

What are we doing here?
Alhad Barbadikar.

What I am going to be talking about:

1. Pinellas County Financial Report
2. Shall law's impact on Crime
3. A look at the recent World Happiness Report
4. About me

1. Pinellas County Financial Report

Established: 1911

Part of Tampa – St. Petersburg – Clearwater,
Florida Metropolitan Statistical Area

Area: 608 mi²

But why should you care?

1. Pinellas County was awarded for its outstanding achievement in popular annual financial reporting for the FY ending September 30, 2017
2. This was the 12th consecutive year they won this award from the Government Finance Officers Association of the United States & Canada

So, what was the problem?

1. The county wanted to make sure the report was not too dense for people with no Financial background
 - Length of report: 228 Pages of Pure Accounting
2. Improve financial literacy

My Solution:

A brief 5-slide presentation that talks about the most important metrics, the achievements & goals of the county

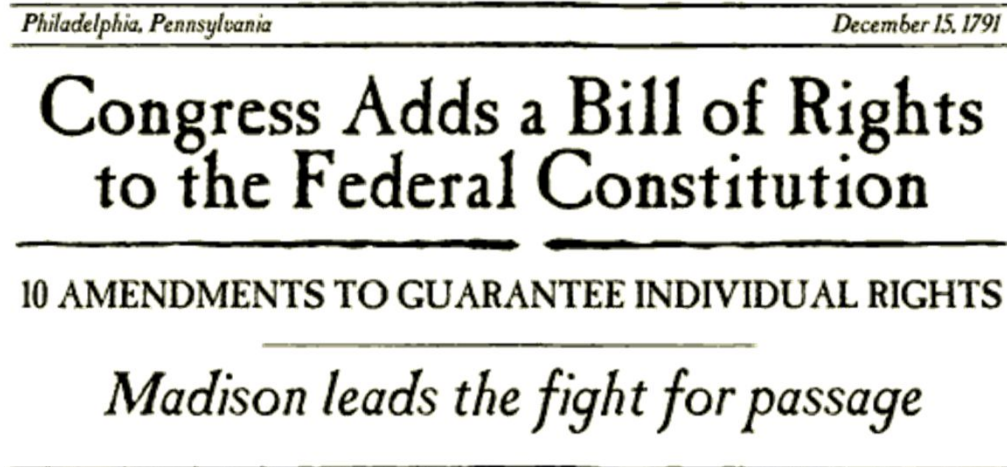
Important areas identified:

1. Revenue
2. Expenditure
3. Capital Assets
4. Outstanding bonds
5. County investment structure
6. Investments
7. Achievements & Goals



Result
Unsuccessful attempt,
couldn't secure a buy
in for a weekly update

2. Shall law's impact on crime



But why should you care?

1. In 1791, the second amendment stating that "A well-regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed"
2. A total of 310 million firearms in the US
 - US Population: 306 million*

It is important to quantify the impact of laws on reducing violence

*https://en.wikipedia.org/wiki/Gun_violence_in_the_United_States

So, what was the problem?

No agreement among economists about the impact of shall law on violence. While some claimed that it reduced crime, some simply countered the argument.

**Our solution:
Let's dig in the data. Simple.**

Exploratory Analysis

Number of observations: 1173, 51 States

No missing data, Balanced Panel Dataset

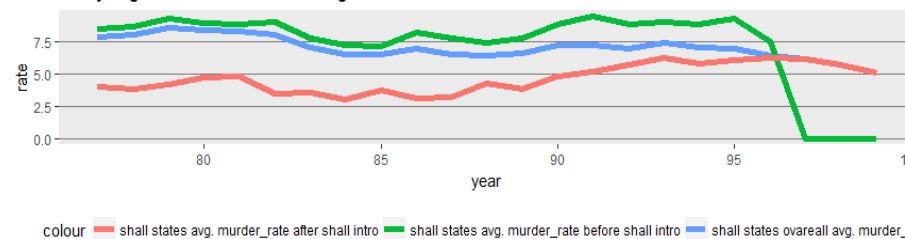
Only 29 of the 51 States had implemented Shall Law during the given period

Data has 3 crime rates (Dependent variables): **Violence rate, Robbery rate & Murder rate**

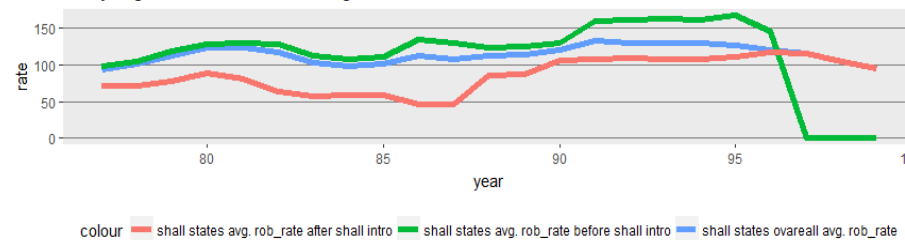
Independent variables -

Incarceration rate, Density, Avg. Income, Population, % of Population Male, % of Population White: 10 to 64, % of Population Black: 10 to 64

