

## Matlab Code for Simulating Internet Adoption Used in DiMaggio and Garip (2011)

For details of the analytic approach, see:

Paul DiMaggio and Filiz Garip. 2011. "How Network Externalities Can Exacerbate Intergroup Inequality." *American Journal of Sociology* 116(6): 1887-1933.

**generate\_population\_gss.m:** Reads in the population comprised of 2002 GSS data (N=2257). Returns a race, income, education and contacts matrix (2257 x 8) where the 8 columns correspond to Node #, Race, Income, Education, Income Group ID, Education Group ID, Number of Contacts, and Number of Contacts with whom the person discusses personal or other important problems.

**establish\_ties\_gss.m:** For a given population, establishes a network of ties with a given homophily bias parameter (h). A social distance equation determines the in-group vs. outgroup members. Social distance is the euclidean distance between two individuals based on race, education and income, each weighted by their relative homophily in social networks compared with homophily in the general population.

**simulate\_adoption\_w\_general\_net\_ext\_gss.m:** Simulates internet adoption rates for a given network (with nodes from the GSS sample) and given reservation price parameters under *general* network externalities. Returns adoption rates and prices over time.

**simulate\_adoption\_w\_specific\_net\_ext\_gss.m:** Simulates internet adoption rates for a given network (with nodes from the GSS sample) and given reservation price parameters under *specific* network externalities. Returns adoption rates and prices over time.

**simulate\_adoption\_all\_cases\_gss.m:** Using GSS 2002 population, simulates internet adoption for three cases: (1) No network externalities, (2) General network externalities, and (3) Specific

network externalities (with or without homophily).