

Solvabilité II : Calibration des chocs de capital de solvabilité requis avec expected shortfall.

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Projet de fin d'année basé sur l'article "Solvency II solvency capital requirement for life insurance companies based on expected shortfall" de Tim J. Boonen publié en Octobre 2017.

1 INTRODUCTION

Academic workflow, certainly in political science, is at a crossroads. The *American Journal of Political Science* (*AJPS*) announced a (my words) "[show your work](#)" initiative in which authors who are tentatively accepted for publication at the journal must hand over the raw code and data that produced the results shown in the manuscript. The editorial team at *AJPS* then reproduces the code from the manuscript. Pending successful replication, the manuscript moves toward publication. The *AJPS* might be at the fore of this movement, and it could be the most aggressive among political science journals, but other journals in our field have signed the joint [Data Access & Research Transparency](#) (DART) initiative. This, at a bare minimum, requires uploading code from quantitatively-oriented published articles to in-house directories hosted by the journal or to services like [Dataverse](#).

2 SOLVABILITE 2

3 MODELE DE L'ARTICLE : ESPECTED SHORTFALL POUR LA CALIBRATION DES CHOCS DE CALCUL DU SCR (CSR)

3.1 DESCRIPTION

3.2 MODELE DE CALIBRATION DES CHOCS DE CAPITAL DE SOLVABILITE REQUIS

3.2.1 CALIBRATION DU CHOC SUR LES ACTIONS

Calibration du choc scr sur les actions

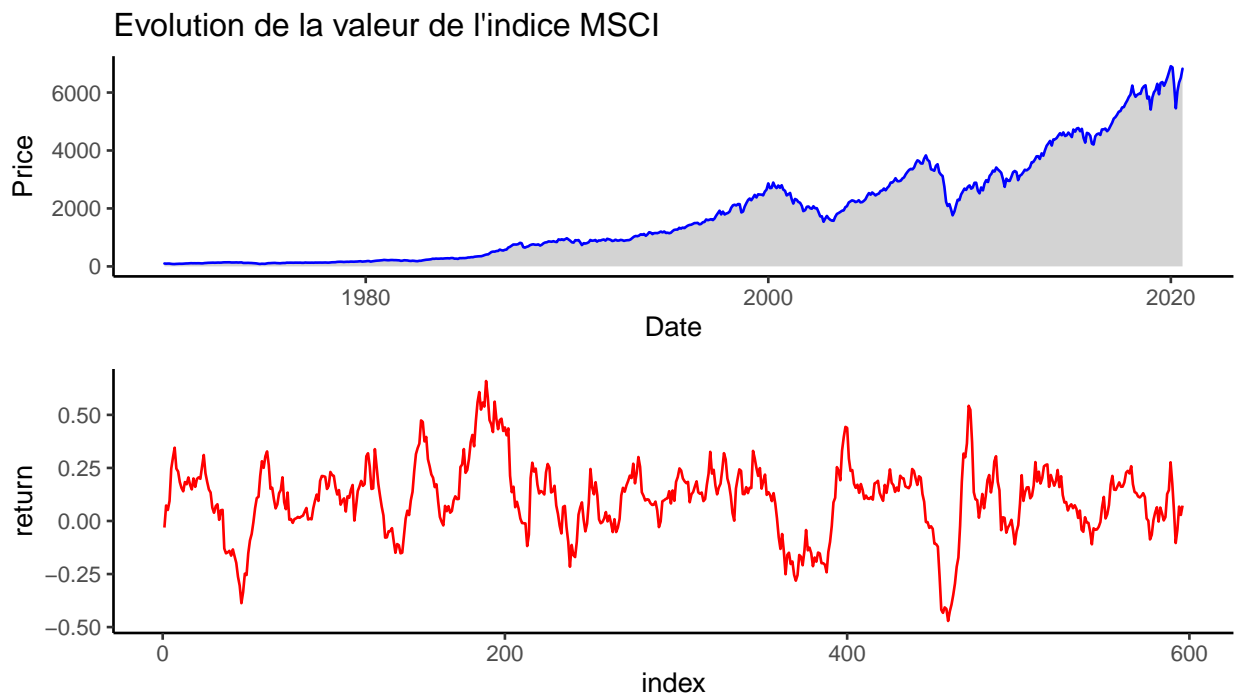


FIG. 1 : Rendement de l'indice MSCI

