

The Can Challenge:

*Exploring the Best Way to
Incentivise Recycling Effort*

ENVECON Conference

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A Rubbish Research Project with Stefania Sitzia & Jiwei Zheng

A Bit of Background

The Voluntary and Economics Incentives Working Group Report (February 2018) highlights the possibility of having a Deposit Return Scheme on drinks containers in the UK ...

*There is some evidence from other countries that **well-designed and well-run** deposit return schemes can deliver an estimated increase of around 20% in the reported amount of beverage containers collected for recycling, and **deliver a better quality of captured material** (i.e., less contamination) than is currently estimated as happening in the UK for beverage packaging.*

EWG Report (2018, p.3)

This field experiment looks at **two possible mechanisms** by which this could be conducted and assesses which is likely to yield a greater sense of participation and engagement.

The Experiment

Recycling Trials for drinks cans were implemented



36 students' flats of about 10 students each.



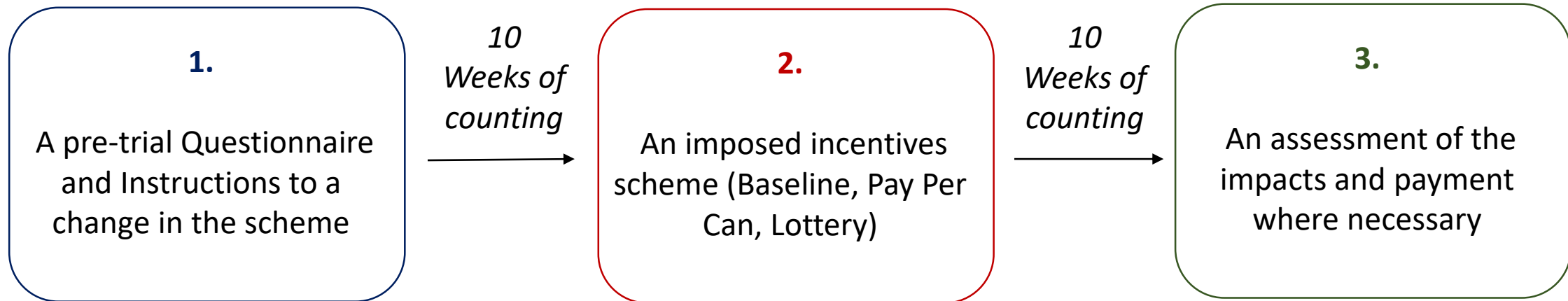
6 different floors of the County Council also took part in the trial, each floor contains around 100 employees...



176 Flats from 4 tower blocks across 2 different sites in Norwich.

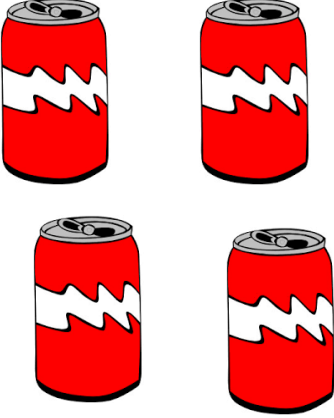
The Experiment

In (almost) all locations the following sequence of events took place...



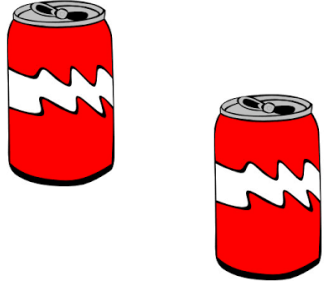
Lottery contest: How it works

Flat 1



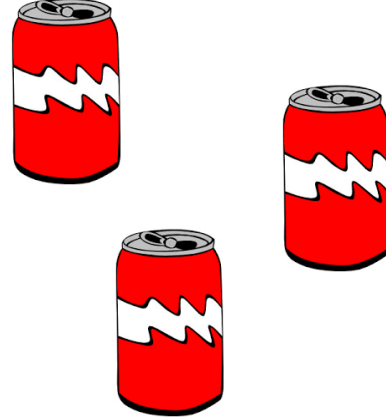
Chance of winning = $4/9$

Flat 2



Chance of winning = $2/9$

Flat 3



Chance of winning = $3/9$

Prize = £0.90

Students' Halls (September 2018 – March 2019)



