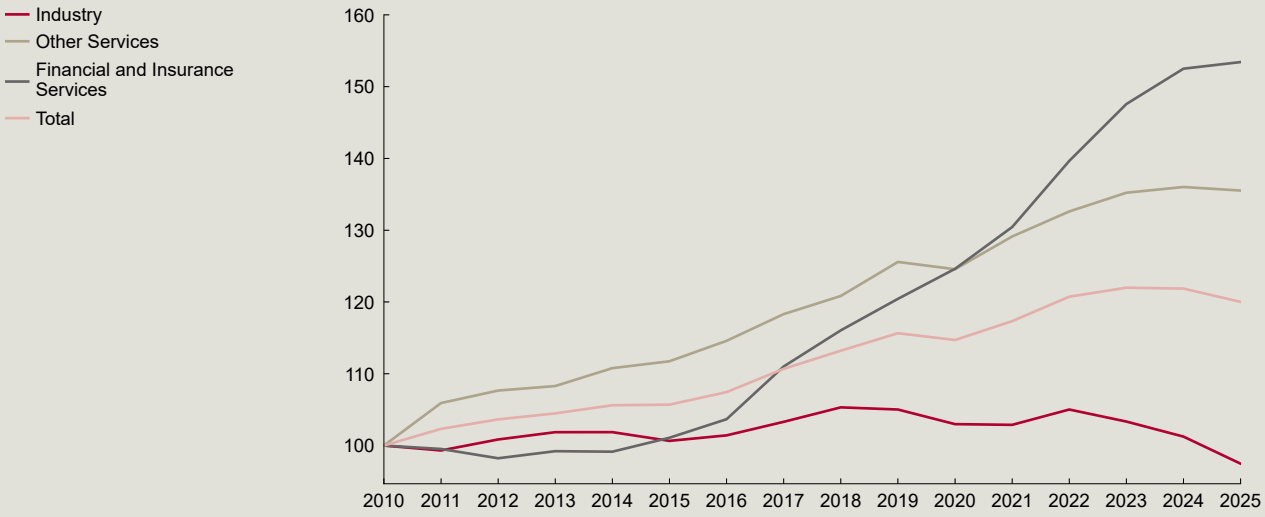
BOX 1

Employment dynamics and labour market resilience in Liechtenstein

by Andreas Brunhart, Martin Geiger & Elias Hasler

Liechtenstein's employment growth has lost momentum in recent years. After decades of steady expansion, employment growth has slowed, and in absolute levels has even declined slightly over the last two years to about 35'900 full-time equivalents (FTE). Figure B1.1 shows indexed FTE employment (end of year) by broad sectors. The recent growth slowdown is broad-based rather than confined to single parts of the economy.

