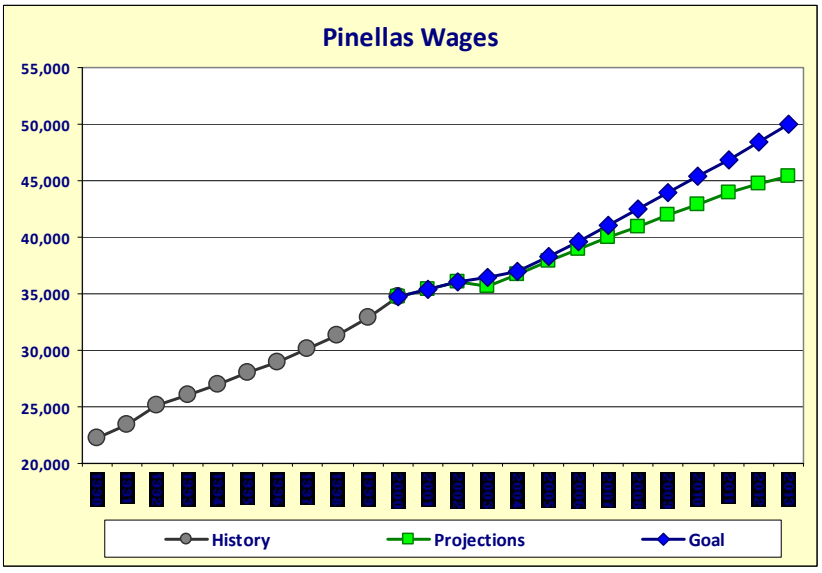
As important, the average county wage would be about $50,000, 10% higher than the projections.

Goal Study

	Projections Jobs	Projections Wages	Goal Jobs	Goal Wages
2001	577,888	35,400	577,888	35,400
2002	589,444	36,000	589,444	36,000
2003	600,000	35,627	600,000	36,400
2004	619,400	36,712	622,900	36,967
2005	623,000	37,832	636,599	38,291
2006	634,000	38,988	650,661	39,665
2007	642,000	40,024	665,095	41,088
2008	645,000	40,954	678,280	42,504
2009	643,000	41,909	690,096	43,910
2010	650,000	42,888	702,145	45,364
2011	649,000	43,892	714,432	46,867
2012	645,000	44,720	726,961	48,421
2013	640,000	45,358	736,955	50,008

The following graphs show the impact on Employment and Wages if the annual primary jobs milestones were met from 2003 to 2013.





To determine if Pinellas County achieved the Goal by creating the number of primary jobs identified by the annual milestones, POLICOM applied employment, earnings, and wage data by industrial sector to the Primary Job Matrix. For each year from 2003 through 2013, ES - 202 industry data for the United States, Florida, and Pinellas County was extracted, formatted, and evaluated.

The chart shows the annual results of this effort.

Over the eleven year period, the county lost approximately 8,000 primary jobs while the Goal was to create more than 28,000 primary jobs.

Even so, the average wage for primary jobs in the county on an annual basis was very close to the wage set in the Goal.

Goal Annual Milestones

GOAL	New Primary Jobs	Prmary Jobs Wage	Actual Gain/ Loss	Prmary Jobs Wage
2003	2,352	44,750	-1,708	44,477
2004	2,449	45,745	-2,542	47,364
2005	2,519	47,530	-1	48,457
2006	2,592	49,380	3,424	49,838
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2011	2,794	59,551	1,726	59,241
2012	2,872	62,011	1,421	65,003
2013	2,544	64,107	3,188	61,603
Total	28,808		-8,011	

The evaluation measured the gain or loss between 2002 and 2013 by industrial sector. While the area lost about 8,000 primary jobs, not all sectors declined.

Manufacturing, Wholesale trade, and Information technology suffered the greatest losses.

Professional and technical services and Management of Companies (corporate headquarters) gained over the eleven year period.

Primary Jobs - Gain/Loss	2002-2013
Total Primary Jobs	-8,010
Manufacturing	-8,381
Wholesale trade	-1,853
Retail trade	806
Transportation and warehousing	370
Information	-1,001
Finance and insurance	-421
Professional and technical services	1,059
Management of companies	1,525
Health care and social assistance	72

The following graph shows the total number of primary jobs in each industrial sector along with the annual gain or loss.

