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RESILIENT TOURISM

Simulation case study · Valais · 2025–2036

When international travel falters

How differently positioned destinations respond to a common shock

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The simulation tool presented in this case study forms part of Sub-Project 3, "Resilient Tourism Systems," within the Resilient Tourism Flagship, supported by Innosuisse, the Swiss Innovation Agency. SP3 develops models and simulation approaches to explore how tourism systems respond to disruptions and to support strategies for greater resilience. It brings together HES-SO Valais-Wallis, through the Institutes of Tourism and Institute Entrepreneurship & Management, as well as ICARE Research, combining expertise in tourism, systems modelling and digital technologies. The industry partners in Valais include Val d'Anniviers Tourism, Sierre-Anniviers Marketing, Crans-Montana Tourism, Nendaz Tourism and The Ark Foundation, connecting the research with destination practice and regional innovation. This work sits within the wider Flagship consortium coordinated by EHL Hospitality Business School, involving six research institutions and more than 30 Swiss tourism stakeholders. The simulation tool provides a practical means of exploring hypothetical shocks and discussing their implications for destinations with different market profiles.

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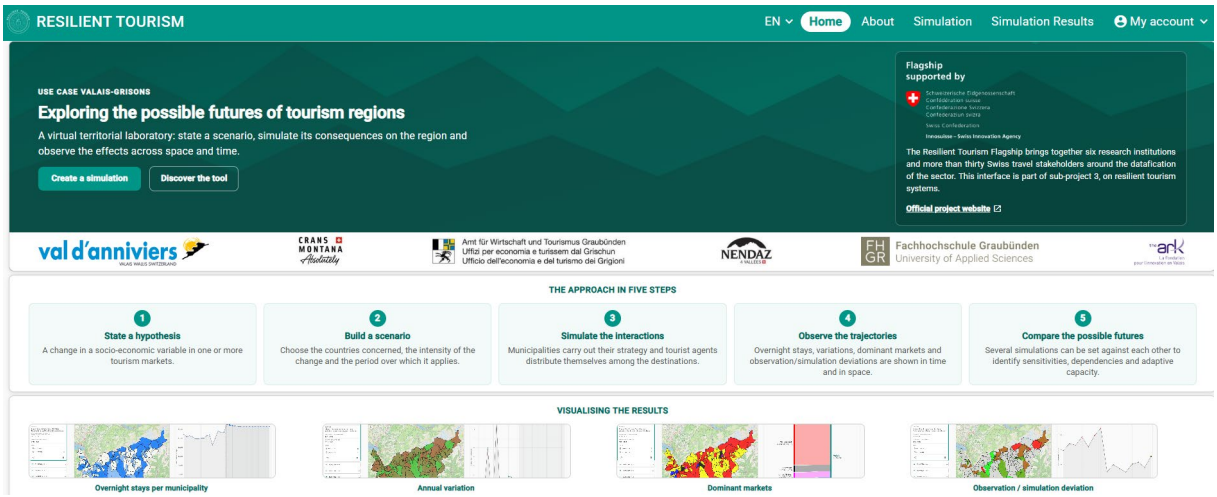
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The simulation tool and the objective of the case study

Tourism destinations operate within an interconnected system of visitor markets, accommodation providers and places with different attractions and demand profiles. An international disruption therefore rarely affects every destination in the same way. A decline in long-haul travel may substantially reduce demand in one resort, while stronger domestic tourism supports activity elsewhere. These differences can be difficult to identify in aggregate statistics, particularly when local gains partly offset losses.

The **Resilient Tourism simulation tool** helps explore these dynamics by allowing users to construct hypothetical scenarios and examine their consequences for hotel overnight stays. Users select a territory and simulation period, configure the available economic indicators or adjust demand trajectories for individual source markets. The tool uses historical tourism data and its modelling framework to produce annual results at cantonal and municipal levels. Maps and charts allow users to examine both the evolution of total overnight stays and the composition of demand by visitor origin.

Homepage of Resilient Tourism Scenario Simulator



Source: https://resilient-tourism-nx-frontend-lp.icare.ch/home

The tool supports exploration of **"what if?" questions**. What happens if several international markets contract simultaneously? How far can domestic demand compensate? Which destinations face the greatest exposure, and how does the timing of recovery differ? Comparing a disruption scenario with a no-shock simulation helps reveal consequences that would remain hidden in a simple comparison with the previous year. A destination can record growth while still performing below the level it would have reached without the disruption.

The purpose is to support strategic discussion and preparedness. The results describe possible trajectories under specified assumptions, rather than predictions of what will happen. They help stakeholders examine dependencies, challenge assumptions about resilience and identify where further analysis is needed.

