# OUTLOOK FOR KEY REVENUES PALM BEACH COUNTY

## Fiscal Years 2019-20, 2020-21 and 2021-22

June 12, 2020

**Presented By:**

**Hank Fishkind, Ph.D.**

PFM Financial Advisors, LLC

12051 Corporate Boulevard
Orlando, FL 32817

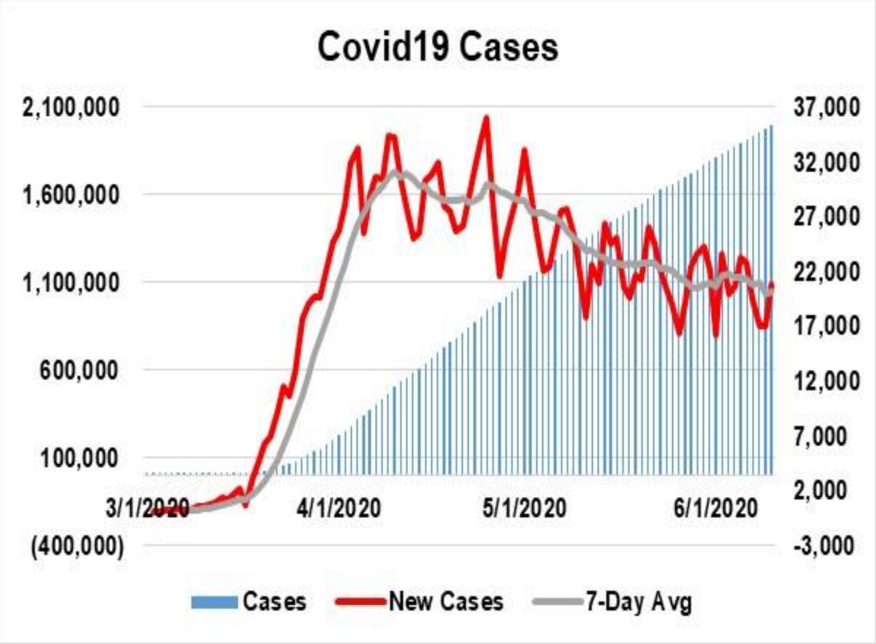
407.723.5900
**pfm.com**

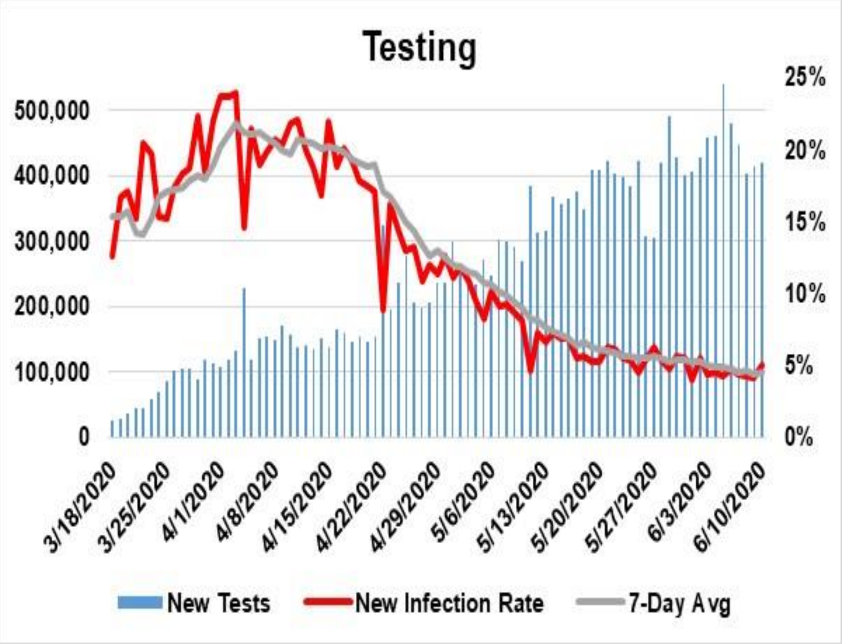
# Introduction

- The COVID-19 pandemic has already caused unprecedented social and economic costs.
- There is tremendous uncertainty about the trajectory of new infections, rates of mortality and morbidity, public policies, and the economic costs associated with the pandemic.
- As a result, the precise magnitude of economic costs and financial market turbulence are unknowable at this juncture.
- Nevertheless: (a) governments must continue to provide public services and to protect the health, safety, and welfare of their communities and (b) businesses must plan and execute the re-opening of the economy.
- This analysis is provided to Palm Beach County for budget and policy planning.
- All data as of 6/12/2020 unless otherwise noted.

# U.S. COVID-19 Cases through 6-12-20

- As Dr. Fauci has said, “the virus is the clock”
- New cases still rising, but at a slower rate
- Focus on new infection rate - < 10% key as re-openings expand




Source: https://covidtracking.com/data/

# COVID-19 Recession: Overview and Key Assumptions

1. **Baseline**

   A. **Overview:** COVID-19 has triggered a severe but short global recession. In the U.S. it is the worst since the depression.

   B. **Key Assumptions:** Emergency measures remain in place through May. Normal economic and social activities are delayed until mid-2021 when a vaccine is developed. In between social distancing is necessary as testing and quarantine measures ramp up depressing economic activity.

2. **Pessimistic**

   A. **Overview:** Infections rebound in the U.S. prompting renewals of lockdown measures preventing a recovery. The result is a prolonged period of below trend economic activity.

   B. **Key Assumptions:** Lockdown measures are abandoned too soon and the epidemic erupts in major cities. Extensive monetary and fiscal measures result in a quasi nationalization of major sectors of the economy. These measures fail to restore a meaningful recovery, but they do arrest the downward spiral.



Sources: Moody's Economy.com

# COVID-19 Triggers 1st Ever Services Sector Driven Recession

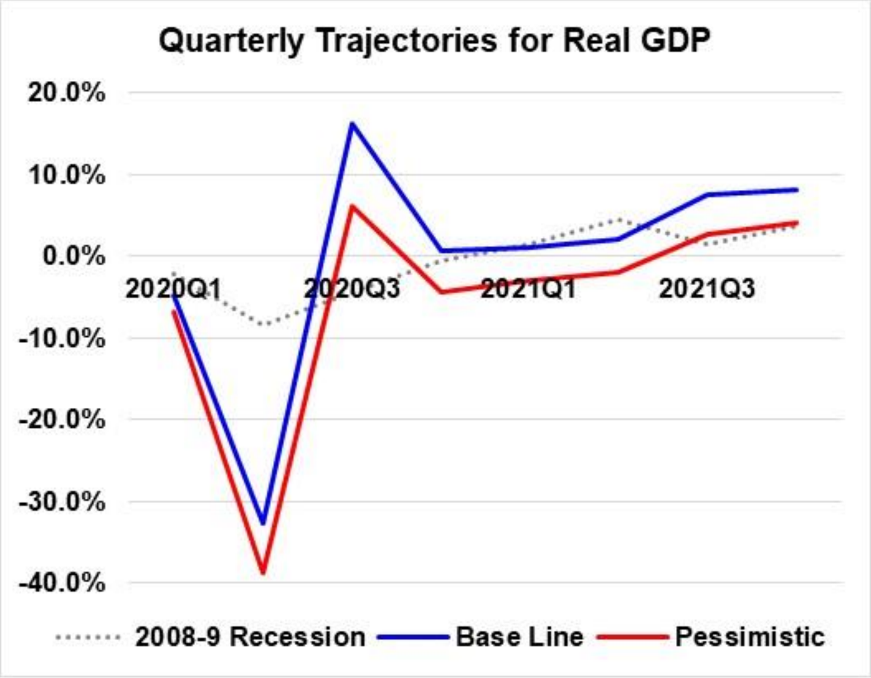
- It is important to recognize that COVID-19 has triggered the first recession ever caused by a contraction in the services sector of the economy.
- All prior recessions stemmed from the good producing sector. For example, the Great Recession beginning in 2008 was caused by an excess supply of housing stimulated by faulty financing and speculation.
- Unlike a goods-based recession, a service sector recession does not generate excess inventory of goods that must be absorbed before recovery can begin.
- Instead, a service-based recession causes a very sharp loss of employment and income and devastates restaurants, retail, service, entertainment, tourism and travel. Many of these businesses are relatively small and have small capital bases. Most of their workers are relatively lower paid and lack healthcare and other safety nets or much savings.

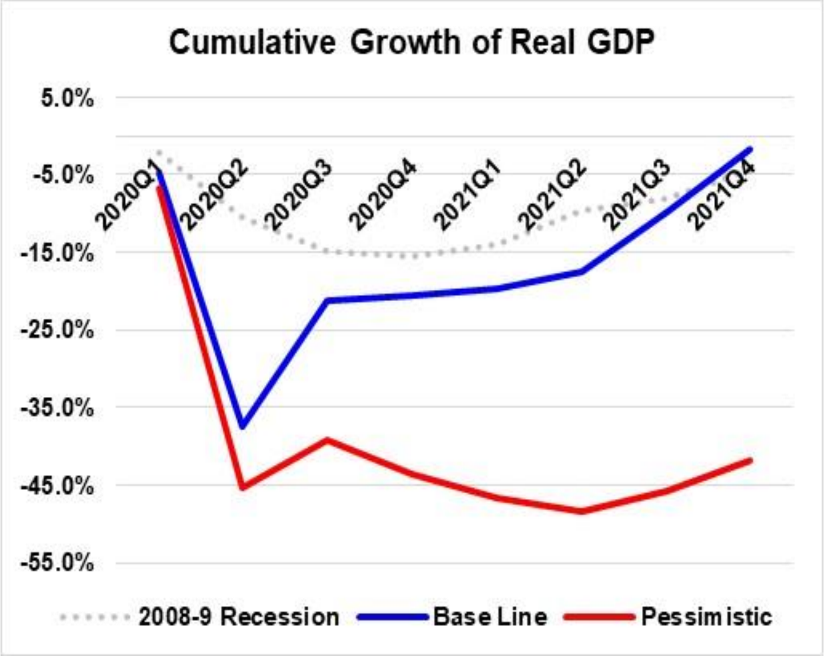
# Consequences of a Services Sector Recession on the Business Cycle

- Since a services sector recession is not burdened by excess inventory, the recovery is expected to occur more quickly.
- However, in this instance with COVID-19, recovery depends upon: (a) a decline in the rate of new infections and (b) sharp increase in testing, tracing, and quarantines.
- Taiwan, Hong Kong, Singapore, and South Korea avoided massive closures of their economies with robust testing and strict quarantine of those infected. However, even in these countries disruptions occurred when infection rates spiked.
- We cannot begin  to reopen our economy safely until these conditions occur, which is  happening now.  But, without social distancing and testing there will be a rebound in infections.
- Unprecedented monetary policies and massive fiscal stimulus including $3T including direct cash grants to families, and credit support to businesses are expected to avert another depression. But, fiscal stimulus cannot avoid a sharp recession nor a huge surge in bankruptcies and in unemployment.

