My dissertation focuses on economics of higher education. Specifically, I study how scientists’ social network gives indications on their later career (Chapter 1), the universities’ research performance (Chapter 2), and the overall production of research outputs (Chapter 3). Building on the current surge of social network analysis, all the papers are built upon networks of co-authors. This thesis contributes to the study of social networks. It documents the prevalence of research collaborations and how they impact the production of science, making a case for taking this phenomenon into account when designing funding mechanisms.

Chapter 1 looks at how a researcher’s professional network influences her career path, and I specifically consider the career of young economists on the American academic market. I exploit an original dataset building from the researchers’ individual vitae and their publication records. I investigate the impact of social network on career path by looking at the correlation between early career network metrics and the quality of the institutional affiliation of the researcher. I find that the number of social ties a researcher has as well as her relative position in the research network matters for explaining career mobility and success, even when controlling for publications. Having more co-authors boost the early career, while a higher quality of publications matters on the long run.

In Chapter 2, I look at the impact of inter-university partnerships on the production of research outputs. Using an original data set of scientific publications and universities’ budgets, I analyze the network of research in Spain based on the network of Spanish co-authors. I show how the growth in research productivity of Spanish institutions before the crisis was linked to the increase in universities’ budgets and in inter-university collaborations. The results show that the size of the university is the key factor to understand universities productivity. The network multiplier is significant and positive, indicating that collaboration has a positive effect. Finally, in the context of the current crisis, I am able to identify the universities that are the least productive, taking into account their own characteristics and the indirect effects of the collaborations. This analysis has clear policy implications, as the least productive universities could be targeted to minimize the impact of further budgets cuts.

Finally, Chapter 3 focuses on the link between the composition of the scientists’ workforce and the amount of research produced. Using Chapter 2’s dataset enriched by a list of the applicants to the two most prestigious postdoctoral grants in Spain, I am able to identify the young researchers in the co-authorship network. I study the link between the number of young researchers and the total research output.

All three chapters show how important collaborations are in the production of science. The first chapter shows how some network metrics correlate with career outcomes, giving indication on how much to engage in collaborative work. The second paper shows how network analysis can be used to produce performance rankings of universities taking into account the partnerships. Finally, the third chapter makes a case for the importance of policies targeting young scientists. Further research can be done to understand the link between competition for students and resources and the co-authorship network, or the endogenous process of career changes and changes in the network.