

Supply chains, active ingredients and export controls

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The pandemic years made the fragility of pharmaceutical supply chains visible to the general public. A large share of the active ingredients and intermediates used in generic medicines worldwide is produced in China and India, where Indian manufacturers of finished generics in turn depend on Chinese intermediates for many products.¹ The originator groups of Basel are less exposed than generic manufacturers, because they produce the active ingredients of their patented medicines largely in their own plants in Switzerland, Europe, the United States and Singapore. Sandoz, by contrast, relies on a broad network of suppliers, which gives it an exposure resembling that of the European generics industry as a whole.

Switzerland has its own experience of shortages. The Federal Office for National Economic Supply monitors the supply of essential medicines and maintains compulsory stocks of certain active ingredients and finished products, a system rooted in the economic defence policy of the twentieth century.² Reports of shortages of antibiotics and other older medicines have increased in recent years, which led the Federal Council and Parliament to examine measures ranging from simplified authorisation of imported products to incentives for domestic production. These debates concern the cheap end of the market more than the innovative medicines on which Basel's financial weight rests. They nevertheless shape the political climate in which the industry operates, because the public tends to judge a pharmaceutical location by the availability of everyday medicines.

Onshoring, the second theme of the supply debate, has become a central demand of American policy. The investment pledges that Roche and Novartis made in 2025, of about fifty billion and twenty-three billion dollars respectively, include new or expanded manufacturing plants for active ingredients, biologics and finished products in several American states.³ Such plants take years to build and validate, so that most of the new capacity will come on stream between 2027 and 2030. Their completion

will change the flow of goods from Basel to the United States. The precise effect on Swiss production volumes is uncertain, because American demand is growing and some new capacity may serve additional products. Over time, however, a larger share of the medicines sold in the United States is likely to be manufactured there.

The contract manufacturers of the region stand on both sides of this movement. Lonza produces in Visp, in Basel's neighbourhood and at sites in the United States, Europe and Asia. Bachem has expanded its plants in Bubendorf and Vionnaz while building capacity elsewhere.⁴ For these companies, onshoring in the United States is a business opportunity, while the reshaping of supply chains away from China increases demand for Swiss and European capacity. The balance between these effects will influence whether the Basel region gains or loses manufacturing employment in the decade to 2035.

Export controls add a further dimension. Part G, Chapter V described the Swiss Goods Control Act and the lists of dual-use goods, which include certain biological agents, fermenters, freeze-drying equipment and other items relevant to the Biological Weapons Convention.⁵ Since 2024 the United States has extended its export controls to certain biotechnology equipment, such as specific high-parameter flow cytometers and mass spectrometry equipment used in biological research, citing the risk of their use for military or surveillance purposes in countries of concern.⁶ American controls of this kind reach Swiss companies through the rules on re-export and on foreign products incorporating controlled American technology. A Basel laboratory that sells or transfers such equipment to China may therefore need to observe American law as well as Swiss law, a situation familiar from the semiconductor sector.

1 Notes

1. On the concentration of active pharmaceutical ingredient production in China and India and the dependence of European and American generic supply, see the reports of the European Commission on the structured dialogue on security of medicines supply (2021–2022), the US Food and Drug Administration's reports on drug shortages and the OECD's work on pharmaceutical supply chains. Figures to be verified.
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2. Federal Act on National Economic Supply (Landesversorgungsgesetz, LVG) of 17 June 2016, SR 531, and the related ordinances on compulsory stockpiling of medicinal products; reports of the Federal

Office for National Economic Supply (BWL) on medicine shortages.
To be verified. ↩

3. Press releases of Roche (22 April 2025) and Novartis (10 April 2025) on planned investments in the United States of about USD 50 billion and USD 23 billion over five years, including new manufacturing facilities; see Part G, Chapter IV. Figures to be verified. ↩
4. On the investment programmes of Lonza (Visp, Vacaville, Portsmouth and other sites) and Bachem (Bubendorf, Vionnaz and Torrance), see their annual reports for 2024 and 2025. Status to be verified. ↩
5. Federal Act on the Control of Dual-Use Goods, Specific Military Goods and Strategic Goods (Goods Control Act, GKG) of 13 December 1996, SR 946.202, and the Goods Control Ordinance (GKV), SR 946.202.1, Annex 2 (implementing the Wassenaar Arrangement and the Australia Group control lists); see Part G, Chapter V, section "Export control: goods control and dual-use items". To be verified. ↩
6. US Department of Commerce, Bureau of Industry and Security, interim final rule of September 2024 adding export controls on certain biotechnology laboratory equipment (Export Control Classification Number 3A999 and related entries); status of later amendments to be verified. ↩

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