

**Response to Lacetera, Macis & Slonim re “Incentivizing Blood Donation:
Systematic Review and Meta-Analysis to Test Titmuss’ Hypotheses” Niza, Tung &
Marteau *Health Psychology*, 32(9): 941-949**

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Lacetera and colleagues assert that the conclusions of our review are unreliable. We provide evidence below that their criticisms are unfounded and thus neither undermine the veracity of our review nor provide a basis for policymakers to re-consider economic incentives to address blood shortages.

Comment 1: Mellstrom & Johannesson (2008) evaluated how incentives affected acceptance to become a blood donor in a naturalistic setting and is therefore predictive of actual donation behavior. But even if our meta-analysis is performed without this study, our result holds (Figure 2).

Comment 2: This concern is only important if ‘*more typical*’ donors react differently to incentives than ‘*atypical*’ donors. We have no evidence on this. Nonetheless, repeating our meta-analysis without both Mellstrom & Johannesson (2008) and Ferrari et al (1985) shows our result holds (Figure 2).

Comment 3: First, meta-analysis does not distinguish between lab and field studies: it considers differences between interventions. Second, more reliable studies *eg* large studies with narrow confidence intervals are given more weight. Lacetera et al (2012) came second to Reich et al (2006) because the latter provided a more reliable estimate. Third, Lacetera et al (2012) was cluster randomised, *ie* different incentives were offered at different blood drives, not to different potential donors. Cluster randomization increases standard errors and widens confidence intervals. Cluster trials are often excluded from meta-analyses but we included this one and treated it as an individual-level study given the paucity of available studies. If the study is correctly treated as a cluster trial following the procedure by Donner and Klar (2002) (Table 1, 2) the

effective sample size of Lacetera et al (2012) corresponds to 685 people and adjusted estimates are non-significant (Figures 1, 2).

Comment 4: As stated in our review, the first comment is incorrect (page 944) and the second comment is correct but beyond our control (page 943).

Comments 5 & 6: Iajya et al (2013) was published after our review was accepted for publication. If this study is included in the analysis, our result holds (Figures 1, 2). This study also had multiple incentive conditions: \$5, \$14, \$23. Our result holds using the data from the higher incentive sizes in both Lacetera et al (2012) and Iajya et al (2013).

Small incentives (Figure 3) valued at $\leq \$5$ did not increase donations ($p=.87$), and nor did medium size incentives (Figure 4) valued at \$5, \$15 ($p=.65$). Taking both groups using higher incentives (Lacetera et al, 2012 \$15 and Iajya et al, 2013 \$23) the estimate remains non-significant ($p=.21$).

Iajya et al (2013) did show a positive impact of its two higher incentive offers (\$14, \$23). However, the donation rate changed from 0% (in the control group and \$5 voucher) to 0.4% with the offer of a \$14 voucher and 0.8% with the offer of a \$23 voucher. It is unclear to us how these effect sizes can be used to describe incentives as a successful intervention.

Comments 7 & 8 These are unrelated to the scientific reliability of our review.

References

- Donner, A., & Klar, N. (2002). Issues in the meta-analysis of cluster randomized trials. *Statistics in Medicine*, 21, 2971–2980.
- Iajya, V., Lacetera, N., Macis, M., & Slonim, R. (2013). The effects of information, social and financial incentives on voluntary undirected blood donations: Evidence from a field experiment in Argentina. *Social Science & Medicine*, 98, 214-223.

Table 1 Sample size adjustment for cluster randomization (surprise drives)

CONTROL DRIVES	A	B	C	D	E	F	G	
	Unadjusted total N (donors)	Unadjusted event N (donors)	N drives	$m (A/C)$	IF=variance inflation factor $(1+(m-1)\rho)$	Adjusted total N (A/E)	Adjusted event N (B/E)	
\$5	10846	64	9	3996	201	54,02	0,32	1*
\$10	12515	73				62,33	0,36	1*
\$15	12607	53				62,79	0,26	1*
Total	35968	190				179		3

Table 2 Sample size adjustment for cluster randomization (incentive drives)

