Using Detailed IRS Data on 'Net Misreported Income' to Estimate Minnesota's Income Tax Gap: *A Work in Progress*

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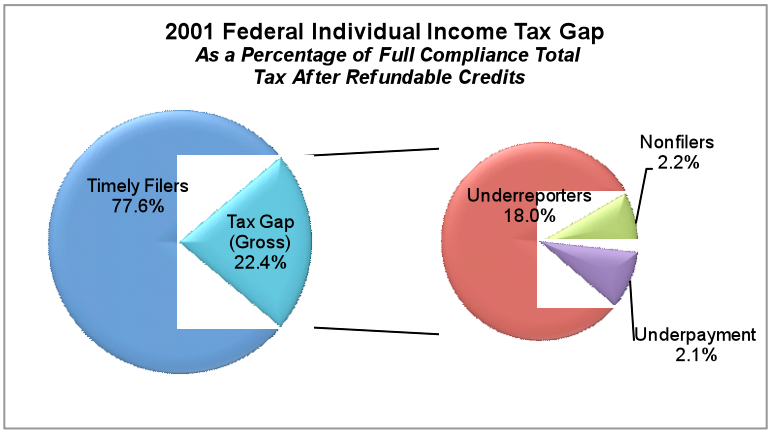
Outline

- Why?
- New Federal Data
- Modeling Strategy
- Preliminary Results & Problems
- Unresolved Issues & Future Work

What is the tax gap?



Net Tax Gap (less enforced/other late payments) = 19.4%

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Underreporting Tax Gap as Percent of Timely Filed Returns vs. Full Compliance

Tax After Refundable Credits

Gap as Percent of:	Federal Study
Timely Filed Returns	**23.1%**
Full Compliance	18.0%

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Minnesota's 2004 Study (Tax Year 1999)

- Estimated tax gap = 10.5% of the total owed.
- Methodology: Use Census to estimate income not reported to the IRS.

WARNING: While attempting to update this study, we discovered that its methodology was flawed. We no longer believe that the portions of the tax gap estimate derived from analysis of Census data are correct. **Please do not rely on this report's estimates of the total tax gap or its components.**

We need an alternative estimate.

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Federal Individual Income Tax Underreporting Gap Study (2001)

- Tax Year 2001 National Research Program (NRP) Individual Reporting Compliance Study.
- Stratified random sample of 46,000 returns.
- Results for 19 separate types of income (or deduction).
- Results reported by 16 income classes that mirror Statistics of Income bulletin.

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IRS Plans for Updating Study in the Future

- Currently conducting a 3-year study of approximately 13,000 individual taxpayers per year (TY06 – TY08).
- Plan to pool the data and update their estimates of the tax gap.
- Unsure if the new data will be used to generate tables similar to those for tax year 2001.

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Income Categories

Federal Tax Gap Study	MN Income Tax Simulation Model
Wages, Salaries & Tips	Wages (1040, line 7)
Taxable Interest Income	Taxable Interest Income (1040, line 8)
Dividend Income	Dividend Income (1040, line 9)
State Income Tax Refunds	State Income Tax Refund (1040, line 10)
Alimony Income	Alimony Received (1040, line 11)
Nonfarm Proprietor Income (Schedule C)	Business Income or Loss – Schedule C (1040, line 12)
Capital Gains	Capital Gains/Losses (1040, line 13)
Form 4797 Income (Other Gains or Losses)	Other Gains/Losses (1040, line 14)
Taxable IRAs, Pensions & Annuities	Taxable IRAs (1040, line 15b) Taxable Pensions (1040, line 16b)
Farm Income (Schedule F)	Farm Income or Loss – Schedule F (1040, line 18)
Unemployment Compensation	Taxable Unemployment Compensation (1040, line 19)
Taxable Social Security Benefits	Taxable Social Security Benefits (1040, line 20b)
Other Income	Other Income or Loss (1040, line 21)

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Income Categories (cont'd)

Federal Tax Gap Study	MN Income Simulation Model
Rents and Royalties (Schedule E, Page 1)	Rental and Royalty Profit (Schedule E, line 24) Rental and Royalty Loss (Schedule E, line 25)
Partnership, S-Corp, Estate & Trust, etc. (Schedule E, Page 2)	Partnership Gain (Schedule E, line 30) Partnership Loss (Schedule E, line 31) Estate Gain (Schedule E, line 35) Estate Loss (Schedule E, line 36) REMIC Income (Schedule E, line 39) Farm Rental Profit/Loss (Schedule E, line 40)
Adjustments to Income (other than self-employment tax deduction)	Adjustments (1040, line 36 minus line 27)
Self-Employment Tax Deduction	Self-Employment Tax Deduction (1040, line 27)
Itemized Deductions	Itemized or Standard Deduction (1040, line 40)
Exemptions	Exemption Amount (1040, line 41)
Credits	MN Earned Income Credit (refundable) MN Dependent Care Credit (refundable) MN K-12 Credit (refundable)

