Accountancy / Advertising / Economics / Finance / Human Resource Management / International Business MBA / Management / Marketing / Public Relations / Philanthropy and Nonprofit Studies

Cash and the Hidden Economy - Laboratory and Artefactual Field Experimental Evidence on Fighting Tax Evasion in Small Business Transactions.

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(research conducted with support from the Australian Taxation Office, preliminary)

Introduction

- Tax Compliance, Cash-in-hand economy

- Testing 10 (5) potential interventions

- In the Lab … with standard (student) and "real world" participants (Lab and Artefactual Field Experiments) – Tradies

The Problem
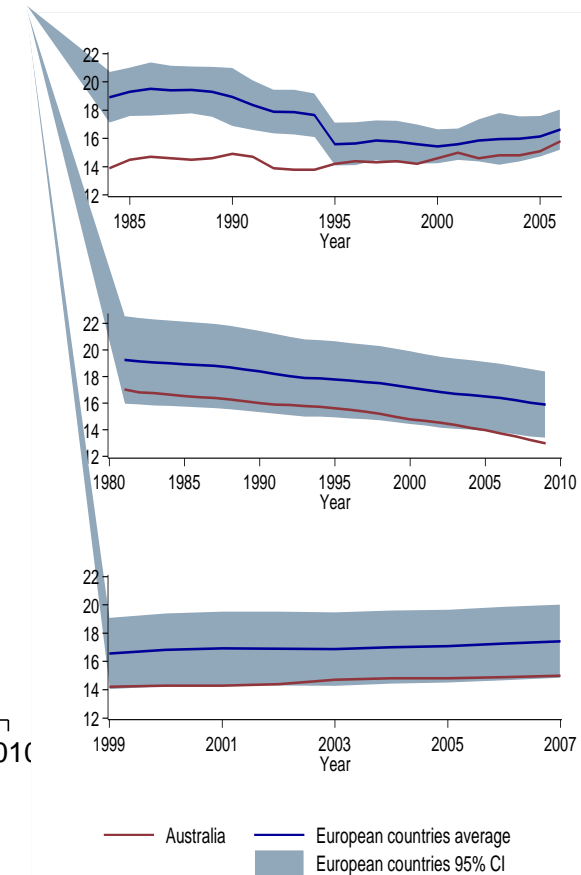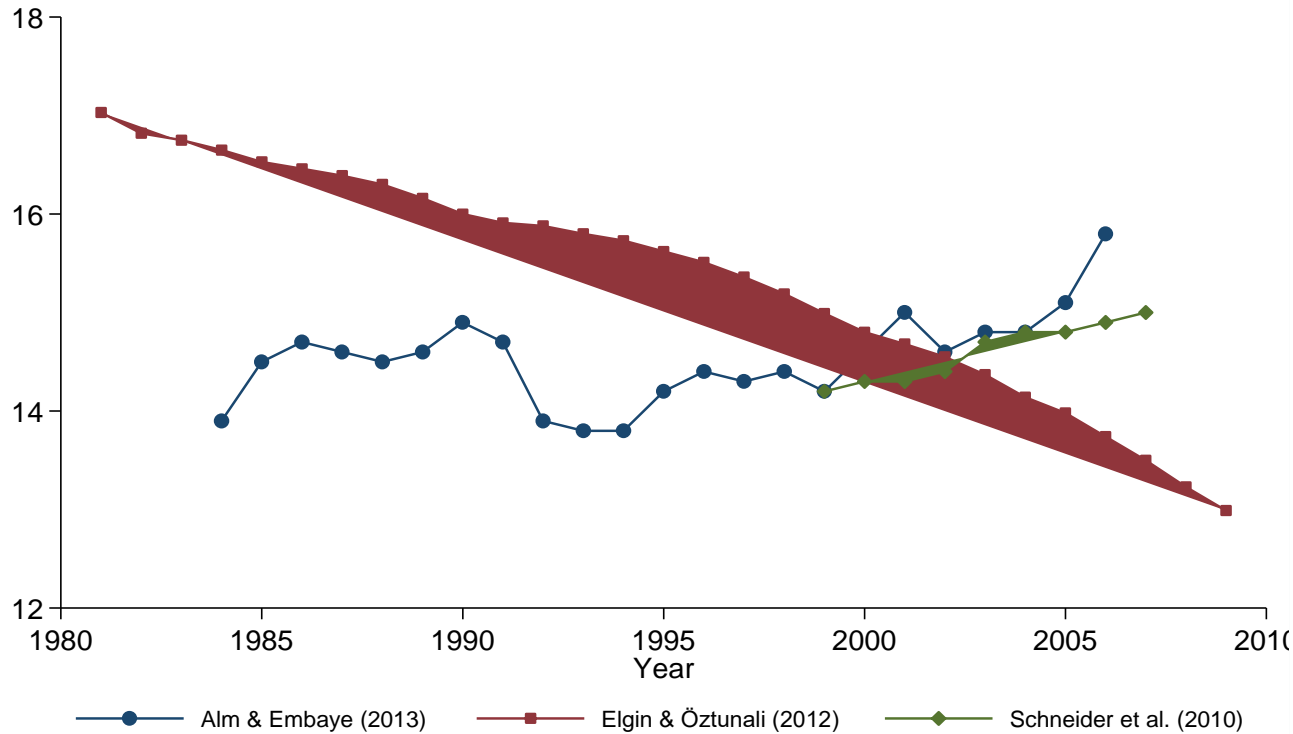
10 Intervention (Alm 1999, Torgler 2007)

