Supporting Information

Gautreau et al. 10.1073/pnas.0811113106

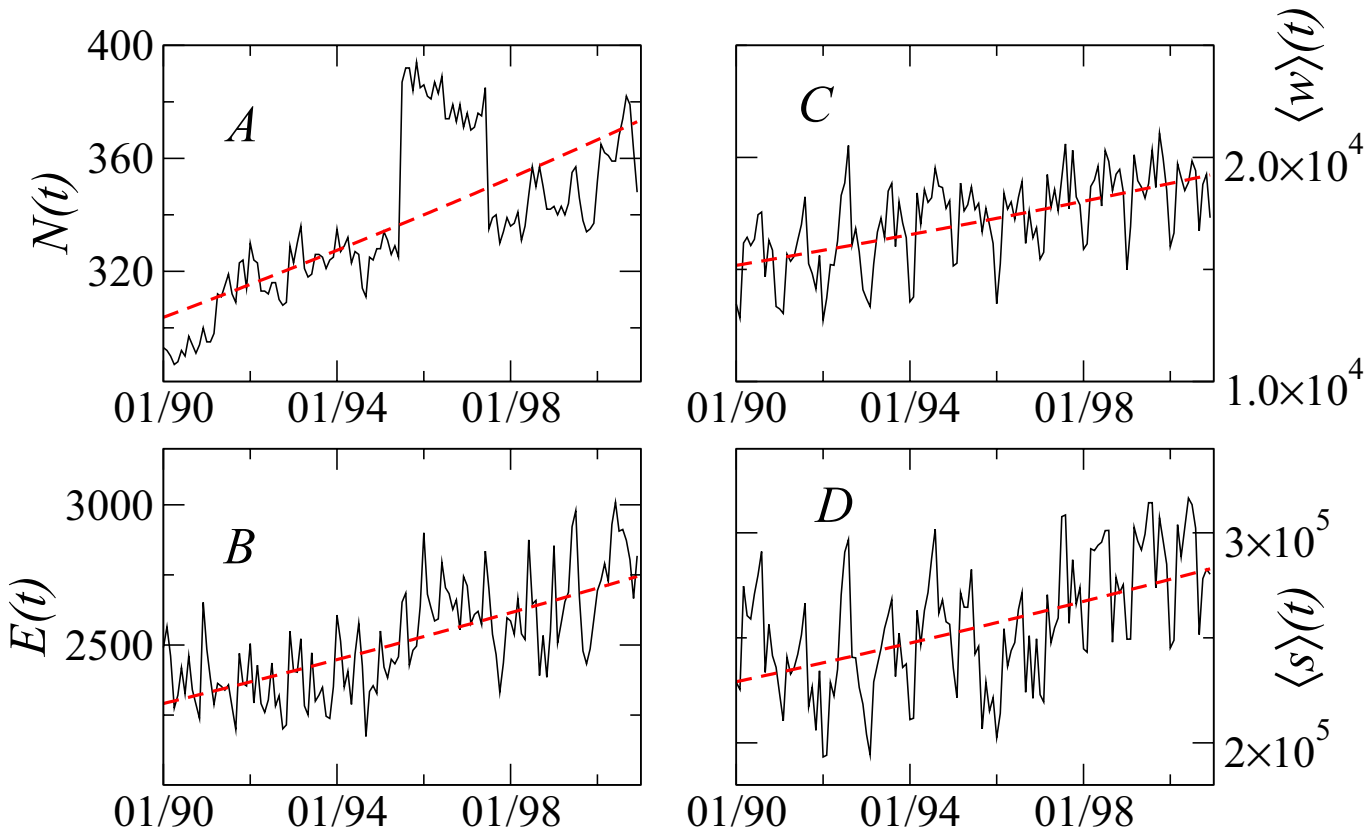

Fig. S1. Time evolution of the number of nodes $N(t)$ (*A*), the number of links $L(t)$ (*B*), the average link weight $\langle w\rangle(t)$ (*C*), and the average node strength $\langle s\rangle(t)$ (*D*) in the US airport network from January 1990 to December 2000. Dashed lines are exponential fits.

