Significance

The potential for medium-term growth at Schiphol Airport -

An assessment of alternative policy measures

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- Objectives
- Approach: simulations using the ACCM model
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Objectives:
Study for Dutch Ministry of Transport:

- **What growth could be expected for Schiphol Airport until 2020 if there would be no capacity restrictions?**
- **Would the expected future demand fit within the current restrictions** (both runway capacity and noise limitations)**?**
- **If not,**
  - What would be the welfare implications?
  - What would be the policy options?
  - How effective would these be?

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Background: Why new medium term forecasts?

- **Incidental factors**
  - 11 September 2001
  - War Iraq
  - SARS
- **Structural developments**
  - Air France-KLM
  - Low Cost Carriers
- **New medium/long term macro-economic scenarios**

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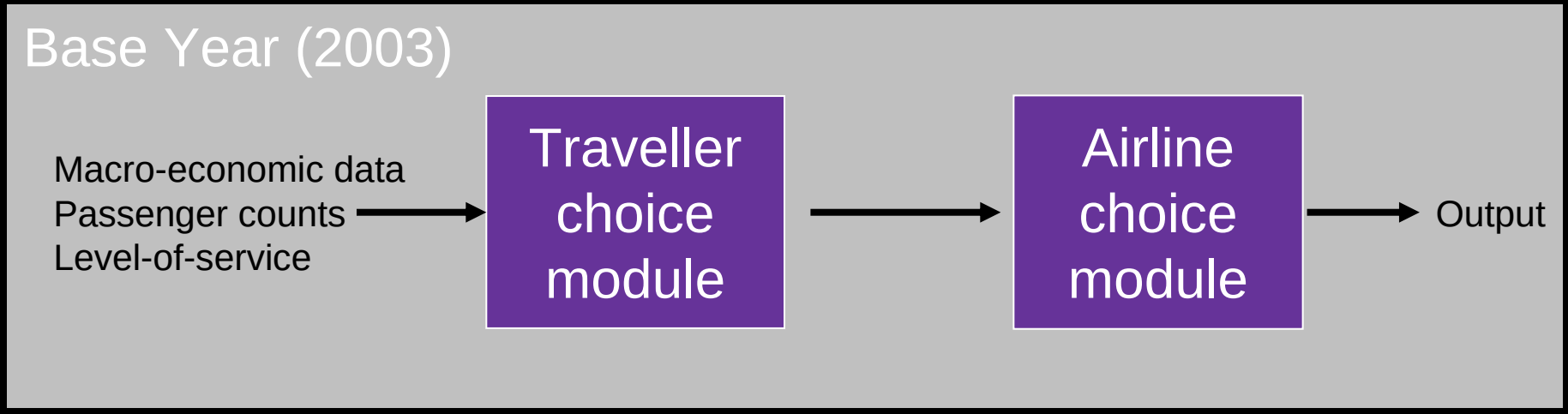
Approach: Use of ACCM Model



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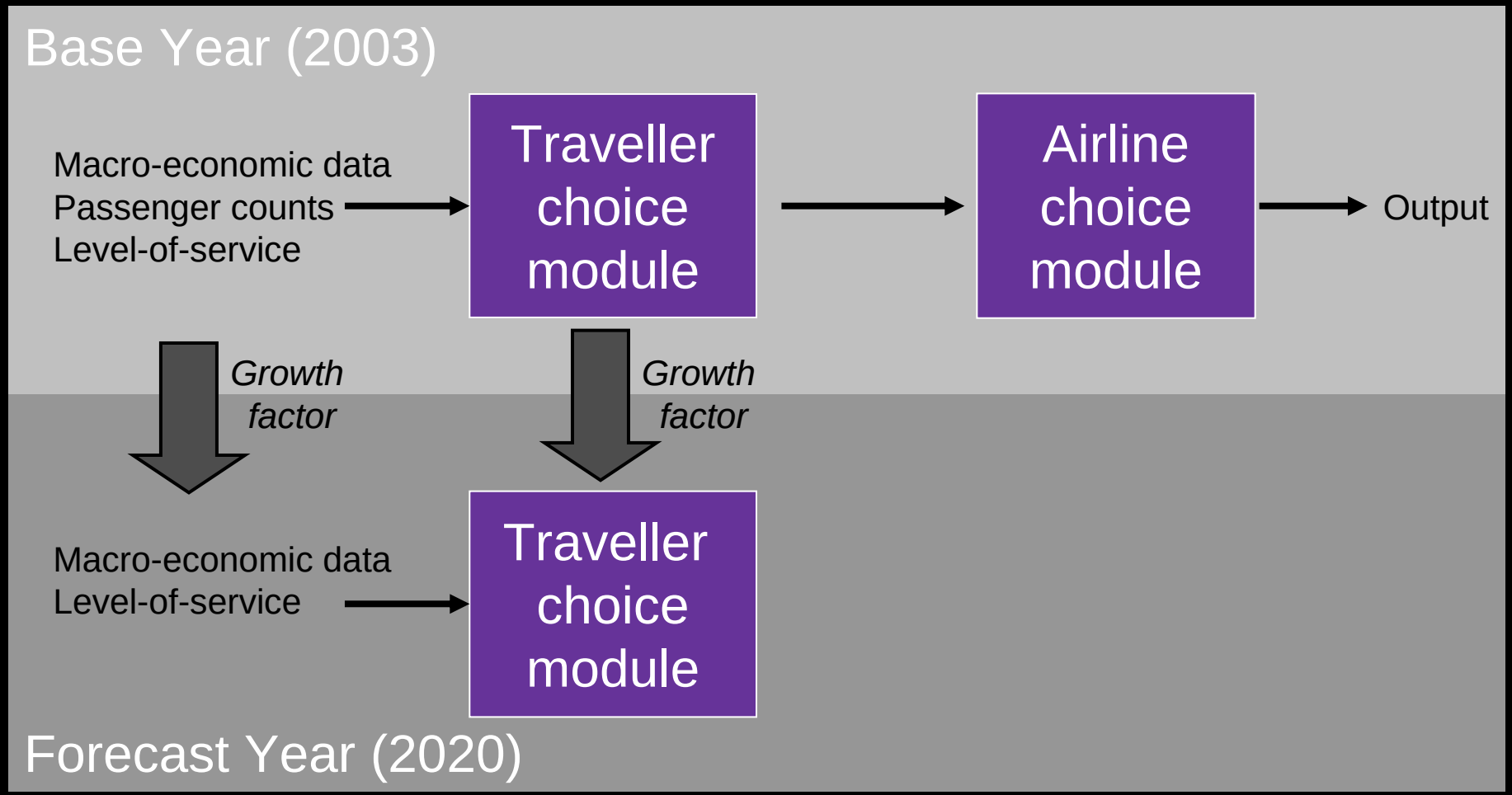