1. The **ATO assist**, hence, it was pointed out to participants that they could request further help on how to comply by asking a research assistant who was available for compliance questions. * (Boulding 1981)

2. The **Clamp down**, which notified participants that in the following three periods the industry of service providers had come under special scrutiny, implying a doubling of the audit probability (relevant for the sellers). * (Blackwell 2010)

3. The **Infrequent** reporting, meaning that service providers did not have to report their income every period but rather after 3 periods as one large instalment. *

10 Interventions

4. The ***moral suasion***, meaning that both customers/buyers and service providers/sellers were reminded that tax money served a common good and that it would be paid to charity, namely a food bank at the university (QUT). Therefore, it was pointed out that paying taxes in this experiment was important from a common good perspective. * (Baumol and Oates 1979)

5. The ***peer effects buyer***, during which it was pointed out to buyers that accepting cash offers would provide sellers with the opportunity to evade taxes – and that buyers could consequently play a part in increasing compliance. (Webley et al 1985)

6. The ***peer effects seller***, for which sellers were informed that their declaration was below/about/above the industry average of declared income based on previous experiments. While not asking sellers to reconsider their declaration, they had the option to then adapt the amount declared. *

10 Interventions

7. The **audit remorse**, for which sellers who had been audited and detected for under reporting were informed that the amount declared appeared to be too low. They were informed that they had the opportunity to reconsider their declaration. They were also informed that if they were caught declaring too little (again) after reconsidering, the penalty would be tripled. (Alm et al 1990)

8. The **endogenous audit**, for which participants were informed at the time of their tax declaration that their personal audit probability would be doubled if they were found to be non-compliant. (Roth et al 1989, Torgler 2002)

10 Interventions

9. The ***infrequent pre-filled*** reporting, which was based on the infrequent condition. However, participants were given the opportunity to have their tax declaration pre filled based on their income. They could receive this pre-filling service at a small cost. (Fonseca and Grimshaw 2015)

10. The ***positive feedback***, which included a message of thanks to those participants who had made a compliant declaration. This message was not provided to non-compliant participants (independent of them being audited or not). (Feld et al 2006)

Design

- Sellers offer a price for a service. If the service is not provided the buyer looses E$80 (of E$100 they receive).

Part 1 / Period 6

Seller: You are in the role of a small business owner, providing services. You will make an offer which the consumer can accept or reject.
You will also be given the opportunity to make a cash offer. You will be informed about the customers decision (if they accept or reject the offer and if they accepted a cash offer) after the customer has made their decision.
In case you make a cash offer and the customer accepts this offer, you will have to make a declaration of how much you were paid.
You will make this declaration after every round. If a cash transaction is not chosen then it will be prefilled.

Please indicate the price you would like to offer for your services:

[   ] Submit

Design

- Would you like to make a cash offer (10% discount)

Part 1 / Period 6

Seller: You are in the role of a small business owner, providing services. You will make an offer which the consumer can accept or reject.

You will also be given the opportunity to make a cash offer. You will be informed about the customers decision (if they accept or reject the offer and if they accepted a cash offer) after the customer has made their decision.

In case you make a cash offer and the customer accepts this offer, you will have to make a declaration of how much you were paid.

You will make this declaration after every round. If a cash transaction is not chosen then it will be prefilled.

Would you like to make a cash offer?

--- ▼ Submit

Design

- Tax Declaration (automatic w/o cash offer), here Peer treatment

Part 1 / Period 6 - Tax Declaration

Seller: You are in the role of a small business owner, providing services.

