Out of State Credit
Personal Income Tax Model

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Research & Fiscal Analysis

Overview

The assignment > Background > The data > Preliminary analyses > Calculate credit > Discussion
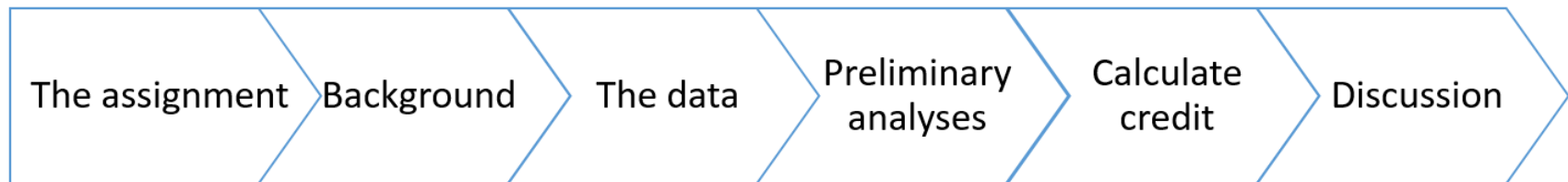
The assignment

Calculation of WA personal income tax

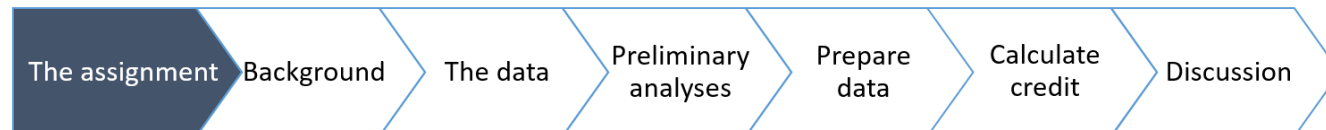**[Taxable Income]** = AGI − **Deductions − Exemptions**

- **Deductions** = [Standard Deduction] + [Elderly Deduction] + [Disabled Deduction]

- **Exemptions** = 2,900 x [Count of filer, spouse, dependents]

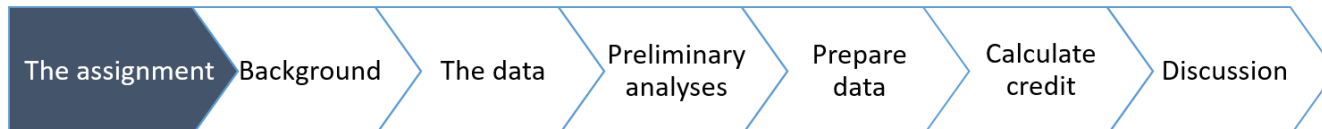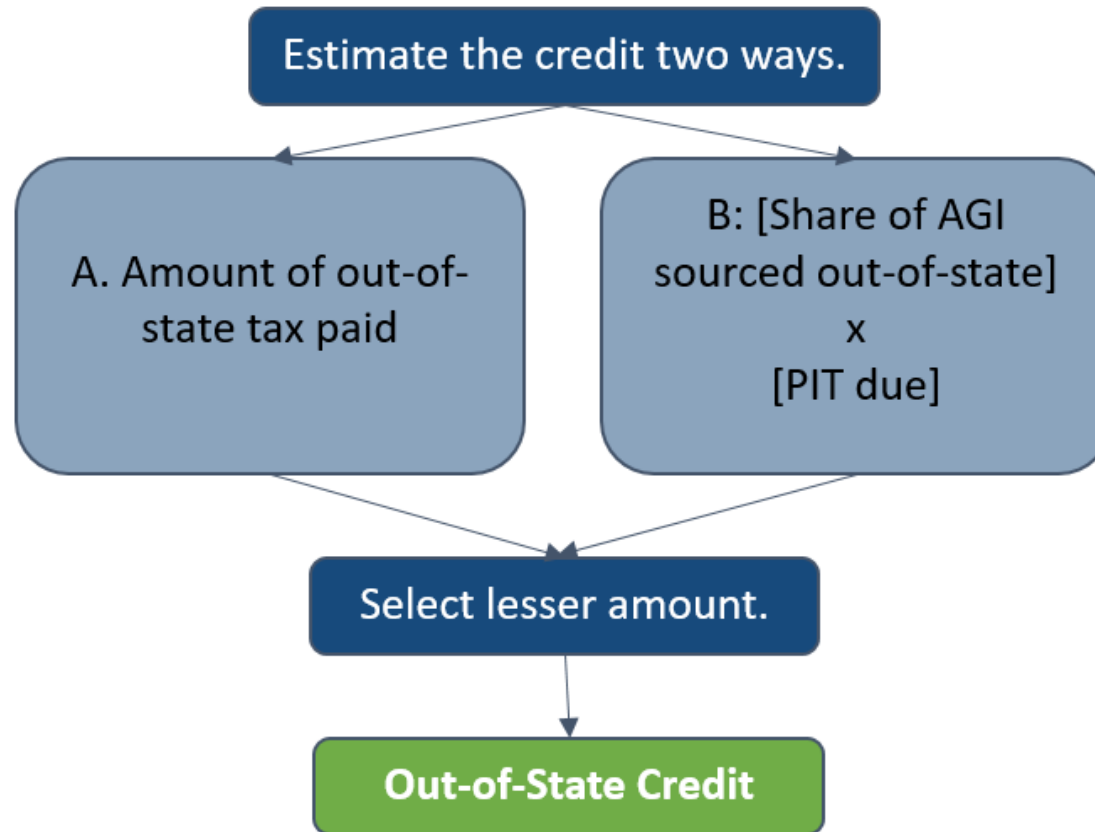**Gross Tax** = [Tax Rate] x [Taxable Income]

