

BOX 2 Okun's law and Liechtenstein's highly resilient labor market³

Against the backdrop of its highly competitive industrial and financial sectors, Liechtenstein's economy has been characterized by high and increasing labor demand, by far exceeding domestic labor supply. The economy thus heavily relies on commuters from abroad, most importantly from its neighboring countries Switzerland, Austria, and Germany. As a result of strong and relatively stable employment growth, total employment has exceeded the number of inhabitants since 2017. Another remarkable feature of Liechtenstein's labor market is the weak relationship between employment and economic activity, which is associated with a highly resilient labor market even in sharp economic downturns. Employment also remained relatively stable in the sharp recession caused by the global pandemic, with a decrease in full time equivalents of –0.8% in 2020 (compared to –1.8% in 2009 during the global financial crisis).

Generally, business cycle dynamics are important drivers of employment, an empirical observation often referred to as “Okun's Law”. While employment typically decreases in recessions, additional

workers are hired during boom periods. As Liechtenstein is characterized by a very volatile business cycle relative to other developed economies (see also Box 1 and the remarks in last year's Financial Stability Report), one could assume – also from the perspective of “Okun's Law”, a basic macroeconomic concept (Okun, 1962) – that employment in Liechtenstein may also be subject to marked fluctuations. However, as explained in detail below, employment in Liechtenstein is largely unaffected by short-term changes in economic activity.

While there is a significant link between real GDP and employment in Switzerland and in EU countries, the two variables are virtually uncorrelated in Liechtenstein. Table B2.1 shows the standard deviations of employment and real GDP as well as the corresponding correlation coefficients for Liechtenstein, Switzerland and the EU average. In Liechtenstein, the standard deviation of real GDP is very high compared to Switzerland and the EU, indicating pronounced business cycle volatility. By contrast, the standard deviation of employment is of similar magnitude as in Switzerland and in the EU average. The dynamics of the two series are uncorrelated in Liechtenstein, while we observe a positive correlation in line with “Okun's law” for both Switzerland and the EU.

	Standard deviation		Correlation
	Real GDP	Employment	
Liechtenstein	3.3%	1.1%	–0.03
Switzerland	1.4%	0.6%	0.57
EU average	2.3%	1.6%	0.44

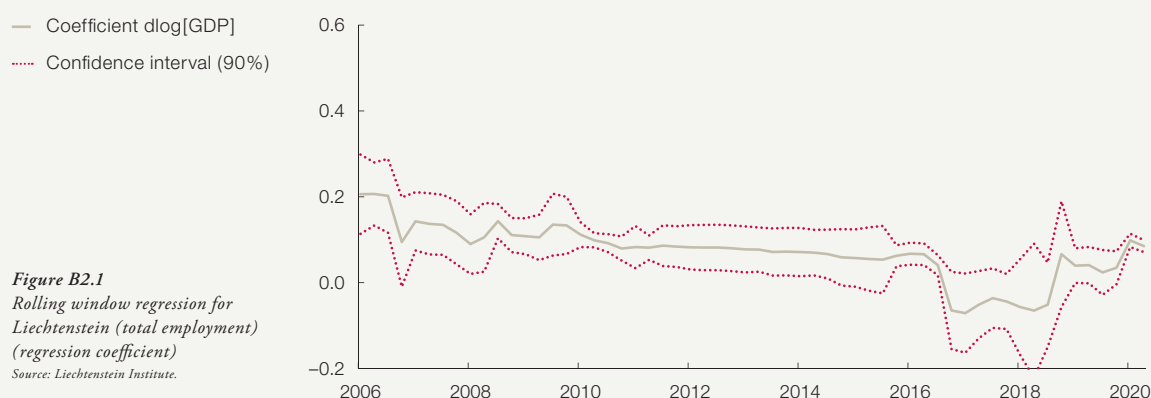
Table B2.1
Real GDP and employment

Sources: Office of Statistics, Federal Office of Statistics, SECO, Eurostat, Liechtenstein Institute.
Numbers are based on seasonally adjusted growth rates from 2005 to 2020.

³ The box builds on Brunhart and Lehmann (2021).

One explanation for the missing link between employment and the business cycle is a shortage of skilled labor. In addition to labor market regulations, the decoupling of the business cycle and employment can be explained by hiring costs associated with search frictions that tend to have increased over the last decades (Ball, Leigh and Loungani, 2017). Developed economies are characterized by a high degree of differentiation giving rise to highly specialized jobs. Skilled labor that meets the corresponding job requirements is often difficult to acquire, which gives rise to labor hoarding motives.

The Swiss Employment Barometer indicates that skilled labor is especially difficult to find in sectors such as metal or machinery industries, which are relatively large in Liechtenstein. Against this background, it is plausible that the decoupling between employment and business cycle dynamics progressed in a stronger manner and earlier in Liechtenstein compared to other advanced economies. Moreover, the fact that the number of residence permits is restricted in Liechtenstein is a further factor complicating the acquisition of skilled labor.

