# Fiscal shortage risk and the potential role for tropical storm insurance: evidence from the Caribbean

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# ONLINE APPENDIX

**Table A1.** Data sample periods

| **Country** | **ISOCODE** | **Sample period** |
|---|---|---|
| Anguilla | AIA | 2000-2013 |
| Antigua & Barbuda | ANT | 2003-2013 |
| Bahamas | BHS | 2002-2013 |
| Barbados | BRB | 2000-2013 |
| Dominican Republic | DOM | 2000-2013 |
| Grenada | GRE | 2000-2013 |
| Haiti | HTI | 2000-2013 |
| Jamaica | JAM | 2003-2013 |
| St. Kitts and Nevis | KNA | 2000-2013 |
| St. Lucia | LCA | 2000-2013 |
| Montserrat | MSR | 2000-2013 |
| St. Vincent and the Grenadines | VCT | 2000-2013 |

**Table A2.** Panel unit root results

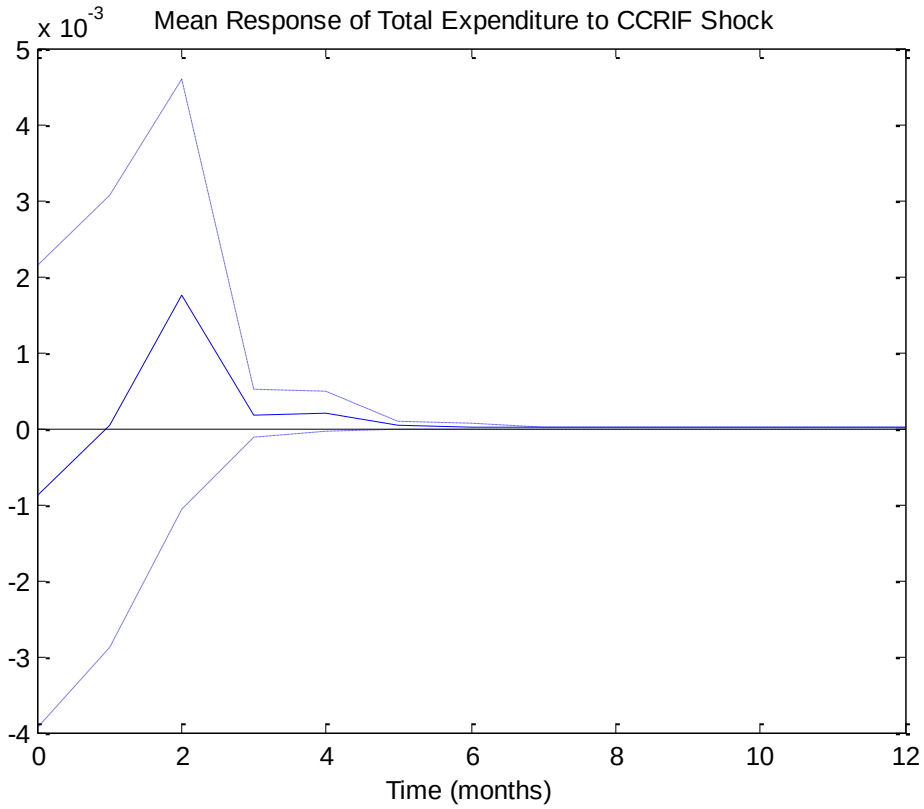
| Variables | $W_{stat}$ | | $t^{*}$ | | $Z_{tbar}$ | |
|---|---|---|---|---|---|---|
| | *Test-stat* | *p-values* | *Test-stat* | *p-values* | *Test-stat* | *p-values* |
| Total revenue | -8.975 | 0.000 | -5.878 | 0.000 | -2.912 | 0.002 |
| Total expenditure | -8.546 | 0.000 | -2.2106 | 0.014 | -1.348 | 0.089 |
| Income revenue | -3.063 | 0.000 | -3.242 | 0.000 | -3.219 | 0.000 |
| Good revenue | -5.475 | 0.000 | -2.383 | 0.000 | -2.268 | 0.000 |
| Current expenditure | -3.588 | 0.0002 | -3.54206 | 0.000 | -2.922 | |
| Capital expenditure | -4.211 | 0.000 | -3.542 | 0.000 | -2.952 | 0.000 |
| Payouts | -3.704 | 0.000 | -8.350 | 0.000 | -3.456 | 0.000 |

*Notes*: The 5% critical value for the null hypothesis of unit root is -1.96 for the Levin *et al*. (2002) and Im *et al*. (2003) test statistic; and -2.56 for the Pesaran (2007) statistic. Time trend included for trended variables.

