

The Austrian economy

An introduction

Michael Peneder

WU – Introductory Week
TC-2.01 4.10.2023



Introduction

Outline

- **Introduction**
 - Basic facts
 - What is „the economy“?
- Performance in **international comparison**
 - Productivity and resources
 - Structure
 - System level
- The **WIFO-radar**

Triple objective

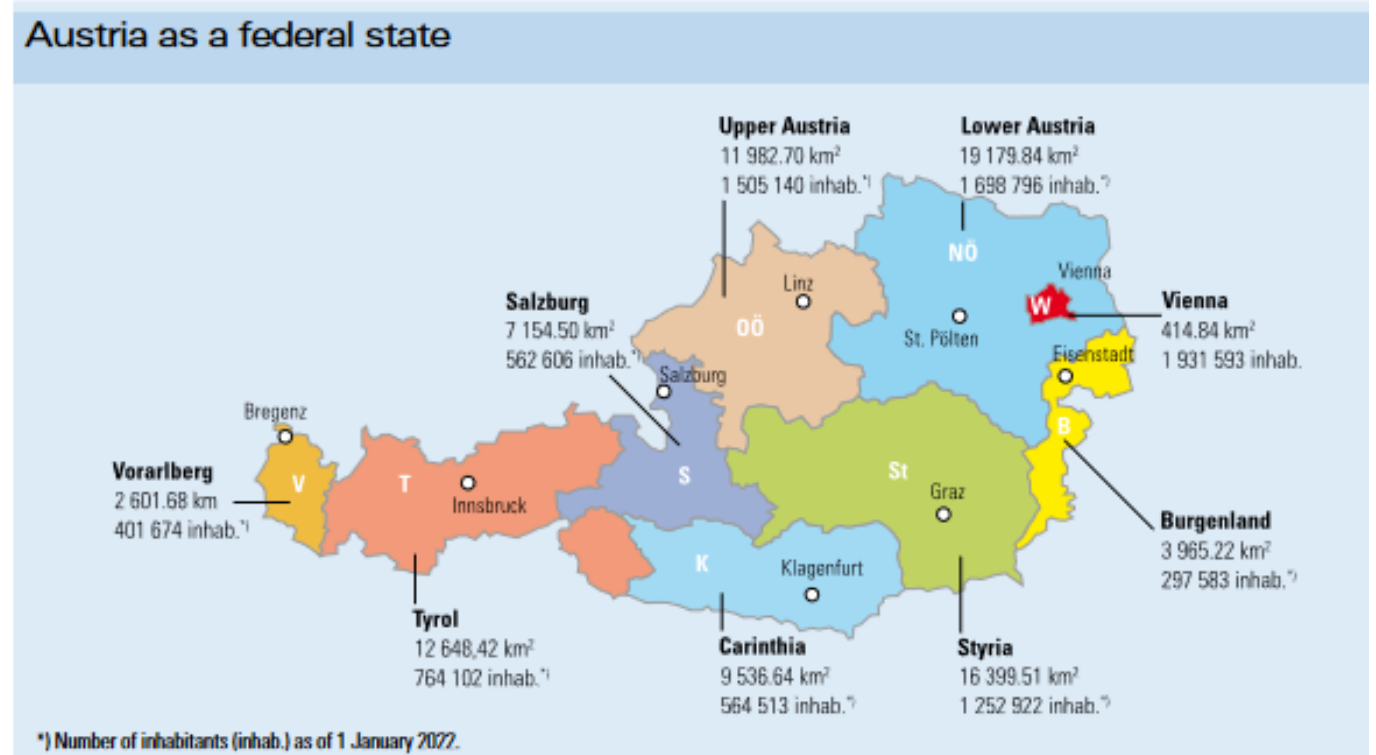
- To learn about the
 - **Austrian** economy
 - Choice of **indicators**
 - Interpretation of **data**

Austria, at first glance

2022

- **Population:** 9 million
- **GDP:** 447 billion €
- **GDP per capita:** 49.667 €
- **Unemployment:** 6.3% (4.8%)
- **Fiscal quota:** 43.5 % of GDP
- **Debt ratio:** 78,4% of GDP
- **Export ratio:** 60.8 % of GDP
 - Problem: total sales (exports) versus value added (in GDP)
 - Export **accounts for 29% of GDP** (I/O-Tables, 2019)

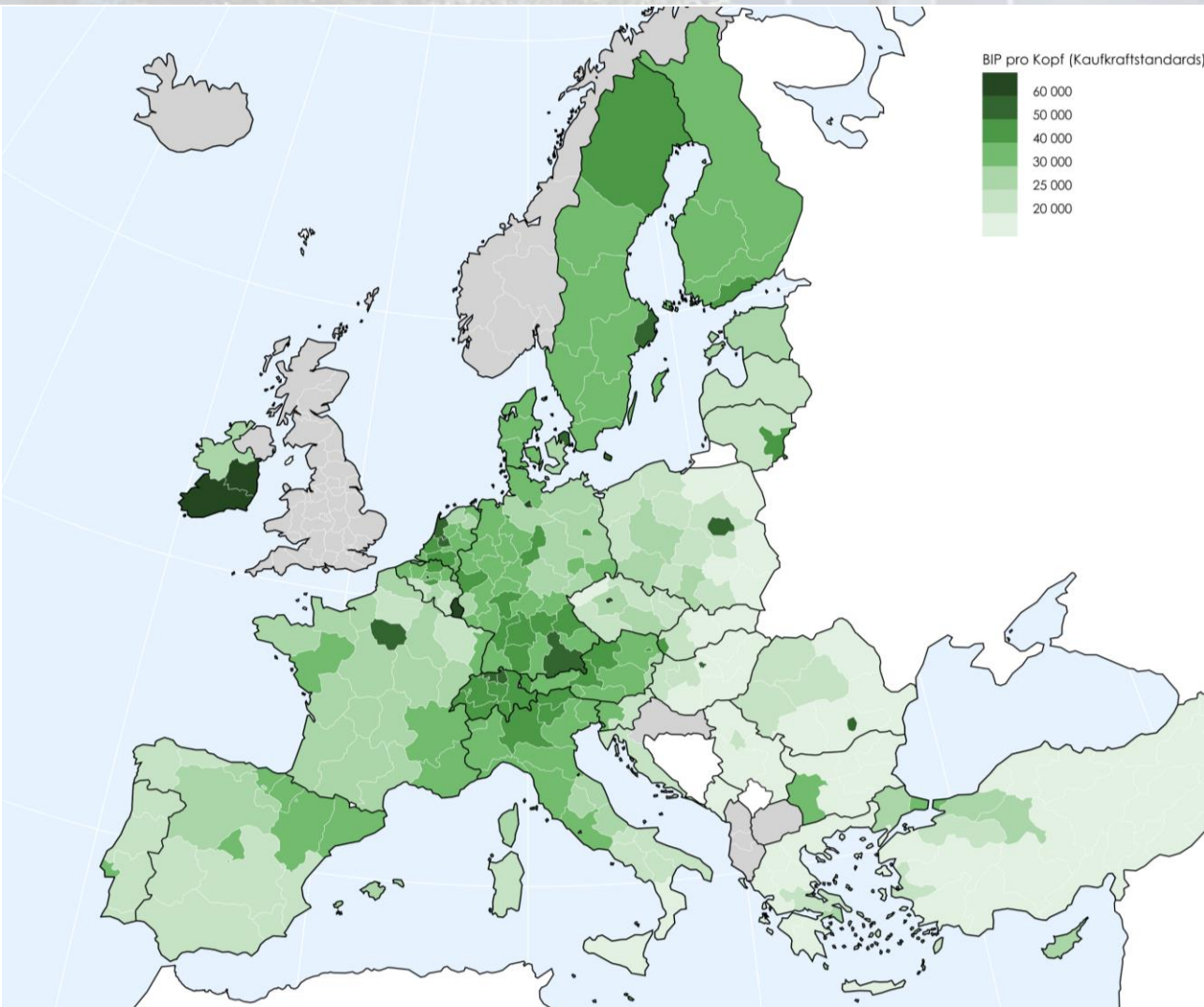
Anyway, no closed economy ...



Sources: STAT, Austria: data.figures.facts 2022/23; WIFO.

Austria within Europe

GDP per capita 2021



■ Geography

- Transitional **climate** (oceanic / continental)
- Diverse landscape; large alpine areas
 - Infrastructure (e.g., transport)
 - Tourism

■ Integration

- 1976: Pegging Austrian currency to German D-Mark
- 1995: joining European Union
- 1999: Monetary Union (Eurozone)

■ Proximity to high-income regions (esp. South Germany, Switzerland, Northern Italy)

- High demand
- Sophisticated supply chains
- Knowledge spillovers

... but historically, a „**dead border**“ to the east.

GDP per capita growth

2012-2021 in %

CEE economic transition

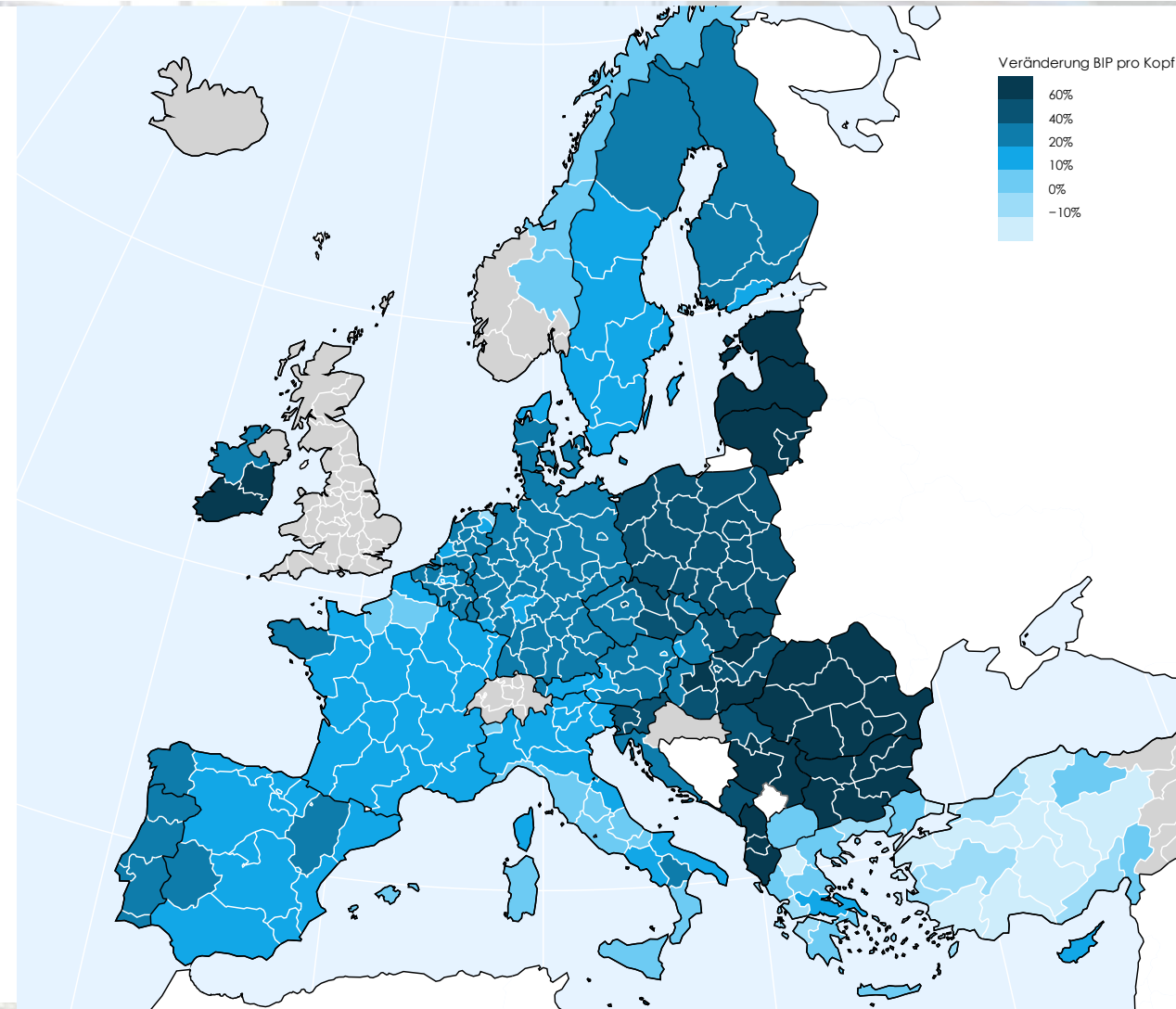
- In 1989 the „iron curtain“ fell apart
- System change from centrally planned to market economies
- Institutional reforms
- EU enlargement

➤ **Catching-up!**

Austria benefitted from **proximity to high-growth regions** along former „dead border“

- New markets (demand)
- New (initially low-cost) competition
- Opportunities for division of labour
- Migration (labour market)

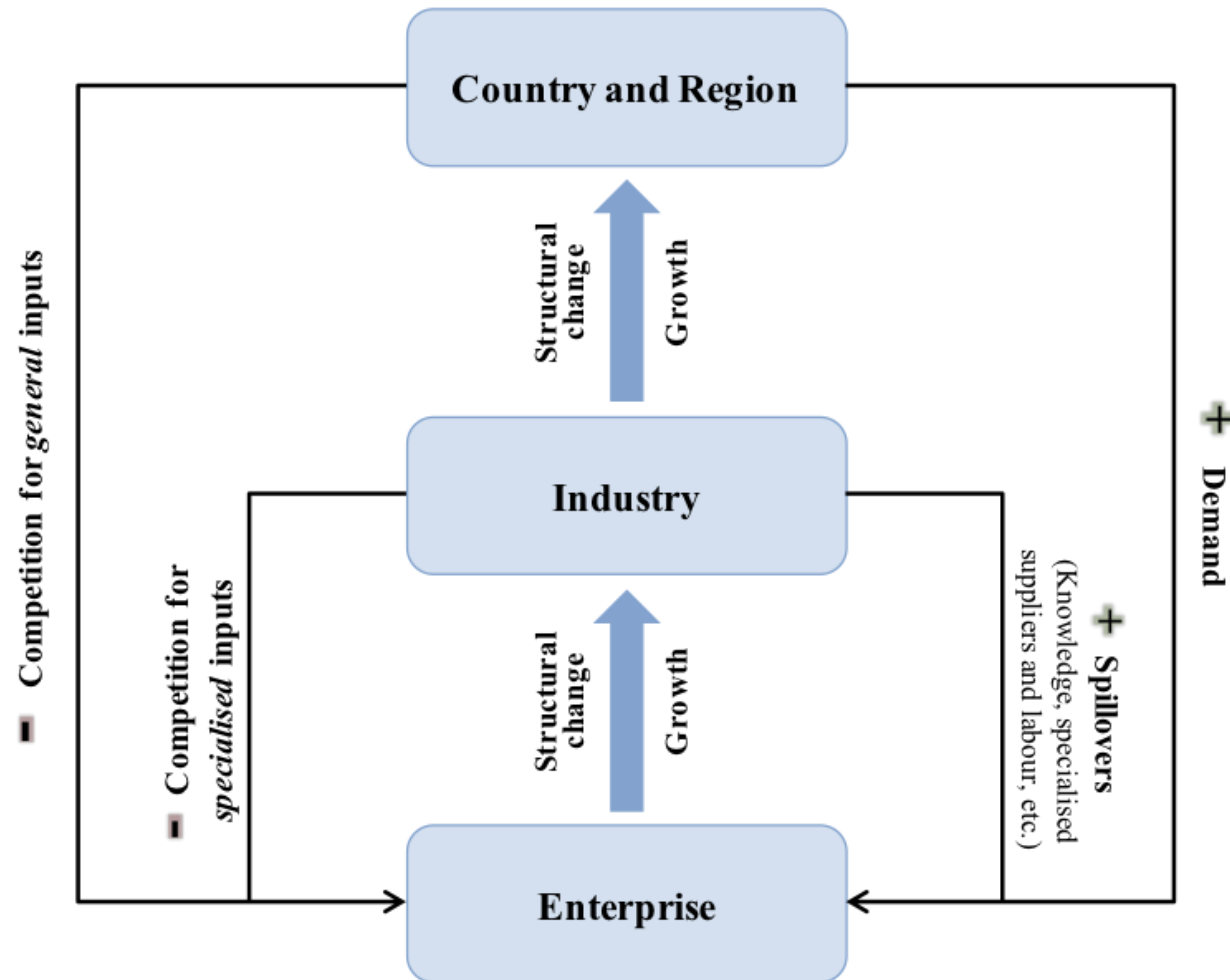
➤ **Growth and structural change!**



Source: EuroGeographics, WIFO.

■ But what is “**the economy**”?

Micro-, meso- and macro levels of activity, e.g. ...



Other **micro-actors**, e.g.

- Consumers
- Labour
- Entrepreneurs
- Investors

Other **meso-level structures**, e.g.

- Regions
- Technologies
- Goods & services (consumption, trade, GVCs)

A few examples ...

