Potential economic impacts of technological and organizational innovation in intermodal access to major passenger terminals

[Some notes on modeling]

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Science: to validate hypotheses.
- To perform sensitivity analyses.
- To encompass as much complexity as possible, going beyond trivial statements such as "if the city grows, then demand increases" (toy models).
- To deal with issues such as sensitivity to initial conditions in nonlinear models.
- To gauge uncertainty.
- To provide objective, traceable advice to policy makers.

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State of the art

- Now computing resources allow complex modeling.

- Improved access to some data.

- Lack of (useful) off the shelf models: DIY approach.

- Need for multidisciplinary, multinational, policy-driven joint endeavors.
Intermodality simulations

- Need to account with time: people change behavior as it goes, processes are mutually-influenced.

- Need to deal with SIC.

- Need to encompass all the relevant variables.

- The cross-relationships between variables have to be parameterized with empirical data.
Canonic case + real data + scenarios = full projection
Interpreting model results

- Models are used to make projections, not forecasts.

- As the models go more complex, the chance of pitfalls increases exponentially: tracing tools.

- Garbage in – garbage out.

- Models are as good as the modeler’s insight.

- The results may surprise you: coupled dynamics.
[Thanks]

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