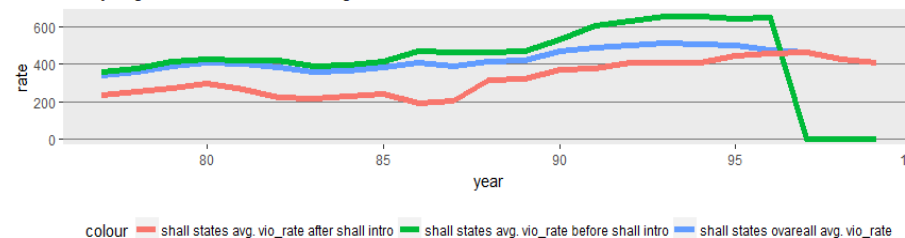
A Analyzing the before and after avg. murder rate for states where shall law has been introduced



B Analyzing the before and after avg. rob rate for states where shall law has been introduced



C Analyzing the before and after avg. vio rate for states where shall law has been introduced



Trend indicates that Avg. Murder rate has gone up after introduction of Shall Law

Findings:

1. **Densely populated states have higher crime rates**
2. **States with biggest jumps in incarceration rates have not shown corresponding drops in crime**
3. **People in the age range of 15-24 accounts for 40% of all the arrests though they comprise of only 14% of the population**
4. **The crime rates of both races is significantly different**

Econometric Models:

1. **Pooled Regression models – with & without cluster Robust SE**
2. **Fixed effects – Entity fixed model**

Conclusion:

Murder Rate:
Implementing Shall law
decreased murder rate
by 3% vs States that did
not implement it

Robbery Rate:
Implementing Shall Law
increased the robbery
rate by 4% vs States that
did not implement it

Violence Rate:
Implementing Shall Law
decreased the rate of
violence by 2% vs States
that did not implement it

A decrease in murder rate after introduction of Shall law but an increase in robbery rate is observed.

Reason: Shall Law introduction could have led to an increase in property crimes involving theft of guns

Decrease in violence rate after introduction of Shall Law

Reason: When guns are involved, the amount of risk involved in committing the crimes increases

3. World Happiness Report

The World Happiness Report is a benchmark survey of the state of global happiness that ranks 156 countries by how happy their citizens perceive themselves to be

But why should you care?

1. Important for a survey on a global scale to capture the perception of the citizens
2. Policies that can better tackle important issues can be formulated
 - We can move away from simply looking at GDP or GNP to understand the health of an economy

So, what was the problem?

No problem. Just a need to do statistical analysis on the dataset.

My solution:

Fix the world. One country at a time.