■ **Micro**

- People and labour
- Productivity, firm dynamics and employment

■ **Meso**

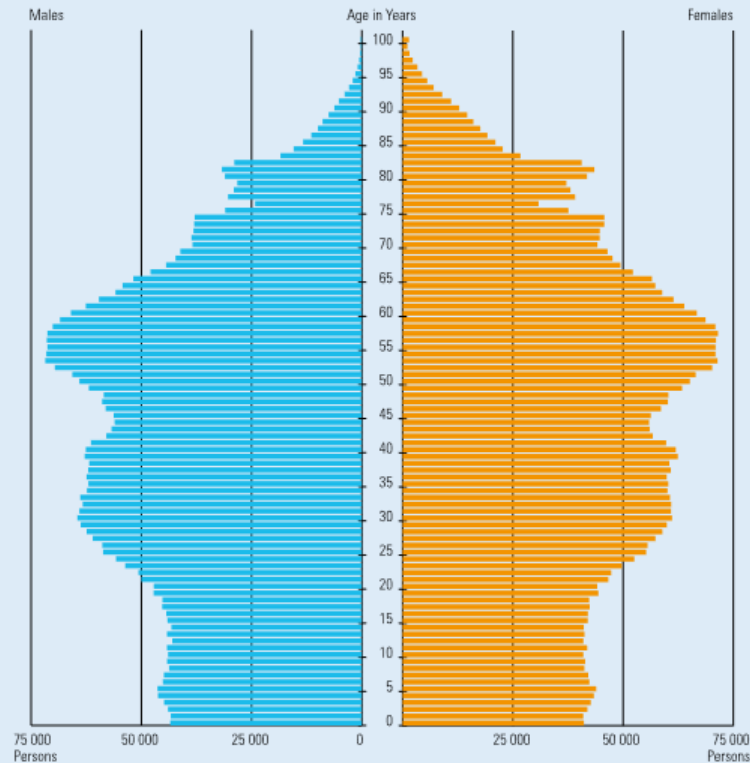
- Labour force by regions
- Sector shares

■ **Macro**

- GDP growth
- Supply and use components

People

Population pyramid Austria 1 January 2022



S: STATISTICS AUSTRIA, Population Statistics.

Total population

- ca 1900: 6 million
- 2000: 8 million
- 2022: 9 million mark reached
- 10 million expected in 2060

Age pyramid

- 0-14 years: 14.4%
 - 15-64 years: 66.2%
 - 65+ years: 19.4%
- **Baby boomers** approach retirement age!

Source: Statistics Austria.

Labour

Expected change of working age population (EPWG)

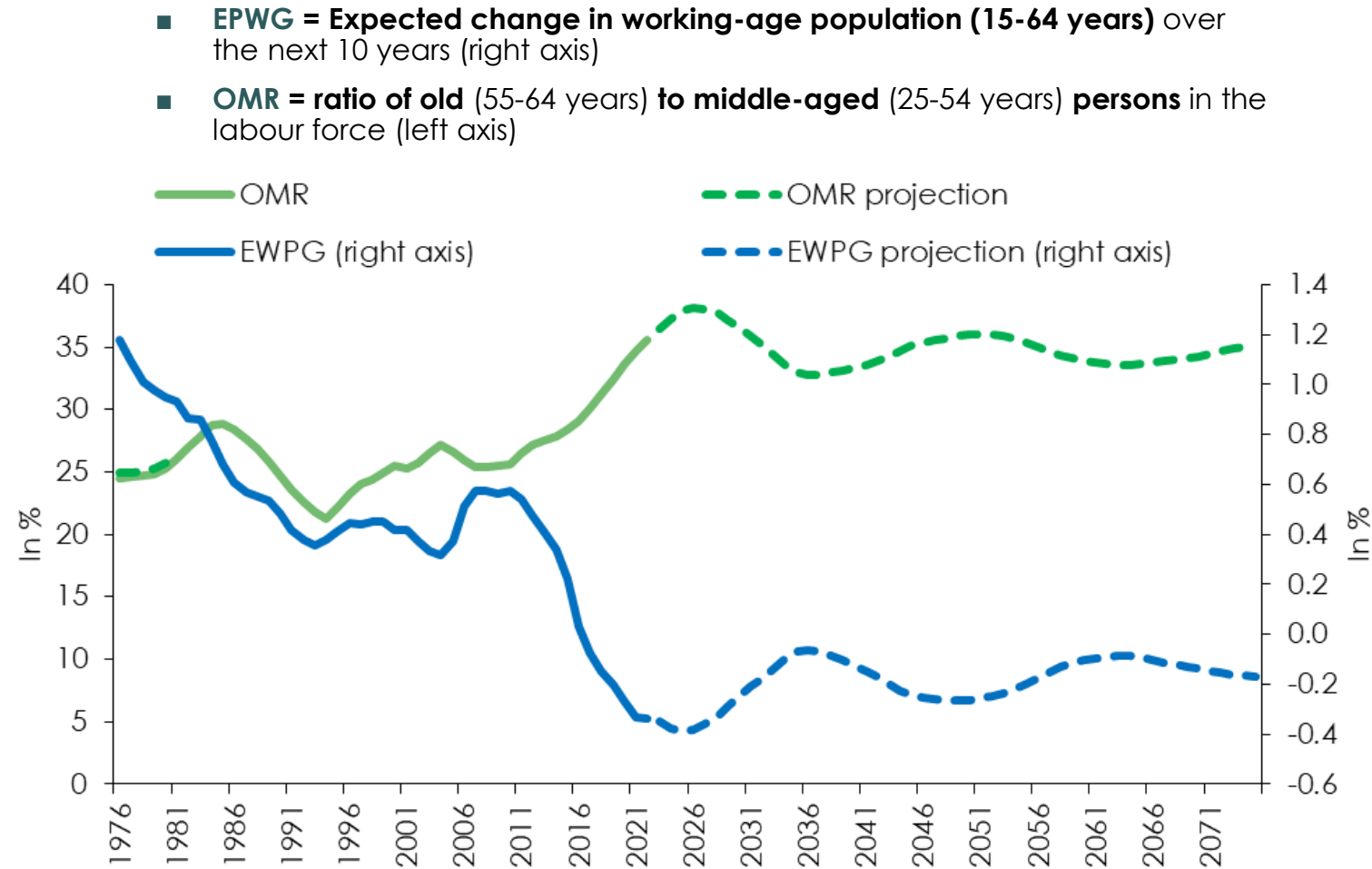
- Long term decline since 1970s
- Turned negative in 2018
- Tends to stabilise at negative rates

Ratio of old to middle-aged persons (OMR) in labour force

- Increases since the 1990s
- Expected to **peak** ca. **2030**
- ... then stabilise

Likely **impacts** on

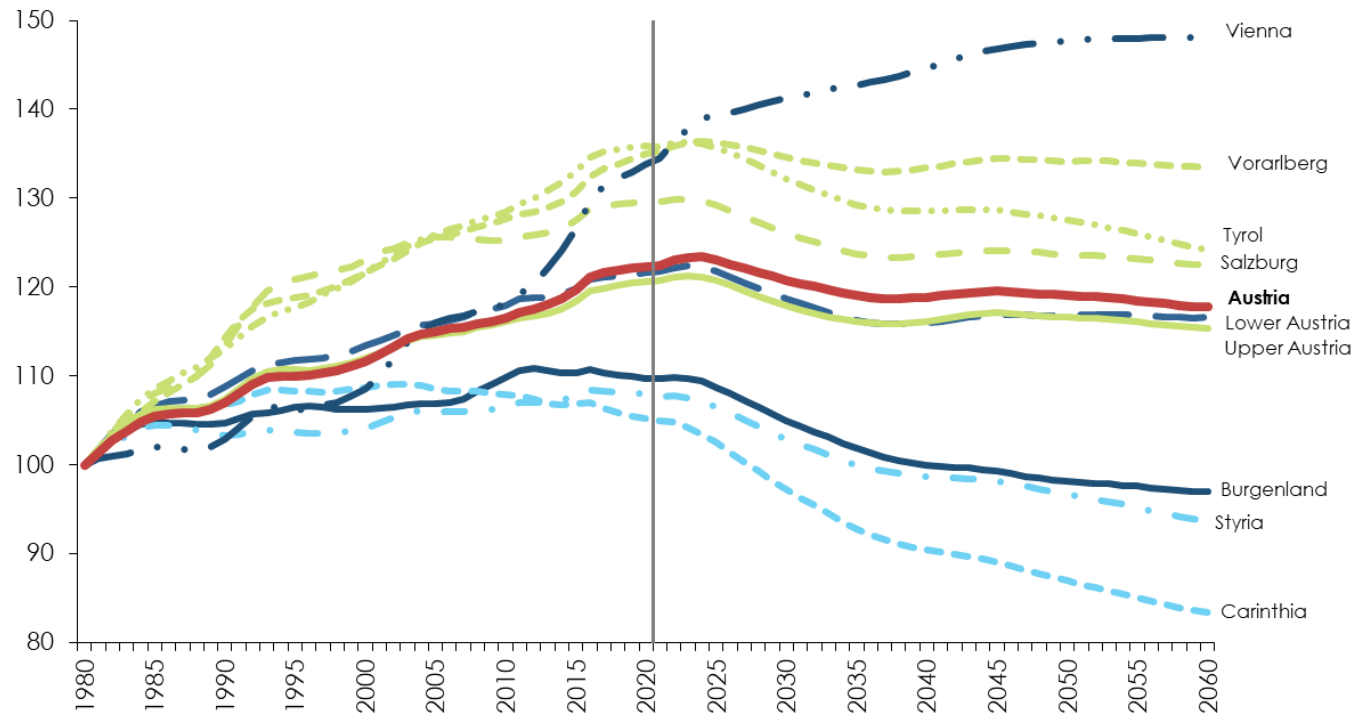
- Productivity growth
- Migration
- etc.



Source: Statistics Austria (Bevölkerungsstatistik und -prognose), WIFO (Kaniowski – Url).

Labour force by regions

Population 15-64 years old; 1980 = 100



Regional disparities expected to increase

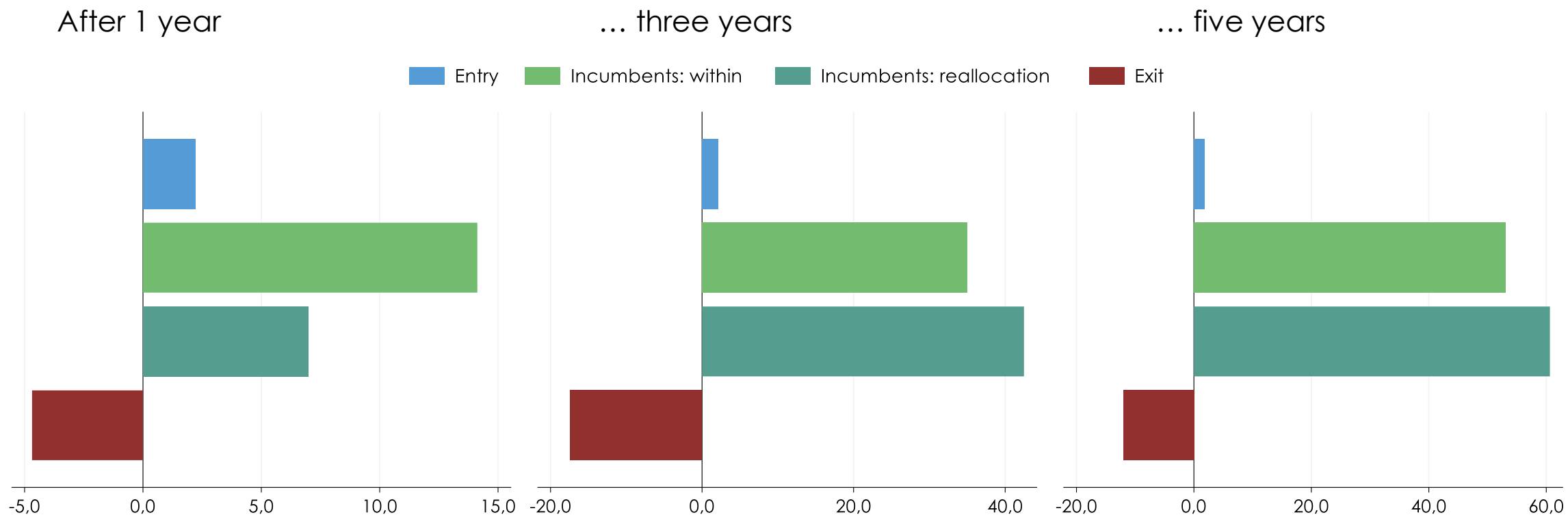
- **Fertility** in rural areas tends to converge to lower values in the cities
- Cities, especially Vienna, attract most of **migration**

Source: Statistics Austria (Bevölkerungstatistik und -prognose), WIFO (Mayerhofer).

Firm dynamics and MFP growth

Mean contribution in Log differences, 2014-2020

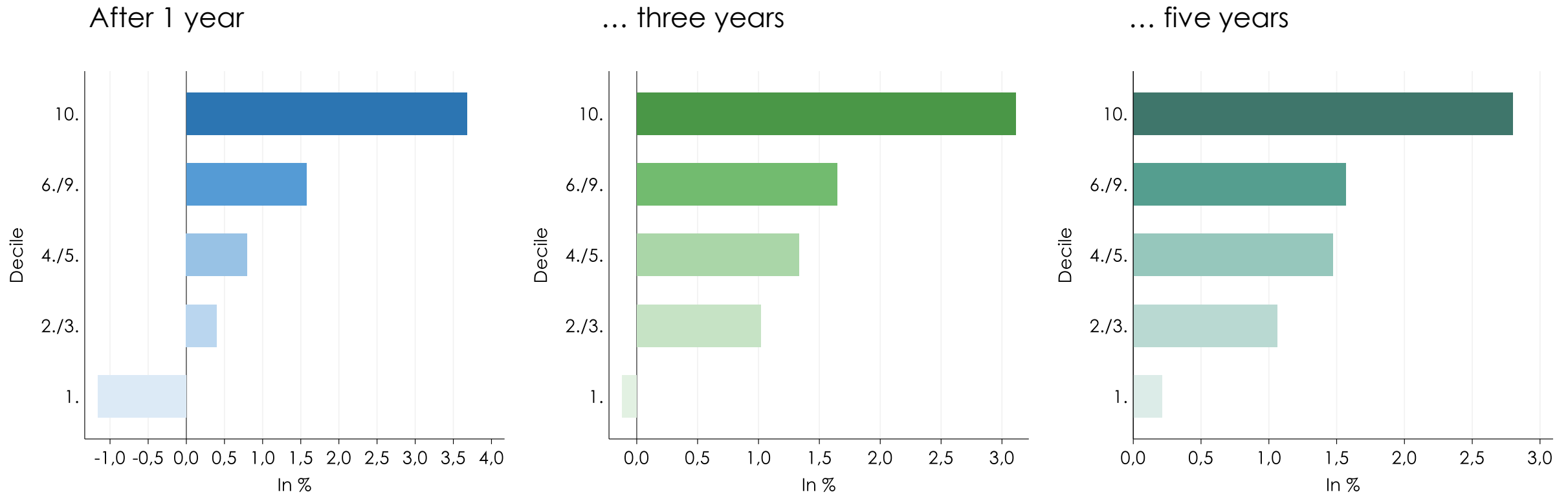
Non-financial services



Source: OECD (Multiprod), WIFO, Statistics Austria.

Employment growth by decile of firms' labour productivity

Mean change 2014-2020 in %



Source: OECD (Multiprod), WIFO, Statistics Austria.

