Exchange rate sensitivity of Liechtenstein exports

Due to the small size of the economy, the geographical location and the high degree of integration into international markets, goods exports traditionally play an important role for Liechtenstein. The share of exports exceeds 50% of GDP, with the majority of goods exports originating from the metal and engineering industries. Since the global financial crisis in 2008, exports have essentially stagnated and have not yet reached pre-2008 levels. By contrast, Liechtenstein's larger neighbor Switzerland, with whom Liechtenstein forms a customs union, experienced a modest but continuous recovery of goods exports since the financial crisis despite sharing the same currency.

The difference between the overall export developments in Liechtenstein and Switzerland is mainly driven by the respective sectoral composition. Figure B2.1 shows the development of Swiss and Liechtenstein exports in real values indexed to 1 in 2008. The solid line shows the development of overall goods exports whereas the dotted lines represent goods exports excluding pharmaceutical/chemical products and precision instruments/watches. In case of Liechtenstein, where these sectors are relatively small, overall export dynamics are largely unaffected whether or not the two mentioned sectors are left out of consideration. In Switzerland, however, the two sectors are clearly driving the upward movement in overall exports. Thus, even though the drop in exports due the financial crisis is generally more pronounced in the case of Liechtenstein, the difference in the post-2009

BOX 2

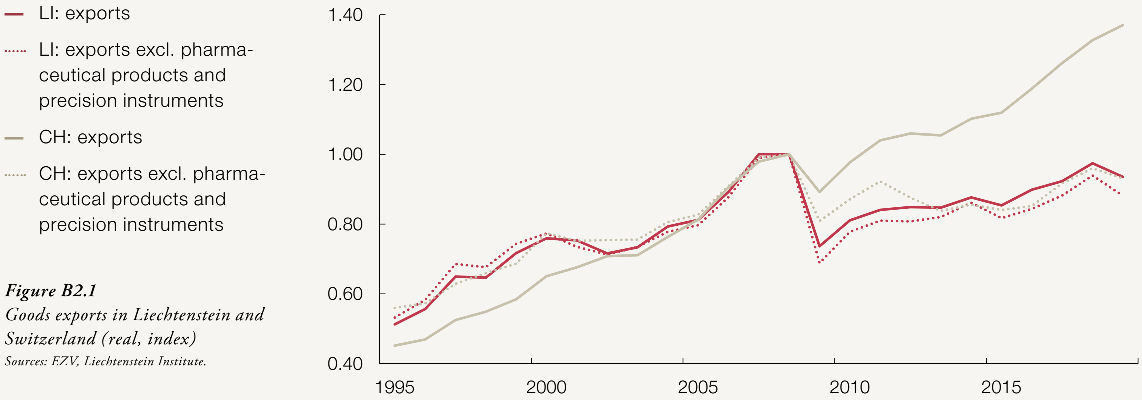

Figure B2.1
Goods exports in Liechtenstein and Switzerland (real, index)
Sources: EZV, Liechtenstein Institute.

dynamics is mainly caused by differing export compositions, driving the divergence of export dynamics in Liechtenstein and Switzerland (Brunhart und Geiger 2019a).

With the exception of some specific sectors, we observe a weak development of goods exports in Liechtenstein as well as Switzerland following the global financial crisis. The main driver behind the weak export development is the shortfall of global demand, especially for durable consumption and investment goods, which collapsed dramatically in the wake of the global financial crisis (Francois and Wörz, 2009). In addition, since the financial crisis, appreciation tendencies of the Swiss franc have affected the export industry in the Swiss franc currency area (see e.g. Indergand and Pochon, 2019). Since 2007, the Swiss franc appreciated from roughly 1.6 against the euro to currently about 1.1, as evident in Figure B2.2. However, the estimation of the effects of the exchange rate on Liechtenstein and Swiss exports is not trivial due to related endogeneity issues.

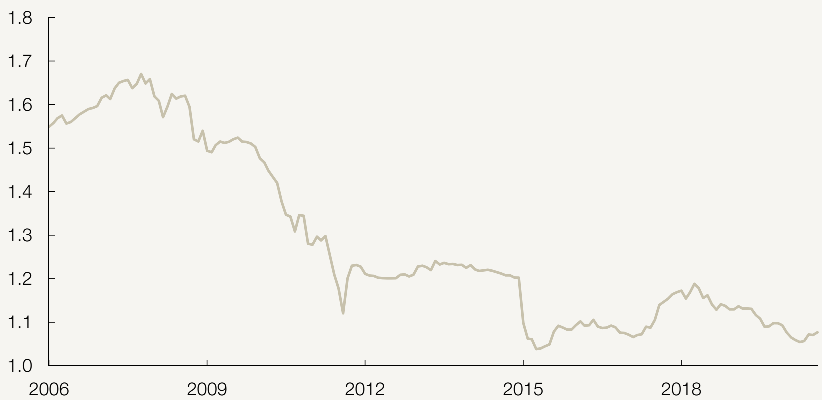

Figure B2.2
CHF/EUR exchange rate (monthly averages)
Source: SNB.