Credits = [B&O Credit] + **[Out-of-State Credit]**

Net Tax = Tax − Credits

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The calculation

Estimate the credit two ways.

A. Amount of out-of-state tax paid

B: [Share of AGI sourced out-of-state]
x
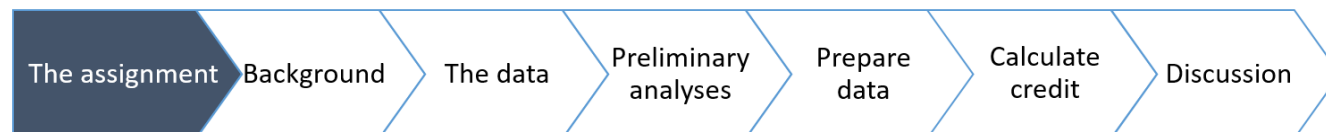[PIT due]

Select lesser amount.

Out-of-State Credit

The Out-of-State Tax Credit

2003 bills described the credit this way.

"(1) A resident individual… is **allowed a credit** against the tax imposed under this title for the **amount of any income tax imposed by another state** …, on income taxed under this title, subject to the following conditions…:
(a) The credit is allowed only for taxes imposed by the other jurisdiction on **net income from sources within that jurisdiction**; and
(b) The **amount of the credit shall not exceed the smaller of**:
    (i) The **amount of tax paid** to the other jurisdiction on net income from sources within the other jurisdiction; or
    (ii) The **amount of tax due** under this title before application of credits allowable by this title, **multiplied by a fraction**. The numerator of the fraction is the amount of the taxpayer's adjusted gross income subject to tax in the other jurisdiction. The denominator of the fraction is the taxpayer's total adjusted gross income as modified by this title. The fraction shall never be greater than one."[1]

1. Washington State Legislature (2003). SB 5056: Implementing tax reform. (https://app.leg.wa.gov/billsummary?BillNumber=5056&Year=2003&Initiative=false)

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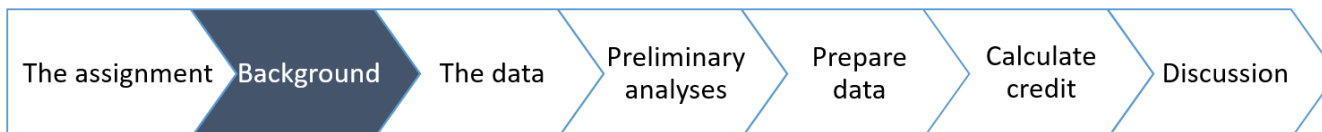
Background

Taxation of nonresidents

States with PIT generally tax all income sourced within their borders.

However, some states have entered agreements with neighbor states, allowing residents to pay tax on income from a neighbor state only to their home state.

Oregon has made such arrangements with Arizona, California, Virginia, and Indiana.

