



Who Pays Maine Use Tax?

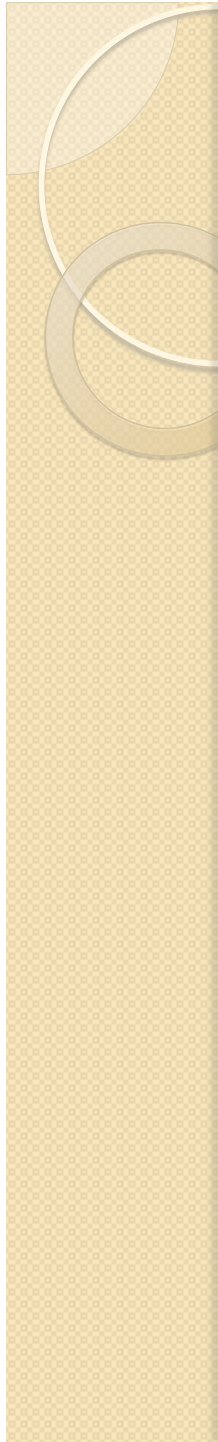
David Gunter
Maine Revenue Services

Disclaimer: This presentation does not represent the views of Maine Revenue Services or the state of Maine.



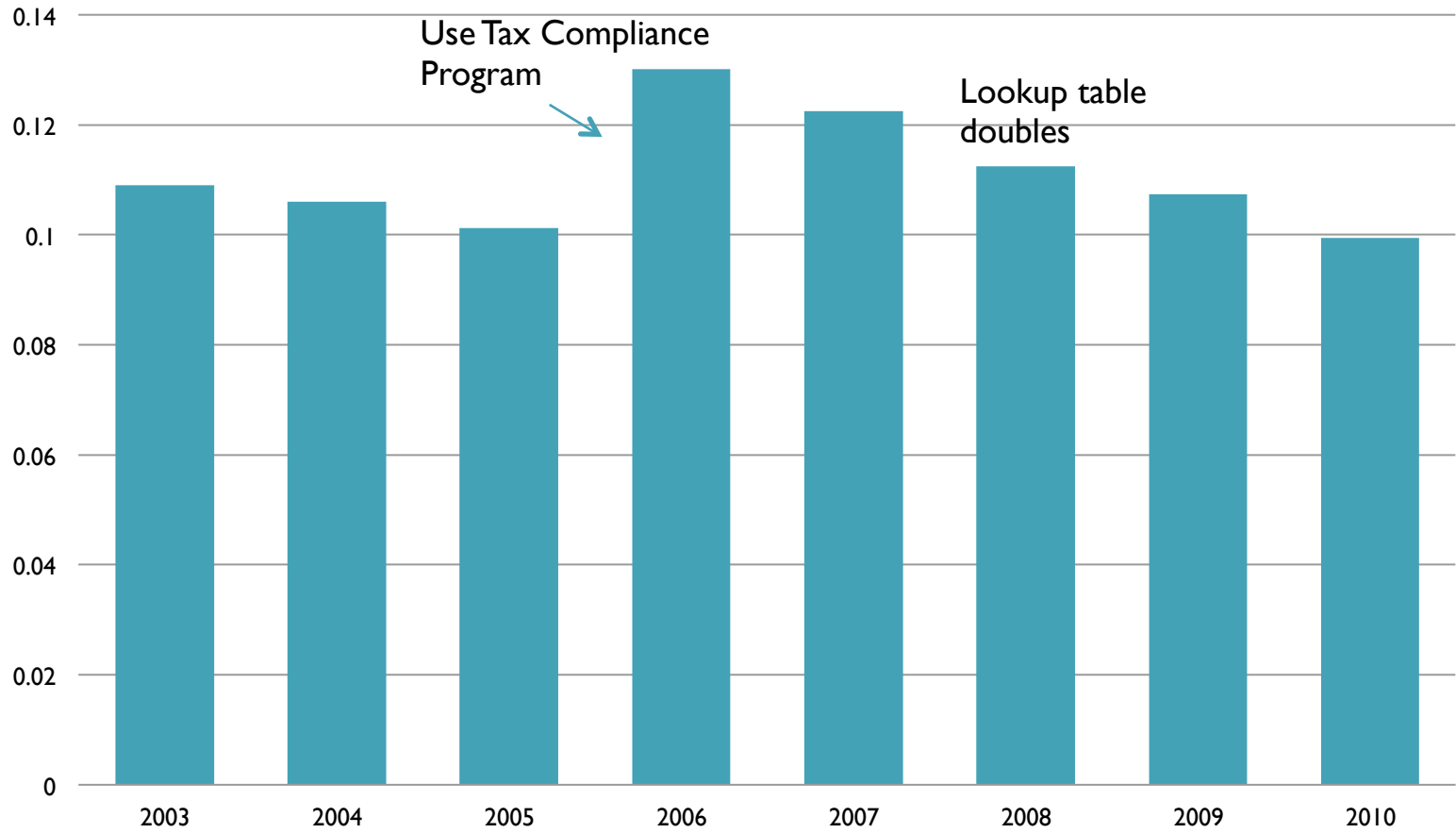
Maine use tax background

- 5% rate
- Optional lookup table on income tax return = .08% of Maine Adjusted Gross Income for purchases under \$1,000; was .04% of MAGI before 2008
- Over 85% who paid use tax used the table between 2003-2007, now slightly above 75%