Exploratory Analysis

Number of observations: 474 observations, 158 countries

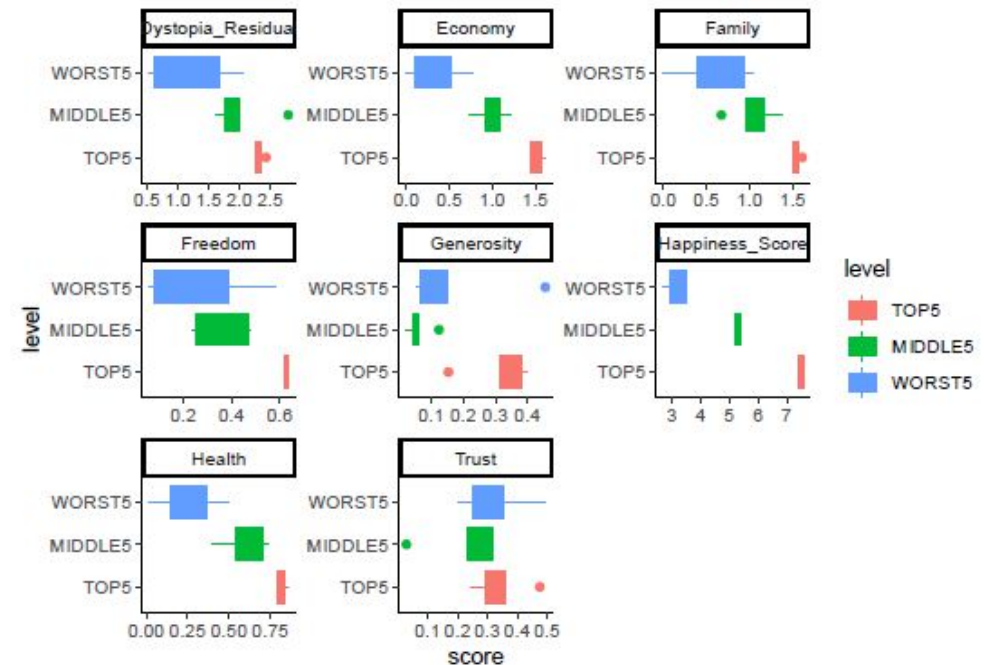
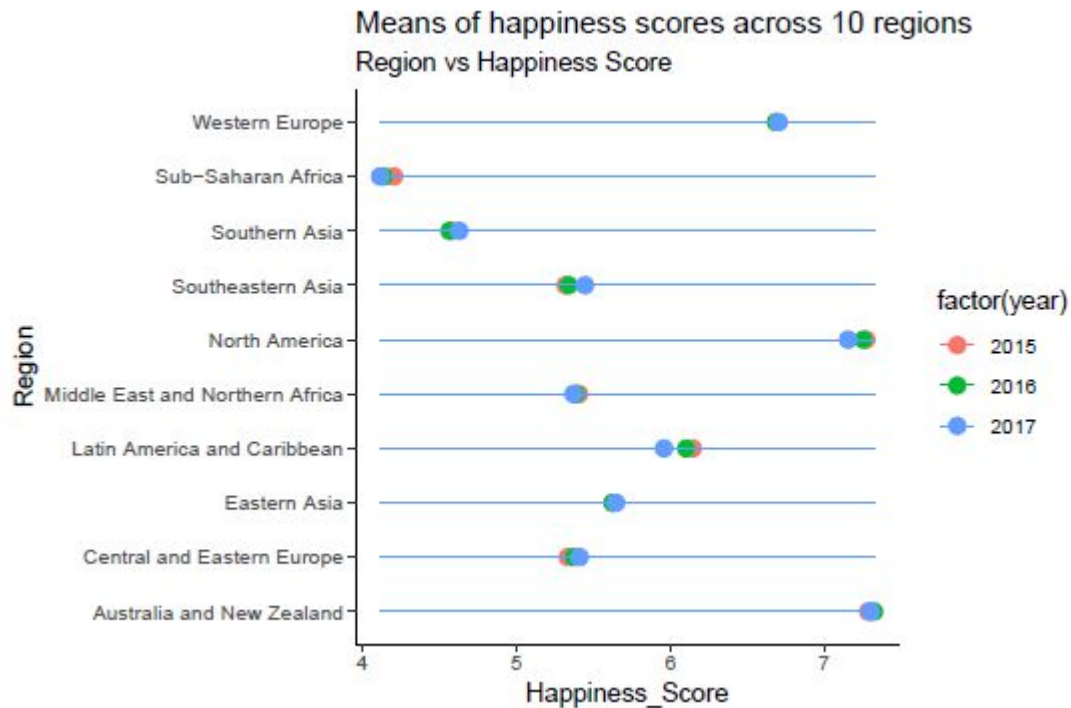
Happiness score measured on the Cantril Ladder – A 7 point scale

Data has 1 Dependent variable – Happiness Score

Independent variables -

Economic production, Family support, Life expectancy, Freedom, Absence of corruption, Generosity & Dystopia Residual

$$\text{Happiness Score} = \text{Economy} + \text{Family} + \text{Health} + \text{Freedom} + \text{Trust} + \text{Generosity} + \text{Dystopia Residual}$$



Conclusion:

1. All variables captured in the report turned out to be statistically significant but meaningless practically
2. $VIF < 5$ means that there is no risk of multicollinearity in the future
 - Report can be used to conduct further analysis

My recommendation:

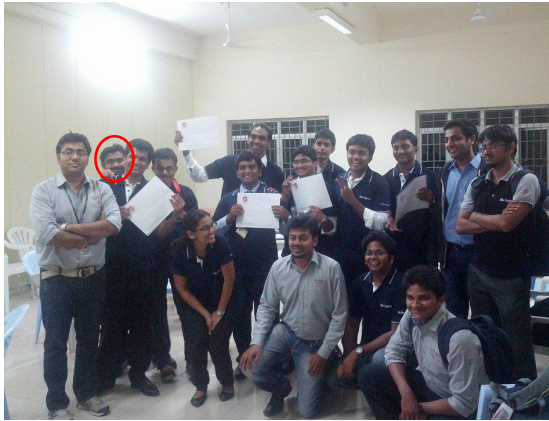
Use this report as a starting point instead of a solution & conduct further investigation treating each independent variable here as a dependent variable

