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Enforcing and complying with voluntary agreements as an alternative environmental policy instrument

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Environmental policy instruments

- ▣ Command and control
- ▣ Incentive-based
- ▣ Information disclosure
- ▣ Voluntary agreements

Enacting mandatory environmental policies

-- Environmental Levy Scheme on Plastic Shopping Bags

For discussion on
28 May 2007

LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS

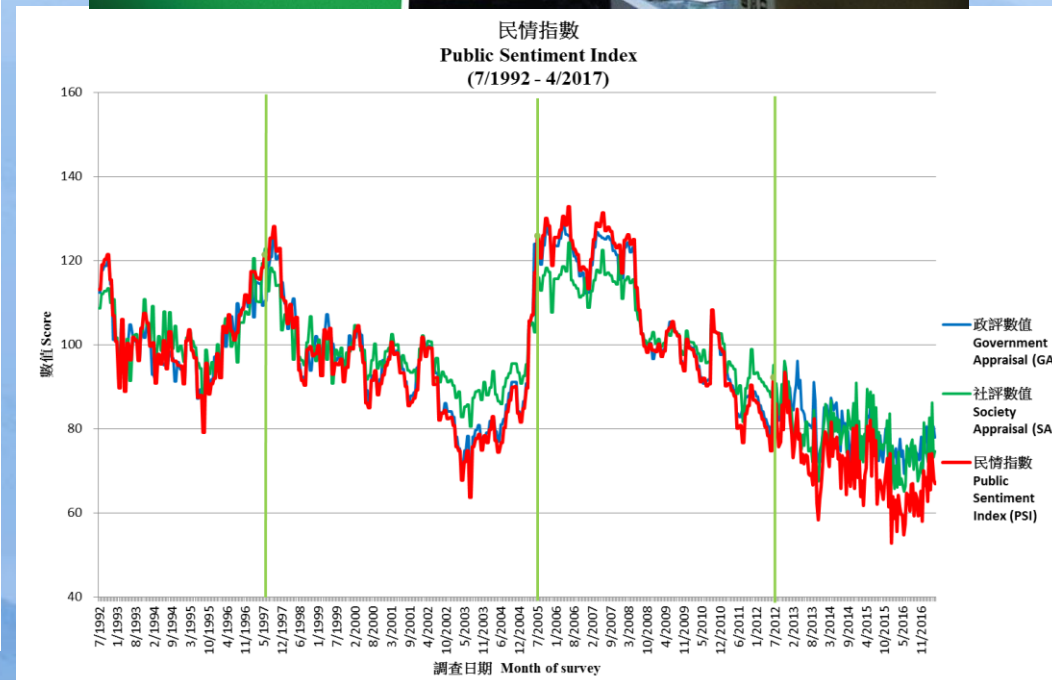
A Proposal on An Environmental Levy on Plastic Shopping Bags

PURPOSE

This paper consults Members on a proposal on an environmental levy on plastic shopping bags.

BACKGROUND

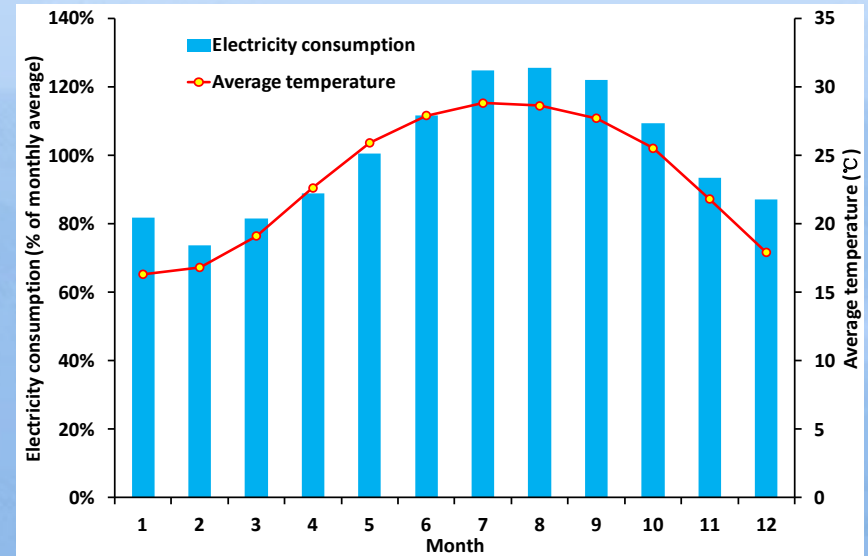
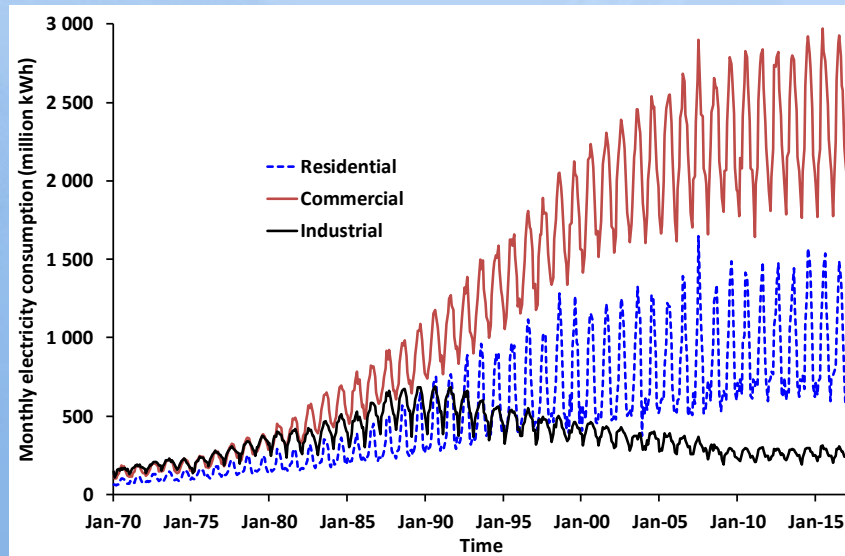
2. Hong Kong is facing an imminent and serious waste problem. The Government's "First Sustainable Development Strategy for Hong Kong" has recommended, amongst others, to implement the "polluter pays" principle to tackle the waste problem. Among these wastes, over eight billion plastic shopping bags are disposed of at our landfills every year. This translates into more than three plastic shopping bags per person per day, which is much higher than the figures of developed economies overseas¹. We consider that the "abuse" of plastic shopping bags can be effectively addressed in accordance with the "polluter pays" principle.