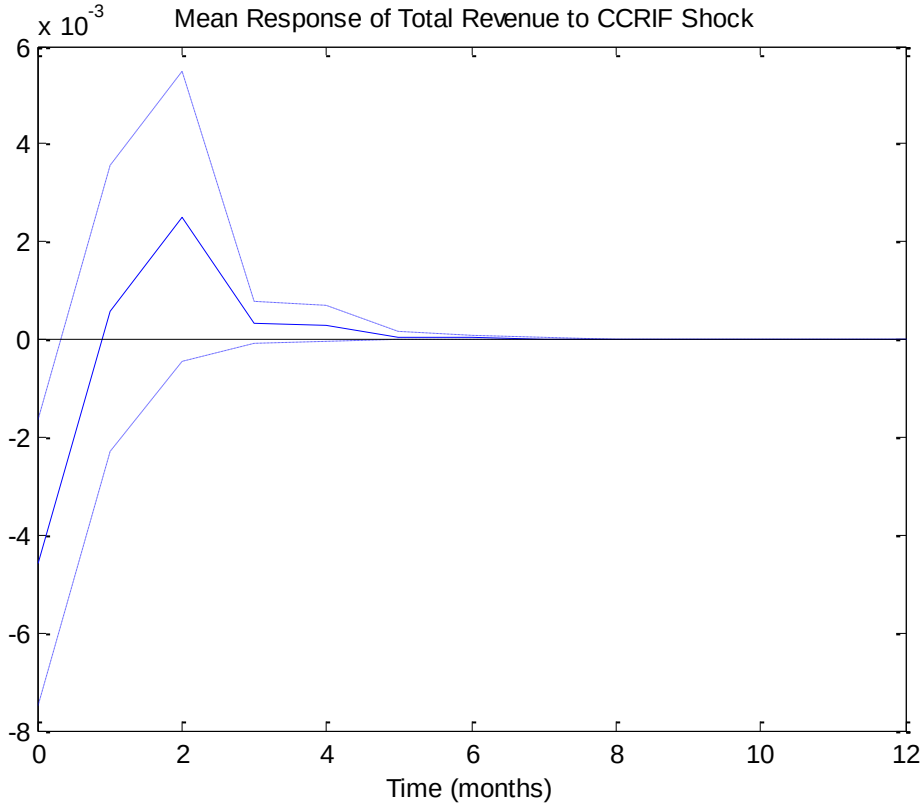
**Table A3.** Parameter estimates of the gamma-GPD mixture model

| **Isocode** | $k$ | $\theta$ | $\mu$ | $\sigma$ | $\zeta$ |
|---|---|---|---|---|---|
| **AIA** | 0.22 | 0.87 | 0.55 | 0.21 | 0.51 |
| **ANT** | 0.23 | 0.31 | 0.21 | 0.07 | 0.67 |
| **BHS** | 0.17 | 5.02 | 1.36 | 4.15 | 0.14 |
| **BRB** | 0.20 | 0.03 | 0.02 | 0.02 | -0.86 |
| **DOM** | 0.19 | 0.52 | 0.42 | 0.00 | 2.94 |
| **GRE** | 0.16 | 0.72 | 0.17 | 0.04 | 1.81 |
| **HTI** | 0.26 | 0.22 | 0.15 | 0.60 | -0.59 |
| **JAM** | 0.17 | 0.20 | 0.10 | 0.33 | -1.34 |
| **KNA** | 0.25 | 0.18 | 0.13 | 0.06 | 0.51 |
| **LCA** | 0.25 | 0.16 | 0.10 | 0.01 | 1.45 |
| **MSR** | 0.21 | 0.50 | 0.11 | 1.45 | -0.97 |
| **VCT** | 0.19 | 0.10 | 0.04 | 0.23 | -0.99 |