About me

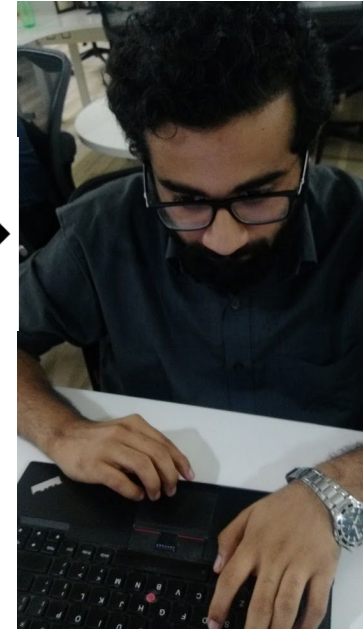
2 Years of Work Experience – Consultant & Business Analyst



Happy
me
before
my 1st
job



1st offer
letter



Life
offshore
is hard

About me



Flies
to the
US



After an
eternity, got
a degree



NOW
WHAT?

Appendix

Know Your Finances: Pinellas County Financial Assessment

FY end: September 30, 2018

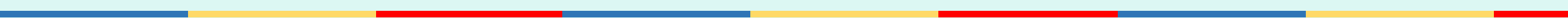
Jeff Rohrs, CIO



Contents

1. Overview: County Information
2. Financial Performance Dashboard
3. Pinellas County Government & Investments
4. Source of Funds
5. Achievements & Future Goals

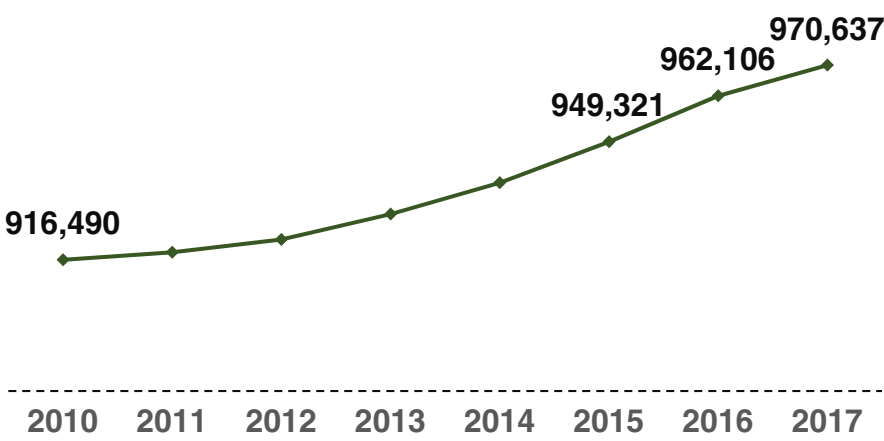
Context

1. Provide an Overview of the county to make the citizens aware
 2. Show the most important metrics to track
 3. Understand the structure of the county & its investments
 4. To provide information on the sources of funds
 5. Showcase achievements & future goals
- 

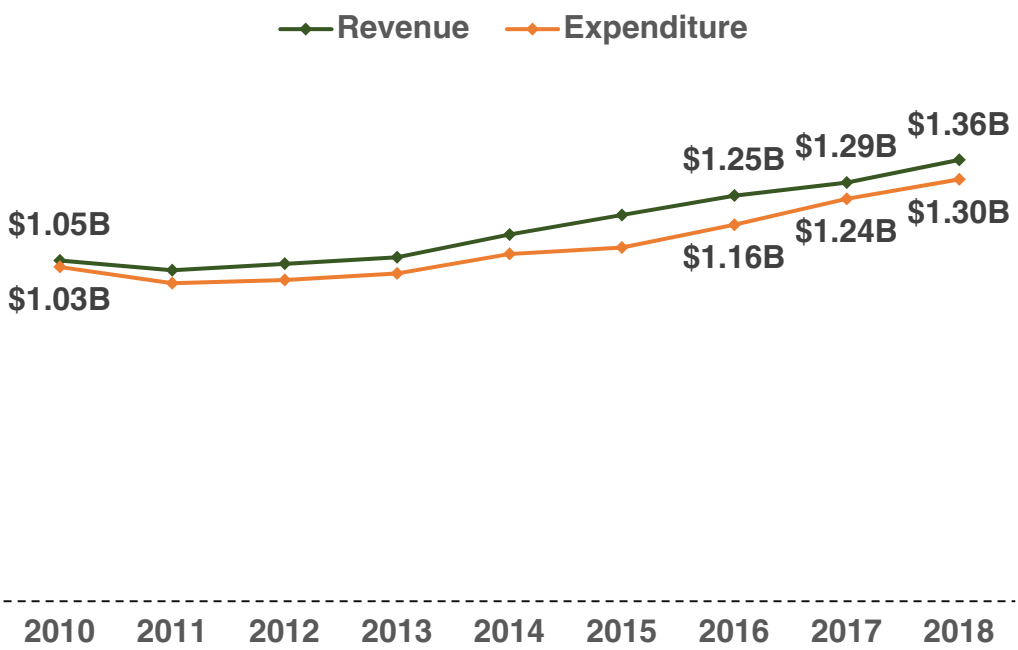
Overview

Established: 1911
Part of Tampa – St. Petersburg –
Clearwater, Florida Metropolitan
Statistical Area
Area: 608 mi²

