On the agreement between bibliometrics and peer review: evidence from the Italian research assessment exercises.

Supplementary tables.

Alberto Baccini, Lucio Barabesi, Giuseppe De Nicolao

The following four tables synthesize Cohen’s kappa estimates obtained by adopting the linear weights described in Section 6 of the paper.

Table A.1: Cohen’s kappa estimates with linear weights (percent) for EXP1 (95% confidence level intervals in parenthesis), bibliometric vs peer rating.

| Area | ANVUR | $\hat{\kappa}^{(1)}$ | $\hat{\kappa}^{(2)}$ | $\hat{\kappa}^{(3)}$ | $\hat{\kappa}^{(4)}$ |
|------|--------|------------------------|------------------------|------------------------|------------------------|
| 1    | 31.76(24.00,40.00) | 31.76(26.63,37.48) | 33.28(27.53,39.02) | 15.96(12.90,19.02) |
| 2    | 23.02(19.00,27.00) | 23.02(19.59,26.45) | 26.16(22.85,29.47) | 18.06(15.68,20.43) |
| 3    | 22.46(17.00,28.00) | 22.46(18.23,26.69) | 23.65(19.44,27.85) | 15.33(12.43,18.23) |
| 4    | 27.76(20.00,36.00) | 27.26(21.52,32.99) | 27.54(21.79,33.28) | 18.72(14.60,22.84) |
| 5    | 32.87(28.00,38.00) | 32.87(29.31,36.43) | 34.59(31.14,38.05) | 22.83(20.38,25.29) |
| 6    | 30.24(26.00,34.00) | 30.30(27.43,33.18) | 31.25(28.43,34.07) | 20.74(18.74,22.73) |
| 7    | 27.76(21.00,34.00) | 27.76(22.42,33.11) | 29.76(24.64,34.89) | 19.20(15.66,22.74) |
| 8a   | 19.94(10.00,30.00) | 19.94(11.62,28.26) | 20.34(12.01,28.66) | 15.12(8.68,21.55) |
| 9    | 16.15(12.00,20.00) | 16.15(12.93,19.37) | 19.78(16.36,23.20) | 12.36(10.20,14.51) |
| 13   | 54.00(46.00,62.00) | 54.00(46.00,62.00) | 54.00(46.00,62.00) | 54.00(46.00,62.00) |
| All  | 31.52(30.00,33.00) | 31.23(29.91,32.55) | 32.60(31.30,33.89) | 21.89(20.95,22.82) |

* Source: ANVUR (2013, Appendix B). Reproduced in Ancaiani et al. (2015).

Table A.2: Cohen’s kappa estimates with linear weights (percent) for EXP2 (95% confidence level intervals in parenthesis), bibliometric vs peer rating.

| Area | ANVUR | $\hat{\kappa}^{(1)}$ | $\hat{\kappa}^{(2)}$ | $\hat{\kappa}^{(3)}$ | $\hat{\kappa}^{(4)}$ |
|------|--------|------------------------|------------------------|------------------------|------------------------|
| 1    | 21.30(15.00,27.60) | 21.28(15.25,27.31) | 22.64(16.57,28.72) | 14.61(11.56,17.66) |
| 2    | 26.40(22.40,30.50) | 26.41(22.55,30.27) | 26.59(24.20,32.38) | 21.56(18.75,24.38) |
| 3    | 19.40(14.30,24.60) | 19.44(14.57,24.31) | 20.79(15.97,25.62) | 13.08(10.20,15.95) |
| 4    | 23.70(16.50,30.90) | 23.67(16.87,30.47) | 24.25(17.57,30.94) | 14.97(10.95,18.99) |
| 5    | 24.00(19.70,28.30) | 24.03(19.95,28.11) | 24.96(20.93,28.98) | 20.03(17.91,22.15) |
| 6    | 22.70(19.30,26.00) | 22.68(19.49,25.86) | 24.38(21.25,27.51) | 21.52(20.07,22.97) |
| 7    | 26.50(21.00,32.10) | 26.54(21.32,31.77) | 28.43(23.35,33.51) | 14.95(12.17,17.72) |
| 8b   | 17.10(8.00,25.40) | 17.08(9.13,25.03) | 20.22(12.48,27.96) | 10.71(6.76,14.66) |
| 9    | 16.80(12.80,20.80) | 16.78(12.85,20.61) | 19.47(15.71,23.23) | 19.00(17.11,20.89) |
| 11b  | 23.50(15.50,33.40) | 23.46(14.08,32.84) | 25.02(15.87,34.17) | 13.96(9.13,18.79) |
| 13   | 30.30(25.70,34.80) | 30.27(25.91,34.63) | 30.27(25.91,34.63) | 31.31(27.46,35.17) |
| All  | 25.80(24.30,27.40) | 25.93(24.48,27.37) | 27.13(25.71,28.54) | 20.60(19.89,21.49) |

* Source: ANVUR (2017, Appendix B, Table B.7).
Table A.3: Cohen’s kappa coefficient estimates with linear weights (percent) for EXP1 (95% confidence level intervals in parenthesis), P1 vs P2 ratings.

