Dynamic Fiscal Notes

Baseline Accuracy & Relevancy

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Pilot Project

- In October 2012, we presented a report on the possible use of dynamic fiscal notes.
- EAC adopted a motion to implement a pilot program during the 2013 interim, limited to Revenue & Taxation bills, and have LFA report back.
- We did two dynamic fiscal notes:
  - Manufacturing sales tax exemption
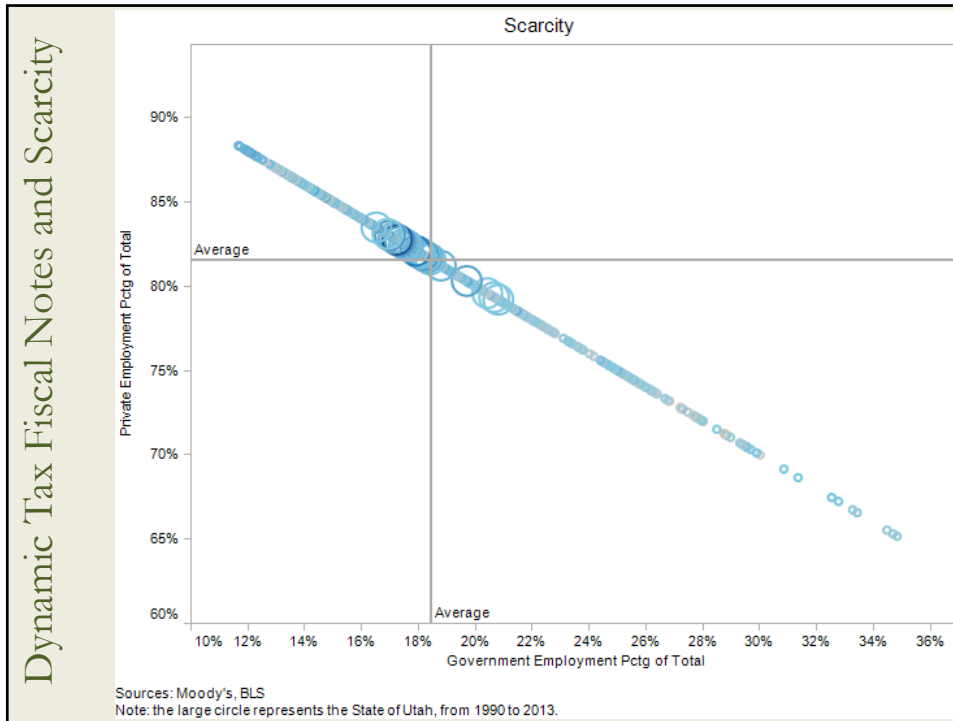 - Personal exemption/taxpayer tax credit calculation

Dynamic Tax Fiscal Notes

Static Fiscal Notes	Dynamic Fiscal Notes	Cost/Benefit Analyses
Taxable base x rate = static fiscal note	Taxable base x rate = static fiscal impact	Taxable base x rate = static fiscal impact
	Measure spending and competitive secondary impact on businesses/individuals	
	Convert behavioral responses to revenue = dynamic fiscal impact	
	More accurate	May or may not be more accurate
	More relevant	May or may not be more relevant
	Higher risk	An expression of benefits
		A measure of impact on society
		Intended to influence the passage of a bill

Opportunity Cost

- Resources are finite, scarcity prevails
- Every choice has at least one alternative – even if that alternative is to do nothing
- The Opportunity Cost of one choice is the value of the next best alternative

Dynamic Tax Fiscal Notes and Scarcity

Sources: Moody's, BLS
Note: the large circle represents the State of Utah, from 1990 to 2013.