Primary Jobs	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Primary Jobs	71,230	69,522	66,980	66,979	70,403	70,256	65,847	60,077	56,885	58,611	60,032	63,220
Manufacturing	37,241	35,056	35,226	36,090	35,766	35,407	34,734	30,485	28,893	29,288	28,997	28,860
Wholesale trade	8,214	7,342	7,051	7,394	7,324	7,628	7,505	6,645	6,162	6,193	6,294	6,360
Retail trade	1,934	2,037	2,276	2,268	2,419	2,566	2,764	2,722	2,734	2,763	2,733	2,740
Transportation and warehousing	920	1,082	1,221	1,172	1,243	1,250	1,253	1,196	1,208	1,254	1,338	1,290
Information	1,891	2,337	694	455	648	1,453	1,063	563	336	811	837	889
Finance and insurance	3,622	3,503	3,704	3,246	4,884	3,588	2,876	3,505	3,658	4,001	4,220	3,201
Professional and technical services	7,593	8,052	6,649	7,021	8,170	8,923	6,118	5,410	4,038	4,315	4,978	8,652
Management of companies	9,429	9,968	9,565	8,821	9,318	9,237	9,363	9,320	9,595	9,682	10,332	10,954
Health care and social assistance	202	146	194	250	430	205	172	232	261	306	304	274

Primary Jobs - Gain/Loss	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Primary Jobs		-1,708	-2,542	-1	3,424	-147	-4,409	-5,770	-3,192	1,726	1,421	3,188
Manufacturing		-2,185	170	864	-324	-359	-673	-4,249	-1,591	394	-291	-137
Wholesale trade		-872	-290	342	-70	303	-122	-860	-483	30	101	67
Retail trade		103	239	-8	151	148	197	-41	12	29	-30	7
Transportation and warehousing		162	139	-49	71	7	3	-57	12	46	84	-48
Information		446	-1,643	-239	193	805	-390	-500	-227	476	26	52
Finance and insurance		-119	201	-458	1,638	-1,296	-712	629	153	342	220	-1,020
Professional and technical services		459	-1,403	372	1,149	753	-2,806	-708	-1,372	276	663	3,674
Management of companies		539	-403	-744	497	-81	126	-43	275	87	650	622
Health care and social assistance		-56	48	56	179	-225	-33	60	29	45	-1	-30

The following graph shows the average wage of the primary jobs in each industrial sector.

Annual Wage - Primary Jobs	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Primary Jobs	43,475	44,477	47,364	48,457	49,838	51,544	52,225	54,178	56,874	59,241	65,003	61,603
Manufacturing	39,852	41,865	43,145	44,152	46,061	47,339	48,458	50,858	52,616	55,059	56,946	57,075
Wholesale trade	47,949	46,555	48,390	50,773	52,339	52,366	53,594	54,162	57,222	60,444	64,335	62,232
Retail trade	35,698	37,928	39,006	42,168	39,096	39,877	40,744	40,551	41,053	42,834	46,708	44,276
Transportation and warehousing	27,960	29,737	31,475	33,543	35,825	37,237	38,899	40,337	40,150	38,866	40,488	45,138
Information	31,303	36,549	41,901	41,968	45,116	46,482	49,024	51,118	53,440	59,385	57,991	58,433
Finance and insurance	58,534	62,778	62,051	63,641	63,207	66,601	68,138	63,215	68,765	71,615	72,919	74,173
Professional and technical services	38,636	37,418	37,030	40,088	45,544	48,606	45,993	48,244	52,985	54,351	56,960	57,834
Management of companies	57,379	56,250	67,316	68,646	63,896	69,989	69,819	71,209	73,509	75,748	97,602	79,179
Health care and social assistance	40,524	41,143	42,259	46,157	47,366	49,491	52,560	47,293	49,521	51,210	52,851	54,413

Having a decline in primary jobs over an eleven-year period was not contemplated in the economic projections which were created in 2002. The loss of the primary jobs, along with some other economic issues over the last several years, has had a significant negative effect on the Pinellas County economy.

The graph shows the actual employment and average county wage from 2001 to 2013. As previously mentioned, actual employment data for 2001 and 2002 was not published at the time the Goal Study was created. Unknown to the Researcher at the time, the county lost a large number of jobs in 2001 from 2000. The actual number of jobs in 2001 is fewer than the projections.

