Assignment 3 EEMO

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1 Problem 1

2

The affinity matrix shows a clear pattern of positive matching in the two main diagonals. The values for Cognitive Skill x Cognitive Requirement = 0.40* and Manual Skill x Manual Requirement = 0.41* are statistically significant and positive. Therefore, people with high cognitive resp. manual skill get often matched with jobs that require high cognitive resp. manual skill, thus we have positive assortative matching on the main diagonals.

Looking at the off-diagonal values which either present complementarities or trade-offs we see that the interaction between cognitive skill and manual requirement is statistically significantly negative (-0.07***). This means that workers with high cognitive skill do not fit for jobs with high manual requirement. The vice-versa interaction in contrast is 0.03 but not statistically significant. So seems to be no systemic influence of manual skill on matching with jobs with high cognitive requirement.

3

The rank test of the affinity matrix suggests as $H_0 : Rank(1) = 1$ is rejected with $\chi^2 = 140.96$ that there is not only have one dimension explaining the matching. The saliency analysis confirms this finding by orthogonal decomposition. Two matching indices together explain 1000% of the affinity matrix structure with index 1 primarily focusing in manual skills positively and cognitive skills negatively while Index 2 combines both skills positively. It can be seen that Index 1 is explaining 52% of the matching while Index 2 explains 48%. Therefore, two dimensions are relevant for matching between jobs and workers.

2 Problem 2

2

The estimated surplus matrix patterns show strong positive assortative matching with especially high values along the main diagonal (M1-W1=0.24, M2-

W2=0.32, M3-W3=0.5 and M4-W4=0.91) while the values with cross combinations get lower the farther away from the diagonal (M1-W4=0.01 and M4-W1=0.00). This shows that people preferably marry others on the same education level. The matching surplus strongly increases in cases of homophily and also the higher the education level, the higher the surplus from marrying someone with the same level.

3

In a nonparametrical model only the joint surplus Π_{ij} can be estimated. No clear differentiation can be made between the two components. As an example one can look at M3-W4 and M4-W3. While there is a higher surplus for M3-W4, one cannot see whether this is driven by men's preferences, women's preferences or both. Therefore, it can be concluded that no information about male (α_{ij}) and female (γ_{ij}) preferences can be made.