Example: Manufacturing Sales Tax Exemption

FISCAL NOTE   No Bill Number   2013 Interim

SHORT TITLE: Sales Tax Exemption for Manufacturing Equipment Purchases, LT 3 Year Life
SPONSOR: No Sponsor   Note: Subject to change during the normal fiscal noting process

CURRENT PRACTICE: STATE GOVERNMENT **STATIC** IMPACT (UCA 36-12-13(2)(b))

Enactment of this bill reduces sales tax revenue to the General Fund by $17,293,000 in FY 2015 and by $18,158,000 in FY 2016. The bill also reduces Restrcited Revenue (earmarks) by $12,707,000 in FY 2015 and $13,342,000 in FY 2016.

Revenues	FY 2014	FY 2015	FY 2016
General Fund, **static**		$ (18,158,000)	$ (18,158,000)
General Fund, One-time, **static**		$ 865,000	
Restricted Revenue, **static**		$ (12,707,000)	$ (13,342,000)
Total		(30,000,000)	(31,500,000)

Appropriations	FY 2013	FY 2014	FY 2015
	$0	$0	$0
Total	$0	$0	$0

NET STATE GOVERNMENT **STATIC** IMPACT

STATIC	FY 2014	FY 2015	FY 2016
Net All Funds (Rev.-Approp.) (**static**)	0	(30,000,000)	(31,500,000)
Net General & Education Funds (Rev.-Approp.) (**static**)	0	(17,293,000)	(18,158,000)

Summary of Scenarios 1 - 4

|	
Scenario 1: Do Nothing with the Money	Scenario 2: Spend the Money
Scenario 3: Baseline Production Cost Effect (Nominal private sector response)	Scenario 4: Behavioral Responses (Reaction beyond production cost effect)

