Tax Reform in Utah

Arizona Joint Task Force on Income Tax Reform
September 4, 2013
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Chief Economist
State of Utah

Technical

Economic

Political
Outline of this Presentation

History of Utah’s Reform

- Timeline
- Motivation
- Implementation

Analysis of Utah’s Reform

- Theory
- Tax Model
- Information
- Retrospective
Timeline of Utah’s Tax Reform

Income tax reform spanned nearly 5 years.

- **2004**
  - Governor Walker’s Recommendations on a Tax Structure for Utah’s Future

- **2005**
  - SB 153 Tax Reform Task Force

- **2006**
  - SB 223 Tax Amendments

- **2007**
  - Tax Review Commission
  - Dual System

- **2008**
  - SB 4001 Income Tax Amendments

- **2009**
  - First Single Rate Tax Due
  - Change in Withholding Tables

- **2010**
  - Single Rate System

- **2011**
Debate in Utah’s Tax Reform

Four public bodies extensively debated reform.

- **Tax Reform Task Force** - 4 Senate, 9 House, 2 Executive staff
- **Tax Review Commission** - 2 Senate, 2 House, ~10 tax experts
- **Interim Revenue and Taxation** - 5 Senate, 12 House
- **Legislature** - 29 Senate, 75 House

Tax Reform was a major focus of two Governor’s.

- Olene Walker
- Jon Huntsman Jr
Accomplishing Utah’s Tax Reform

The Income Tax Reform passed unanimously.

UTAH STATE SENATE
56th LEGISLATURE
2007 GENERAL SESSION

2SSB 223
CONCUR IN HOUSE AMENDMENT
2/28/2007 4:55:08 PM

Tax Amendments
Niederhauser, W.

YEARS 0 NAYS 3 ABSENT PASSED YEARS - 75

NAYS 0

ABSENT 3

WEA 26

Bell Fife Killpack Stephenson
Buxton
Dangl
Clark, D.
Clark, J.
Cox
Dee
Donnelly
Dougall
Draeker
Durr

YEARS 0 NAYS 3 ABSENT PASSED YEARS - 75

NAYS 0

ABSENT 3

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Clark, J.
Cox
Dee
Donnelly
Dougall
Draeker
Durr

NAYS 0

ABSENT OR NOT VOTING - 0

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5

History · Timeline · Motivation · Implementation · Analysis · Theory · Tax Model · Information · Retrospective
# Motivation for Utah’s Tax Reform

The motivation was multifaceted.

## Economic
- Optimal Taxation
  - Broad Base
  - Low Rate
- Tax Incidence
- Efficiency
  - Distortions
  - Incentives
- Equity
  - Benefits Received
  - Ability to Pay
  - Horizontal Equity
  - Vertical Equity
- Transparency

## Political
- Comprehensive
- Revenue
  - Sufficiency
  - Diversity
  - Volatility
  - Tax Cuts / Tax Hikes
  - Winners and Losers
- Competitiveness
  - Business Friendly
  - Recruiting / Entrepreneurship
- Administration
  - Simplicity

## Technical
- Modeling
  - Data
  - Calculations
  - Simulations
- Dynamic Effects
  - Increased Activity
  - Budget Impacts
- Revenue Forecasts
- Distributional Analysis
- Volatility
- Behavior
  - Compliance
  - Cliffs, Marginal Impacts
Economics of Tax Reform

Economists view the exercise of reform differently.

Theory
Standard Theory is that a tax system should be chosen to maximize a social welfare function subject to a set of constraints. Optimality is value laden.

Ramsey - Taxes inversely proportional to consumer’s elasticity of demand.
Buchanan - Lump sum taxes.
Mirrlees - Taxing is a game of imperfect information surrounding revealed abilities.

Practice
Broad Base, Low Rate.
What are the Effective Marginal Tax Rates?
What identifiable characteristics can differentiate taxpayers?
Politics of Tax Reform

Politicians are concerned about the interests of people and groups of people. Are unwilling to act without trust in the answers to questions.

**Funding** - How will tax changes impact current and future budgets?

**Constituents** - Who wins and who loses?

**Taxpayers** - Will this make it easier for them to pay?

**Business** - Are people going to want to move here because of this?
Technicalities of Tax Reform

Data and technical expertise is often fractured, inconsistent, dilute, and incapable of answering relevant questions.