Tax information:

Tax rate: 40%

If you are selected for an audit, the actual and the declared income are compared. If you do not fully comply, a fine is aplpied.

Your income tax declaration has been recorded.

Before you lodge your final declaration, please be informed that your reported income from cash transactions is **below** the industry average (based on previous experiments) for these transactions.

You may modify your declaration by clicking "Back" or "Submit" your current declaration amount.

Back   Submit

Design

- And audit remorse

Part 1 / Period 6 - Tax Declaration

Seller: You are in the role of a small business owner, providing services.

Tax information:
Tax rate: 40%
*If you are selected for an audit, the actual and the declared income are compared. If you do not fully comply, a fine is applied.

Your income tax declaration has been recorded.

The amount declared appears to be too low.

Please note, if you are caught making a non-compliant declaration your penalty will tripple in amount, depending on audit probabilities.

You may modify your declaration by clicking "Back" or "Submit" your current declaration amount.

Design

- Buyers decide about accepting an offer and, if they accept whether to accept a cash offer.
- 6 + 6 rounds, random matching after each round, treatments inserted after round 6. Tradies play as sellers (one treatment), students play two treatments, one as seller, one as buyer

- Tax audits – 10% probability,
- Fine for under reporting: 100% of "taxes owed"

- Audit remorse: If caught repeatedly: 200% fine
- Clamp down: For the next 3 round audit probability is 20%

- All "Taxes" went to a student charity (QUT foodbank)

Summary Stats

- **Students**
  - 184 participants
  - 43% female, 48% Australian Nationals, avg age 23
  - 72% Undergraduate Students, 28% HDR (all from QUT)

- **Tradies** (only sellers, students acted as customers)
  - 100 invited/registered, 87 showed up / 70 completed the experiment (no shows, overbooking, early leavers)
  - Most common qualifications: carpenters, plumbers, a/c technicians, tilers, general construction workers
  - Similar age structure, 83% male, 83% Australian Nationals

Summary Stats

- 3 rounds out of the experiment were paid.

- Student/Tradies earned of average A$40.55 / A$159.57

- Experiment lasted about 1 hour.

- Scope for Tax evasion
  - 78% of offers made were accepted.
  - 58% offered a cash discount.
 - Cash offers were accepted in 84% of the cases.

Results (students)

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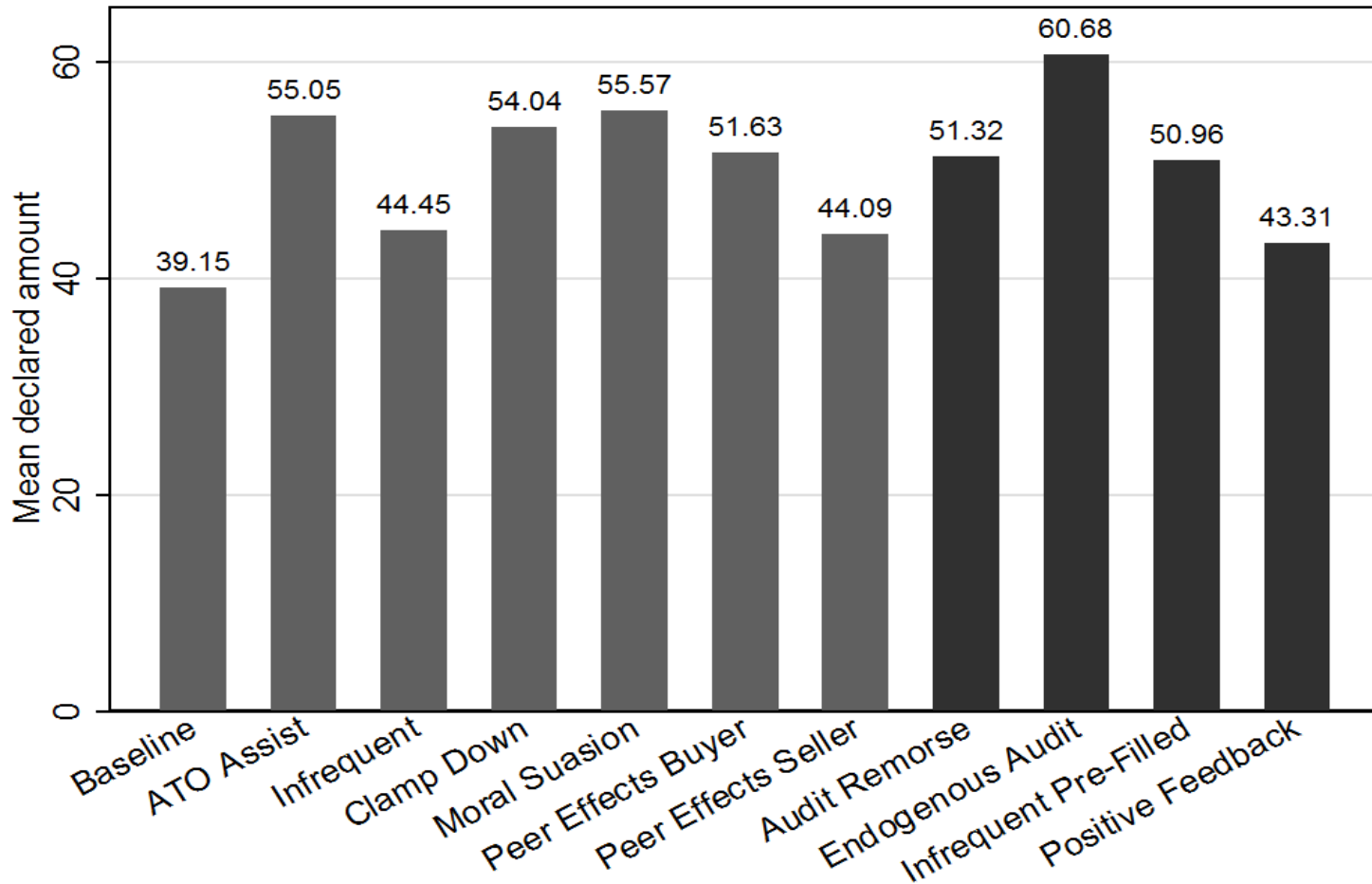
Results