The assignment	Background	The data	Preliminary analyses	Prepare data	Calculate credit	Discussion

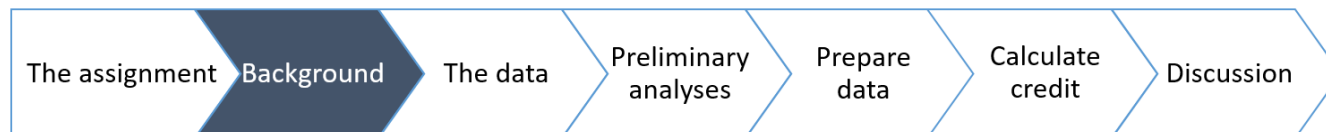# Most out-of-state earnings come from Oregon.[1]

We expect most of the out-of-state credit to be related to Oregon tax payments.

but ....

If business and investment income come largely from other states, then these jurisdictions may also play an important role.

$2.1B to Other WA counties

$4.7B to Clark County

$1.2 B from ID and other States

Seattle · Spokane · Olympia · WASHINGTON · Portland · Salem · OREGON · Boise · IDAHO

1. Author's calculation, based on (a) state inflow data from the US Bureau of Economic Analysis and (b) Oregon personal income tax statistics.

The assignment | Background | The data | Preliminary analyses | Prepare data | Calculate credit | Discussion

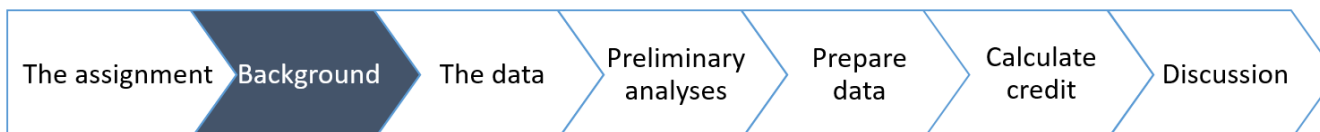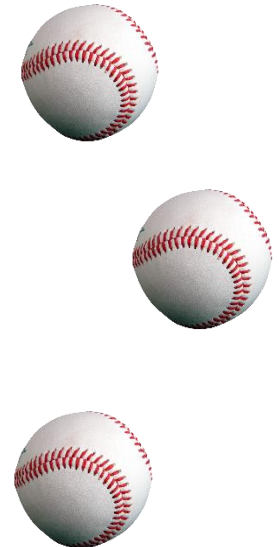# A ballpark estimate, using Oregon statistics

Oregon has high tax rates, compared with other US states.

A simple calculation using Oregon statistics suggests the total credit would be measured in the **hundreds of millions.**

Effective rates range from **0.8%** for those with the lowest incomes, to **8.0%** for incomes > $500,000.

Estimated out-of-state credit ($000,000)		
Payments to Oregon	325	Taxes paid by WA residents to Oregon
Payments to other states	128	Corresponds to Oregon credit amount, $53 million
Total	**453**	

The assignment → Background → The data → Preliminary analyses → Prepare data → Calculate credit → Discussion
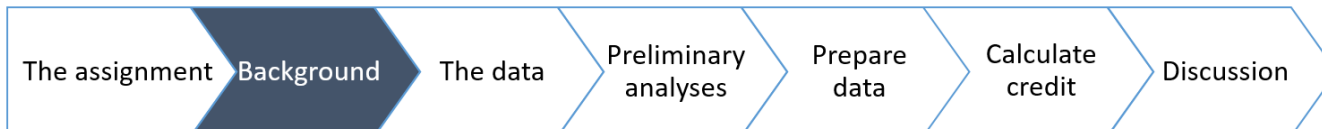
Tax credit amounts are positively associated with tax rates.

Since a credit amount may not be greater than the gross tax, **aggregate credit amounts are higher when tax rates are higher.**