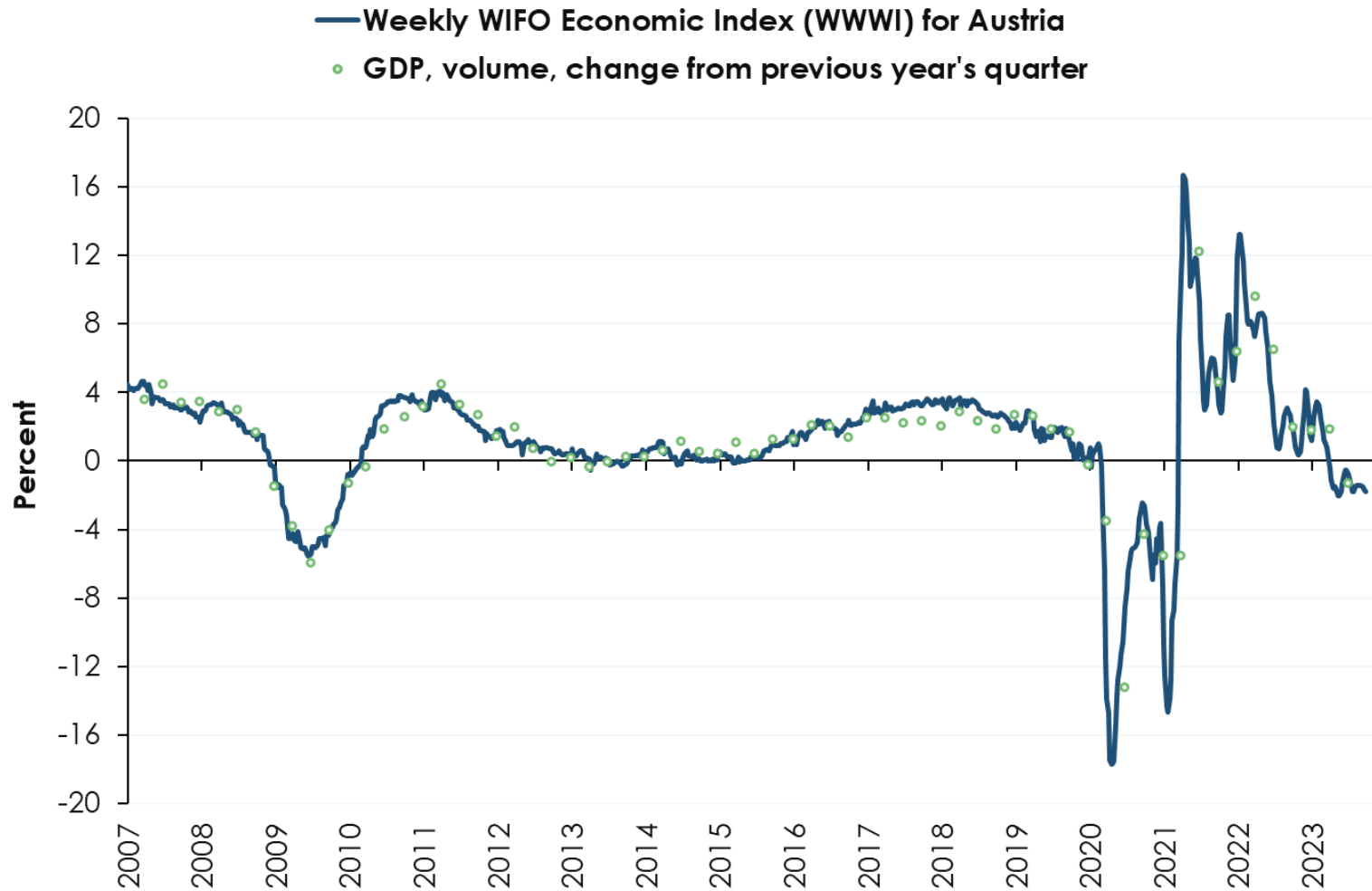
Sectors

NACE section	Value added	2011			2021	
		Employees	Labour productivity	Value added	Employees	Labour productivity
			in % of total			
Manufacturing (C)	18.6	16.4	96.2	18.9	16.1	138.3
Construction (F)	6.3	7.1	75.2	7.1	7.6	110.0
Wholesale and retail trade (G)	13.1	15.6	71.1	12.1	15.3	93.1
Transportation and storage (H)	5.5	5.5	86.1	4.9	4.7	121.3
Accommodation and food service (I)	4.8	6.2	66.2	3.2	5.5	68.4
Professional & other services (incl. ICT) (J, M)	8.2	6.7	103.9	9.6	7.8	143.9
Finance and insurance (K)	4.7	3.3	119.5	4.3	2.8	180.1
Administrative and support services (N)	4.2	5.4	65.9	4.3	6.0	85.2
Others (B, D, E, L, S)	14.2	2.4	-	14.6	3.5	-

Source: STAT (SBS), WIFO.

Growth

GDP volume index (WWWI)



Source: WIFO, Statistics Austria.

Turbulent times

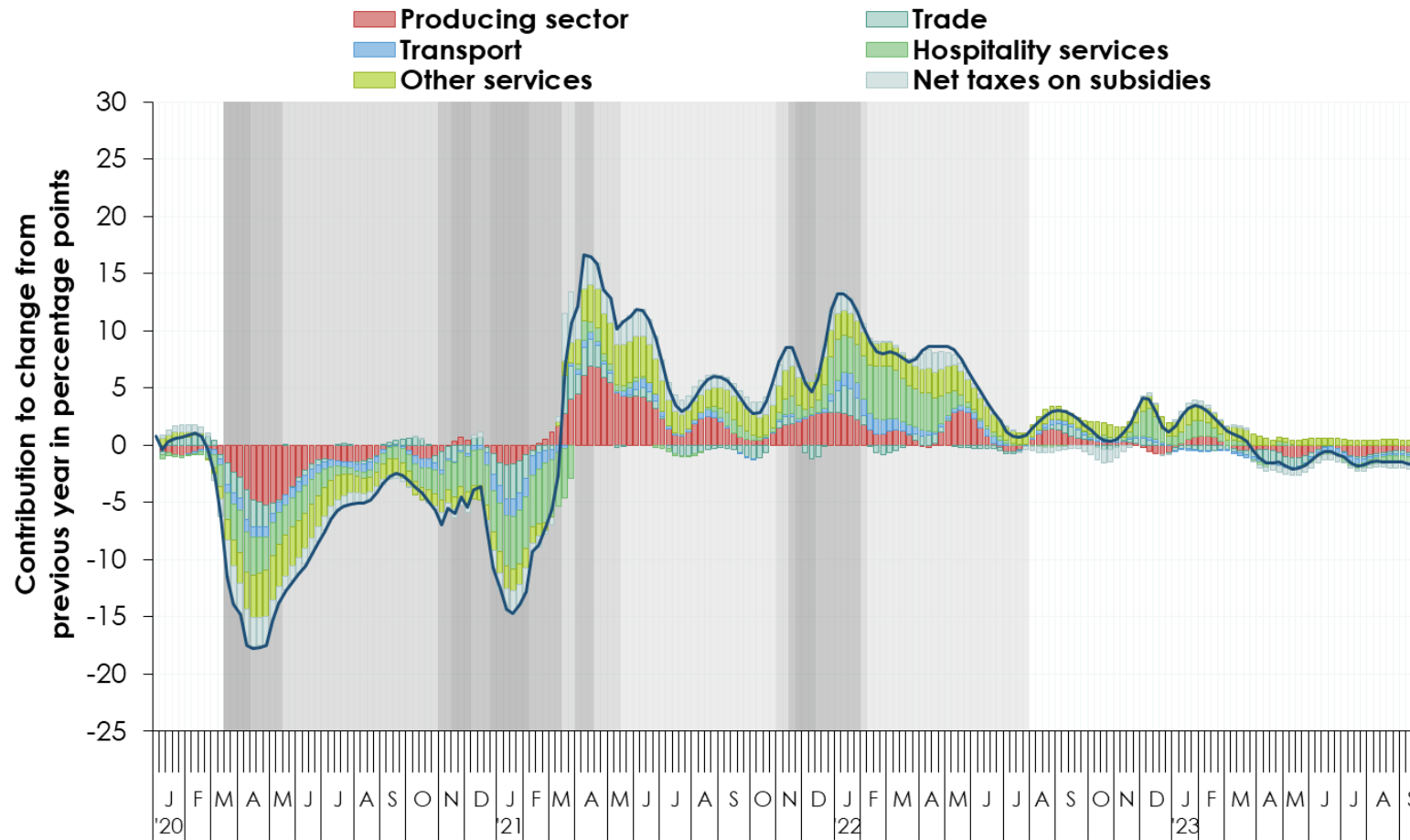
- “Great **financial** and economic crisis” of 2009
- **COVID-19** in 2020
- Russian invasion of the **Ukraine** in 2022

Contact (Josef Baumgartner),
further details and **monthly
updates** at

<https://www.wifo.ac.at/jart/prj3/wifo/main.jart?rel=en&content-id=1564766301706>

Supply

Components of change in GDP



Source: WIFO, Statistics Austria. – Producing sector NACE A to F, Trade NACE G, Transport NACE H, Hospitality services NACE I, Other services NACE J to T. – The grey shaded areas indicate periods when lockdowns, partial lockdowns, or other restrictions on economic operators (e.g. person caps in cultural or food services) were in place to contain the COVID-19 pandemic. – The sum of the growth contributions of the subcomponents may differ from the estimated GDP growth (residual).

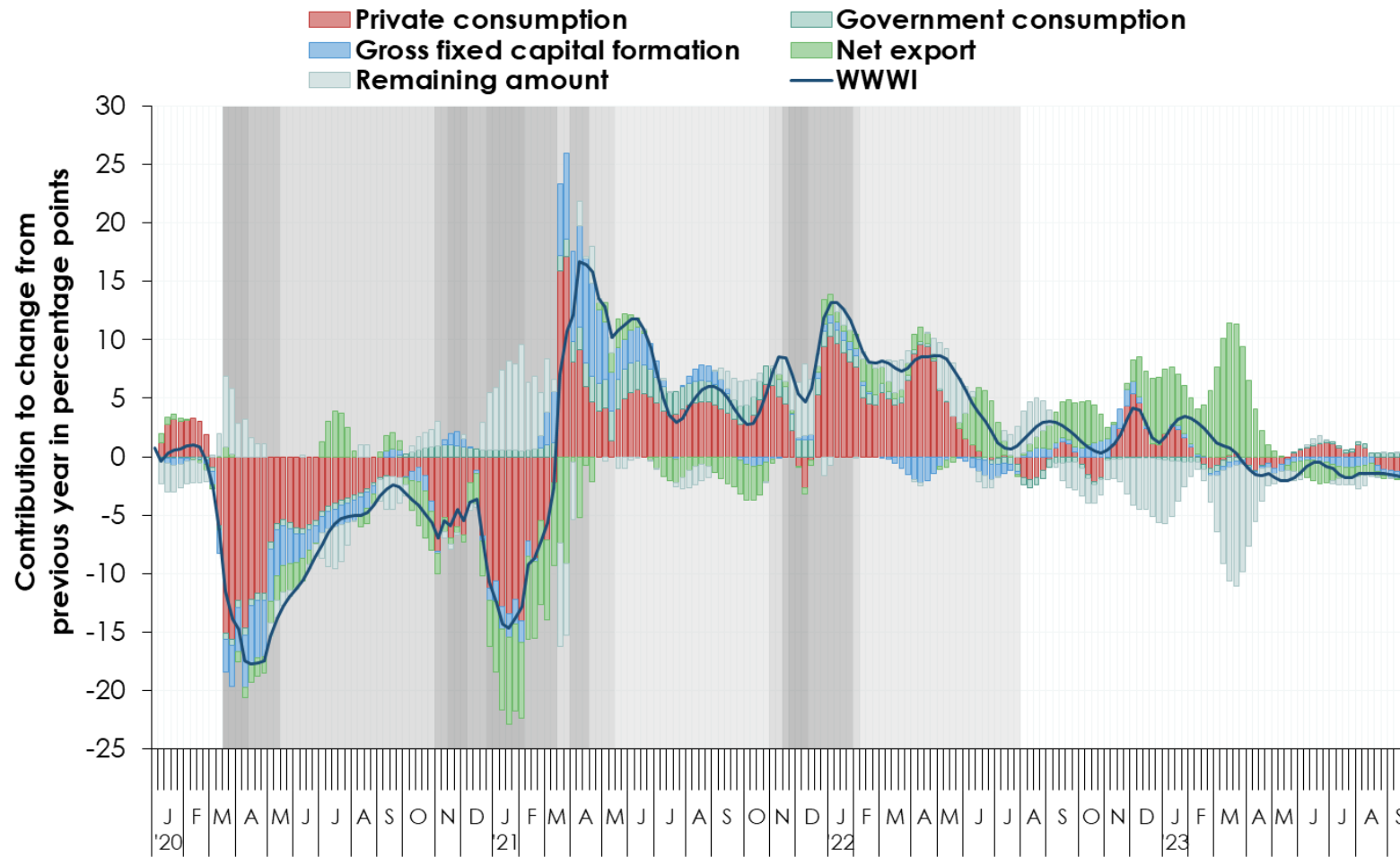
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Source: WIFO (WWWI), Statistics Austria.

Use

Components of change in GDP



Source: WIFO, Statistics Austria. – The grey shaded areas indicate periods when lockdowns, partial lockdowns, or other restrictions on economic operators (e.g. person caps in cultural or food services) were in place to contain the COVID-19 pandemic.

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II. Austria in international comparison

■ Iceberg model

■ Selected indicators

- Productivity
- Resources and cost
- Industrial structure
- Systems

■ Sources

- Peneder M., Bittschi B., Köppl A., Mayerhofer P., Url T. (2023), The WIFO Radar of Competitiveness for the Austrian Economy 2022, *Reports on Austria 2/2023*, WIFO, Vienna.
https://www.wifo.ac.at/en/research_priorities/competitiveness/competitiveness_radar?detail-view=yes&publikation_id=70623
- Peneder M., Bittschi B., Köppl A., Mayerhofer P., Url T., Bärenthaler-Sieber S., Böheim M. (2023), Wettbewerbsfähigkeit und nachhaltige Entwicklung der österreichischen Wirtschaft, WIFO, Wien.
https://www.wifo.ac.at/en/pubma_entries?detail-view=yes&publikation_id=69778

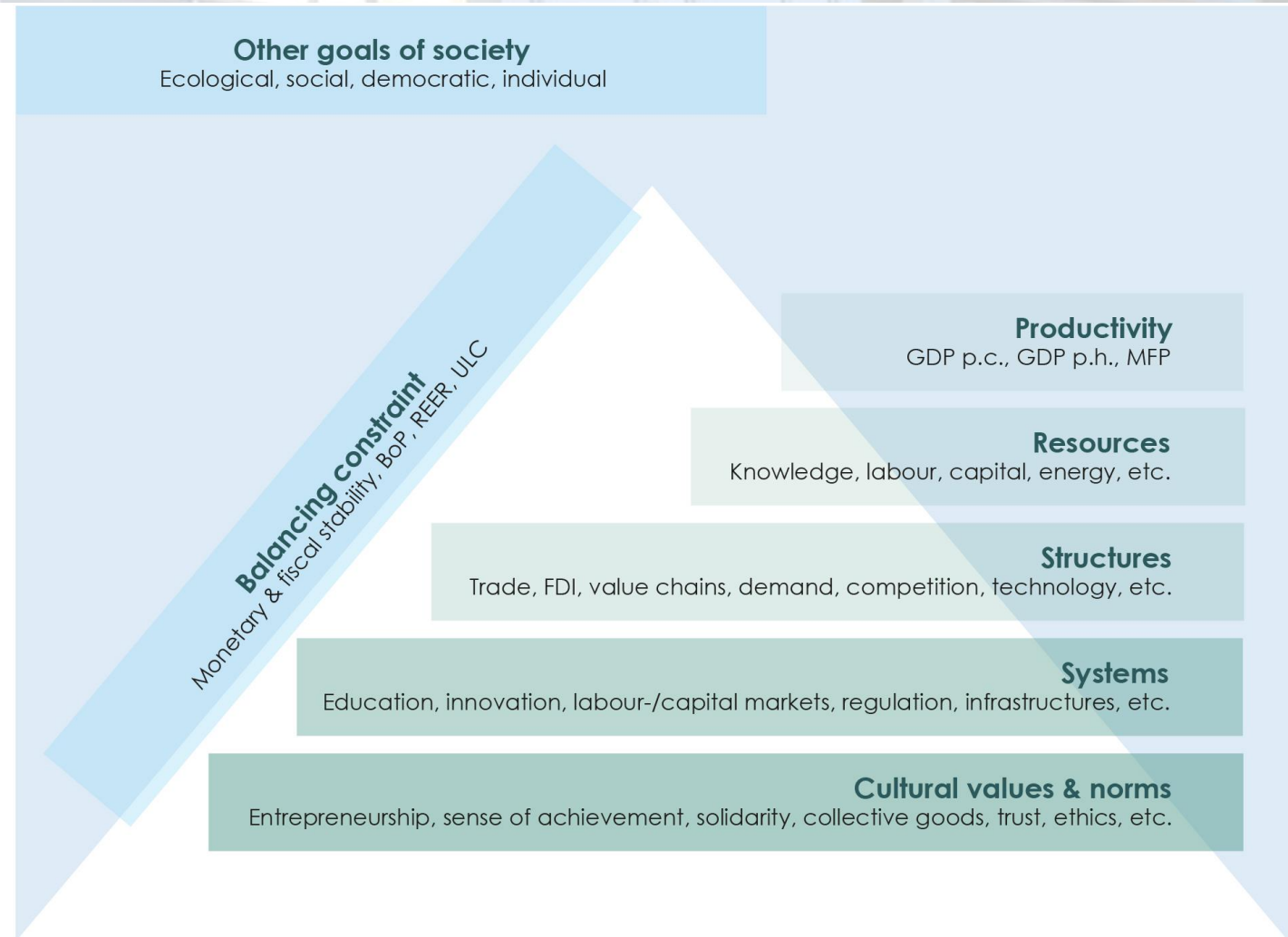
Iceberg model

Shift of **paradigms**

- Growth
- Welfare
- **Development**

Three **pillars**

- **Economic** performance
- [Social balance/inclusion]
- [Ecological transformation]



Source: Peneder (2017).

