

Jean-Marie Dufour  
September 2011  
Compiled: October 23, 2011

## ECONOMETRIC THEORY EXERCISES 8

### Confidence sets

References: Dufour (2003), Gouriéroux and Monfort (1995, Chapter 15).

1. Discuss the relationship between hypothesis tests and confidence sets. In particular, the following points should be covered:
  - (a) How can a confidence set be derived from a family of tests ?
  - (b) How can a test be derived from a confidence set ?
  - (c) If a confidence set for a parameter  $\theta$  is derived from a family of tests with level  $\alpha$ , what is the level of this confidence set ? Justify your answer.

### References

- DUFOUR, J.-M. (2003): "Identification, Weak Instruments and Statistical Inference in Econometrics," *Canadian Journal of Economics*, 36(4), 767–808.
- GOURIÉROUX, C., AND A. MONFORT (1995): *Statistics and Econometric Models, Volumes One and Two*. Cambridge University Press, Cambridge, U.K., Translated by Quang Vuong.