Research question

- Could voluntary agreements be effectively enforced and complied with for energy conservation in Hong Kong's shopping malls?

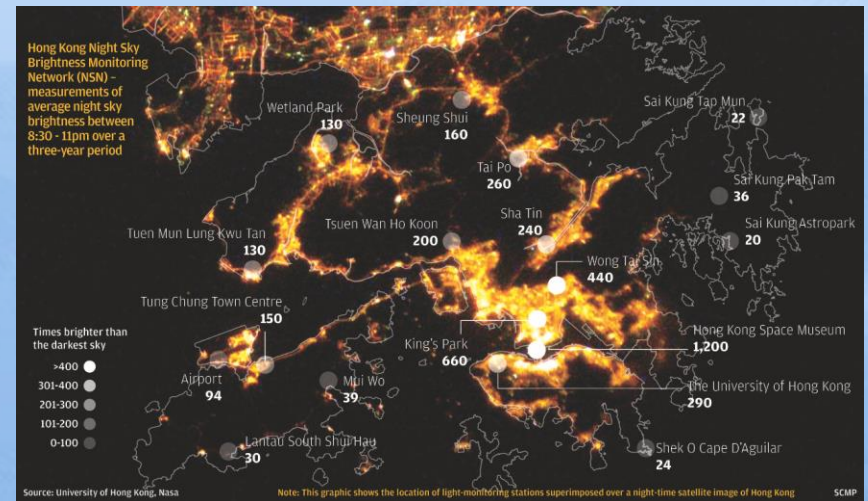
Energy consumption in Hong Kong



1981-2010

Source: Electrical & Mechanical Services Department, 2017; Hong Kong Observatory, 2012; Census and Statistics Department, 2013

Rational decisions on energy management?



Voluntary energy conservation agreements

- ① 25.5°C thermostat setting
- ② Earth Hour
- ③ De-lamp (indoor lighting reduction)
- ④ Voluntary Charter Scheme on external lighting reduction



Theoretical framework

- Economic theory on crime and punishment
 - Expected costs
 - Expected benefits



Behavioral response to thermal comfort

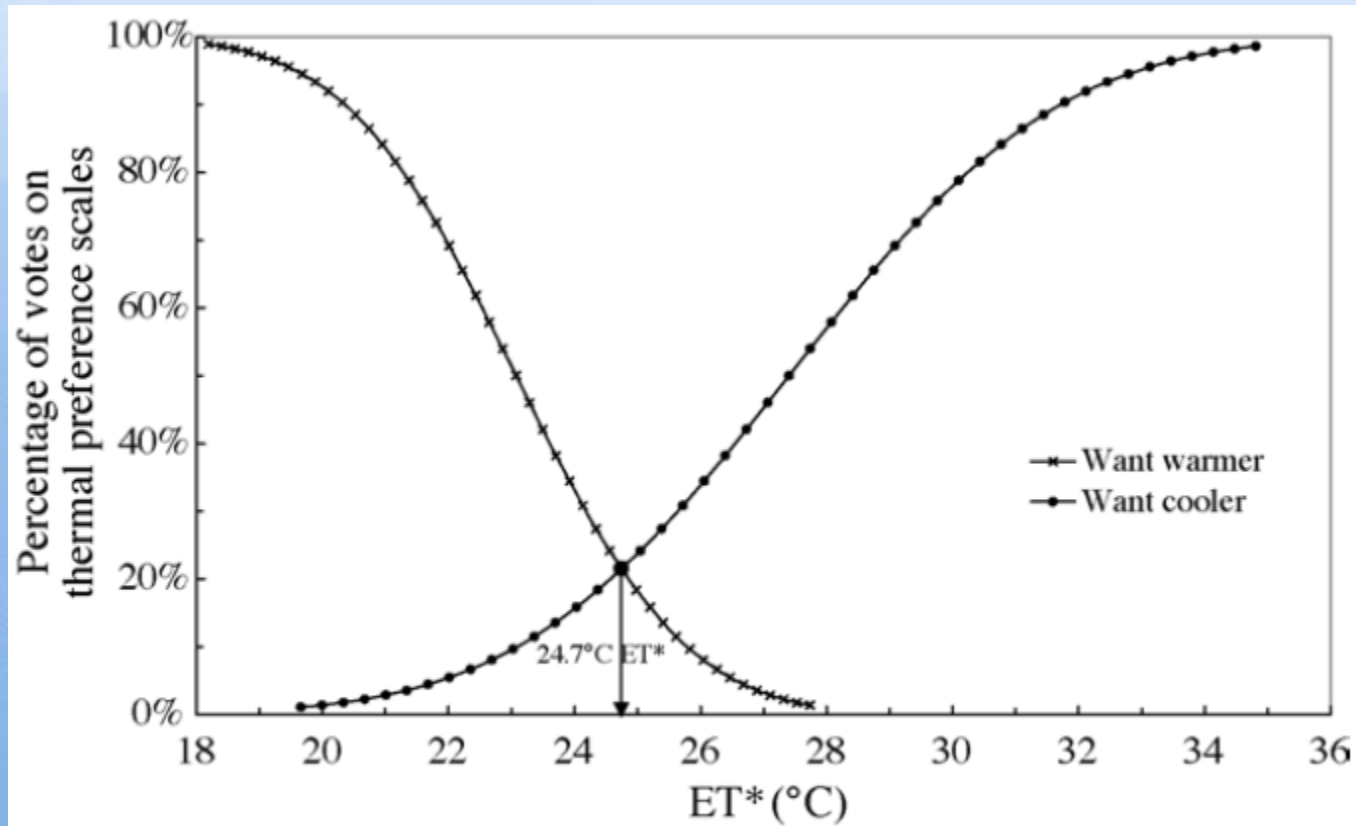


Fig. 7. Probit regression models for thermal preferred temperature.

