CULTURE , COMPLIANCE, AND CONFIDENTIALITY: A STUDY OF TAXPAYER BEHAVIOR IN THE US AND ITALY

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Overview

- Issue at hand
- Brief set up of theory
- Empirical analysis—based on a laboratory experiment
- Operationalizing “confidentiality/shaming” in the lab experiment
- Current state of results and implications

What is the issue?

- Concerning movements in the level of noncompliance in the individual income tax
  - Evasion concerns and NOT avoidance
  - Perception of plateau in US and possible uptick in Italy
- "Stubborn" statistics on the level of evasion don't want to move
  - Relatively solid theoretical foundation we'll briefly discuss
- What policy levers exist to increase individual income tax compliance?
  - Traditional: tax, penalty, and audit rates
  - Lots of interest in "shaming" as a means to increase compliance in the U.S.—particularly at the state level
    - Why? We thought it was interesting that shaming has been discussed so much: low cost (?), politically popular?, other reasons?

- “Intuitively” and referring to a relatively solid theoretical foundation:
- What policy levers exist to increase individual income tax compliance?
  - Traditional: tax, penalty, and audit rates
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How to measure shaming and confidentiality

- Shaming is effectively a “breach” of confidentiality when a social contract (compliance) has already been “breached”
- Effectively, the tax authority discloses taxpayer information to the public once evasion has been discovered
- Disclosure is not a foreign concept in tax policy:
  - Until the mid-1970s, corporations tax returns were noticeably public
  - Politicians frequently release tax info (Mitt Romney…)
- State governments seem to lead the way in the US in terms of more aggressive shaming:
  - GA:http://dor.georgia.gov/delinquent-taxpayer-list
  - WV: Corporate tax liabilities listed once in circuit court

Evidence?

Very few studies of the impact of disclosure on tax compliance

- Wallace and Laury (2005) did an earlier experiment and found some effect of disclosing information of anonymous ID number.
- Coricelli et al (2010) conduct a disclosure and pictures treatment - find evidence of people getting upset and increasing compliance
- Slemrod, Thoresen, and Bø (2012) study a Norway natural experiment on disclosure—found slight increase in reporting of income
- Hasegawa et al (2013) on returns in Japan using a “disclosure threshold” found underreporting of income (observational empirical estimate using actual tax returns)
- Blaufus, Bob, and Otto (2014) study effect of partial/full disclosure in an experiment with taxes used to finance a public good. They find small effect of disclosure which diminishes with repetitions (“contagion effect”)

Basic theory

- Starting with the economics of crime approach (Allingham and Sandmo)
- Choose how much income to report (D) in the face of audit probability (p), tax rate (t), and penalty structure (f) such that I_N and I_C are payoffs in case of not caught and caught :

$$(1-p)\cdot u(I_N) + p\cdot u(I_C)$$

- Comparative statics: p, f increase D
- Theory has long predicted higher evasion than we witness
- Lots of literature has followed—theoretical, empirical, experimental

Intuition of shaming/disclosure

The effect of confidentiality could operate through other channels and interact with shame and stigma, producing ambiguous effects.

Some important channels could follow from:

- Ethical rules /social norms: The stronger the ethical norm to pay one's taxes fully, the more deviant the behavior of a non-compliant individual becomes, and the more loss the individual feels with disclosure.
- Theories of "intrinsic motivation" - An individual may have an internal, or intrinsic, motivation to obey the law, and this intrinsic motivation may be destroyed by public shaming.
- Fairness consideration: In some contries, noncompliance is viewed as a legitimate form of government protest. Public disclosure could make taxpayers more aggressive;
- Cultural and personal values: the effect of public disclosure could be weaker in societies where private values like family and friendship are more important, while disclosure could be stronger in societies in which civic values like justice and politics are rated higher.
- Religions, others, ….