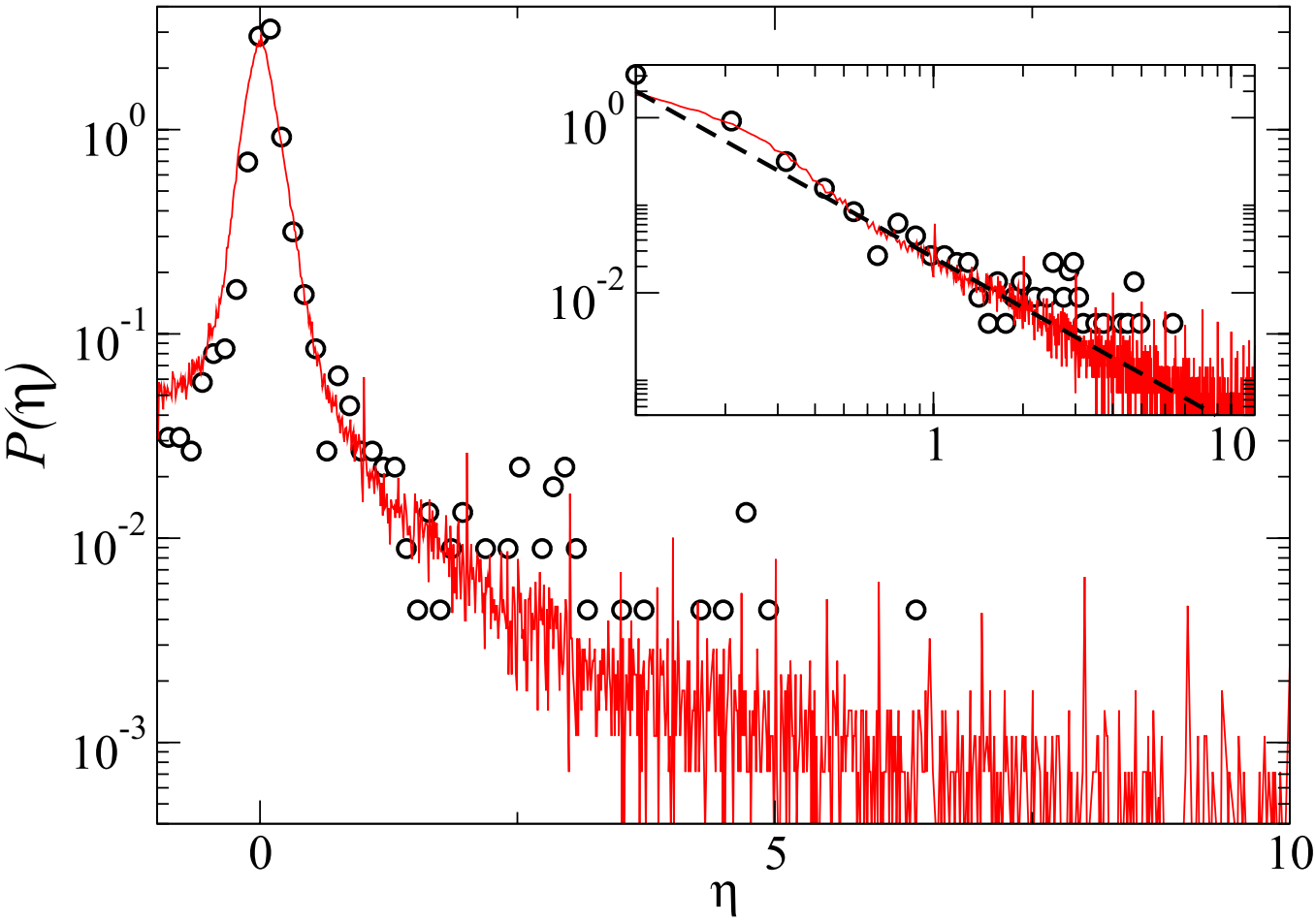

Fig. S2. Distribution of the relative weights increments $\eta = (w(t+1) - w(t))/w(t)$. The full line corresponds to the distribution obtained over the 11 years under study. Circles correspond to 1 month (May 1995). In the *Inset*, we show the tail of the distribution of η, with a power law fit $P(\eta) \sim \eta^{-\nu}$, giving $\nu = 1.9 \pm 0.1$ (dashed line).

