Alaska's Non-Petroleum Corporate Income Tax:
Trends in Collections by Sector and Revised Forecast Model

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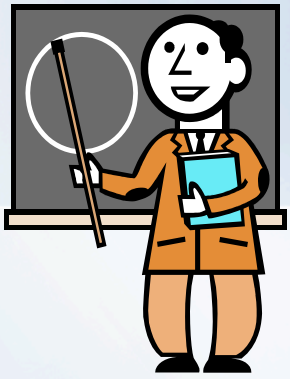
PURPOSE

- To examine trends in Alaska's non-petroleum corporate income tax; and
- To present our revised corporate income tax forecast model.



Note: Corporate Income Tax = CIT

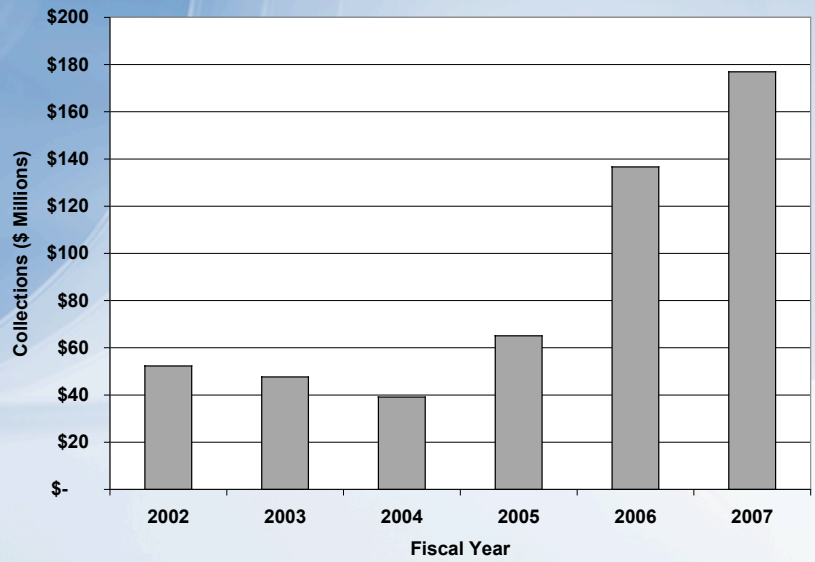
Outline

- Findings
- Background
- Sector Collections
- Methodology
- CIT Forecast Model
- Conclusion

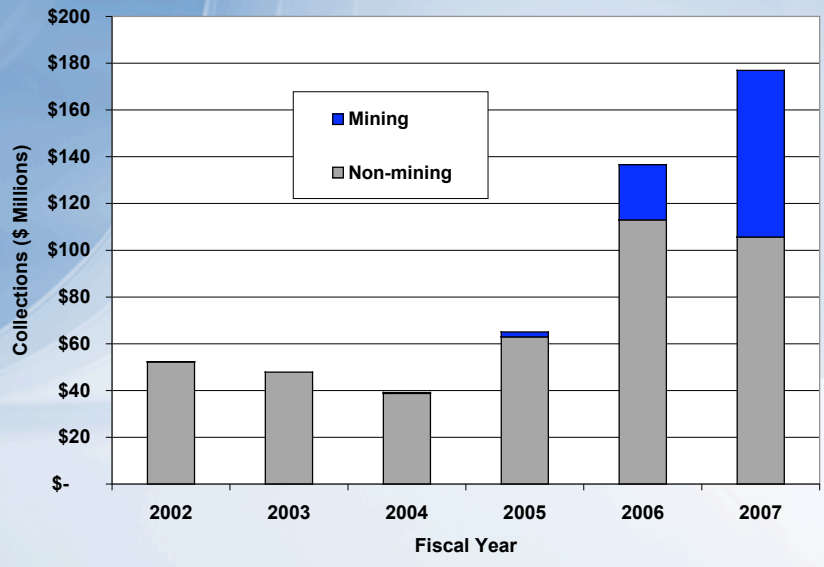
FINDINGS

- Historical CIT Collections
- Mining CIT Collections
- New CIT Forecast Model

Historical CIT Collections



Mining & CIT Collections



New CIT Model

- Separate models for mining and other collections
- Previously forecast with one aggregate model
- Mining now 40% of CIT collections