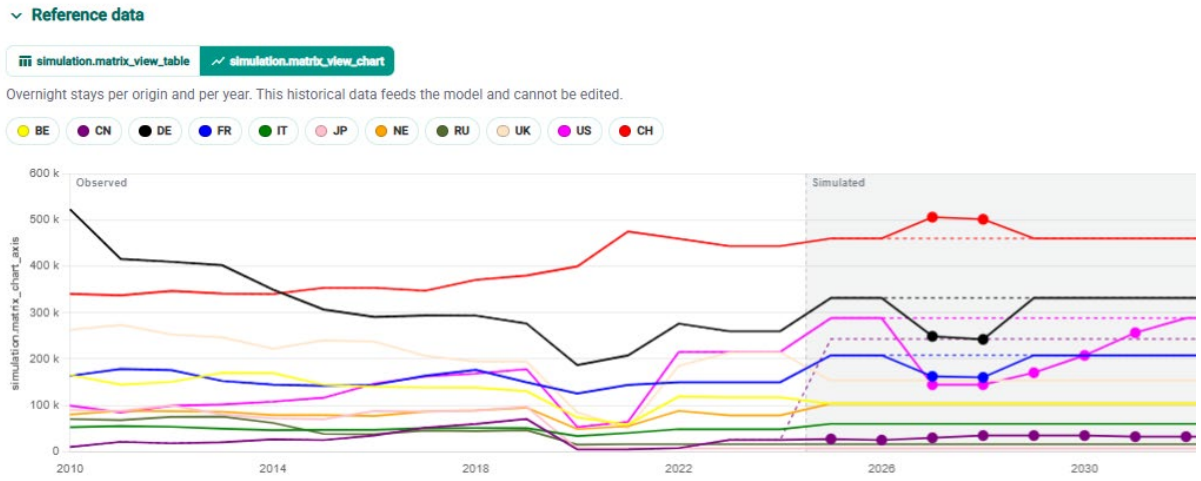
This case study applies the tool to Valais, comparing the canton as a whole with destinations positioned differently within its tourism system: internationally oriented mountain resorts such as Zermatt and

Verbier, represented by Val de Bagnes; destinations with strong domestic demand, including Leukerbad and Goms; urban destinations such as Sion and Brig-Glis; and destinations with distinctive market combinations, notably Saas-Fee and Anniviers. Its objective is to understand **how a common external shock can produce contrasting local trajectories, and what these differences imply for the resilience of the wider tourism system**.

The scenario: an international downturn with a temporary domestic cushion

It is early 2027. In Zermatt, a hotel manager watches American reservations fall and receives fewer enquiries from Germany. In Sion, another hotel sees stronger interest from Swiss guests. In Leukerbad, domestic bookings help sustain activity. Across the canton, tourism professionals face the same uncertain international environment, but their reservation calendars tell different stories.

Scenario assumptions: source-market demand trajectories under the international travel shock



The scenario imagines geopolitical tension and economic uncertainty affecting international travel. American demand falls sharply in 2027–2028 and then recovers gradually. German and French demand experience a shorter contraction. Chinese demand remains substantially below its reference trajectory throughout 2025–2036. Meanwhile, Swiss demand increases temporarily in 2027–2028, reflecting the hypothetical choice of more residents to holiday within Switzerland.

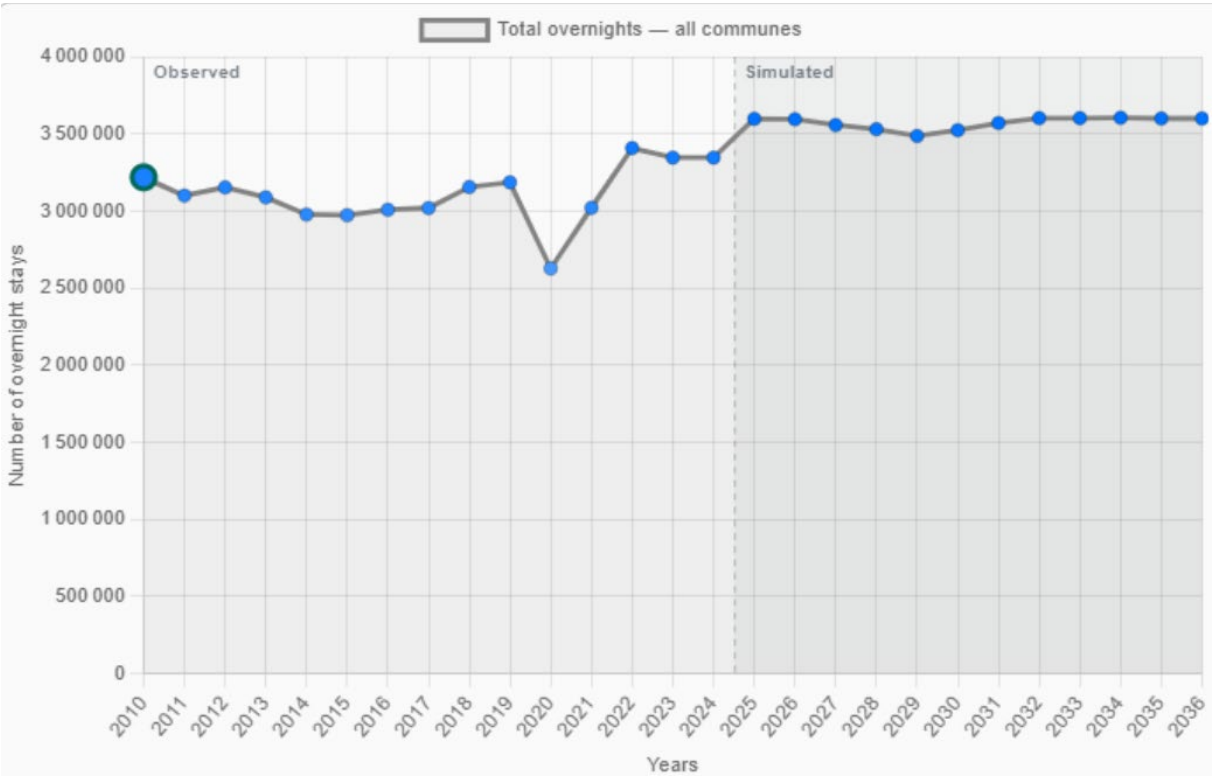
Other source markets receive no additional manual demand shock, and the selected exchange-rate indicator remains stable. The narrative provides a plausible context for the imposed demand changes; the simulation does not independently establish that these geopolitical events would produce those precise responses.

