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### An Inquiry into the Causes of Growth in Gross Domestic Product

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#### Recommended Citation

Hext, Thomas and Davidsson, Michael, "An Inquiry into the Causes of Growth in Gross Domestic Product" (2018). *Paper Presentations*. 9.

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# RESEARCH COLLOQUIUM 2018

# PITTSBURGH STATE UNIVERSITY



# INTRODUCTION



Taxes -

- Personal income
- Corporate income

Saving rate

Disposable Income

Public Investment



# Why?



# LITERATURE REVIEW

Karel Mertens & Morten Ravn American Economic Review 2012 (USA)

- Personal tax decrease of 1% increased GDP per capita by 1.8%
- Corporate income tax decrease of 1% increased GDP per capita by 0.6%

Christina Romer & David Romer, American Economic Review 2010 (USA)

- Tax increase of 1% leads to a fall in GDP of 3%

N. Bania, J. A. Gray, & J. A. Stone, National Tax Journal 2007 (USA)

- Government investment increase of 1% leads to increase of 0.4 % in GDP

# THE EMPIRICAL MODEL

Change in GDP <sub>(1977 - 2007)</sub> = f (personal income tax rate (high), personal income tax rate (low), corporate income tax, disposable personal income, savings rate, government expenditure)

# DATA

- Federal Reserve of St. Louis
- Bureau of Economic Analysis





# Findings

Equation 3		
Independent variable	Coefficient	Probability
C	8.133471	0.0000
Log (high bracket income tax rate)	-0.008591	0.6593
low bracket income tax rate	0.007732	0.0001
Log (Corporate tax rate %)	-0.062519	0.1581
Gov Spending % GDP	-0.009283	0.0479
Saving rate %	-0.015508	0.0001
Disposable Income \$	8.78E-05	0.0000
Log (Gov Spending \$)	0.111015	0.0024
Observations = 29   Adjusted R2 = 0.997988   Durbin-Watson = 1.691236		

# FINDINGS

## Conclusions

Taxes	Mixed
Disposable income	Positive
Saving rate	Negative
Public investment	Mixed

**QUESTIONS**