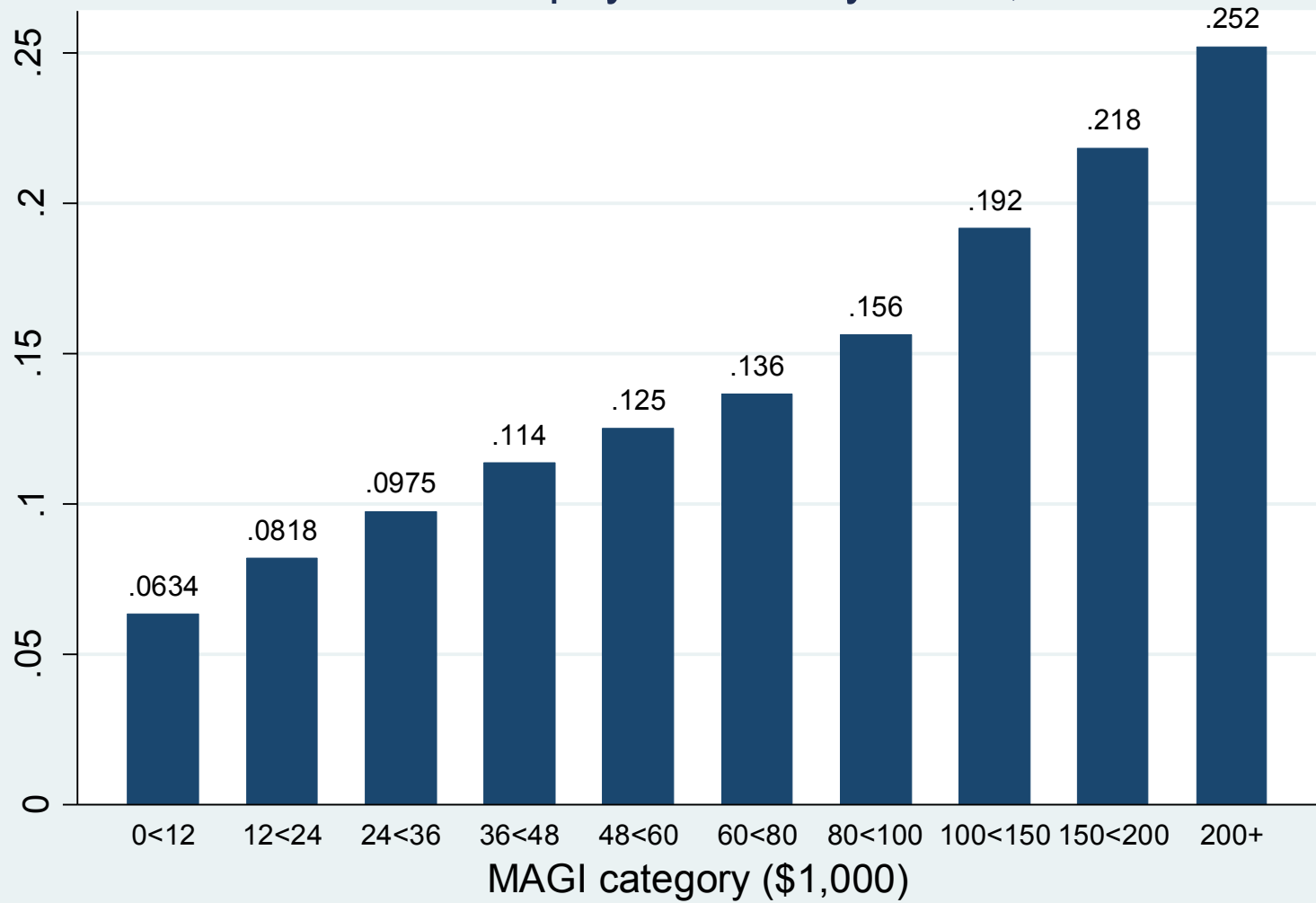
Fraction pay use tax

Resident, Exemption>0, Maine Address, MAGI>0





Fraction who pay use tax by MAGI, 2008





Maine use tax background (cont)

- Many taxpayers pay use tax at some point in time
 - Balanced panel 2003-09: 12.3% – 16.3% annual payment rates but 26.3% paid in at least one year

Use tax payment is persistent

**Distribution of number years pay use tax after the first year
use tax payment is observed, balanced panel 2003-09**

Number of years paid use tax after first observed payment, through 2009

Year first observed use tax	0	1	2	3	4	5	6
2003	0.106	0.084	0.072	0.081	0.105	0.148	0.405
2004	0.276	0.143	0.117	0.121	0.136	0.208	
2005	0.320	0.175	0.140	0.128	0.238		
2006	0.348	0.188	0.155	0.309			
2007	0.506	0.225	0.270				
2008	0.598	0.402					



Question

- What are the characteristics of taxpayers who pay use tax and what does that tell us about tax compliance?



Motivation

- Academic Tax Compliance Literature
 - Do intrinsic motives influence tax compliance?
 - Very weak extrinsic compliance motives for use tax compliance
 - Intrinsic motives used by many to explain high level of U.S. tax compliance
 - Existing research primarily uses survey and experimental evidence
 - Disagreement in literature
 - How do tax preparers influence tax compliance?
 - When no ambiguity, evidence suggests that preparers increase compliance
 - What about situation where little ambiguity but near zero chance of evasion detection?
 - Framing Effects: How does income tax balance at filing or filing method (paper vs. electronic) influence taxpayer decisions?



Motivation (cont)

- Tax Administration/Policy
 - If intrinsic motives matter, work to foster these motivations