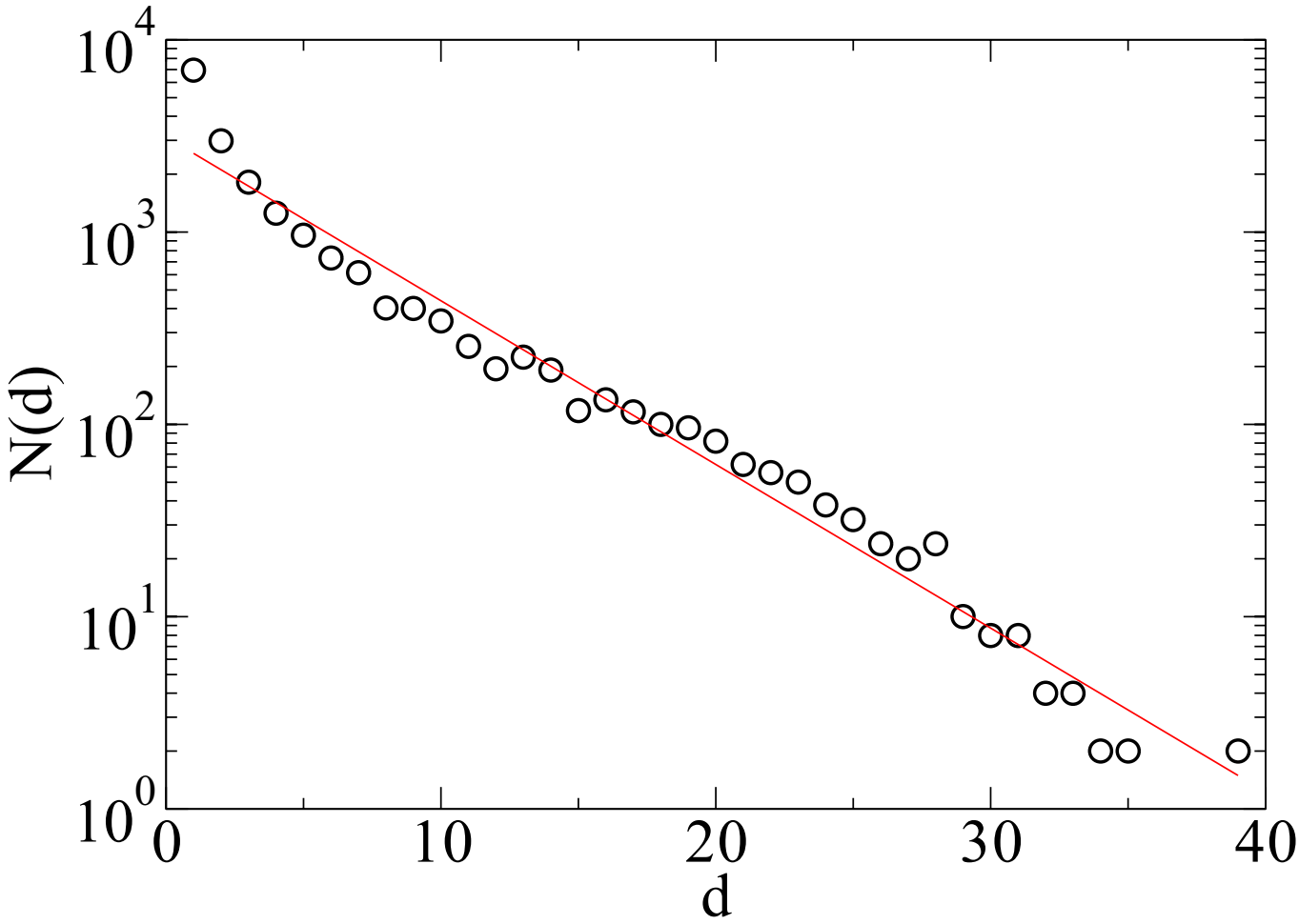

Fig. S3. Histogram of the number d of appearances and disappearances of a link. The line is an exponential fit of the form e^{-d/d_0} with $d_0 \approx 5$ showing that most links appear/disappear less than 5 times in the 11 years period.