	Goal Study				Actual Data	
	Projections Jobs	Projections Wages	Goal Jobs	Goal Wages	Actual Jobs	Actual Wages
2001	577,888	35,400	577,888	35,400	547,174	35,950
2002	589,444	36,000	589,444	36,000	558,529	36,648
2003	600,000	35,627	600,000	36,400	559,138	37,697
2004	619,400	36,712	622,900	36,967	577,797	38,692
2005	623,000	37,832	636,599	38,291	586,114	40,239
2006	634,000	38,988	650,661	39,665	597,313	41,474
2007	642,000	40,024	665,095	41,088	596,661	41,859
2008	645,000	40,954	678,280	42,504	565,405	43,615
2009	643,000	41,909	690,096	43,910	542,423	42,974
2010	650,000	42,888	702,145	45,364	529,307	44,578
2011	649,000	43,892	714,432	46,867	529,393	45,186
2012	645,000	44,720	726,961	48,421	538,616	46,728
2013	640,000	45,358	736,955	50,008	541,687	46,237

From 2001, employment grew to 597,661 in 2006. However, since that year, the county lost 55,600 jobs.

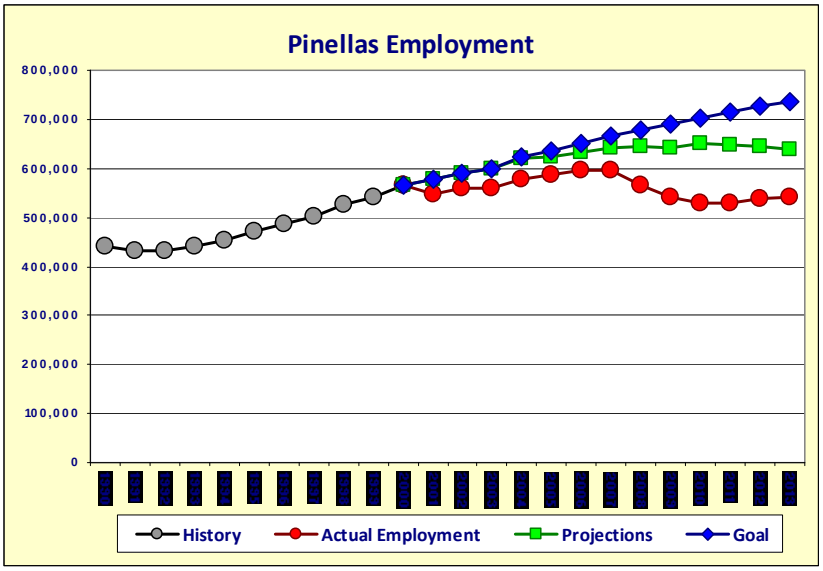
Not all of the job loss is attributed to the decline of primary jobs. Many communities in Florida had rapid employment growth between 2003 and 2007 followed by rapid job loss from 2008 to 2012. This is the result of the anomalous residential building boom and bust.

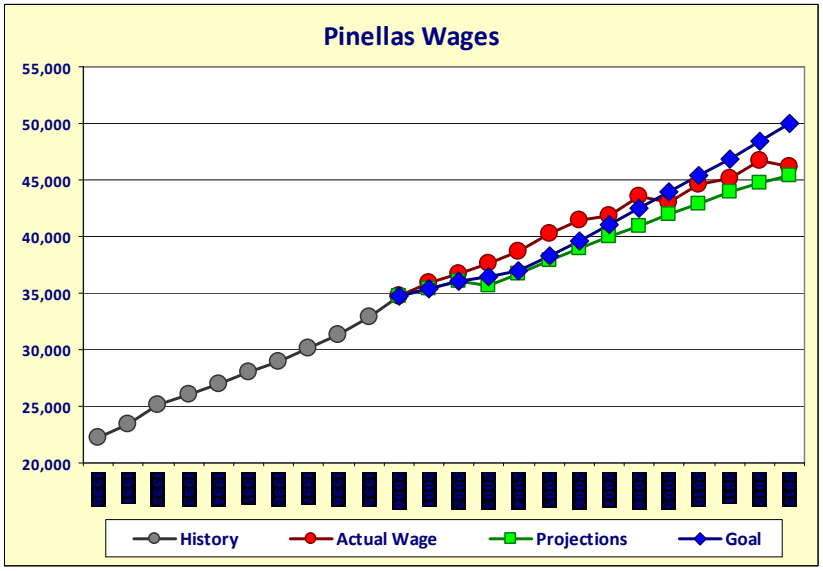
Pinellas County had jobs gains, followed by job losses, in Construction and sectors related to construction during this time. However, at least 30,000 of the jobs lost in the county are attributed to the loss of the primary jobs.

In 2013, total employed (including proprietors) was estimated to be 541,687. This is the fewest number of workers in the county since 1998 when employment in the county was 526,467.