Formal survey

- ▣ Dates: from 29 June to 16 August 2015, for every other week from Monday to Thursday and from Saturday to Sunday
- ▣ Time: between 2:00pm and 7:00pm, with a one-hour break from 4:00pm to 5:00pm
- ▣ People approached: 4029
- ▣ Number of samples: 1868
- ▣ Response rate: 46.4%

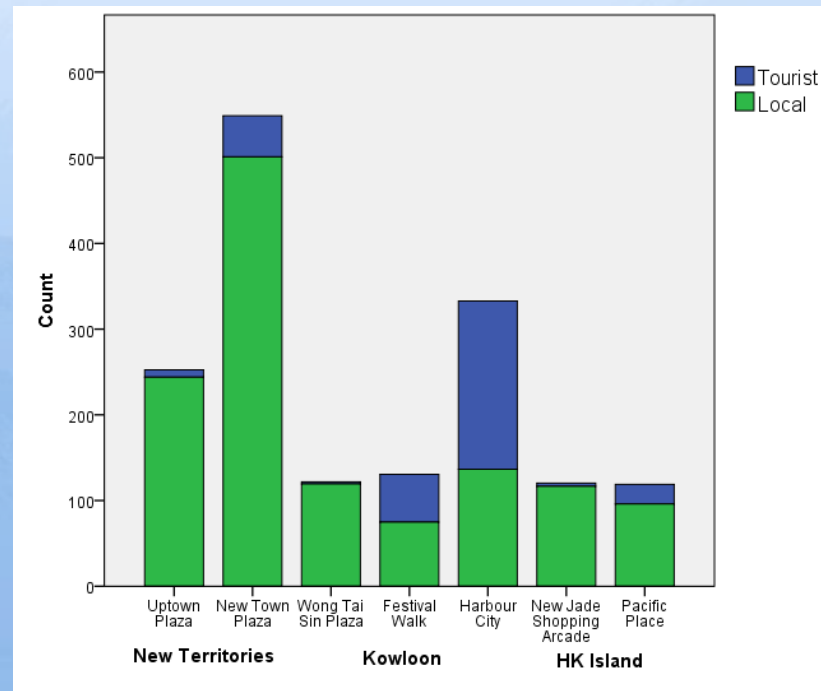
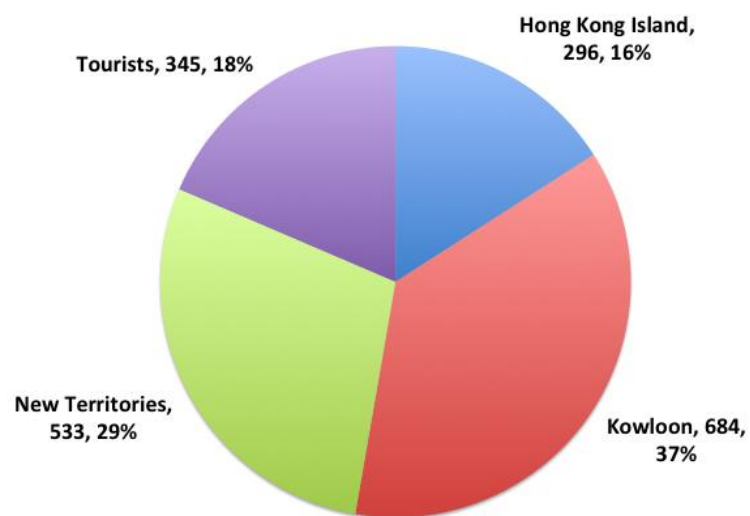