Total Credit vs. Tax Rate
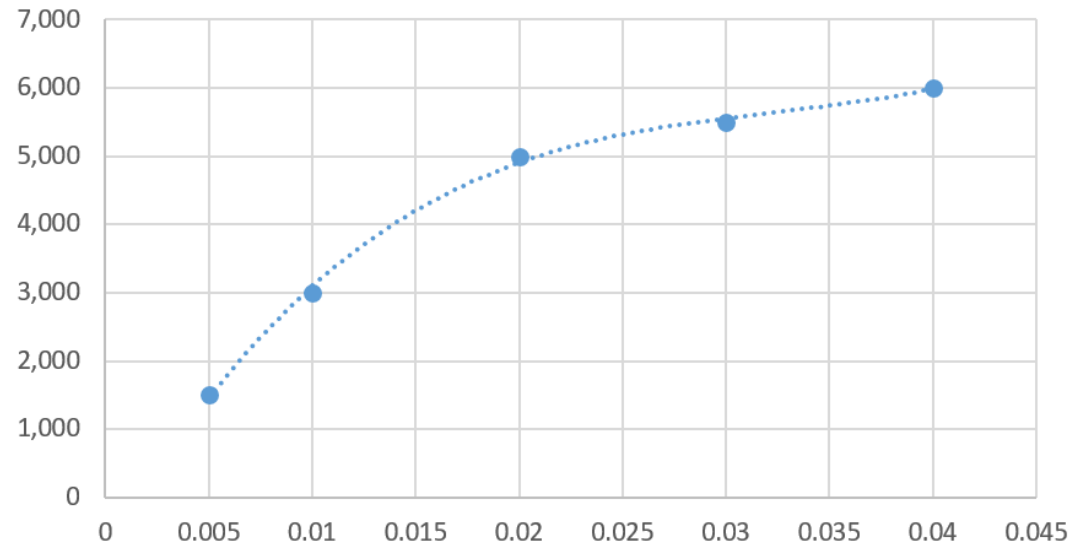
			Rate = 0.5%		Rate = 4.0%	
ID	Taxable	Tax paid to other state	Gross Tax	Credit	Gross Tax	Credit
111	50,000	2,000	250	250	2,000	2,000
222	100,000	2,000	500	500	4,000	2,000
333	150,000	2,000	750	750	6,000	2,000
			Total Credit	**1,500**		**6,000**

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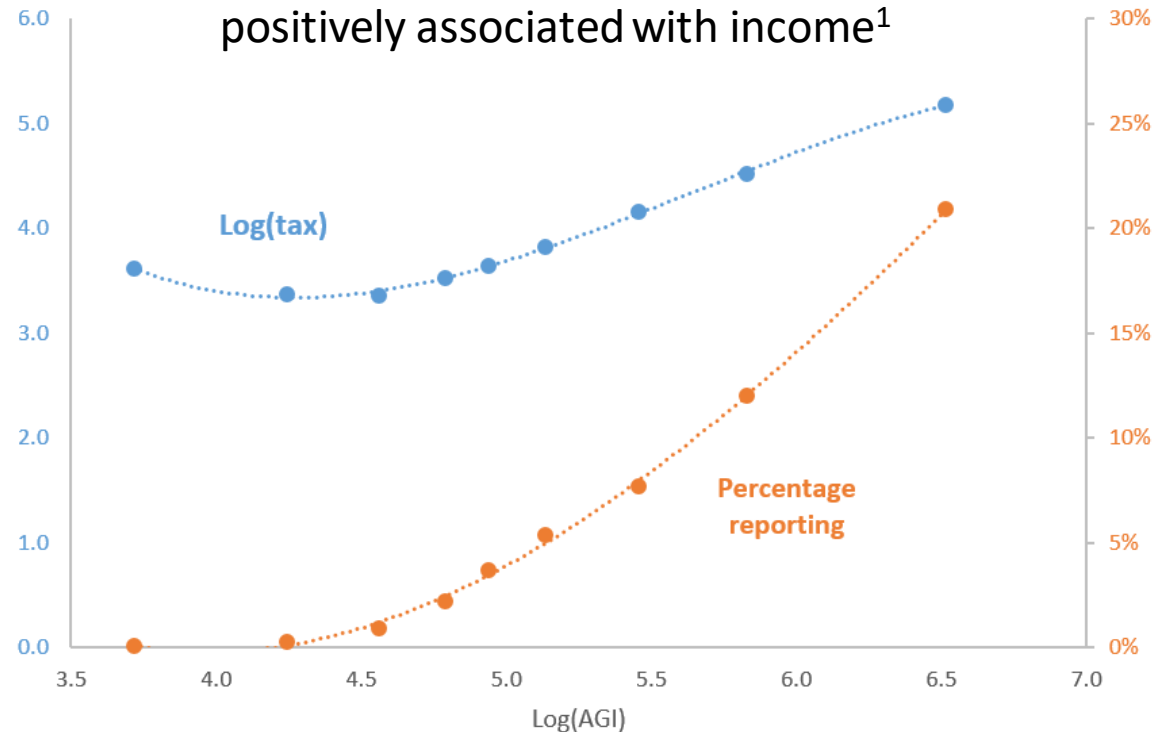
The federal state income tax deduction (SALT)
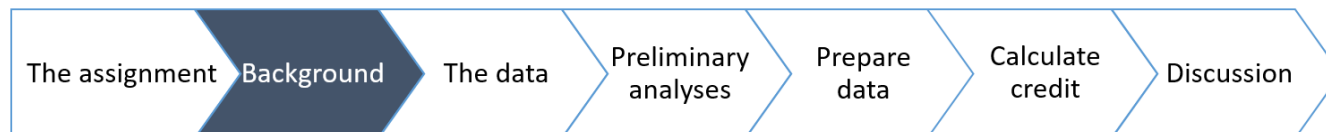
SALT deduction: Itemizers may deduct state/local income tax payments.