Treatment	Mean difference	t-statistic	N (treatment)	N (baseline)	Rank-sum
ATO Assist	15.91***	-5.15	100	185	-4.79***
Clamp Down	14.89***	-5.6	149	185	-4.72***
Infrequent	5.3*	-1.88	162	185	-1.88*
Moral Suasion	16.42***	-5.18	137	185	-4.9***
Peer Effects Seller	4.94*	-1.66	108	185	-1.22
Audit Remorse	12.17***	-3.76	85	185	-3.19***
Endogenous Audit	21.53***	-4.04	79	185	-2.85***
Infrequent Pre-Filled	11.81***	-3.72	83	185	-3.21***
Positive Feedback	4.16	-1.2	75	185	-0.98

Table 1a: Differences between the groups (Student session)

Notes: Results for two-sample mean comparison *t*-test (column 1 and 2) and non-parametric W
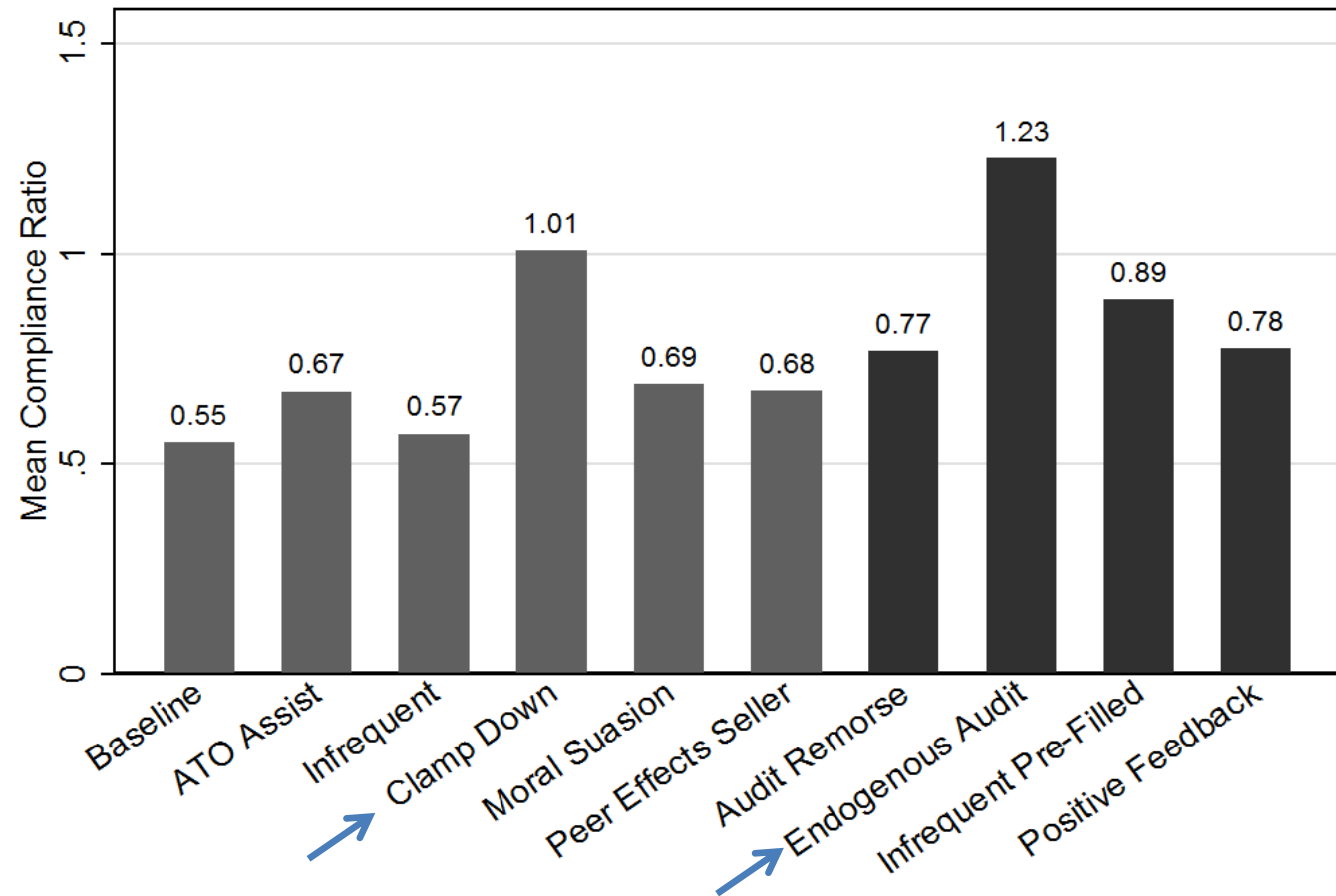
Results (Tradies)
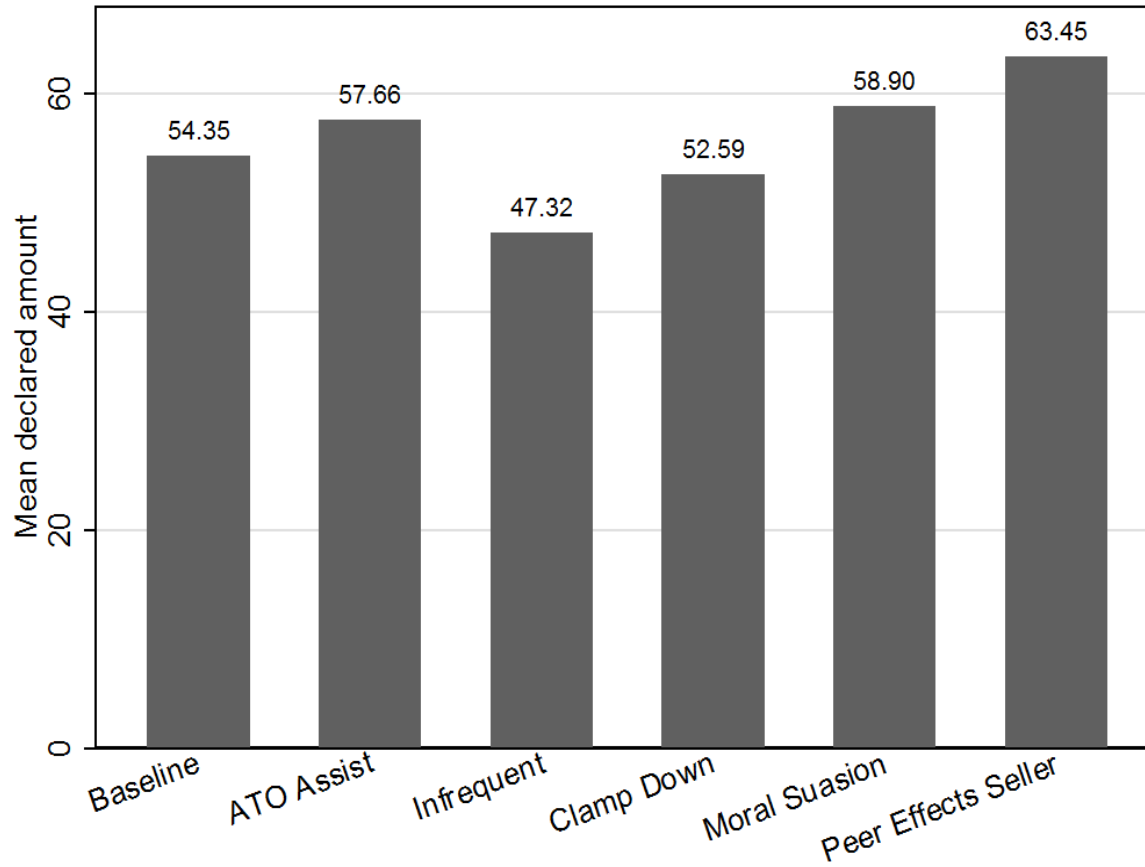
Results (Tradies)