	Baseline – No Incentives	Payment Per Can	Lottery
Groups	6 flats	6 flats	6 flats
Individuals	6 flats	6 flats	6 flats

Students just put cans in a special communal bin in the kitchen

Students put cans in a bag tied with a cable tie unique to their room. The bags then went into the special communal bin

In phase II, students here are paid £0.10 per can they recycle

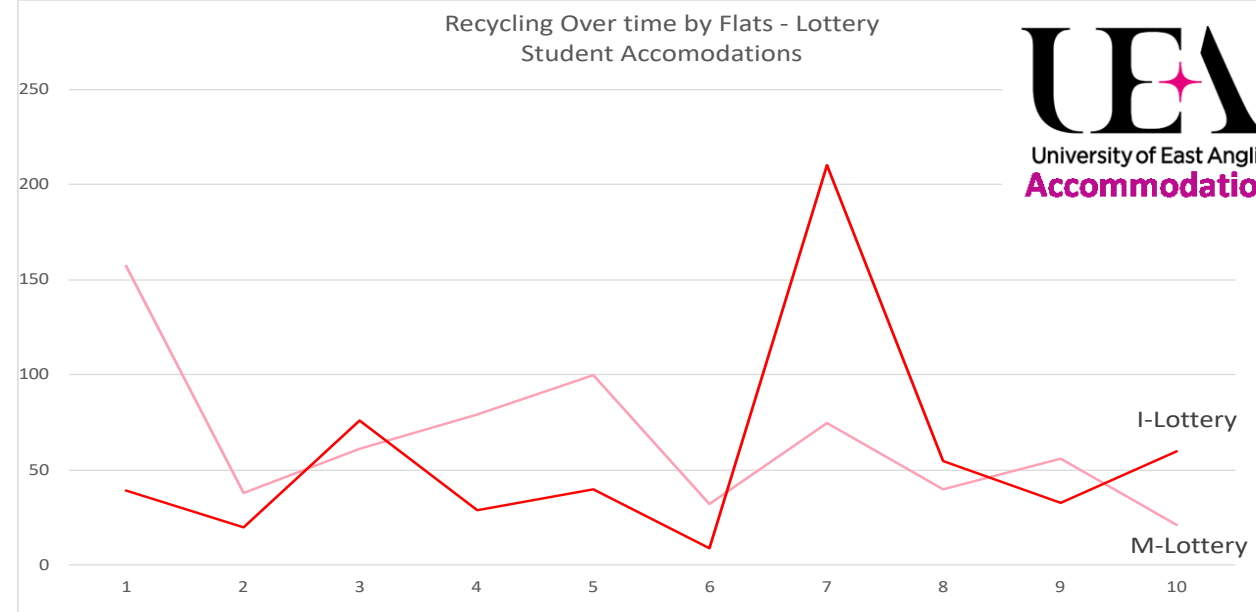
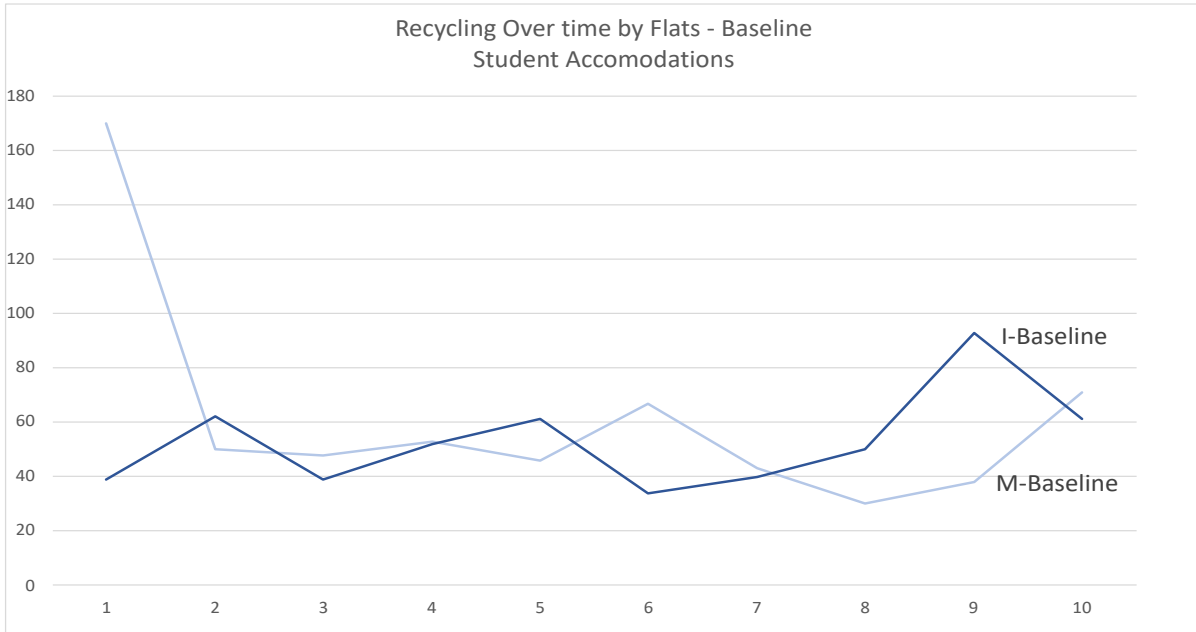
In phase II, students enter a fortnightly Tullock contest to win a prize equivalent to £0.10 x total number of cans recycled across flats taking part in the lottery