In 2017, WA **taxpayers reported over $1 billion** in income tax payments to other states.

Deduction and likelihood of using it positively associated with income[1]

Log(tax)

Percentage reporting

Log(AGI)

1. Author's analysis of IRS Statistics of Income Historical Table 2 for Washington (2017).

The assignment | Background | The data | Preliminary analyses | Prepare data | Calculate credit | Discussion

The data

Two data sources

| Oregon summary statistics | Inform estimates for → | Washington returns microdata |

Summary for Washington residents paying OR Tax

AGI Level	Number of Returns	Net Tax	Effective Rate
1-5			
5-10			
...			
500+			

The assignment ⟩ Background ⟩ **The data** ⟩ Preliminary analyses ⟩ Calculate credit ⟩ Discussion

IRS data: Individuals' returns

Dataset with 2017 returns for all Washington addresses

Variables used:
Filer's city
Filing status
Adjusted gross income (AGI)
Federal taxable income
Out-of-state income tax amount

The assignment | Background | The data | Preliminary analyses | Calculate credit | Discussion

Oregon summary tables

We use summary statistics from Oregon PIT. All tables are reported on AGI bracket.

Nonresident tax payments

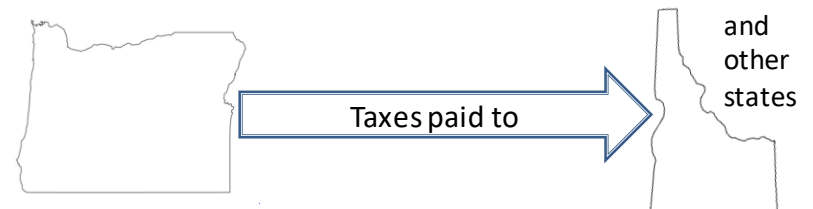| AGI Level ($000)	Number of Returns	Net Tax ($000)	Effective rate for Net Tax
0-5	11,024	478	0.0%
5-10	5,663	1,158	2.5%
10-15	4,684	1,965	2.8%
…	…	…	…

Out-of-state credit

AGI Level ($000)	Number of Returns	Percent of all returns	Total Credit ($000)	Mean Credit
0-5	129	0.1%	7	54
5-10	470	0.4%	32	68
10-15	601	0.5%	64	107
…	…	…	…	

Tables are reported separately for **Clark County** and for **other WA counties**.

Taxes paid to

and other states

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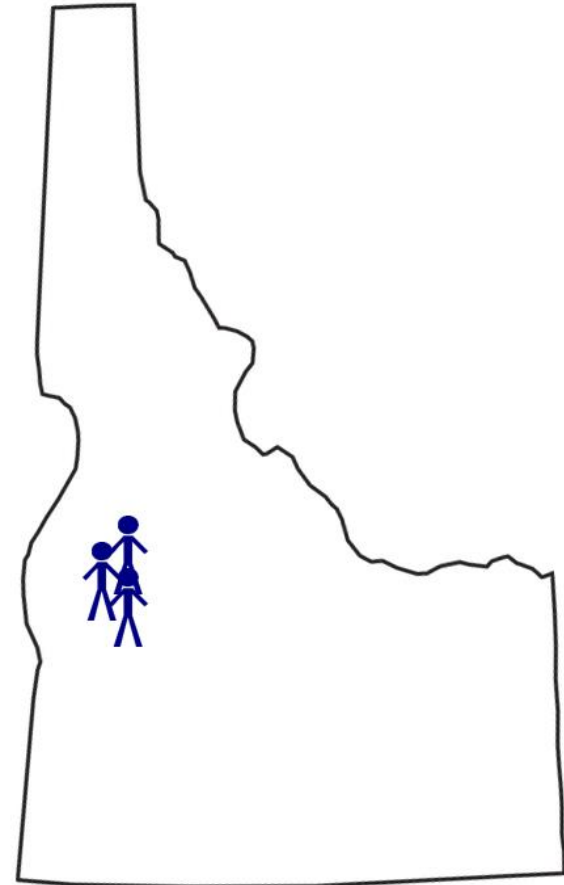
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Preliminary analyses

