Project A4

The Heterogeneity of Skills, Technological Change, and Changing Perspectives on the Labor Market

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How do social networks contribute to wage inequality? Insights from an agent-based analysis.

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In the literature several explanations for the increasing wage inequality in the U.S. as well as in continental Europe including Germany have been given. The most prominent explanations are skill-biased-technological change (job polarization), the development of relative skill demand and supply, mechanical changes in the workforce composition, labor market institutions and episodic events. Recent empirical literature has pointed out that much of the growth of wage inequality can however be ascribed to increasing wage dispersion among workers with the same educational attainment and/or experience. Put differently there seem to be important mechanisms independent from standard observable factors, like skills, influencing residual wage inequality.

The goal of this paper is to explore the role of one such potential mechanism, namely referral hiring through social networks, on wage inequality. The importance of friends or social contacts in finding jobs through referrals has been highlighted in many publications. But while there is an agreement about the importance of social contacts for finding a job the effect of social networks on wage differentials is discussed controversially tending towards a positive influence of social contacts on wages.

We contribute to the discussion about wage inequality by analyzing the effects of social networks, especially the density and the underlying homophily, on wage inequality via referrals. In this paper we ask (and try to answer) the questions: i) does the density of the network influence the overall wage inequality, the residual wage inequality in different skill groups, and the across skill wage inequality? ii) does the homophily change, weaken, or amplify these effects. Given that referral hiring seems to have become more frequent over the last years and social networks seem to have become more dense, answering these questions might contribute to a sound understanding of the mechanisms responsible for the observed increase in wage inequality within (skill) groups.

The analysis is conducted in a closed agent-based macroeconomic simulation model (Eurace@Unibi) incorporating a network generator with a tunable density and homophily index. Homophily is introduced via the general skill levels of workers which can be interpreted as formal qualification. Wage setting, labor demand and the evolution of the productivity of individual workers are endogenized.

First simulations show that referral wages are positively correlated with the number of friends per worker (density) for all skill groups. Non referral wages are negatively correlated with density and

this correlation weakens with the general skill levels. These patterns influence the wage inequality, which is measured via the standard deviation of overall wages, and skill dependent wages. The standard deviation is positively correlated with the density but decreases with the general skill level. Moreover, simulations suggest that the effects of the density on wage inequality is amplified with a higher homophily index underlying the social network.