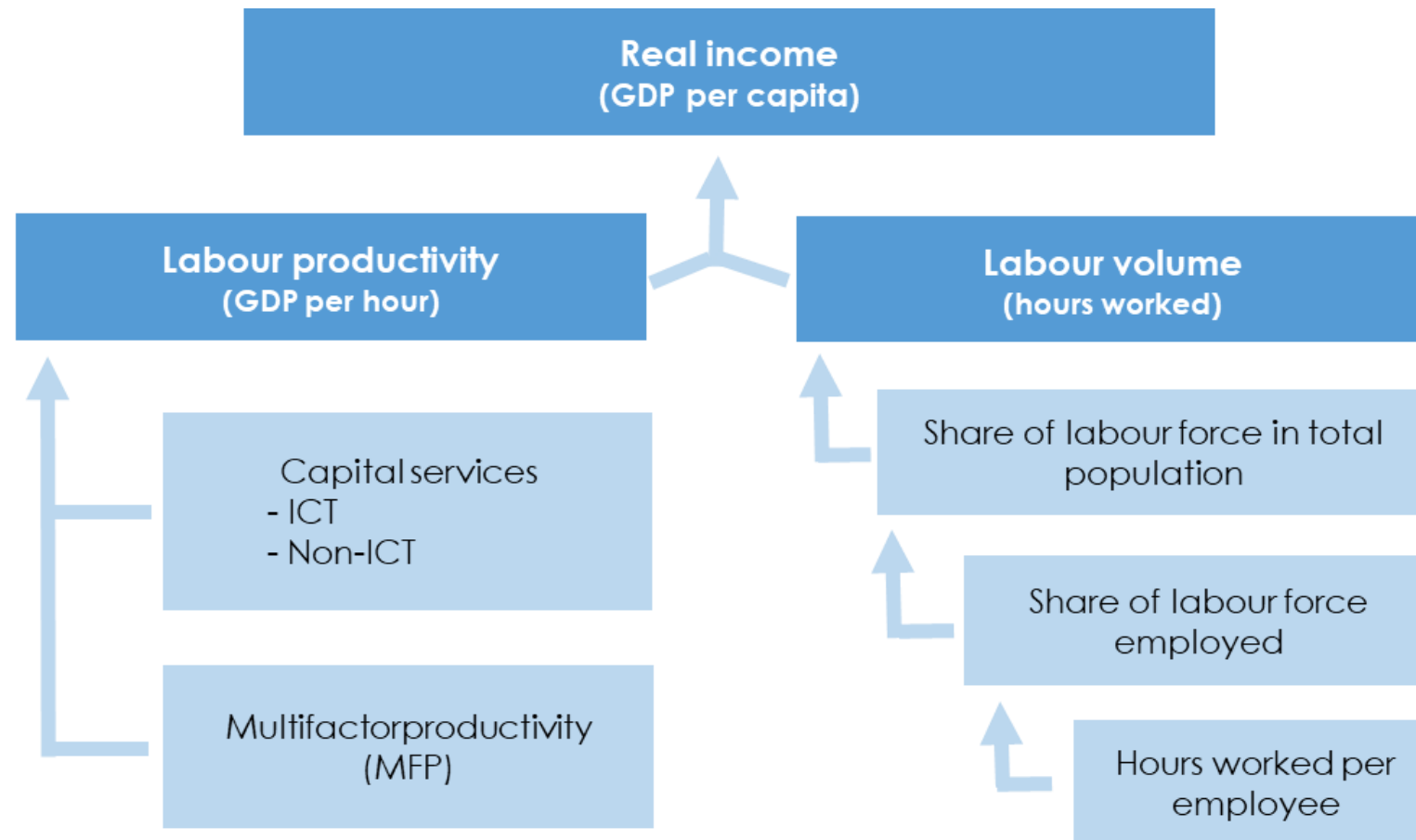
Comparison groups

- **EU27**: European Union
- **EA19**: Euro Area (w/o Croatia)
- **DACHIT**: Germany, Austria, Switzerland and Italy
- **CEEC5**: Poland, Czech Republic, Slovakia, Hungary, Slovenia
- **BENESCAND**: Belgium, Netherlands, Denmark, Sweden, Finland

Productivity and resources

- GDP per capita
- Labour productivity
- Multifactor productivity (MFP)
- Capital formation
- Labour volume
- Cost of production (REER)

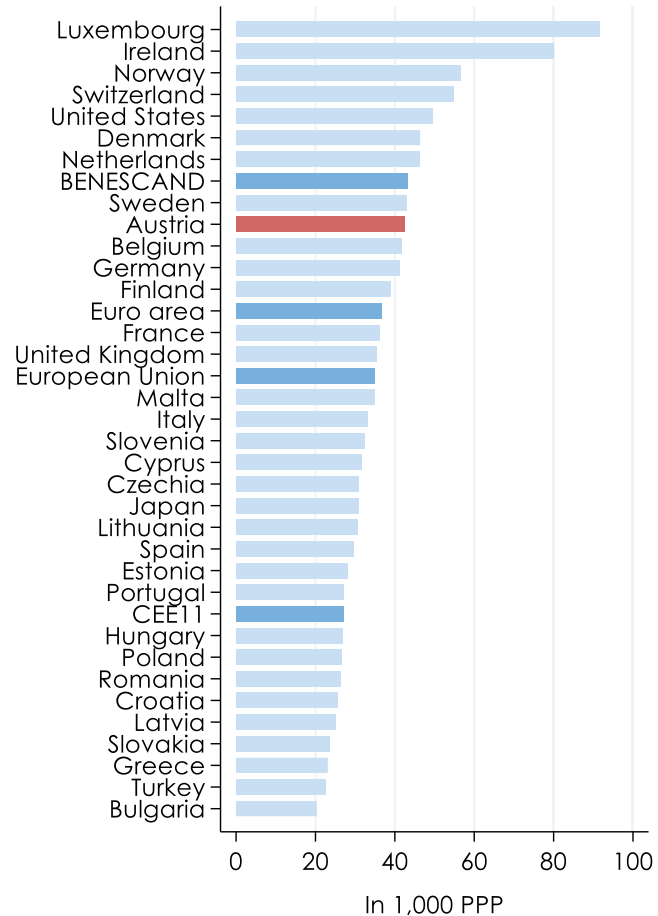
Productivity, capital and labour inputs



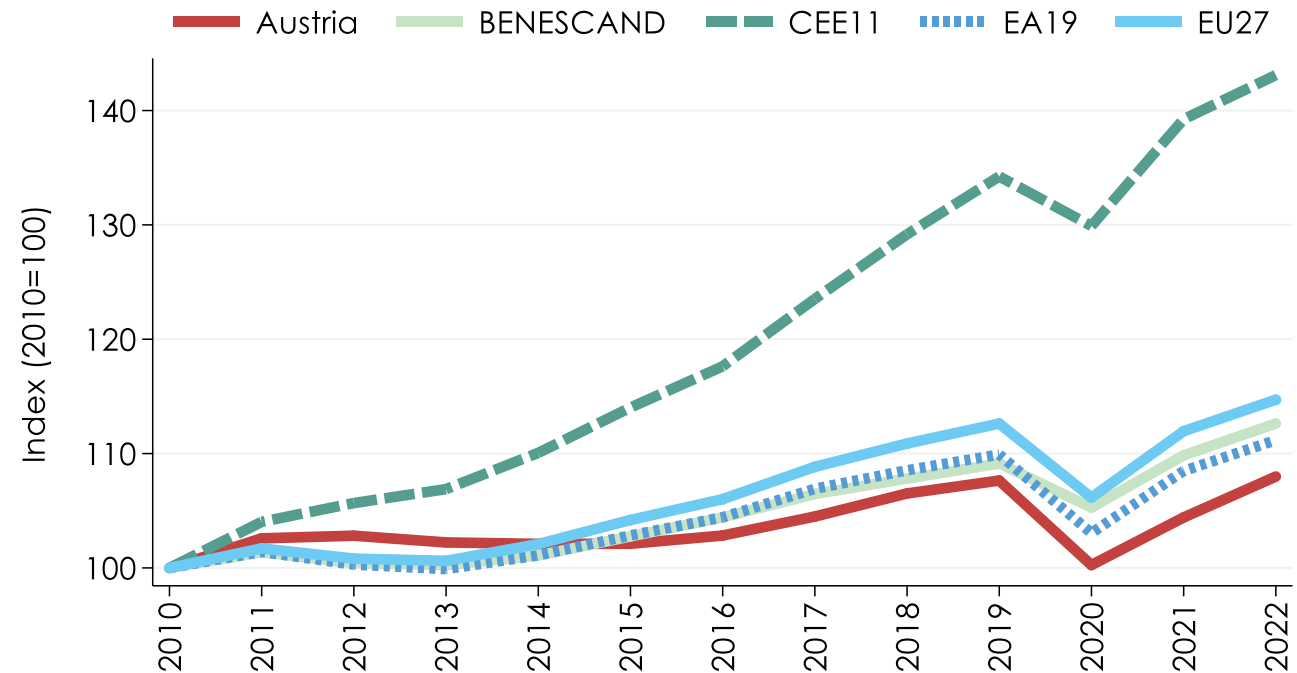
GDP per capita

Current prices, PPP

2022



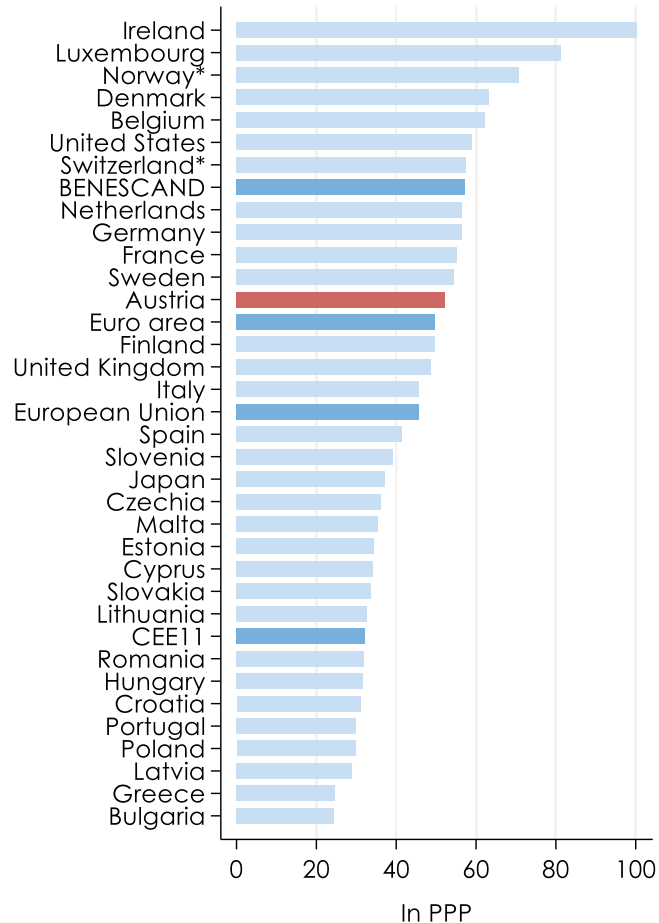
Index 2010=100



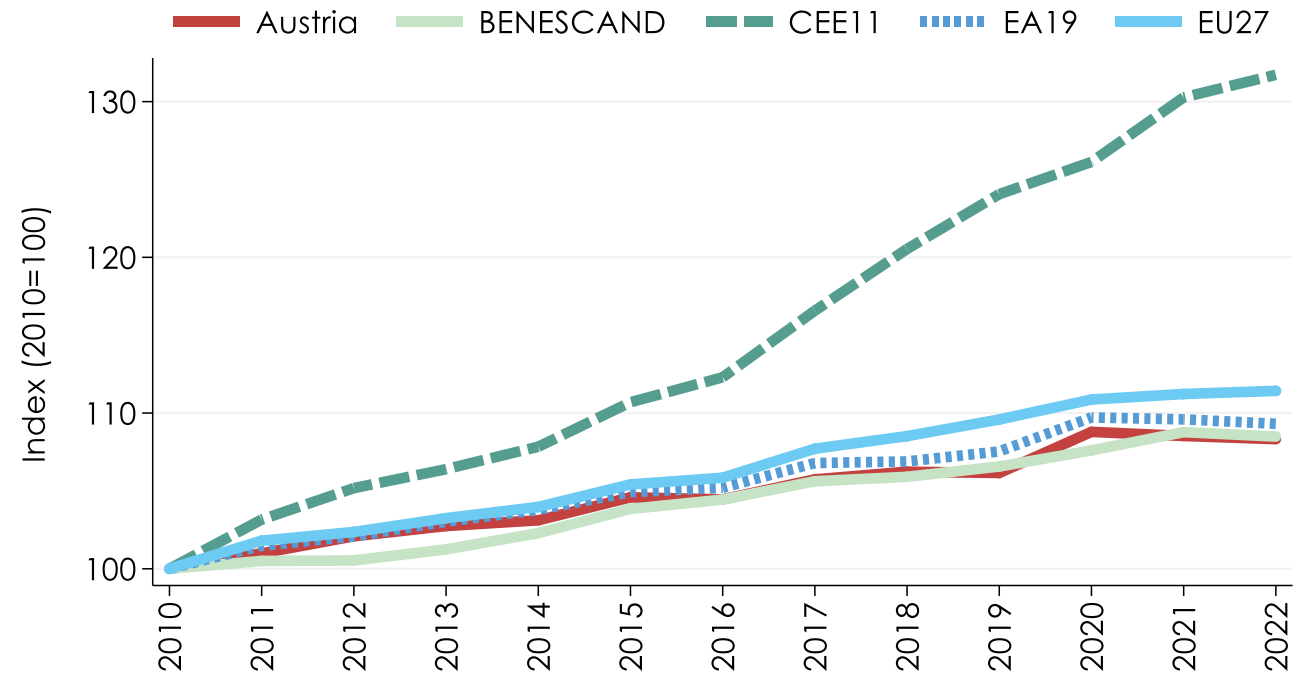
Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups CEE11 and BENESCAND.

GDP per hour worked

2022



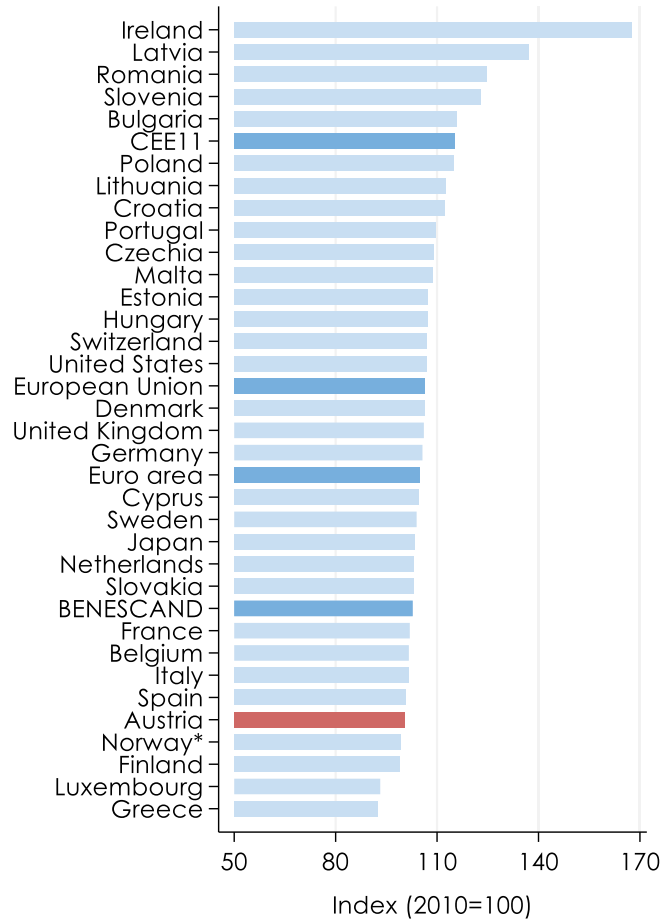
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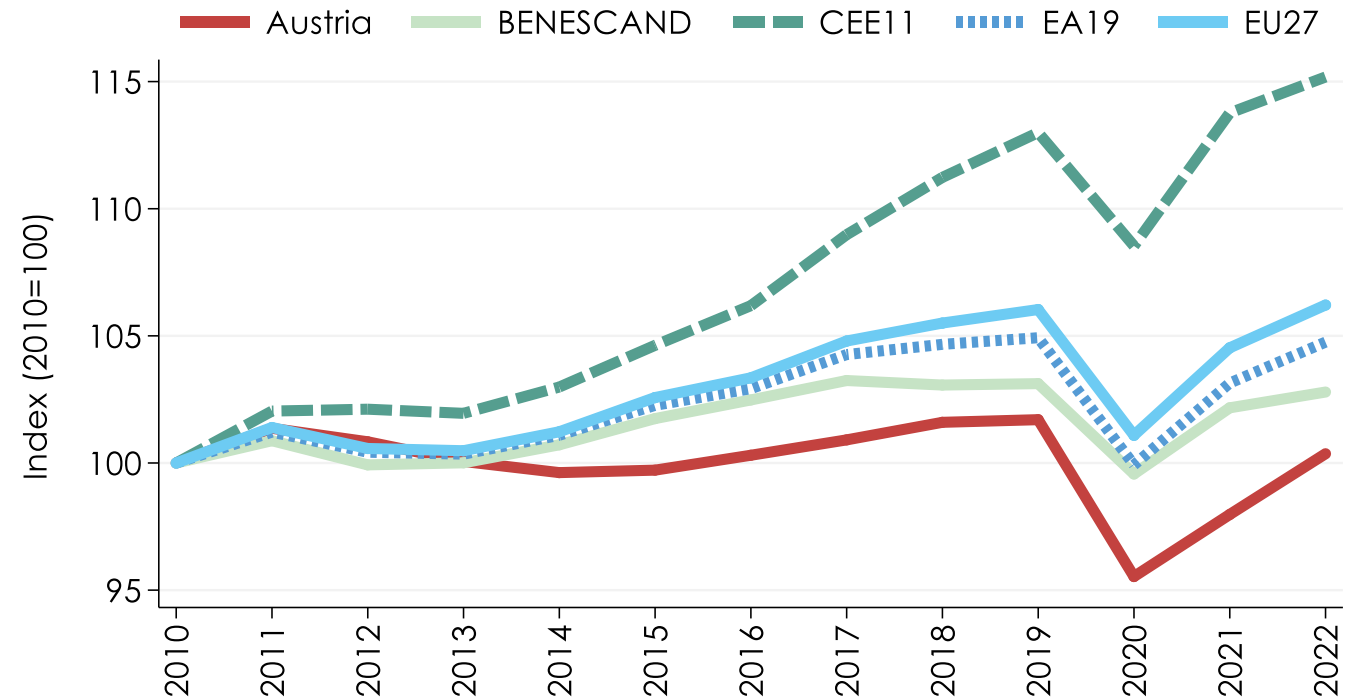
Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND. * Last available year: 2021.