Idaho taxable income and AGI

For calculation 1B (Idaho tax payments), we need to **estimate** the amount of a taxpayer's **AGI sourced in Idaho**.

Key features of Idaho tax:
- **Graduated rate structure**, rates from 1.6% to 7.4% (2017).
- Tax base is **federal taxable income.**

| The assignment | Background | The data | Preliminary analyses | Calculate credit | Discussion |

Idaho taxable income and AGI

| 1. Describe Idaho tax amount as function of Idaho taxable, using tax rates. | 2. Rearrange equations to show taxable as function of tax amount. |

Idaho table showing **tax as a function of taxable**.

Taxable Income						
At least	Less than			Tax		
1	1,472	0	1.6%			0
1,472	2,945	24	3.6%			1,472
2,945	4,417	77	4.1%	of the		2,945
4,417	5,890	137 plus	5.1%	amount		4,417
5,890	7,362	212	6.1%	over		5,890
7,362	11,043	302	7.1%			7,362
11,043		563	7.4%			11,043

$$Taxable = f(Tax)$$

The assignment — Background — The data — **Preliminary analyses** — Calculate credit — Discussion
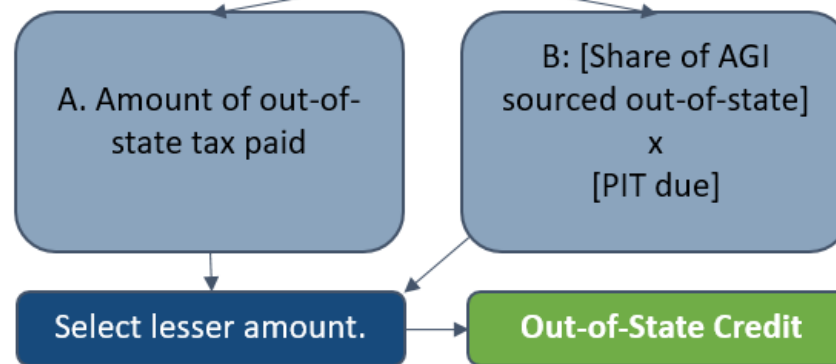
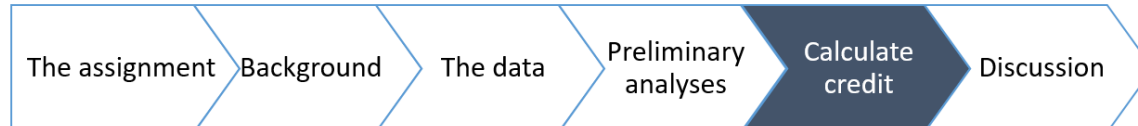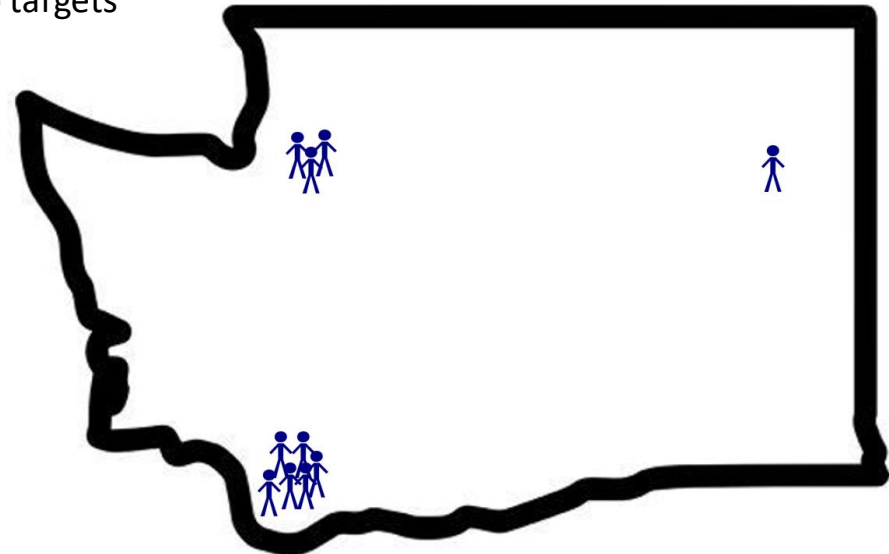# Calculate credit