Also in 2013, the average wage in the county was mildly higher that what was projected by a full $3,800 less than the Goal.

The following graphs visually show the Projections, the Goal, and the Actual growth for Pinellas County.





Conclusion

In 2002 POLICOM created annual milestones for the creation of new primary jobs from 2003 to 2013. If these jobs would have been created, the size of the Pinellas County economy would be significantly greater than what was projected.

However, the community not only did not create the new jobs but had a net loss of primary jobs during this time.

As a result, the overall size of the economy is smaller than what was projected and total employment in the county is at 1998 level.

Methodology

The process of estimating the number of primary jobs in a local economy involves utilizing specific mathematical formulas which attempt to "extract" primary jobs from "all jobs" within an area.

The primary jobs included in this evaluation are limited to the industrial sectors with which economic development organizations are normally associated. Typically not included are jobs related to tourism, state and federal government including the military, and primary jobs caused by the retirement industry and government entitlement programs.

As previously stated, a primary job is one for which the wages paid are generated from the sale of goods or services outside the local area. This imports money to the area. It is from this money a vast majority of all the (dependent) jobs in the area are created. Typically a primary job can be identified by the industrial activity of the employer.

The Primary Job Matrix is based upon the North American Industrial Classification System (NAICS).

Employers in the United States are required to report to the state and federal governments the number of employees and related wages paid. When reporting, the employer is required to provide an industry code for the work activity. The required reporting is part of the "Unemployment Compensation" program. The data collected is known as "covered workers" data or ES-202 data which is published by the Bureau of Labor Statistics, U.S. Department of Labor.

POLICOM Corporation utilizes ES-202 data to create the Primary Job Matrix.

No industry data set specifically identifies "primary jobs" as they can be located in virtually any industrial sector.

In order to determine the number of primary industry jobs and their ancillary wages paid, POLICOM Corporation created elaborate mathematical formulas for Pinellas County which identify the primary industry jobs to their most definitive NAICS code.

These formulas were applied to ES-202 data, and the number of primary jobs for the county has been determined. The total of these jobs serves as the baseline for the county. The jobs identified are wage and salaried jobs and coincide with the methodology used to create the annual milestones in the Goal Study.

The mathematical matrix used to create the baseline will be frozen in time, and applied to the data for each successive year, in order to determine the net gain or loss. It is important, for the veracity of the results, to use the same formulas and methodology each year in calculating the number of primary jobs in the economy.

The purpose of creating the Primary Job Matrix is to determine the number and wage level of the primary jobs in the area. Done annually, the net gain from the previous year can be determined.

Once again, a primary job is one for which the wages paid are generated from the sale of goods or services outside the local area. This imports money to the area. It is from this money a vast majority of all the (dependent) jobs in the area are created.

Whether or not a job is primary can be determined from the nature of the business, or the industrial activity. Since NAICS data (and previously SIC) is collected from employers coded by industrial activity, much of this information can be attained by reviewing the data.

The task before the researcher is to separate primary jobs from all the other jobs included in the overall data. This is done by reviewing each industrial sector for its inherent primary-dependent industry nature.

The process described below is not "perfect." It is not possible to identify the exact number of primary jobs in a local economy. POLICOM Corporation believes it is able to create a "reasonable" estimate of the number of jobs and wages paid. However, by using the same methodology each year hereafter, gains and losses relative to 2002 can be determined.

Some industries are inherently dependent. This means the businesses feed upon or utilize money which is already present in the economy. A vast, vast majority of all jobs fall into this category. An example is Retail Trade. The wages paid to retail trade workers is generated from the sale of goods on a local basis. Therefore, jobs in retail trade are dependent, not primary.

However, even within Retail there are primary jobs. "Non-Store" Retailers is a subsector. It includes internet stores and television shopping networks. Businesses in these sectors import money to the area and are "primary."

Workers employed in "cane sugar refining" are primary in nature. It is not likely very much of the sugar processed at a cane sugar refinery is actually sold locally. The sugar is not only sold outside the area, but likely sold outside the state. Therefore, this sector is inherently a primary industrial activity and the workers employed are considered primary jobs.

NAICS data is constructed in a hierarchical system or code based upon the industrial activity of the business. This code begins with a general industry (now known as "Sector" level, formerly "Industry" level – 2 digit code) and continues in specificity to a 6 digit subsector level based upon the continued refinement of the activity. The following is the path from 31 - Manufacturing to 311312 - Cane Sugar Refining:

There are more than 2,300 industrial codes in NAICS, running from the 2 digit Sector to 6 digit subsector levels.