Our experiment

- Does disclosure increase compliance
  - Yes—protect yourself form potential cost of shaming
  - No – social contract broken and you punish government
- Experiment: how to operationalize disclosure?
  - Italy and US; show up fee (separate from income)
  - Income given (no work); constant $25 or 15 Euro
  - Parameters of audit (20 or 30%), penalty (unpaid tax*(1+X)) and tax (30%) given; X = 100% or 200%
  - Choose D
  - No public good
  - 16 rounds; net earnings revealed each round but payment based on one randomly chosen round; 4 treatment possibilities so each combo held for 4 rounds

- Treatments:
  - I: full confidentiality (no disclosure if caught cheating)
  - II: full disclosure (photo of cheaters who were caught are shown)
  - Each subject group under only one treatment
  - 30 to 40 subjects each treatment
  - Ran 6 in Italy
  - Ran 6 in US (older data)
- Effectively we also have a US/Italy treatment

Sessions

Session	Where	Treatment	Subjects	Periods
1	US	Baseline	18	16
2	US	Baseline	19	16
3	US	Pictures	19	16
4	US	Pictures	17	16
5	US	Pictures	9	16
6	US	Pictures	10	16
7	Italy	Baseline	10	16
8	Italy	Baseline	15	16
9	Italy	Baseline	13	16
10	Italy	Pictures	16	16
11	Italy	Pictures	8	16
12	Italy	Pictures	16	16