A relatively stable canton can conceal substantial local disruption

Viewed at cantonal level, the initial downturn appears contained. Additional Swiss overnight stays cushion a substantial part of the international shortfall. Yet comparison with the no-shock scenario reveals a persistent gap, and the aggregate trajectory conceals much sharper differences between destinations.

Zermatt accounts for most of the cumulative net shortfall in this simulation. Several other destinations initially benefit from domestic demand or from their exposure to foreign markets that remain comparatively stable. Their performance softens the cantonal decline.

Observed and simulated evolution of overnights on a cantonal level between 2010 and 2036



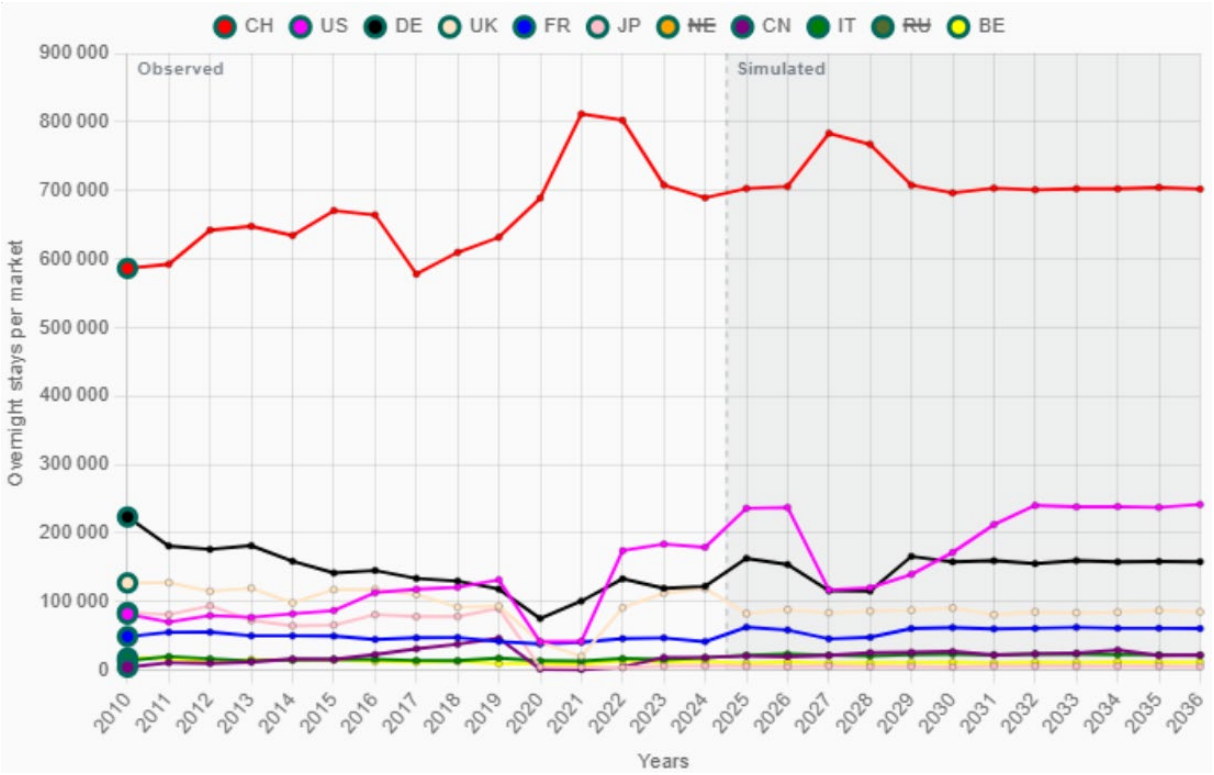
This illustrates an important distinction between **resilience at the level of the canton and resilience within individual destinations**. A diversified regional tourism system can maintain a relatively stable overall volume while some local economies experience considerable pressure. Stable cantonal figures would therefore provide an incomplete basis for assessing where support or adjustment might be needed.