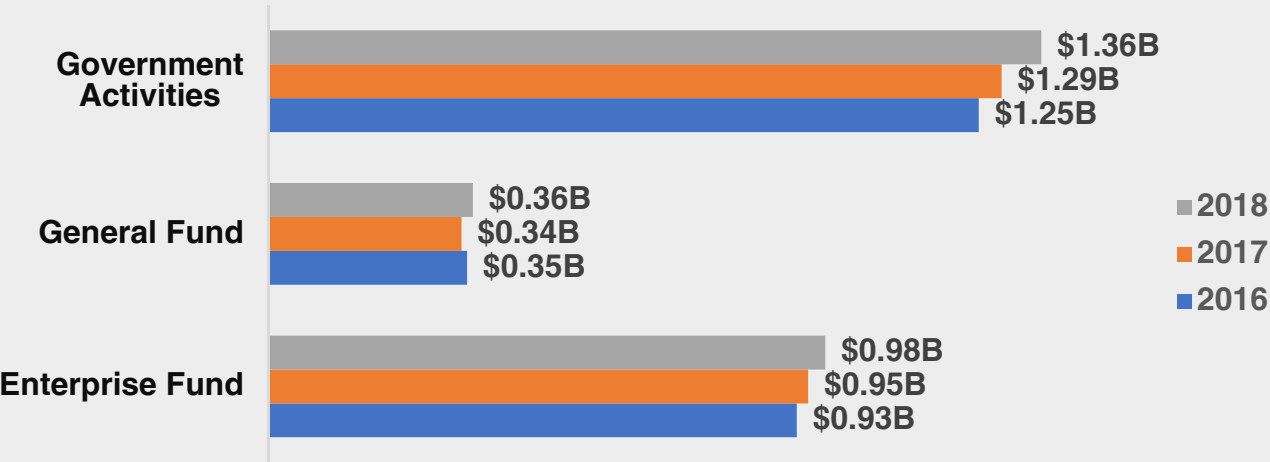
Population: 970,637* ▲ 0.89%



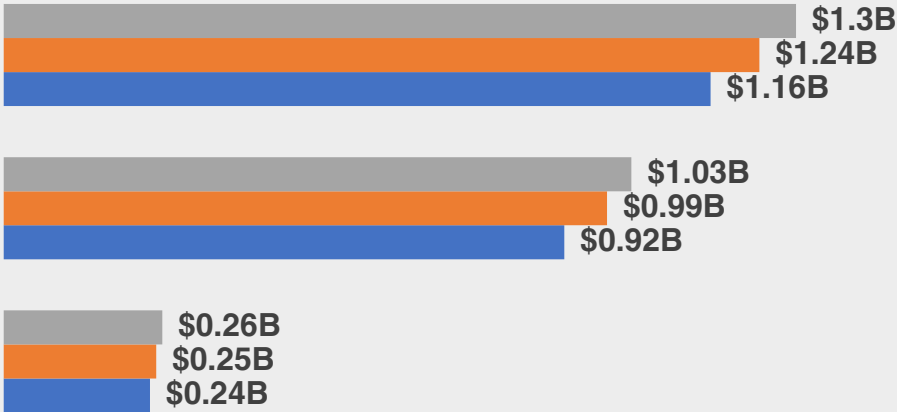
	2018	2017
Total Revenue	\$1.36B ▲	\$1.29B
Total Expenditure	\$1.30B ▲	\$1.24B