 - Large psychology literature about extrinsic motives crowding out intrinsic motives; some economists (Feld and Frey) have extended this idea to tax compliance
 - But results too speculative, tax too small to put large weight on the results
 - Evidence that form design matters
 - Evidence on the influence of preparers on use tax payment, but no implications for how to influence preparer behavior



Overview of results

- Large (relative to income) charitable donors who itemize much more likely to pay use tax
- Self-prepared returns much more likely to pay use tax compared to returns with a paid preparer
 - Very unlikely to be a selection effect, e.g. differences in payment rates are not caused by nonrandom assignment of taxpayers to preparers
- Income tax balance at filing negatively associated with probability of paying use tax
- Significant differences in payment probability for self-prepared returns by filing method (paper, I-file, E-file)



Baseline estimates: Linear probability model

Use tax payment (0/1) modeled as linear function of :

- Linear spline in income with 10 notch points and separate intercepts; income groups interacted with dependent exemption dummy variable
- Filing status
- Dependent exemptions (0, 1, more than 1)
- Schedule C return with receipts >\$10k (0/1)
- State or local government employee (0/1)
- Head or spouse is 65+
- Zip code fixed effects
- And the characteristics that I am about to discuss



Baseline estimates: Linear probability model (cont)

Estimation using population of Maine resident income tax returns that

- Claim at least one exemption
- Have positive Maine Adjusted Gross Income
- Have a Maine address