**Data** - Hard to obtain, guarded by laws to protect privacy

**Models** - Difficult to program, require a grasp of big data, statistics, tax law, programming, simulations, forecasting, economics, politics, accounting.

**Communication** - The model needs to produce charts, graphs, tables of the impacts from potential reform that are externally and internally consistent.
Implementation for Utah’s Tax Reform

Implementation was incremental and demand driven.

Getting the economic, political, and technical spheres to interact productively was not trivial.

- Staff from the Legislature, Governor, Tax Commission worked collaboratively.

- Many models and systems for addressing questions were consolidated into a single simulation forecast model.

- Policy makers had broad access to the staff, the simulation model, official information came from a common source.

- The simulation model was used live, during meetings, to answer questions and explore alternatives.
Economic Implementation

Tax Experts had a forum to voice preferences and explore options.

- Tax Experts were a part of every public body.
- The Governor used a group of private tax experts in addition to staff economists to draft proposals.
Political Implementation

There were four different public bodies listening to tax reform proposals.

- Each body focused on different aspects of reform.
- Advocacy groups participated actively in the process.
- The various groups held meetings throughout the state to encourage feedback from taxpayers.
- Broad **Policy Principles** were narrowed to **Frameworks** which became **Legislation**.
Technical Implementation

Models and staff consolidated effort into a single model.

- A Standard Simulation Model was used to evaluate proposals comprehensively.
- Staff worked collaboratively, I was a dual employee of both the Governor’s Office and Tax Commission.
- The law was modified to allow legislative staff to access de-identified tax data.
Analysis of Utah’s Reform

Tax reform was the most analytically intensive exercise of any legislation in Utah’s history.

- Standardize all of the data and calculations.
- Common tool to build trust in the analysis.
- Simulation model provided distributional effects of tax reform.
- Simulation model calculated the budgetary impact of reform.
- Simulation model forecast future revenue collections.
- Online Tax Calculators comparing reforms.
Tax Simulation Model

The model came from Utah and Federal Tax Information.

- Took ~1 million records from prior year’s Utah tax filings.
- Merged with ~1 million records from Federal filings (IMF, IRTF).
- Produced synthetic datasets of future taxpayers controlled to population by age forecasts.
- Federal information contained detailed sources of income, these were grown stochastically according to Global Insights forecasts.
- A Monte Carlo sampling (30 full sets of taxpayer’s) of each of 4 future years of returns was calculated and normalized to produce a representative sample of future returns.
- Federal and State Taxes were recalculated based on new income and were then compared with various systems of reform.
- Summary statistics, graphs, tables, charts, fiscal notes were generated.
Tax Simulation Model