Students' Halls

Notes: I-Baseline: Incentive period
M-Baseline: Monitoring Period

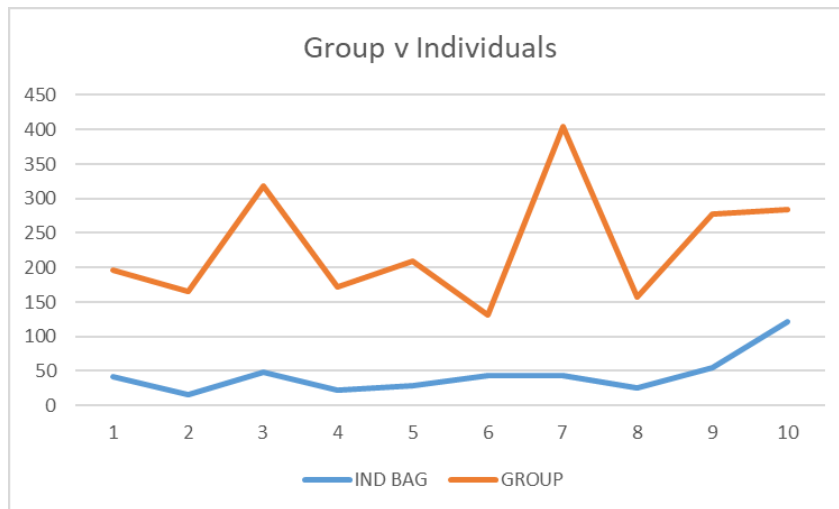


Recycling Over time by Flats - Baseline
Student Accomodations

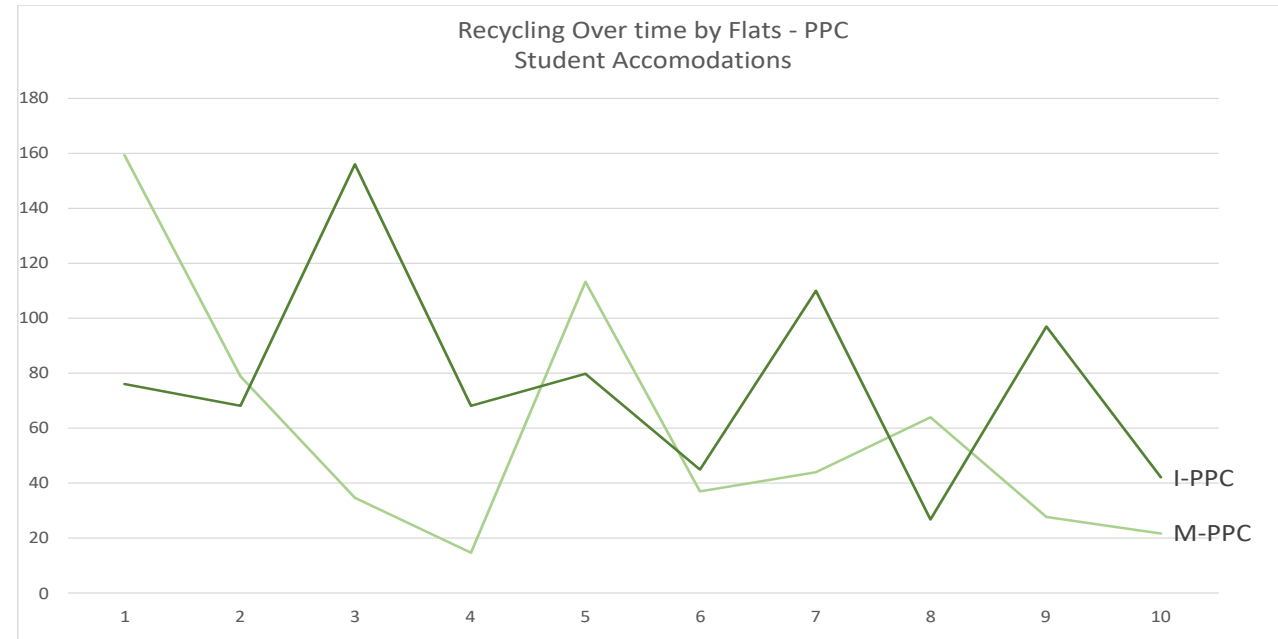


An average increase in the number of cans recycled of 8%;

A decrease in the average numbers of cans recycled per week of about 15% less.



Recycling Over time by Flats - PPC
Student Accomodations



An average increase in the number of cans recycled of 35%.

County Hall (September 2018 – March 2019)

6 different floors of the County Council also took part in the trial, each floor contains around 100 employees...