The results show contrasting geographical outcomes. They do not establish that visitors who would have stayed in Zermatt transfer their bookings to another Valais destination.

International resorts follow different paths

Zermatt illustrates the vulnerability associated with strong exposure to the markets affected by this scenario. Its substantial American demand falls sharply, alongside reductions in other international markets. Swiss demand increases, but provides only partial compensation.

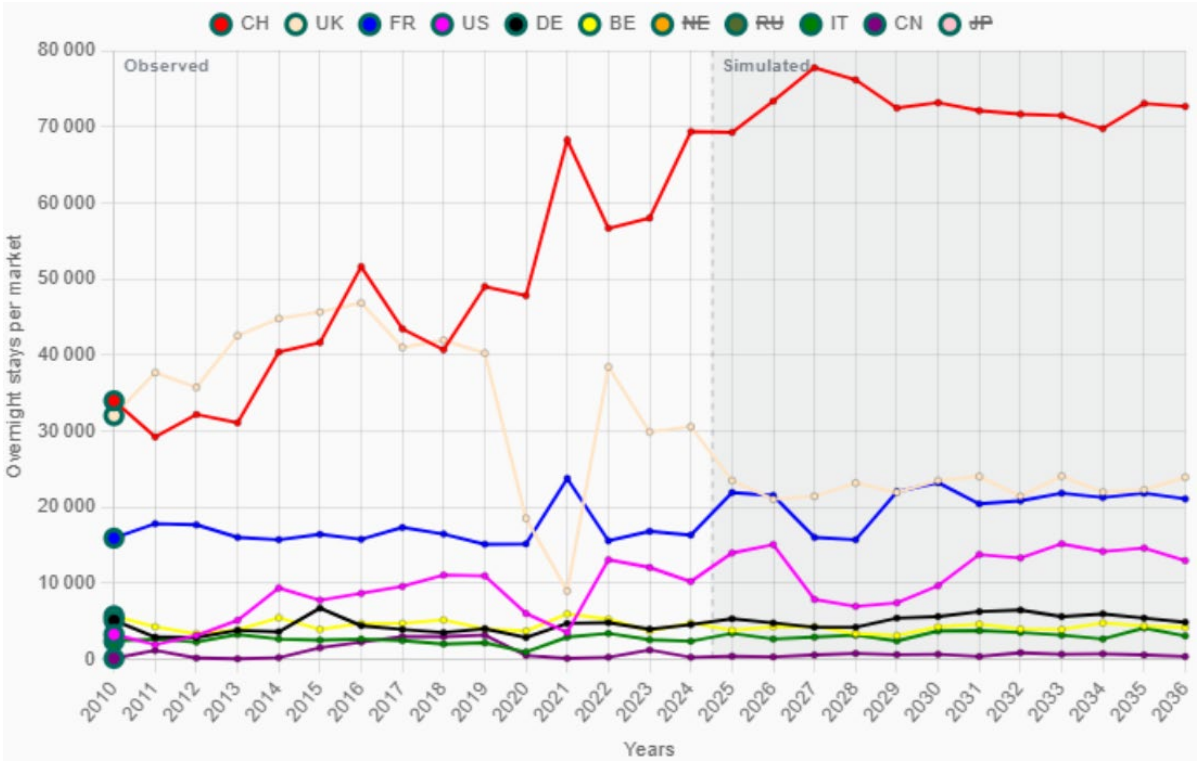
Zermatt under the Shock Scenario: Simulated Tourism Demand for selected Markets



Its subsequent recovery follows the gradual return of international visitors. Nevertheless, the destination remains below its no-shock trajectory at the end of the simulation. Returning to an earlier volume of overnight stays therefore does not mean that the disruption has left no lasting gap.