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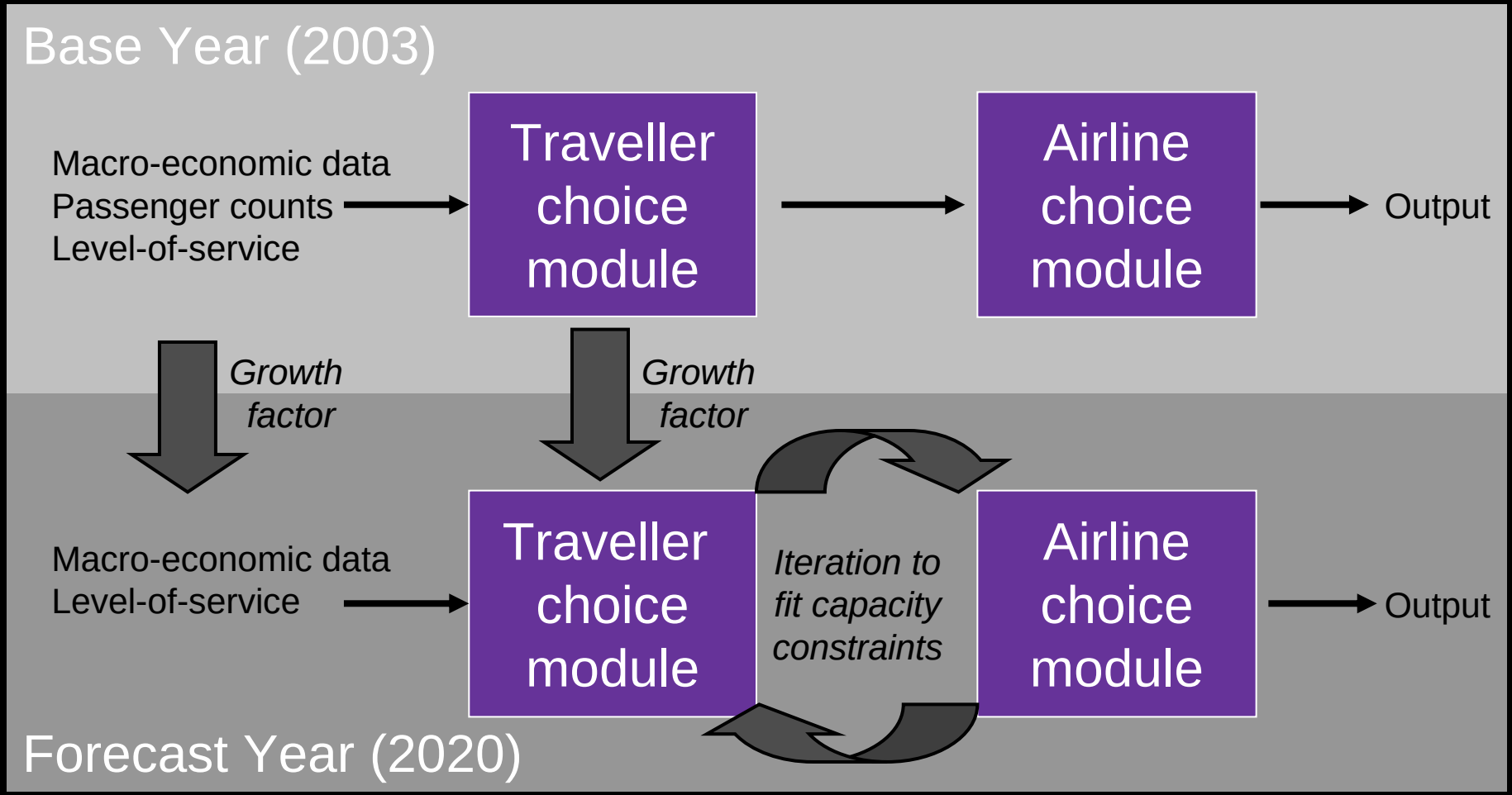


Significance

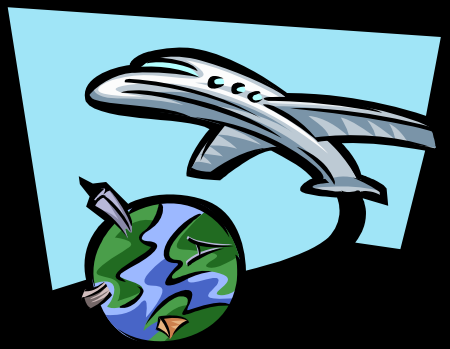
Traveller choice module

- **Observed base year demand pattern**
- **Market growth:**
  - GDP development
  - Trade development
  - Price development
  - Network development
- **Competition:**
  - Airports
  - Airlines/routes
  - Car, high-speed train

Significance

Airline choice module

- **Observed base year supply pattern**
- **Aircraft size**
  - Cost per seat
  - Market size
  - Degree of competition
- **Technology**
  - Fleet renewal
  - Fleet expansion
- **Time of day**
  - Passenger preferences



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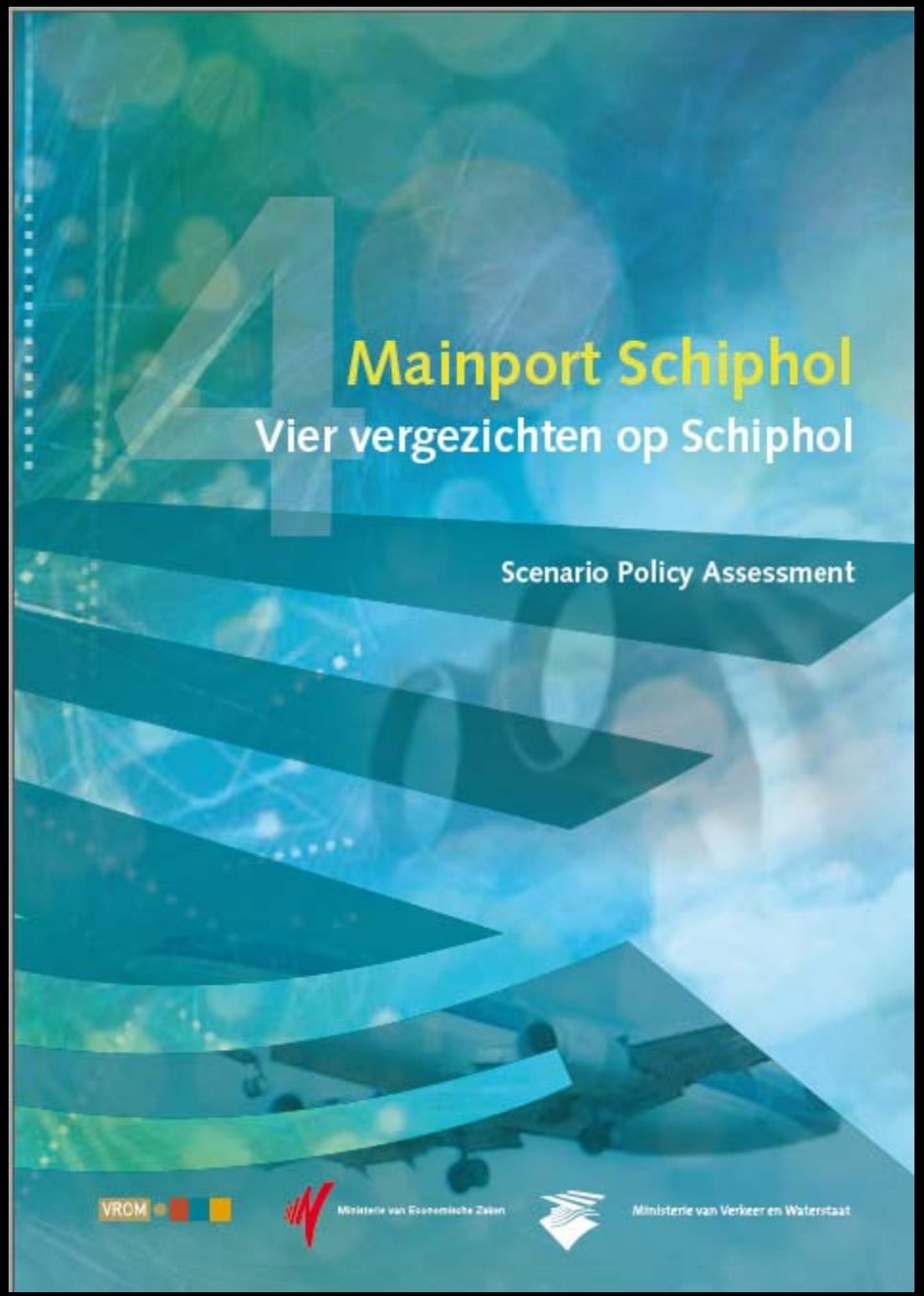