Multifactor productivity (MFP)

2022



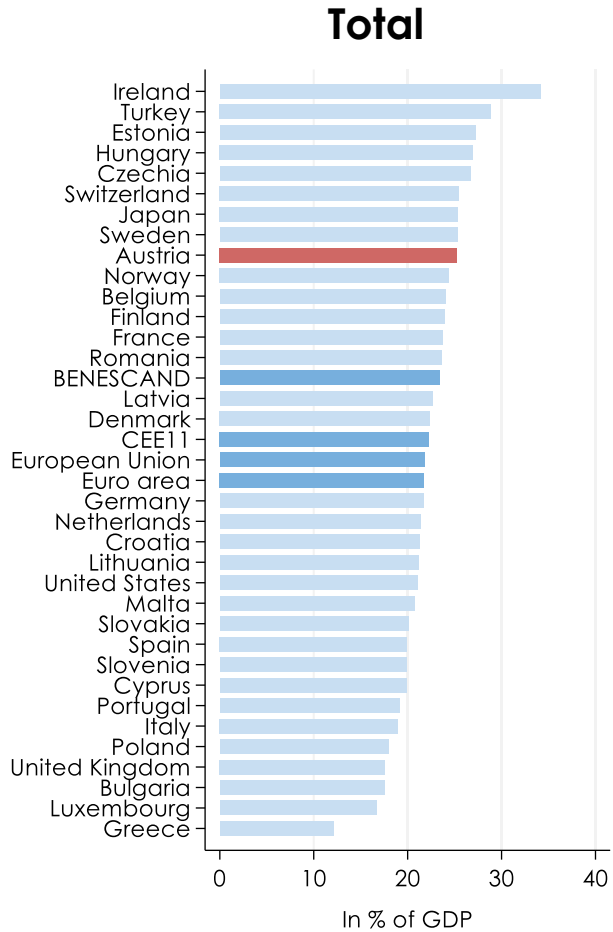
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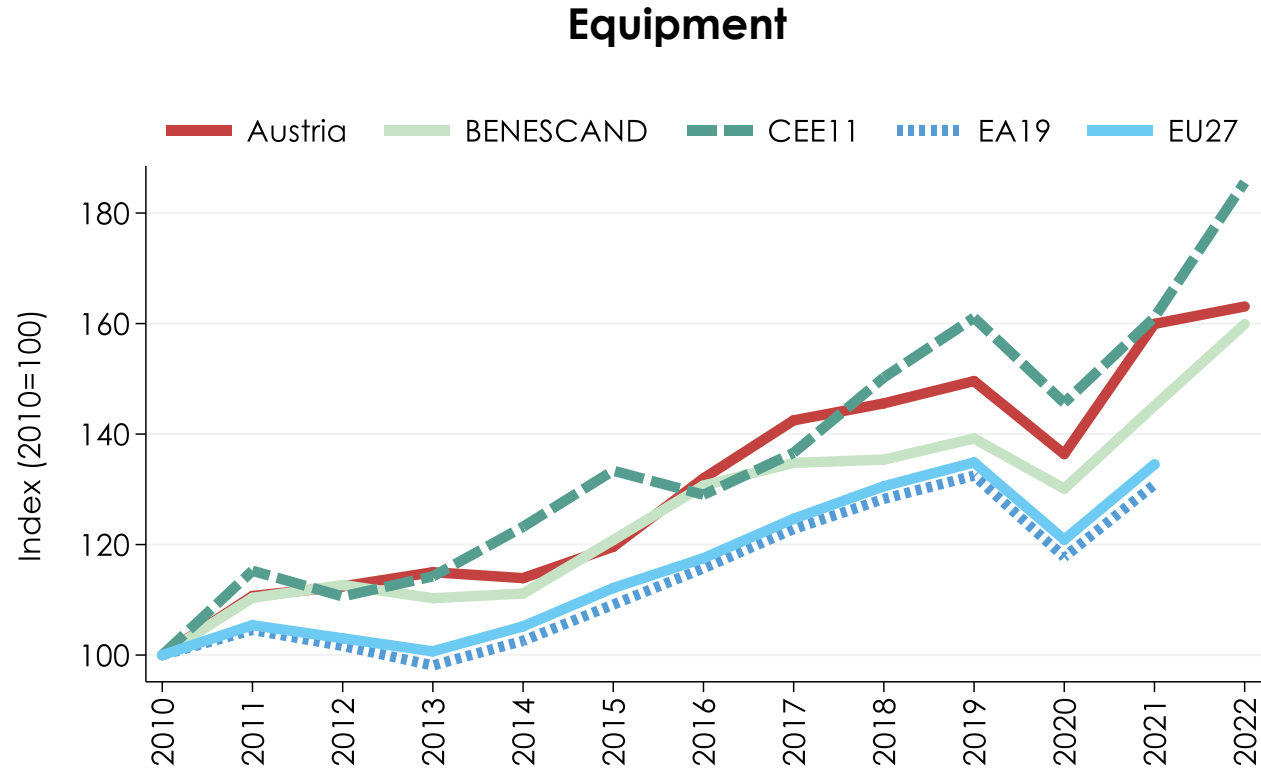
Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND. * Last available year: 2021.

Gross fixed capital formation

2022



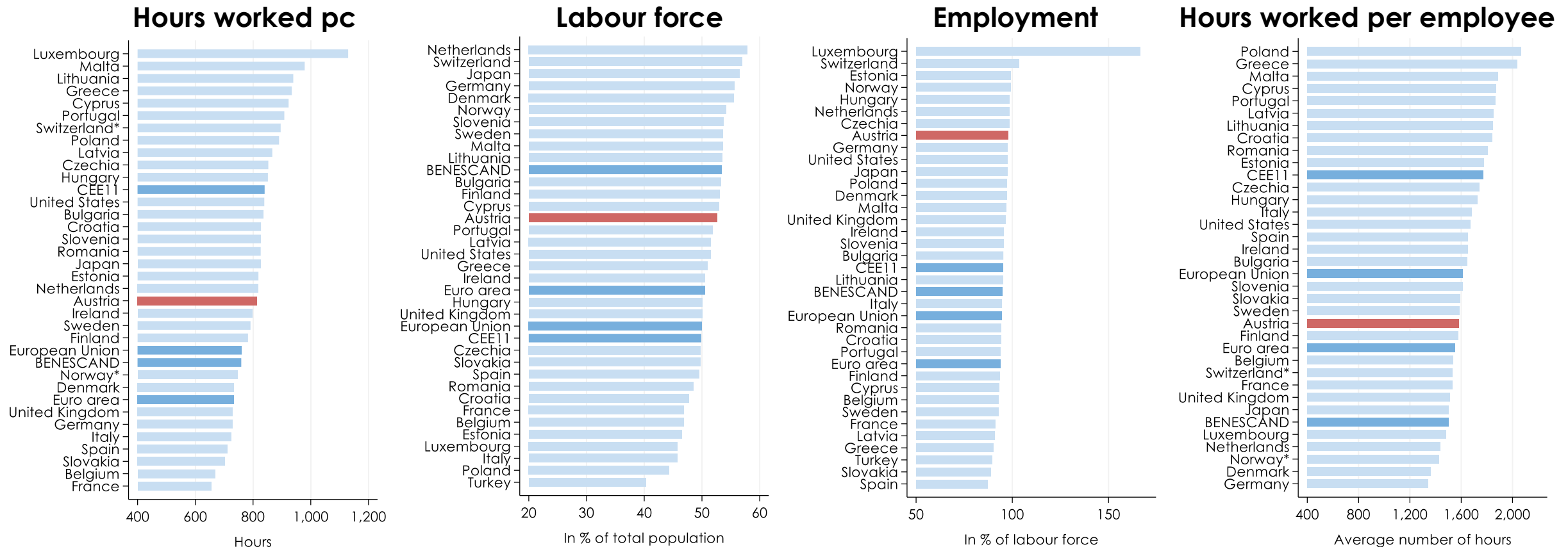
Index 2010=100



Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND.

Labour input and its components (i)

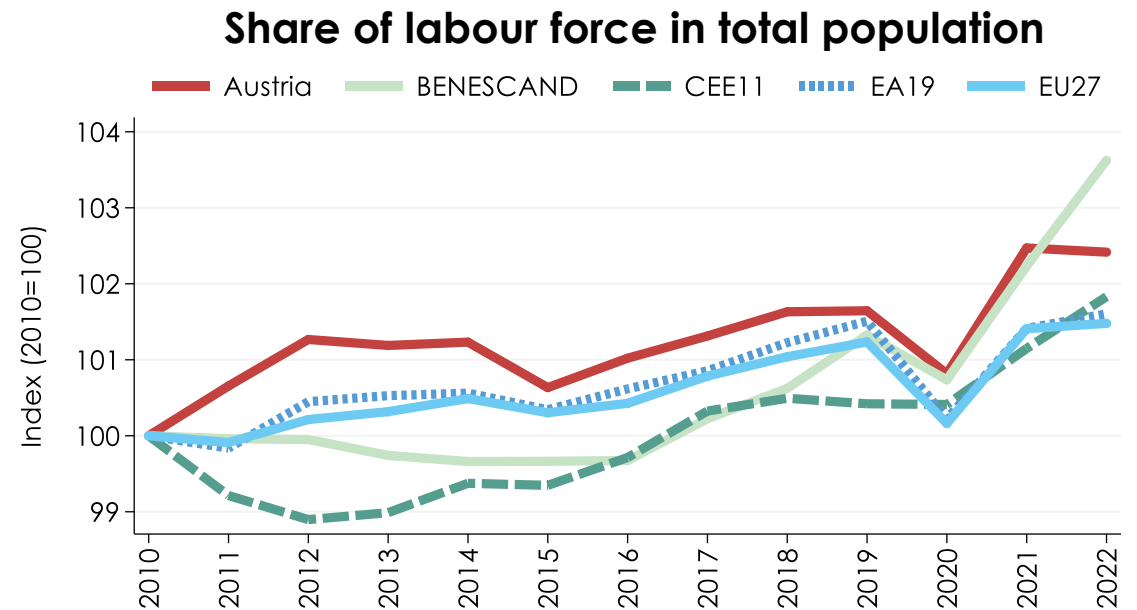
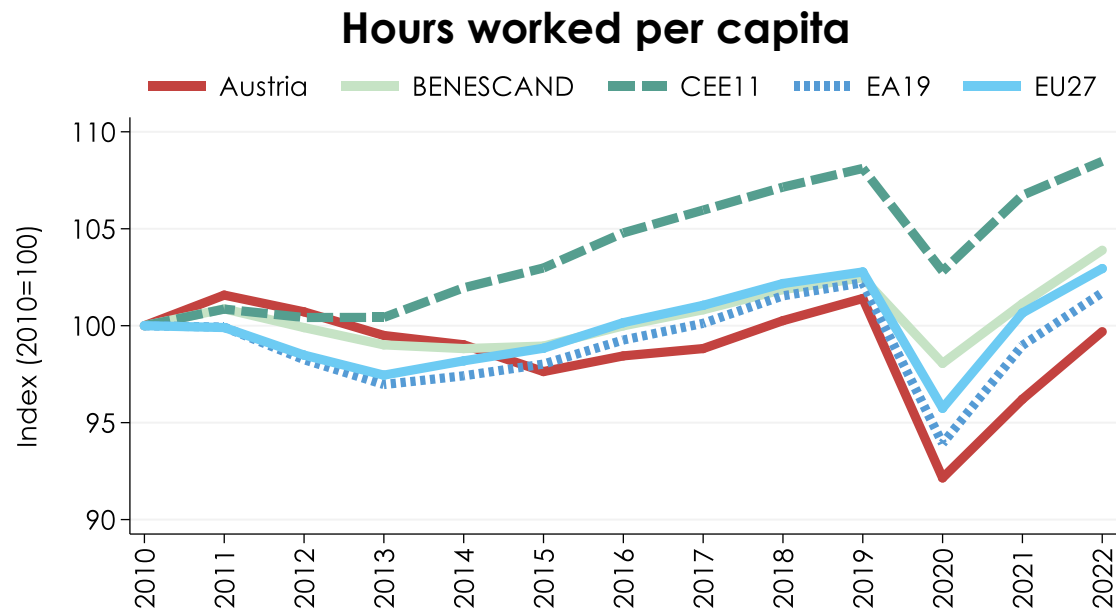
2022



Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND. * Last available year: 2021.

Labour input (ii)

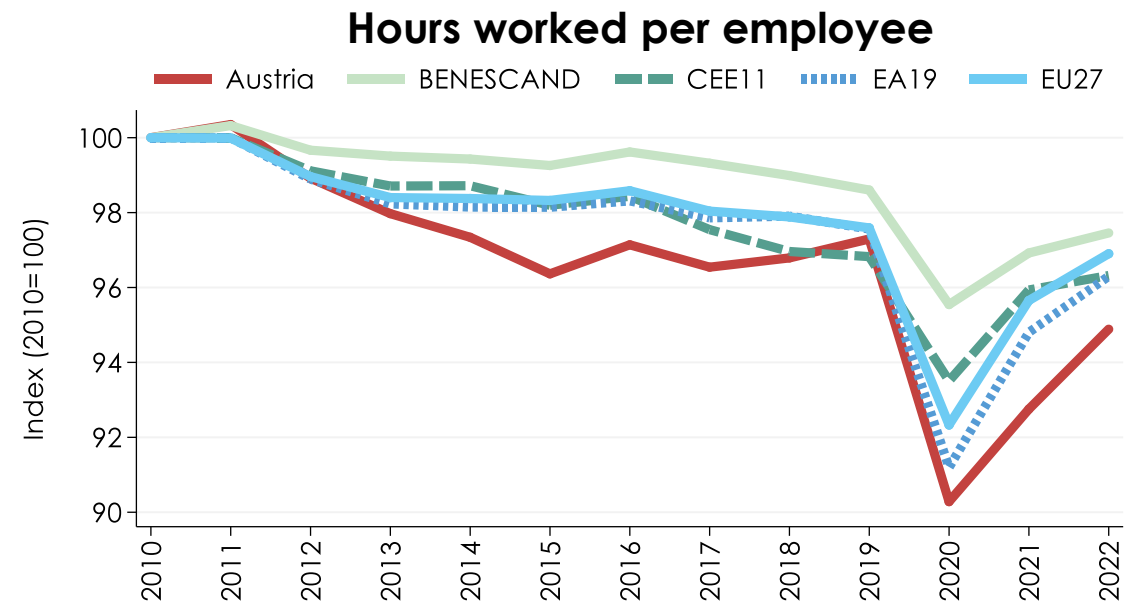
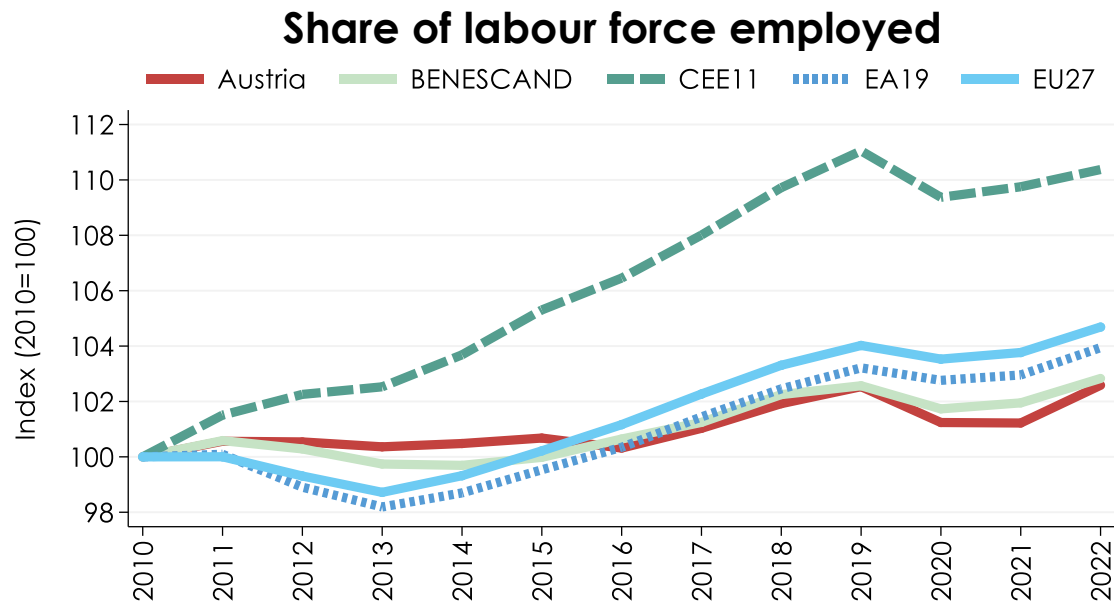
Index 2010=100



Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND.