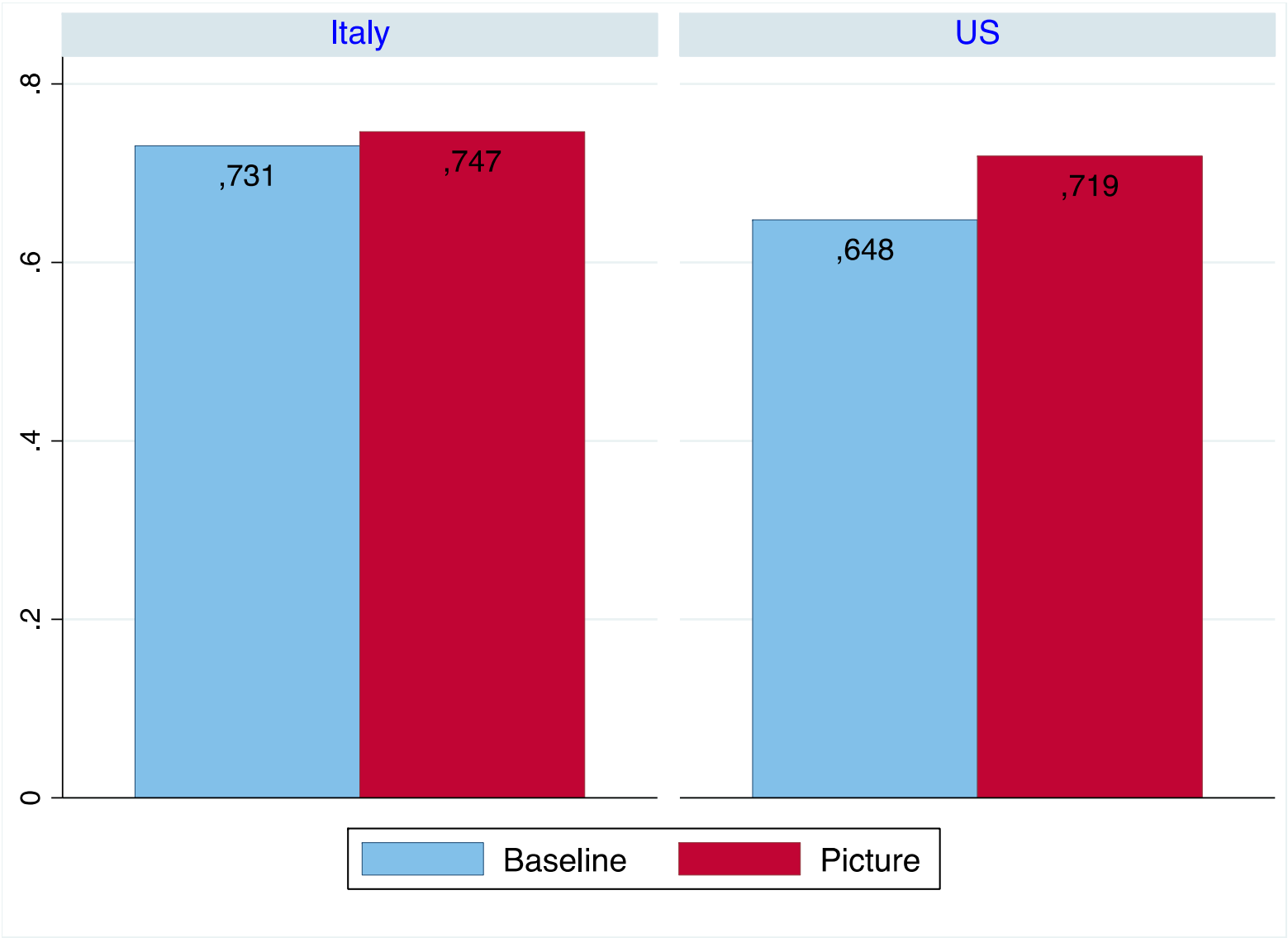
Parameters

Session	Income	Tax rate	Audit probability	Penalty surcharge
	All periods		Periods: 1-4, 5-8, 9-12, 13-16	
1	250	0,30	20%-30%-20%-30%	2x-3x-2x-3x
2	250	0,30	30%-20%-30%-20%	2x-3x-2x-3x
3	250	0,30	20%-30%-20%-30%	2x-3x-2x-3x
4	250	0,30	20%-30%-20%-30%	2x-3x-2x-3x
5	250	0,30	20%-30%-20%-30%	2x-3x-2x-3x
6	250	0,30	20%-30%-20%-30%	2x-3x-2x-3x
7	150	0,30	20%-30%-20%-30%	2x-3x-2x-3x
8	150	0,30	30%-20%-30%-20%	2x-3x-2x-3x
9	150	0,30	20%-30%-20%-30%	2x-3x-2x-3x
10	150	0,30	20%-30%-20%-30%	2x-3x-2x-3x
11	150	0,30	30%-20%-30%-20%	2x-3x-2x-3x
12	150	0,30	20%-30%-20%-30%	2x-3x-2x-3x

