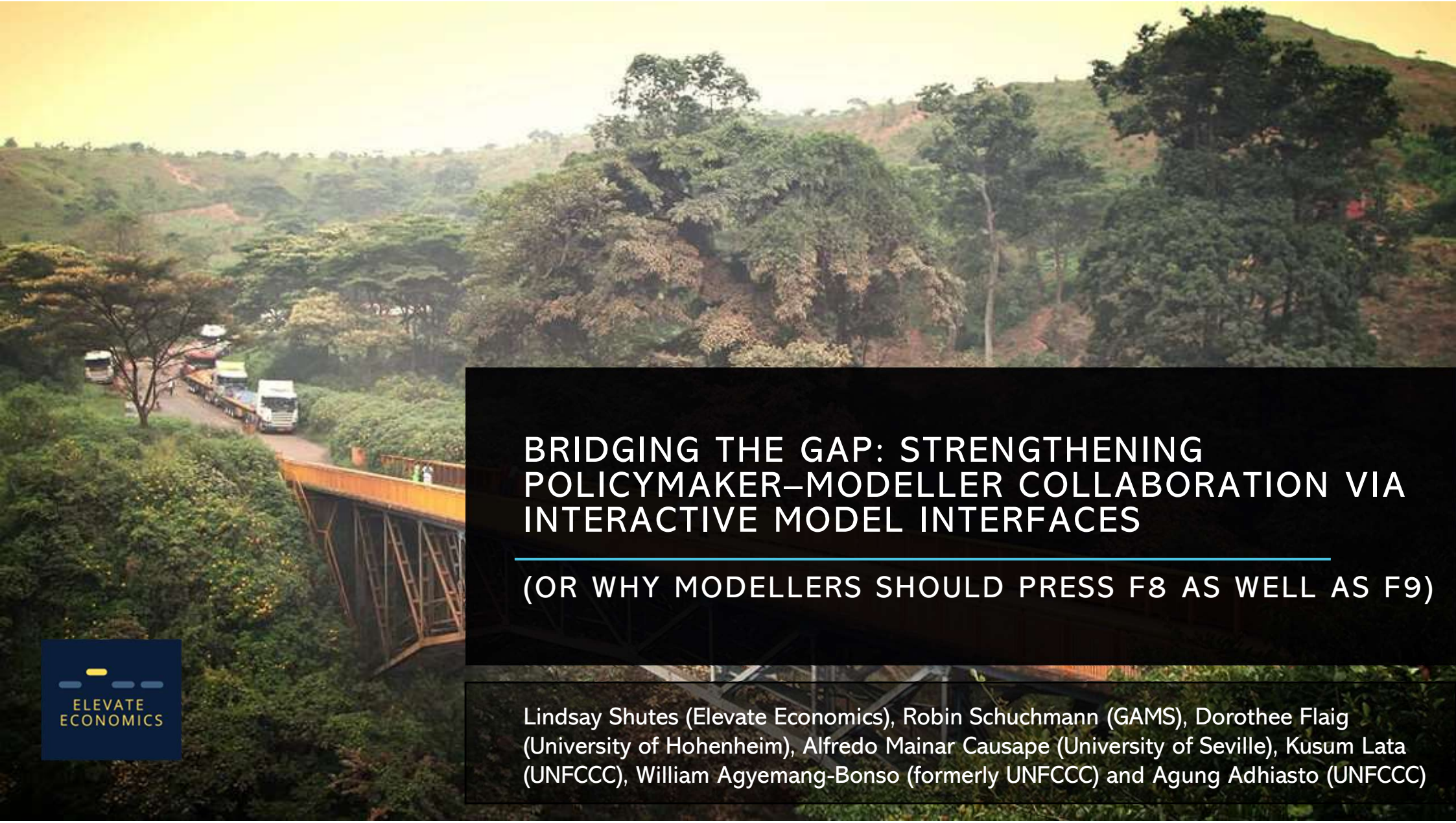

BRIDGING THE GAP: STRENGTHENING POLICYMAKER–MODELLER COLLABORATION VIA INTERACTIVE MODEL INTERFACES

(OR WHY MODELLERS SHOULD PRESS F8 AS WELL AS F9)

ELEVATE ECONOMICS

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OVERVIEW

- The modeller’s communication challenge
- How interfaces can be used to bridge the communication gap
- Demonstration of a user-friendly interface for Maldives
- Strengths and weaknesses of modelling interfaces
- Conclusions

THE MODELLER'S COMMUNICATION CHALLENGE

- Every discipline has its own language
- CGE models: powerful tools for policy impact assessment…
- …but can be baffling for those outside the field

Recursive dynamic

Elasticity parameters

Sensitivity testing

My Walras is non-zero!