Charitable contribution estimates, 2008

	Share of returns	Pay use tax	Probability pay use tax, relative to itemizer with no charitable contributions	
			Unadjusted difference	Regression- adjusted difference
Do not itemize	64.6%	9.0%	-0.8%	1.4%
Itemize, no charitable contributions	8.6%	9.9%		
Positive contribution/FAGI:				
First quartile	6.7%	15.5%	5.6%	2.0%
Second quartile	6.7%	15.4%	5.6%	2.4%
Third quartile	6.7%	16.8%	6.9%	3.7%
Fourth quartile	6.7%	19.5%	9.6%	7.4%



Challenges to interpretation

- Do estimates reflect variation in compliance motivation by charitable giving?
 - Charitable donors overcome free rider incentives in charitable donation context and tax compliance
 - Charitable donors have civic/social values that positively influence compliance
- Or are there other reasons that charitable donors, conditional on observables, are more likely to pay use tax?
 - Awareness of the law
 - Use tax liability
 - Perceptions of the enforcement regime

Paid preparer estimates, 2008

	Share of returns	Pay use tax	Unadjusted difference	Regression-adjusted difference
Self-prepared return	45.5%	15.0%		
Use paid preparer	54.5%	8.0%	-7.0%	-8.4%

Probability pay use tax, relative to self-prepared return



Challenge to interpretation

- Selection effect: taxpayers who hire preparers prioritize minimizing tax liability
- Investigate two ways:
 - Examine effect of switching between preparer and self-prepared
 - Examine the distribution of the fraction of preparer's clients who pay use tax



Switching between preparer and self-prepared

- Analysis based on taxpayers who filed with positive AGI in every year 2003-2009.
- Assumption: Switching to or from a preparer is unrelated to a change in the taxpayer's predisposition to paying use tax
- Baseline Group: Taxpayer who did not hire a preparer in 2008 or 2009
 - If paid use tax in 2008, 78.8% probability paid use tax in 2009
 - If did not pay use tax in 2008, 4.4% probability paid use tax in 2009

Switching between preparer and self-prepared (cont)

Probability of paying use tax in 2009 relative to baseline group

Hired a paid preparer in:			Paid use tax in 2008?	
2008	2009	Any year 2003-07	Yes	No
No	Yes	No	-0.446	-0.010
No	Yes	Yes	-0.281	-0.016
Yes	No	Maybe	-0.214	0.013
Yes	Yes	Maybe	-0.027	-0.027



