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Prospects for the future export product portfolio of Austria

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The aim of this study is to shed light on the long-term and current developments of the Austrian export economy, building on the concepts of path dependency and economic complexity. Which economies have been able to successfully upgrade their product portfolios in the last two decades and what lessons can be learned from this for Austria? Also, considering today's specialisations of the Austrian export economy, we identify potential future pathways of Austria's export portfolio.

Over the last two decades, Austria has not only been able to almost triple the absolute amount of exports. The economic complexity of the export portfolio - a latent measure of the amount of know-how an economy possesses relative to other economies worldwide - has also increased significantly. This is due to a sharp increase in exports of chemical products, various special tools and measuring instruments, as well as metal and plastic products. Furthermore, this study identifies the future potentials of the Austrian export economy. For Austria, a focus on life sciences, chemistry and pharmaceuticals in particular seems promising for the future. Austria already exhibits strengths in pharmaceutical products, which may make it possible to profit from spillover effects to organic chemical products.

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Executive Summary

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The Inflation Reduction Act of the USA and the Green Deal Industrial Plan of the EU are important agendas in the field of industrial policy with significant implications for international trade. A relevant aspect of industrial policy and the prospects of an economy's export product portfolio is path-dependency: Due to the technological proximity of products, the current export specialisation structure of an economy helps identify the areas in which an economy can develop export specialisations in the future.

The aim of this study is to shed light on the long-term and current developments of the Austrian export economy, building on the concepts of path dependency and economic complexity. Which economies have been able to successfully upgrade their product portfolios in the last two decades and what lessons can be learned from this for Austria? Also, considering today's specialisations of the Austrian export economy, we identify potential future pathways of Austria's export portfolio.

Over the last two decades, Austria has not only been able to almost triple the absolute amount of exports. The economic complexity of the export portfolio - a latent measure of the amount of know-how an economy possesses relative to other economies worldwide - has also increased significantly. This is due to a sharp increase in exports of chemical products, various special tools and measuring instruments, as well as metal and plastic products.

Most other comparable economies have not succeeded in upgrading their product portfolios in the past decades: Sweden, Finland or France have - over the last twenty years - lost in export complexity. Switzerland, however, is the only exception among the economies with a similar export structure to Austria in 2000. In fact, Switzerland was able to gain significantly in complexity through an increased focus on chemical and pharmaceutical products.

Similar findings can be drawn for the recent past. Since 2015, Austria has been able to further expand the economic complexity of its export portfolio and increase total exports by almost 16 percent. Exports of pharmaceutical products and transport equipment have contributed to Austria's export growth. Furthermore, economies in Central Europe, such as the Czech Republic, have caught up with Austria in terms of the complexity of their export goods portfolio. Moreover, the current margin shows that Austria specialises in green products (according to WTO and OECD lists) to a larger extent than other EU countries. In 2019, green products Austria has been specialised in accounted for more than eleven percent of Austria's total exports.

This study also highlights an important aspect given the experiences of other countries such as Finland and Sweden, but also the USA: the vulnerability of current or future export specialisations. A central dimension of vulnerability is the competitive situation in areas of specialisation that are at risk of being relocated, for example to countries with lower wage levels. To reduce vulnerability, it seems important not to be specialised in only one product in a sub-network of the product space, isolated from other related products. Then, if significant technological development occurs, it is advantageous to be able to draw on a wide range of capabilities in similar products. Innovation as a recombination of existing products happens especially between technologically close products. Also, the competitive situation with less developed economies (USA vs. South Korea in the early 2000s) is likely to be important for assessing export opportunities in order to gauge whether specialisation is at risk. Less developed countries can exploit their cost advantages in production.

Furthermore, this study identifies the future potentials of the Austrian export economy. Specifically, more than 250 products are identified that (1) are comparatively technologically close to the Austrian export structure, (2) whose export would increase the complexity of the Austrian economy, (3) have a relevant market size and (4) have grown more strongly than global trade in recent years.

More than 50 percent of these 250 identified products can be divided into six categories: (1) mechanical machinery (incl. parts thereof), (2) organic chemical products, (3) optical equipment and medical products, (4) electrical machinery (incl. parts thereof), (5) plastics (and products thereof) and (6) automotive (inc. parts thereof). Especially products in the field of optical equipment and mechanical machinery are those that are worth mentioning in the context of green transformation.

Considering the Green Deal Industrial Plan and the Inflation Reduction Act, what economic policy levers are now available to raise these diversification potentials of the Austrian export economy? A central aspect is the active exploitation of path-dependencies. Austria's foreign trade is already broadly diversified - in terms of the export product portfolio – and, thus, has a large number of technologically close, highly complex diversification potentials. Industrial policy measures should therefore build on existing strengths. This is also at the heart of the EU's Smart Specialisation Strategy. However, recent scientific contributions to the Smart Specialisation Strategy have shown that the published strategies in some Austrian provinces are only to a limited extent based on regional strengths. EU-wide industrial policy initiatives such as the Important Projects of Common European Interest (IPCEI) are to be welcomed here, as they allow countries and regions with complementary strengths to be linked together. In addition, in its Green Industrial Strategy, the EU emphasises the importance of free trade agreements with third countries. This is another important lever for the diversification of export markets. In summary, this results in four key levers: continuing to develop specialisations in green products, expanding European cooperation, actively developing third-country product markets and promoting research in a focused way.

For Austria, a focus on life sciences, chemistry and pharmaceuticals in particular seems promising for the future. Austria already exhibits strengths in pharmaceutical products, which may make it possible to profit from spillover effects to organic chemical products. However, in contrast to other economies that are highly specialised in these areas, such as Switzerland, no large pharmaceutical or chemical company has its headquarter in Austria. Therefore, apart from foreign trade policy, it must also be a goal to attract regional centres of international companies and to expand the base of chemical and pharmaceutical production. This has in part been achieved, but should continue to be pursued. It is also essential to foster basic and applied research and to think about innovation policy and foreign trade policy together. This applies to the area of green products as well. The basic idea of path dependency can also be applied to the question of green transformation and specialisation in green products. Austria's starting position in this context is already very good, both in the export of green

products and in the patenting of green technologies. In this context, R&D policy should be seen as a central pillar of Austria's foreign trade strategy, as today's R&D developments can be tomorrow's exports.