Table Rate ratios in 2009 in 8 European countries relative to those expected based on trends over 2000-07

MEN	A- Chang's results		B- Conventional method	
Country	Rate ratio (95% CI)		Rate ratio (95% CI)	
Austria	1.034	(1.009 to 1.060)	1.029	(0.941 to 1.127)
Finland	1.082	(1.051 to 1.114)	1.080	(0.975 to 1.196)
France	1.047	(1.032 to 1.062)	1.040	(0.995 to 1.087)
Germany	1.055	(1.042 to 1.069)	1.054	(1.008 to 1.102)
Netherlands	1.052	(1.026 to 1.079)	1.055	(0.964 to 1.154)
Spain	1.072	(1.051 to 1.094)	1.063	(1.000 to 1.130)
Sweden	1.083	(1.053 to 1.115)	1.084	(0.984 to 1.194)
UK	1.099	(1.078 to 1.121)	1.101	(1.039 to 1.167)

WOMEN	A- Chang's results		B- Conventional method	
Country	Rate ratio (95% CI)		Rate ratio (95% CI)	
Austria	1.087	(1.043 to 1.135)	1.081	(0.927 to 1.260)
Finland	1.133	(1.079 to 1.192)	1.133	(0.959 to 1.339)
France	0.989	(0.971 to 1.007)	0.991	(0.934 to 1.051)
Germany	1.007	(0.990 to 1.024)	1.014	(0.954 to 1.077)
Netherlands	1.049	(1.008 to 1.093)	1.050	(0.924 to 1.194)
Spain	0.974	(0.948 to 1.002)	0.968	(0.876 to 1.070)
Sweden	0.973	(0.929 to 1.021)	0.972	(0.840 to 1.124)
UK	1.015	(0.984 to 1.047)	1.013	(0.924 to 1.111)

A- Results published in Chang et al's paper (Table 2) [1]. We found closely comparable results when we used the following negative binomial log-linear model:

$$\log(\lambda_{t,c,a}) = \log\left(E(O_{t,c,a})\right) = \log(pop_{t,c,a}) + \alpha_{c,a} + \beta_c \cdot t$$

where t is the year, c the country, a the age group, $O_{t,c,a}$ is the number of deaths and $pop_{t,c,a}$ is the population estimate. The confidence intervals of the rate ratios $\frac{O_{t,c,a}}{\hat{\lambda}_{2009,c,a}}$ of each country were obtained only by considering the variance of each expected number of suicides $\hat{\lambda}_{2009,c,a}$.

B- Results of the following negative binomial log-linear model:

$$\log(\lambda_{t,c,a}) = \log\left(E(O_{t,c,a})\right) = \log(pop_{t,c,a}) + \alpha_{c,a} + \beta_c \cdot t + \gamma_c \cdot 1_{\{t=2009\}}$$

where $1_{\{t=2009\}}$ is the dummy variable for 2009. The rate ratios were calculated with the exponential of γ_c and their confidence intervals with the variance of γ_c.

1. Chang S-S, Stuckler D, Yip P, Gunnell D. Impact of 2008 global economic crisis on suicide: time trend study in 54 countries. BMJ. 2013;347:f5239–f5239.