Use tax payment rates by preparer

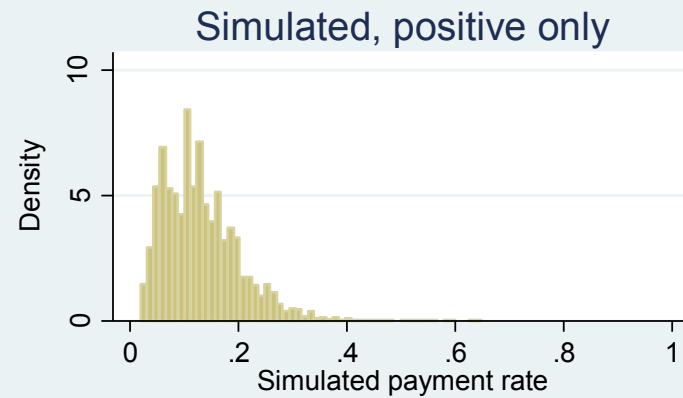
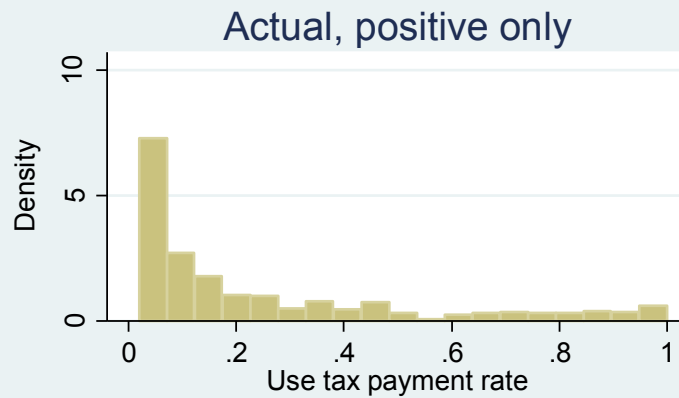
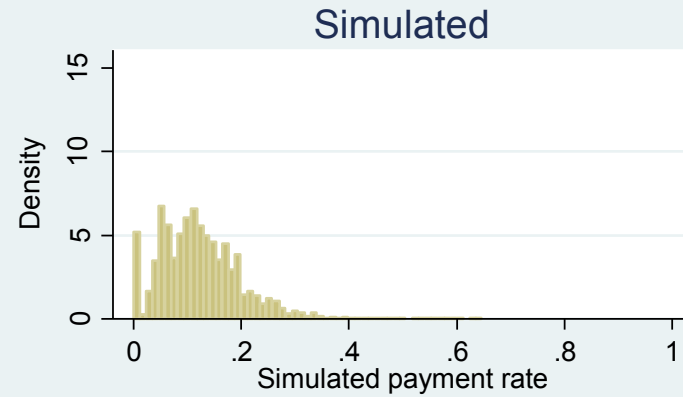
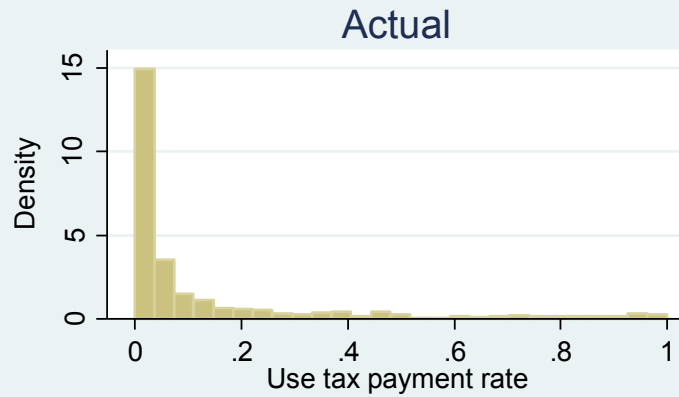
- Examine the distribution of the fraction of returns with use tax payment by preparer
 - What does this distribution like if
 - Preparers do not influence use tax payment
 - Conditional on observables and hiring a preparer, taxpayers are randomly assigned to preparers with respect to their predisposition to pay use tax
 - What does this distribution actually look like?



Use tax payment rates by preparer (cont)

- Limit sample to preparers with 15-50 resident returns
- Estimate probability of each return paying use tax
- Create 450 replicate samples where each taxpayer pays use tax with this estimated probability; calculate fraction of each preparer's clients who pay use tax
- Actual distribution:
 - Almost half of preparers do not have a single client who pays use tax, many other have just a few clients that pay
 - For 5.6% of preparers, the fraction of clients who pay use tax is 60 percentage points higher than predicted
- Simulated distribution: Does not have these tails!

Distribution of predicted and actual use tax payment rates by preparer



Framing effects: Income tax balance

Use Tax Payment Rate by Income Tax Balance

Estimates are relative to taxpayer with refund of less than \$100

Amount owe/refund	Refund due	Owe income tax
\$1-\$100		0.007
\$101-\$500	0.007	-0.003
\$501-\$1,000	0.013	-0.007
Greater than \$1,000	0.030	-0.026