Treatment	Mean difference	t-statistic	N (treatment)	N (baseline)	Rank-sum
ATO Assist	3.31	-1.17	86	390	-2.31**
Clamp Down	-1.76	0.52	87	390	1.56
Infrequent	-7.03**	2.3	80	390	1.98**
Moral Suasion	4.55	-1.55	82	390	-2.82***
Peer Effects Seller	9.1***	-2.73	85	390	-2.11**

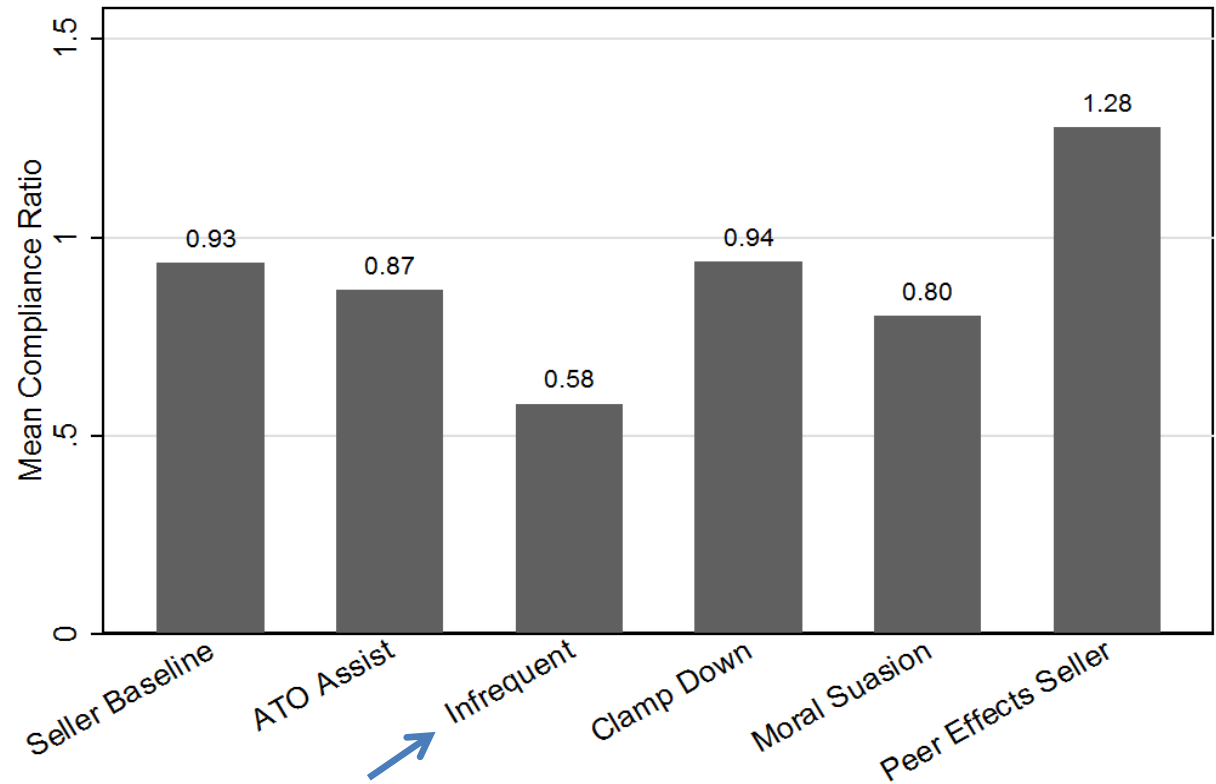*Table 1b*: Differences between the groups (Non-student session)
Notes: Results for two-sample mean comparison *t*-test (column 1 and 2) and non-parametric Wilcox