Scenario 1

Scenario 1: Do Nothing with the Money

Scenario 1: Do Nothing

Scenario 1: Interest Income
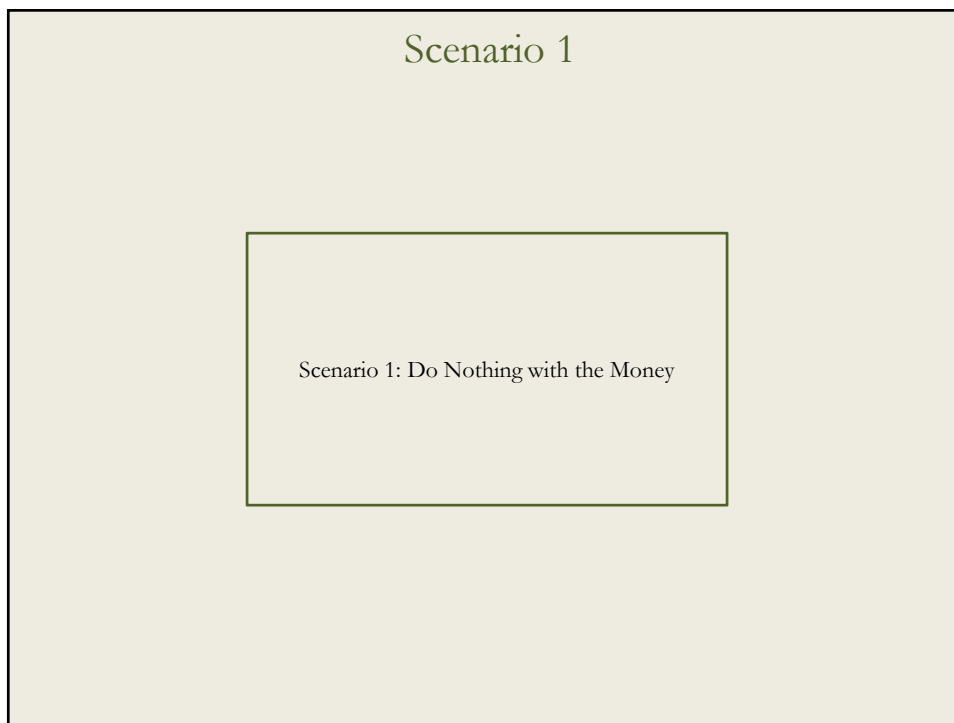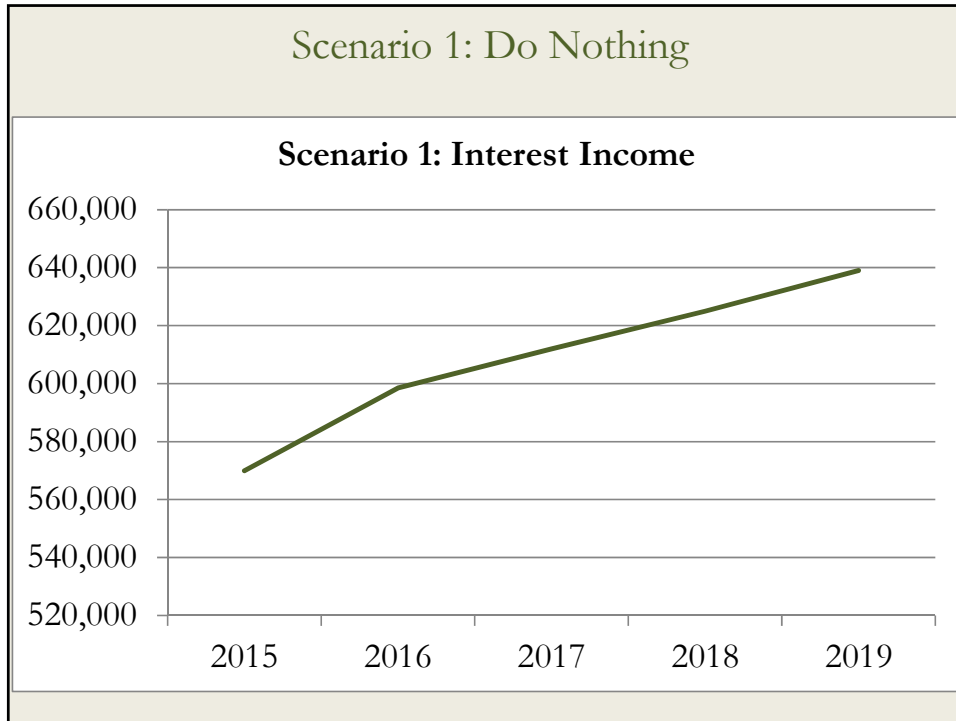
Scenario 1 Fiscal Note

DYNAMIC FISCAL NOTE		No Bill Number		2013 Interim	

SHORT TITLE: Sales Tax Exemption for Manufacturing Equipment Purchases, LT 3 Year Life
SPONSOR: No Sponsor   Note: Subject to change during the normal fiscal noting process

SCENARIO 1: DO NOTHING   SCENARIO 1

Revenue Dynamic Impact	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
General Fund Appropriation		($30,000,000)	($31,500,000)	($33,075,000)	($34,729,000)	($36,465,000)
General Fund Restricted		$30,000,000	$31,500,000	$33,075,000	$34,729,000	$36,465,000
Interest Income		$570,000	$598,500	$612,000	$625,000	$639,000
Jobs		0	0	0	0	0
Wages		$0	$0	$0	$0	$0
Gross Domestic Product (GDP)		$0	$0	$0	$0	$0