# Impact of COVID-19 on Real GDP

The COVID-19 recession expected to be the deepest and one of the shortest since WWII.




Sources: Moody's Economy.Com, and PFM

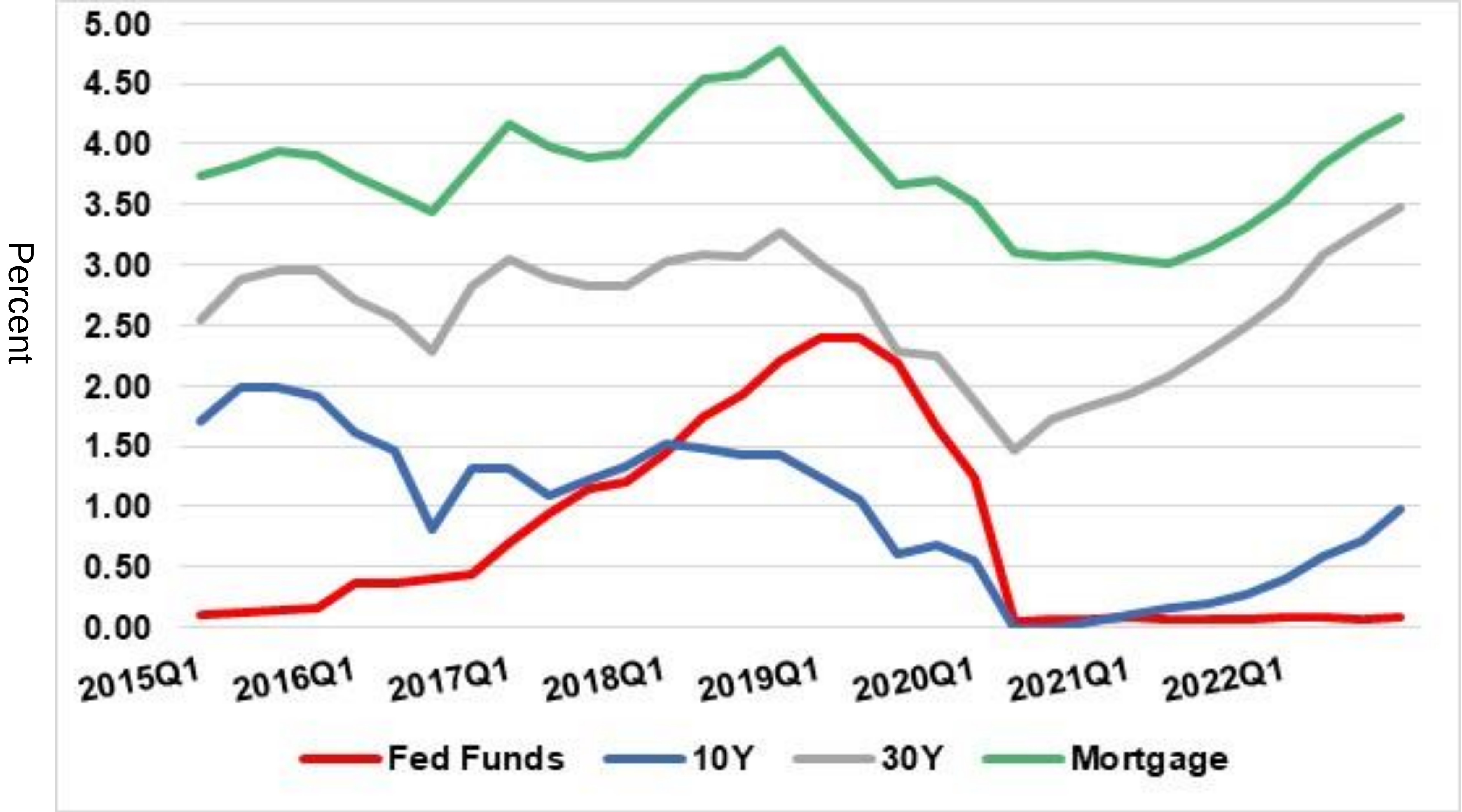
# Comparison of COVID-19 Recession to Past Recessions

| Recession | Months of Duration | Fall in GDP | Peak Unemployment Rate |
|---|---|---|---|
| Great Depression | 43 | -30.0% | 25% |
| 2008-2009 | 18 | -4.3% | 13% |
| COVID-19 | 6 | -10.5% | 15% |

- The COVID-19 recession is unique, because it is primarily a services sector recession caused by an epidemic.
- Although the COVID-19 recession is expected to be short in duration, it will likely cause a spike in the unemployment rate higher than in the Great Recession of 2008-9. Again, this is because this recession strikes at the services sector of the economy.
- Strong actions by the Federal Reserve and the $3T federal stimulus package (equal to 15% of GDP) are likely to prevent cascading sequence of business failures and layoffs from morphing into a financial crises and a depression.