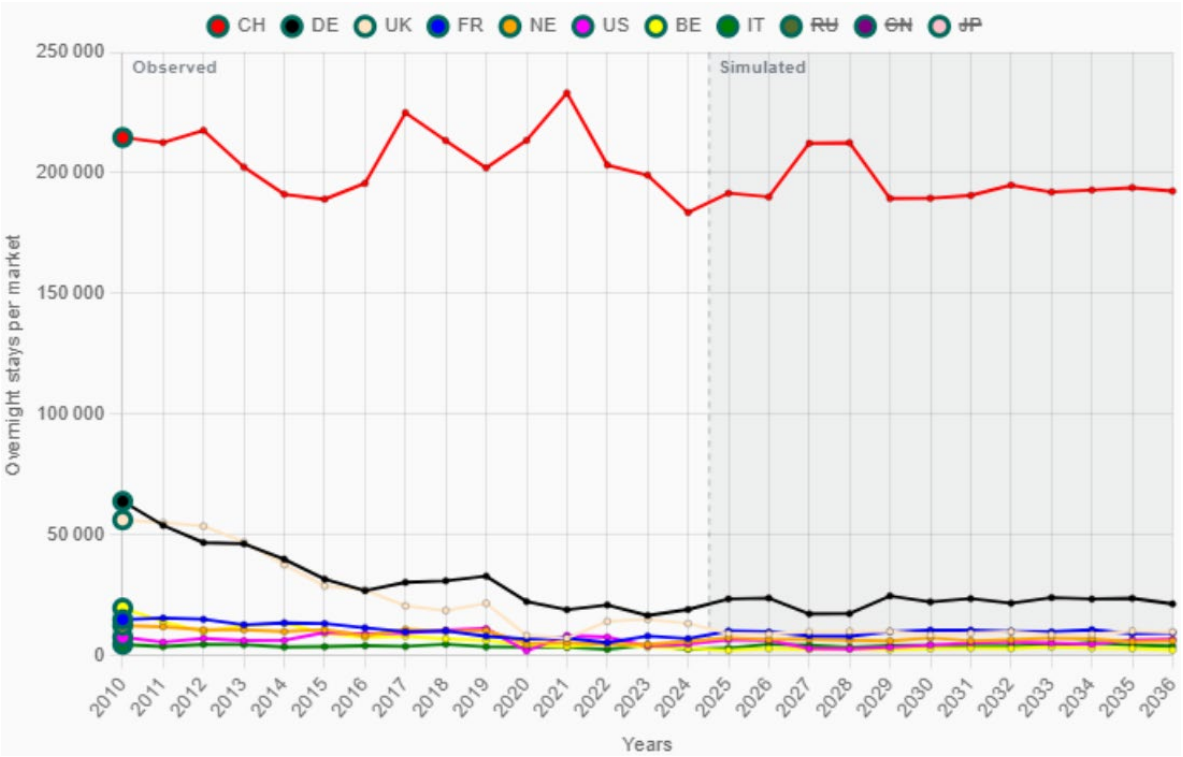
Verbier (Val de Bagnes) also experiences an initial contraction, but its demand structure differs. French and American demand contribute to its exposure, while the British market, which receives no direct shock in this scenario, provides some stability. Its trajectory illustrates why “international resort” is too broad a category to explain vulnerability on its own. The composition of international demand matters.

Verbier under the Shock Scenario: Simulated Tourism Demand for selected Markets



Saas-Fee provides a further contrast. Despite its international positioning, Swiss visitors account for a substantial part of its hotel demand. The domestic increase supports year-on-year growth during the acute downturn. However, the no-shock comparison shows that this growth still falls slightly short of the alternative trajectory.

