Formulae for deriving elasticities and standard errors from reported statistics

| **Description** | **Formula** | | **Source** |
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| Unstandardise a standardised regression coefficient | – unstandardized regression coefficient  - standardised regression coefficient  – standard deviation of dependent variable  – standard deviation of independent variabler | | Formulae from first principles |
| Reverse the reference case of odds ratio (Where A is the original reference case (e.g. public transport) of the outcome variable |  | |
| Calculate mean from raw data | – mean of interest  – size of population i  – mean of population i  N – total sample population | |
| Significance threshold assumptions | p-value assumed to be at upper boundary of confidence interval | e.g.  p<0.01🡪p=0.01 | (Stanley and Doucouliagos, 2012) |
| Elasticity from OLS model, equation of form | log-log |  | (Stevens, 2017b) |
| multiplicative model |  | (Choi et al., 2012, p. 711) |
| Linear-linear |  | (Stevens, 2017b) |
| Linear-log |  | (Stevens, 2017b) |
| Log-linear |  | (Stevens, 2017b) |
| Elasticity from Logistic model |  | | (Ewing and Cervero, 2010) |
| Elasticity from negative binomial regression model |  | | (Ewing and Cervero, 2010) |
| Calculate standard error of the elasticity: SE is the elasticity divided by the t-statistic of the regression coefficient (Absolute value) | from t-statistic |  | (Stanley and Doucouliagos, 2012, p. 27) |
| Calculate standard error of the regression coefficient (Absolute value) | from t-statistic |  | (Stanley and Doucouliagos, 2012, p. 31) |
| Approximate t-statistic of the regression coefficient based on standard error of the regression coefficient | from standard error |  | (Stanley and Doucouliagos, 2012, p. 31) |
| Precision-weighting | Where , the within-study variance, is given by: | | (Borenstein et al., 2010) |
| Variance of the distribution of means across all samples ( |  | | (Borenstein et al., 2009): |
| Random effects formula for calculating meta-average (elasticity) |  | | (Borenstein et al., 2010) |
| Significance level (p-value) from a two-tailed t-test (in excel) | Where the z-distribution is given by:  And the standard error of the meta-average ( is given by the square root of its variance, or: | | (Borenstein et al., 2010) |