Sources: Moody's Economy.com and NBER

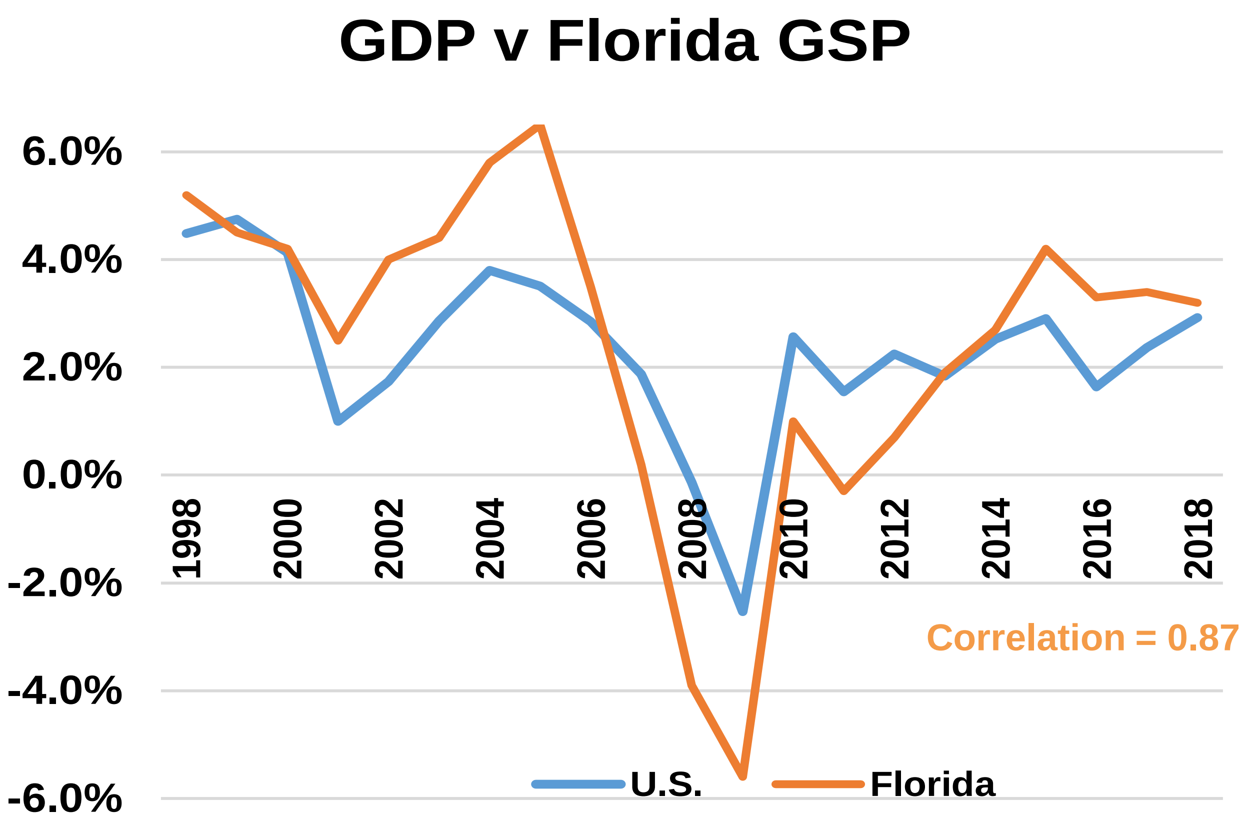
# Key Interest Rates




Source: Moody's Economy.com,

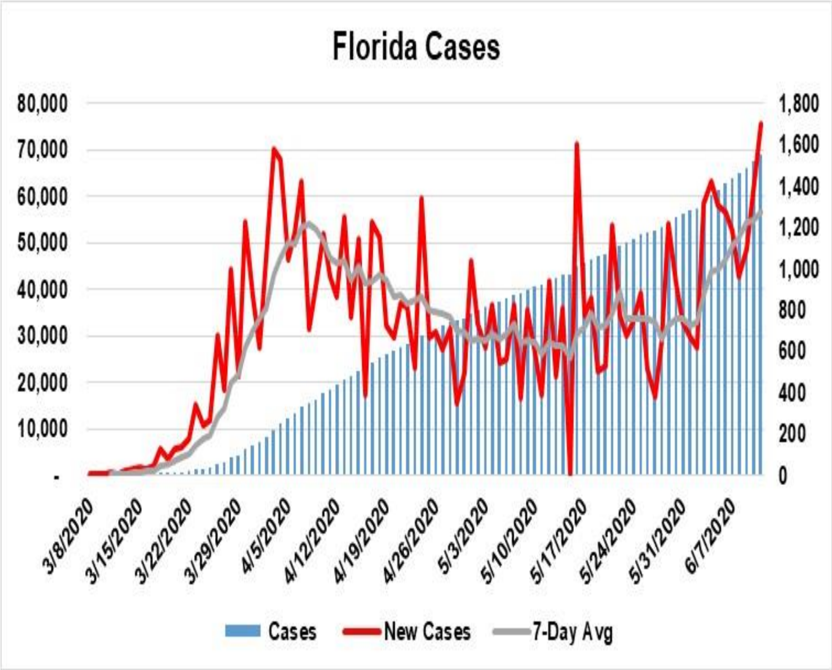
# IMPACT ON FLORIDA

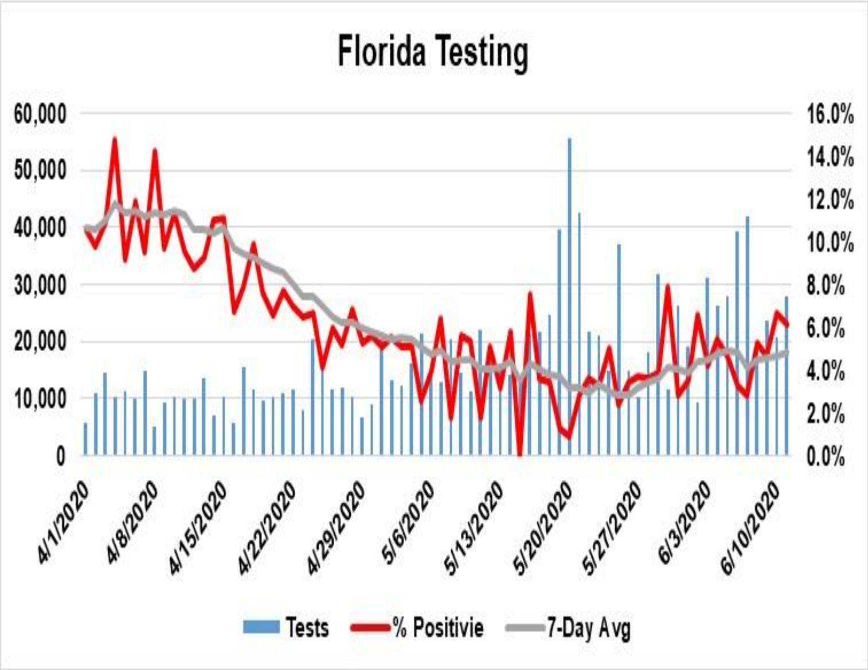
# Why Care About GDP? Where GDP Goes, so Goes Florida' Gross State Product to a Large Extent




Source: U.S. Bureau of Economic Analysis and PFM

# COVID-19 Cases In Florida Through 6-11-20

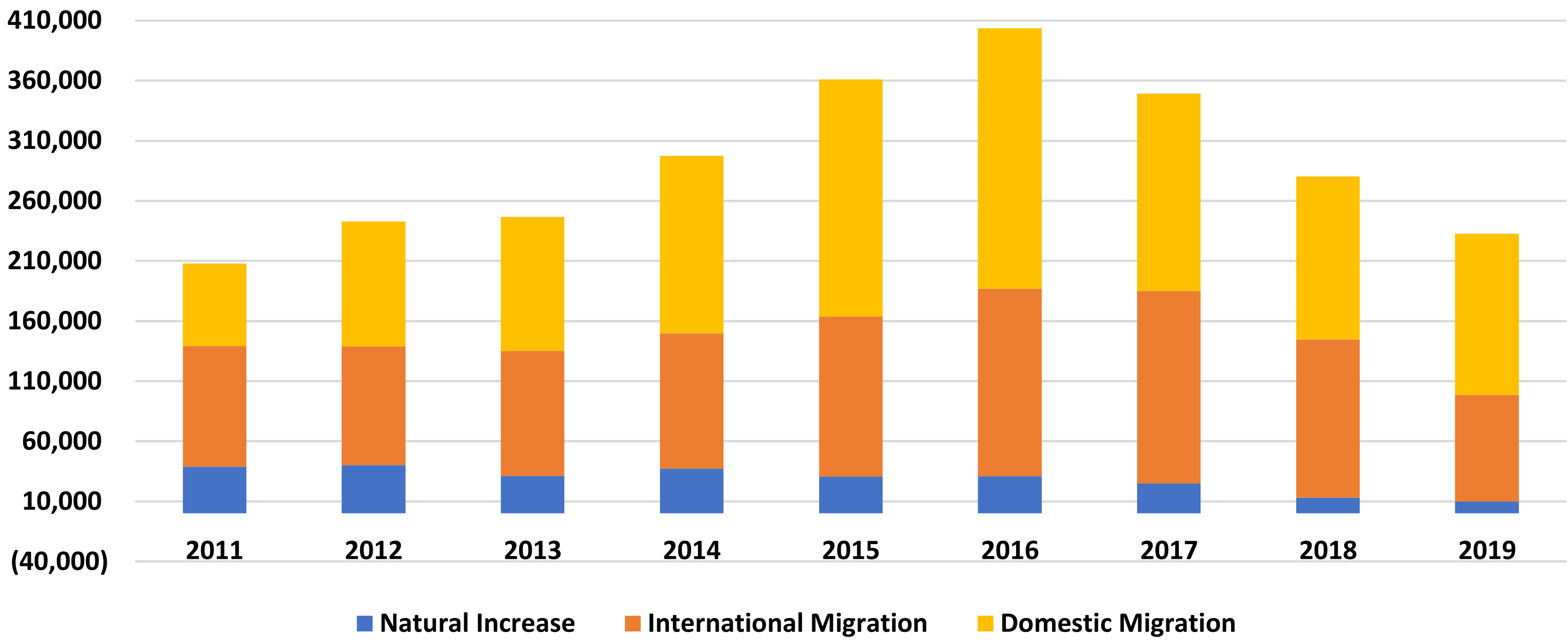



Source: https://covidtracking.com/data/

# Florida's Population Growth Peaked in 2016 Well Before the COVID-19 Recession

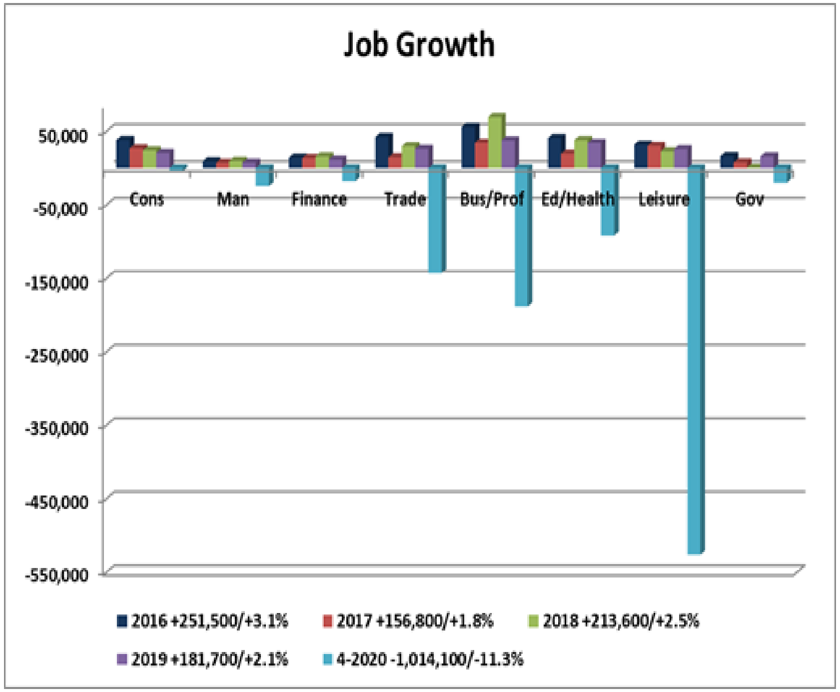
- Domestic migration into Florida has slowed 38% over the last 3-years
- International migration dropped 43% since 2016