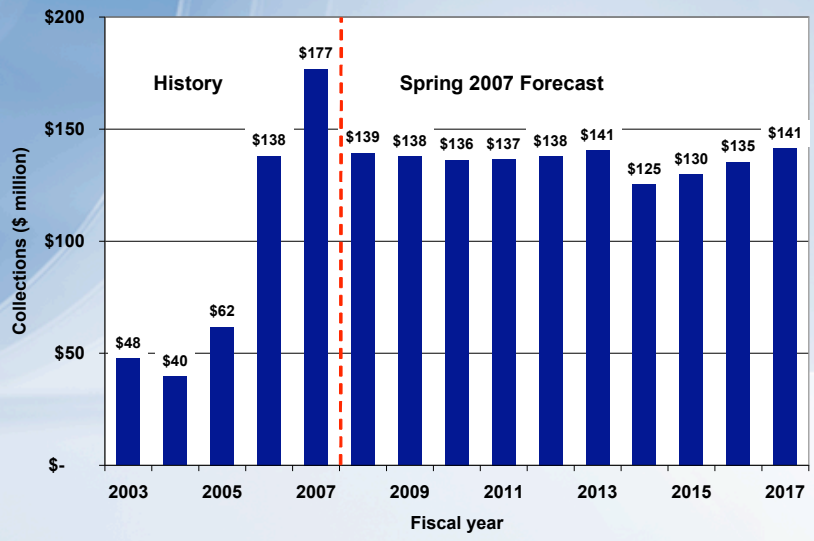
BACKGROUND

- CIT Overview
- Current CIT Forecasts
- State Budget Context
- History of CIT Forecast Methods

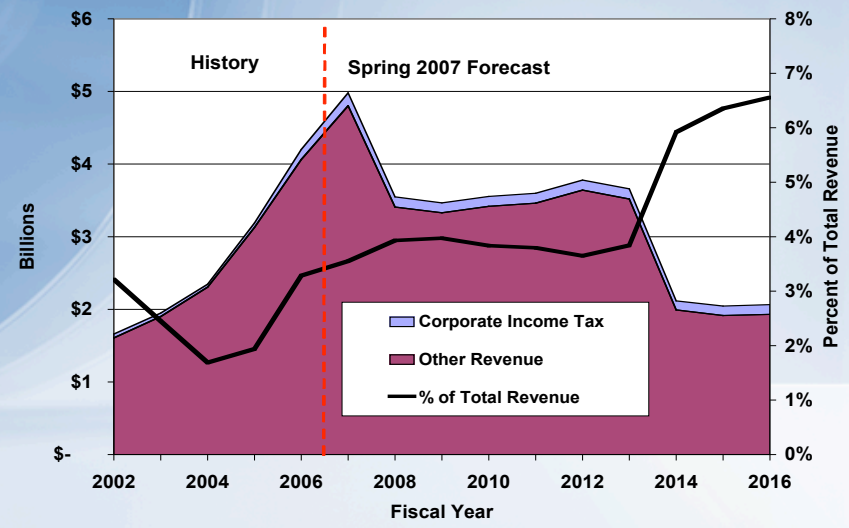
CIT Overview

- 2 corporate income taxes: Petroleum CIT and general (all other) CIT
- This presentation focuses on non-petroleum CIT
- Based on federal taxable income with certain Alaska modifications
- Equal 3-factor apportionment: Property, Payroll, Sales
- Graduated rates; max 9.4% rate for income over $90,000