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Wages, Salaries, and Tips

Level of "Reported" AGI	Number of Returns in Sample	Weighted Number of Returns (Thousands)	Reported Amount ($M)	True Amount ($M)	Net Misreported Amount ($M)	Net Misreporting Percentage	Tax Gap ($M)
No adjusted gross income	714	833	4,672	5,303	632	12%	100
$1 under $5,000	1,528	12,016	26,534	30,354	3,955	13%	246
$5,000 under $10,000	1,986	11,765	67,178	73,500	6,501	9%	633
$10,000 under $15,000	3,185	11,152	103,216	109,881	6,829	6%	953
$15,000 under $20,000	2,336	11,073	146,891	153,063	6,744	4%	1,085
$20,000 under $25,000	1,935	9,794	183,428	188,759	5,502	3%	1,076
$25,000 under $30,000	2,082	8,469	192,459	196,597	4,183	2%	821
$30,000 under $40,000	3,286	13,216	376,175	380,731	4,895	1%	1,115
$40,000 under $50,000	2,852	10,591	393,451	397,177	4,071	1%	961
$50,000 under $75,000	4,761	17,211	838,466	842,355	4,649	1%	1,150
$75,000 under $100,000	2,570	8,963	618,183	621,845	4,019	1%	1,089
$100,000 under $200,000	3,529	8,198	806,358	808,984	2,487	#	766
$200,000 under $500,000	4,003	2,000	359,795	360,757	1,008	#	349
$500,000 under $1,000,000	966	336	117,493	117,587	91	#	35
$1,000,000 under $2,000,000	601	120	64,287	64,458	171*	#*	67*
$2,000,000 or more	335	71	150,366	150,490	125*	#*	49*
Total	**36,699**	**125,808**	**4,448,952**	**4,501,242**	**58,863**	**1%**	**10,493**

*** Based on fewer than 10 observations**

 # Rounds to zero

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Net Misreporting Percentages can be Large and Vary Significantly Between Income Classes

Income Type	Lowest NMP	Highest NMP	Total NMP
Wages	<1%	13%	1%
Sole Proprietor	19%	101%	57%
Capital Gains	<1%	59%	12%
Other Gains and Losses (1040, line 14)	<1%	105%	64%
Farm Income	34%	93%	72%
Rents & Royalties (Schedule E, Page 1)	7%	98%	51%
Partnership, S-Corp, Estate & Trust (Schedule E, Page 2)	1%	90%	18%

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Is it worth the effort to use the detail by reported FAGI range?

- Other states have used the total NMPs, rather than the detail by FAGI. (Example: Oregon)
- Because the NMPs vary so greatly by income class – and generally fall as income rises – use of detail might produce significantly different estimates of the tax gap.

