

There are several possible ways to cope with heteroscedasticity. First, methods of detecting heteroscedasticity are numerous. Take, e.g., the Park test, the Glejser test, Spearman's rank correlation test, the Goldfeld-Quandt test or the Breusch-Pagan-Godfrey test. Second, another possibility is to avoid OLS estimations and employ a related method, known under the label GLS (generalized least squares) that provides BLUE estimators. A special case of the GLS estimation, WLS (weighted least squares) is widely used in regression analysis. Third, a further possibility is to simply correct OLS estimations. Since many standard statistical packages allow us to calculate these corrections easily, it is not necessary to test for heteroscedasticity first, and then to think about remedial measures. We can simply compare OLS and the corrected ones. This correction method is named after White, and the technique is denoted HCCME (heteroscedasticity-consistent covariance matrix estimators) (White, 1980). Needless to say, the HCCME leave the coefficient estimations unchanged, but influence standard errors and significances.

We chose this last possibility of assessing the problems arising from heteroscedasticity. The estimation method employed is OLS, but the standard errors are heteroscedasticity-consistent or, equivalently, «White-corrected». Surprisingly, the difference between corrected and uncorrected standard errors is very small for almost all model specifications in the following sections. Heteroscedasticity is, contrary to our expectation, not much of a problem with the data in use.

3.2.4 Regression results

The results of the regressions are displayed in Tables A.6 and Table 3.2. The negative relationship between government consumption and population is significant on the 1% level in all model specifications (with the exception of model (6), where it is significant only on the 5% level), even when controlling for population density, which, apparently, cannot balance out the effect of size.⁵⁴ The coefficients of the size variable in the

⁵⁴ The negative sign of the coefficient for population density was not expected. Intuitively, we would expect countries with high population density to have higher government consumption, but some advantages for densely populated countries (at least for the extent of government consumption) seem to exist.