Current CIT Forecasts

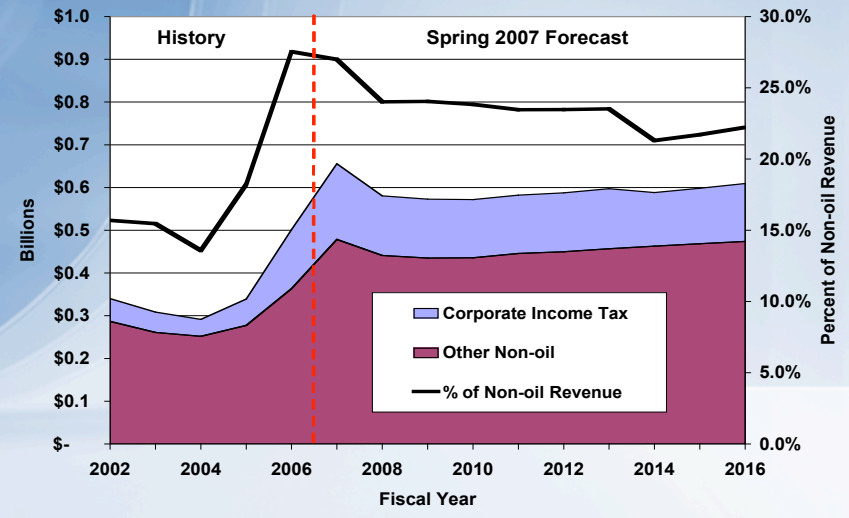


CIT v Total Revenue



CIT and Other Unrestricted Revenue, Spring 2007 Revenue Forecast

CIT v Non-Oil Revenue



CIT and Other Non-oil Unrestricted Revenue, Spring 2007 Revenue Forecast

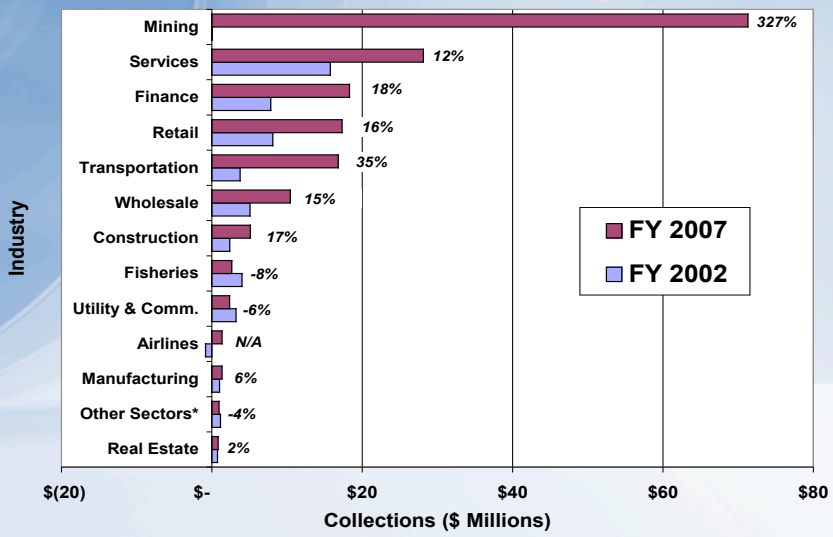
History of CIT Forecast Methods

- 2005 & Prior: Judgment -No model
- 2005: New Blood: Based on CBO federal collections forecast
- 2006: Aggregate statistical model
- 2007: Performed sector analysis and developed a new statistical model
- Getting more sophisticated