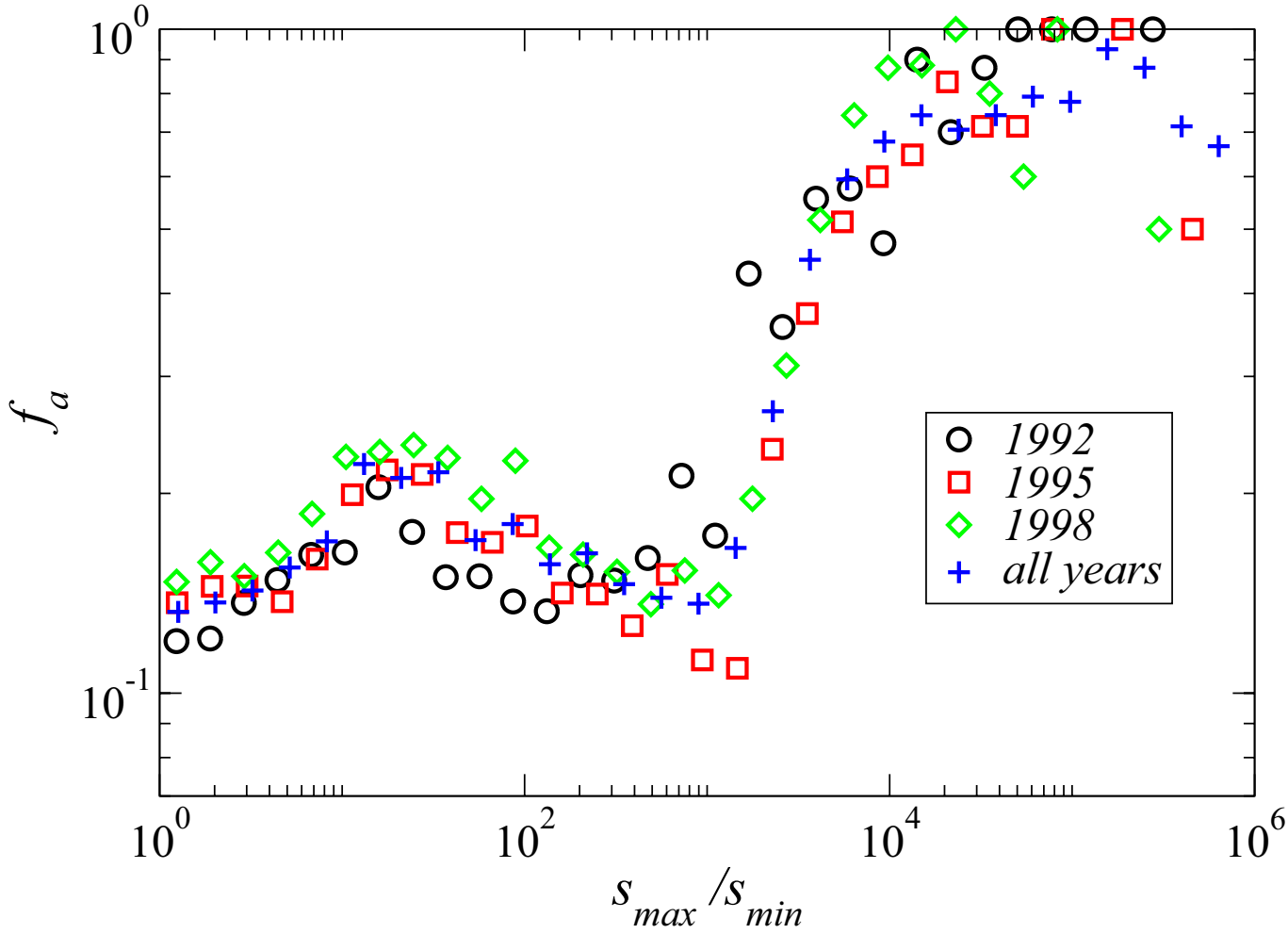

Fig. S4. Fraction f_a of appearing links in the USAN as a function of the ratio s_{max}/s_{min} of the strengths of their extremities. Circles, squares, and diamonds correspond to the data of 3 distinct years, whereas the pluses represent the data averaged over the whole 11-year time period. This figure clearly illustrates the stationarity of f_a.