Figure B1.1: FTE employment by broad sector

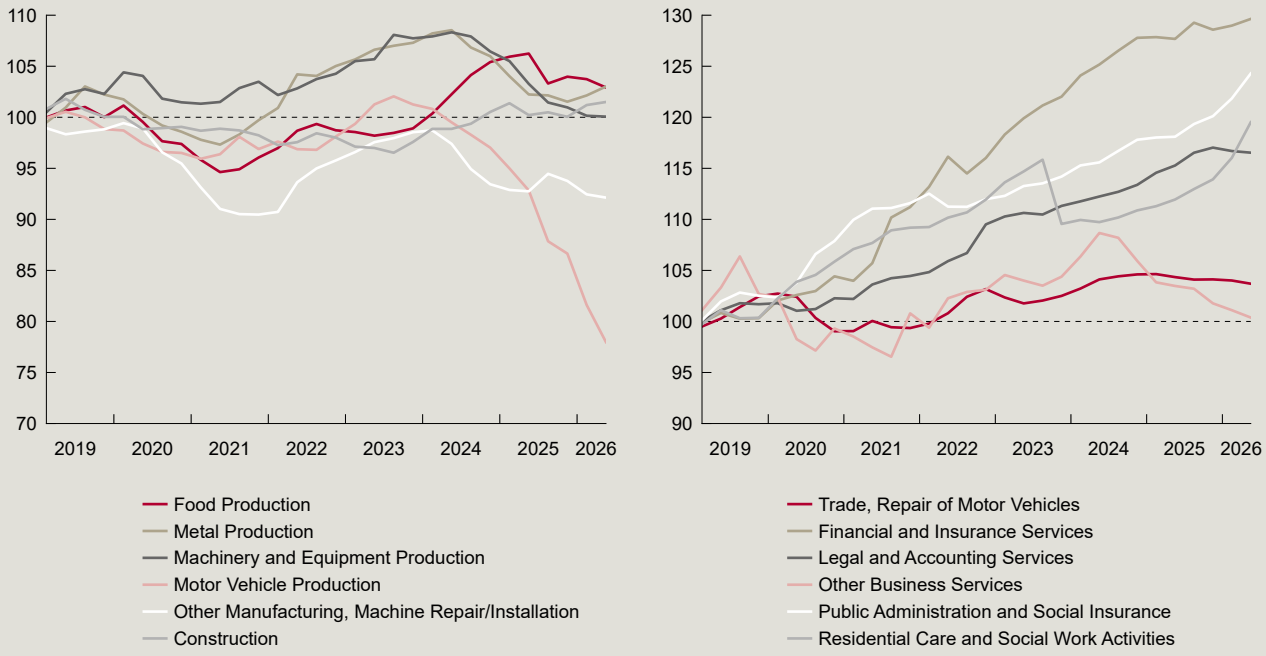


Source: Office of Statistics, Liechtenstein Institute (estimates for 2025).
Notes: Annual FTE employment index, 2010 = 100. End-of-year observations. 2025 values are estimates.

The industrial sector has become the main drag on aggregate employment. The industrial sector accounts for about 36% of total FTE employment and has recorded three consecutive years of declining FTEs. The left panel of Figure B1.2 shows quarterly indexed FTEs in the industrial branches with significant employment shares[1]. Although employment growth has weakened across most branches, the motor vehicle manufacturing stands out: its FTE employment in 2026Q2 was more than 20% and about 500 FTEs below its 2019 level.

[1] We abstract from branches accounting for less than 3% of FTE-employment.

Figure B1.2: Quarterly FTE employment across industry and services branches



Source: Office of Statistics, Liechtenstein Institute (seasonal adjustments).
Notes: Quarterly FTE employment index, Q1 2019 = 100. Data are seasonally adjusted. Left panel shows industrial branches and right panel service branches. Branches accoun ting for less than 3 percent of FTE employment are excluded.

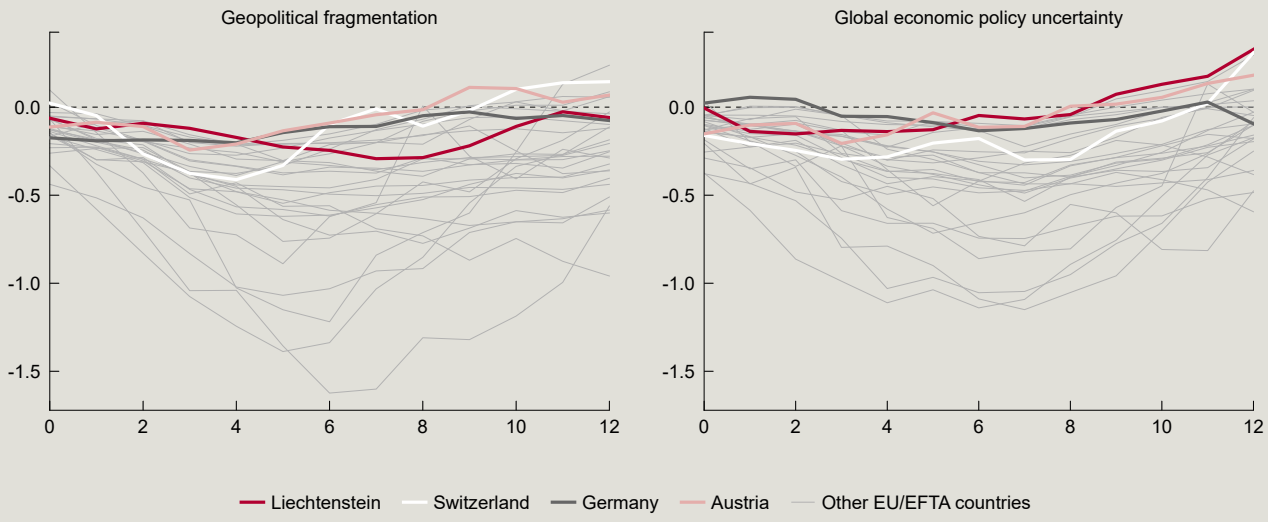
Services have remained more resilient, but employment dynamics across branches have diverged. Several large branches continued to expand during the recent slowdown, whereas employment in other business services has declined since mid-2024 (Fig. B1.2, right panel). While these aggregate data do not allow the causes to be identified, it appears plausible that in addition to macroeconomic headwinds, generative artificial intelligence (AI) may be changing labour demand in branches with a high concentration of digitally delivered cognitive tasks. Evidence for Switzerland points to weaker labour-market outcomes in highly AI-exposed occupations, particularly in software development, accounting and writing (Kläui and Siegenthaler, 2025). For example, in the field of information technology and services, a FTE stagnation trend is observable from 2023 (start of widespread AI adoption) up to the most recent observation in 2026Q2, following many years of exceptionally high growth rates prior to 2023, consistent with an AI-related change in labour demand (not shown in the figure because of its little labour share).