| Area | ANVUR | $\tilde{\kappa}^{(1)}_{\text{w}}$ | $\tilde{\kappa}^{(1)}_{\text{w}}$ (DBR) | $\tilde{\kappa}^{(1)}_{\text{w}}$ (IR) |
|------|--------|-----------------|-----------------|-----------------|
| 1    | 35.95(27.00,45.10) | 33.55(28.10,39.00) | 35.95(26.75,45.15) | 27.65(17.45,37.85) |
| 2    | 23.32(18.00,29.00) | 23.91(18.46,28.26) | 17.99(8.58,27.39) |                |
| 3    | 25.01(19.00,31.00) | 22.19(17.63,26.74) | 25.01(19.29,30.72) | 2.71(-7.02,12.45) |
| 4    | 25.00(15.00,35.00) | 25.00(15.66,33.45) | 25.00(15.66,33.45) | 12.69(-2.37,27.76) |
| 5    | 27.50(22.00,33.00) | 25.52(19.66,29.38) | 27.50(22.33,32.68) | 11.23(2.54,19.92) |
| 6    | 24.60(20.00,29.00) | 22.88(19.76,26.00) | 24.66(20.50,28.82) | 11.48(4.19,18.76) |
| 7    | 15.70(7.00,24.00)  | 16.54(10.74,22.34) | 15.70(7.57,20.22)  | 16.44(3.67,29.22) |
| 8a   | 20.29(7.00,33.00)  | 19.88(10.26,29.50) | 20.29(8.45,32.13)  | 16.92(-1.70,45.55) |
| 9    | 19.35(13.00,25.00) | 19.35(13.50,25.21) | 19.35(13.50,25.21) | 22.57(12.68,32.27) |
| R    | 40.00(32.00,48.00) | 29.50(34.36,44.65) | 29.50(34.36,44.65) |                |
| All  | 28.53(26.00,31.00) | 27.15(25.72,28.58) | 28.30(26.42,30.17) | 18.95(15.54,22.35) |

* Source: ANVUR (2013, Appendix B). Reproduced in Anciani et al. (2015).

b Weighted Cohen’s kappa for the sets of articles with a definite bibliometric rating (DBR).
c Weighted Cohen’s kappa for the sets of articles without a definite bibliometric rating and submitted to informed peer review (IPR).

Table A.4: Cohen’s kappa coefficient estimates with linear weights (percent) for EXP2 (95% confidence level intervals in parenthesis), P1 vs P2 ratings.

| Area | ANVUR | $\tilde{\kappa}^{(1)}_{\text{w}}$ | $\tilde{\kappa}^{(1)}_{\text{w}}$ (DBR) | $\tilde{\kappa}^{(1)}_{\text{w}}$ (IR) |
|------|--------|-----------------|-----------------|-----------------|
| 1    | 19.90(12.60,27.10) | 23.52(17.47,29.67) | 19.86(10.92,28.81) | 35.00(21.63,48.38) |
| 2    | 19.40(14.50,24.30) | 21.00(16.64,25.36) | 19.4(15.47,25.36)  | 19.92(6.79,33.04)  |
| 3    | 13.90(7.80,20.00)  | 14.59(9.31,19.86)  | 13.93(7.12,20.74)  | 15.30(2.97,27.63)  |
| 4    | 18.70(11.26,25.50) | 18.20(11.68,24.72) | 18.71(10.07,27.36) | 11.28(-2.41,24.97) |
| 5    | 19.20(14.30,24.10) | 19.78(15.45,24.11) | 19.17(13.40,24.95) | 19.97(9.46,30.49)  |
| 6    | 18.70(14.60,22.70) | 17.63(14.08,21.17) | 18.66(13.87,23.46) | 8.86(-5.18,17.75)  |
| 7    | 19.30(13.20,25.84) | 22.00(16.86,27.15) | 19.28(11.39,27.17) | 27.61(17.24,37.97) |
| 8b   | 3.40(-6.20,12.90)  | 8.47(0.17,16.78)   | 3.36(-9.25,15.98)  | 21.87(5.65,38.09)  |
| 9    | 15.00(9.80,20.20)  | 15.18(10.7,19.66)  | 15.00(8.85,21.16)  | 12.21(1.53,22.89)  |
| 11b  | 25.30(13.10,37.60) | 26.03(15.55,36.51) | 25.32(8.03,42.61)  | 22.96(1.19,44.72)  |
| 13   | 31.40(25.70,37.10) | 31.38(25.99,36.76) | 31.38(25.99,36.76) |                |
| All  | 23.20(21.40,25.90) | 23.35(21.79,24.90) | 23.36(21.38,24.36) | 19.59(15.75,23.44) |

* Source: ANVUR (2017, Appendix B, Tabella B.7).

b Weighted Cohen’s kappa for the sets of articles with a definite bibliometric rating (DBR).
c Weighted Cohen’s kappa for the sets of articles without a definite bibliometric rating and submitted to informed peer review (IPR).