Closure rules

Shocks

USING INTERFACES TO BRIDGE THE GAP

- User friendly language
  - “Shocks” → “Policy options”
  - “Cagri” → “Agriculture”
  - “Closure rules” → “Assumptions”

- User communicates with the interface, interface communicates with the model
  - Coding knowledge is not required

- Model is a simplification of reality, interface is a simplification of the model
  - Intentionally limited in terms of policy instruments, time horizon, assumptions and results
  - Provides a contained structure in which user can operate the model
  - Same model → multiple interfaces tailored to different users

EXAMPLE: UNFCCC CPIA-GEM INTERFACE

- Climate Policy Impact Assessment – General Equilibrium **Model** (CPIA-GEM)
  - Developed for UNFCCC
  - Based on GLOBE and GLOBE-SINGLE open-source models by K. Thierfelder, USNA
  - Used for in depth recursive dynamic study on the impact of global and domestic climate policies in Maldives

- CPIA-GEM **Interface**
  - Delivered alongside the CPIA-GEM model and study
  - Developed with GAMS using GAMS MIRO software
  - Comparative static
  - Used for capacity building and as an introduction to CGE modelling by UNFCCC

UNFCCC CPIA-GEM INTERFACE: 3 MODES

1. CPIA-GEM **global** modelling interface
   - Global impact of global climate policies

2. CPIA-GEM **domestic** modelling interface
   - Domestic impact of domestic climate policies

3. CPIA-GEM **linked global & domestic** modelling interface
   - Domestic impact of global climate policies
   - Cross-border impacts

Demonstration

HOW FAR CAN INTERFACES TAKE US?

- Promotes General Equilibrium thinking
  - Important given separate mandates for ministries and even international organisations
  - Many voters: save on payments to EU, reduce labour into UK → better off
  - General equilibrium view: lower cheap labour supply, higher costs of trade, less favourable investment environment → worse off

HOW FAR CAN INTERFACES TAKE US?

- Promotes policy coherence
  - Laying out policies in an interface highlights inconsistencies
  - Compare synergies and trade-offs of alternative policies

- Demonstrates the policy scenario development process
  - Allows users to construct and implement own (simple) policy scenarios
  - Increases transparency and trust
  - Moves policy makers from being a recipients of results to creators of results

WHAT ARE THE LIMITATIONS?

- Assumes underlying model is appropriate in terms of
  - Based on a consistent and complete dataset
  - Representative behavioural relationships with appropriate parameter values
  - Relevant policy mechanisms

- Illustrative not definitive
  - A window into CGE modelling
  - Not a substitute for in-depth analysis
  - Intentionally limited in scope and sophistication

CONCLUSIONS

- Challenging to communicate with those outside the highly technical, highly specialised world of modelling
- Modelling interfaces can help to bridge the gap
  - No need for coding or CGE experience
  - Use lay language
- Other benefits
  - Capacity building
  - Promotes general equilibrium thinking
  - Promotes policy coherence
  - Demystifies the ‘black box’
- Caution
  - Not to oversell – not a replacement for in depth analysis

Modelling interfaces can play a vital role bridging the gap between modellers and policy makers to harness the power of CGE models for effective policy analysis

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Modelling interfaces can play a vital role bridging the gap between modellers and policy makers to harness the power of CGE models for effective policy analysis

Thank you for your attention

Resources:

GAMS MIRO software: gams.com/miro

Building interfaces: elevateeconomics.com/model-interfaces/

UNFCCC interface training: unfccc.int/response-measures/e_learning_course_RM

UNFCCC CPIA-GEM interface: unfccc.gams.com