INCENTIVE DRIVES	A	B	C	D	E	F	G	
	Unadjusted total N (donors)	Unadjusted event N (donors)	N drives	$m (A/C)$	IF=variance inflation factor $(1+(m-1)\rho)$	Adjusted total N (A/E)	Adjusted event N (B/E)	
\$5	17847	130	9	1785.9	90.2	198,30	1,44	2*
\$10	15849	136	8			176,10	1,51	2*
\$15	12738	208	9			141,53	2,31	3*
Total	46434	474	26			516		7

Source: N drives from Lacetera et al (2012) p. 210 and individual-level data provided by the authors in personal communications

* Values were rounded up to allow some variability in the data and because meta-analysis requires events>0

Figure 1 Revised meta-analysis with all included six studies

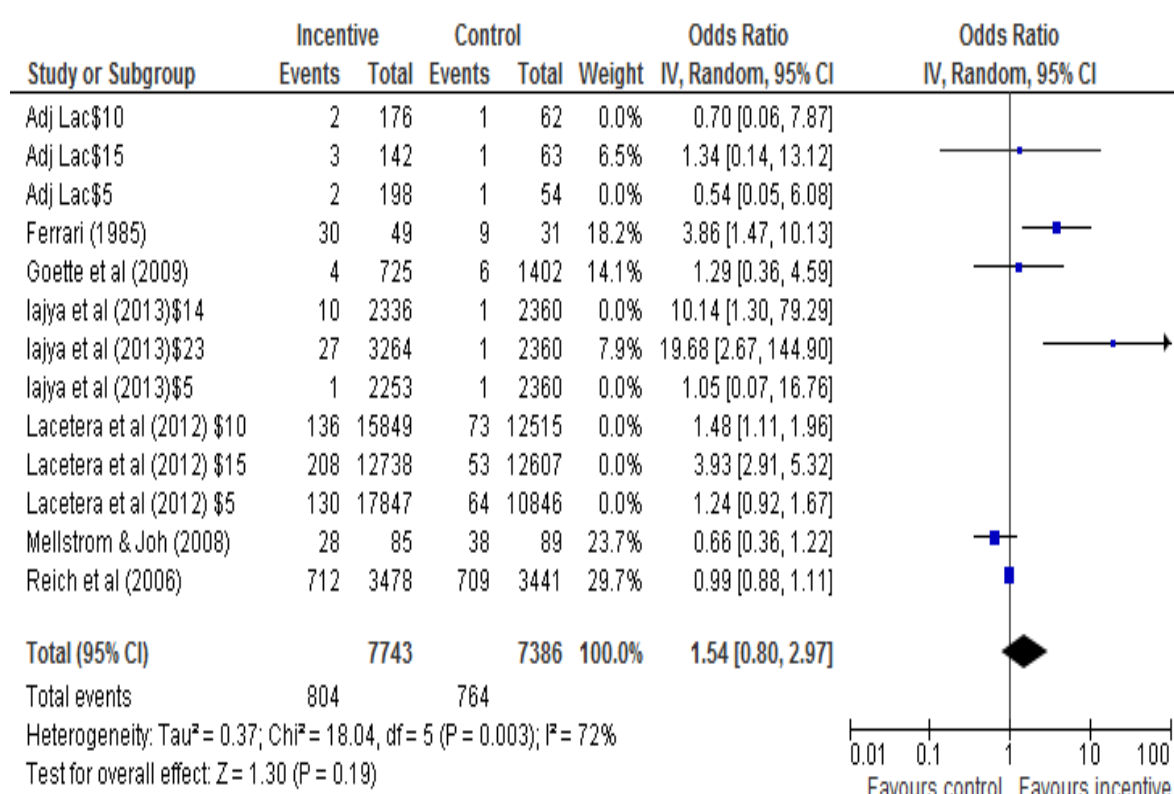