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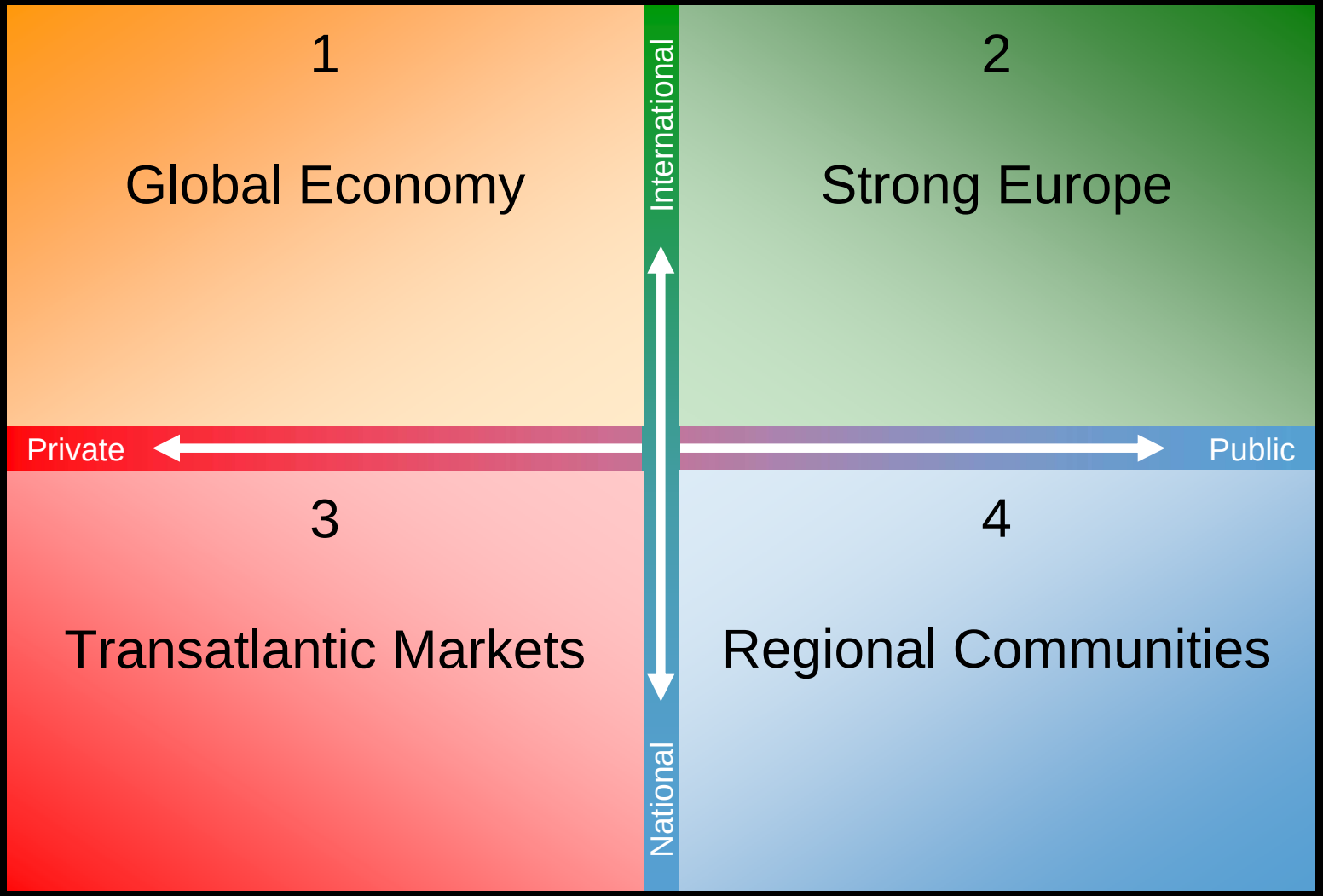
Scenarios: Four futures for Europe



Source: CPB (2003)

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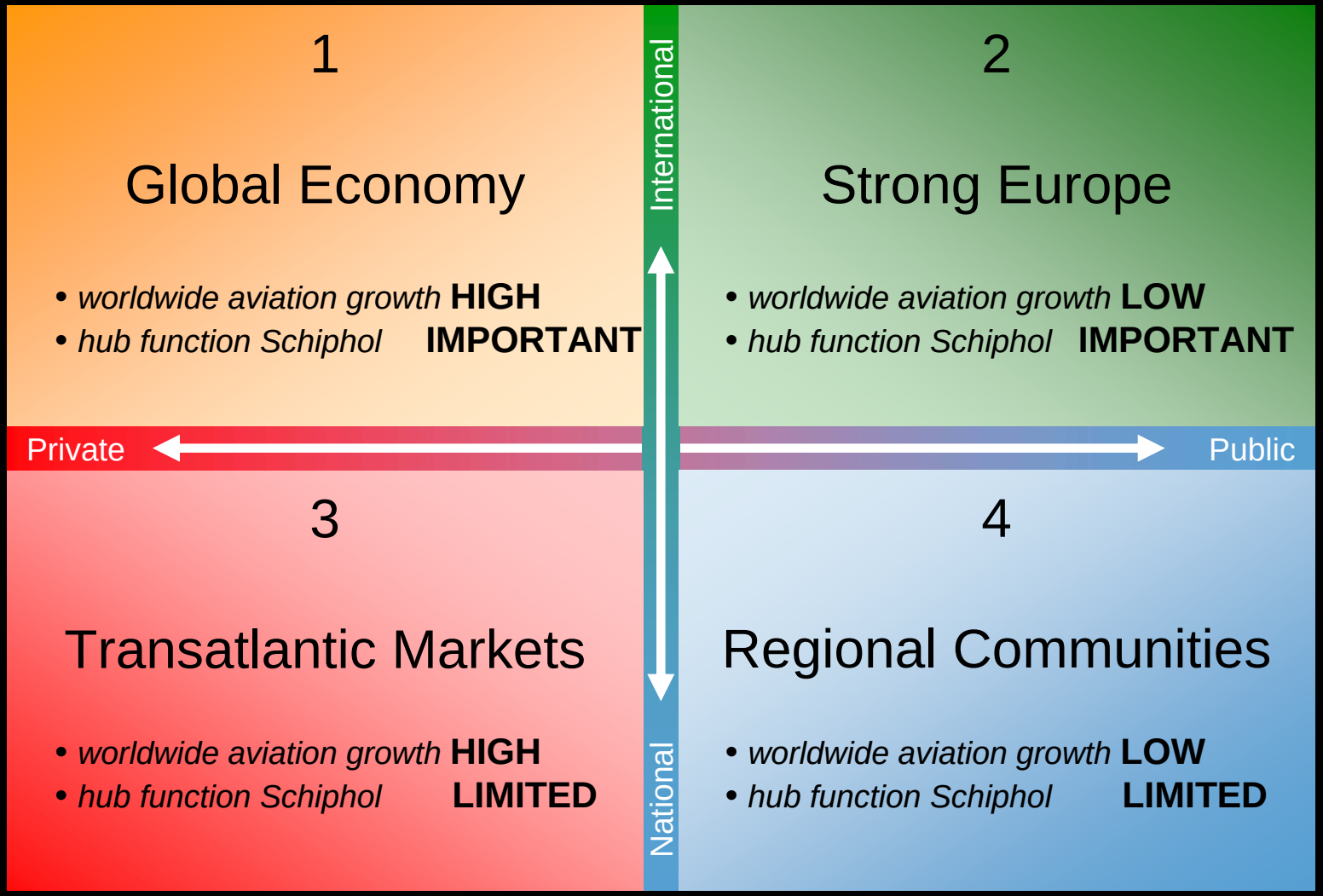
Four futures for Mainport Schiphol



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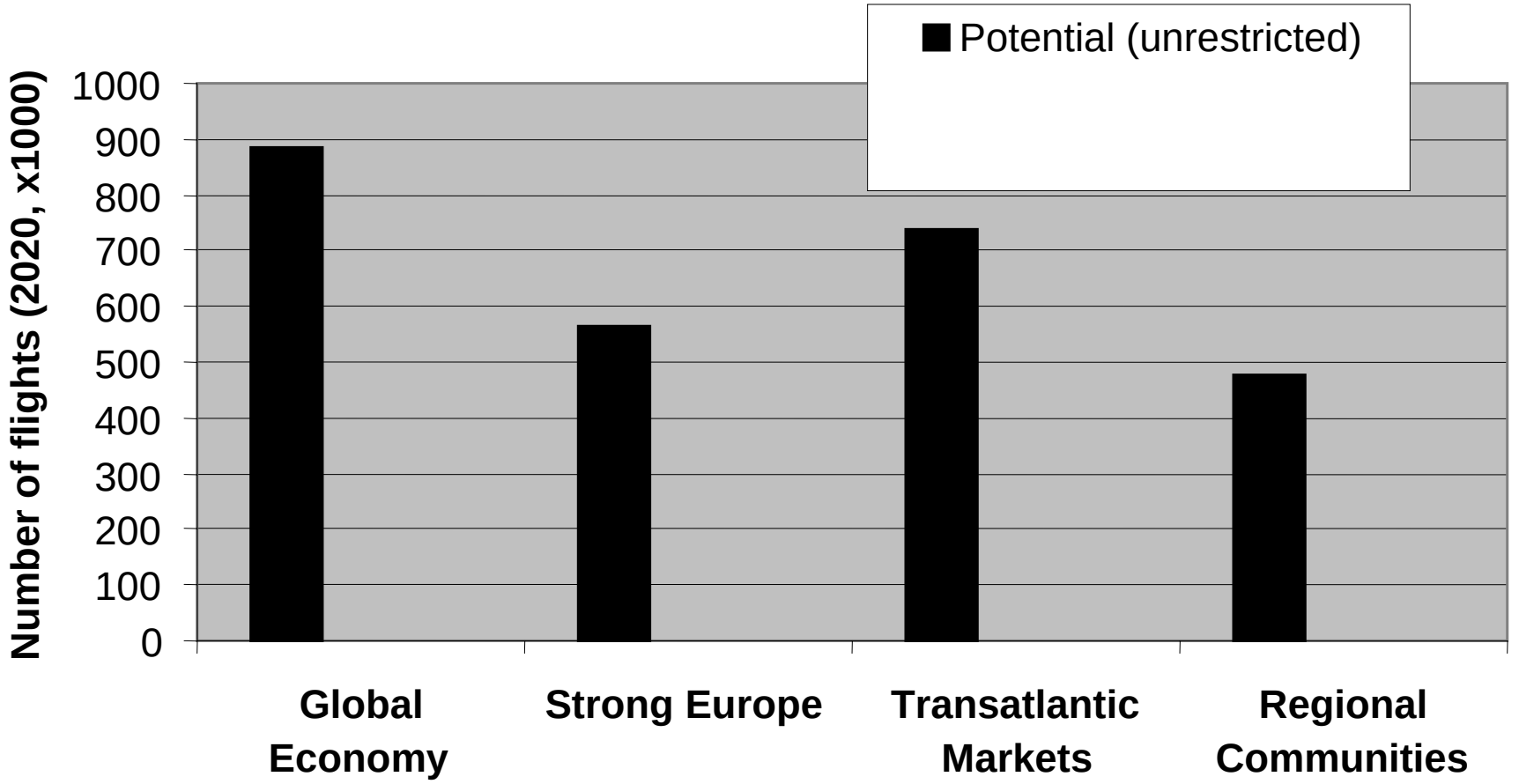
Expected growth of Schiphol is strongly dependent on scenario assumptions



