Aerospace Industry Tax Preferences in Washington State:

An Economic Analysis Using REMI

Eric Whitaker Joint Legislative Audit & Review Committee September 24, 2014

What Was Our Dilemma?

- JLARC's analysis of aerospace tax preferences is part of an ongoing project to evaluate all WA tax preferences.
- Required to answer "what if" questions.
 - Not your average performance audit.
- Analytic approach considered impacts on both the private and public sectors.
- Our work occurred while considerable political and press attention focused on Boeing.



What We Will Discuss

Part I	Why is JLARC studying aerospace tax preferences?
Part II	What is "the REMI model?"
Part III	Using REMI to model "what if" scenarios
Part IV	Observations and lessons learned



Part I: Why is JLARC Studying Aerospace Tax Preferences?

JLARC Tasked with Conducting Performance Audits of Tax Preferences

Statute (Chapter 43.136 RCW):

- Created the Citizen Commission for Performance Measurement of Tax Preferences.
- Specified JLARC to review preferences over 10-year cycle.
- Outlined specific questions for JLARC staff to answer in reviews.



Requires recommendation.

JLARC

Key question: public policy objective stated? Achieved?

Citizen Commission Authorized to Group Tax Preferences for Review

- Citizen Commission may group preferences by:
 - Type of industry
 - Economic sector
 - Policy area
- For 2014, Commission selected several aerospace industry preferences for JLARC staff review.
- Commission also obligated to provide a process for "effective citizen input during its deliberations."



Aerospace Industry Tax Package

Commercial Airplane Manufacturing Pref. Rate (B&O Tax) **Aerospace Product Development Pref. Rate** (B&O Tax) **Airplane Pre-Production Expenditures** (B&O Tax) **Aircraft Pre-Production Computer Expenditures** (Sales/Use Tax) **Commercial Airplane Manufacturing Credit** (B&O Tax) **Superefficient Airplane Prod. Facilities** (Leasehold Excise Tax) **Superefficient Airplane Prod. Facilities** (Property Tax) **Airplane Facilities** (Sales/Use Tax)



Part II: What is "the REMI Model?"

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Regional Economic Models, Inc. (REMI)

- "Our work is to develop and support the use of economic models that inform government and corporate decisions."
 - www.remi.com/about-us
- REMI provides various structural long-term dynamic fiscal and macroeconomic impact modeling tools.
 - www.remi.com/the-remi-model



REMI Combines Four Methodologies

Input-Output (IO) Tabulation	Econometrics
 Industry-to-industry	 Estimation of statistical
transactions and social	parameters from historical
accounting matrices Supply chains, regional	data Strength of responses,
purchase concepts, and	elasticities, preferences,
multipliers	and "time lags"
Computable General	New Economic
Equilibrium (CGE)	Geography (NEG)

The REMI Framework



The REMI Model Structure

JLARC Used REMI's TAX-PI Module

- REMI built a customized WA state model
 - Relationships between buyers and sellers for 170 industry sectors;
 - WA state & local governments as a built-in sector;
 - Measures direct, indirect, and induced effects;
 - Dynamic forecasts of WA economy; and
 - Measures policy impacts as a positive or negative change from WA's forecasted "baseline" economy.

Part III: Using REMI to Model "What If" Scenarios

Background – 2003 Aerospace Tax Incentives

- 2003 Legislature adopted tax incentives to compete for the 787 airplane assembly facility.
- Incentives reduced taxes on production, new and renovated facilities, equipment, and computers.
- Manufacturers of aerospace products and providers of aerospace services qualified.
- Total package estimated at \$400m per year.
- Originally set to expire in 2024, but extended to 2040 in WA's bid for the 777X.

Background (cont.)

- Office of Financial Management (OFM) provided 2003
 Legislature with Boeing employment scenarios:
 - Worst case: Boeing reduces WA employment by 80% over 15-20 years, and builds new generation commercial airplanes elsewhere.
 - Best case: Boeing decides to build 787 in WA and hires
 4,600 workers related to the project.
- Mid-way: Boeing builds the 787 in WA, but shifts employees from other production lines.

Legislature Asks Two Questions for Economic Development Tax Preferences

Question #1	What are the economic effects on the beneficiaries and the economy if the preferences were to be terminated?
Question #2	What are the economic impacts of the tax preferences compared to the economic impact of government activities funded by the tax?

Modeled the "worse case" scenario to answer question #1 and determined the government sector impacts for all three scenarios.

Scenarios

• State government reduces spending by amount of tax incentives

Scenario 1: REMI Estimated Jobs Impacts

Scenario 2: REMI Estimated Jobs Impacts

Scenario 3: REMI Estimated Jobs Impacts

Summary: REMI Estimated Jobs Impacts After 20 Years

REMI Estimated GDP Impacts

	Scenario 1		Scenario 2		Scenario 3	
	Year 1	Year 20	Year 1	Year 20	Year 1	Year 20
Private Non-Farm Sector	-\$1.4 billion	-\$42.9 billion	+\$1.8 billion	+\$4.3 billion	-\$168 million	+\$15 million
WA State & Local Govt Sector	-\$112 million	-\$3.3 billion	-\$90 million	-\$178 million	-\$252 million	-\$509 million
Total Change in State GDP	-\$1.5 billion	-\$46.2 billion	+\$1.7 billion	+\$4.1 billion	-\$420 million	-\$494 million

Part IV: Observations & Lessons Learned

Common Misconception #1: Government Spending has No Impact on the Economy

- Spending in labor-intensive sectors such as government results in greater job changes than in capital-intensive sectors.
- Government tends to purchase goods and services in the local economy resulting in WA jobs.
- Private sector jobs are also created when publicallyfunded employees spend wages.

Common Misconception #2: Tax Incentives Pay for Themselves in Increased Revenues

	Scenario 1	Scenario 2	Scenario 3	
Year 20 (\$ in Millions)	Boeing sites 787 elsewhere	Boeing sites 787 in WA / Adds jobs	Boeing sites 787 in WA / No new jobs	
Direct Tax Loss Due to Incentive	\$0.0	-\$464.3	-\$464.3	
Tax Change Due to Economic Impact	-\$1,663.7	\$145.9	-\$25.4	
Net Revenue Loss	-\$1,663.7	-\$318.4	-\$489.7	

Should REMI be Used to Study Any Tax Preference?

- Enacted for economic development purposes.
 - E.g., create/maintain jobs; maintain/improve competitive position.
- Large enough to have an impact on the economy.
 - Preference dollar threshold.
- Beneficiaries are represented by a REMI sector.
 - Beneficiary category is a REMI sector & gross income or employment is a reasonable percentage of the sector.

And Finally...

Any questions?

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Visit the Citizen Commission website at: <u>www.citizentaxpref.wa.gov</u> JLARC

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