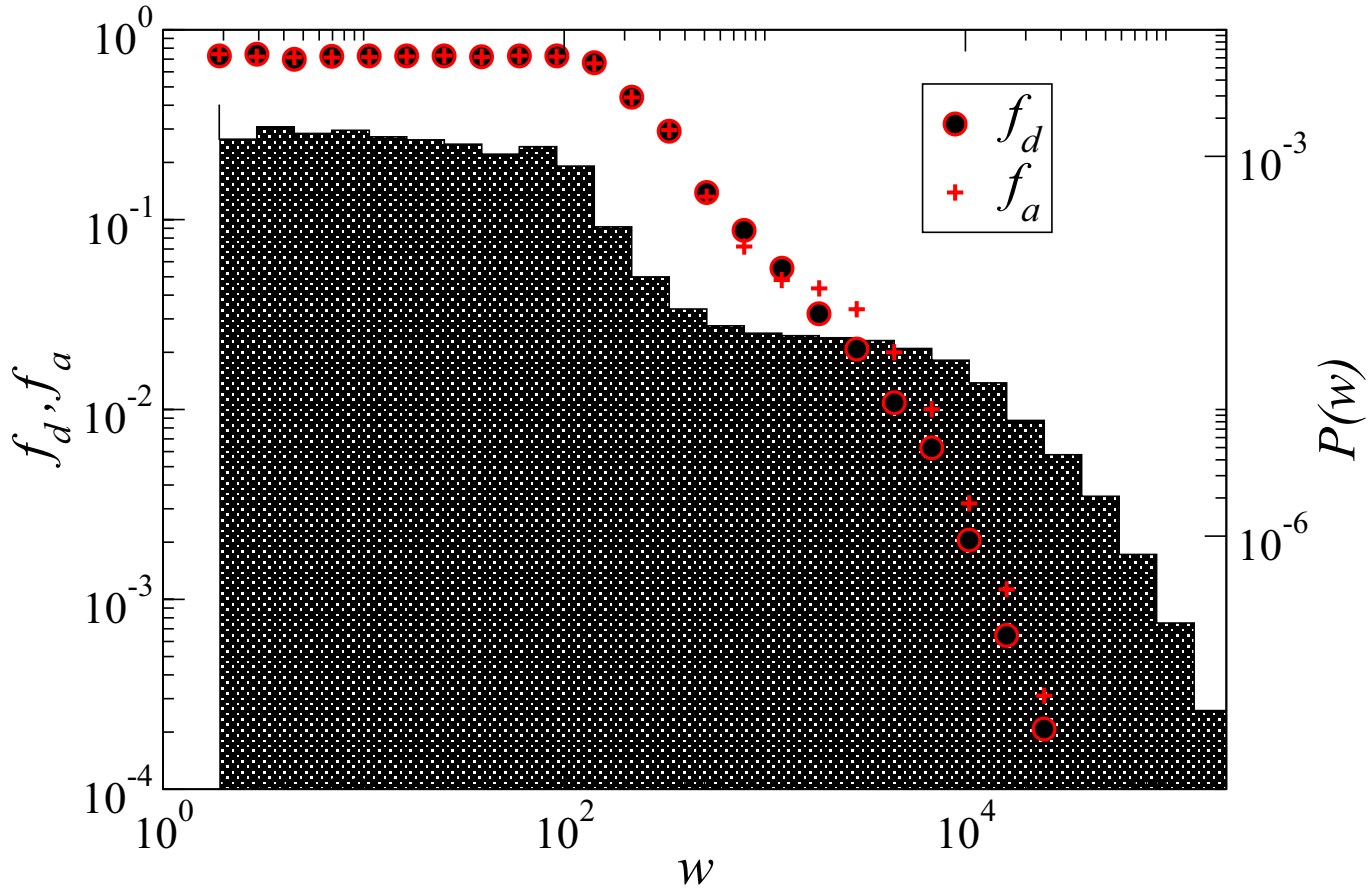

Fig. S5. Fraction f_d (open circles) of disappearing links and f_a (pluses) of appearing links in the USAN as a function of their weight w. We also show the logarithmically binned reference distribution $P(w)$ (line above the shaded area, scale on the right-hand y axis). Data are averaged over the whole 11-year time period.