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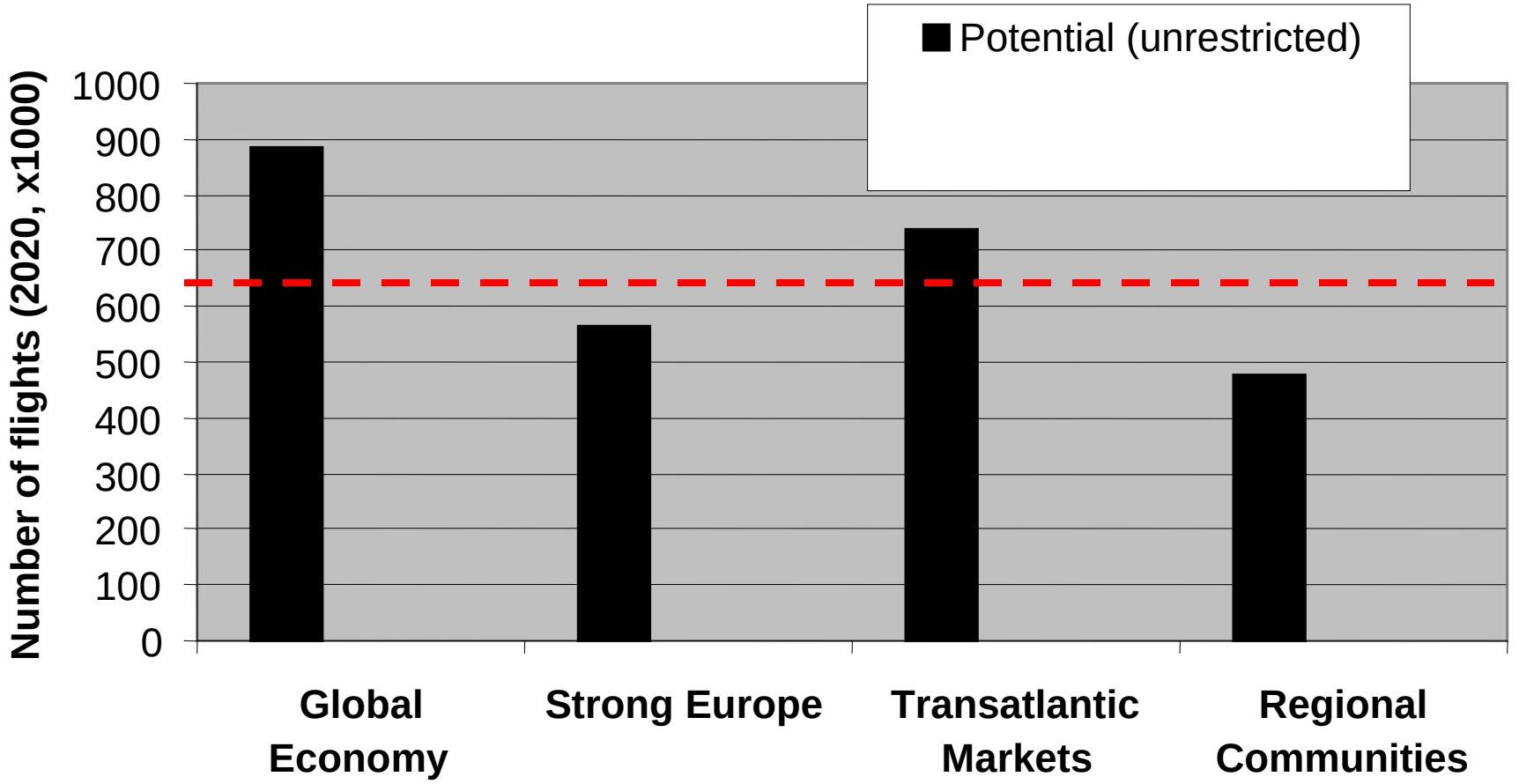

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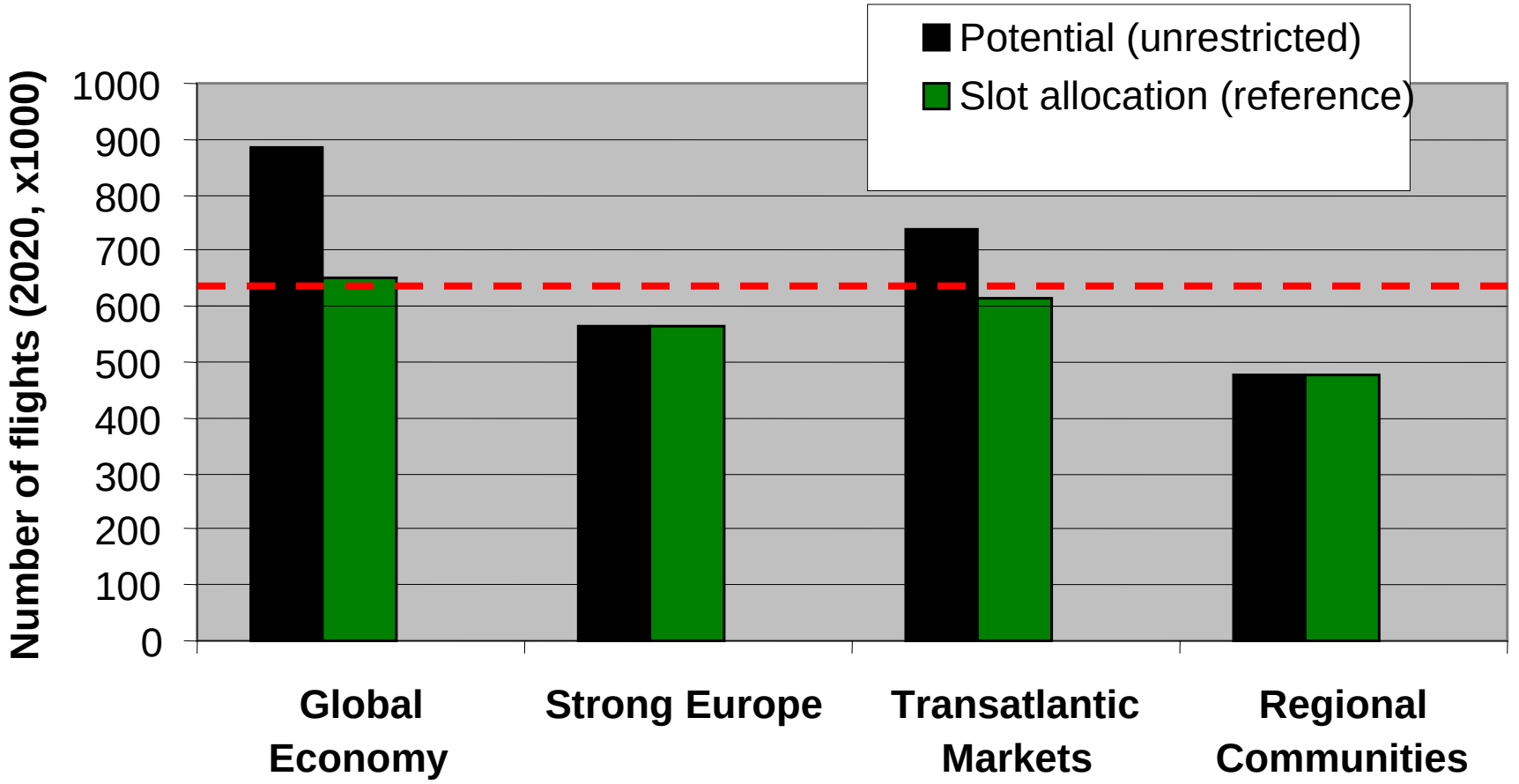
In two scenarios potential demand cannot be met given current capacity constraints