The employment slowdown reflects both structural and cyclical forces. Previous research suggests that Liechtenstein's manufacturing sector is undergoing structural change similar to that observed in other advanced economies. Liechtenstein firms have expanded production capacity more strongly abroad than at home, while increasingly concentrating headquarters functions as well as

research and development in Liechtenstein. As a result, manufacturing remains an important contributor to value added even as domestic employment and physical goods exports have stagnated (see also Berend, Brunhart and Geiger, 2024).

Geopolitical tensions affect the economic environment, in addition to structural change and other cyclical forces. These tensions affect the global economy through at least two related channels considered here: rising geopolitical fragmentation, measured by the index of Fernández-Villaverde, Mineyama and Song (2024), and elevated global economic policy uncertainty, captured by the index developed by Baker, Bloom and Davis (2016) and extended globally by Davis (2016). As a very small and open economy, Liechtenstein is particularly exposed to disruptions in international economic relations. Brunhart, Geiger, and Hasler (2026) find that Liechtenstein's GDP responds sensitively to shocks to both indicators, with a response after one year almost twice as large as the average response among EU/EFTA economies. By contrast, the unemployment rate responds only modestly in Liechtenstein compared to the EU/EFTA peer countries.

Figure B1.3: Employment responses to fragmentation and uncertainty shocks

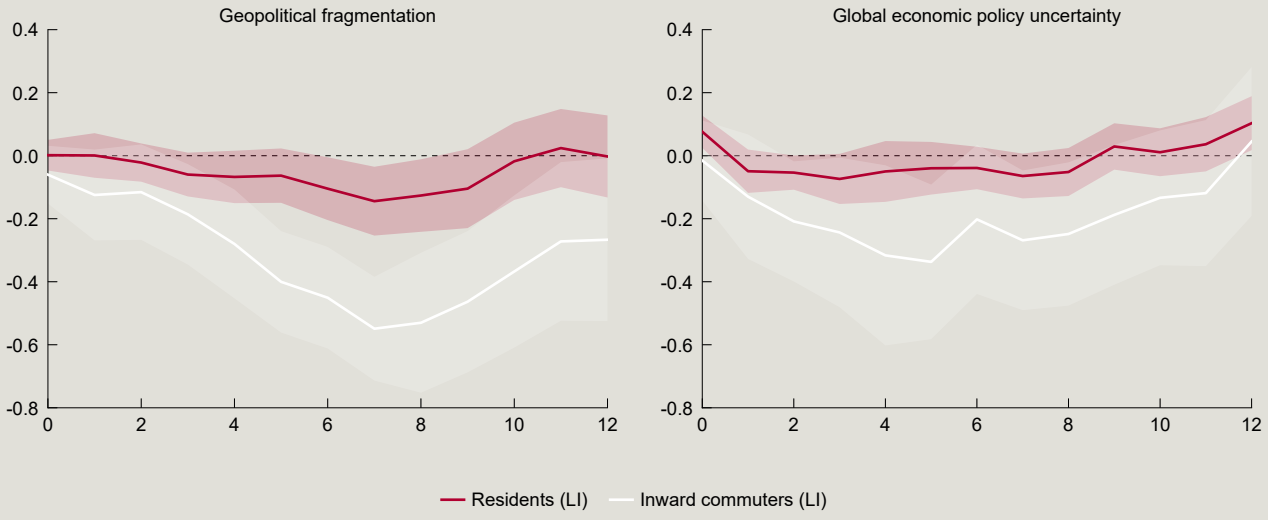


Source: Office of Statistics, Eurostat, Fernández-Villaverde/Mineyama/Song (2024), Davis (2016), Liechtenstein Institute (seasonal and structural break adjustments).
Notes: Y-axis: estimated employment response, in percent. X-axis: quarters after the shock. Impulse responses are estimated using local projections and normalised to a one standard-deviation shock.