Two ways to calculate the credit
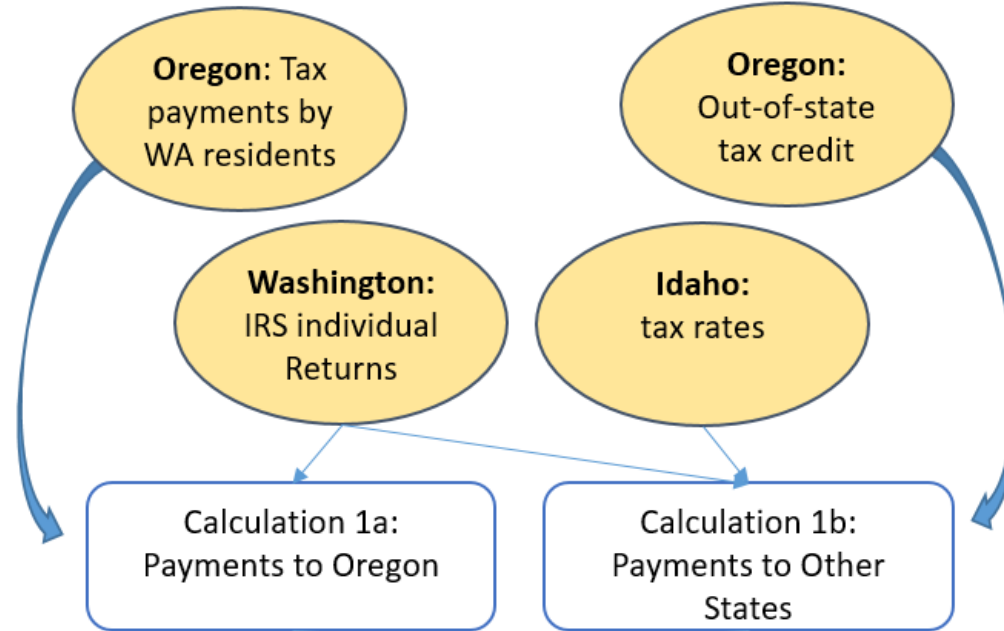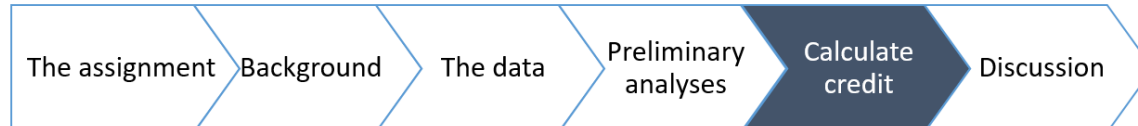
1A: Credit for Oregon tax payments

We form assumptions about Washington returns data to align with Oregon summary tables