Saas-Fee under the Shock Scenario: Simulated Tourism Demand for selected Markets

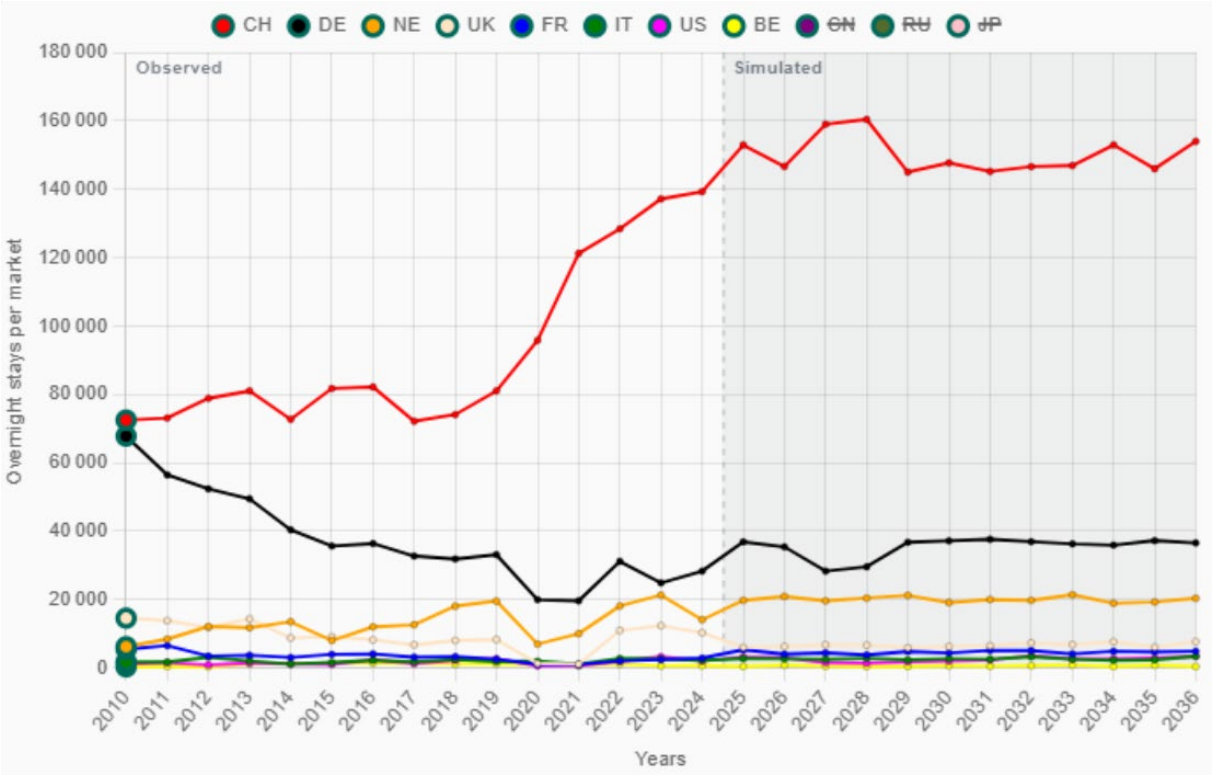


The lesson is that destination positioning and actual market exposure must be considered together. International visibility does not automatically imply the same degree or type of vulnerability.

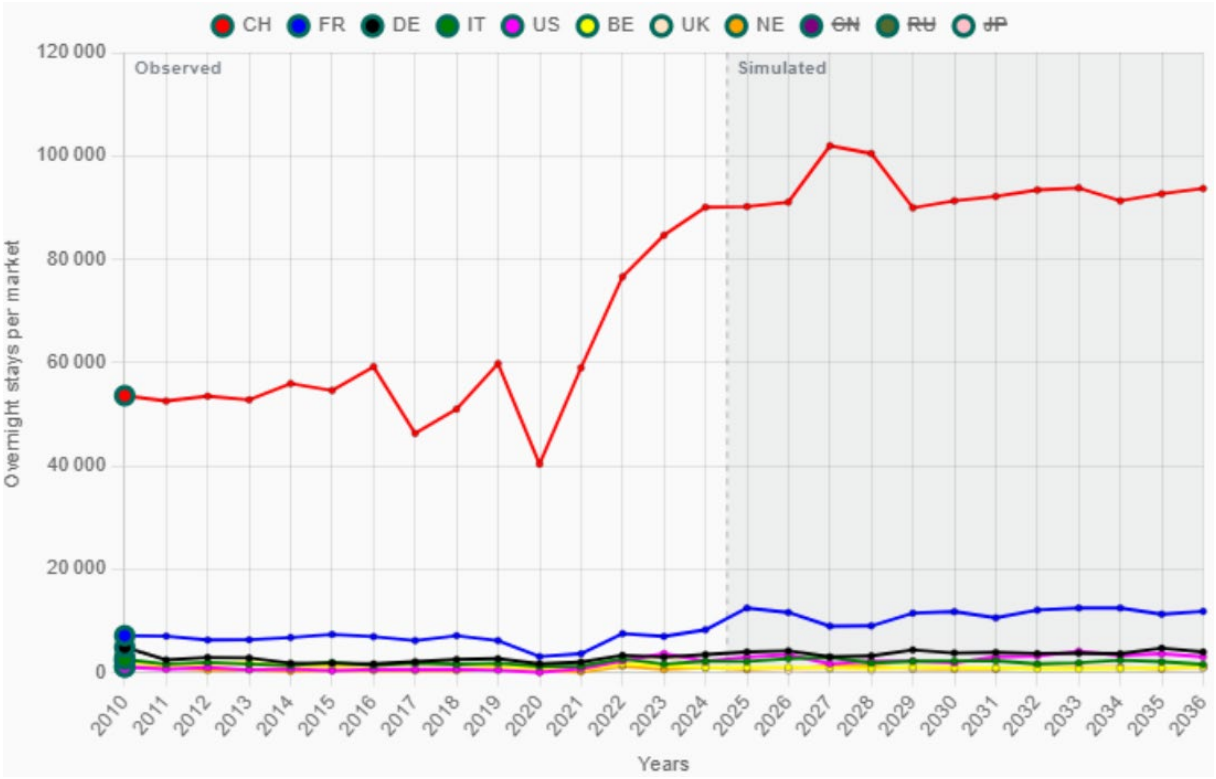
Domestic demand offers protection, with different limits

Leukerbad shows the clearest temporary benefit among the selected destinations. Its strong Swiss demand base allows the domestic increase to outweigh the foreign shortfall during the initial shock. Sion also benefits, while Brig-Glis receives more limited protection because its foreign-market exposure differs.

