# Building Persistent Compliance with Labour Law: Evidence from a Randomised Controlled Trial Pre-analysis plan

We pre-registered this trial on the AEA Social Science Registry on 1 February 2017. This pre‑analysis plan was finalised on 6 April 2018, after the interventions (baseline audits) were completed but prior to receiving data regarding the primary outcome from the follow-up audit. While both pre-registration and analysis plan occurred after the launch of the trial in 2016, they were before we had received any data or commenced any analysis. Our trial pre-registration can be found here: <https://www.socialscienceregistry.org/trials/1987/history/13691>

This analysis plan describes the analyses that will be performed on the outcome measures of the Fair Work Ombudsman (FWO) Building Persistent Compliance trial. For background information on the trial, see the trial pre-registration documentation published on [the BETA website](http://behaviouraleconomics.pmc.gov.au/projects/building-persistent-compliance-labour-law-evidence-randomised-controlled-trial).

## Outcome measures

The *primary outcome* of this trial is business compliance with payment of wage entitlements to employees. The primary outcome will be operationalised as a binary variable: business is compliant/ not compliant.

The trial will also include a number of *secondary outcomes* collected during the audit, including:

* Amount of money back-paid to employees per employee per standardised timeframe,
* Compliance with record keeping obligations,
* Efficiency of the audit process (time taken to complete the audit and for businesses to return requested information);\* [[1]](#footnote-1)

And through a survey following the initial audit, including:

* Awareness of FWO and compliance obligations;\*
* Customer experience;\*
* Attitudes towards compliance;\*
* Educational resources used.\*

## Analysis

### Hypotheses

H1: There will be a higher rate of compliance at follow up among businesses which have previously been audited than businesses which have not.

H2: There will be a higher rate of compliance at follow up among businesses which received the alternative audit process than businesses which did not.

H3: There will be a higher rate of compliance at follow up among businesses which received the additional audit activities (reminder and *My account* sign-up) than businesses which did not.

### Analysis of the primary outcome

We will test all three hypotheses in a single overall model. This model will be a logistic regression with three dummy variables, corresponding to the three hypotheses, coded 1 for businesses receiving the component specified in the hypothesis and 0 for those that did not.

Given that the additive effects of the components across the four experimental conditions may not be statistically significant at each step, but could be statistically significant when combined, we will also conduct pairwise tests to test for difference in compliance rates between each of the treatment conditions and the no-audit control condition. If the pairwise comparisons yield positive trends but not statistically significant differences, we will consider pooling the conditions to test the effect of the behaviourally informed audits against control and any audit against control.

The baseline rate of compliance among the three treatment groups may add additional statistical power to our analysis as a covariate, but cannot be included in the models specified above. Thus, we will also conduct our analyses among the three baseline audited treatment groups. These will be similar to the two models described above, with the difference being that there will be only two dummy variables for the overall model instead of three, and that the standardised audit will comprise the control group for the pairwise comparisons.

It is our intention to break the matched quadruplets (formed for the randomisation procedure) in our analysis. In order to account for correlations induced by the matched random allocation[[2]](#footnote-2), we may use number of employees, age of the business and industry as covariates in our analyses. The inclusion of these covariates will be subject to tests of model fit and balance checks across the treatment groups.

### Secondary analysis

We will analyse the secondary outcomes following the same approach used to model the primary outcome but with tests appropriate to the relevant data types.

We will also analyse the secondary outcomes to investigate their potential mediator effects on the primary outcome, for example, through changes in attitudes to compliance or educational resources used. We will also conduct sub-groups analyses on businesses based on characteristics such as industry, number of employees and age of the business.

All secondary analyses will be considered exploratory.

## Reporting

### Deviations from pre-analysis plan

If our final report contains analyses that deviate from this plan we will make it clear that these analyses were not pre-specified and provide justification for them. Conversely, if we omit pre-specified analyses on the primary outcome, we will make these available as supplementary material. In either case, deviation from the pre-analysis plan will be driven solely by statistical considerations and will not be influenced by any consideration of differences in findings on the research outcomes that would occur under different model forms or methods of analysis. If findings on the research outcomes are sensitive to different plausible model forms or methods of analysis then we will report this fact in our analysis.

### Outcome table

Table 1. Monetary compliance rate at follow up and statistical tests (Dichotomous outcome: compliant or not)

| **Condition** | **1** | **2** | **3** | **4** |
| --- | --- | --- | --- | --- |
| **No Initial Audit (Control)** | **Standardised Audit** | **Alternative Audit** | **Alternative Audit + Reminder** |
| Rate % (n= ) | Rate % (n= ) | Rate % (n= ) | Rate % (n= ) |
| **Comparison** | | **Dummy 1**  **Any audit** | **Dummy 2**  **Alternative comms** | **Dummy 3**  **Reminder +** |
| Odds ratio  p<.05 | Odds ratio  p<.05 | Odds ratio  p<.05 |
| **1 Versus 2** | **1 Versus 3** | **1 Versus 4** |
| Difference (%):  p<.05 | Difference (%):  p<.05 | Difference (%):  p<.05 |

1. Data for outcomes marked with an asterisk has already been collected and analysed as per the description in the secondary analysis section below. [↑](#footnote-ref-1)
2. Kahan, B. C., & Morris, T. P. (2012). Reporting and analysis of trials using stratified randomisation in leading medical journals: review and reanalysis. *BMJ*, 345, e5840. [↑](#footnote-ref-2)