

How Quickly Does Caribbean Tourism Demand Recover After Severe Shocks?

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Motivation

- The tourism industry is highly susceptible to adverse exogenous events.
 - Natural disasters, terrorism, wars, recessions in source markets.
 - Caribbean economies are particularly vulnerable given their high dependence on tourism related activities.
- Lack of empirical research in this area of the literature.
 - How long do shocks last?
 - To what extent do source markets recover?
 - Is there anything that can be done to mitigate exogenous shocks?

Brief Overview of Literature

- The empirical studies in this area tend to emphasize the use of the unit root testing to assess whether shocks have permanent effects.
 - Narayan's 2005 study of Fiji's 1987 military coup provides one of the earliest examples. This study utilized the Augmented Dickey Fuller and Vogelsang (1997) endogenous structural break tests.
 - Lorde et al (2009) studied the effects of downturns on Barbados' major source markets.

Contribution to Literature

- Estimates of the duration of shocks in the context of other explanatory variables
- Probability of the permanent/long term impacts
- Policy responses to shorten the duration of shocks



Methodology and Data Continue...

- Regime switching, error correction tourism demand models for seven Caribbean States for the period 1980-2011.

$$- \Delta TA_t = v(s_t) + \beta_1 TA_{t-1} + \alpha Z_{t-1} + \varepsilon_t \quad (1)$$

- Where, $Z_{t-1} = TA_{t-1} - \delta'x_{t-1} - \gamma t - \mu \quad (2)$

- Intercept depends on the regime, s_t
- State variables follow a discrete-state Markov process
- Estimated using two-stage procedure (Krolzig, 1996)

Results

Table 3: Regime Switching Estimates

Parameters	Bahamas	Barbados	Dominica	Dom. Rep.	Grenada	Jamaica	St. Lucia
α	0.0309***	0.0168**	0.0117	0.0326***	0.0191	0.0234**	0.0194*
β	-0.1938***	-0.0732**	-0.0503**	-0.0392***	-0.0690*	-0.1013***	-0.0675***
ν (0)	2.4130***	0.7601*	0.5470**	0.5942***	0.6800**	1.3430***	0.6928***
ν (1)	2.5026***	0.9037**	0.5171**	0.5923***	0.7450*	1.1488***	0.8127***
σ (0)	0.1636***	0.0495***	0.1870***	0.19004**	0.3562***	0.0891***	0.0671***
σ (1)	0.0599***	0.0591***	0.0840***	0.0528***	0.0934***	0.0968***	0.0764***
$p_{\{0 0\}}$	0.6928***	0.8329***	0.8980***	0.8361***	0.9225***	0.9634***	0.7540***
$p_{\{0 1\}}$	0.0757*	0.0513**	0.0340	0.0985**	0.0119	0.2647**	0.1011
LR-test							
Chi²(4)	35.234***	44.245***	18.362***	46.379***	79.089***	17.694***	13.838***
LR-Upper Bound (P-Value)	0.0000	0.0000	0.0020	0.0000	0.0000	0.0027	0.0147
Obs.	124	124	124	124	124	124	124

***, ** and * represents significance of at 1%, 5% and 10%

Results Continue...

Table 4: Expected Duration of States (2000-2011)

	Bahamas	Barbados	Dominica	Dom. Rep	Grenada	Jamaica	St. Lucia
Contraction	8	10	7	16	7	4	16
911	3	5	0	10	0	4	4
Financial Crisis	5	5	7	6	0	0	5
Other	--	--	--	--	7*	--	7
Expansion	40	38	41	32	41	44	32

*The downturn in Grenada tourist arrivals in the period relates to the fallout from Hurricane Ivan in 2004.



Results Continue...

Table 5: Average % Loss per Quarter (2000-2011)

	Bahamas	Barbados	Dominica	Dom. Rep.	Grenada	Jamaica	St. Lucia
Contraction	16.1	10.4	4.0	3.2	17.3	11.5	8.9
911	18.9 (0.733)	10.8 (0.981)	0.0	2.1 (0.919)	0	11.5 (0.688)	16.8 (0.940)
Financial Crisis	12.0 (0.850)	10.1 (0.890)	4.0 (0.744)	4.3 (0.890)	0	0	7.0 (0.816)
Other	--	--	--	--	17.3 (0.885)	--	5.8 (0.875)
Expansion	40	38	41	32	41	44	32

Notes: Probability of a permanent effect in parentheses.

Implications of Results

- **Results indicate a need for a tourism crisis management plan.**
 - Should be consistent with overall tourism development plan.
 - Plans are best handled by a multi-stakeholder task force
 - Regional crisis management plan.
- **Litvin and Alderson (2003)**
 - Provides a case study of the Charleston Area, South Carolina response to the 911 terrorist attacks.
 - They assisted stranded passengers with alternate ground transportation
 - Creative travel packages.
 - Access to emergency marketing funds.

Thank You