Panel A




Panel A



Panel B

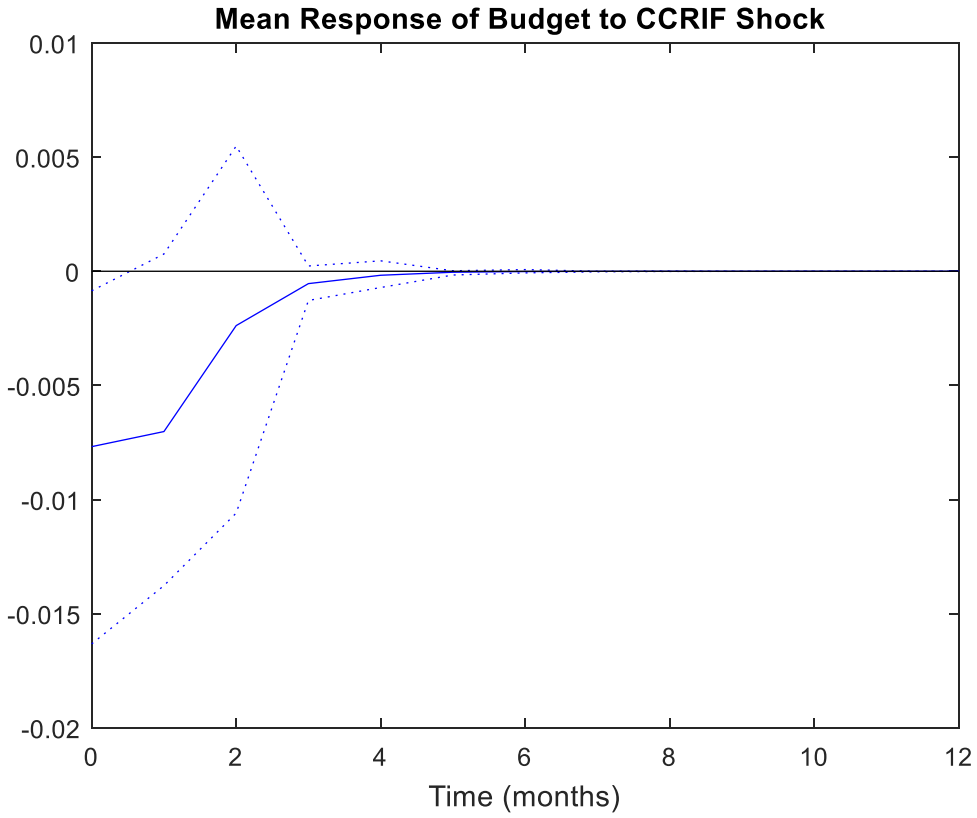
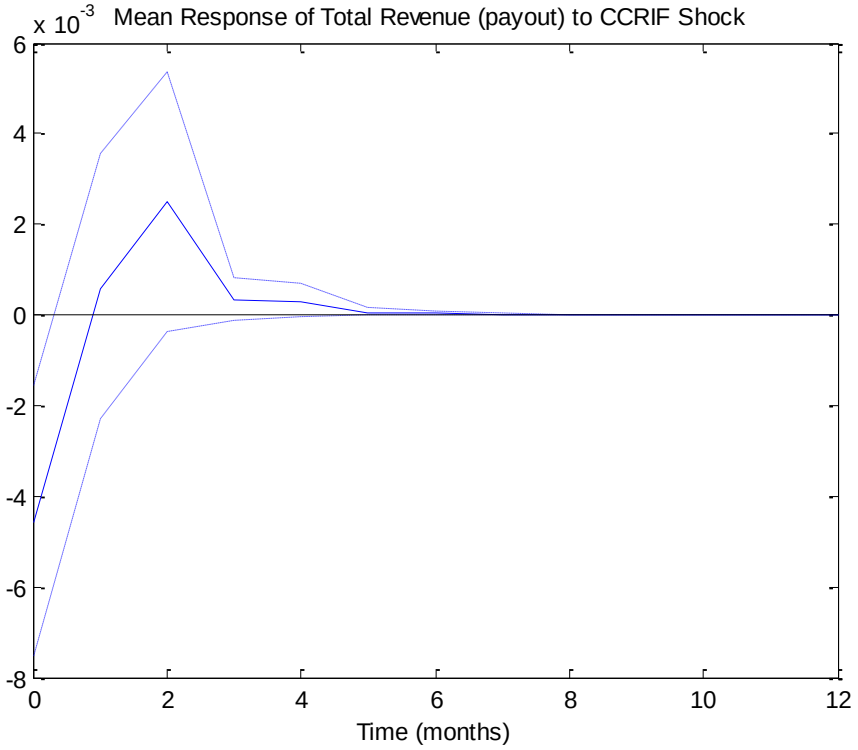