Labour input (iii)

Index 2010=100



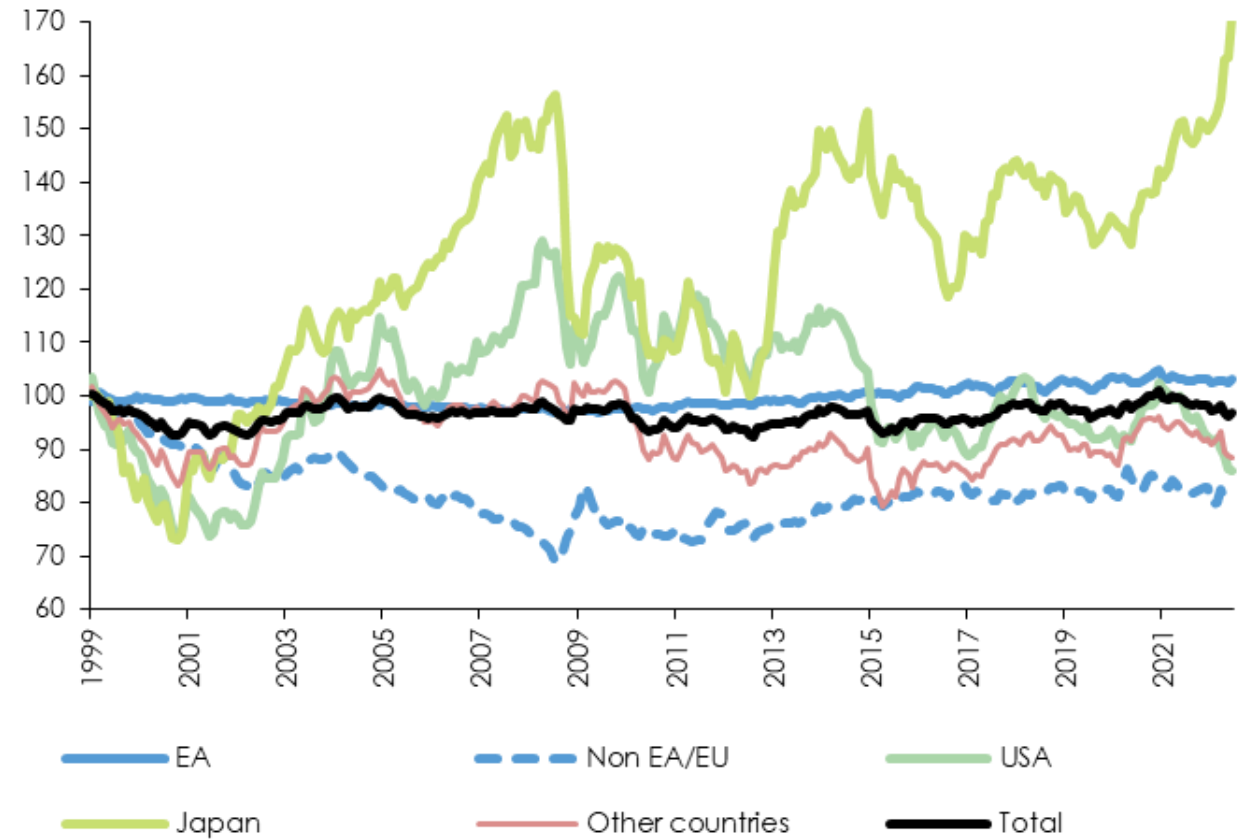
Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND.

Real effective exchange rate (REER)

Total



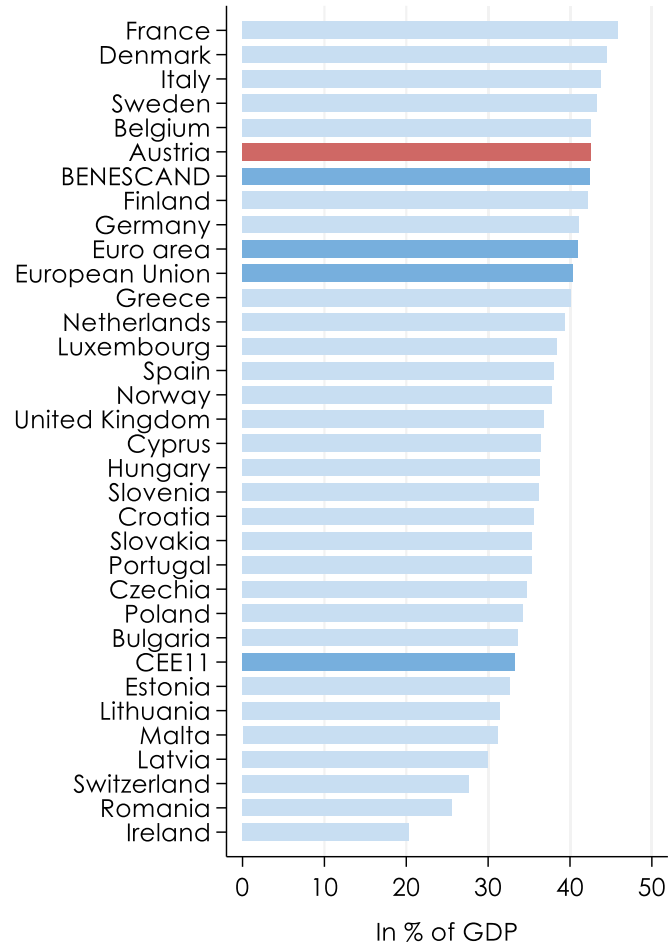
By regions



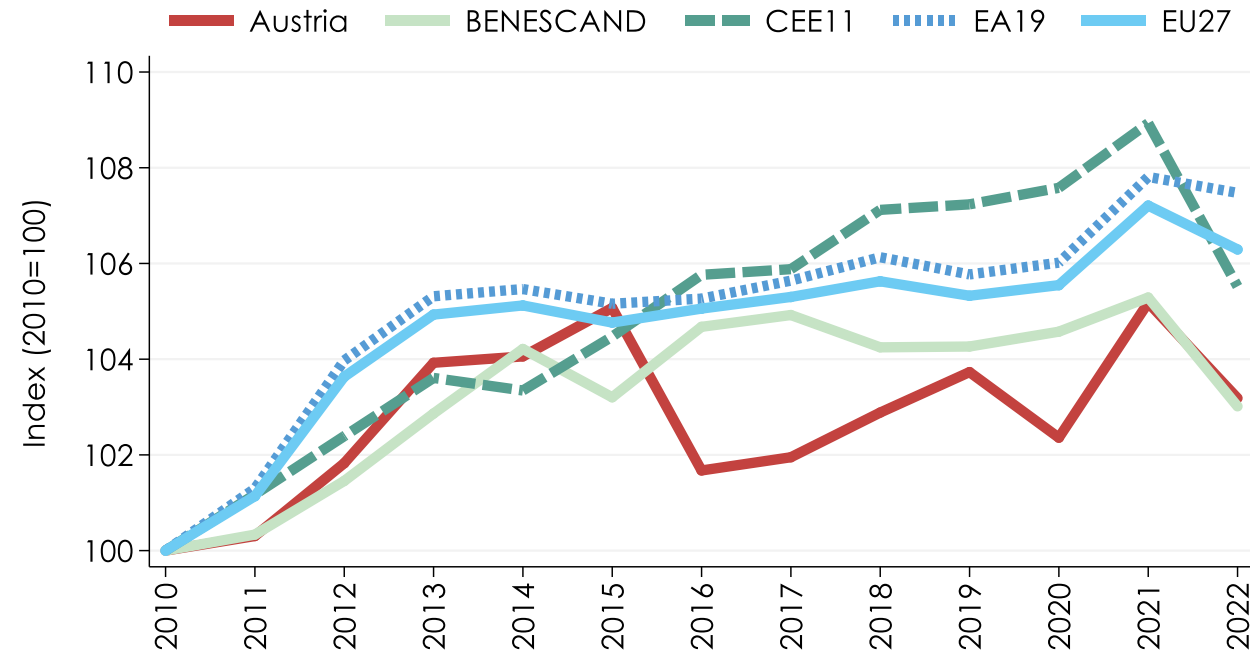
Source: OeNB, WIFO (Thomas Url).

Fiscal burden

2022



Index 2010=100



Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND.

Main findings (i)

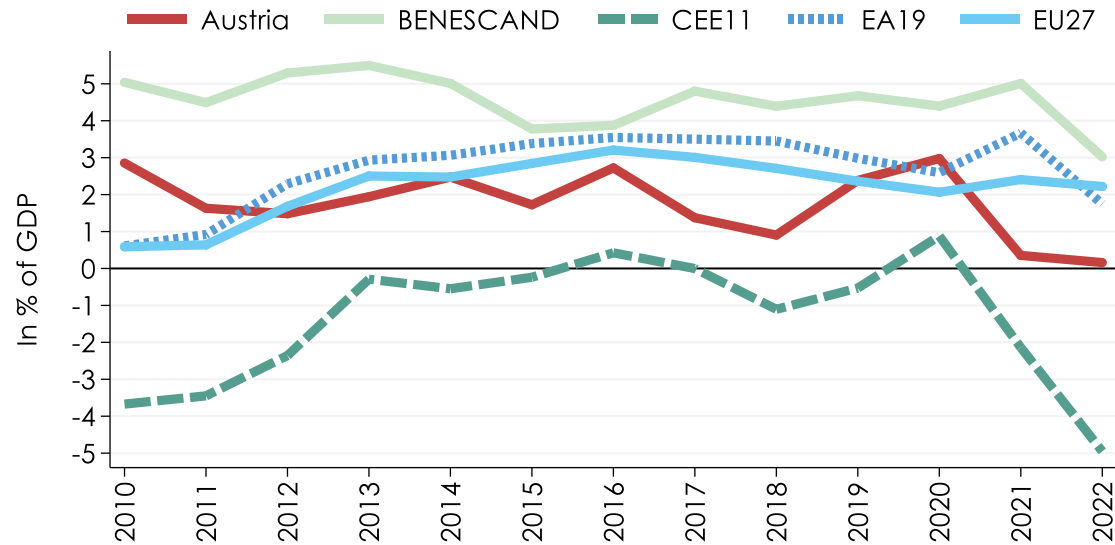
- Long shadow of multiple crises
 - Great recession; COVID-19, invasion of Ukraine / energy / inflation)
- Low dynamics of productivity and growth
 - Average performance in labour productivity
 - Poor growth of multifactor productivity (MFP)
 - Comparatively low average hours per employee
- Yearly fluctuations, but rather stable development of cost competitiveness in the long run (REER)

Structural characteristics, selected aspects

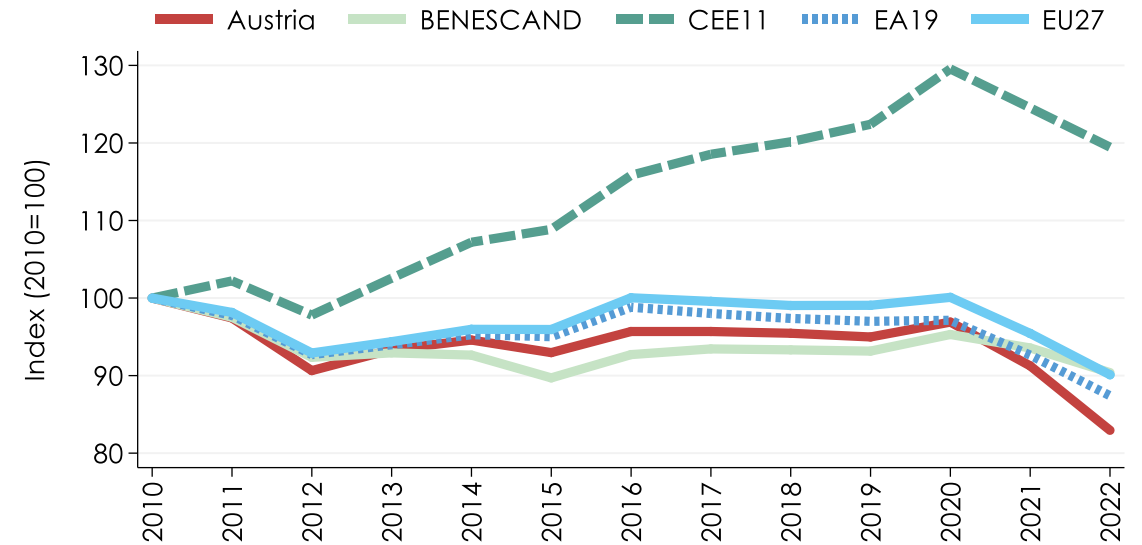
- **International trade**
 - Current account
 - Share in world exports
 - Complexity
 - Diversification
 - Global value chains
- **Foreign direct investments (FDI)**
 - Outward
 - Inward
- **Knowledge** intensive industries
 - Educational intensity
 - Innovation intensity
 - ICT producers

International trade

Current account



Share in world exports of goods

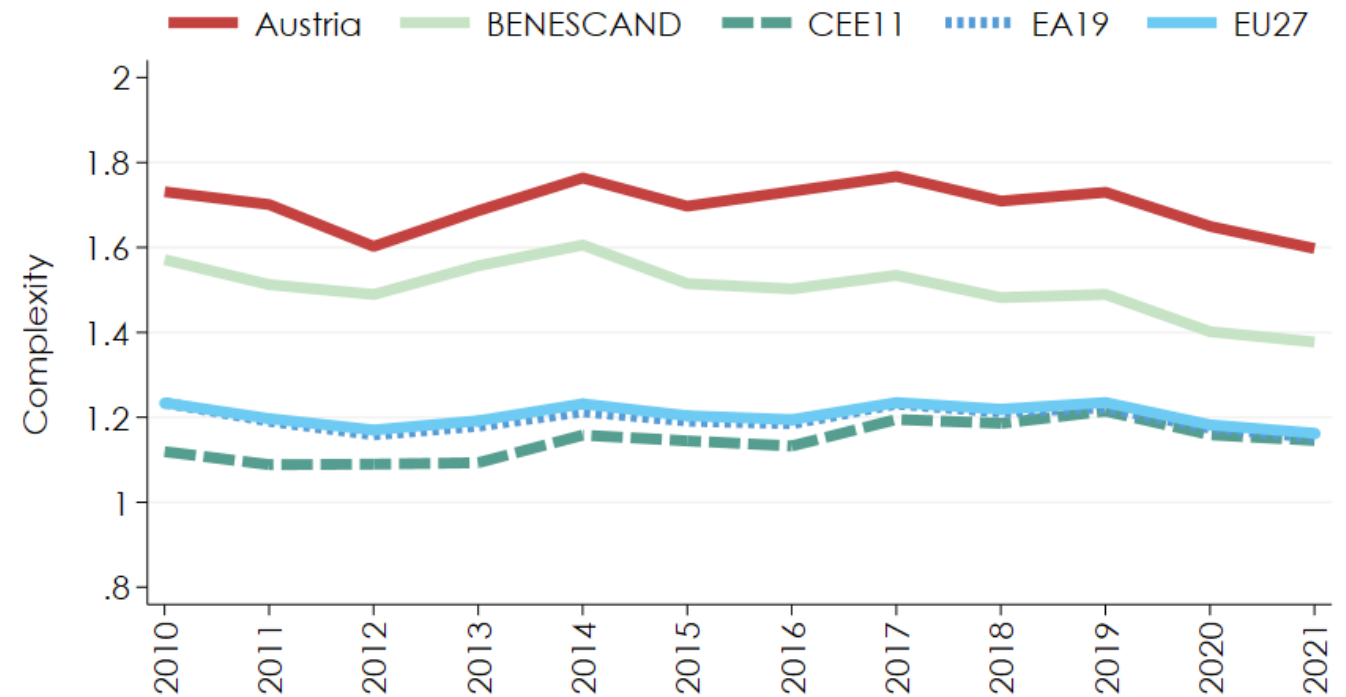
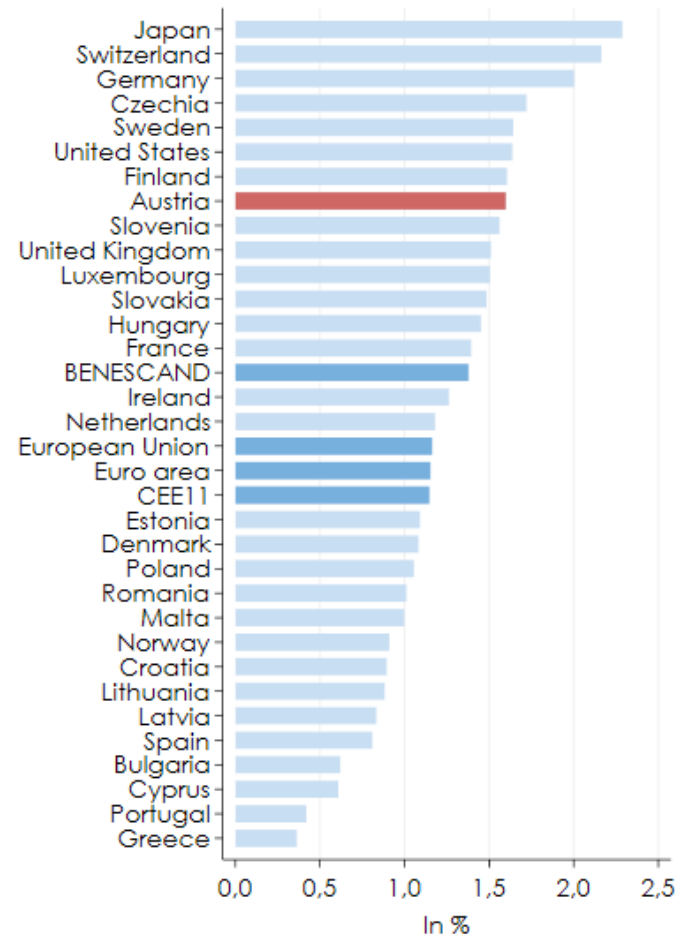


Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND.