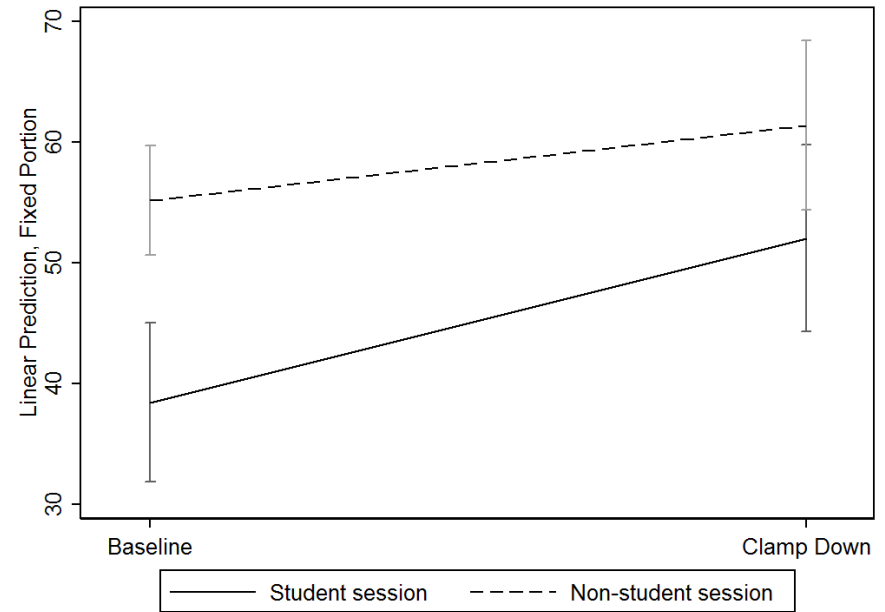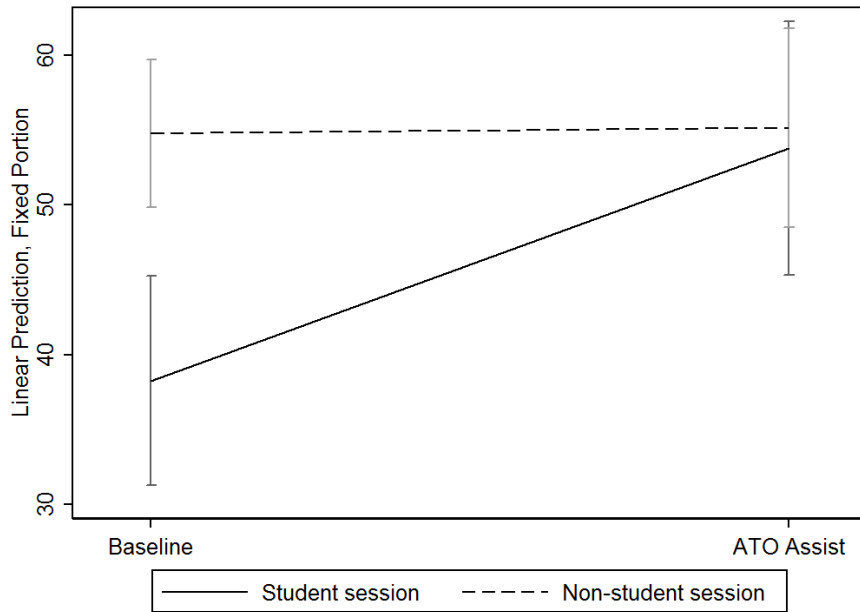# Results (compliance of accepted cash offers, students)