Brig-Glis under the Shock Scenario: Simulated Tourism Demand for selected Markets



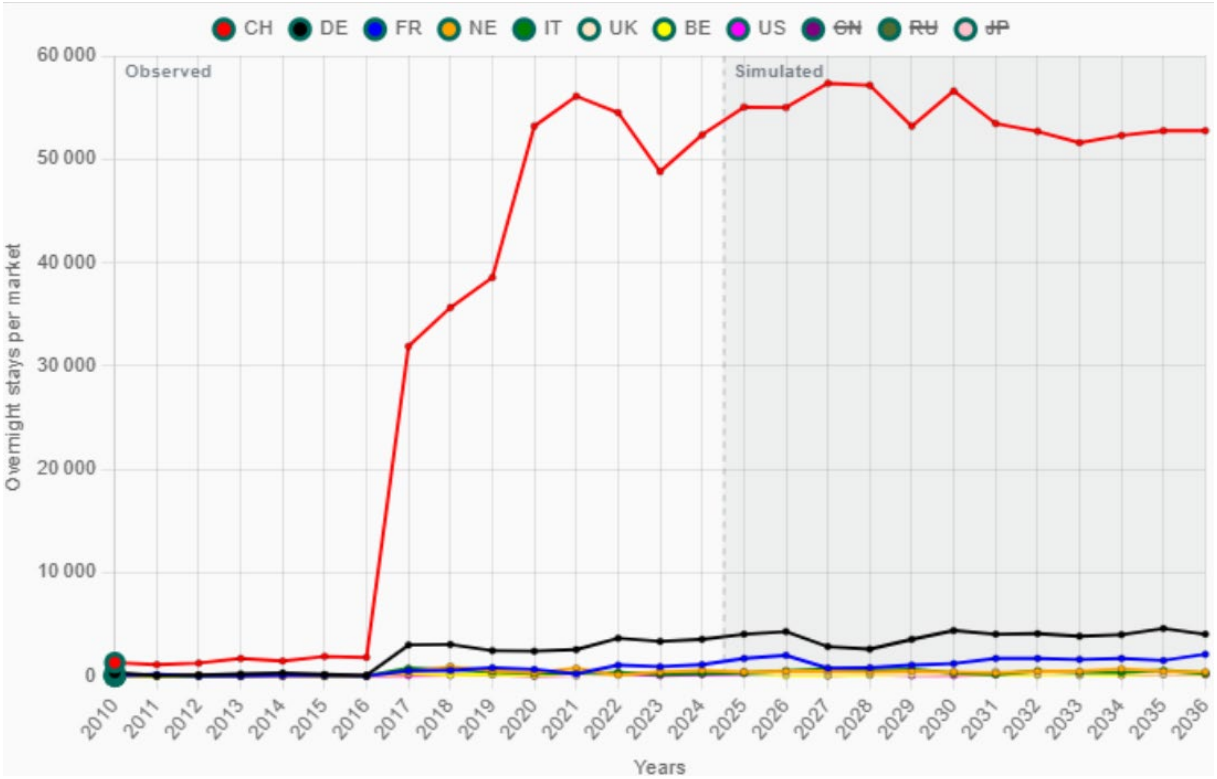
Sion under the Shock Scenario: Simulated Tourism Demand for selected Markets



These results suggest that a strong domestic customer base can help sustain activity during an international disruption. They do not establish which visitor motivations drive this protection. The available outputs do not distinguish leisure, business, transit or other travel purposes.

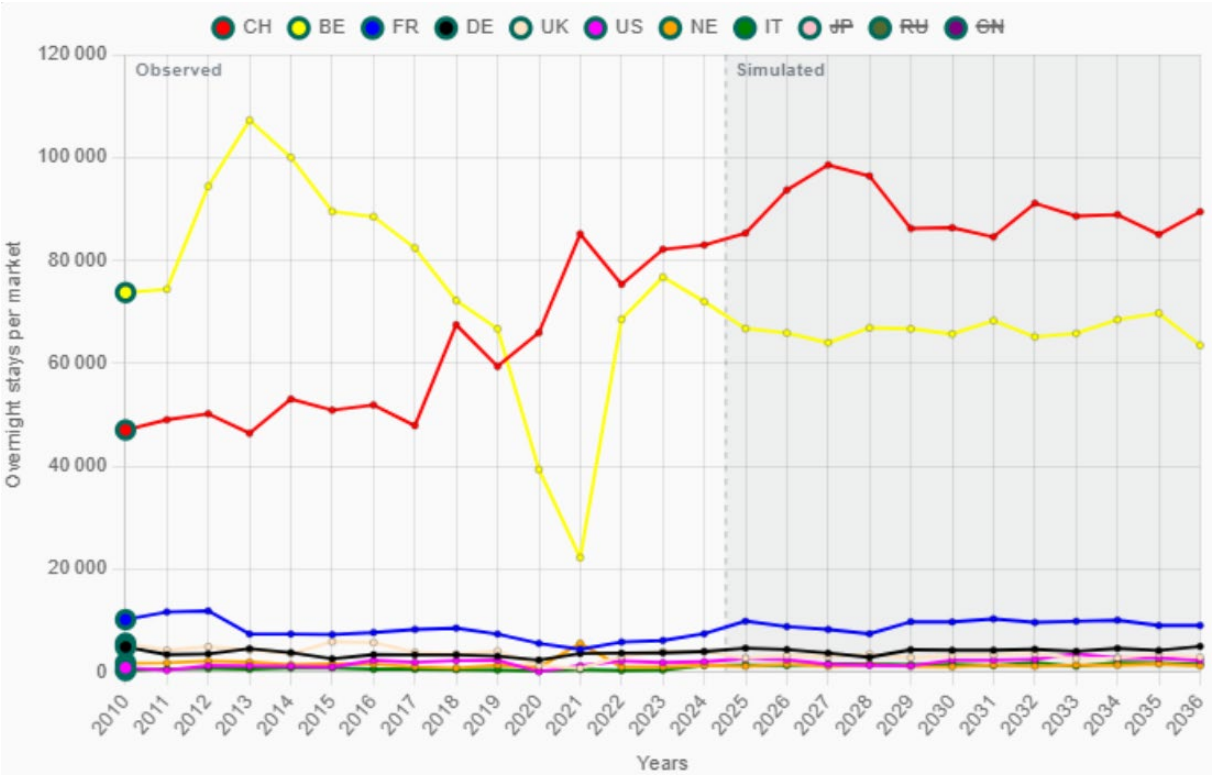
Goms illustrates another aspect of domestic dependence. Its predominantly Swiss demand supports broad stability relative to the baseline, but does not eliminate annual fluctuations. A high domestic share reduces exposure to the selected international shocks without guaranteeing continuous growth.