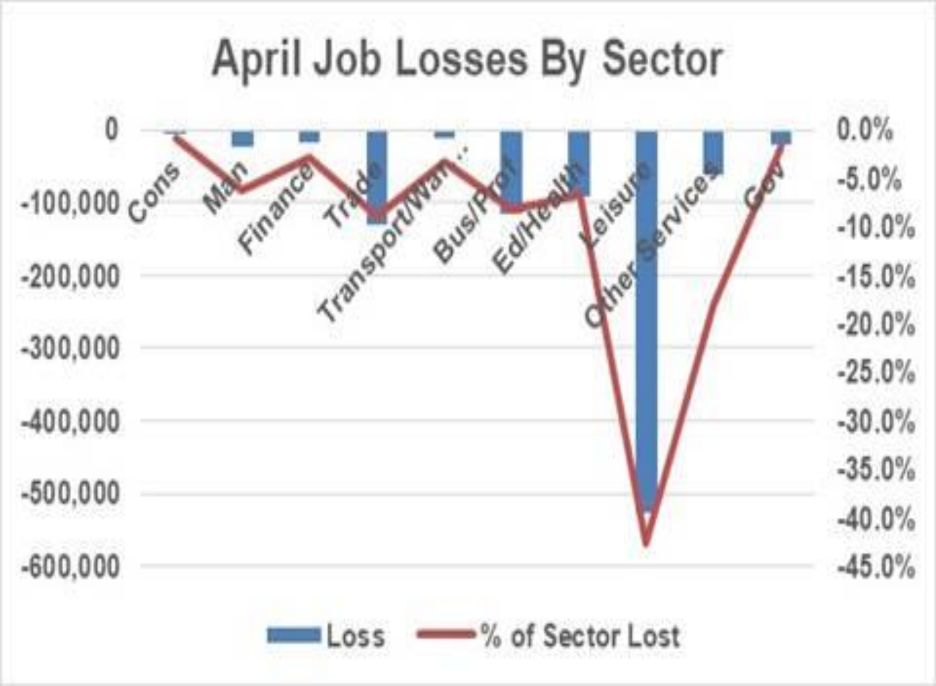



Source: U.S. Census Bureau

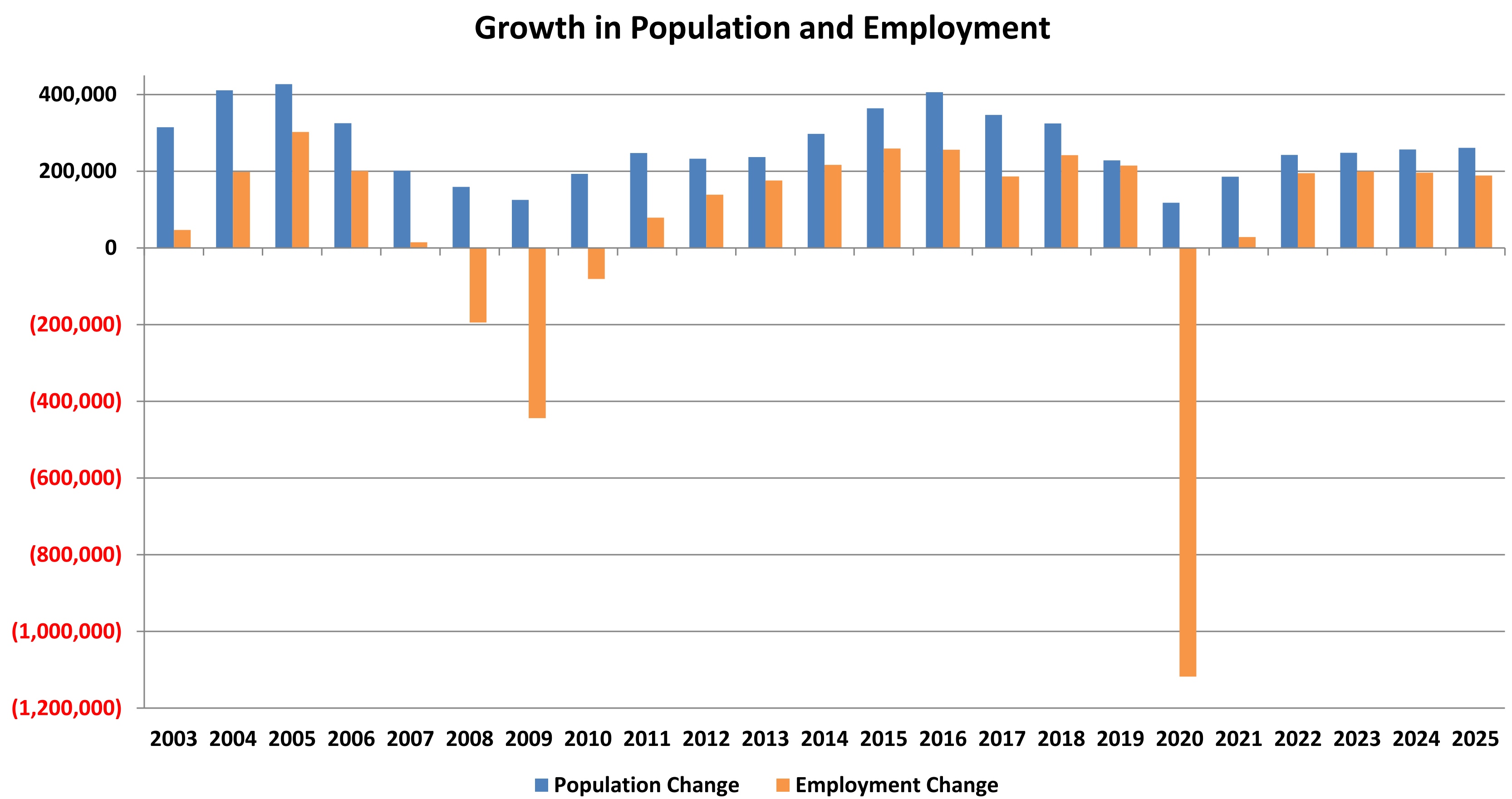
# Florida's Job Market in April 2020

- May will be just as bad based on new claims data for May



# Impact of COVID-19 Recession on Florida: Baseline




- The COVID-19 Recession is expected to hit Florida particularly hard, because it is a services-based recession.
- Florida's economy is heavily concentrated in tourism, trade, and retirement migration — all sectors vulnerable to the COVID-19 Recession.

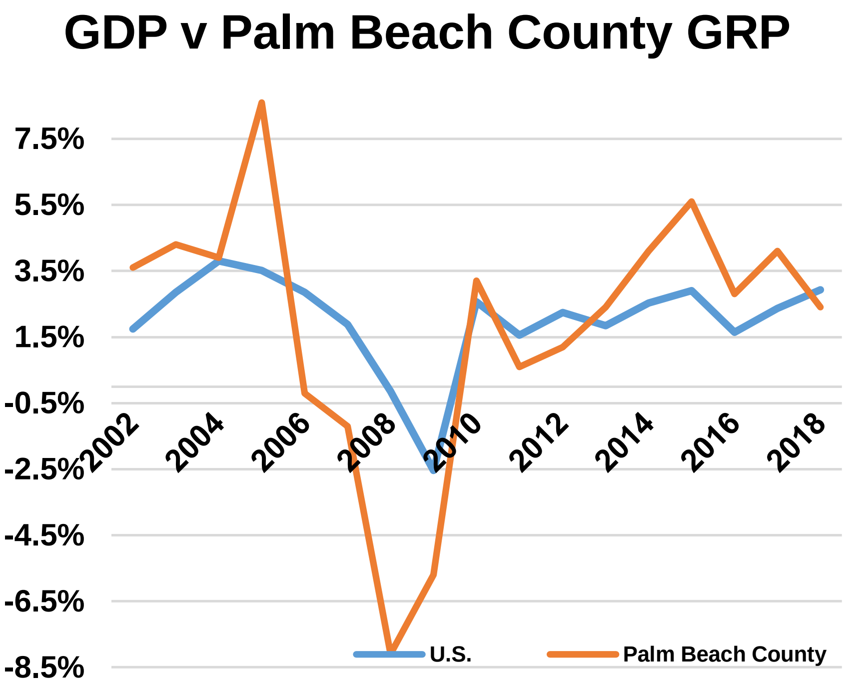


Source: PFM

# Implications for Palm Beach County

# Palm Beach County’s Economy is also closely linked to U.S. GDP

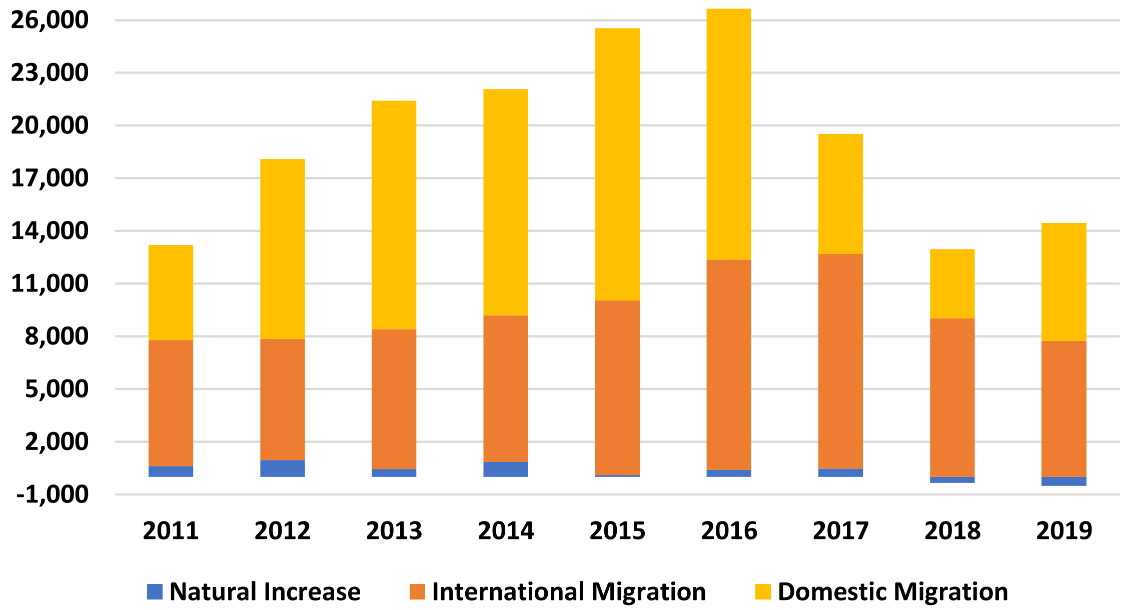
- The correlation between the trajectories for Palm Beach’s gross regional product and GDP is 0.80. So, 80% of the variation in Palm Beach’s GRP can be explained by U.S. GDP.
- Importantly, the amplitude for Palm Beach’s GRP is higher than for the U.S. during times of overall market highs and lows (e.g. Housing Bubble and Great Recession). Given the nature of the COVID-19 pandemic, it’s expected that Palm Beach’s GRP will be impacted in similar ways to the Great Recession (especially if the duration of the impacts of COVID-19 extend beyond 3 months). Palm Beach GRP appears to decline earlier than national GDP when downturns begin.