Source: EUROSTAT (AMECO), WIFO.

Complexity of goods exports

2021

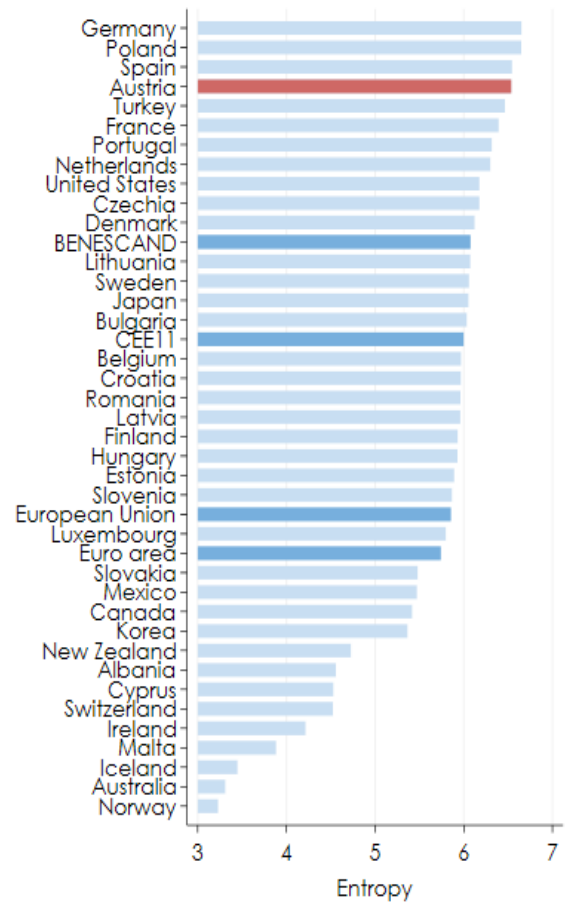


Source: BACI, WIFO.

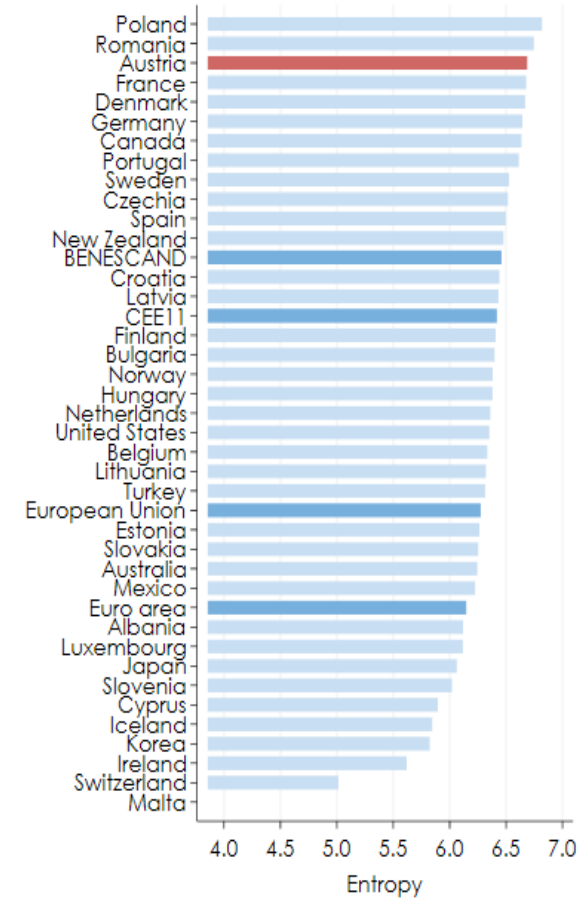
Trade diversification: goods

Entropy 2021

Exports



Imports

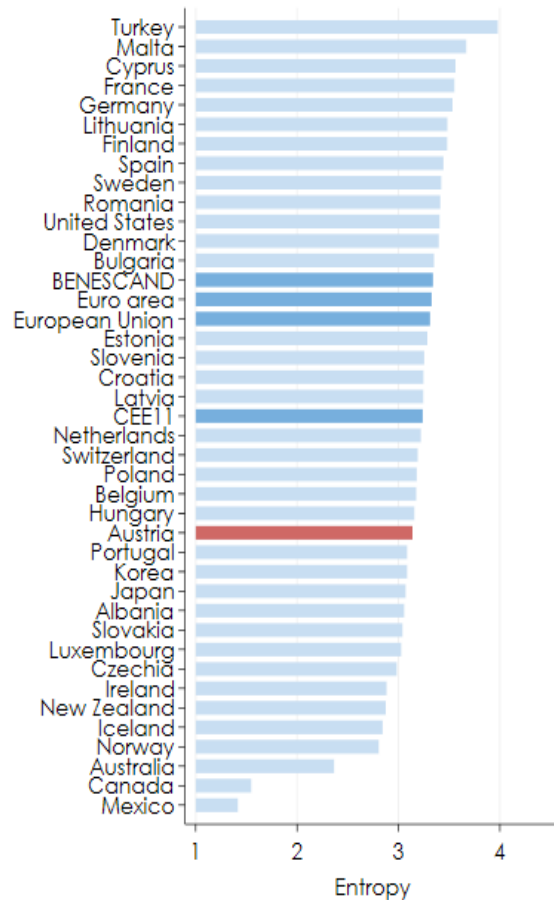


Source: BACI, WIFO.

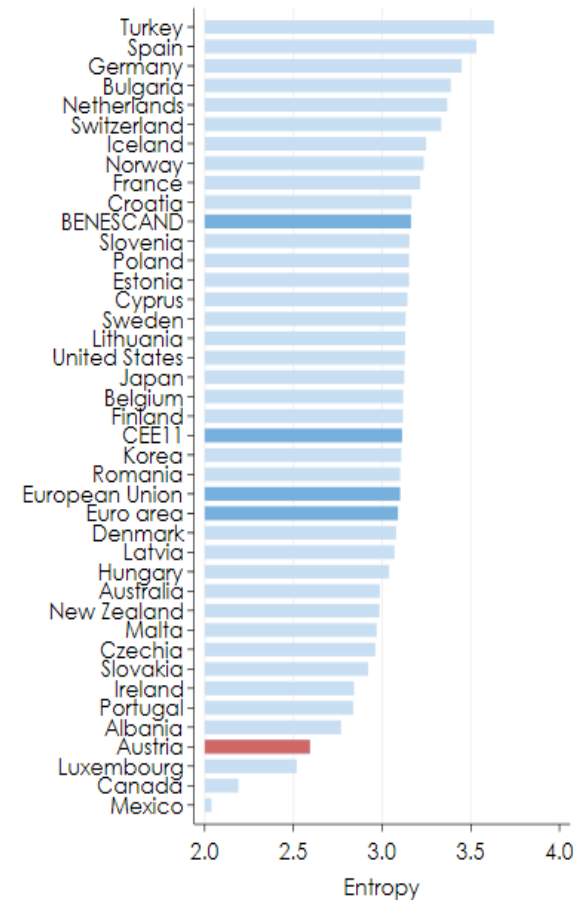
Trade diversification: partner regions

Entropy 2021

Export destinations



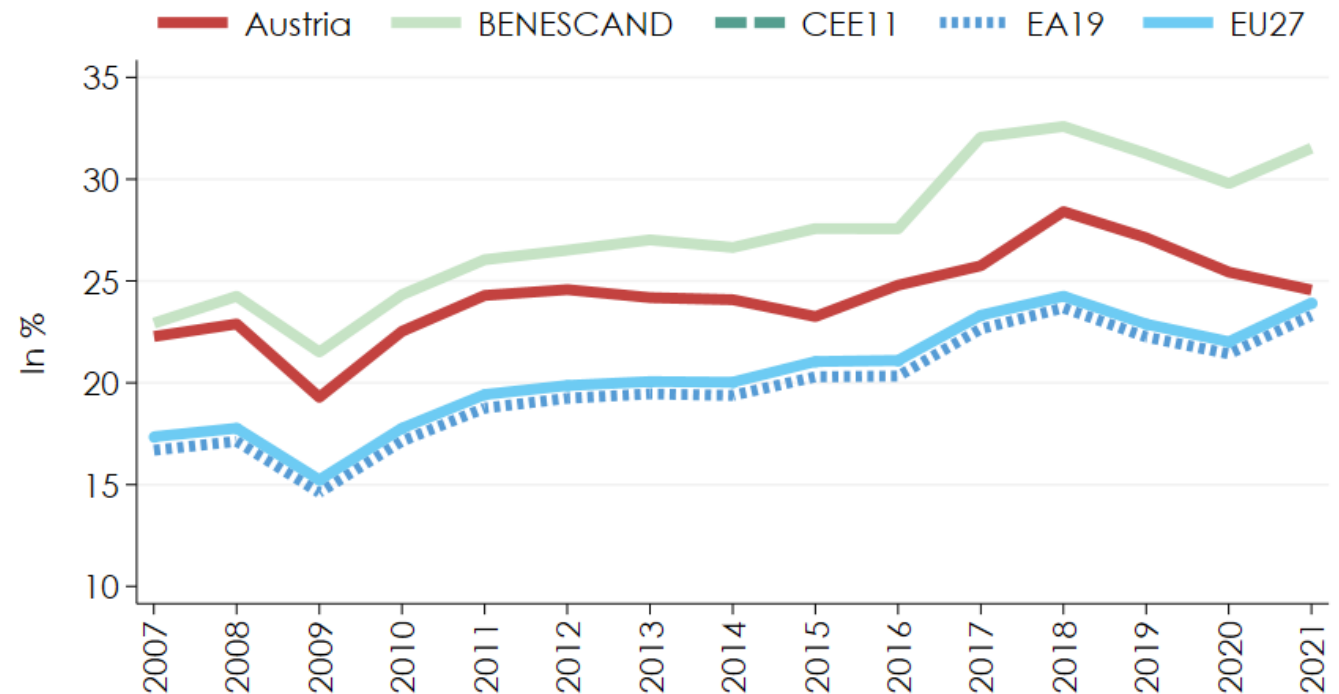
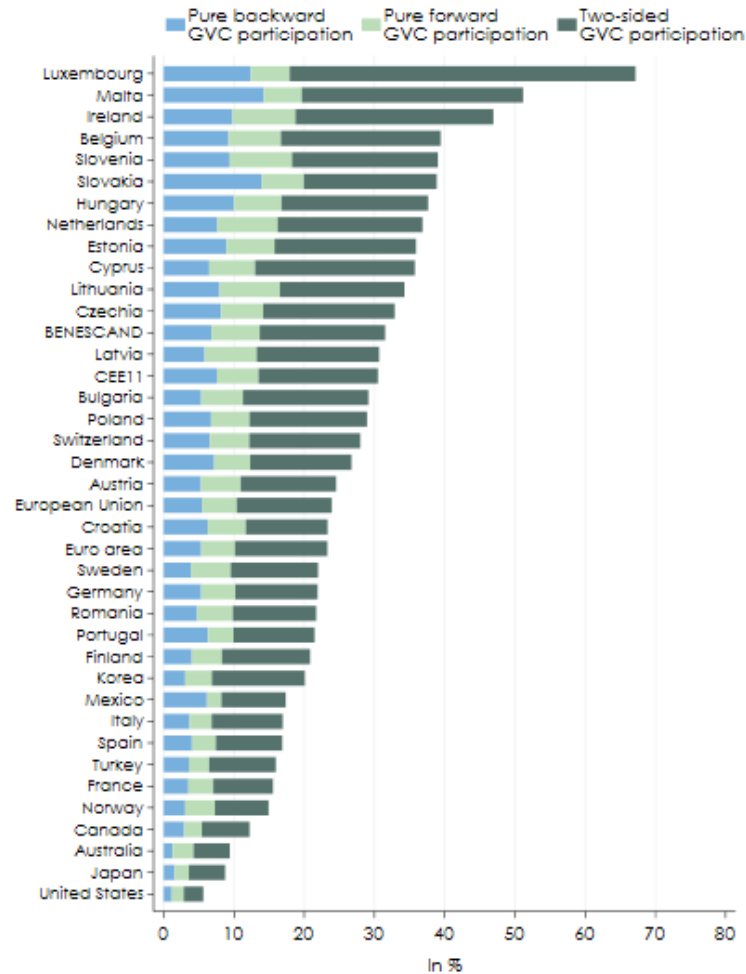
Origin of imports



Source: BACI, WIFO.

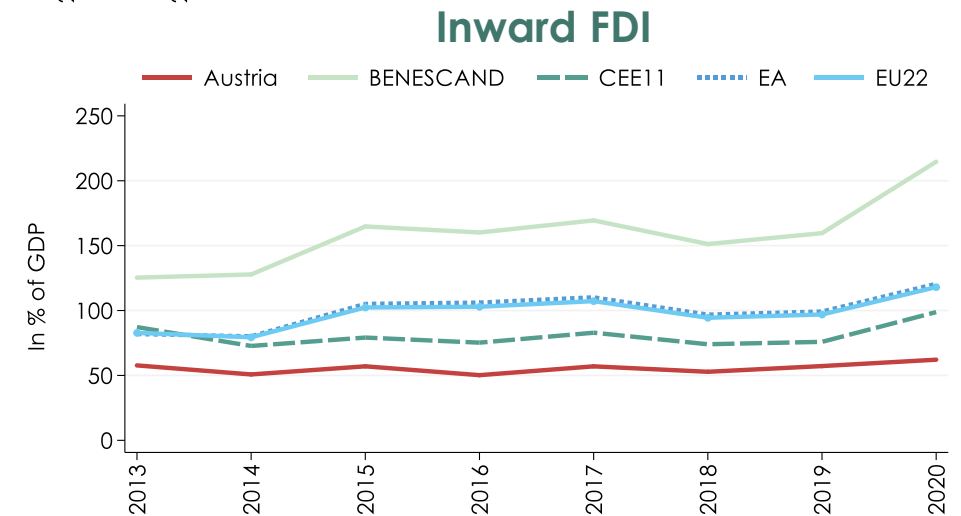
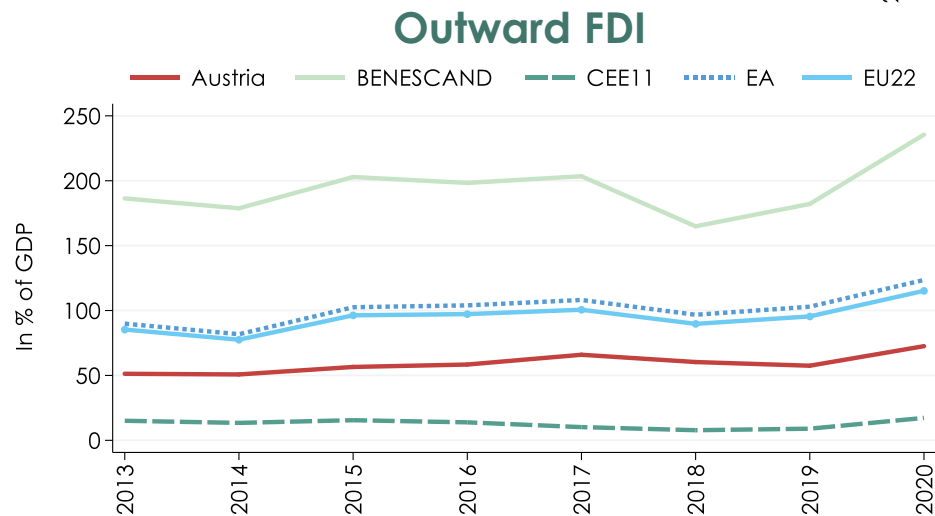
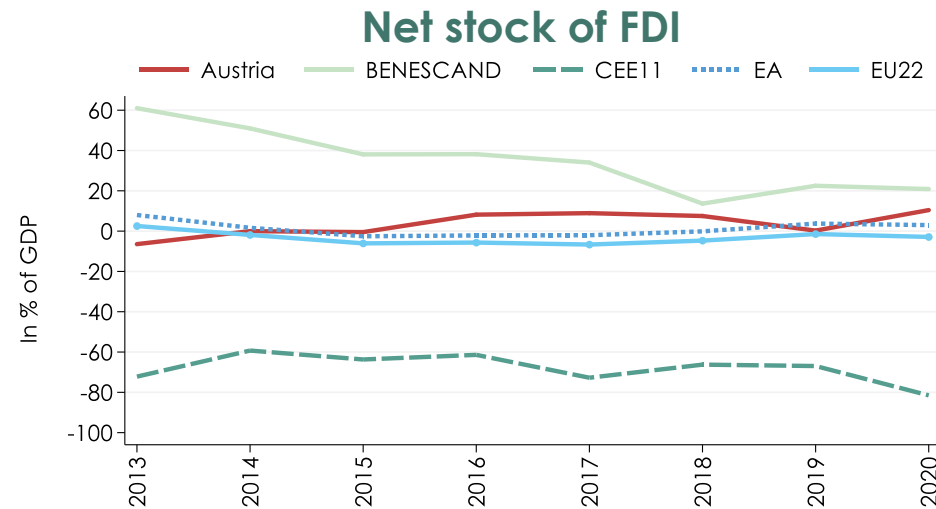
Global value chains

WITS Index of integration



Source: WITS, WIFO.