Goms under the Shock Scenario: Simulated Tourism Demand for selected Markets



Anniviers illustrates the additional protection provided by a stable foreign market. Swiss visitors account for around half of its overnight stays, while its substantial Belgian market receives no direct shock in this scenario. In 2027, total demand reaches approximately 182,000 nights, 2.7% above the no-shock level. Although demand subsequently declines as Swiss tourism normalises, its cumulative volume over 2025–2036 remains close to baseline. The contrast with Zermatt shows that resilience depends on the specific market mix, not simply the domestic shar**e**. Anniviers benefits from limited exposure to the affected markets, although its small positive simulation gap should be interpreted cautiously given variation between runs.

Anniviers under the Shock Scenario: Simulated Tourism Demand for selected Markets



Protection is therefore specific to the scenario. A destination that performs well here could face greater difficulty under a disruption centred on Swiss purchasing power or on one of its principal European markets.

The end of the domestic boost creates a second adjustment

The tourism system does not move through the disruption at a uniform pace. In 2027–2028, stronger Swiss demand provides temporary relief. In 2029, this support ends while American demand has not yet fully recovered. Valais reaches its lowest simulated total at this later stage.

The result is an uneven transition. Zermatt begins to recover as international demand returns, while several destinations that initially benefited from Swiss visitors experience a decline from their temporary peak.

For destination managers, this timing matters. Strong bookings during the first phase of an international crisis should not automatically be interpreted as a permanent increase in demand. Decisions about staffing, capacity and investment would need to account for the possibility that domestic support fades before international recovery is complete. The simulation does not calculate these business consequences, but identifies the demand trajectories that would make them relevant.

Implications for tourism strategy in Valais

The tool's **agent-based modelling approach** provides a framework for exploring how changes in demand translate into different outcomes across destinations and, collectively, at cantonal level. The results should therefore be read as exploratory scenarios shaped by the model's assumptions and behavioural rules. For tourism strategy in Valais, their value lies in identifying market dependencies, discussing possible responses and anticipating uneven recovery. Repeated simulations can help distinguish persistent patterns from variation between runs.

The specific case presented supports a differentiated approach to resilience. For destinations strongly exposed to affected long-haul markets, the strategic discussion concerns the extent to which other markets can realistically compensate and how businesses could manage a prolonged shortfall. For destinations receiving a temporary domestic boost, the question is how to retain some of that demand while preparing for its normalisation.

At cantonal level, monitoring should combine total demand with destination-level and source-market information. A limited aggregate decline can conceal substantial local exposure, while positive annual growth can conceal underperformance against the no-shock trajectory.

Market diversification also requires a more precise interpretation. Having several source markets offers limited protection when those markets decline together. In this scenario, resilience depends on the balance between affected international markets, stable markets and temporarily stronger domestic demand.

The municipal findings remain exploratory because the two simulation runs also differ in their historical local allocations. Small gaps should therefore be interpreted cautiously until repeated or matched runs establish their consistency. The scope is hotel overnight stays; revenue, profitability and the wider accommodation economy require additional analysis.

The case nevertheless reveals a clear pattern: **Valais absorbs part of the shock through its varied destination and market structure, but this protection is uneven and changes over time.** Understanding those differences helps identify where resilience comes from, where its limits lie and when an apparent recovery may still leave a destination below its potential trajectory.

List of Sources

- Resilient Tourism Simulator for Valais and Grisons: https://resilient-tourism-nx-frontend-lp.icare.ch/home
- Webpage of Subproject 3 at HES-SO Valais-Wallis: https://www.hevs.ch/de/projets/resilient-tourism-innosuisse-flagship-initiative-pffs-21-07-207983
- Website of the Overall Resilient Tourism Flagship: https://www.resilienttourism.ch/