Source: U.S. Bureau of Economic Analysis

# Palm Beach County Population Growth Components

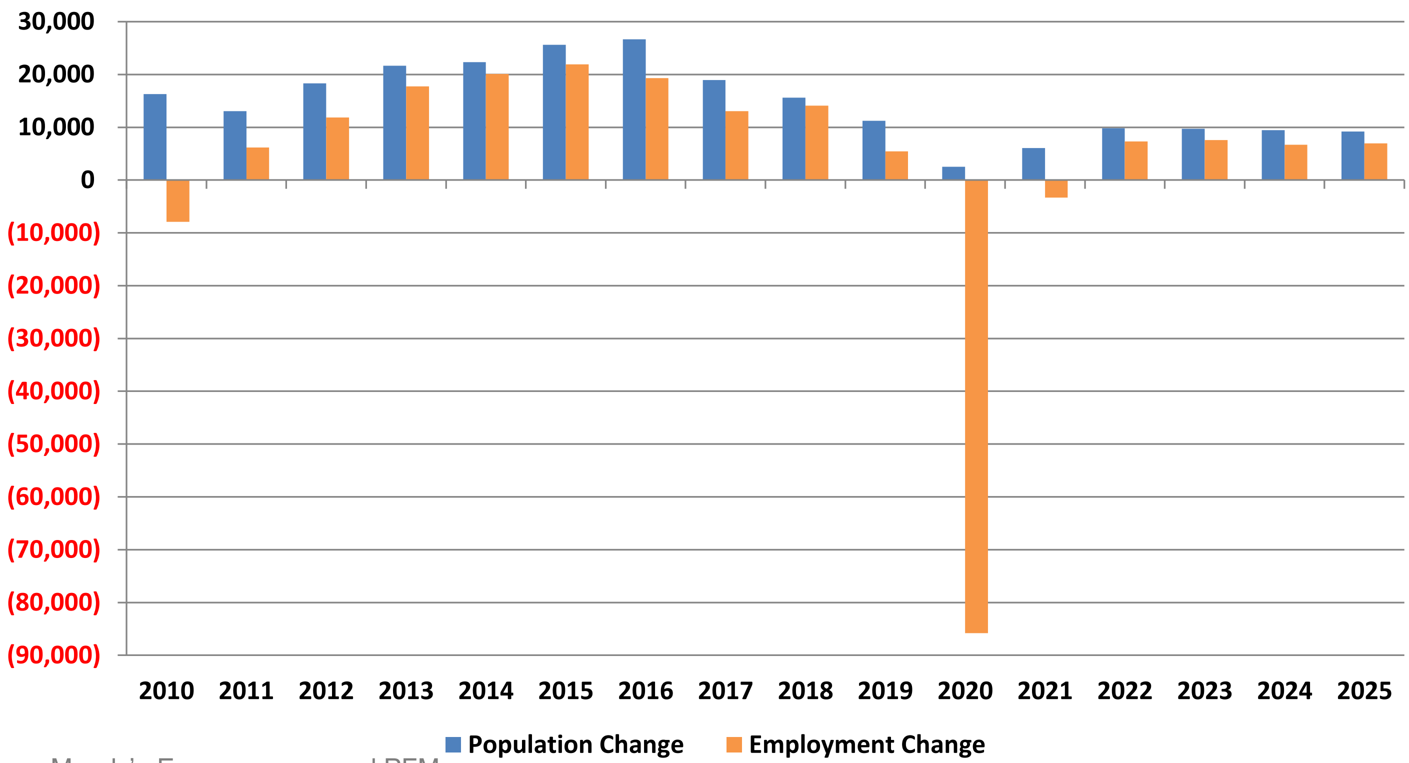
- Palm Beach's population has grown rapidly since 2011, fueled by strong inflows from northeastern states, counties elsewhere in south Florida, and increasing shares of international migration.
- Palm Beach is highly attractive to retirees. But among working families, high real estate prices accommodate only higher income households.
- Given the large tourist component of the county, high population density, and price sensitivity due to high real estate valuations, Palm Beach is subject to more pronounced impacts of the COVID-19 Recession.




Source: U.S. Census Bureau

# Impact of COVID-19 Recession on Palm Beach County – Baseline

- The COVID-19 Recession is likely to have a big impact on employment given the concentration of tourist and service sector jobs in Palm Beach.
- Population growth will also slow consistent with the depth and duration of the recession.




Source: Moody's Economy.com and PFM

# Methodology to Forecast Key Revenues

# Methodology to Forecast Key Revenues

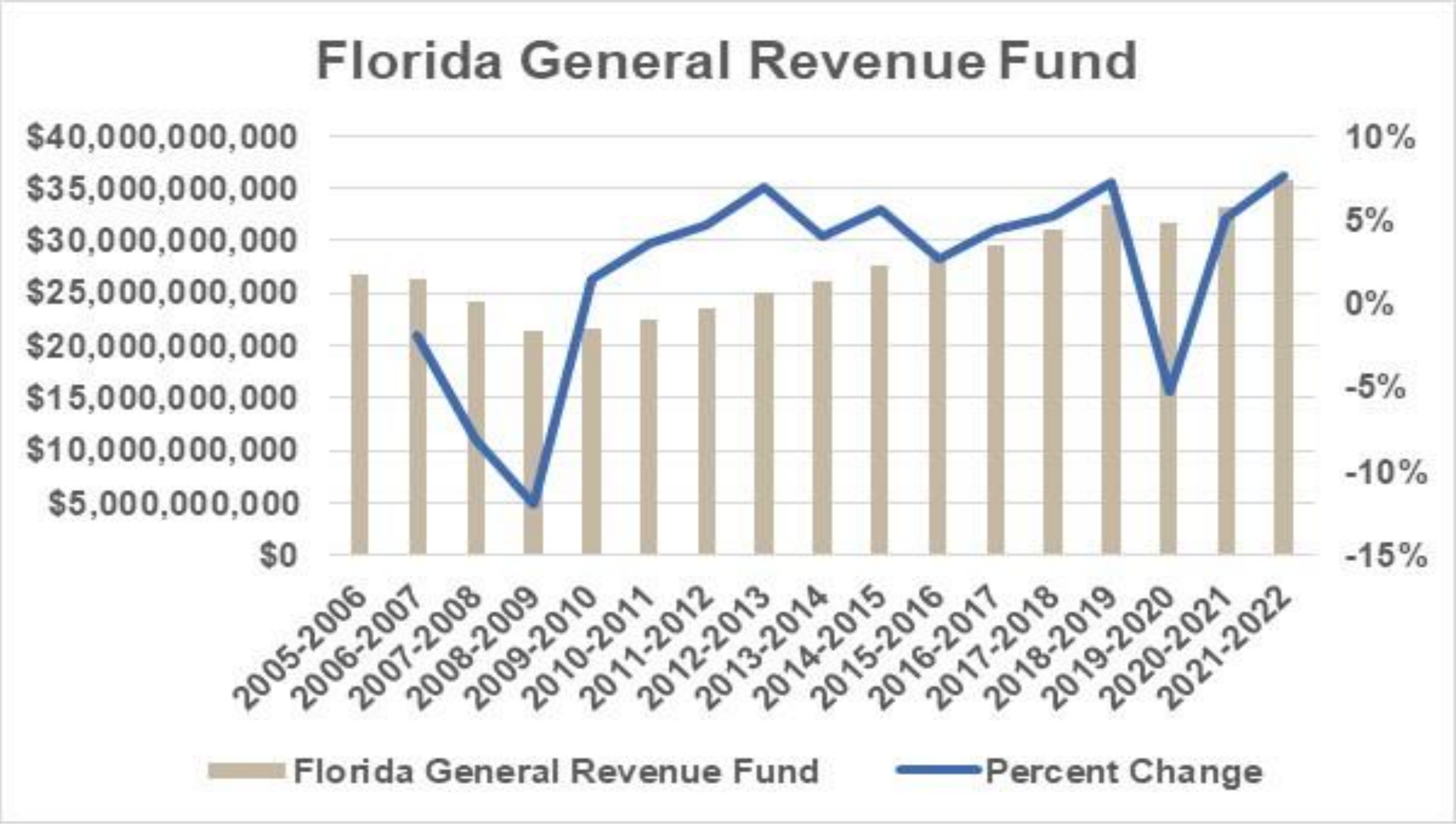
- Palm Beach County identifies key revenues of interest
- County provides historical data to PFM
- PFM obtains data and forecasts for independent variables to used to drive forecasts for County's key revenues
- PFM develops econometric equations to explain trajectory for key revenues as a function of logically related economic drives
- Example: growth in ½ Sales Tax as a function of growth in retail sales and structural dummy variable

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.99 |
| R Square | 0.98 |
| Adjusted R Square | 0.98 |
| Standard Error | 0.01 |
| Observations | 13 |

| | *Coefficients* | *Standard Error* | *t Stat* |
|---|---|---|---|
| Intercept | (0.025) | 0.003 | (9.262) |
| Growth So.FL Retail Sales | 0.975 | 0.049 | 20.014 |
| Dummy | 0.049 | 0.004 | 13.276 |