Figure 2 Revised meta-analysis with higher quality studies

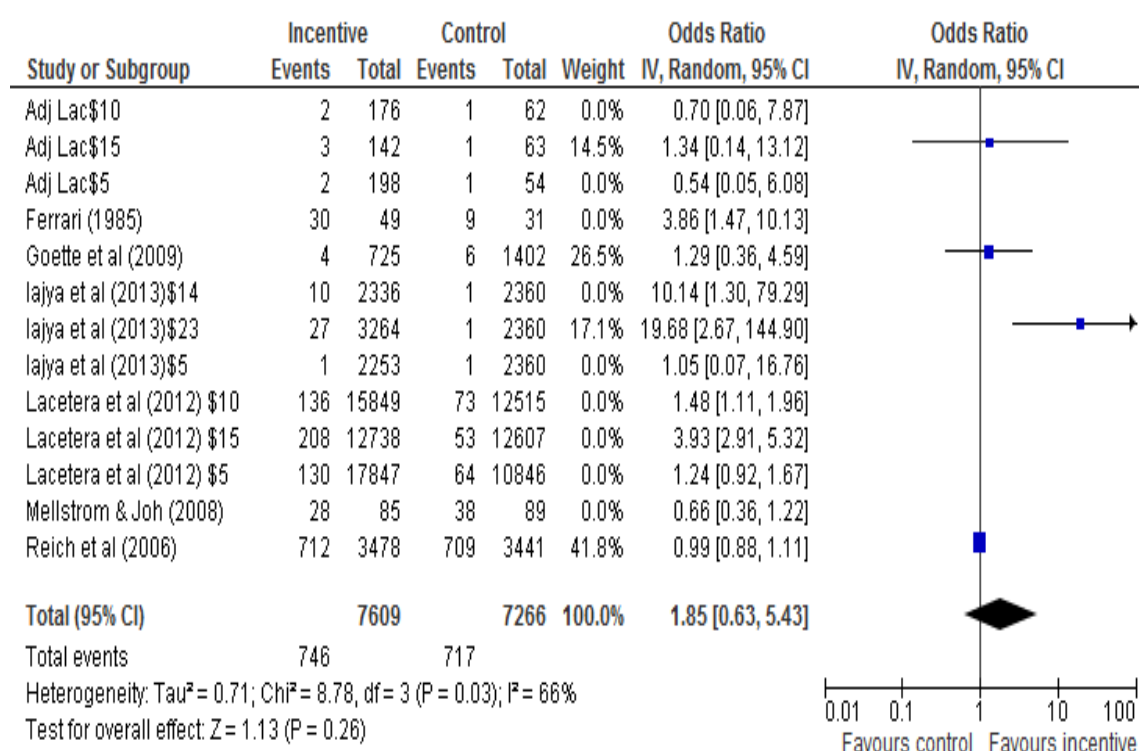


Figure 3 Small size incentives ≤\$5

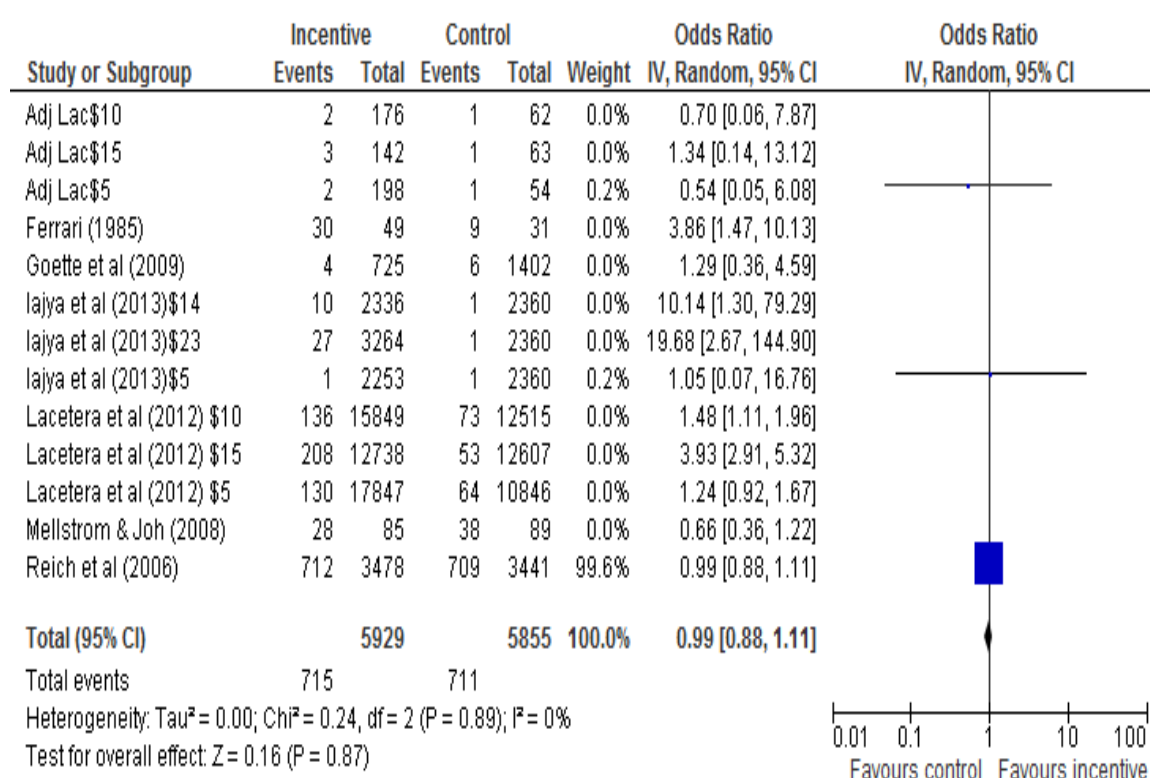


Figure 4 Medium size incentives >\$5 & <\$15

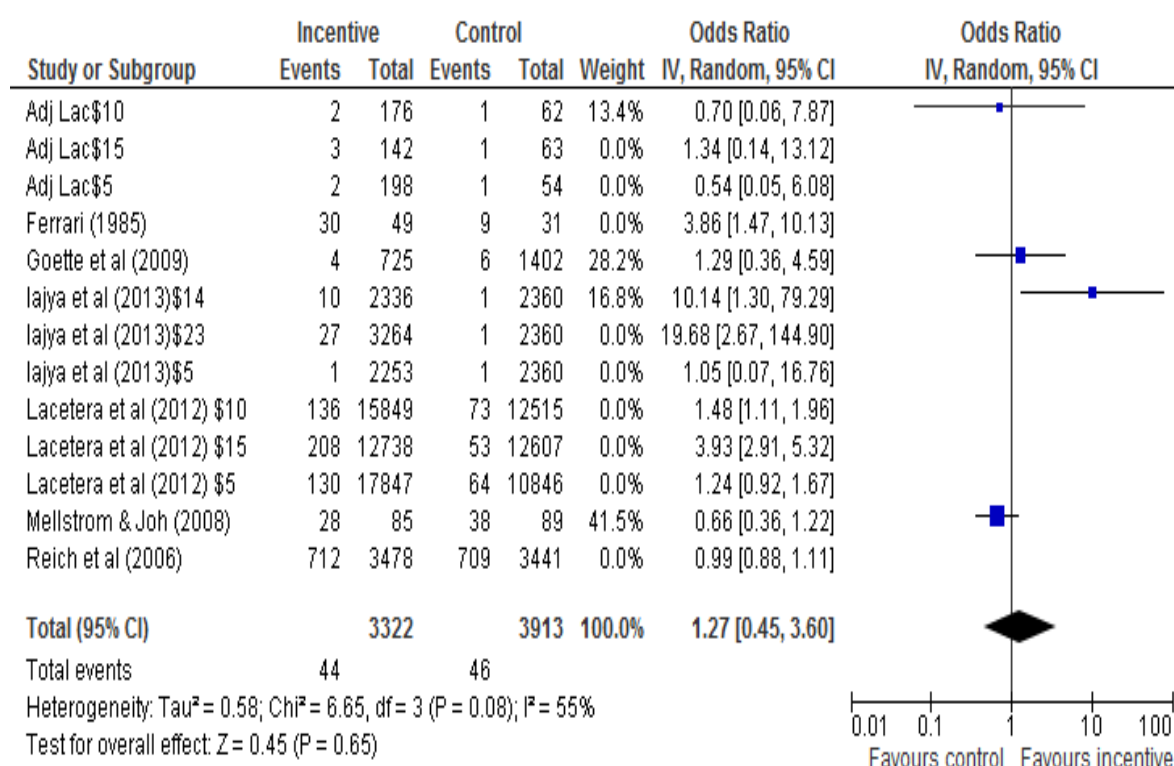


Figure 5 High size incentives $\geq \$15$