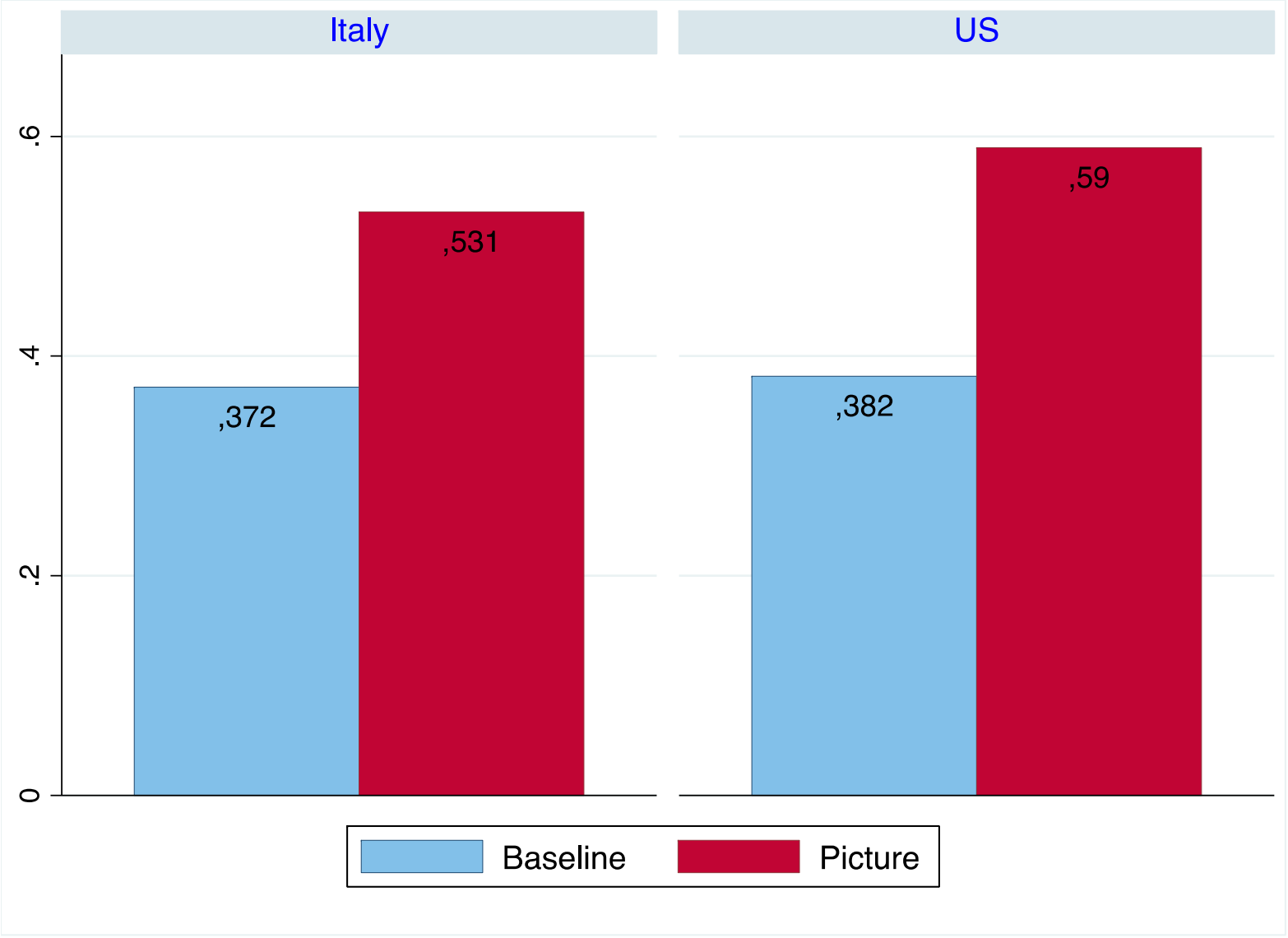
Is compliance higher under disclosure?

- How are we measuring compliance?
  - Relatively simple framework:
  - Absolute (reported/income)
  - Discrete (grouped into bins of 10%)
  - Binary (told truth or didn’t)