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Capacity Schiphol Airport

- **In high growth scenarios demand exceeds supply**
- **Physical capacity: 625,000 movements**
- **Noise capacity:**
  - Currently: about 480,000 movements
  - Increasing to 550,00 – 600,000 movements in 2020
  - Increase in noise capacity depends on policy measures

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Policy options

- **Slot trading**
  - Instead of existing slot allocation
- **General charges**
  - Ticket tax
  - VAT
  - Fuel tax
- **Specific charges**
  - Take-off/landing charges depending on time-of-day
  - Take-off/landing charges depending on technology class airplane

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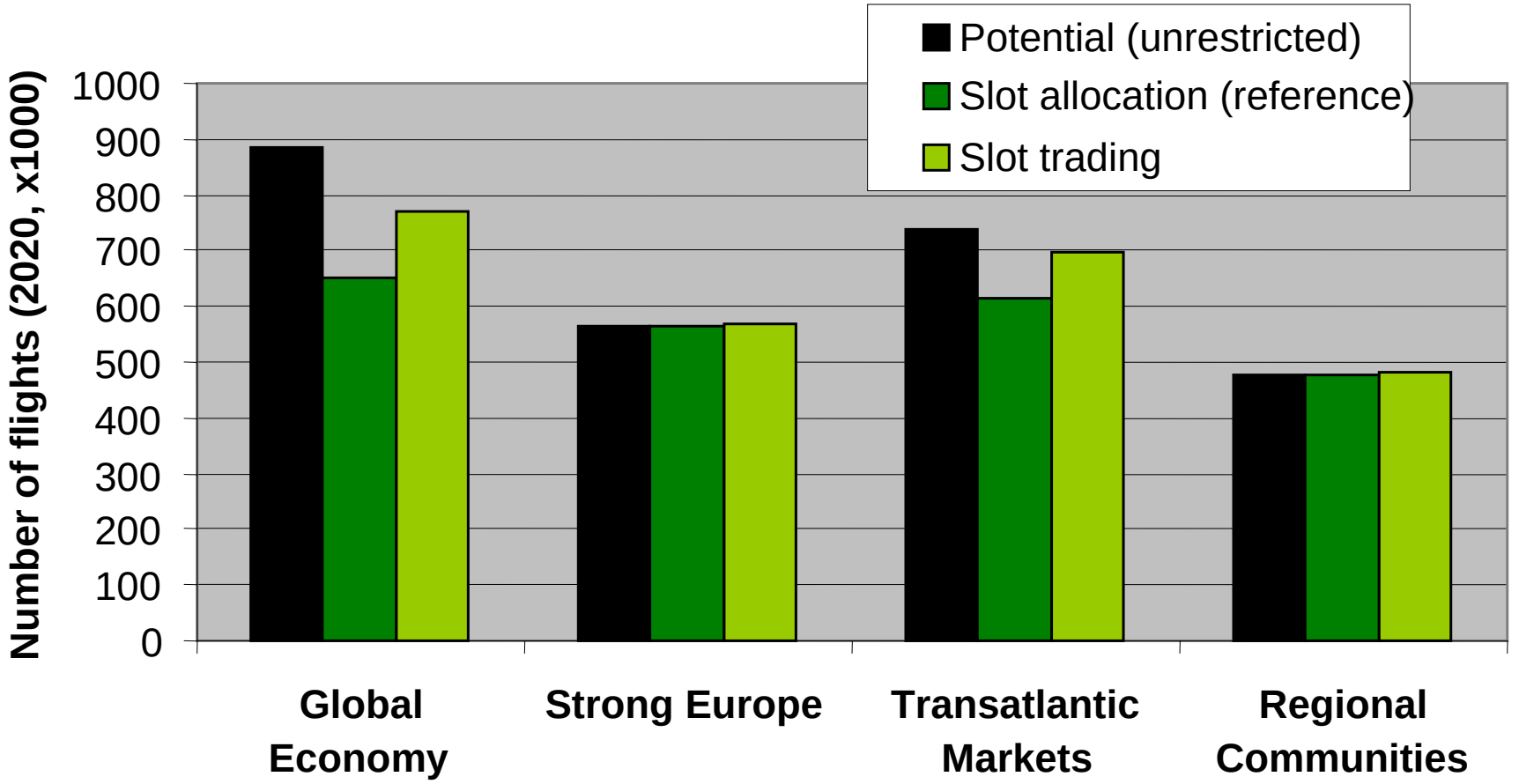
System of slot-trading instead of slot-allocation would allow for more flights



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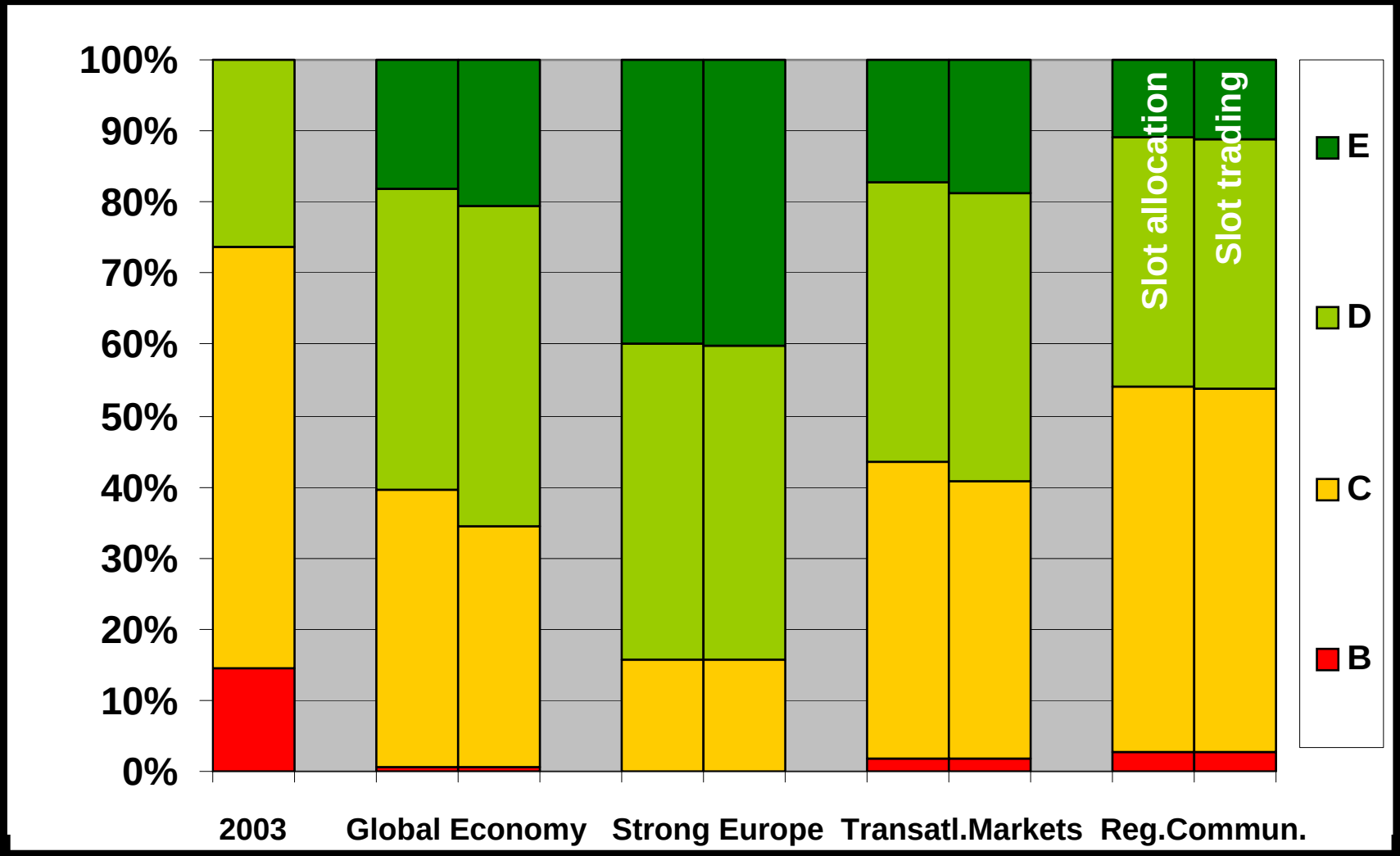
Slot trading stimulates the use of newer type aircraft