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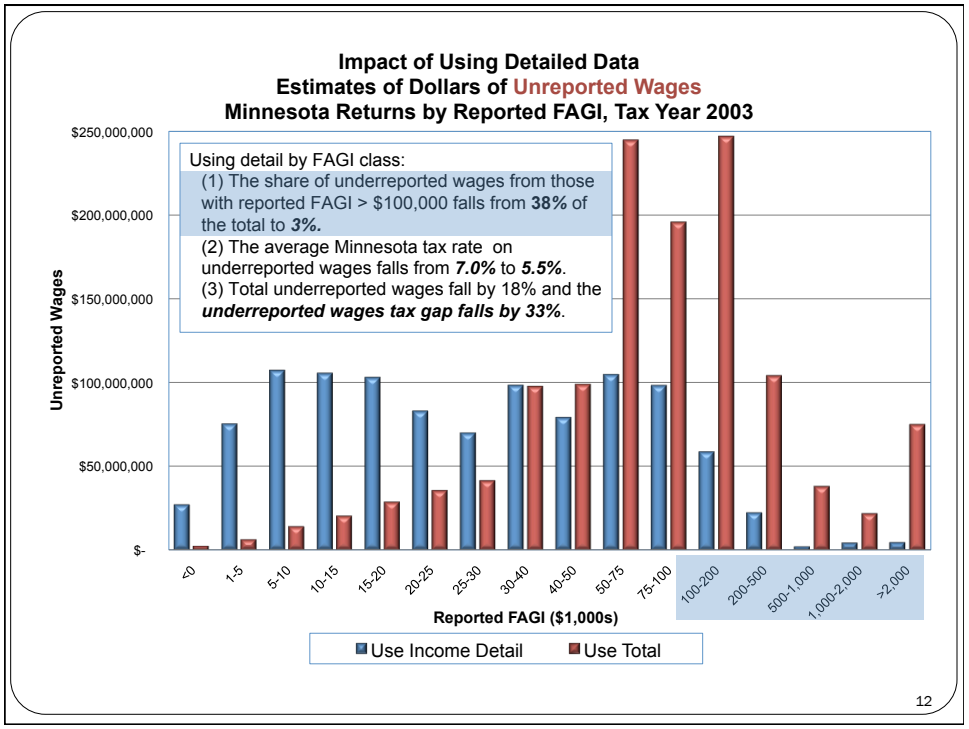
Impact of Using Detailed Data
Estimates of Dollars of Unreported Wages
Minnesota Returns by Reported FAGI, Tax Year 2003
Using detail by FAGI class:
(1) The share of underreported wages from those with reported FAGI > $100,000 falls from 38% of the total to 3%.
(2) The average Minnesota tax rate on underreported wages falls from 7.0% to 5.5%.
(3) Total underreported wages fall by 18% and the underreported wages tax gap falls by 33%.
Unreported Wages
$250,000,000
$200,000,000
$150,000,000
$100,000,000
$50,000,000
$-
<0
1-5
5-10
10-15
15-20
20-25
25-30
30-40
40-50
50-75
75-100
100-200
200-500
500-1,000
1,000-2,000
>2,000
Reported FAGI ($1,000s)
Use Income Detail
Use Total
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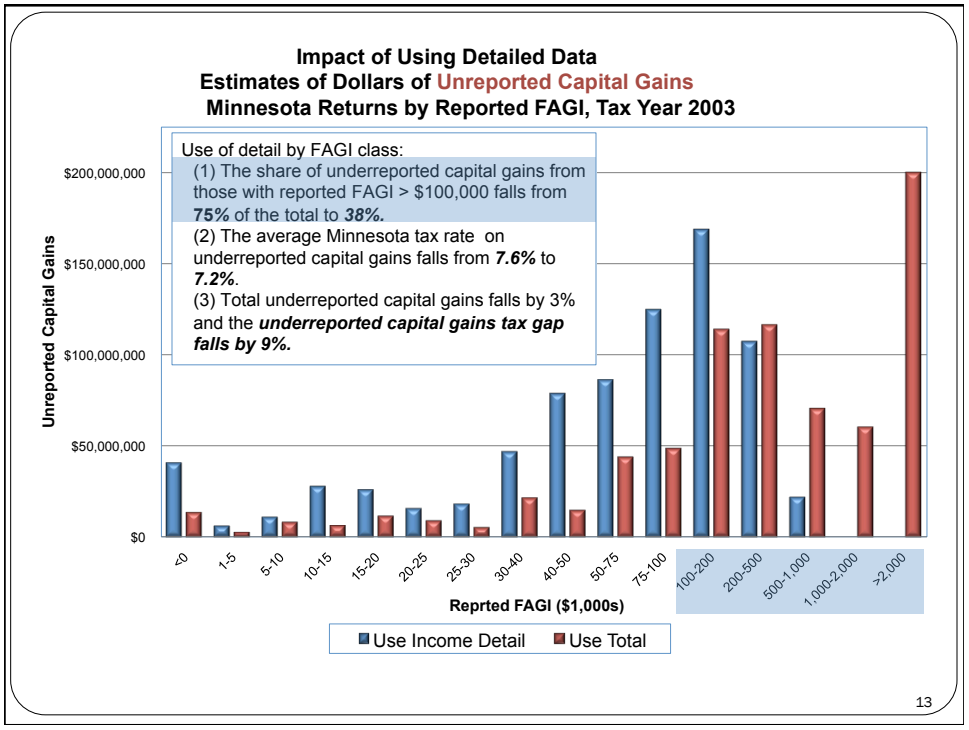
Impact of Using Detailed Data
Estimates of Dollars of Unreported Capital Gains
Minnesota Returns by Reported FAGI, Tax Year 2003
Use of detail by FAGI class:
(1) The share of underreported capital gains from those with reported FAGI > $100,000 falls from 75% of the total to 38%.
(2) The average Minnesota tax rate on underreported capital gains falls from 7.6% to 7.2%.
(3) Total underreported capital gains falls by 3% and the underreported capital gains tax gap falls by 9%.
Unreported Capital Gains
$200,000,000
$150,000,000
$100,000,000
$50,000,000
$0
<0
1-5
5-10
10-15
15-20
20-25
25-30
30-40
40-50
50-75
75-100
100-200
200-500
500-1,000
1,000-2,000
>2,000
Reprted FAGI ($1,000s)
Use Income Detail
Use Total
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Minnesota Income Tax Simulation Model