Scenario 2

Scenario 2: Spend the Money
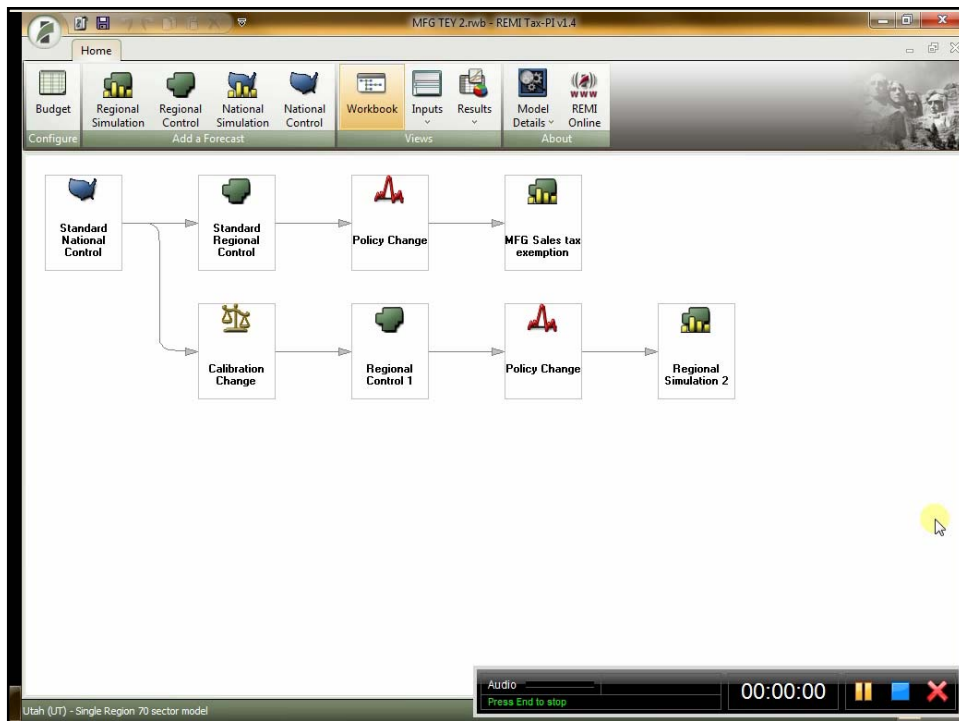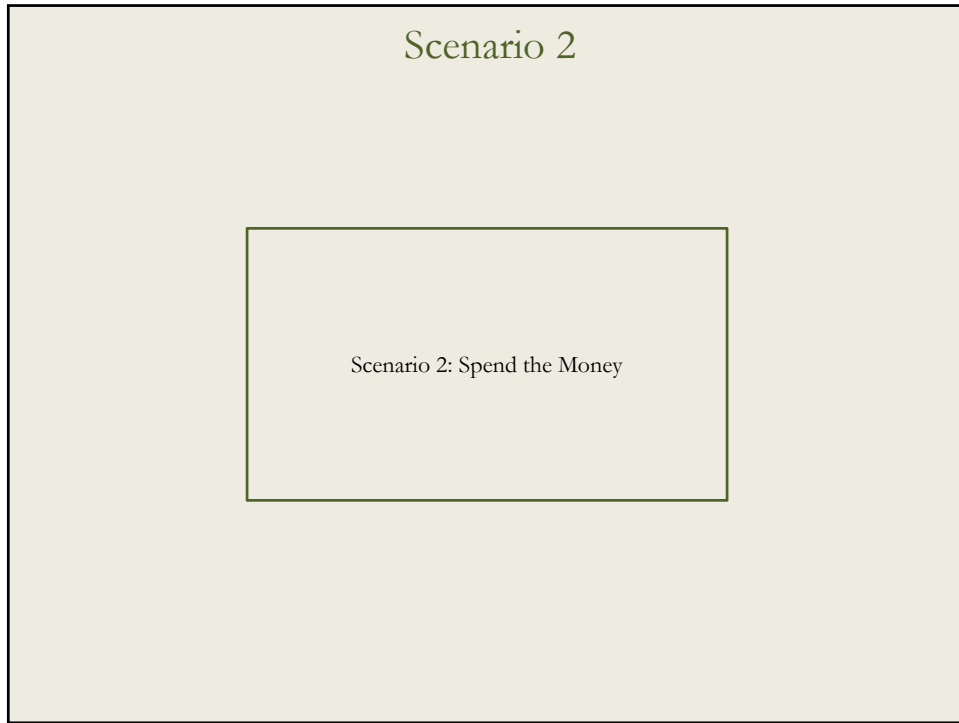
Scenario 2 Dynamic Fiscal Note