1. Select WA returns.
2. Form assumptions
3. Align totals to targets

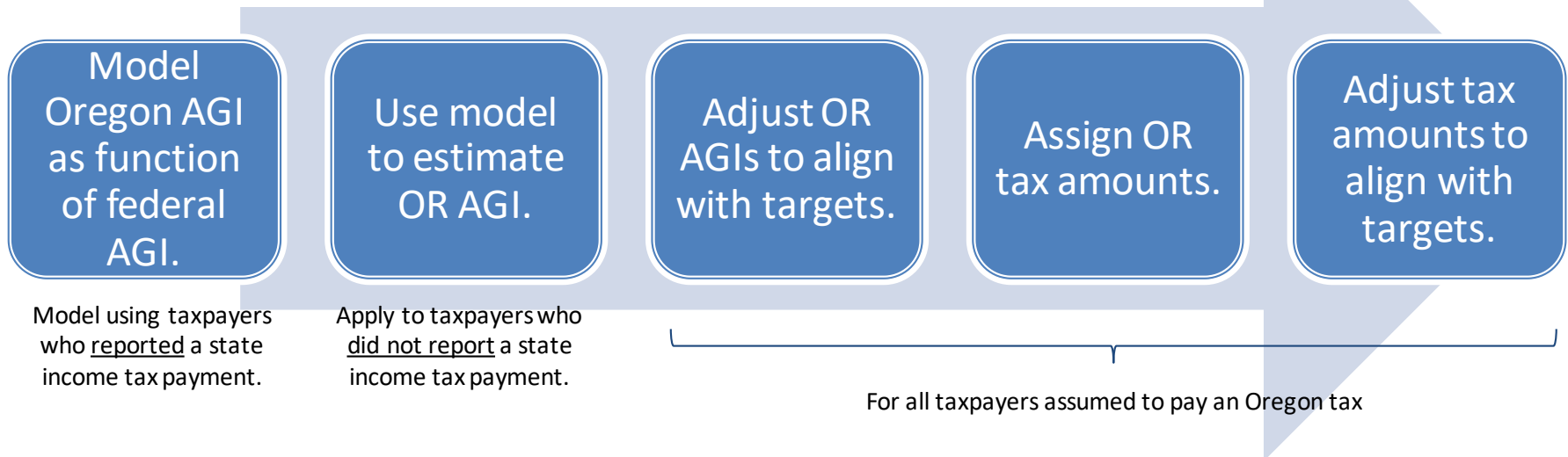| Summary for Washington residents paying OR Tax			
AGI Level	Number of Returns	Net Tax	Effective Rate
1-5			
5-10			
...			
500+			

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1A: Credit for Oregon tax payments

Estimate Oregon tax payment and Oregon income for each WA taxpayer.

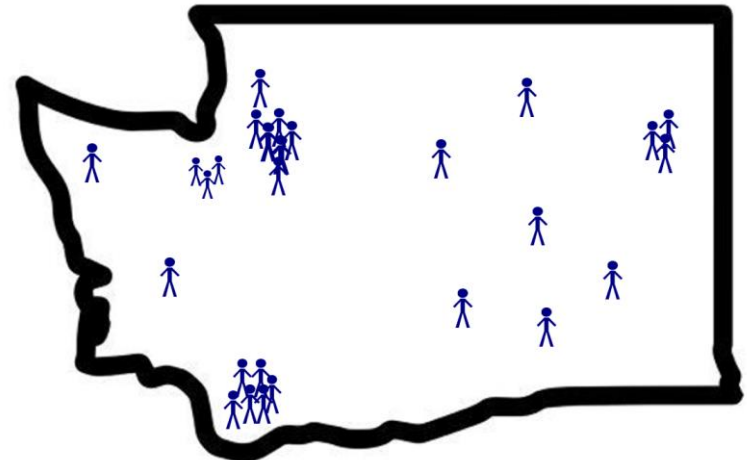After selecting WA taxpayers to hit target counts for each income bracket...

| Model Oregon AGI as function of federal AGI. | Use model to estimate OR AGI. | Adjust OR AGIs to align with targets. | Assign OR tax amounts. | Adjust tax amounts to align with targets. |

Model using taxpayers who reported a state income tax payment.

Apply to taxpayers who did not report a state income tax payment.

For all taxpayers assumed to pay an Oregon tax

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1B: Payments to Other States

We again form assumptions about Washington returns data to align with Oregon summary tables

1. Obtain summary table from WA data.
2. Apply Oregon proportions to get counts.
3. Select WA returns to align with counts

Summary for Oregon residents with tax payments in other states				
AGI Level ($000)	Number of Returns	Percent of all returns	Total Credit ($000)	Mean Credit
0-5	129	0.1%	7	54
5-10	470	0.4%	32	68
10-15	601	0.5%	64	107
…	…	…	…	

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1B: Payments to Other States

Estimate Idaho tax payment and Idaho income for each WA taxpayer.

After selecting WA taxpayers to hit target counts for each income bracket…

1. Oregon returns: Model credit amount & effective rate as function of AGI.	2. WA returns: Estimate credit (Idaho tax), using WA AGI.	3. Estimate Idaho AGI as function of credit amount.

Use Oregon summary tables.

Use equations developed in *Preliminary Analyses*.

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Discussion

For more information…

Model Review document

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