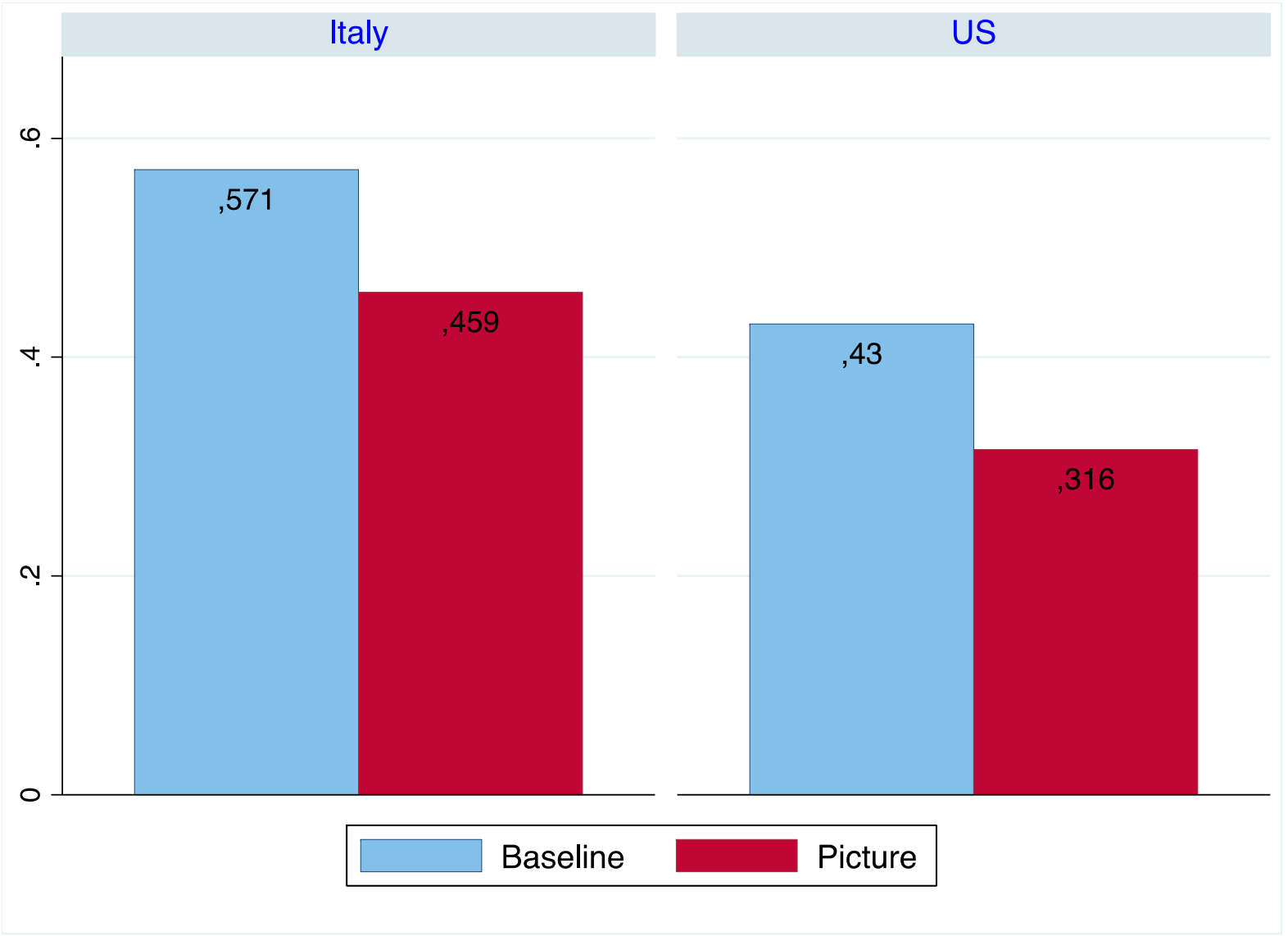
Overall compliance rates
Amount of incomes declared (as % of gross income)



Honesty – Overall proportion of honest tax returns



Average compliance rates – not honest
Amount of incomes declared (as % of gross income)



Tobit random effects – Dependent: Compliance rate

VARIABLES	(1) compliance	(2) compliance	(3) compliance	(4) compliance	(5) compliance	(6) compliance	(7) compliance	(8) compliance
Pictures	0.304***	0.305***	0.301***	0.295***	0.382**	0.556***	0.719***	0.654***
	[0.113]	[0.113]	[0.112]	[0.111]	[0.152]	[0.162]	[0.184]	[0.151]
Audit low			-0.233***	-0.233***	-0.233***	-0.248***	-0.248***	-0.248***
			[0.030]	[0.030]	[0.030]	[0.030]	[0.030]	[0.030]
Penalty low			-0.238***	-0.238***	-0.238***	-0.238***	-0.238***	-0.238***
			[0.029]	[0.029]	[0.029]	[0.029]	[0.029]	[0.029]
Italy		0.023	0.025	0.093	0.197	0.196	0.008	
		[0.112]	[0.112]	[0.139]	[0.186]	[0.186]	[0.208]	
Male				-0.198*	-0.198*	-0.199*	-0.008	
				[0.111]	[0.111]	[0.111]	[0.161]	
Catholic				-0.089	-0.096	-0.096	0.183	
				[0.147]	[0.146]	[0.147]	[0.217]	
Period	-0.007**	-0.007**	-0.012***	-0.012***	-0.012***	-0.002	-0.002	-0.002
	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.004]	[0.004]	[0.004]
Italy*Pictures					-0.185	-0.183	0.128	0.136
					[0.222]	[0.222]	[0.276]	[0.181]
Male*Pictures							-0.338	-0.346**
							[0.220]	[0.150]
Catholic*Pictures							-0.484*	-0.302
							[0.291]	[0.195]
Period*Picture						-0.021***	-0.021***	-0.021***
						[0.006]	[0.006]	[0.006]
Constant	0.944***	0.933***	1.208***	1.294***	1.244***	1.168***	1.076***	1.142***
	[0.088]	[0.105]	[0.107]	[0.116]	[0.130]	[0.132]	[0.139]	[0.092]
Sigma_u	0.690***	0.689***	0.687***	0.678***	0.677***	0.677***	0.666***	0.669***
	[0.050]	[0.050]	[0.050]	[0.049]	[0.049]	[0.049]	[0.048]	[0.048]
Sigma_e	0.649***	0.649***	0.622***	0.622***	0.622***	0.620***	0.620***	0.620***
	[0.017]	[0.017]	[0.016]	[0.016]	[0.016]	[0.016]	[0.016]	[0.016]
Observations	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720
Number of id	170	170	170	170	170	170	170	170

