Credit rating agencies and the European sovereign debt crisis

In this thesis, we want to take a closer look at the behavior of credit rating agencies during the last decade. Specifically, we want to analyze sovereign ratings in Europe. This research is of interest to policymakers, investors, and researchers alike. To policymakers, because it would give a scientific argument to their complaints about CRAs. To investors, because it helps assessing the reliability of ratings. Finally, to researchers, because the current literature in the field of sovereign ratings is rather sparse, especially when compared to research on corporate ratings. This thesis has six chapters, the first being an introduction and the last providing a conclusion. The other four chapters analyze different aspects of Credit Rating Agencies and the European Sovereign Debt Crisis. All of them are of empirical nature.

In chapter two, we explore whether or not rating agencies have assigned country ratings in a coherent manner. Specifically, we look at two phenomenons: procyclicality and path dependence. The former refers to whether the CRAs take the business cycle systematically into account, while controlling for macroeconomic fundamentals. The latter effect refers to the probability that a country is downgraded again, given its macroeconomic characteristics and the fact that it has already been downgraded. Procyclicality is a violation of rating through the cycle, that is assigning ratings on a longterm basis, rather than following short term market movements. Path dependence, also referred to as sluggishness, can produce a vicious cycle of repeated downgrades. We find no systematic evidence for procyclicality, but we find evidence for path dependence. Also, our regressions explain downgrades better than upgrades, which give rise to the suspicion that CRAs might have assigned upgrades in a careless manner prior to 2008.

The third chapter investigates whether ratings during the recent crisis for European countries reflect default probabilities. If we would perform this exercise with corporate ratings, it would be easy. We would have millions of rating changes for hundreds of thousands of firms available. One can calculate transition matrices from this and compare them to a subsample to see whether firms that are similar in size and other characteristics are treated similarly over time, or whether there are anomalies in the data. The data base for country ratings is much smaller and contains fewer defaults. Thus, we need to use another methodology. We use Credit Default Swap (CDS) data and correlate it with rating data to see whether there is a significant positive relationship. To reduce the noise in the CDS data we use a new variant of a Mixed Data Sampling (MIDAS) estimator. We find that in the majority of cases CDS data and rating data predict a similar default probability. However, there is a subgroup of countries in our data set located in eastern Europe where the correlation is not positive significant.

Chapter four concentrates only on the second part of our title. That is we concentrate on the sovereign debt crisis aspect and leave the agencies out of the picture for the time being. We examine the impact of austerity programs that have been implemented in Greece, Portugal, and Spain from 2010 onwards. To do so, the synthetic counterfactual estimator is used. We construct a synthetic Greece, Portugal, and

Spain and compare the evolution of GDP per capita between the actual data and the synthetic counterpart. We find that the programs have done extensive damage to Greece and Portugal, however we find no effect for Spain. This can be explained by the fact that the Spanish economy is in a process of change ever since the collapse of the construction sector and that this is the major driver of the current economic climate in Spain.

In the fifth chapter we analyze the relationship between the three big agencies. Specifically, we look for a possible leader-follower relationship in their rating history using frequency-domain analysis. To do so, we study the rating history of five countries in Europe during the crisis. While for Greece, Portugal, and Spain the CRAs act independently, there is a leader-follower relationship for the case of Ireland and Italy, suggesting that the agencies might be unsure about their judgment regarding these two countries.

The last chapter provides a conclusion to our research, where the results from the different chapters are put into perspective and overall policy implications are drawn