**Figure A1.** Mean response of aggregate fiscal variables

Panel A


Panel B



Panel C

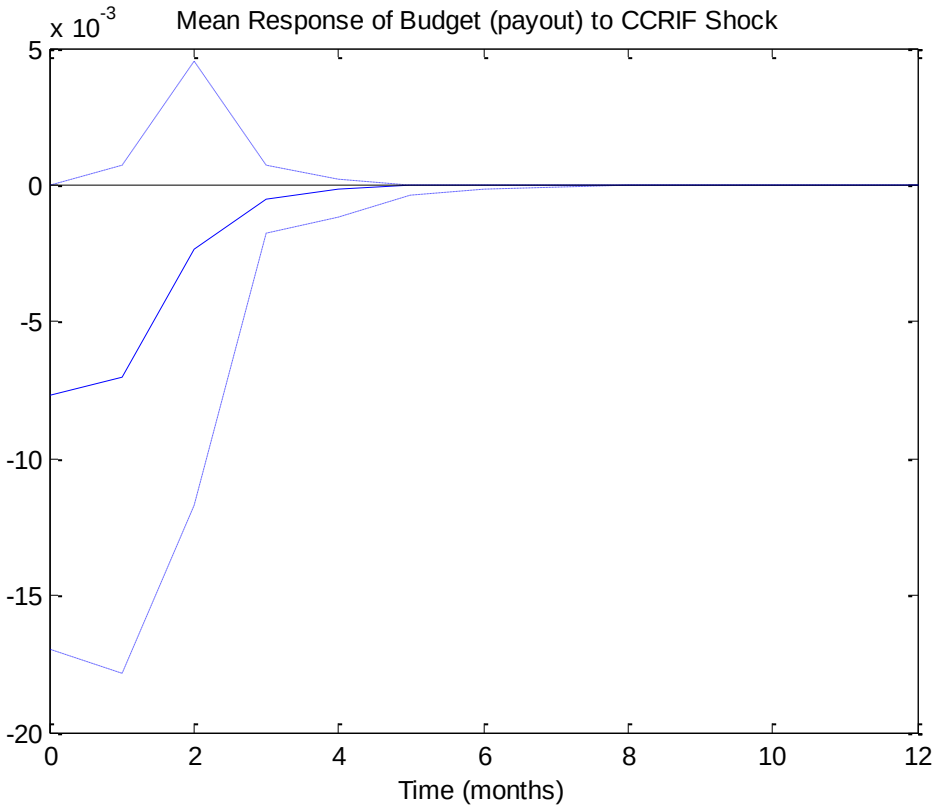



**Figure A2.** Mean response of aggregate fiscal variables (accounting for payouts)

## References

**Im K, Pesaran M and Shin Y** (2003) Testing for unit roots in heterogenous panels. *Journal of Econometrics* **115**, 53–74.

**Levin A, Lin CF and Chu CS** (2002) Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of Econometrics* **108**, 1–24.