Shopping malls

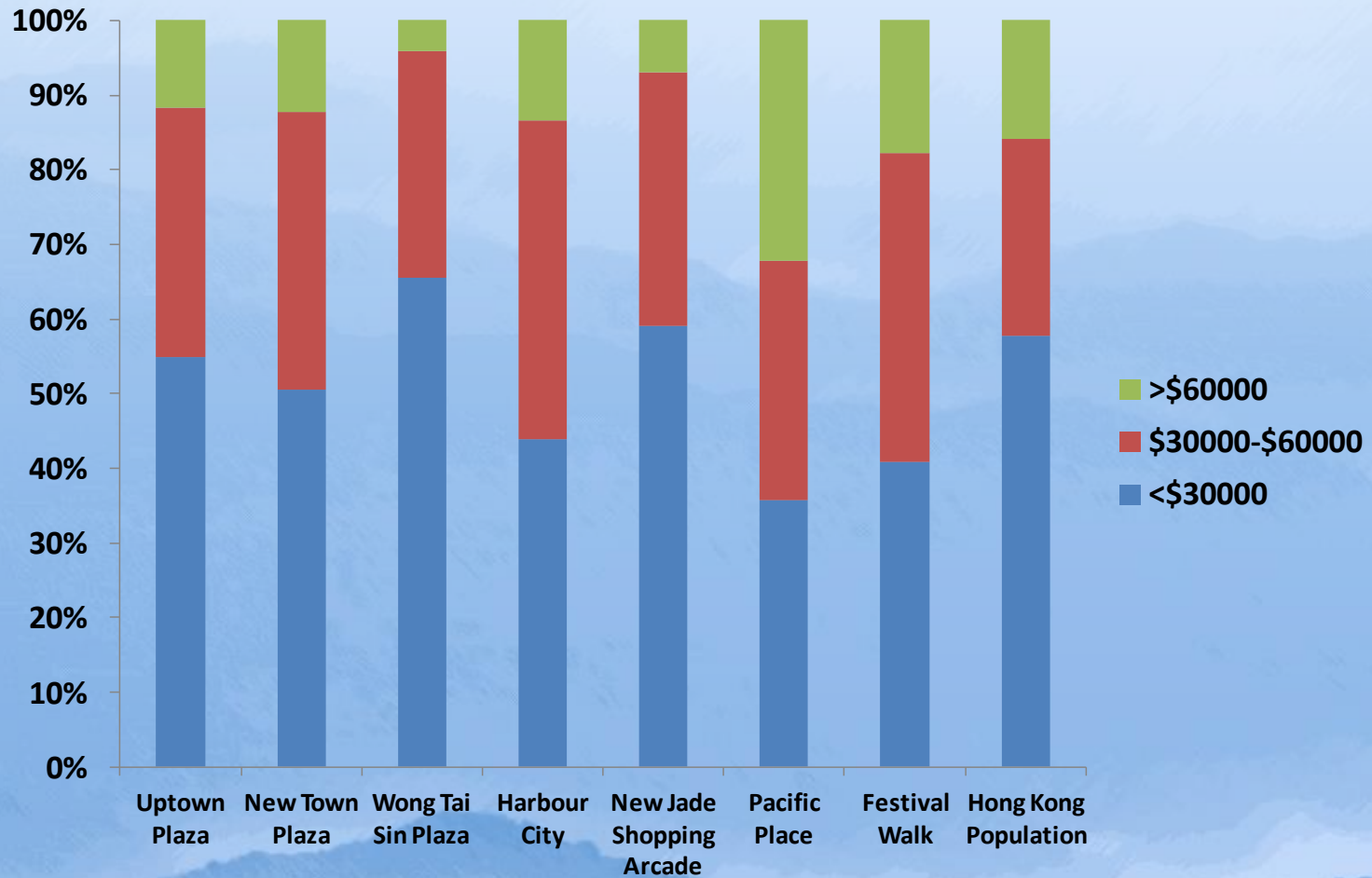
■ Selected shopping malls

1. Pacific Place (HK)
 2. Harbour City (Kowloon)
 3. Festival Walk (Kowloon)
 4. New Town Plaza (NT)
 5. Uptown Plaza (NT)
 6. New Jade Shopping Arcade (HK)
 7. Wong Tai Sin Plaza (Kowloon)
- High-end malls
- Low-end malls