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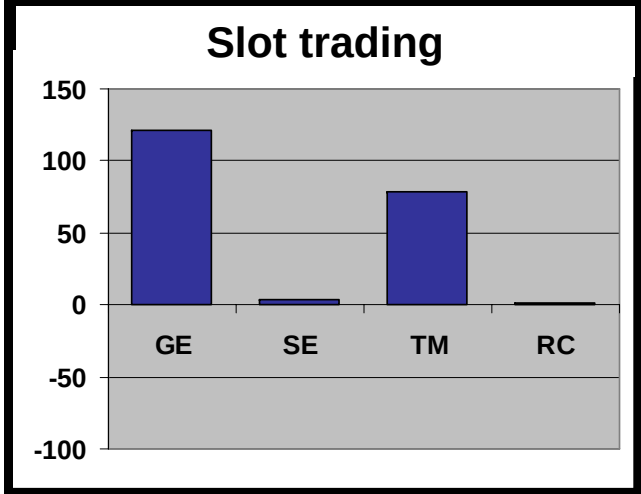
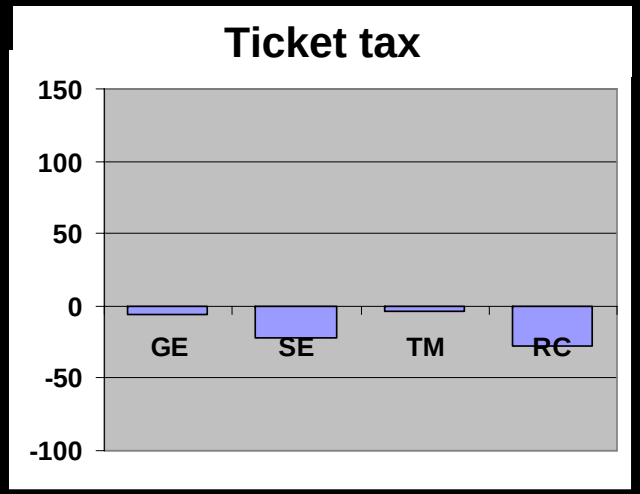
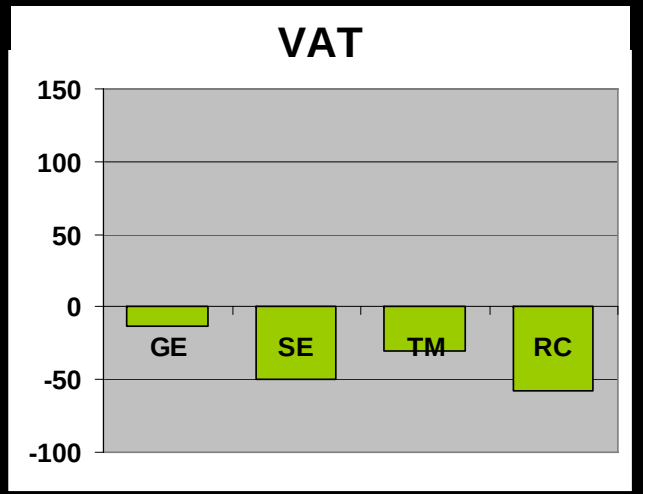
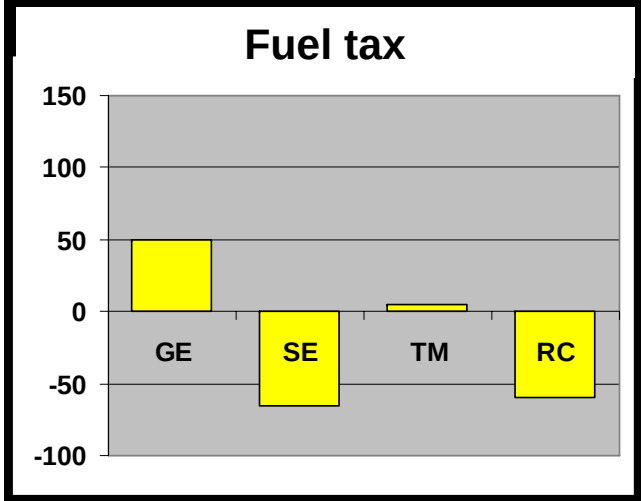
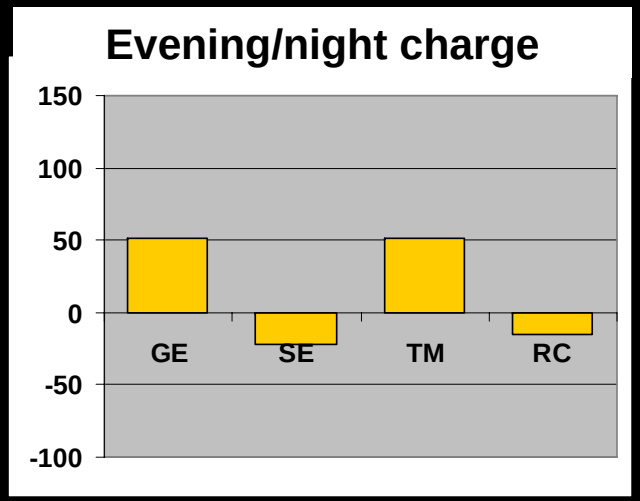
Relative impacts of policy options on Aircraft Movements Schiphol 2020