While geopolitical tensions and uncertainty do drag on employment, their impact is limited. Figure B1.3 shows the estimated employment responses to geopolitical fragmentation and global economic policy uncertainty shocks over 12 quarters for Liechtenstein and all other EU/EFTA countries (applying the same

local projections approach as in Brunhart, Geiger, and Hasler, 2026). Given Liechtenstein's generally very high economic volatility, its high sensitivity to global economic developments, and its very strong GDP response to fragmentation or uncertainty shocks[2], the shocks' impact on employment is surprisingly small and appears very moderate in international comparison. Although Liechtenstein's response is similar to its three neighboring countries, it is relatively low when compared across the entire EU/EFTA region. However, the response of the Liechtenstein economy in terms of employment is more pronounced than the response of the unemployment rate to fragmentation and uncertainty shocks. On the one hand, this is because job losses are typically offset by natural turnover, and in many cases, those who are laid off find new jobs without becoming unemployed. On the other hand, when inward commuters (representing almost 60% of persons employed in Liechtenstein) are laid off, they are registered as unemployed in their country of residence and not included in Liechtenstein's official unemployment statistics.

Figure B1.4: Resident and commuter employment responses



Source: Office of Statistics, Eurostat, Fernández-Villaverde/Mineyama/Song (2024), Davis (2016), Liechtenstein Institute (seasonal and structural break adjustments).
Notes: Y-axis: estimated employment response, in percent. X-axis: quarters after the shock. Impulse responses are estimated using local projections and normalised to a one standard-deviation shock. Shaded areas show 68 percent confidence intervals.

Inward commuters not only account for a high proportion of the workforce but also react more sensitively than the resident employment to the shocks examined. Figure B1.4 breaks down Liechtenstein's total employment into the specific responses of inward commuters and employed residents, revealing that commuters react significantly more strongly to fragmentation and uncertainty shocks. Liechtenstein's reaction

[2] Brunhart and Lehmann (2021) find a virtually nonexistent short-run relationship between real GDP and employment in Liechtenstein: The correlation coefficient (2005Q1–2020Q4) was −0.03 in Liechtenstein, 0.57 in Switzerland, and 0.44 in average of EU countries. However, the shocks examined here are specific phenomena rather than typical business cycle fluctuations; therefore, the observed shock response of employment does not necessarily contradict the aforementioned finding or serve as an indication for structural change in this regard.

of total employment shown in Figure B1.3 is thus driven primarily by commuters. The causes of this difference cannot be identified from the estimates. Possible explanations include differences in the sectoral and occupational composition, qualifications and job tenure of resident and cross-border workers, as well as firms' adjustment practices. While the first explanation is unlikely given the employment volatility patterns[3], the aggregate results do not permit conclusions about the relative importance of the remaining potential explanations.[4]

Liechtenstein's labour market remains resilient, but recent employment dynamics point to emerging constraints. Unemployment has remained low despite structural adjustment and cyclical headwinds, partly because employment adjustment occurs through natural turnover and changes in inward-commuter employment rather than translating fully into resident unemployment. At the same time, weaker employment growth, demographic ageing and the economy's already high reliance on cross-border labour limit the scope for further employment-driven expansion. Sustaining economic growth will therefore increasingly depend on productivity gains, supported by investment, innovation and the efficient use of the available workforce.

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[3] The correlation coefficient (using annual data 2010–2024) between the standard deviation of the employment growth rate within each branch as proxy for business cycle volatility and the annual average of the employment share across branches differs only insignificantly between resident employment and inward commuters and is negative for both groups (larger industries tend to fluctuate less because unsystematic factors carry less weight).

[4] Kellermann and Schlag (2012) argue that inward commuters serve as buffer for Liechtenstein's employment, while Brunhart and Lehmann (2021, pp. 4–5) note that local and commuting workers have become more similar.