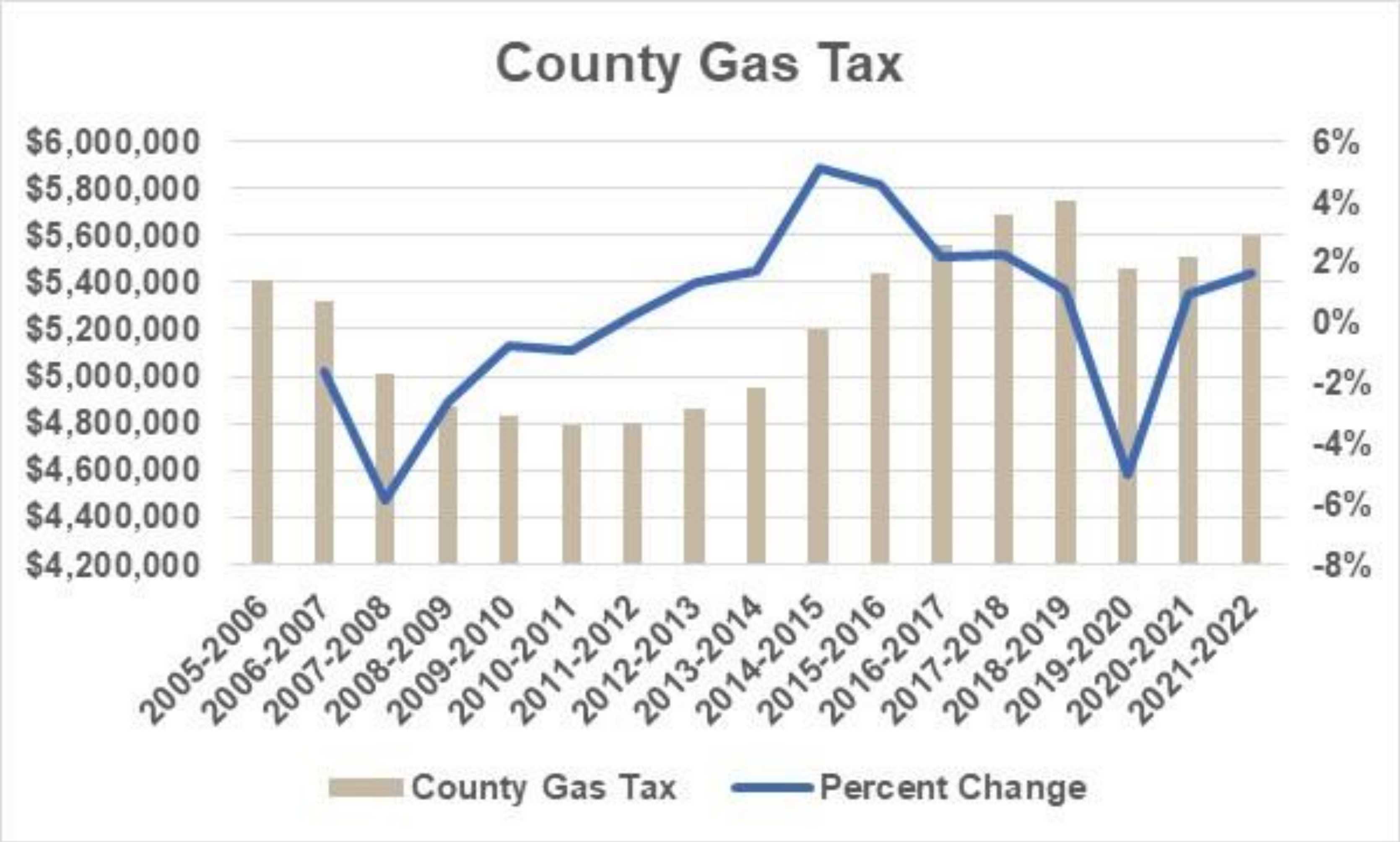
# FORECASTS FOR SELECTED KEY REVENUES
## Baseline Case

# Base Case

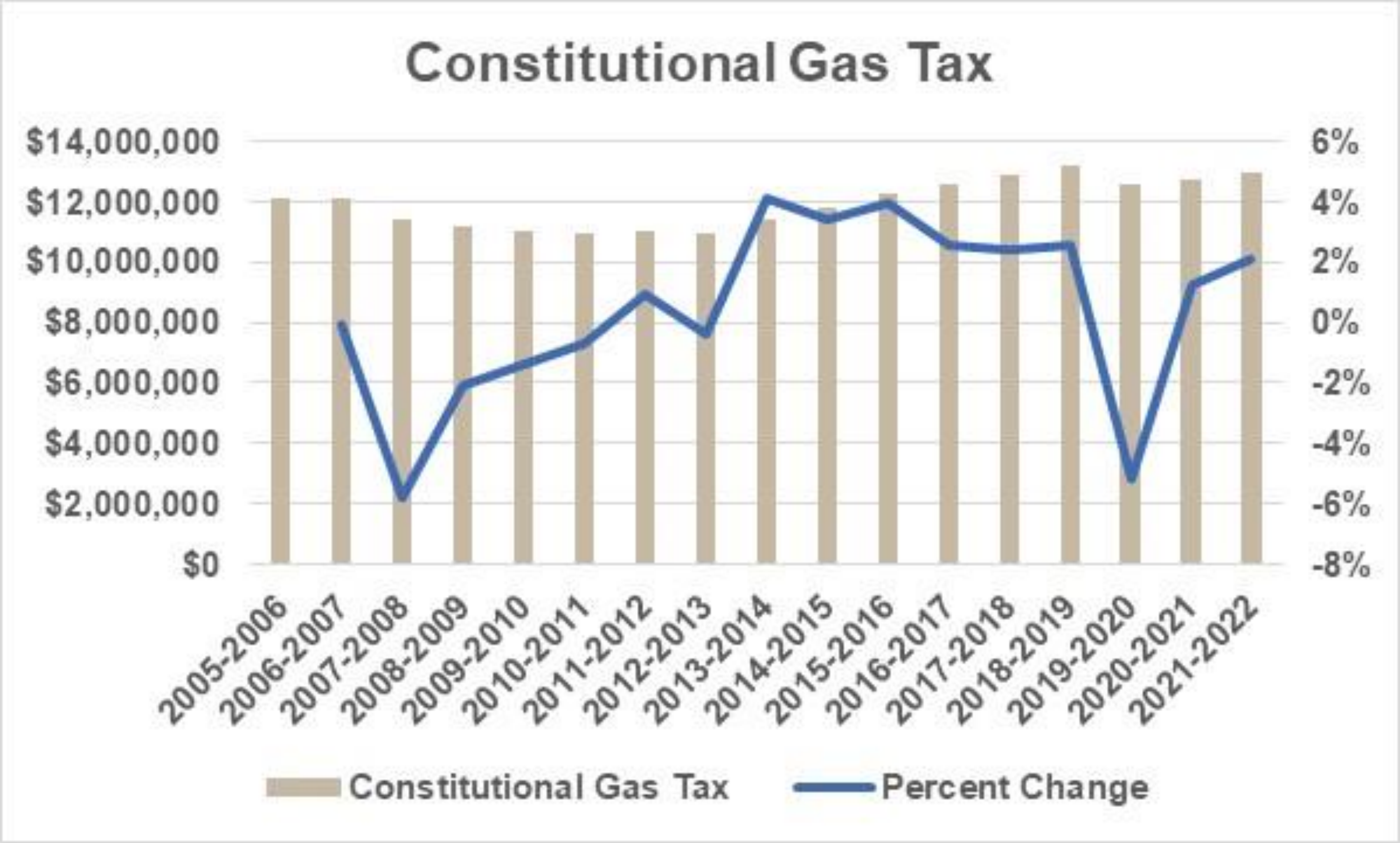


Florida General Revenue Fund
$40,000,000,000
$35,000,000,000
$30,000,000,000
$25,000,000,000
$20,000,000,000
$15,000,000,000
$10,000,000,000
$5,000,000,000
$0
10%
5%
0%
-5%
-10%
-15%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
Florida General Revenue Fund
Percent Change

# Base Case

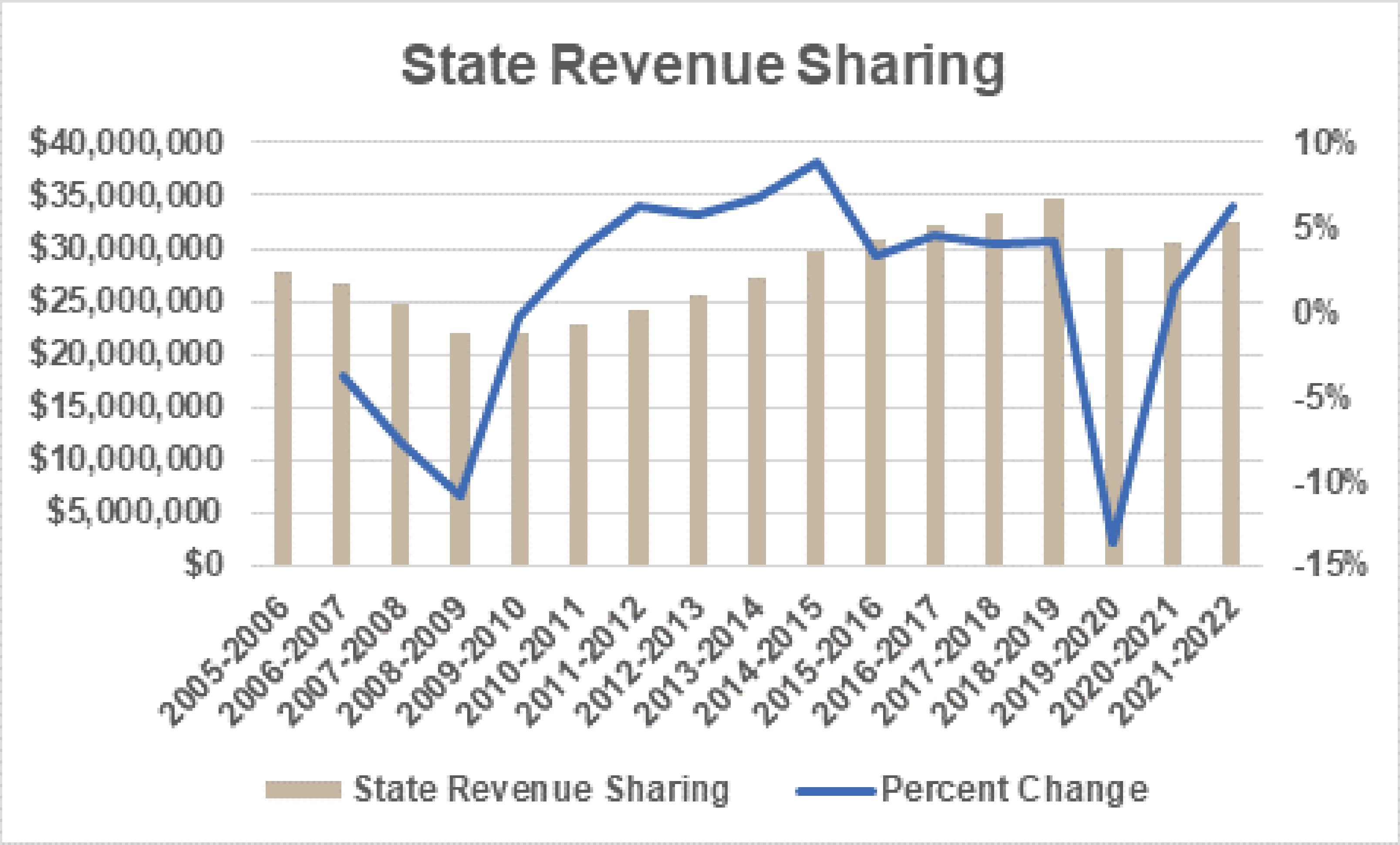

County Gas Tax
$6,000,000
$5,800,000
$5,600,000
$5,400,000
$5,200,000
$5,000,000
$4,800,000
$4,600,000
$4,400,000
$4,200,000
6%
4%
2%
0%
-2%
-4%
-6%
-8%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
County Gas Tax
Percent Change