	Baseline	Payment Per Can	Lottery
Groups	2 floors	2 floors	2 floors

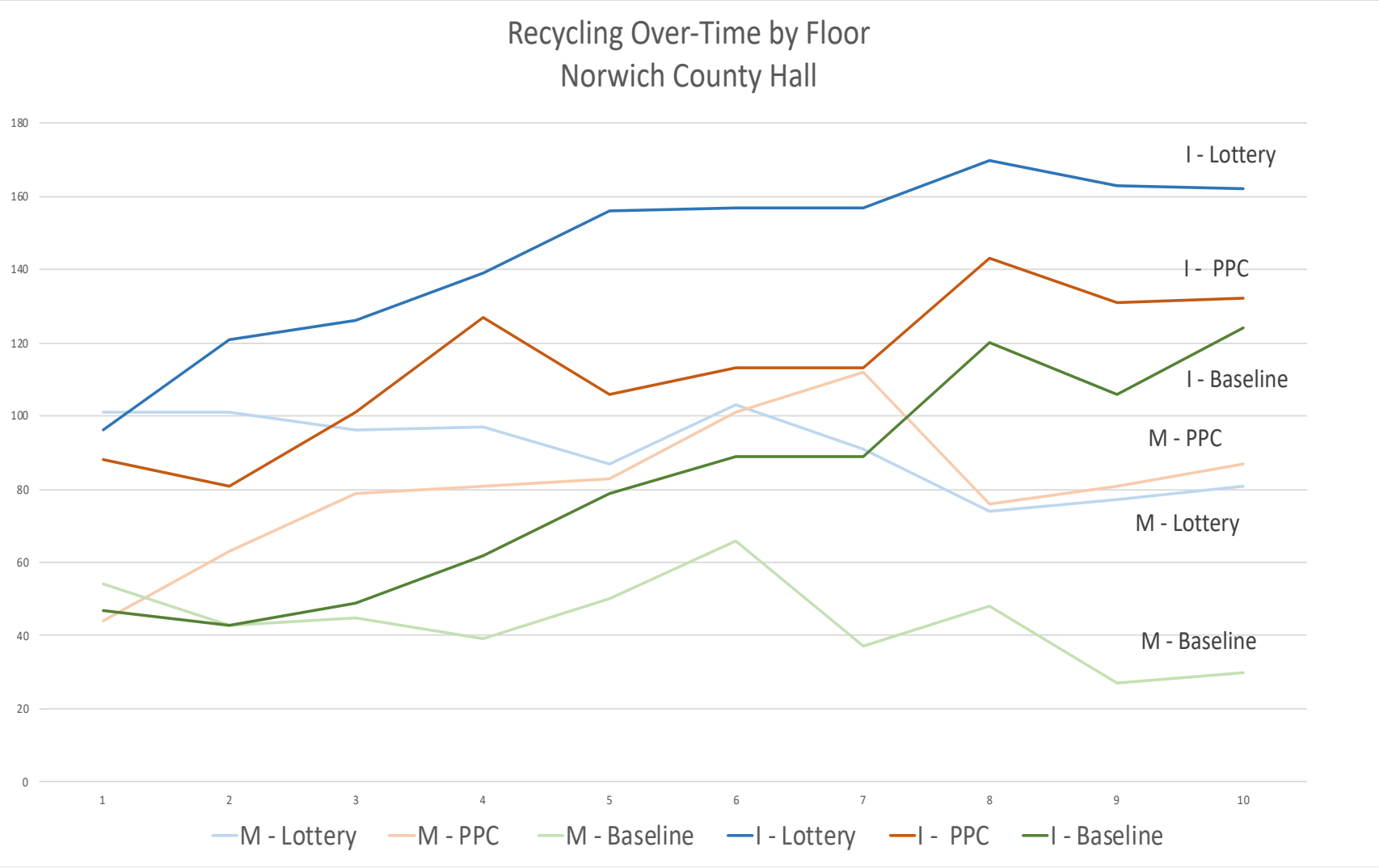
In phase II, money is given to the floor managers of each level to decide how they would then reward the recycling.

This was only run as a group treatment, with two bins being located on each floor in the kitchens

County Hall



Recycling Over-Time by Floor
Norwich County Hall



Lottery:
Increase of about 59%;

PPC:
Increase of about 41%.

Baseline:
Increase of about 84%;

Norwich City Social Housing (*January 2019-July 2019*)



176 different apartments were used in the trial, split across two tower blocks where Norwich City Council are the landlords.

	Payment Per Can	Lottery
Individual (Flats)	Compass & Seaman 88 Flats	Aylmer & Burleigh 88 Flats

Whilst strictly speaking not all 'individuals', we used the same (cable tie) procedure as those students in the individual treatment