Diagram of the model.
Tax Simulation Model Information

Distributional Effects

Tax Increases

Income Percentiles
## Tax Simulation Model Information

### Distributional Effects—Group Analysis

<table>
<thead>
<tr>
<th>Status</th>
<th>Filing Status</th>
<th>Exemptions</th>
<th>Deduction</th>
<th>Retired</th>
<th>Income Group</th>
<th>Taxpayers</th>
<th>Group Share</th>
<th>Average Effective Rate</th>
<th>Average Current Tax</th>
<th>Average Income</th>
<th>Average Deduction</th>
<th>Average Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>Married Filing Joint</td>
<td>2</td>
<td>No</td>
<td>No</td>
<td>&gt;$100k</td>
<td>10,640</td>
<td>21%</td>
<td>4.1%</td>
<td>$14,458</td>
<td>$353,670</td>
<td>$91,795</td>
<td>$182</td>
</tr>
<tr>
<td>Decrease</td>
<td>Married Filing Joint</td>
<td>2</td>
<td>No</td>
<td>No</td>
<td>&gt;$100k</td>
<td>39,176</td>
<td>79%</td>
<td>4.7%</td>
<td>$12,469</td>
<td>$256,622</td>
<td>$32,918</td>
<td>-144</td>
</tr>
<tr>
<td>Increase</td>
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<td>2</td>
<td>No</td>
<td>No</td>
<td>&gt;$100k</td>
<td>49,816</td>
<td>100%</td>
<td>4.6%</td>
<td>$12,894</td>
<td>$278,923</td>
<td>$45,453</td>
<td>-123</td>
</tr>
<tr>
<td>Increase</td>
<td>Single</td>
<td>0</td>
<td>Yes</td>
<td>No</td>
<td>&gt;5k and &lt;=15k</td>
<td>9,343</td>
<td>27%</td>
<td>1.4%</td>
<td>$128</td>
<td>$9,172</td>
<td>$5,409</td>
<td>$5</td>
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<tr>
<td>Decrease</td>
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<td>No</td>
<td>&gt;5k and &lt;=15k</td>
<td>25,386</td>
<td>73%</td>
<td>1.4%</td>
<td>$153</td>
<td>$9,051</td>
<td>$5,384</td>
<td>-14</td>
</tr>
<tr>
<td>Increase</td>
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<td>Yes</td>
<td>No</td>
<td>&gt;5k and &lt;=15k</td>
<td>34,729</td>
<td>100%</td>
<td>1.4%</td>
<td>$146</td>
<td>$9,084</td>
<td>$5,391</td>
<td>-8</td>
</tr>
<tr>
<td>Increase</td>
<td>Married Filing Joint</td>
<td>2</td>
<td>No</td>
<td>No</td>
<td>&gt;$40k and &lt;=70k</td>
<td>6,635</td>
<td>25%</td>
<td>2.6%</td>
<td>$1,479</td>
<td>$56,347</td>
<td>$20,711</td>
<td>$147</td>
</tr>
<tr>
<td>Decrease</td>
<td>Married Filing Joint</td>
<td>2</td>
<td>No</td>
<td>No</td>
<td>&gt;$40k and &lt;=70k</td>
<td>20,033</td>
<td>75%</td>
<td>3.5%</td>
<td>$2,006</td>
<td>$68,072</td>
<td>$18,969</td>
<td>-96</td>
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<tr>
<td>Increase</td>
<td>Married Filing Joint</td>
<td>2</td>
<td>No</td>
<td>No</td>
<td>&gt;$40k and &lt;=70k</td>
<td>26,668</td>
<td>100%</td>
<td>3.2%</td>
<td>$1,875</td>
<td>$57,643</td>
<td>$19,402</td>
<td>-78</td>
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<tr>
<td>Increase</td>
<td>Single</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>&gt;$70k and &lt;=100k</td>
<td>5,770</td>
<td>45%</td>
<td>4.2%</td>
<td>$3,538</td>
<td>$84,978</td>
<td>$23,330</td>
<td>$25</td>
</tr>
</tbody>
</table>

### Likelihood of Tax Increase within a group
Tax Simulation Model Information

Distributional Effects—Group Analysis

Chart 4
Estimated Dollar Change in Income Tax - Married

Specific Tax Change of de-identified Taxpayer
Budgetary Effects

Actual collections were $2,561,383,572
forecast error was 0.37% with tax growing 12.5%
This was 18 months before fiscal year end.
The Single Rate System would have lost less revenue than the other systems during the 2002 recession.

Slight improvements in volatility

The table compares income tax systems volatility. The Single Rate System (SB223) had lower volatility than the Prior System and SB4001 during the 2002 recession. The table shows the changes in Utah AGI, taxpayers, and the elasticity of the systems.
Underlying Volatility is mostly a function of economic activity, but the tax system can contribute by amplifying or dampening volatility.
Progressivity Analysis