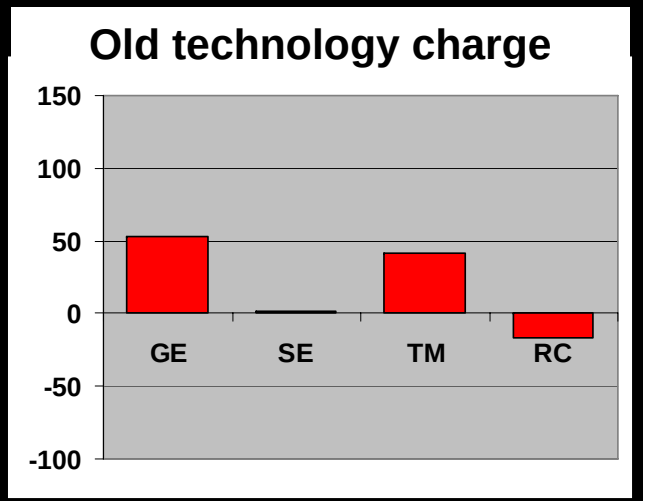












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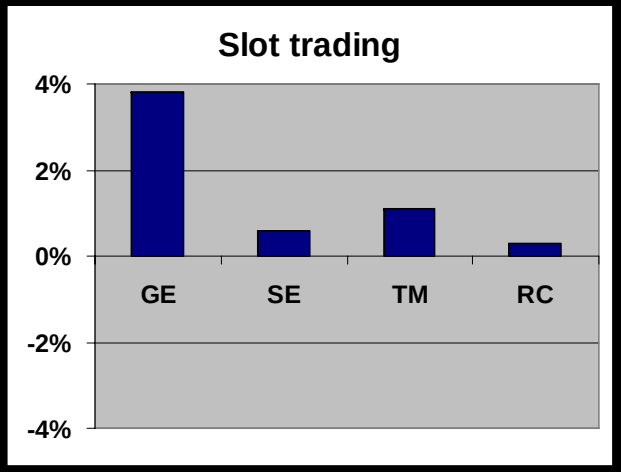
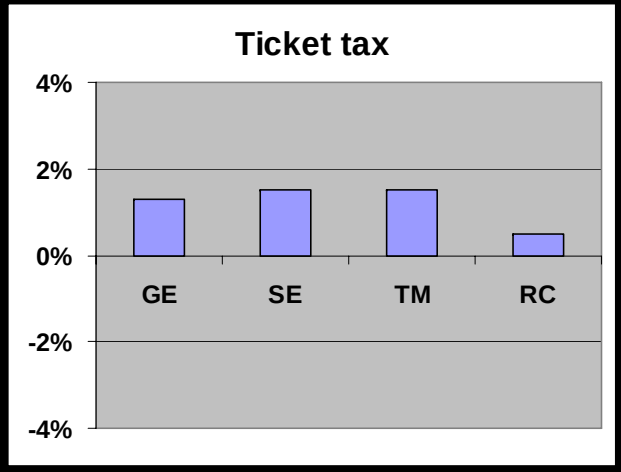
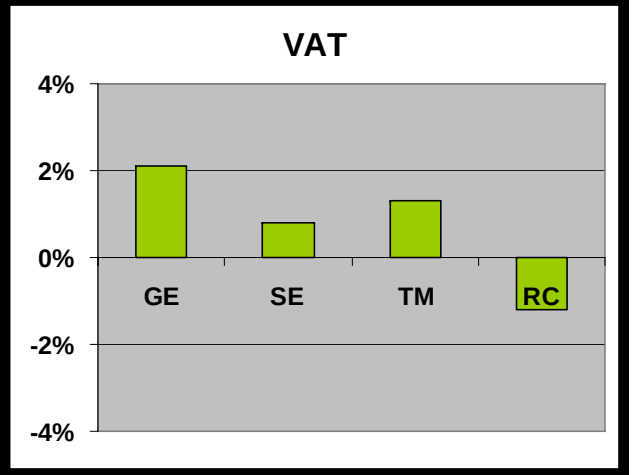
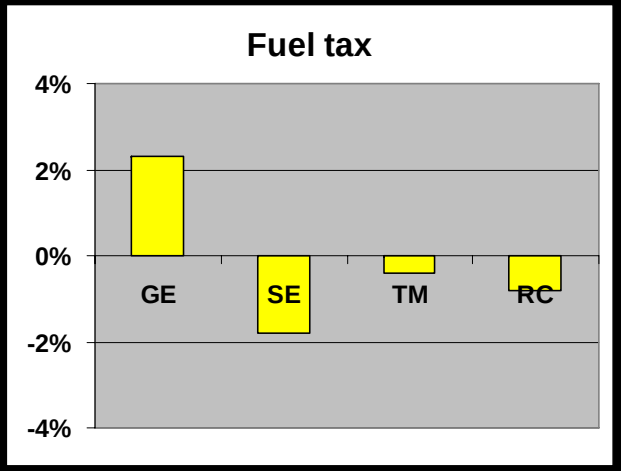
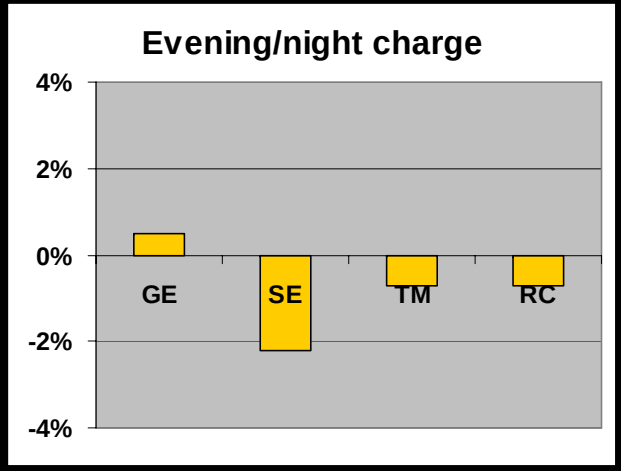
Relative impacts on Market Share SkyTeam