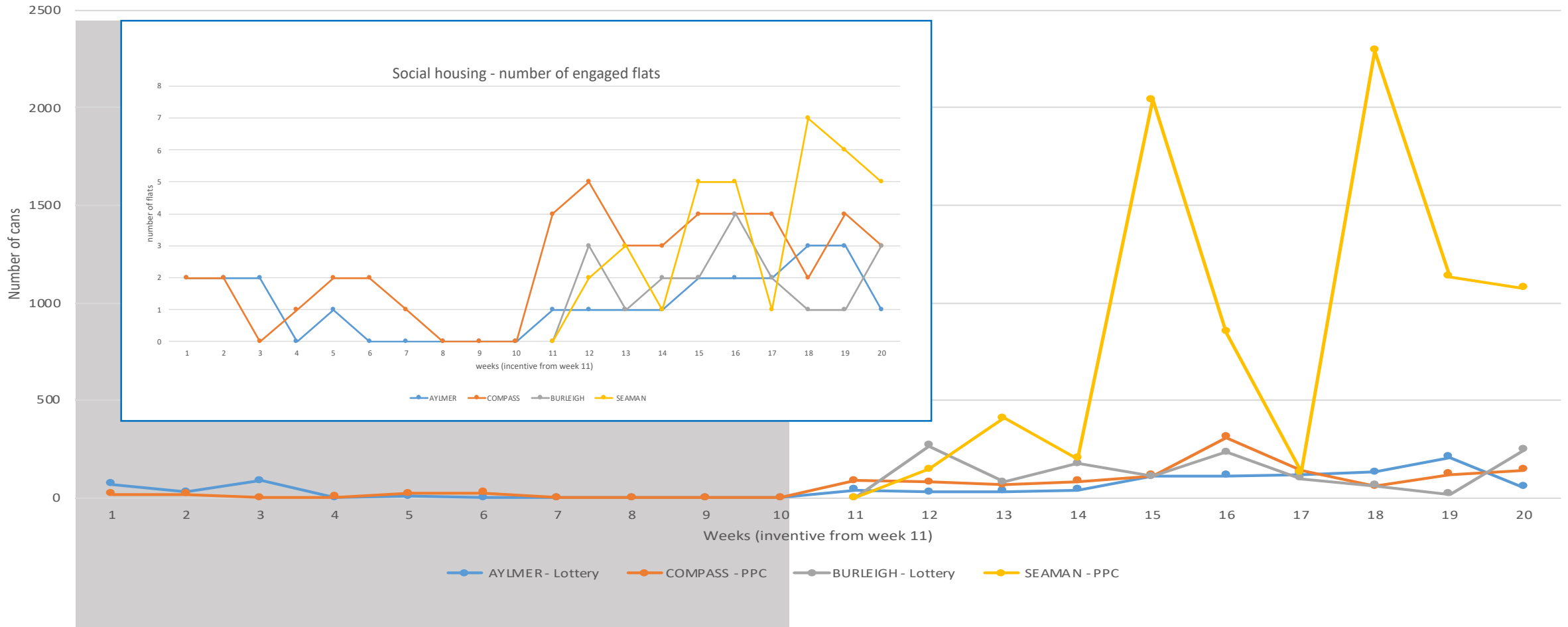
In phase II, residents are also paid £0.10 per can they recycle

In phase II, residents enter a fortnightly Tullock contest to win a prize equivalent to £0.10 x total number of cans recycled across each tower (so 88 different 'players' making a big prize)!

In all treatments, payments took place at the end of the trial, but those taking part were able to email and check their payment levels via raffle tickets issued

Norwich City Social Housing

Social housing - number of cans



Lottery	194
PPC	94

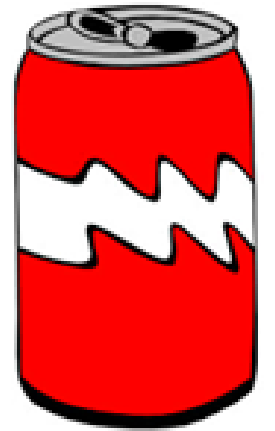


Lottery	2187
PPC	9470

The Importance of this study for Recycling Policy (& Application)

Summary:

- *There are large variations in engagement, both between and within treatment sites. Therefore our 'contests conjecture' does not hold consistently;*
- *Broadly speaking, **groups tend to prefer the contest, individuals prefer pay-per-can**. Thus, the setting under which a contest takes place plays a crucial role;*



Unanswered Questions:

- *Why do County Hall employees engage more? **Salience of incentives?***
- *Why so few tower flats engage in recycling? Slow habit formation? Maybe a 10 week + 10 week trial period is **not long enough** for a behavioural change to occur?*
- *How about non-monetary incentives?*

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Thanks for your
attention!
Questions?

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