Slightly more progressive Lorentz Curves and Suits Index
Tax Simula

Progressivity Analysis

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean Tax Current</th>
<th>Mean Tax Proposed</th>
<th>Change</th>
<th>% Change</th>
<th>Share of Tax Paid Current</th>
<th>Share of Tax Proposed</th>
<th>Change</th>
<th>% of Cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= $50,000</td>
<td>$495</td>
<td>$473</td>
<td>-$22</td>
<td>-4%</td>
<td>12.0%</td>
<td>12.0%</td>
<td>-0.1%</td>
<td>14%</td>
</tr>
<tr>
<td>&gt; $50,000</td>
<td>$6,030</td>
<td>$5,817</td>
<td>-$213</td>
<td>-4%</td>
<td>88.0%</td>
<td>88.0%</td>
<td>0.1%</td>
<td>86%</td>
</tr>
<tr>
<td>&lt;= $5k</td>
<td>$3</td>
<td>$1</td>
<td>-$2</td>
<td>-62%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0%</td>
</tr>
<tr>
<td>$5 - 15k</td>
<td>$147</td>
<td>$128</td>
<td>-$19</td>
<td>-13%</td>
<td>0.6%</td>
<td>0.5%</td>
<td>-0.1%</td>
<td>2%</td>
</tr>
<tr>
<td>$15 - 25k</td>
<td>$477</td>
<td>$448</td>
<td>-$29</td>
<td>-6%</td>
<td>1.9%</td>
<td>1.8%</td>
<td>0.0%</td>
<td>3%</td>
</tr>
<tr>
<td>$25 - 40k</td>
<td>$1,236</td>
<td>$1,252</td>
<td>-$16</td>
<td>-4%</td>
<td>5.1%</td>
<td>5.1%</td>
<td>0.0%</td>
<td>5%</td>
</tr>
<tr>
<td>$40 - 70k</td>
<td>$3,742</td>
<td>$3,576</td>
<td>-$165</td>
<td>-4%</td>
<td>14.8%</td>
<td>14.7%</td>
<td>-0.1%</td>
<td>18%</td>
</tr>
<tr>
<td>$70 - 100k</td>
<td>$3,913</td>
<td>$3,699</td>
<td>-$214</td>
<td>-5%</td>
<td>15.5%</td>
<td>15.2%</td>
<td>-0.3%</td>
<td>23%</td>
</tr>
<tr>
<td>&gt;$100k</td>
<td>$15,669</td>
<td>$15,230</td>
<td>-$439</td>
<td>-3%</td>
<td>62.1%</td>
<td>62.6%</td>
<td>0.5%</td>
<td>48%</td>
</tr>
<tr>
<td>Single</td>
<td>$1,109</td>
<td>$1,079</td>
<td>-$30</td>
<td>-3%</td>
<td>16.8%</td>
<td>17.0%</td>
<td>0.2%</td>
<td>12%</td>
</tr>
<tr>
<td>HofH</td>
<td>$256</td>
<td>$249</td>
<td>-$7</td>
<td>-3%</td>
<td>3.9%</td>
<td>3.9%</td>
<td>0.0%</td>
<td>3%</td>
</tr>
<tr>
<td>MFJ</td>
<td>$5,102</td>
<td>$4,602</td>
<td>-$500</td>
<td>-4%</td>
<td>77.3%</td>
<td>77.0%</td>
<td>-0.2%</td>
<td>84%</td>
</tr>
<tr>
<td>MFS</td>
<td>$135</td>
<td>$133</td>
<td>-$2</td>
<td>-2%</td>
<td>2.0%</td>
<td>2.1%</td>
<td>0.0%</td>
<td>1%</td>
</tr>
<tr>
<td>All</td>
<td>$2,569</td>
<td>$2,475</td>
<td>-$93</td>
<td>-4%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Taxpayers with Income above $100,000 pay ~62% of total tax but received 48% of tax cut.

Taxpayers with Income above $100,000 pay a slightly higher share of overall liability.
Segmented Income Analysis

The Median Taxpayer within each income percentile had about a 0.5% tax cut.
Effective Rate Changes

What were prior effect rates and how did they change at the margin?
Effective Rate Changes

Most Taxpayers paid less in taxes
Most High Income Taxpayers faced lower effective marginal tax rates.

Middle Income Taxpayers faced higher marginal rates with credits phasing out.
Tax Reform in Utah Retrospective

Intense Effort Required to Reform Taxes.

- It took a lot of resources and reallocation of resources to accomplish.
- It absorbed many public officials time for over 3 years.
- Analysis, specifically the Tax Simulation Model was key to success.
- Product of the Reform was a Single Rate System.
- It produced an individual tax cut of around $190 million on $2.5 billion.
- More progressive, larger share of the tax cut went to lower income.
- Expanded the Tax Base from ~$38 billion to ~$60 billion (2007).
- Lowered the statutory Tax Rate from 7% to 5%.
- Change in the Withholding Tables caused early confusion.
- Makes Utah more competitive, aligns statutory rate with marginal rate.
Tax Reform in Utah Retrospective

Why?

- Single rate shows propensity, if not promise, to not ‘soak the rich’.
- General trend in lower top marginal rates and fewer rate structures.
- Deductions and Exemptions disproportionately help the rich, conversion to tax credits allows for targeted incentives for activities to specific groups.
- Marginal Incentives matter more for behavioral changes than the overall level of taxation.
- This happened in the context of broader tax reform which changed sales taxes, corporate taxes, and other business taxes.
- Stabilizes Utah’s finances and leaves it competitively positioned relative to tax systems in other states.
- Current analysis confirms the accuracy of Simulation Model forecasts.

David Stringfellow, Chief Economist, State of Utah - Office of the Utah State Auditor