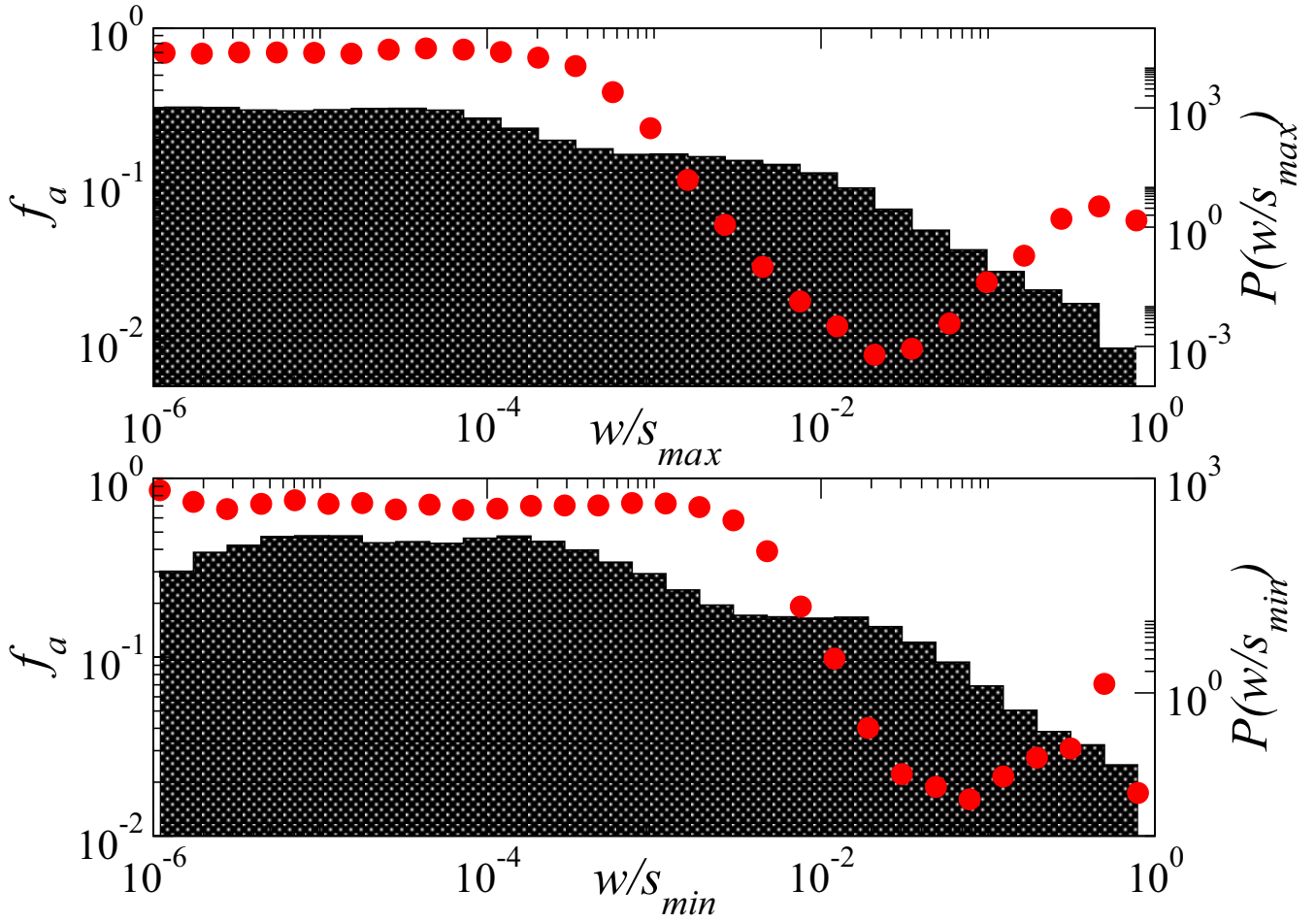

Fig. S6. Fraction f_a (open circles) of disappearing links in the USAN as a function of the ratios w/s_{min} and w/s_{max}. We also show the logarithmically binned reference distributions $P(w/s_{min})$ and $P(w/s_{max})$ (line above the shaded area, scale on the right-hand y axis). Data are averaged over the whole 11-year time period.