# Base Case



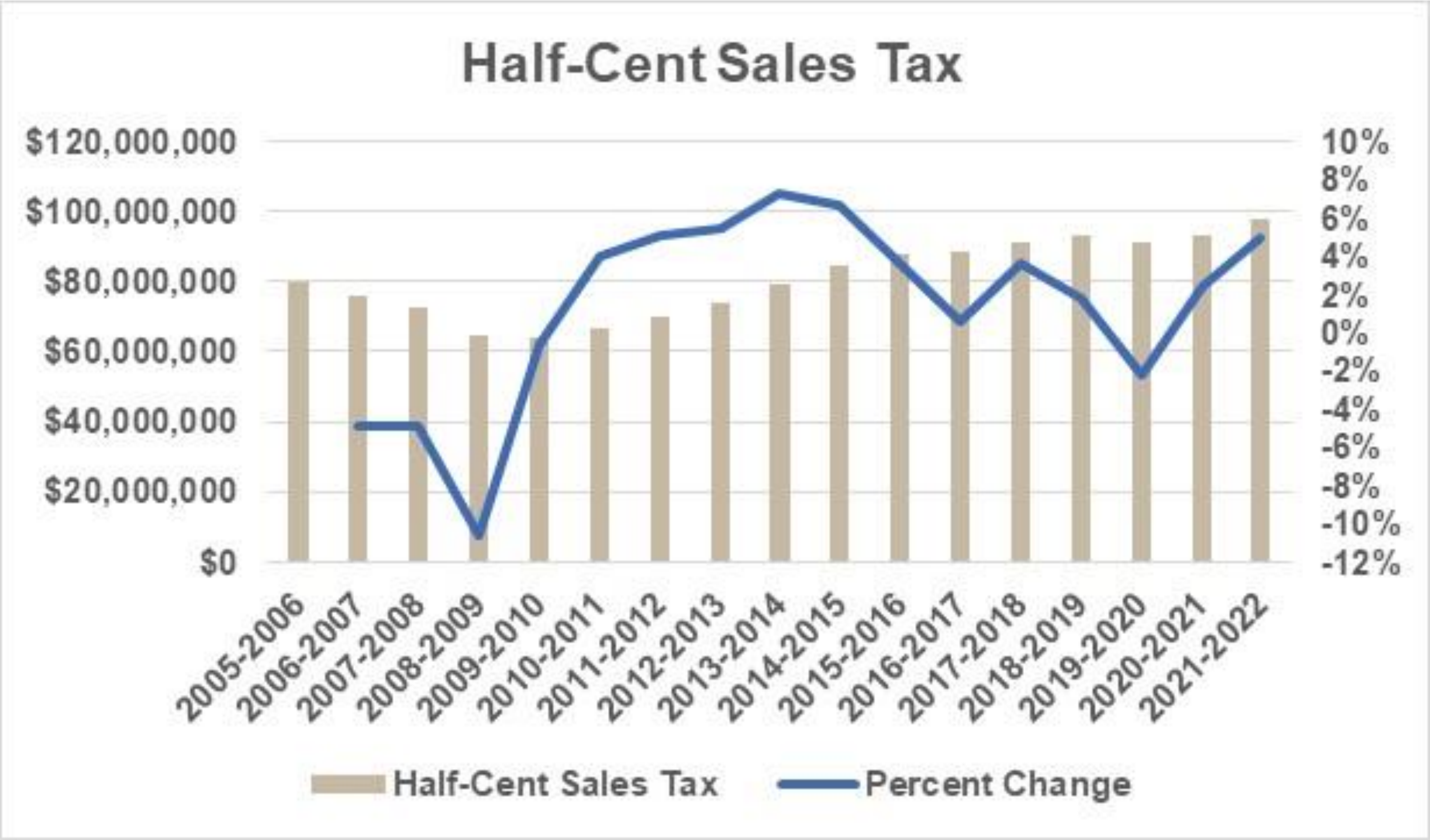
Constitutional Gas Tax
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
6%
4%
2%
0%
-2%
-4%
-6%
-8%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
Constitutional Gas Tax
Percent Change

# Base Case



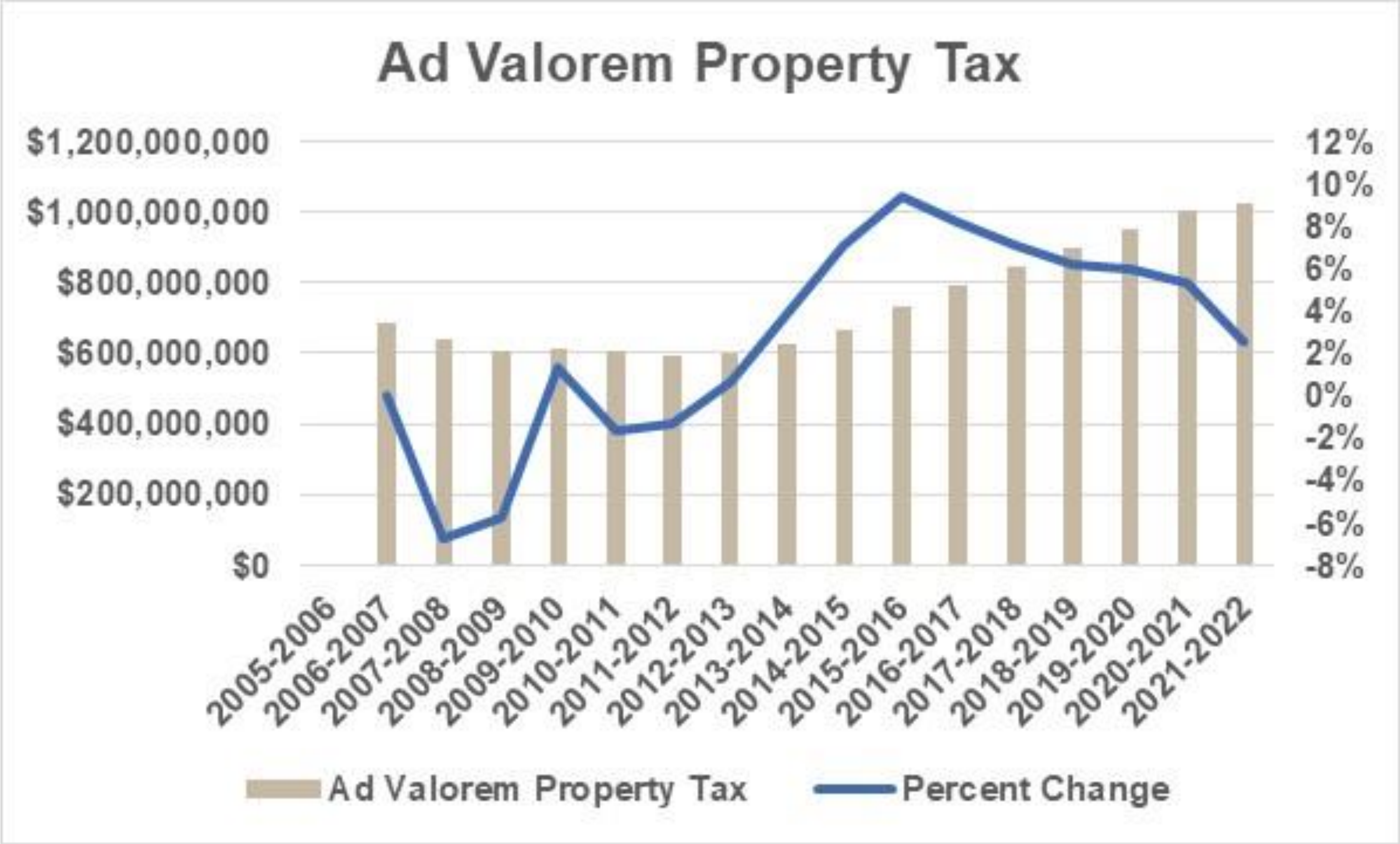
State Revenue Sharing
$40,000,000
$35,000,000
$30,000,000
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$0
10%
5%
0%
-5%
-10%
-15%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
State Revenue Sharing
Percent Change