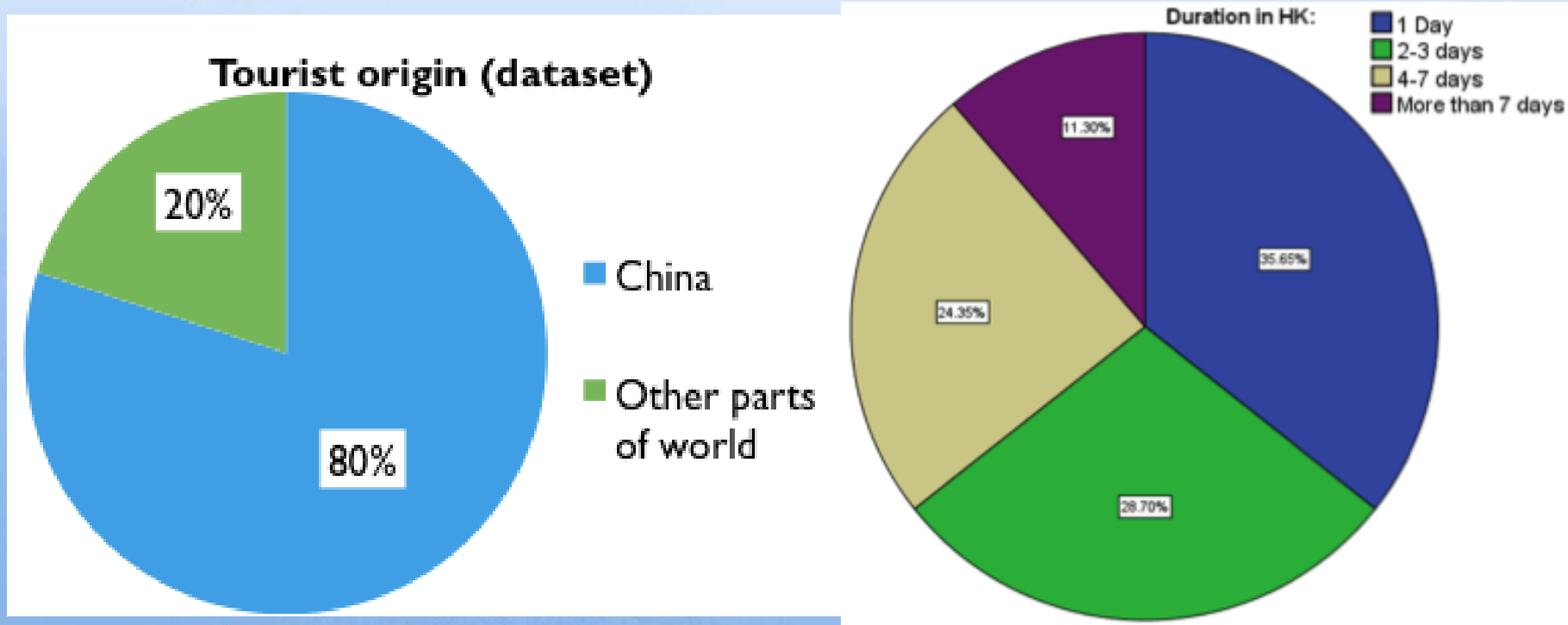
Basic information on samples



Income category of local visitors



Origins of tourists



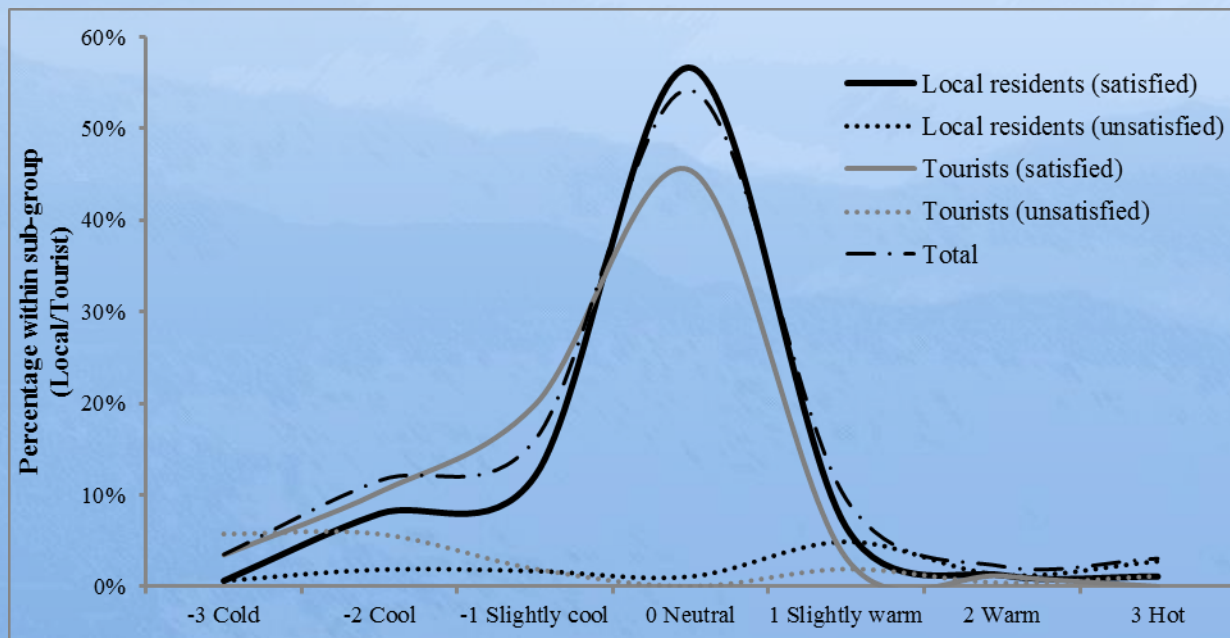
Tourists over June-August 2015:
14.9 million in total, 11.7 million (79%) from Mainland China,
6.9 million (46%) overnight visitors