SECTOR COLLECTIONS

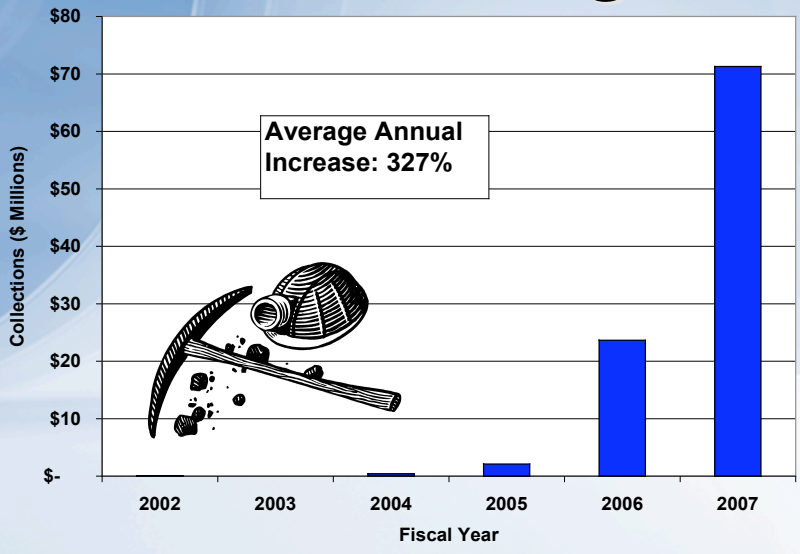
- CIT Collections by Sector
- CIT Growth Rates by Sector
- Focus on Mining Sector

CIT Collections by Sector



Change in Collections and Average Annual Growth Rates, 2002-2007

CIT from Mining Sector



METHODOLOGY

- CIT Collections Data
- Sector Definitions
- Comparison to NAICS

CIT Collections Data

- Source: Department of Revenue Accounting System
- Collections consist of:
  - Estimated Payments
  - Payments with Returns
  - Audits and Compliance
  - Tax Refunds

Sector Definitions

- Two differences from NAICS:

1) Sectors based on primary Alaska operations
2) Important sectors not aligned with NAICS constructed using parts of NAICS sectors

"Custom" Sectors

- Constructed using portions of NAICS sectors:

- Fisheries (agriculture and manufacturing)

- Oil Services (mining, transportation and professional services)

- Tourism (transportation, real estate & rental, administrative services and accommodation & food services)

CIT FORECAST MODEL

- Current Forecast Model
- Modeling Mining Separately
- New Model: Mining
- New Model: Other Sectors
- Prior Model Comparison
- Forecast Accuracy Comparison

Current CIT Forecast Model

Dependent Variable: Quarterly Estimated Payments, $ Million
Method: Least Squares
Sample: 1990Q1 to 2007Q1 (69 observations)

Variable	Coefficient	t-Statistic	Probability
Constant	-1.8	-1.0	33%
US Corporate Profits, $ Billion	19.2	5.3	0%
Alaska ANS Crude Oil Price, $	0.2	2.9	0%
Explanatory Variable - Q2	-6.0	-4.5	0%
Explanatory Variable - Q3	-3.5	-2.6	1%
Explanatory Variable - Accellerated Depreciation	-11.9	-7.1	0%
Regression Statistics:			
R-squared	0.79		
Adjusted R-squared	0.77		
Durbin-Watson stat	1.16		

Modeling Mining Separately

- Mining is biggest sector (40% of total collections)
- Regression statistics improve

	Probability (1 minus P Value)					Regression Statistics	
Sectors Included in Dependent Variable	NIPA Corporate Profits	ANS Crude Oil Price	Q2 Indicator	Q3 Indicator	Accelerated Depreciation Indicator	Adjusted R-square	Durbin-Watson statistic
All Industries	100%	100%	100%	99%	100%	0.77	1.16
With sectors withheld:							
Finance	100%	100%	100%	99%	100%	0.75	1.23
Mining	100%	93%	100%	100%	100%	0.79	1.77
Oil Services	100%	99%	100%	99%	100%	0.75	1.24
Retail	100%	99%	100%	99%	100%	0.72	1.15
Transportation	100%	99%	100%	99%	100%	0.75	1.17
Wholesale	100%	99%	100%	98%	100%	0.75	1.14