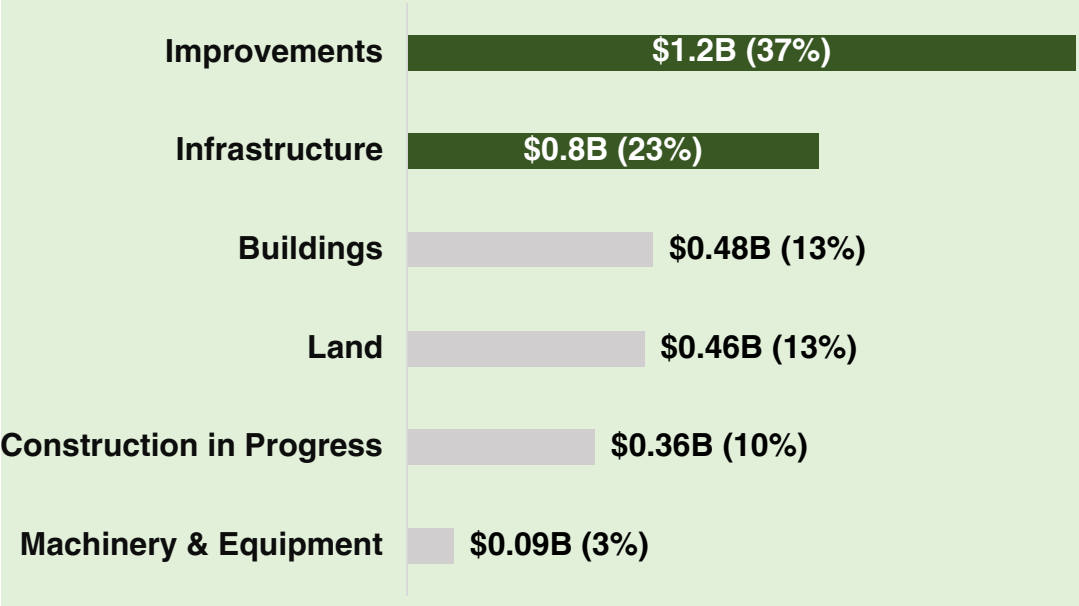
REVENUE: \$1.36B ▲ 2.8%



EXPENDITURE: \$1.3B ▲ 5.6%



CAPITAL ASSETS: \$3.5B ▲ 2.8%



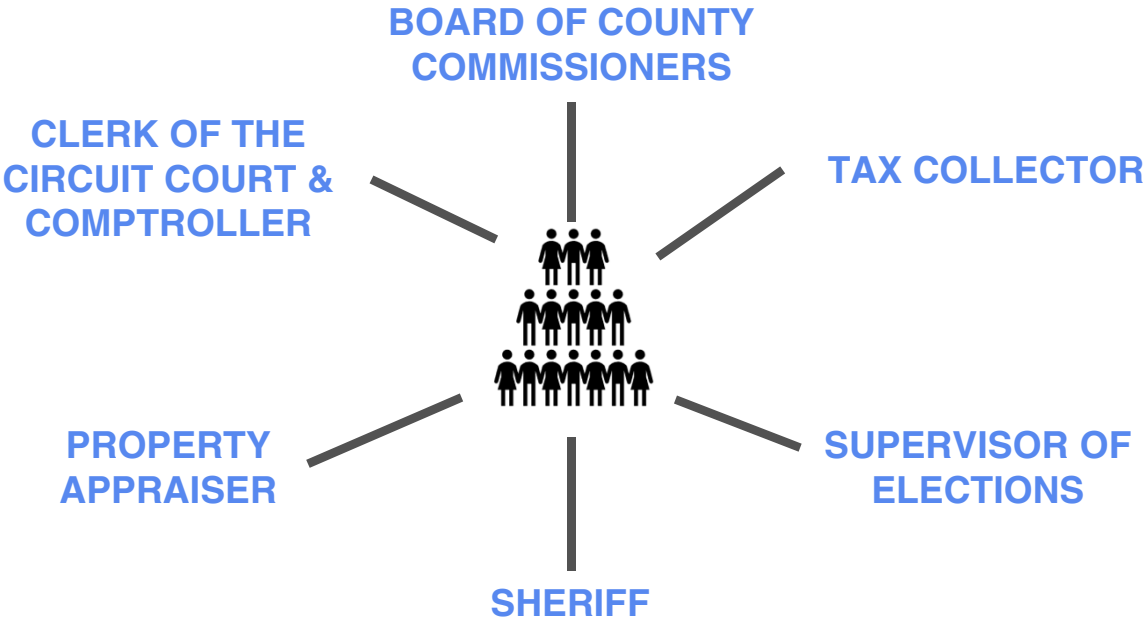
OUTSTANDING BONDS: \$132.5M





PINELLAS COUNTY GOVERNMENT & INVESTMENTS

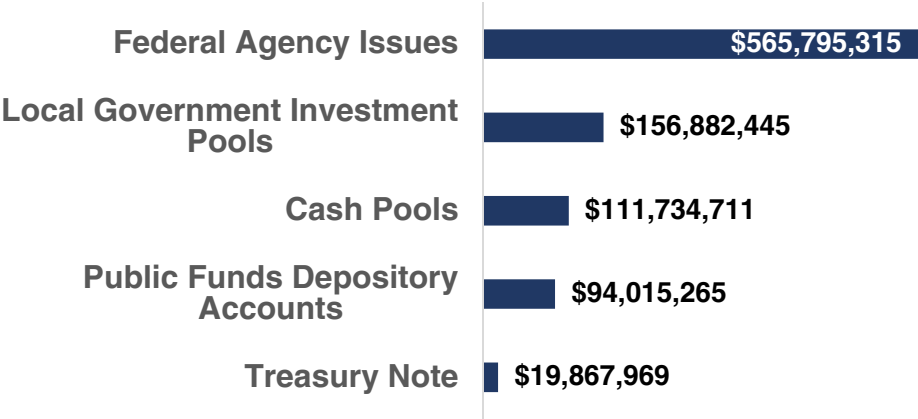
WHO MANAGES YOUR INVESTMENT



INVESTMENT POLICY OBJECTIVES

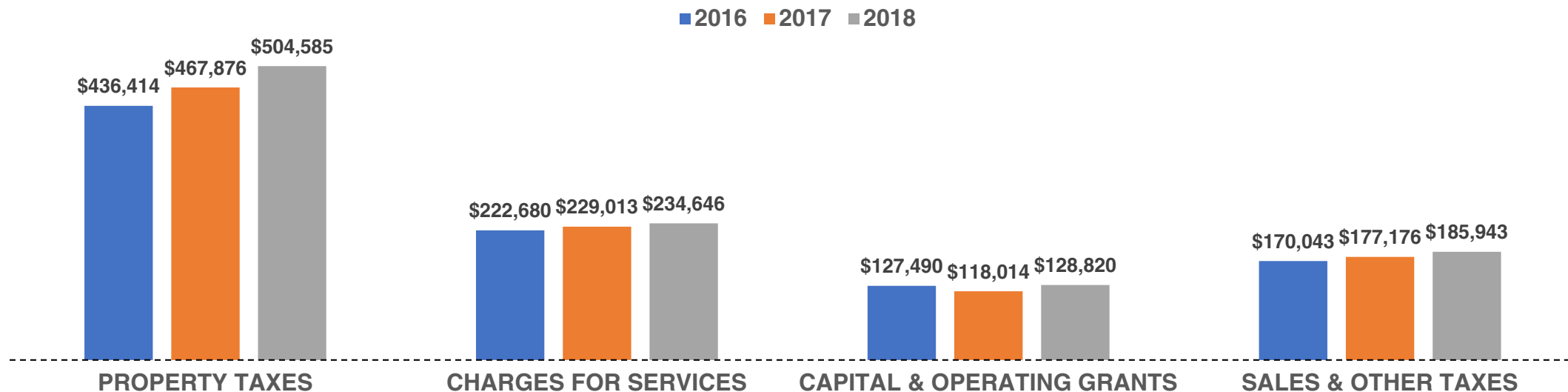
- 1. **SAFETY** – Protection of the Board funds
- 2. **LIQUIDITY** – Provide sufficient liquidity to cover expenses
- 3. **INCOME** – Maximize return while avoiding unreasonable risk

TOTAL INVESTMENTS: \$948,295,705





SOURCES OF FUNDS



- Levied on an assessed valuation of real and/or personal property
- Revenues increased by \$36.7M, due to an increase in property tax values

- Charges for services were up by \$3.3M mostly attributable to additional revenues for law enforcements & other governmental services

- Capital grant & contributions are monies received from the federal & state levels for the acquisition of capital assets, such as buildings, land or equipment

- Comprises of:
- Sales Taxes
 - Tourist development Taxes
 - Fuel Taxes
 - Communication service tax

Achievements



General Government:
Improvement in quality of customer service
How: Closing down of Tyrone Branch office to free up funds



Public Safety:
Begun supporting the Contractor Licensing Dept, to help proper licensing & training of local contractors to protect consumers