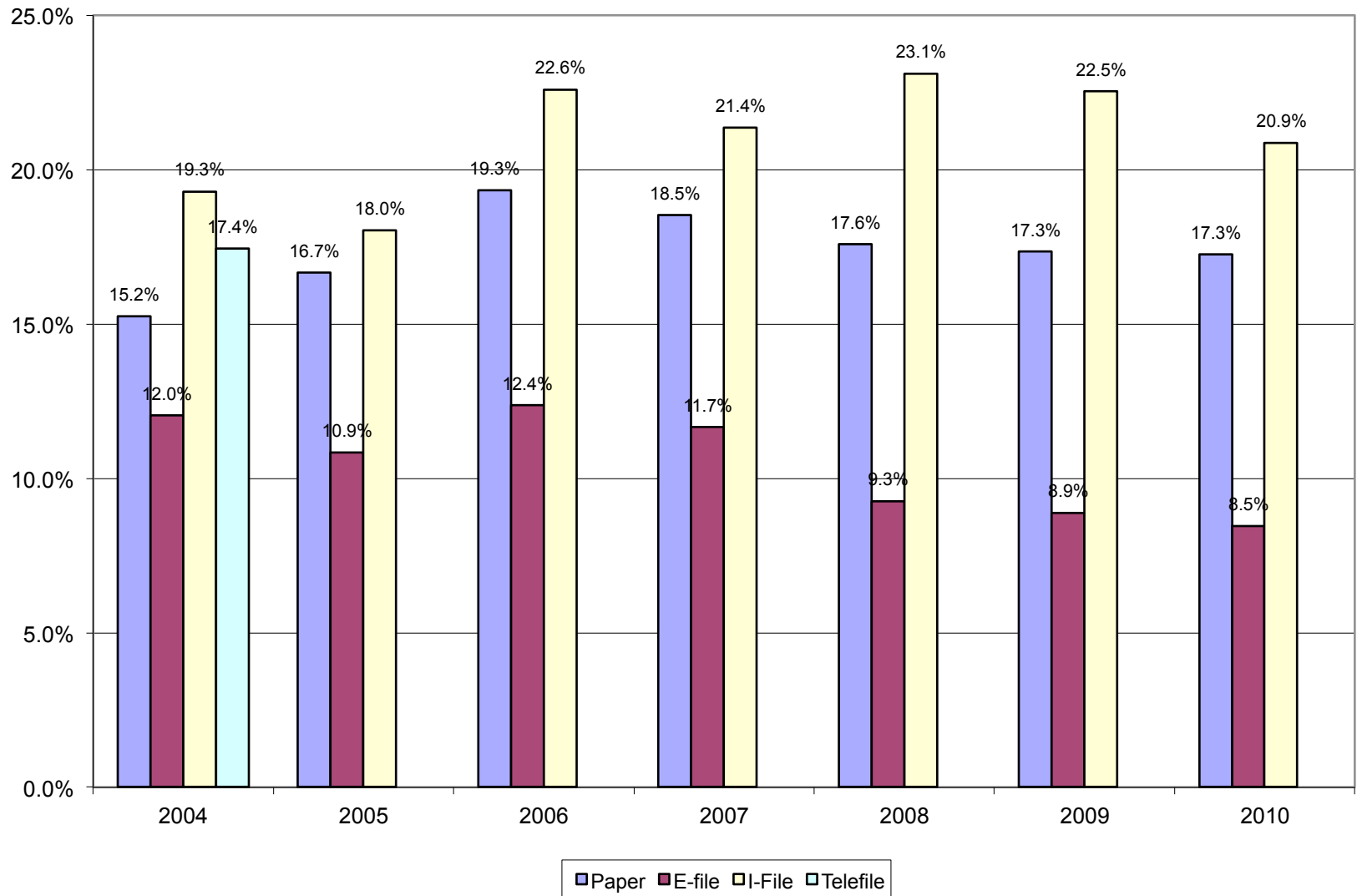


Framing effects: Filing Method

- Look at self-prepared returns only
- I-File= File on Maine Revenue Services web page