DYNAMIC FISCAL NOTE   No Bill Number   2013 Interim

SHORT TITLE: Sales Tax Exemption for Manufacturing Equipment Purchases, LT 3 Year Life

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SCENARIO 2: SPEND THE MONEY   SCENARIO 2

Revenue Dynamic Impact	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
General Fund/Education Fund		$ 1,473,000	$ 1,512,000	$ 1,592,000	$ 1,672,000	$ 1,711,000
Jobs		176	198	196	196	205
Wages		$12,000,000	$14,000,000	$16,000,000	$17,000,000	$18,000,000
Gross Domestic Product (GDP) (millions)		$37,000,000	$38,000,000	$40,000,000	$41,000,000	$42,000,000

Scenario 3

Scenario 3: Baseline Production Cost Effect
(Nominal private sector response)

Scenario 3 Dynamic Fiscal Note

DYNAMIC FISCAL NOTE   No Bill Number   2013 Interim

SHORT TITLE: Sales Tax Exemption for Manufacturing Equipment Purchases, LT 3 Year Life
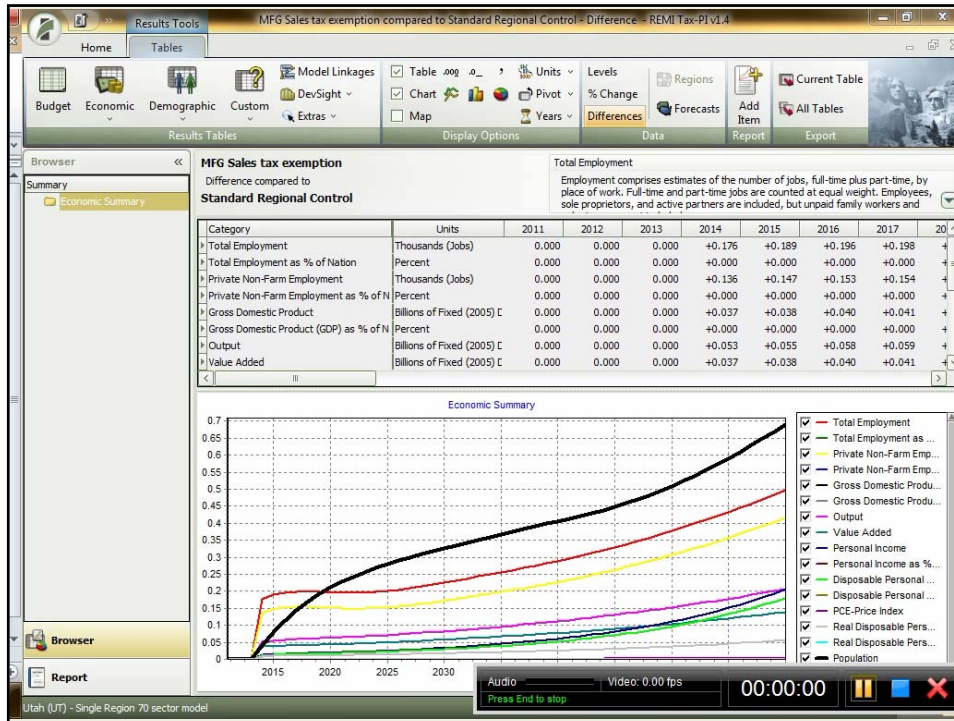SPONSOR: No Sponsor   Note: Subject to change during the normal fiscal noting process

SCENARIO 3: PRODUCTION COST EFFECT & REDUCED STATE SPENDING   SCENARIO 3

Revenue Dynamic Impact	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
General Fund/Education Fund, Static		($30,000,000)	($31,500,000)	($33,075,000)	($34,729,000)	($36,465,000)
General Fund/Education Fund, Dynamic		($28,627,000)	($29,490,000)	($30,468,000)	($31,544,750)	($32,724,188)
Jobs		295	448	572	675	760
Wages		$27,500,000	$36,500,000	$45,000,000	$53,000,000	$61,000,000
Gross Domestic Product (GDP)		$34,500,000	$50,500,000	$65,500,000	$80,000,000	$94,000,000