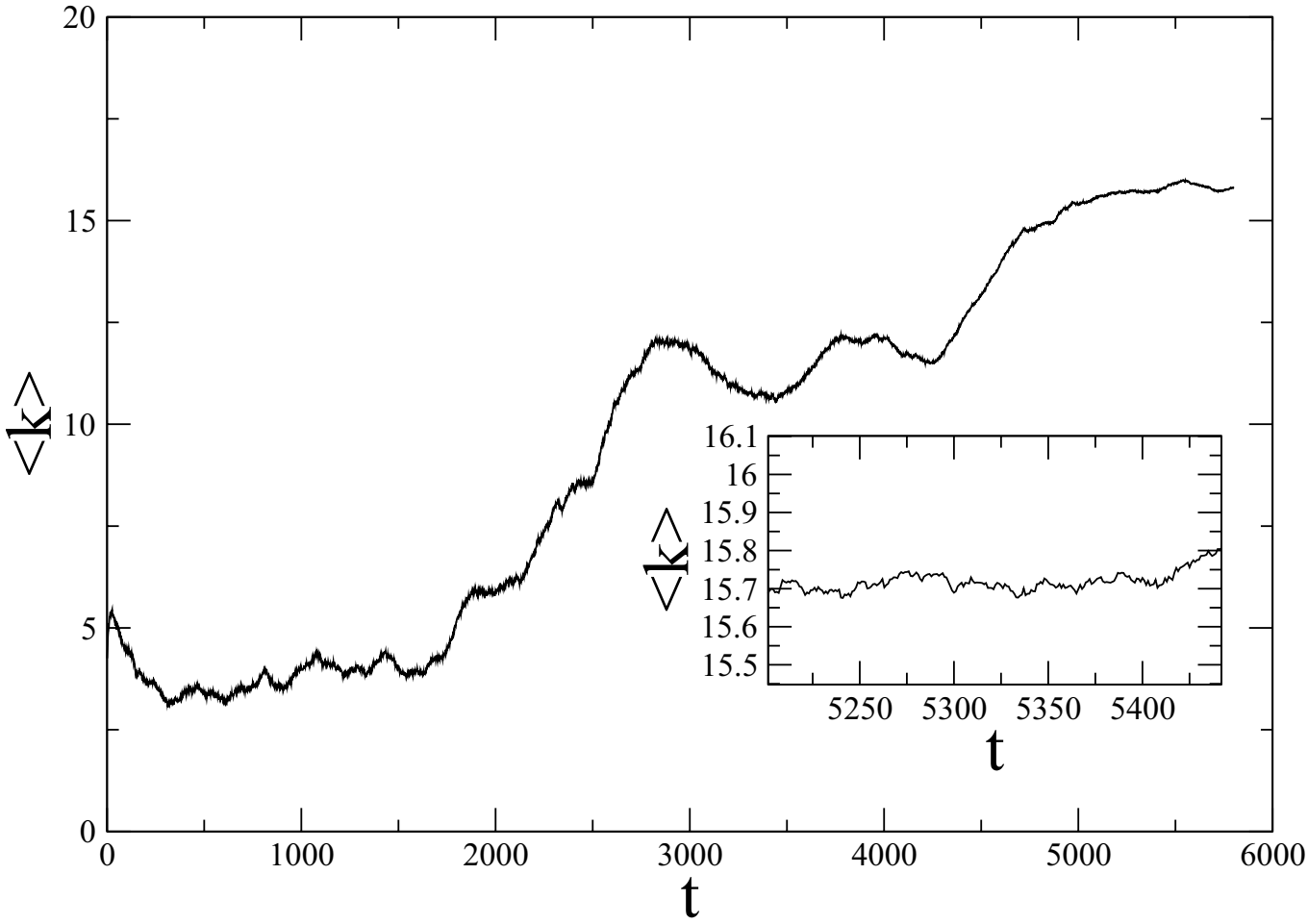

Fig. S7. Model: evolution of the average degree of the network for the parameters $\eta = 0.002$, $\sigma = 0.05$, $p_f = 0.1$, $p_d = 0.005$. (*Inset*) Zoom of the final part displaying small fluctuations of the average degree.