Distribution des rendements

Value at risque historique sur les données de rendements annualisées

Value at risque d'une loi normale théorique

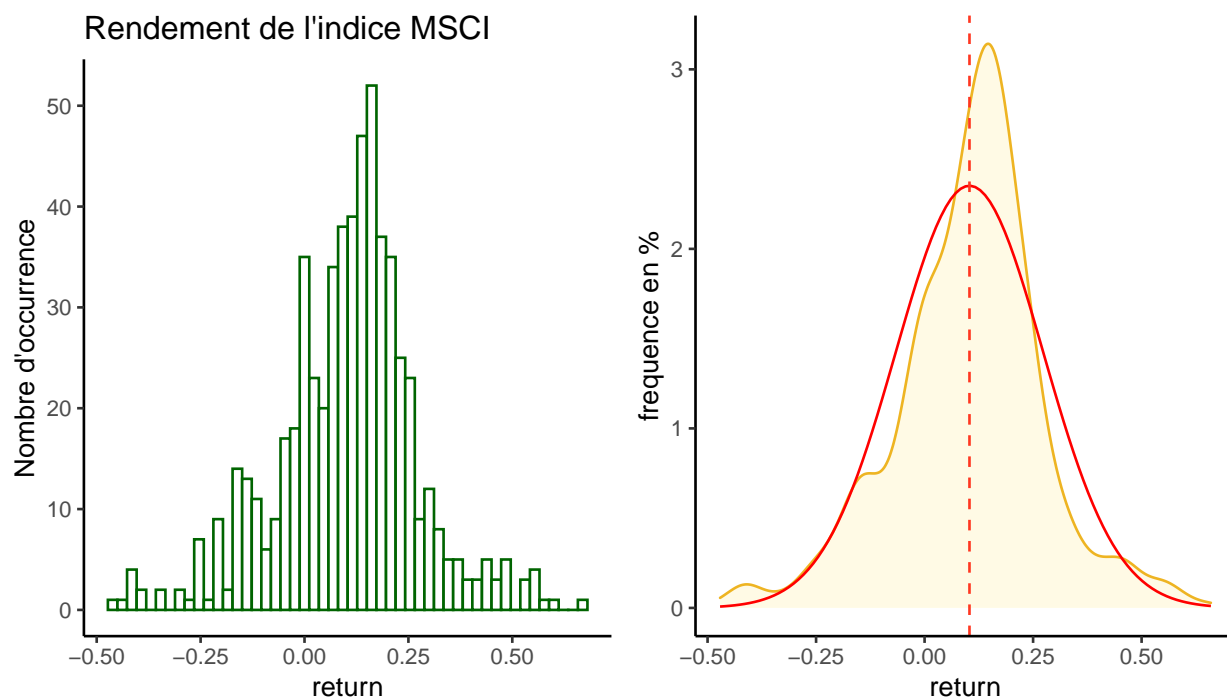


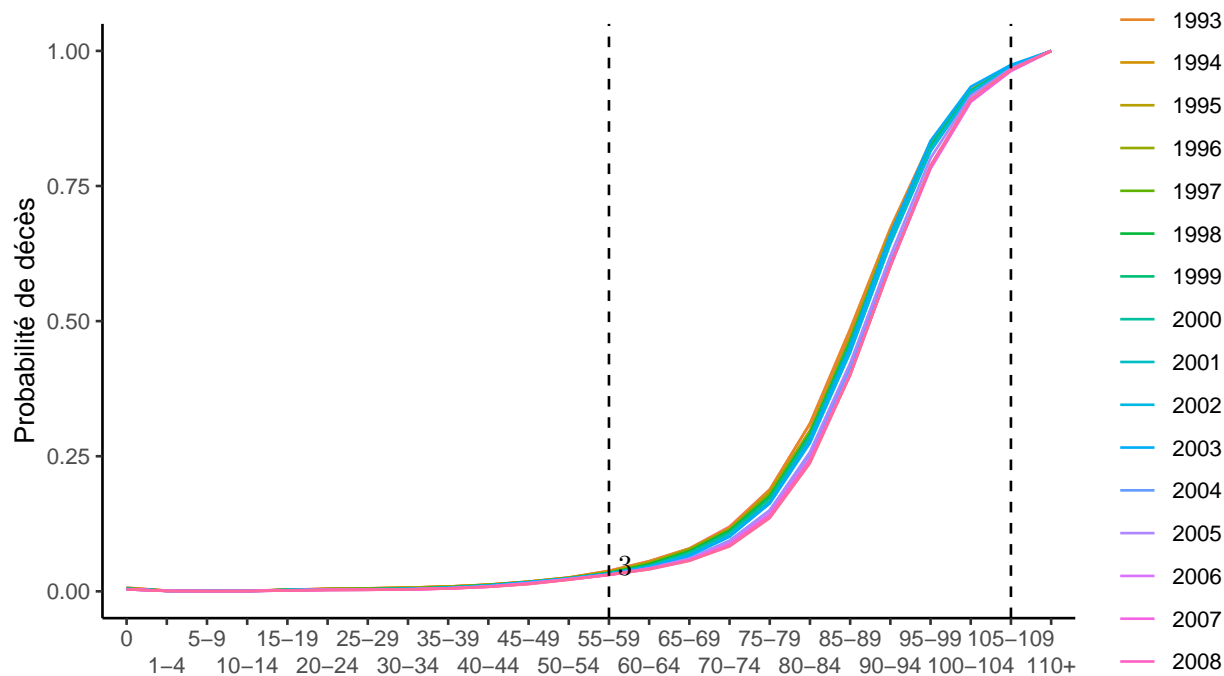
FIG. 2 : Rendement de l'indice MSCI

TAB. 1 : Calibration des chocs “global equity” avec la VaR et l’ES incluant un ajustement symétrique de 7,5%.

$\alpha(\%)$	$\theta(\alpha)(\%)$	$VaR_{\alpha}(\%)$	$ES_{\theta(\alpha)}(\%)$
99.5	98.85	-50.08	-50.33

3.2.2 CALIBRATION DU CHOC SUR LES TAUX

3.2.3 CALIBRATION DU CHOC SUR LA LONGEVITE



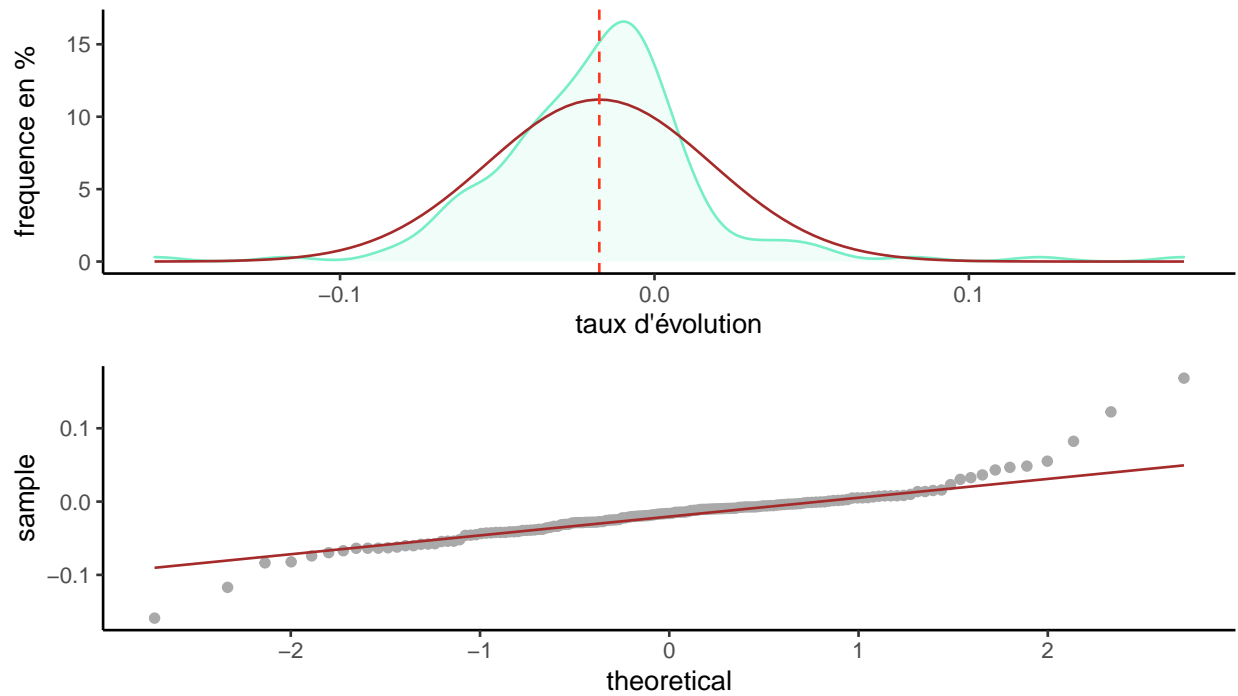


FIG. 4 : Another amazing plot

4 THEORIE DES VALEURS EXTREMES POUR LA CALIBRATION DES CHOCS

5 CONCLUSION

6 REFERENCES

7 ANNEXES avec codes, figures en plus etc.).

7.1 Packages R

7.2 Articles