Economic environment:
Winners of Florida Economic Development Council's Deal of the Year in the expansion of a business



Transportation:
103,476 sidewalk repairs
100 lane miles of roadway paved



Physical Environment:
Bill2Pay, utilities payment portal updated
\$242M project at Waste-to-Energy to extend facility's life by 17 years



Human Services:
Closed the gap towards healthcare needs through medication assisted treatment amongst many

Future Goals

Reopening of Fred Marquis Pinellas Trail in Palm Harbor

Ensure Pinellas County is fully counted in US Census, 2020

Recommendation from the Pinellas County Utilities(PCU) water & sewer study to address challenges

Expansion of the Small Business Enterprise Program (SBE) to increase access to procurement opportunities

Impact of Shall law in deterring crime

An econometric look at Crime Rates in the US

Time Period: 1977 to 1999

Alhad Barbadikar



Shall Law & previous studies



History: 1791 saw the ratification of the 2nd Amendment

“A well-regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed”

Aided the formation of NRA in 1871

John Lott & David Mustard
Journal of Legal studies

- Performed on data from 3,054 counties
- Made bold claims:
 - Right to carry (RTC) guns deterred crime
 - No increases in accidental deaths
 - “Most cost-effective method thus far analyzed by economists”

On reexamining the data, there was no basis for drawing conclusions about the impact of RTC law on crime