Note: Control group is equal to Baseline. Excludes Peer Effect Buyer

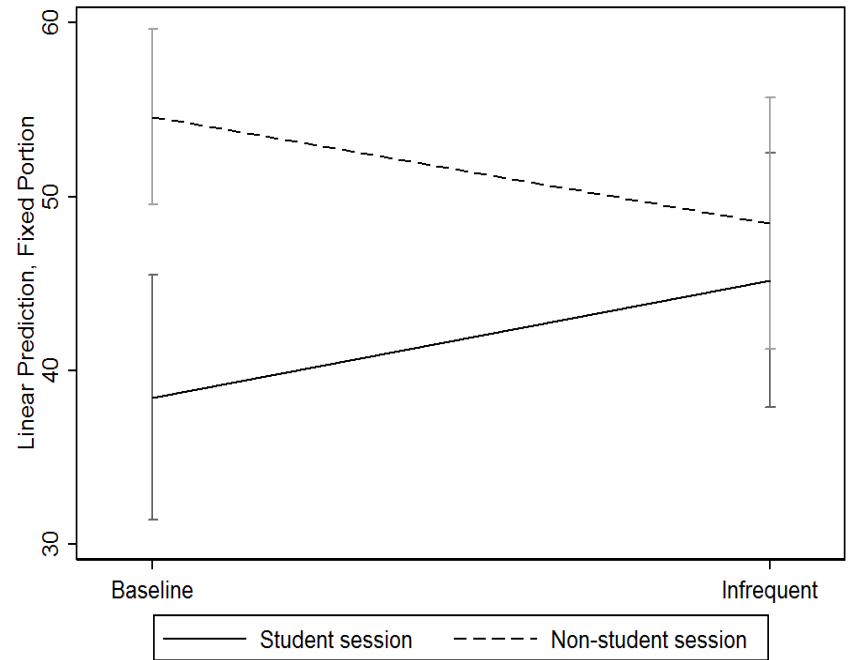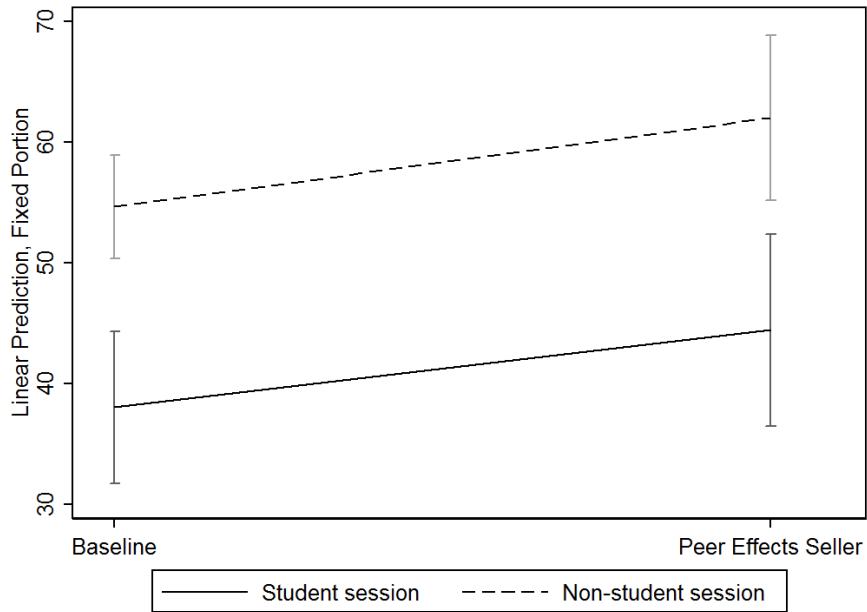# Results (compliance w accepts cash offers, Tradies)

Note: Control group is equal to Baseline.

Difference between the groups

Differences between the groups

Differences between the groups

Dep. Var. = Declared amount	ATO Assist	Clamp Down	Infrequent	Moral Suasion	Peer Effects Seller
Non-student	16.41***	16.62***	15.82***	15.93***	16.52***
	(4.27)	(4.16)	(4.00)	(3.93)	(4.27)
Treatment	15.26***	13.48***	6.30	14.99***	6.28
	(3.13)	(2.73)	(1.39)	(3.02)	(1.25)
Non-student # Treatment	-14.66***	-7.64	-12.47**	-12.12**	0.99
	(-2.67)	(-1.31)	(-2.30)	(-2.12)	(0.17)
Further controls					
male	-5.13	-5.22	-4.55	-4.16	-5.35
age	0.24	0.28	0.36	0.37	0.29
Constant	41.95***	41.14***	38.49***	37.54***	41.15***
N	761	791	817	794	768
Prob. > chi^2	0.001	0.000	0.001	0.001	0.000

Table 5: Difference-in-difference approach

Notes: Standard errors are clustered by individual and session. Significance is indicated as follows: * indicates

Summary

- Complements research in the field (and the lab) allowing to test several interventions in the same environment.
- Some interesting results:
  - *moral suasion* and *providing assistance* seem effective to achieve high rates of compliance using positive measures.
  - *clamp down* and *endogenous audit* seem to be effective deterrence policies. (albeit positive measures seem to be more effective)
  - Overall results for these policies do not differ for the two samples

Conclusions

- *clamp down*, *endogenous audit*, *moral suasion*, *assistance* and the *reduction of reporting frequencies* should be candidates for an RCT

- The lab based studies for an effective evidence base to inform the design of "nudges", in particular in a literature where several interventions are already discussed/researched. It allows to compare nudges in a similar environment.