BOX 2

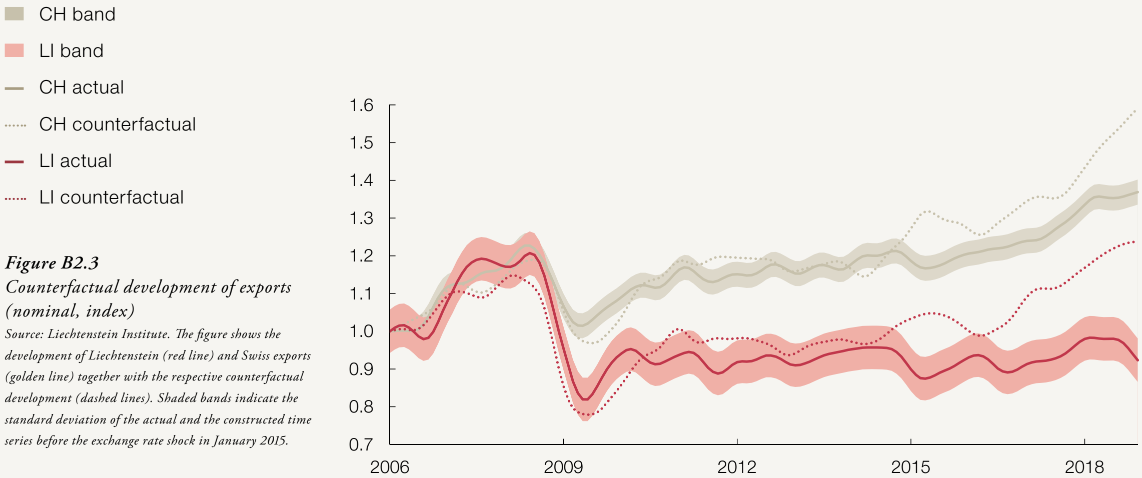

Figure B2.3
Counterfactual development of exports (nominal, index)
Source: Liechtenstein Institute. The figure shows the development of Liechtenstein (red line) and Swiss exports (golden line) together with the respective counterfactual development (dashed lines). Shaded bands indicate the standard deviation of the actual and the constructed time series before the exchange rate shock in January 2015.

By exploiting the abrupt and surprising end of the minimum exchange rate target in 2015, a counterfactual of the evolution of Swiss and Liechtenstein exports is constructed. The counterfactual is estimated as a weighted average of the OECD countries that give an indication for how Swiss and Liechtenstein exports would have developed if the SNB sustained the minimum exchange rate target. To make the export series comparable across countries, the respective trend-cycle components of the export series are indexed to 1 in 2006. We evaluate the effects of exchange rate fluctuations on Swiss and Liechtenstein exports considering the difference between realized and counterfactual exports (Brunhart and Geiger, 2019b).

Swiss and Liechtenstein exports denominated in Swiss Franc experienced strong and persistent negative effects from the 2015 exchange rate shock. Figure B2.3 shows the development of Swiss and Liechtenstein nominal exports (solid lines) together with the estimated counterfactual (dashed lines). In addition, the shaded bands indicate the usual deviation between the counterfactual and realized exports calculated as the standard deviation of the difference between the two before 2015. In case of both countries, the counterfactual is clearly above the realized time series indicating that exports fell short of their hypothetical development without the exchange rate shock. Comparing the difference between the counterfactual and the realized exports of the two countries, it is striking that the effects of the exchange rate shock appear to be of a similar order of magnitude.

BOX 2

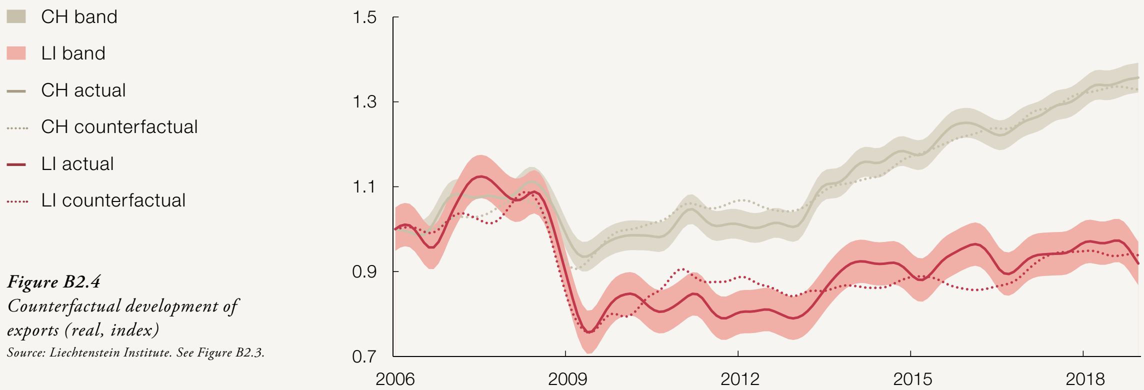

Figure B2.4
Counterfactual development of exports (real, index)
Source: Liechtenstein Institute. See Figure B2.3.

Estimating the effect of the exchange rate shock on real values, the shock had only little effect on Liechtenstein and Swiss exports. Figure B2.4 shows the development of Liechtenstein and Swiss real exports. In both cases, the difference between realized exports and the respective counterfactuals is unsystematic in the wake of January 2015. Thus, real values of export goods remain largely unaffected by exchange rate shocks. As nominal exports decrease due to the exchange rate shock, so do prices of exported goods as visible in the protracted deflation tendencies in the Swiss export sector. This has several reasons. On the one hand, input and intermediate goods become relatively cheaper due to the Swiss franc appreciation. On the other hand, exporters in the Swiss franc currency area seek to compensate the appreciation by taking efforts to cut costs, and by accepting lower profit margins. Overall, this suggests a certain resilience and flexibility vis-à-vis exchange rate fluctuations of the export sectors in both countries, at least on the aggregate level.

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