To identify primary industry jobs, the researcher first examines all 2,379 codes for their inherent tendency to be primary in nature. However, even at the 5 or 6 digit subsector, it cannot be determined for certain all jobs are primary in nature.

As an example, 51112 – Periodical Publishers (magazines), for the most part is a primary activity, as most magazines are sold nationally or statewide. However, many metropolitan areas have local magazines specifically targeted to the local market. That portion of the activity is not primary. The researcher makes reasonable estimates as to the percentage each industrial subsector is relative to being primary, based upon a review of national data.

To estimate the number of primary jobs, POLICOM Corporation applies both "rule of thumb" and specific mathematical tests to data Sub-sectors to extract the jobs and earnings from consolidated data levels.

A “rule of thumb” test is the process of applying a percentage of employment in a subsector which is generally inherently primary in nature.

As an example, for most manufacturing subsectors, 100% of the employment is considered primary. The manufacturing of automobile, semi-conductors, and aircraft parts is primary in nature.

However, 311 – Food Manufacturing includes manufacturers serving the local marketplace, such as bakeries and soda pop canners. These are not primary. If data is available for exceptions like these, it is deducted from the total of 100%. If it is not, having been suppressed, then the percentage applied to subsector is adjusted downward based upon the percentage each is of the national percentage of the workforce in each industry.

This “rule of thumb” test is applied to many of the subsectors. However, it is taken even much further for most subsectors which are not inherently primary.

Sector 42 - Wholesale Trade is split into two 3 digit subsectors: 421 – Wholesale Trade Durable and 422 – Wholesale Trade – Non Durable. The wholesale trade of durable goods is more inherently primary than non durable goods. Therefore, the rule of thumb percentage is 75% for durable and 25% for non durable, based upon the experience of the researcher.

A second specific test is now taken to determine anomalous employment. The percentage of the workforce for the subsector is examined to “detect” the presence of a primary employer(s). For each subsector, the percentage of the national and state workforce is determined. Suppose for 422 – Wholesale Non Durable it is 1.8% of the national workforce and 1.9% of the state’s workforce. However, the area has 3.5% of the workforce employed in this subsector.

This indicates the presence of a wholesaler(s) of non durable goods doing business in excess of what is needed for the local marketplace and is therefore primary in nature. As a result, the number of jobs in excess of what is the norm (higher between state and USA) is added to the total generated by the rule of thumb percentage.

This process is applied to many of the subsectors. A third test is also used for more difficult subsectors.

The publishing of books is inherently primary in nature. However, this data is rarely disclosed except in large areas. The following is the NAICS code path:

Book publishing data is frequently not disclosed because it is coded at the 5 digit level with newspaper publishers. In many communities, there is only one dominant newspaper. As a result, the data for 51111 – Newspaper Publishers is suppressed, causing the data for 51112 – Periodical Publishers and 51113 – Book Publishers to be suppressed.

Since the total data is carried upward to 5111 - Newspaper, Periodical, Book, and Directory Publishers, data for 51112 and 51113 must be withheld or you could simply subtract from 5111 the data for 51112 and 51113 and get the data for 51111.

In this case, no inherent percentage is applied to 5111 as it cannot be assumed any book publishers are in the area. Therefore, in this case only the employment percentage test is used. First, from national data, the percentage newspaper publishers of national and state employment totals and the total of

5111 is determined. Then, the area percentage of workforce in 5111 is compared to the nation and state. If the area percentage of 5111 is greater than the national percentage of 51111 and 5111, then it is determined there is a presence of either 51112 or 51113 in the economy, and the variance is considered primary in nature.

This test is applied to several subsectors.

In order to create totals for each area, primary jobs for the 5 and 4 digit subsectors are calculated first. Second, jobs for the 3 digit subsectors are determined. All of the jobs in the 5 and 4 digit subsectors are included in the totals. To create a total for the 3 digit subsectors, the sum of the respective 4 and 5 digit subsectors is subtracted from the initial total at the 3 digit level. The formula is basically: "If the number of 3 digit jobs is greater than the sum of the 4 and 5 digit jobs, then 3 digit jobs minus sum of 4 and 5 digit, otherwise, 0." Worker earnings are concurrently calculated. The Earnings per Worker (Wages) is typically determined by dividing the Earnings by the number of jobs.

The sum of the 5, 4, and 3 digit subsectors are used to create the Sector totals.

While the formulas described are elaborate, once created they can be used repeatedly to determine the number of primary jobs in a community.