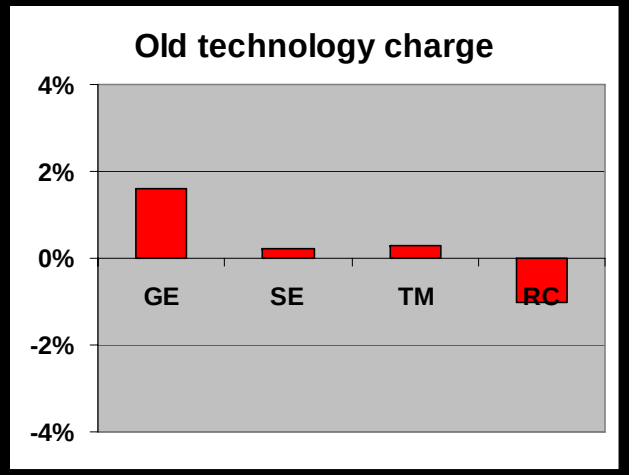






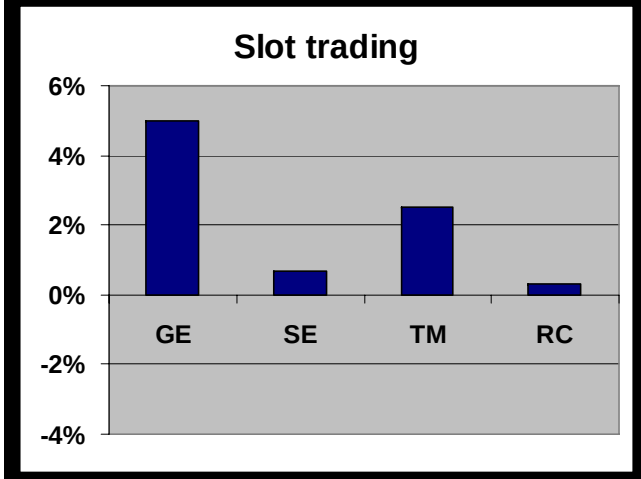


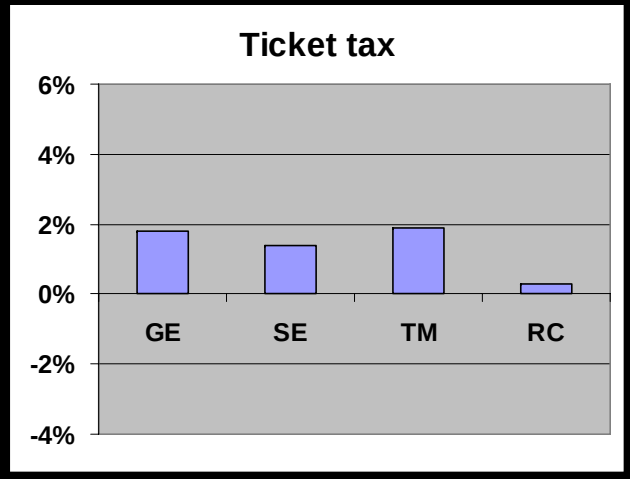


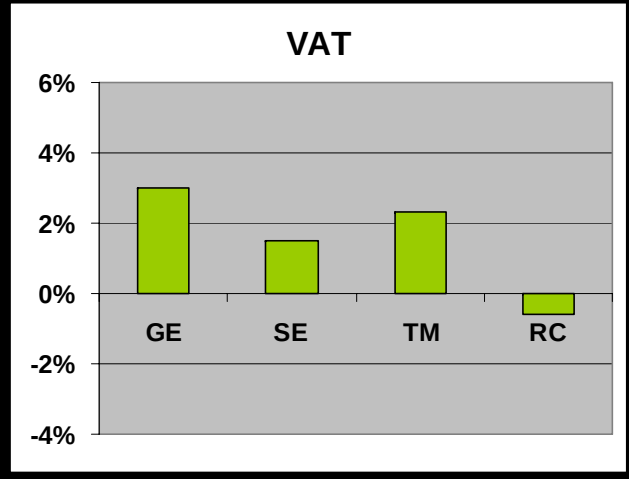


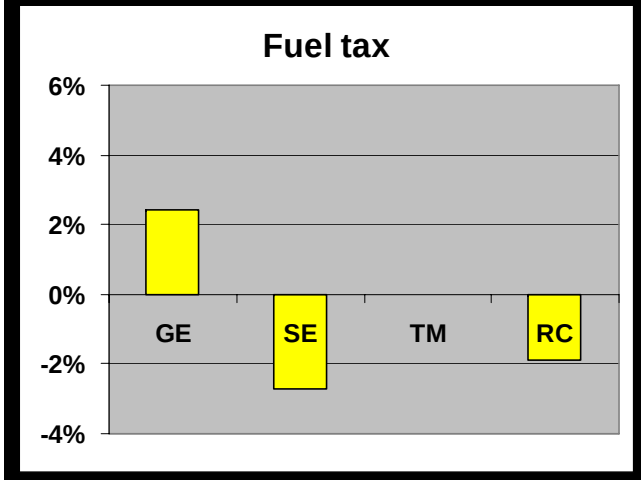
Significance

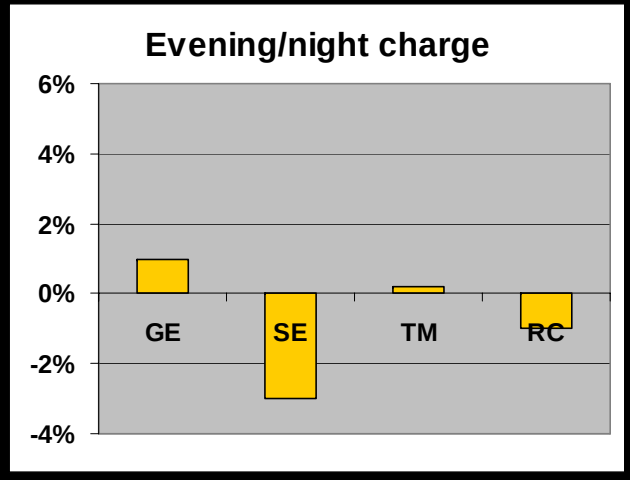
Relative impacts on Transfer Percentage

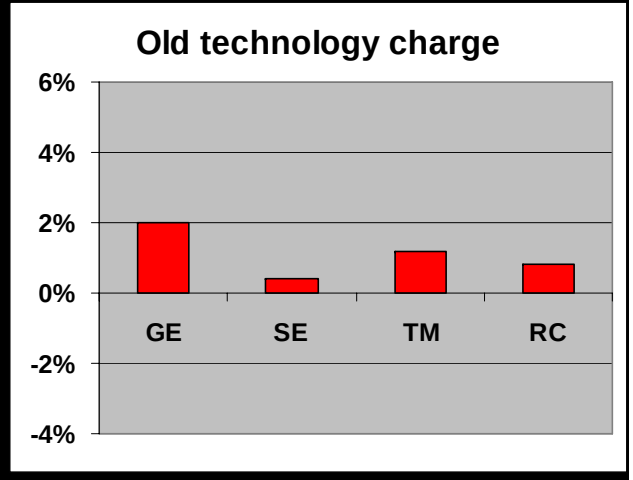












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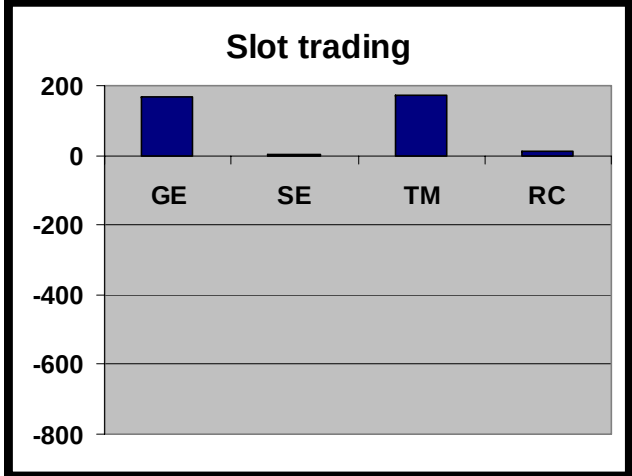
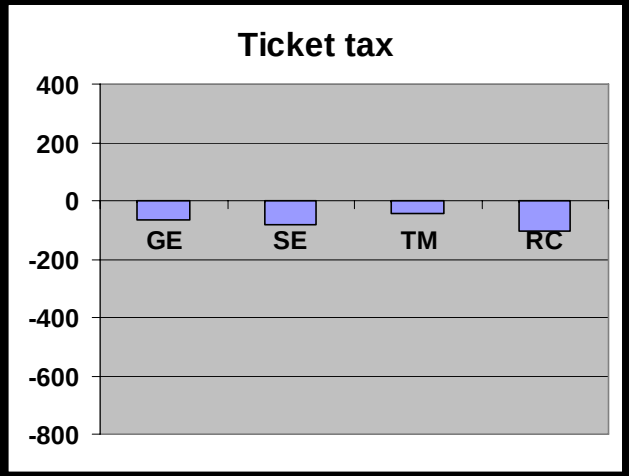
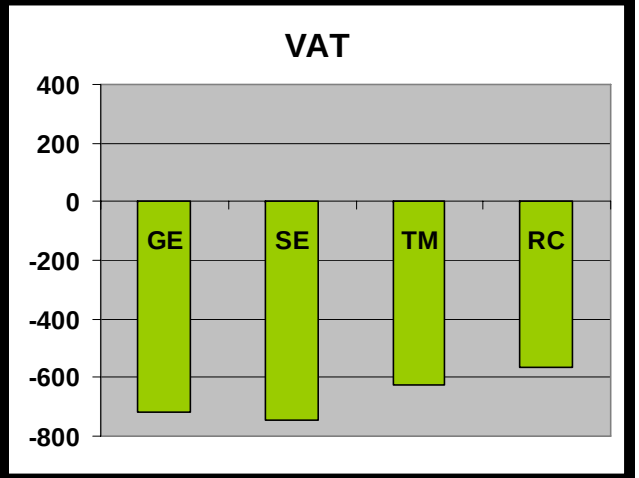
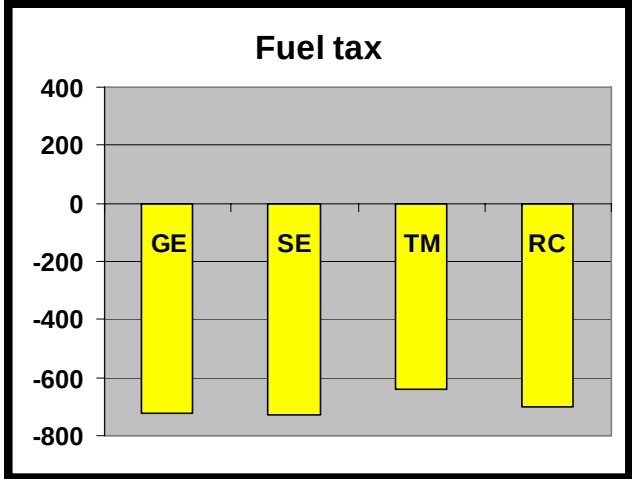
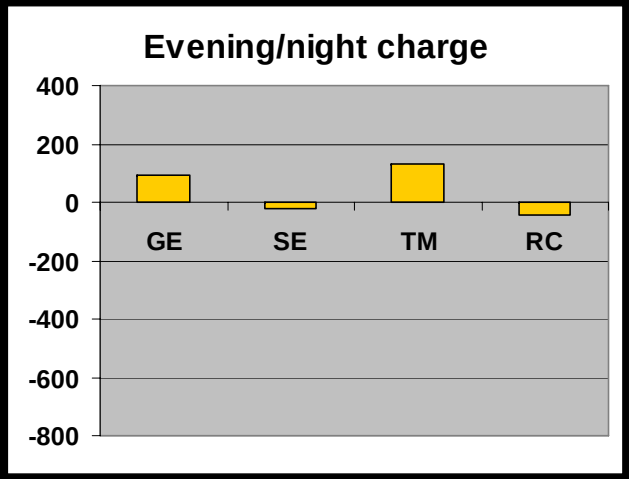
Impact on Consumer Surplus (mio Euro)

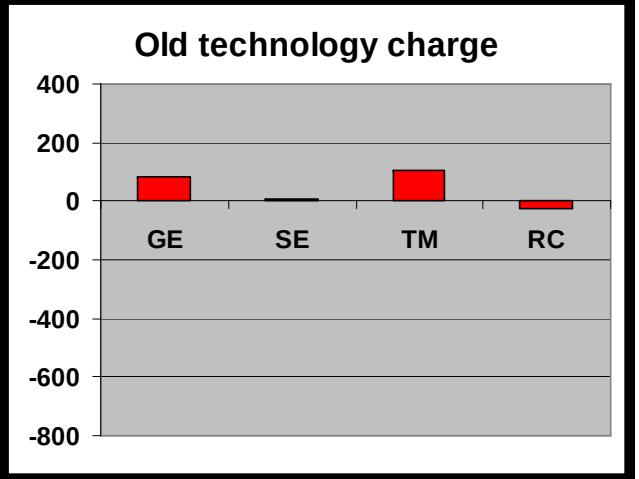












Significance

Assessment of policy options

	Efficiency	Side effects	Robustness
Slot trading	+	+	+
General charges	-	+/-	-
Specific charges	+	+/-	+/-

Significance

Conclusions (1)

- **Potential for substantial growth at Schiphol airport in period up to 2020**
  - Depends on macro-economic scenario
  - Capacity limits elsewhere increase potential demand further
- **Real chance that airport capacity will be reached before 2020**
  - Noise capacity more restrictive than runway capacity
- **Measures needed to accommodate growth**
  - Incentives to use less noisy aircraft: differential pricing

Significance

Conclusions (2, tentative)

- **Slot trading (if possible) would be very effective, few side effects and robust**
- **General charges: ticket tax/VAT/fuel tax may be effective but can have negative side effects and are not robust**
- **Specific charges: take off/landing by time of day/ aircraft technology class are potentially effective, but the side effects are uncertain, and the effects are not entirely robust**

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Conclusions (3)

- **But: research continues… and more simulations will be done in the coming weeks**

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For more information, please contact:

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