# Base Case

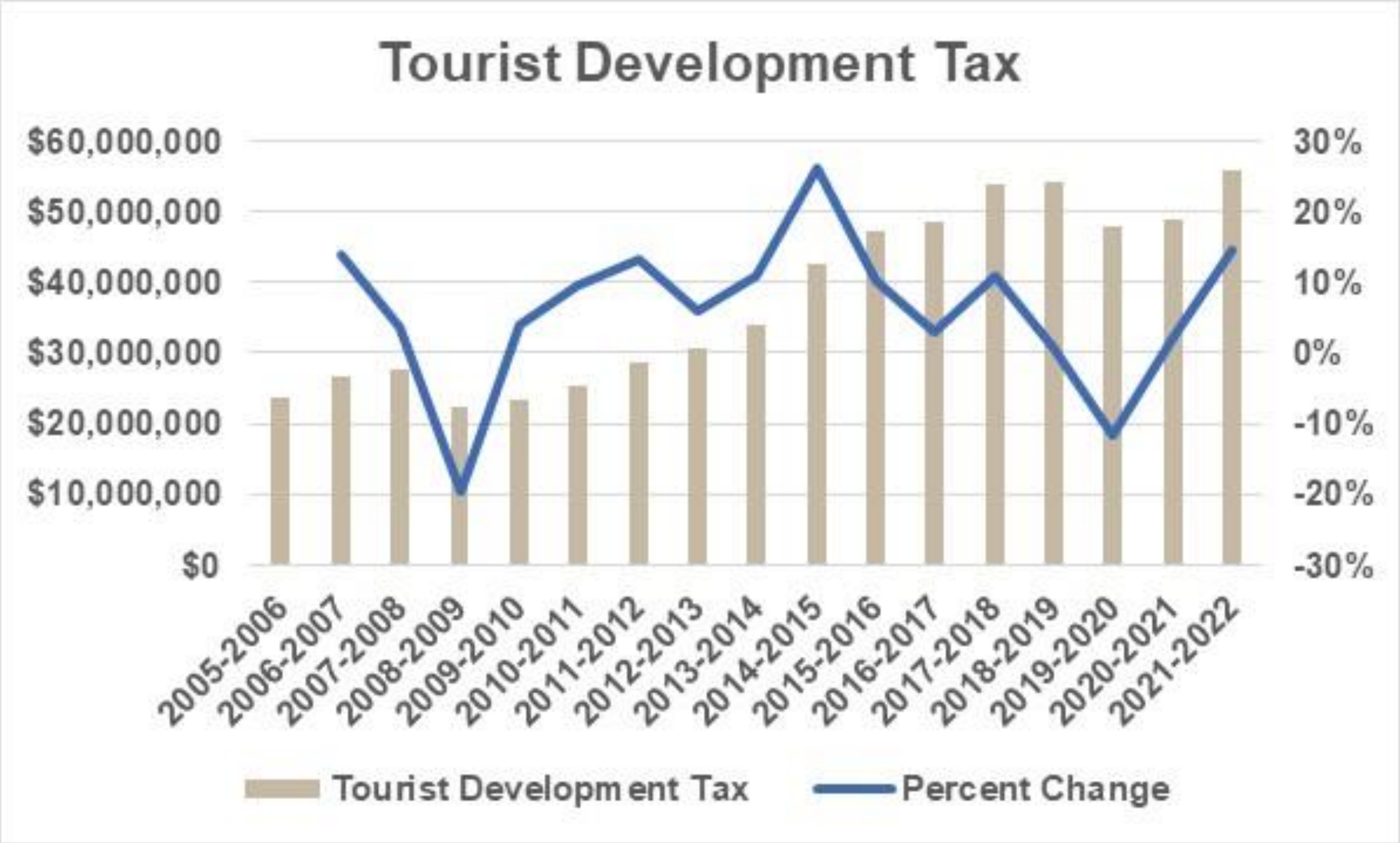


Half-Cent Sales Tax
$120,000,000
$100,000,000
$80,000,000
$60,000,000
$40,000,000
$20,000,000
$0
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
-8%
-10%
-12%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
Half-Cent Sales Tax
Percent Change

# Base Case

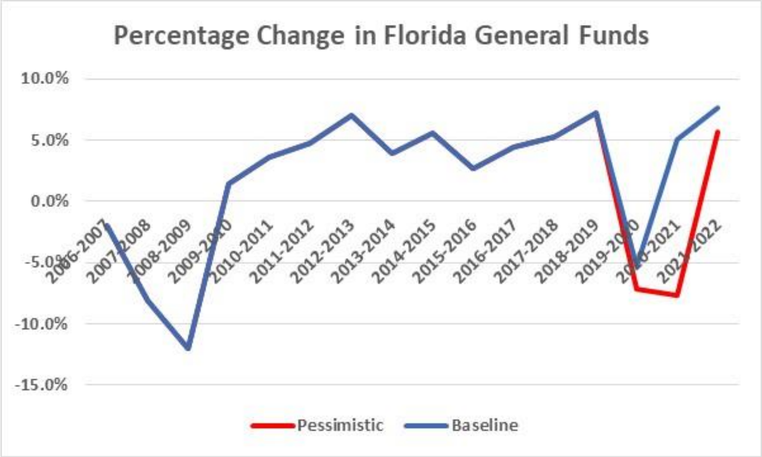

Ad Valorem Property Tax
$1,200,000,000
$1,000,000,000
$800,000,000
$600,000,000
$400,000,000
$200,000,000
$0
12%
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
-8%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
Ad Valorem Property Tax
Percent Change

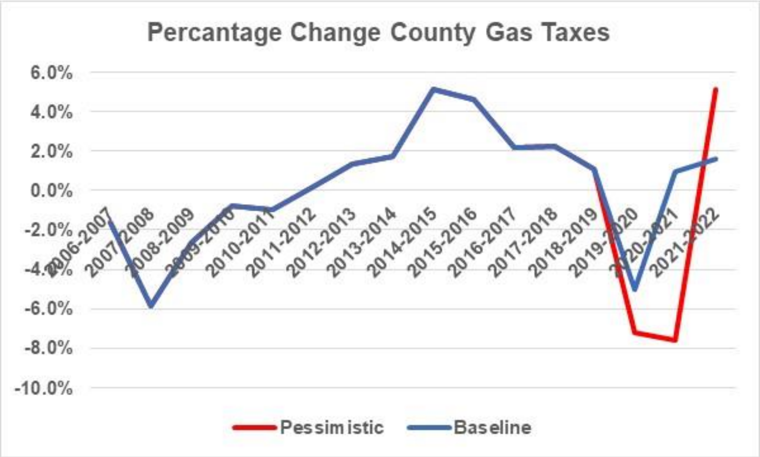
# Base Case

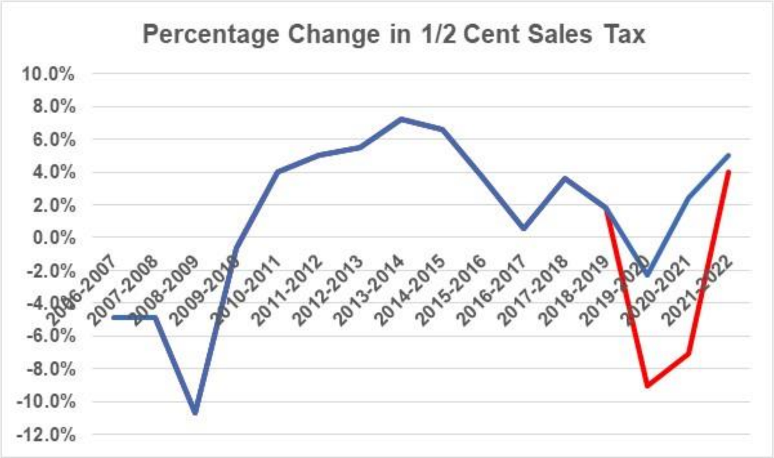

Tourist Development Tax
$60,000,000
$50,000,000
$40,000,000
$30,000,000
$20,000,000
$10,000,000
$0
30%
20%
10%
0%
-10%
-20%
-30%
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
Tourist Development Tax
Percent Change

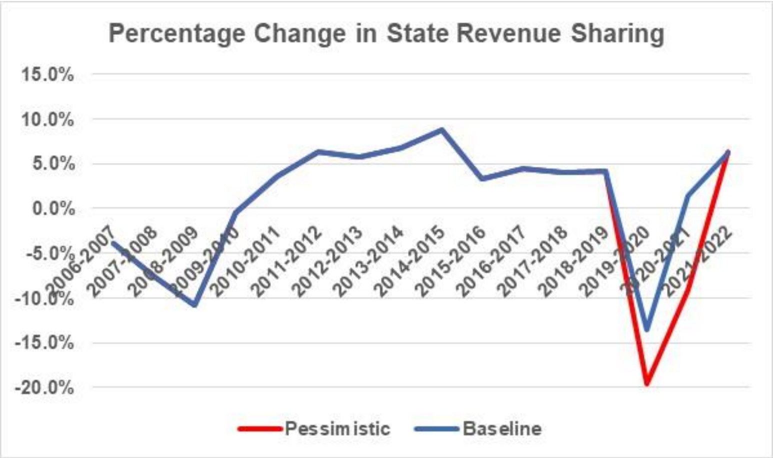
# FORECAST FOR SELECTED KEY REVENUES – PESSIMISTIC CASE

# Examples Comparing Base Case to Pessimistic Case



## Disclaimer

This research and any forecast are based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification.

# Thank You!

pfm

# Important Disclosure Information

PFM is the marketing name for a group of affiliated companies providing a range of services. All services are provided through separate agreements with each company. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation.

Financial advisory services are provided by PFM Financial Advisors LLC and Public Financial Management, Inc. Both are registered municipal advisors with the Securities and Exchange Commission (SEC) and the Municipal Securities Rulemaking Board (MSRB) under the Dodd-Frank Act of 2010. Investment advisory services are provided by PFM Asset Management LLC which is registered with the SEC under the Investment Advisers Act of 1940. Swap advisory services are provided by PFM Swap Advisors LLC which is registered as a municipal advisor with both the MSRB and SEC under the Dodd-Frank Act of 2010, and as a commodity trading advisor with the Commodity Futures Trading Commission. Additional applicable regulatory information is available upon request.

Consulting services are provided through PFM Group Consulting LLC. For more information regarding PFM's services or entities, please visit www.pfm.com.

This material is based on information obtained from sources generally believed to be reliable and available to the public, however PFM cannot guarantee its accuracy, completeness or suitability. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation. All statements as to what will or may happen under certain circumstances are based on assumptions, some but not all of which are noted in the presentation. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Past performance does not necessarily reflect and is not a guaranty of future results.