- Annual stratified random sample.
- Study methodology: Simulate full compliance by increasing each type of income (reducing each deduction) by enough to match the federal NMP.
  - Model each item separately.
  - Model all items simultaneously.
- Tax Gap estimate = Change in Minnesota tax (after credits).
- Used all federal detail for NMPs *except those for*:
  - Personal/dependent exemptions.
  - Tax credits (but Minnesota tax credits did fall significantly due to added income).
- Did not model misreporting of Minnesota additions and subtractions.

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Assumptions

- Minnesota taxpayer behavior is identical to national average.

- Everyone underreports a little.
- 2001 is a representative tax year.

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Why Model for Tax Year 2003?

- Did not use 2001 because we have no sample for that year!
- Use 2003 rather than a more recent year because nonfiler gap is being estimated for 2003.

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Definition of "Net Misreporting Percentage" (NMP)

- For types of income that can only be positive:

  NMP = Misreported Income / True Income

  = k(reported income) / (1+k)(reported income)

  so k = NMP/(1-NMP)

- For wages, if NMP = 0.05 then

  Change in Reported Wages

  = NMP/(1-NMP) = 0.05/0.95 = 0.0526

  or increase by 5.26%

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Definition of "Net Misreporting Percentage" (NMP) (cont'd)

- For deductions (that can only reduce income):
  NMP = Misreported Deductions / True Deductions

- For itemized deductions, if NMP = -0.20 then
  Change in Reported Deductions
  = NMP/(1-NMP) = -0.20/(1-(-0.20)) = -0.1667
  or reduce by 16.67%

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Definition of "Net Misreporting Percentage" (NMP) (cont'd)

- For types of income that can be *either positive* (gains) *or negative* (losses):

$$\text{NMP} = \frac{\text{Misreported Income}}{\text{True Gains + abs(True Losses)}}$$

(This is generally positive)

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Calculating Full Compliance Income

- For sole proprietor income, if:
  - Reported gains = $5,000
  - Reported losses are $3,000
  - NMP = 0.70

Then there are – unfortunately – many possibilities!

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Two Possible Methods Consistent with NMP = 0.70:

- **Increase gains by 85%** and **reduce losses by 85%**. Net income rises by $6,800. With true losses of $450 and true gains of $9,250, NMP would = 0.70.

"Equal Percentage Option"

- **Increase gains by** 0.70/(1-0.70) = **233%** and **cut losses by** 0.7/(1+0.7) = **41%**. Net income rises by $12,880. With true losses of $1,770 and true gains of $16,650, NMP would = 0.70.

"Equal NMP Option"

So … Is net income underreported by $6,800?
Or by $12,880?

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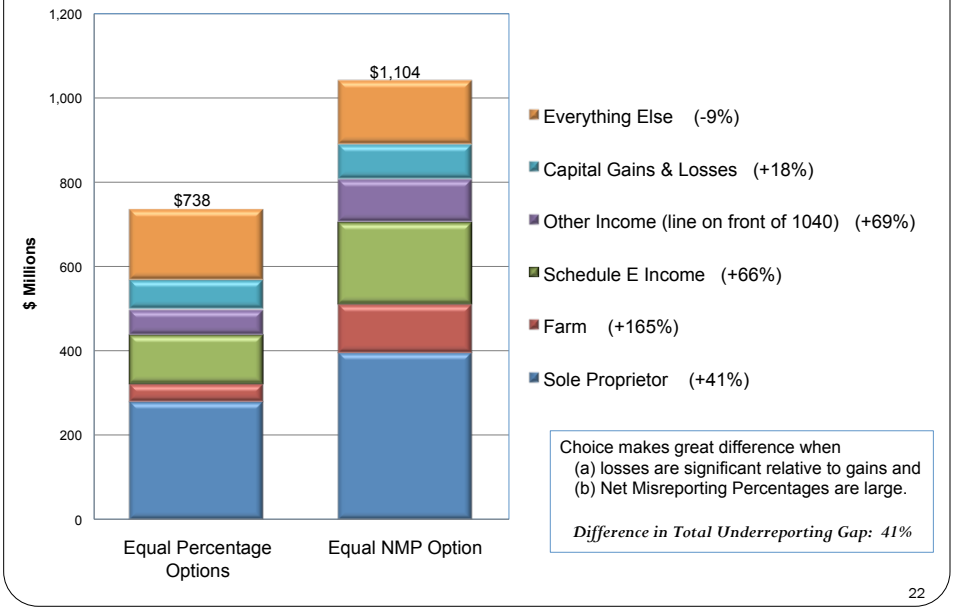
Impact of Alternative Assumptions on Treatment of Losses