Source: HKTB, 2015

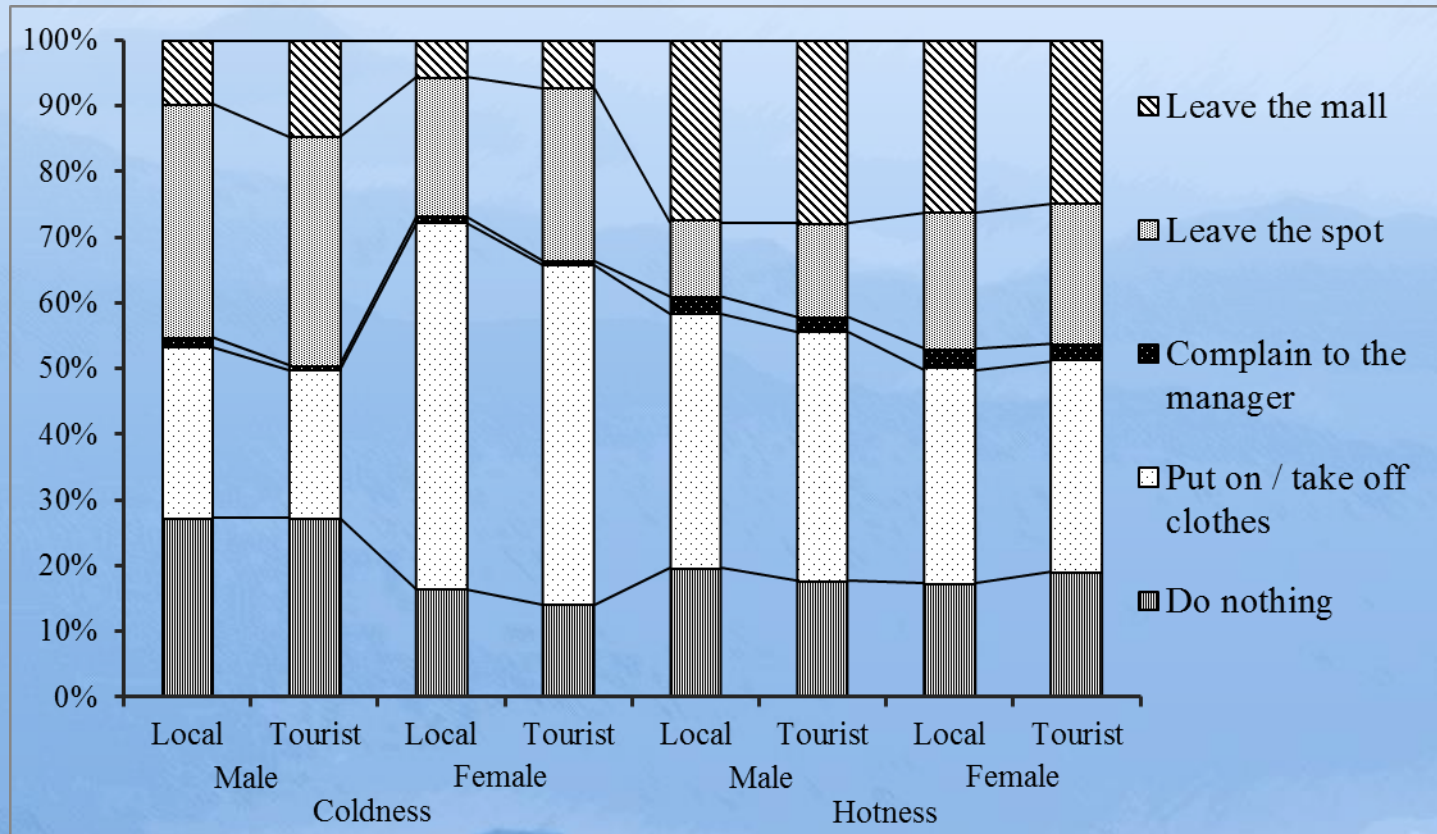
EXPLAINING COMPLIANCE DECISIONS



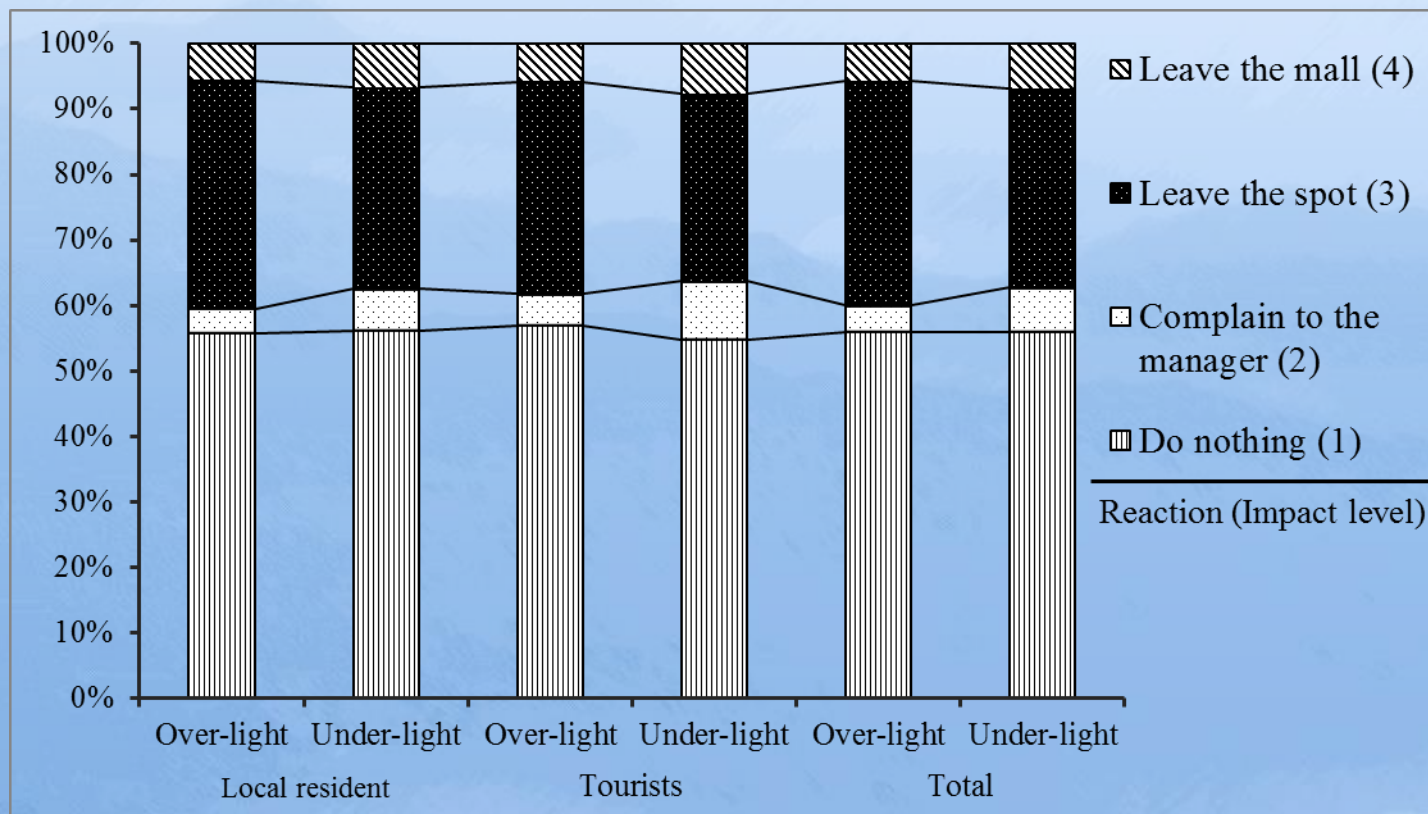
Thermal sensation and satisfaction toward thermal condition