Robust standard errors in brackets *** p<0.01, ** p<0.05, * p<0.1

Probit regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Cheat	Cheat high	Cheat low	Honest	Cheat	Cheat high	Cheat low	Honest
Pictures	-0.004	-0.115*	-0.516***	0.472***	-0.345**	-0.672***	-0.456***	0.930***
	[0.061]	[0.064]	[0.054]	[0.050]	[0.156]	[0.156]	[0.124]	[0.119]
Audit low	0.272***	0.238***	-0.034	-0.251***	0.285***	0.257***	-0.044	-0.269***
	[0.062]	[0.065]	[0.054]	[0.050]	[0.062]	[0.066]	[0.055]	[0.051]
Penalty low	0.308***	0.197***	-0.065	-0.225***	0.305***	0.200***	-0.066	-0.225***
	[0.061]	[0.064]	[0.053]	[0.049]	[0.061]	[0.064]	[0.053]	[0.049]
Italy	-0.153**	-0.181**	0.158**	0.037	-0.145**	-0.169**	0.162**	0.028
	[0.077]	[0.078]	[0.068]	[0.062]	[0.072]	[0.077]	[0.068]	[0.063]
Male	0.304***	0.260***	-0.228***	-0.118**	0.171*	0.062	-0.189**	0.059
	[0.061]	[0.064]	[0.055]	[0.050]	[0.090]	[0.093]	[0.076]	[0.074]
Catholic	-0.166**	0.152*	0.280***	-0.220***	-0.274**	-0.113	0.163*	0.029
	[0.084]	[0.082]	[0.071]	[0.066]	[0.108]	[0.110]	[0.089]	[0.088]
Period	0.035***	0.002	-0.024***	-0.001	0.025**	-0.012	-0.018**	0.010
	[0.007]	[0.007]	[0.006]	[0.005]	[0.010]	[0.010]	[0.008]	[0.008]
Male*Pictures					0.232*	0.357***	-0.092	-0.308***
					[0.121]	[0.129]	[0.110]	[0.100]
Catholic*Pictures					0.182	0.471***	0.241**	-0.445***
					[0.134]	[0.136]	[0.112]	[0.105]
Period*Pictures					0.020	0.027*	-0.013	-0.021*
					[0.014]	[0.014]	[0.012]	[0.011]
Constant	-1.708***	-1.469***	-0.216***	0.044	-1.524***	-1.185***	-0.239**	-0.206**
	[0.106]	[0.109]	[0.083]	[0.078]	[0.128]	[0.121]	[0.099]	[0.097]
Observations	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Summary of results

- Effect of disclosure is overall positive both in Italy and US
- The overall effect in the lab are of the same order to a change in the audit probability from 20% to 30% or to an increase in penalty surcharge from 2 to 3
- These effects are large: however the effects are mainly at extensive margin, consistently with a notion of fixed stigma cost.
- Fixed stigma costs need to be carefully handled in policy – including for possible policy trade-off between efficiency (with the option of concentrating controls on a lower number of high tax cheaters) and equity (due to greater horizontal inequality between honest and not-honest taxpayers)
- Disclosure interact also with personal characteristics, here sex and religion: male are less affected by disclosure than female (social value/expectation?); and catholic than not catholic (possibly because of disposition to forgiveness?).
- Minor evidence also of “contagion”.