Minnesota Underreporting Tax Gap, Tax Year 2003



Choice makes great difference when
(a) losses are significant relative to gains and
(b) Net Misreporting Percentages are large.

Difference in Total Underreporting Gap: 41%

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Preliminary Results
Gross Underreporting Gap

Tax After Refundable Credits

Gap as Percent of:	MN with FAGI Detail	MN without FAGI Detail	Federal Study
Timely Filed Returns	13.9%* "Equal Percentage" 19.6%* "Equal NMP"	15.7% "Equal Percentage" 19.6% "Equal NMP"	23.1%
Full Compliance	?% "Equal Percentage" ?% "Equal NMP"	?% "Equal Percentage" ?% "Equal NMP"	18.0%

*Results for residents only with FAGI detail (as percent of timely-filed returns):
12.7% "Equal Percentage"
18.4% "Equal NMP"
We have more faith in the simulation results for residents.

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Which Method is Best?

- Some observations that favor the "Equal Percentage" Option:
  - The "Equal NMP" option gives unreasonable results if NMP>100%.
    - The calculated change in gains is NEGATIVE because NMP/(1-NMP)<0.
  - "Equal Percentage" shows, as expected, that using detail by FAGI shrinks the estimated tax gap. (It falls by 13%). With "Equal NMP," using detail by FAGI has no impact.

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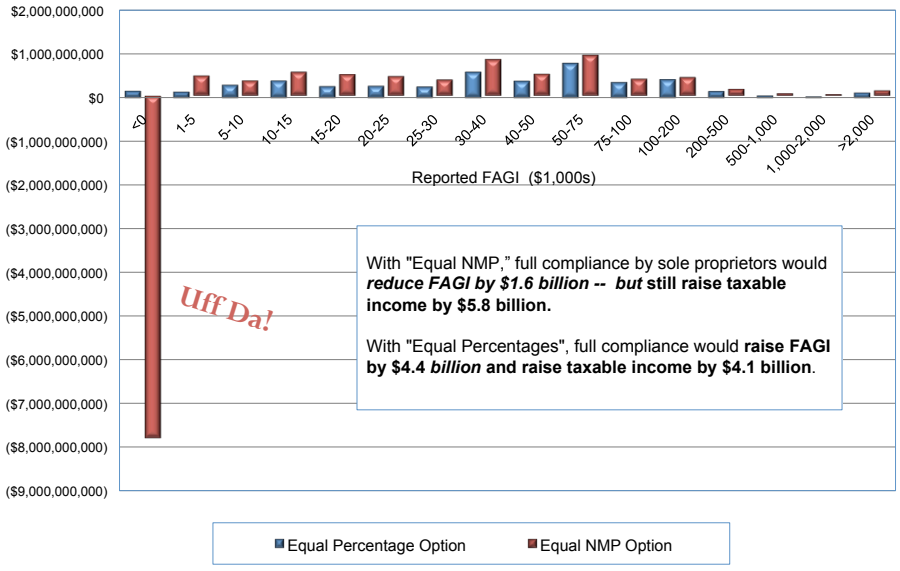
Impact of Choice of How to Shrink Losses vs. Grow Gains
Estimated Total Dollars of Underreporting of Sole Proprietor Income
Minnesota Filers by Reported FAGI, Tax Year 2003



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- On the other hand:
  - Which option best matches the results of the federal study for the troublesome types of income?
    - "Equal Percent" produces increases that are generally smaller than in federal study.
    - "Equal NMP" increases are generally larger.
    - Each is better for some income types, worse for others.
  - What about **our** model's estimates of the **federal** tax gap?
    - "Equal NMP" is the clear winner. Tax gap of 22.5% (for residents) only slightly below the IRS estimate (23.1%). ("Equal NMP" federal gap estimate is only 15.5%.)
    - Worry, because rarely used to model federal revenue changes.
- Best Solution? Persuade the IRS to provide separate NMPs for gains and losses?

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