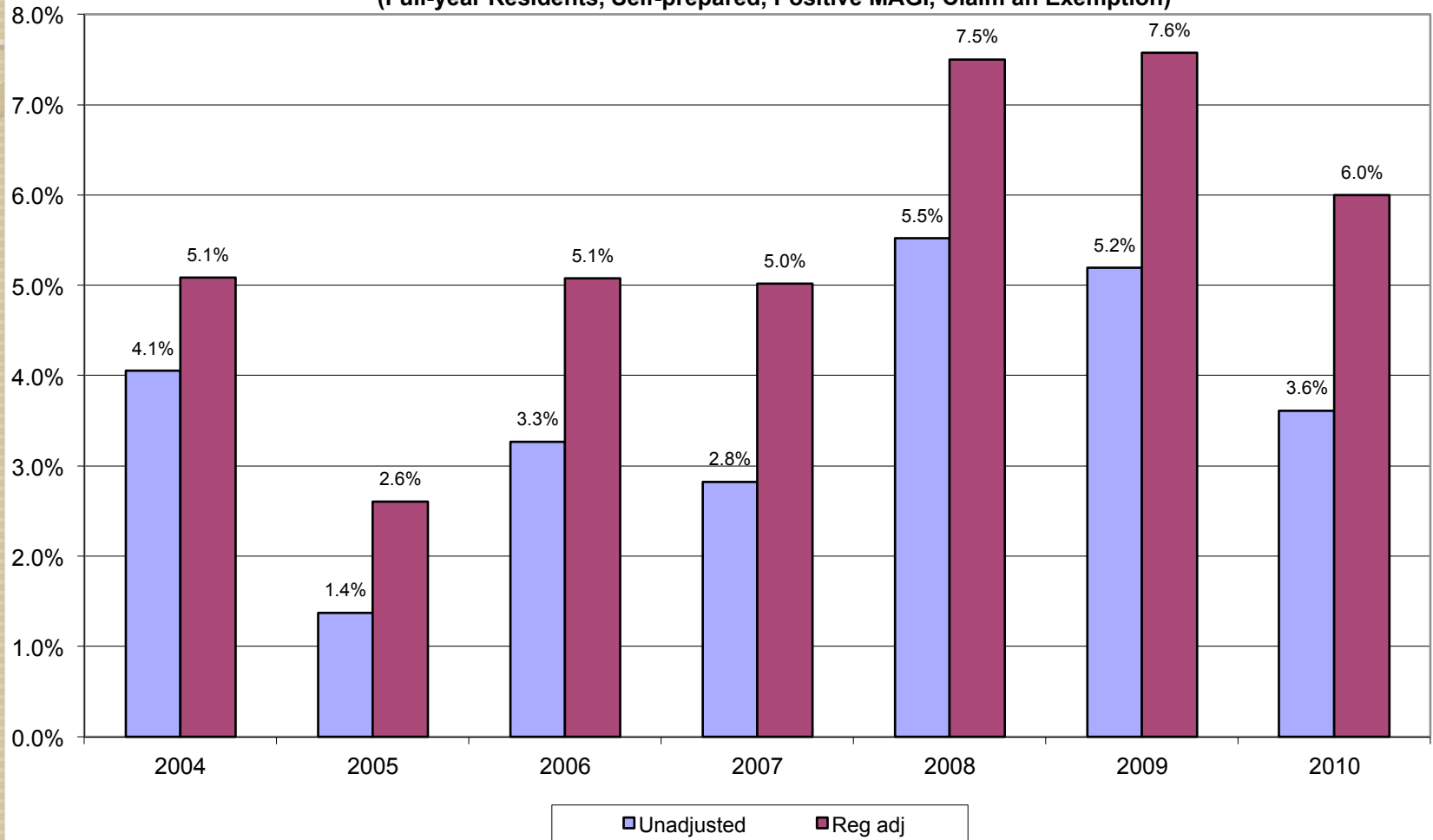
Use tax payment rate on income tax return

(Full-year Residents, Self-prepared, Positive MAGI, Claim an Exemption)