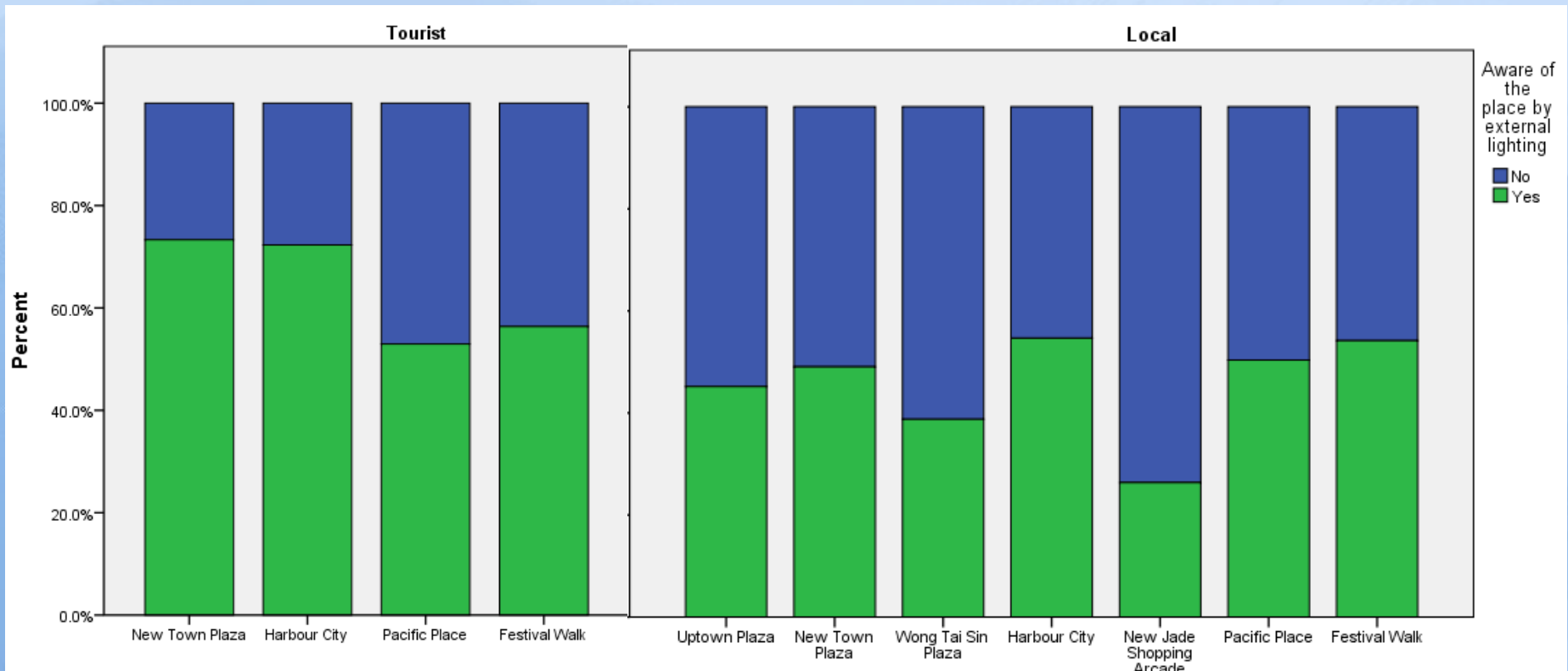
Reaction to coldness and hotness



Response to internal lighting

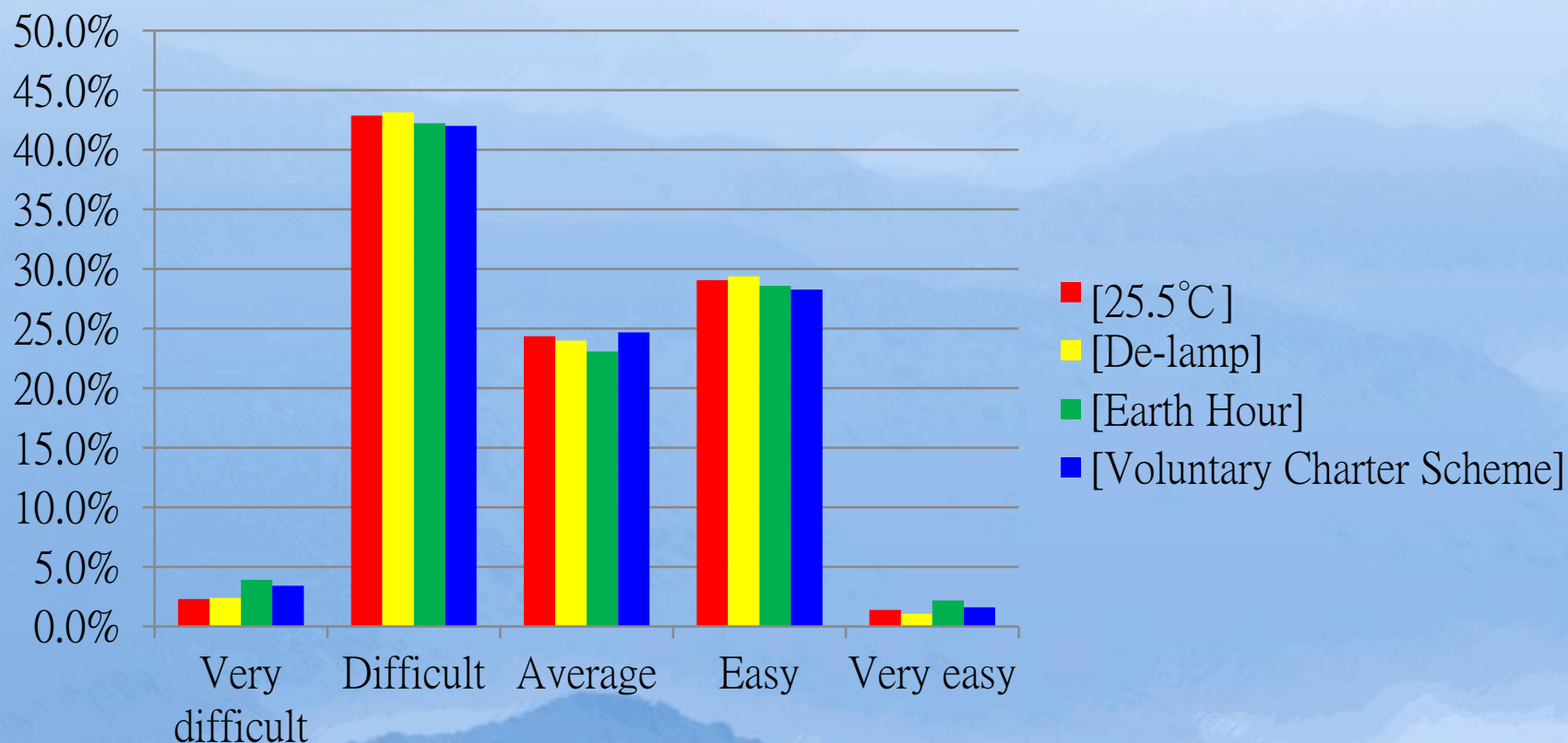


The advertisement effect of external lighting

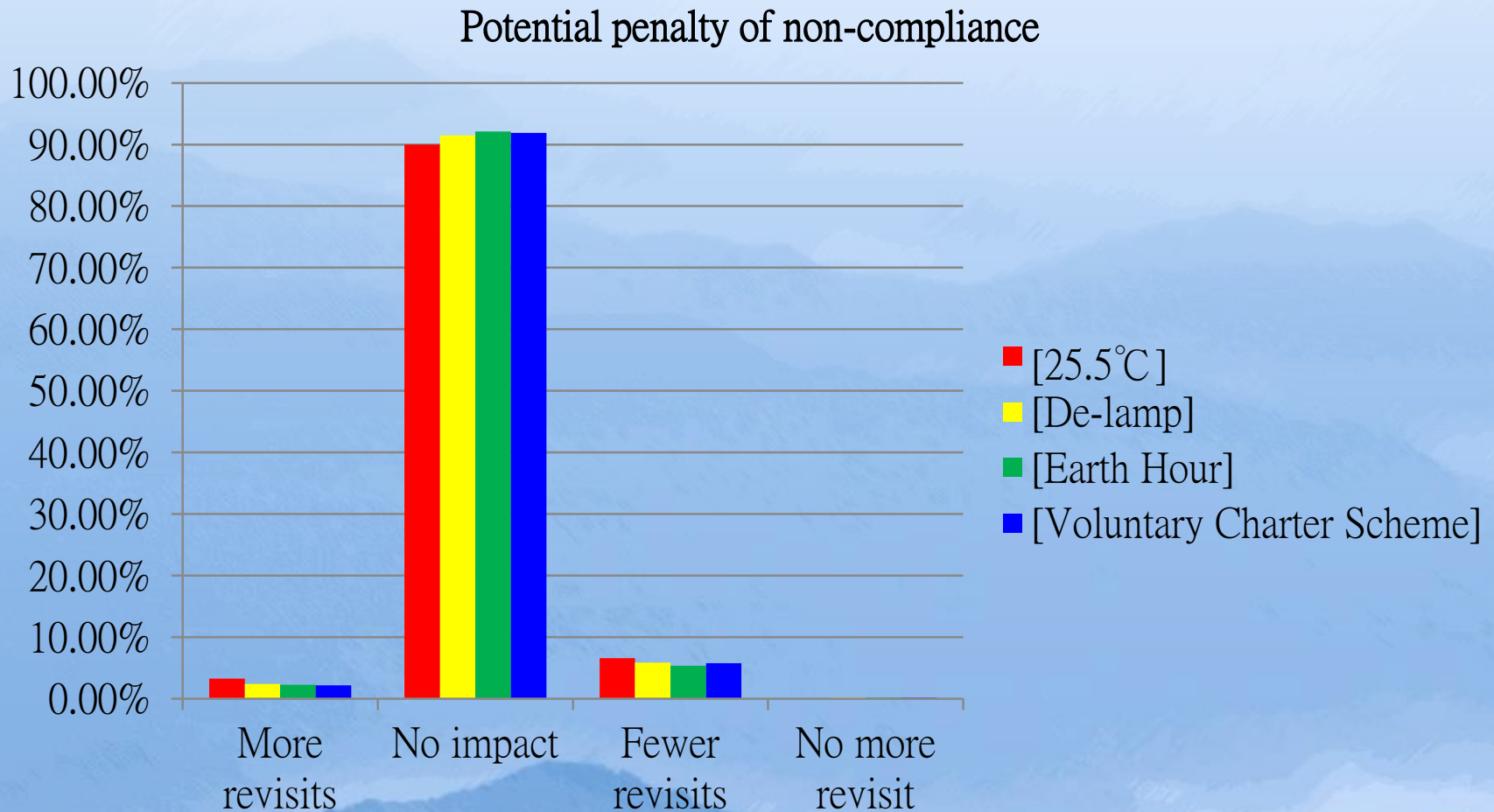


Probability of confirming non-compliance

Easiness of information acquisition on the mall's participation in the agreements



Voluntary penalty on non-compliance



Conclusion

Variables	25.5 degree	Earth Hour	External light	De-lamp
Cost of compliance	High	Low	High	Low
Monitoring effectiveness	Low	Low	Low	Low
Voluntary penalty	Low	Low	Low	Low

- Hotness in shopping malls is more likely to chase away shoppers than coldness, while unsatisfactory lighting conditions are unlikely to chase away mall shoppers. Advertising effects of outdoor lighting are positive and significant on tourists.
- Green preference is weak in mall selection and public surveillance is lacked.
- Voluntary agreements on temperature work poorly due to high net costs for firms, while voluntary agreements on indoor lighting could be more effective.

Acknowledgement

- Funding for this research was provided by the Hong Kong Central Policy Unit through the Public Policy Research Funding Scheme 2015-16 (2014.A4.004.15A).
- Publications:
 - Kwok, T. F., Y. Xu, P. T. Wong, 2017. Complying with Voluntary Energy Conservation Agreements (II): Lighting in Hong Kong's Shopping Malls. *Resources, Conservation and Recycling*. 117: 225-234.
 - Kwok, T. F., Y. Xu, P. T. Wong, 2017. Complying with Voluntary Energy Conservation Agreements (I): Air Conditioning in Hong Kong's Shopping Malls. *Resources, Conservation and Recycling*. 117: 213-224.