Scenario 4

Scenario 4: Behavioral Responses
(Reaction beyond production cost effect)

Scenario 4 Dynamic Fiscal Note

No Bill Number — 2013 Interim

SHORT TITLE: Sales Tax Exemption for Manufacturing Equipment Purchases, LT 3 Year Life
SPONSOR: No Sponsor — Note: Subject to change during the normal fiscal noting process

SCENARIO 4: COMPETITIVE EFFECTS WITH BEHAVIORAL RESPONSE & SCENARIO 3 — SCENARIO 4

Revenue Dynamic Impact	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
General Fund/Education Fund, Static		($30,000,000)	($31,500,000)	($33,075,000)	($34,729,000)	($36,465,000)
General Fund/Education Fund, Dynamic	$	(22,935,000) $	(20,834,000) $	(18,508,000) $	(15,685,000) $	(14,018,000)
Jobs		1,437	2,059	2,664	3,287	3,681
Wages		$78,500,000	$121,000,000	$166,500,000	$217,500,000	$258,500,000
Gross Domestic Product (GDP) (millions)		$177,500,000	$268,000,000	$366,000,000	$478,500,000	$564,000,000

Big Question:
Does it Pay for Itself?

Scenario 4: Statistics Background
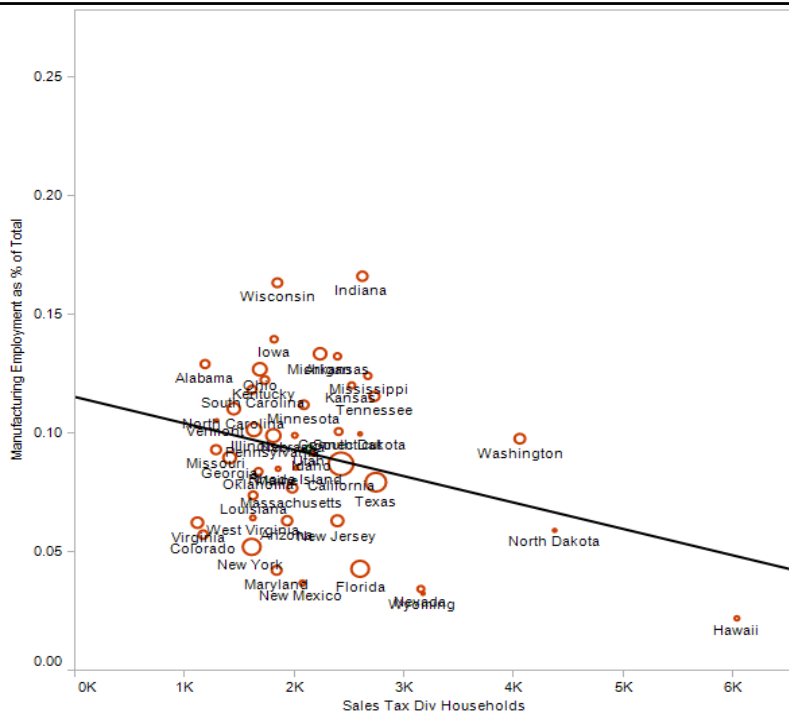
Scenario 4: Income Shift Between States