John Donohue
Stanford Professor

- Study on similar subject
- Findings:
 - States that have adopted RTC laws have experienced 13 to 15% increase in violent crime
 - Debunked claims about RTC laws deterring crime & said that conclusions were inconclusive

Exploratory Analysis

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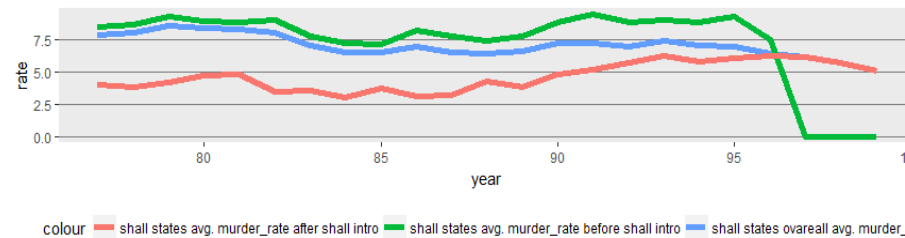
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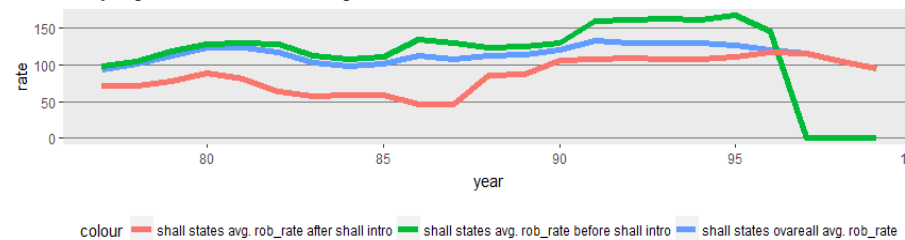
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A Analyzing the before and after avg. murder rate for states where shall law has been introduced

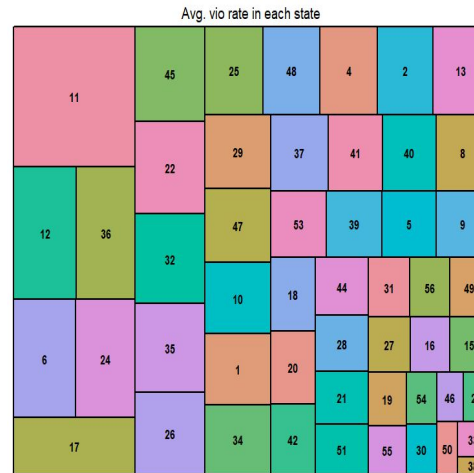
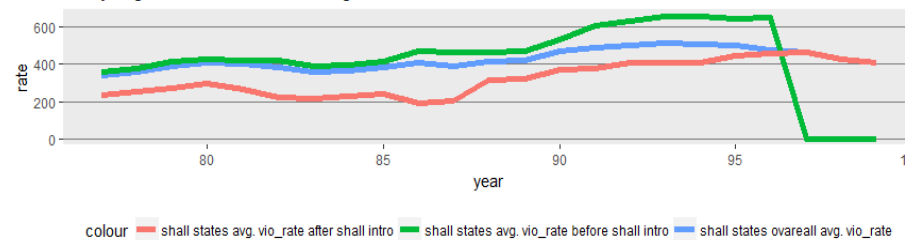


Trend indicates that Avg. Murder rate has gone up after introduction of Shall Law

B Analyzing the before and after avg. rob rate for states where shall law has been introduced



C Analyzing the before and after avg. vio rate for states where shall law has been introduced



State 11 has the highest violence rate

Findings:

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After controlling for Fixed entity effects, the model indicated that implementing Shall law decreased murder rate by 3% vs States that did not implement it

Robbery Rate:

After controlling for Fixed entity effects, the model indicated that implementing Shall Law increased the robbery rate by 4% vs States that did not implement it

Violence Rate:

After controlling for Time & Fixed entity effects, the model indicated that implementing Shall Law decreased the rate of violence by 2% vs States that did not implement it

A decrease in murder rate after introduction of Shall law but an increase in violence rate is observed.

Hypothesis: Shall Law introduction could have led to an increase in property crimes involving theft of guns

Decrease in violence rate after introduction of Shall Law

Hypothesis: When guns are involved, the amount of risk involved in committing the crimes increases

At the nation level:

- Strengthening the judiciary & law enforcement services
- Tackling corruption at judicial level

Implementing crime preventing programs:

- Community Policing
- Job training for Youth

Behavioral Intervention Programs

References:

1. <https://www.vox.com/2016/2/15/10981274/crime-violence-policies-guns>
2. https://cfrd8-files.cfr.org/sites/default/files/pdf/2012/03/Criminal_Violence_CSR64.pdf