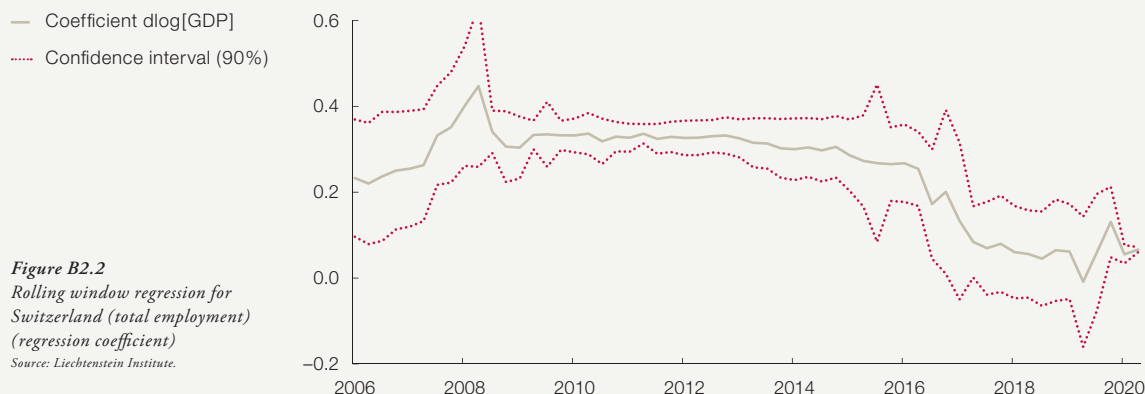


In Liechtenstein and Switzerland, employment dynamics have increasingly decoupled from the business cycle. In line with labor hoarding motives that become more relevant over time in light of increasing differentiation, the relationship between real GDP and employment has weakened considerably over the last two decades. Figures B2.1 and B2.2 show coefficients of real GDP on employment (both in log-differences) with the corresponding confidence intervals from 8-year rolling-window-estimations. Coefficients for Liechtenstein are shown in Figure B2.1, for Switzerland in Figure B2.2. The results illustrate how the partial effect of changes in GDP affect changes in employment (average of four

consecutive quarters) over time. While the relationship is generally weaker in Liechtenstein compared to Switzerland, the effect of GDP changes on employment has diminished in both countries over the last few years.

A similar development can be observed for inward commuters, indicating that labor hoarding motives are active for both domestic employees and for commuters from abroad. Liechtenstein's economy is characterized by a very large share of commuters from abroad relative to total employment (approx. 56% of employees were inward commuters in 2019). Notably, it appears that the relationship between

BOX 2



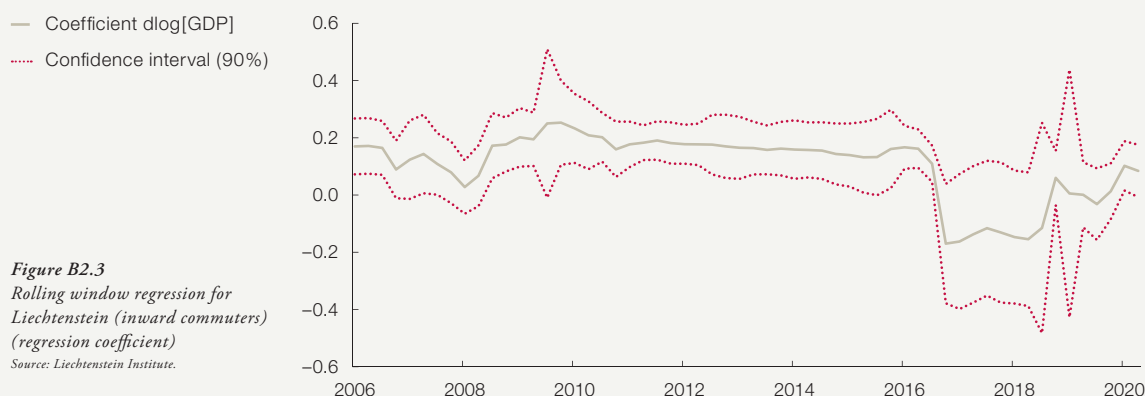
employment and GDP dynamics has converged for inward commuters compared to total employment, with very low elasticities of both total employment and the number of inward commuting employees to underlying GDP dynamics (see Figures B2.1 and B2.3). This indicates that labor hoarding motives are active for both domestic and foreign employees.

The highly resilient labor market is an important factor contributing to the high level of financial stability in Liechtenstein's economy. Business cycle theory suggests that real developments can be amplified through a financial acceleration mechanism. One important transmission channel in this respect is that business cycle downswings may lead to job losses that in turn affect borrowers' balance sheets.

In case of stable employment, even in periods of high volatility in economic activity, the negative feedback loops between the real and financial sector is much weaker, enhancing financial stability. The highly resilient labor market is also an important factor in the context of the high indebtedness of private households in Liechtenstein, as stable labor income (and extremely low unemployment rates) are associated with a high level of creditworthiness among borrowers.

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FINANCIAL STABILITY REPORT 2021



FMA

Financial Market Authority
Liechtenstein

Publisher and Editor

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