Econometrics – Manufacturing Capital Expenditures

```
R-sq:  within  = 0.2463                    Obs per group: min =        1
       between = 0.6797                                   avg =      4.5
       overall = 0.6535                                   max =        5

                                           Wald chi2(4)        =    42.87
corr(u_i, X)   = 0 (assumed)               Prob > chi2         =   0.0000

                                           (Std. Err. adjusted for 16 clusters in id)
```

lnmfgcapitalexpenditur~e	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf. Interval]	
lnmanufacturingmachinery	-.1075046	.0545699	-1.97	0.049	-.2144596	-.0005497
lnpopulation	1.254543	.2713217	4.62	0.000	.722762	1.786324
oilprice	-.0006809	.0016792	-0.41	0.685	-.003972	.0026102
naturalgasprice	.0725523	.0238365	3.04	0.002	.0258336	.119271
_cons	-12.40786	4.293405	-2.89	0.004	-20.82278	-3.992936
sigma_u	1.0753593					
sigma_e	.24249276					
rho	.95161066	(fraction of variance due to u_i)				

Econometrics – Manufacturing Employment

```
Random-effects GLS regression             Number of obs      =      680
Group variable: id                        Number of groups   =       36

R-sq:  within  = 0.6136                    Obs per group: min =        3
       between = 0.8574                                   avg =     18.9
       overall = 0.8569                                   max =       22
                                           (Std. Err. adjusted for 36 clusters in id)
```

lnmanufacturingemployment	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf. Interval]	
lnpopulation	.8335396	.1608534	5.18	0.000	.5182726	1.148807
naturalgasprice	-.0138804	.0038375	-3.62	0.000	-.0214018	-.006359
oilprice	-.0017547	.0005722	-3.07	0.002	-.0028762	-.0006333
totalstatetaxburden	-3.86e-12	2.36e-12	-1.63	0.102	-8.48e-12	7.68e-13
totalelectricityaverage~e	-.0109884	.0054064	-2.03	0.042	-.0215846	-.0003921
lnunemploymentrate	-.2388429	.0334796	-7.13	0.000	-.3044616	-.1732241
severancetaxdivhouseholds	.0000179	4.78e-06	3.75	0.000	8.57e-06	.0000273
incentivedirectlyrelated	.2792367	.2201814	1.27	0.205	-.1523109	.7107842
incentiveindirectlyrela~d	1.041626	.2964329	3.51	0.000	.4606283	1.622624
incentivemiddle	.0290133	.2446572	0.12	0.906	-.4505059	.5085325
_cons	-.8346446	2.141752	-0.39	0.697	-5.032401	3.363112

Costs per Year

10 – 20 dynamic fiscal notes per year	20-100 dynamic fiscal notes per year	100+ dynamic fiscal notes per year
REMI Multiplier software=$55,000 ($28,500 ongoing after year 3)	REMI Multiplier software=$55,000 ($28,500 ongoing after year 3)	REMI Multiplier software=$55,000 ($28,500 ongoing after year 3)
Databases = $3,000 to $45,000? Depends on topic or custom databases (current cost = $3,000)	Databases = $3,000 to $100,000? Depends on topic or custom databases (current cost = $3,000)	Databases = $3,000 to $150,000? Depends on topic or custom databases (current cost = $3,000)
Time = 1 hour to 1 week 1 hour = ~$60 per hour (already existing cost)	Time = 1 hour to 1 week 1 hour = ~$60 per hour (already existing cost)	Time = 1 hour to 1 week 1 hour = ~$60 per hour (already existing cost)
What can be done during session: If 2-3 page analysis with results, then a handful per session. More analysis may require additional resources	What can be done during session: If 2-3 page analysis with results, then a handful per session. More analysis may require additional resources	What can be done during session: If 2-3 page analysis with results, then a handful per session. More analysis may require additional resources
If needed, intern research analysts = $17,000 during session	Research analysts = $84,000	Research analysts = $252,000
Bottom line out of pocket: **$55,000** to $120,000	Bottom line out of pocket: $142,000 to $242,000	Bottom line out of pocket: $158,000 to $457,000

Conclusions

- Staff could probably do 10-20 dynamic fiscal notes each year
- The analysis would include backward linkages and updates on investment/spending multipliers using REMI Tax PI and relevant statistics