New Mining CIT Model

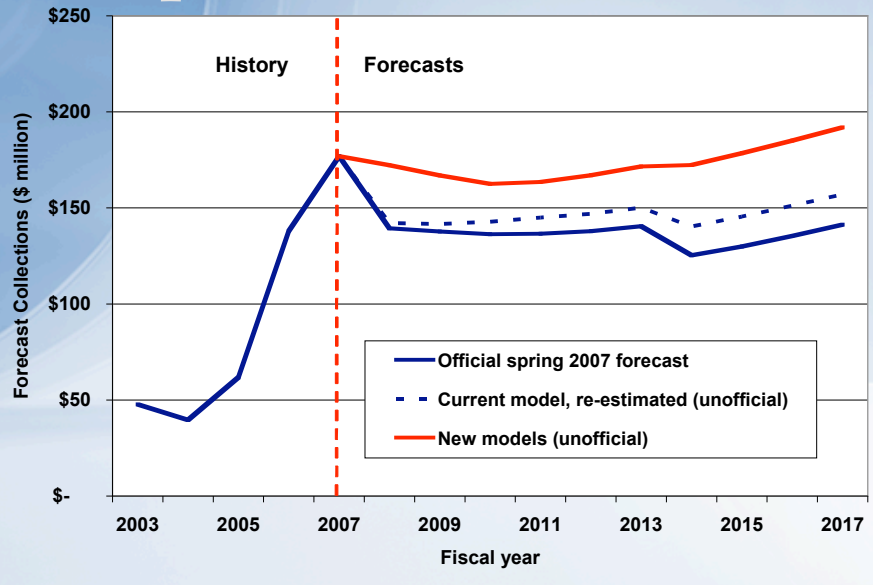
Dependent Variable: Quarterly Mining Est Payments, $ Million
Method: Least Squares
Sample: 1990Q4 to 2007Q1 (66 observations)

Variable	Coefficient	t-Statistic	Probability
Constant	-11.2	-10.7	0%
US Corporate Profits, $ Billion	3.2	2.0	5%
1-yr avg Zinc Price, $ / lb	17.0	9.3	0%
Explanatory Variable - Q2	-0.2	-0.3	79%
Explanatory Variable - Q3	-0.5	-0.7	51%
Explanatory Variable - Accellerated Depreciation	-0.9	-0.8	45%
Regression Statistics:			
R-squared	0.80		
Adjusted R-squared	0.78		
Durbin-Watson stat	1.51		

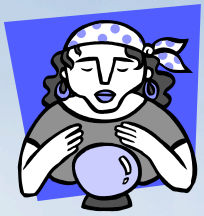
New Other Sectors CIT Model

Dependent Variable: Quarterly Non-mining Est Payments, $ Million Method: Least Squares Sample: 1990Q4 to 2007Q1 (66 observations)			
Variable	**Coefficient**	**t-Statistic**	**Probability**
Constant	5.6	5.5	0%
US Corporate Profits, $ Billion	11.6	5.9	0%
Alaska ANS Crude Oil Price, $	0.1	1.9	7%
Explanatory Variable - Q2	-5.2	-7.2	0%
Explanatory Variable - Q3	-2.5	-3.5	0%
Explanatory Variable - Accellerated Depreciation	-4.8	-5.4	0%
Regression Statistics:			
R-squared	0.80		
Adjusted R-squared	0.79		
Durbin-Watson stat	1.77		

Comparison to Prior Model



Forecast Accuracy Comparison



- Current and new models back-tested
- Performance Q1 2000 – Q1 2007:
  - Current Model: 23% avg.. error
  - New Models: 15% avg. error
- Out-of-sample Q2 2006 – Q1 2007:
  - Current Model: 37% avg. error
  - New Models: 23% avg. error

Conclusions & Future Research

- Dramatic Growth in CIT Revenue
- Mining Sector Now Most Important
- New Models have Improved Accuracy

- Revisit Models with More Data
- Consider Additional Sector Models
- What Would Indicate a Return to Historical Collections?

Questions / Comments

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