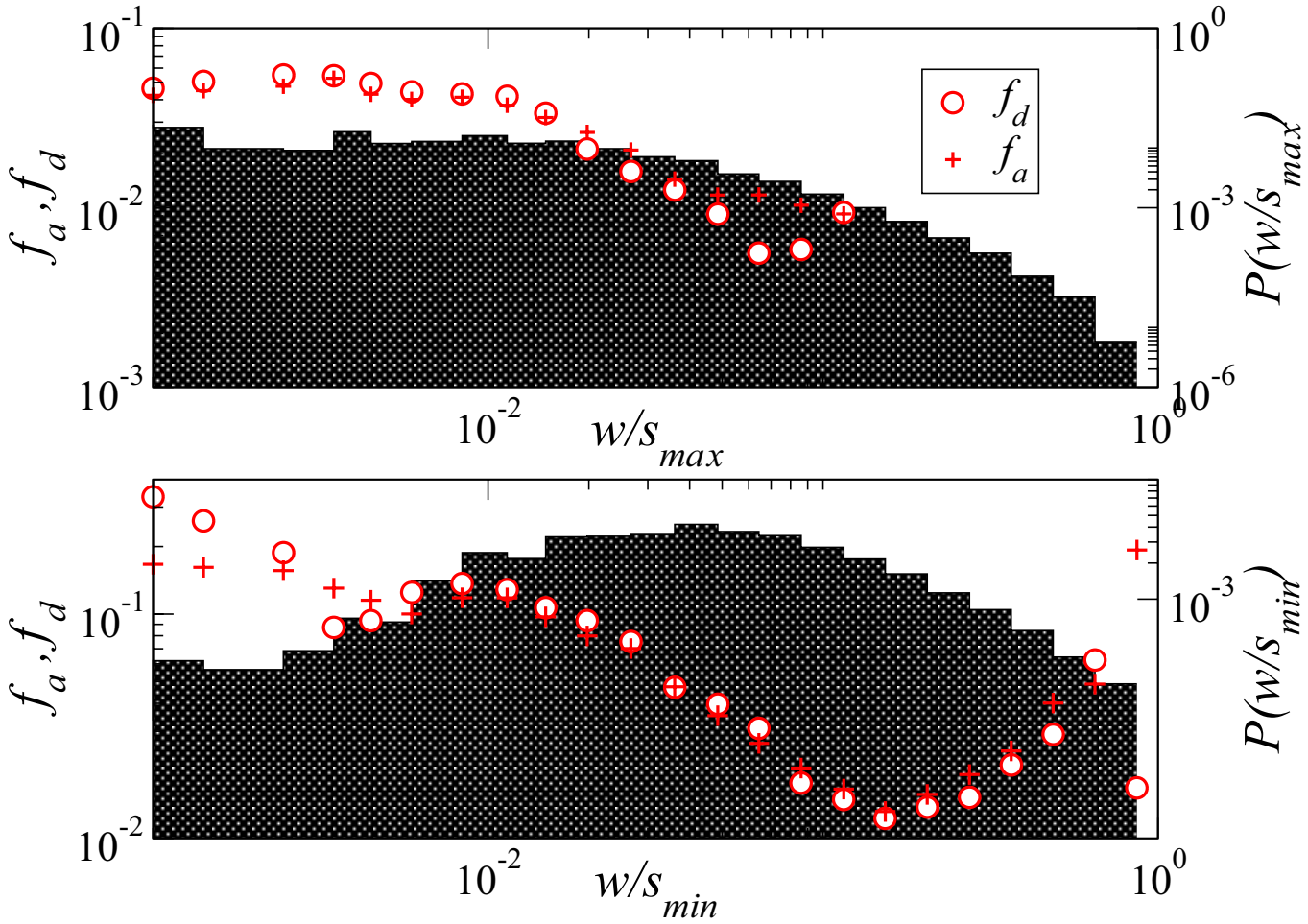

Fig. S8. Model: Fraction f_d (open circles) of disappearing links and f_a (pluses) of appearing links in the model as a function of the ratios w/s_{min} and w/s_{max}. We also show the logarithmically binned reference distributions $P(w/s_{min})$ and $P(w/s_{max})$ (line above the shaded area, scale on the right-hand y axis).