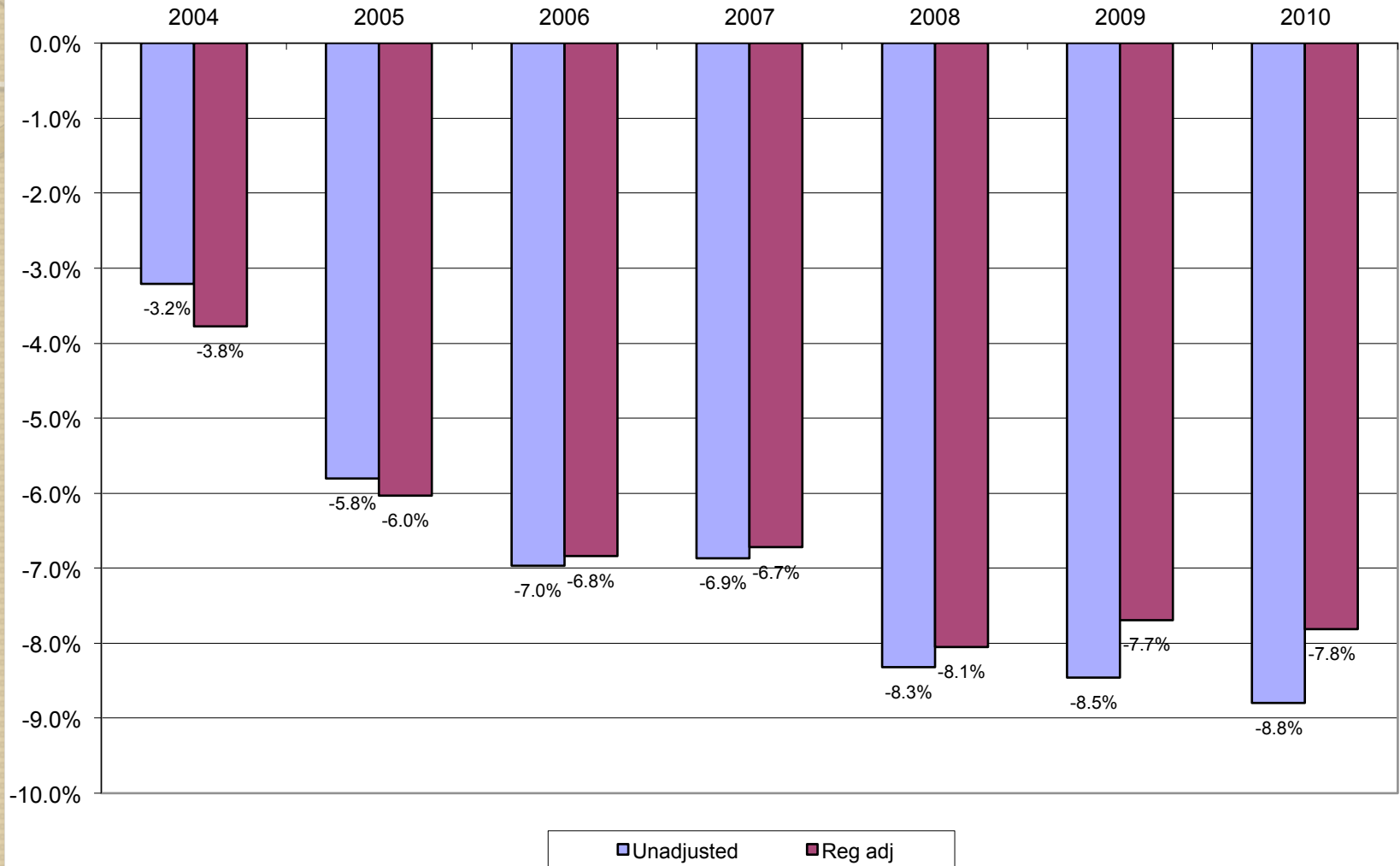
Probability of paying use tax On I-File return relative to paper filers

(Full-year Residents, Self-prepared, Positive MAGI, Claim an Exemption)



Probability of paying use tax on E-File returns relative to paper filers

(Full-year Residents, Self-prepared, Positive MAGI, Claim an Exemption)





Switching filing method

- Balanced panel 2003-09, self-prepared each year
 - If the taxpayer paid use tax in the previous year, then:
 - Maintaining the same filing method maximizes the probability of use payment
 - Switching from paper to E-file associated with 16 percentage point drop in use tax payment probability (77% pay overall)



Switching filing method (cont)

- If the taxpayer did not pay use tax in the previous year, then:
 - Always at least one alternative filing method that increases the probability of paying use tax
 - For example, if I-file in the previous year and did not pay, then E-file and/or paper would increase probability of paying use tax)
- Bottom line: Changing filing method increases your probability of changing whether or not you pay use tax
 - Suggests form design matters



Conclusion

- Generalizability?
 - Average positive use tax is about \$50, 90th percentile is \$95
- Form design matters is probably most generalizable result
- Would be nice if I had measures of true use tax liability or awareness of use tax obligations along several of the taxpayer attributes examined, such as charitable contributions