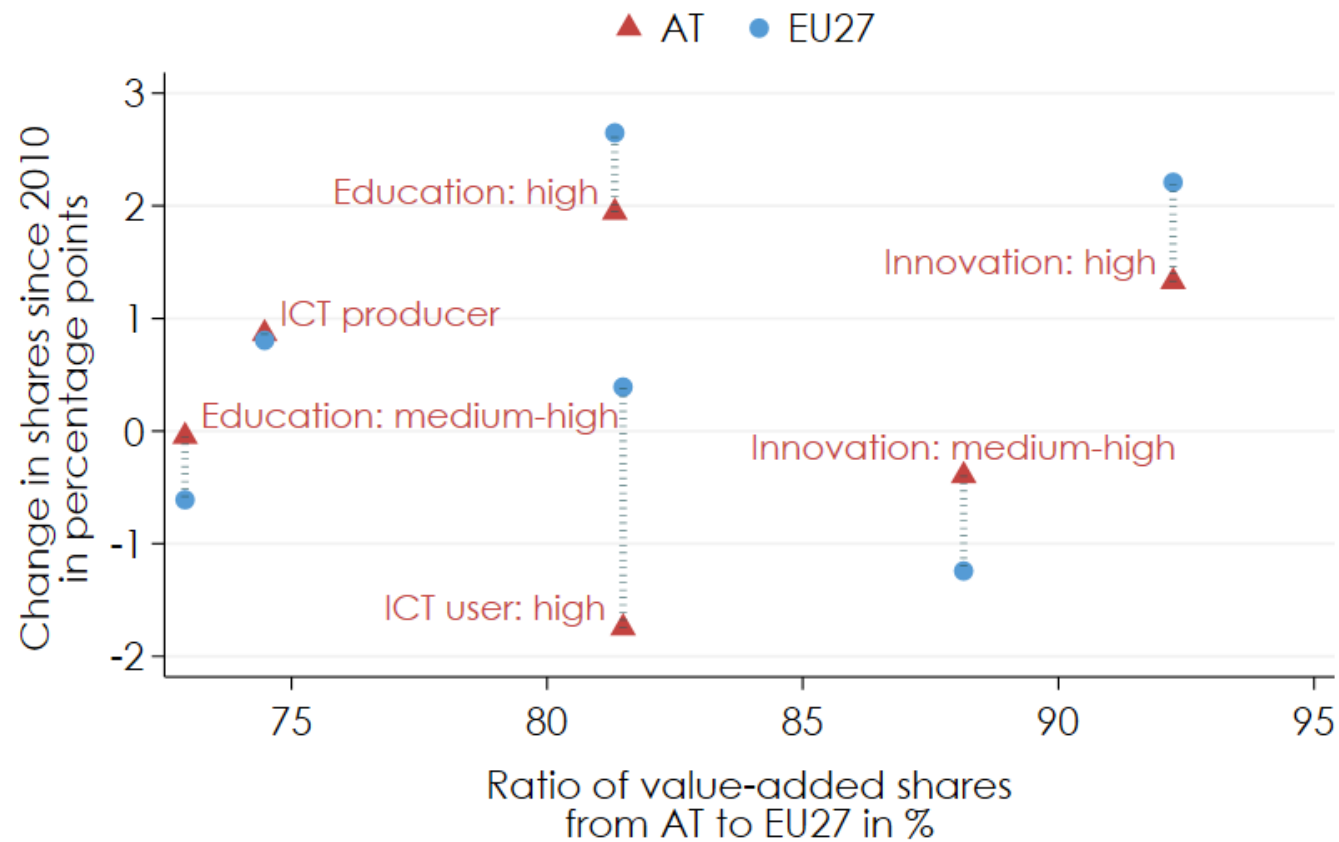
Stock of foreign direct investments (FDI)



Source: OECD (FDI statistics), WIFO.

Knowledge-intensive industries

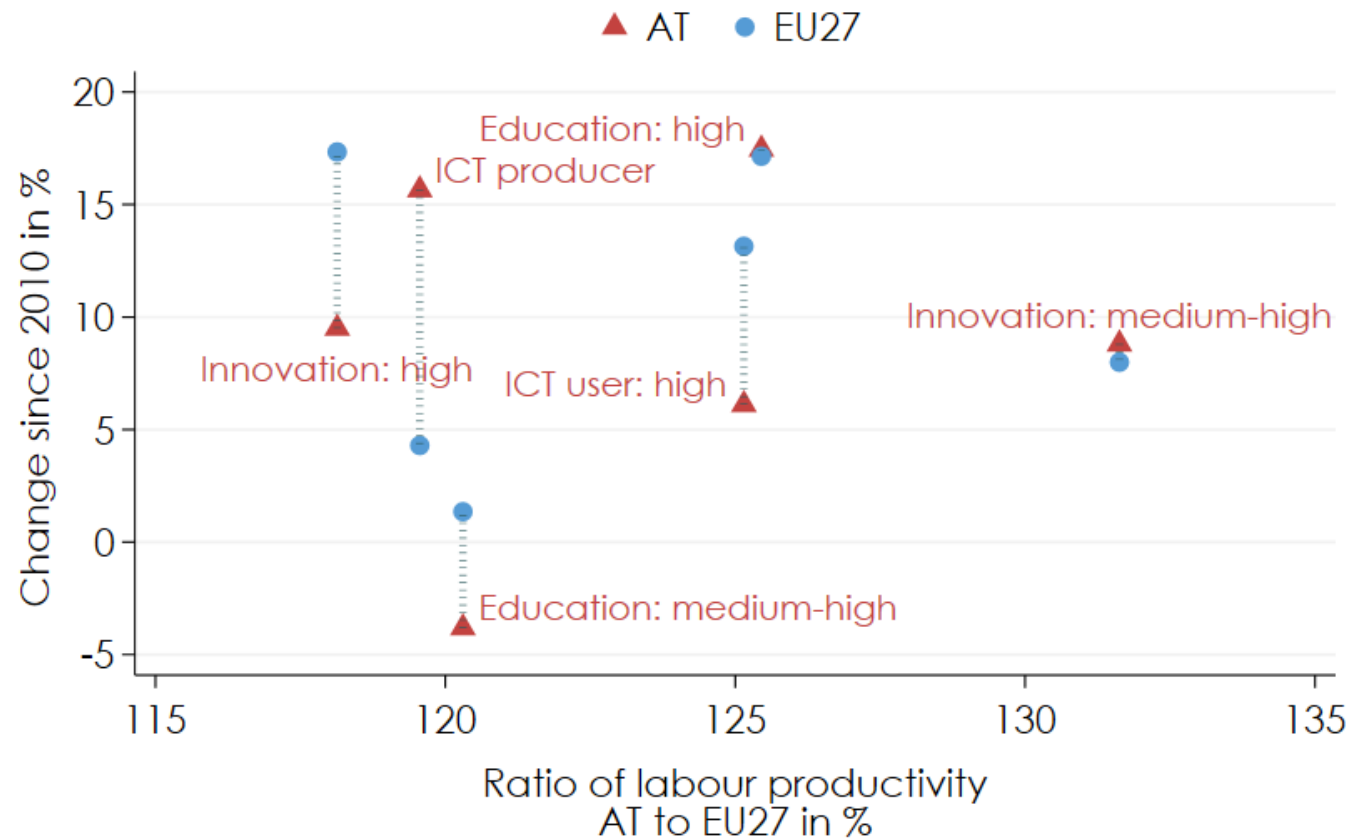
Value added shares, Austria vs. EU27 2020



Source: EUROSTAT (SBS), WIFO.

Knowledge-intensive industries

Labour productivity, Austria vs. EU27 2020



Source: EUROSTAT (SBS), WIFO.

Main findings (ii)

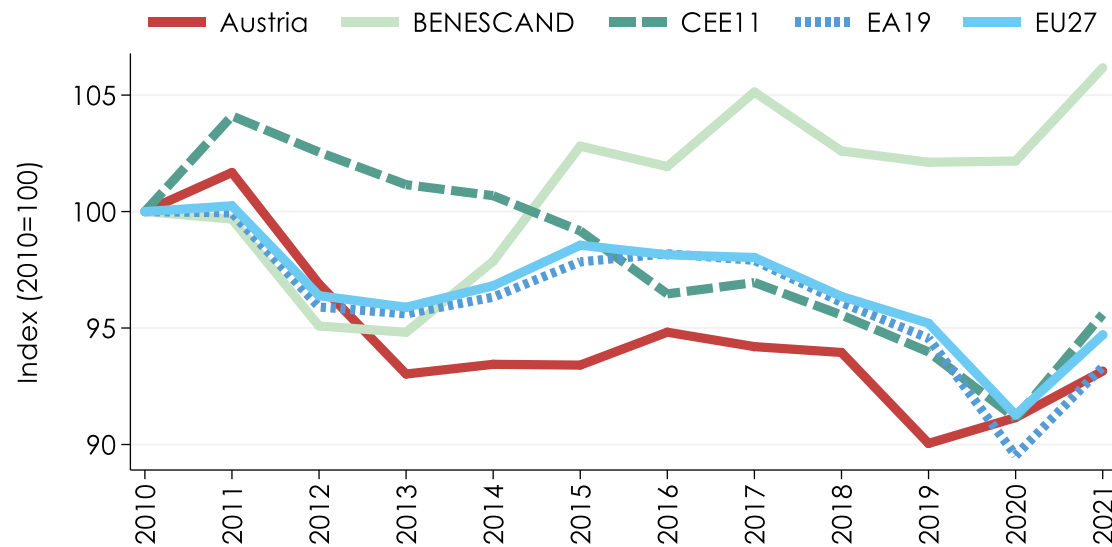
- Austrian **structure performance paradox**
 - High rank in GDP pc, but
 - Low share of especially knowledge-intensive industries
- Austria **holds up well** in foreign trade
 - Traditional indicators (e.g., current account balance, market shares)
 - Average degree of integration in global value chains
 - High complexity of exported goods
 - Low diversification of trade partners
- Geo-economics and **increasing fragmentation** of international trade (“de-globalisation”)
 - Requires more **diversification** in foreign trade
 - Face growing conflicts between the objectives of **efficiency** and **resilience**
 - European Union strives for more **strategic autonomy**
- Effective **European co-ordination** remains the most important foreign trade policy instrument also in Austria

The system level

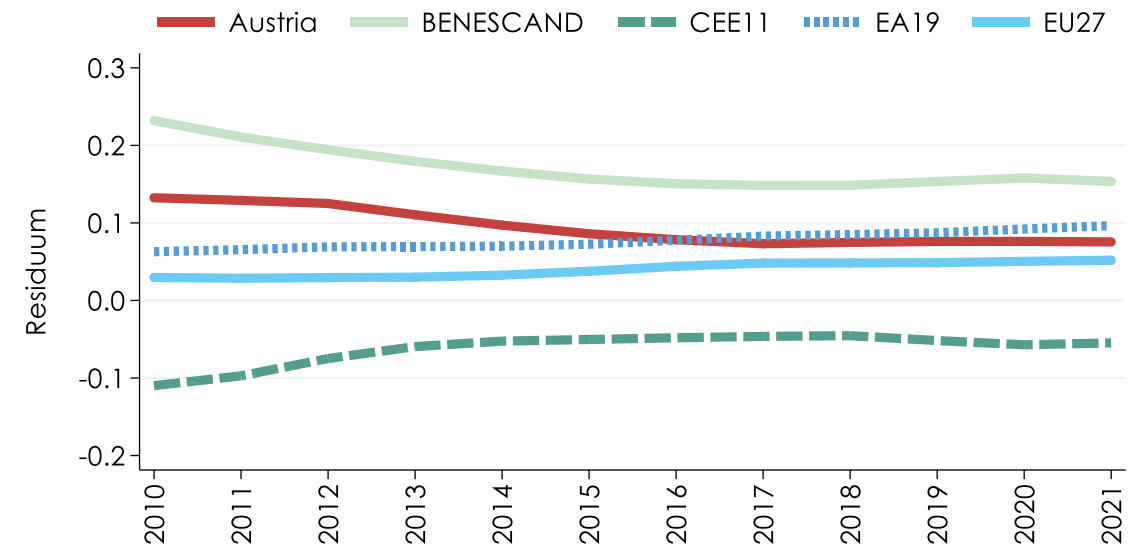
- Competition
- Innovation
- Education
- Corporate finance
- Infrastructure and quality of public institutions

Competition

Net operating surplus



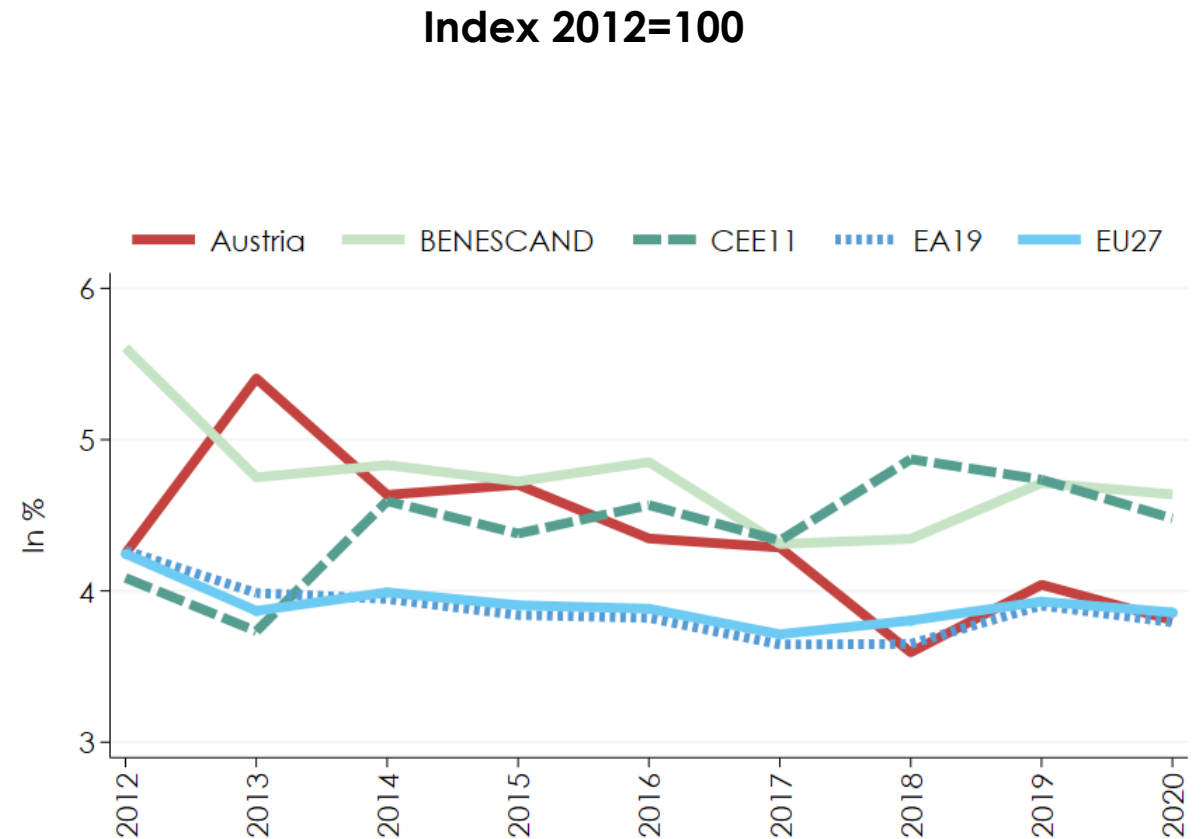
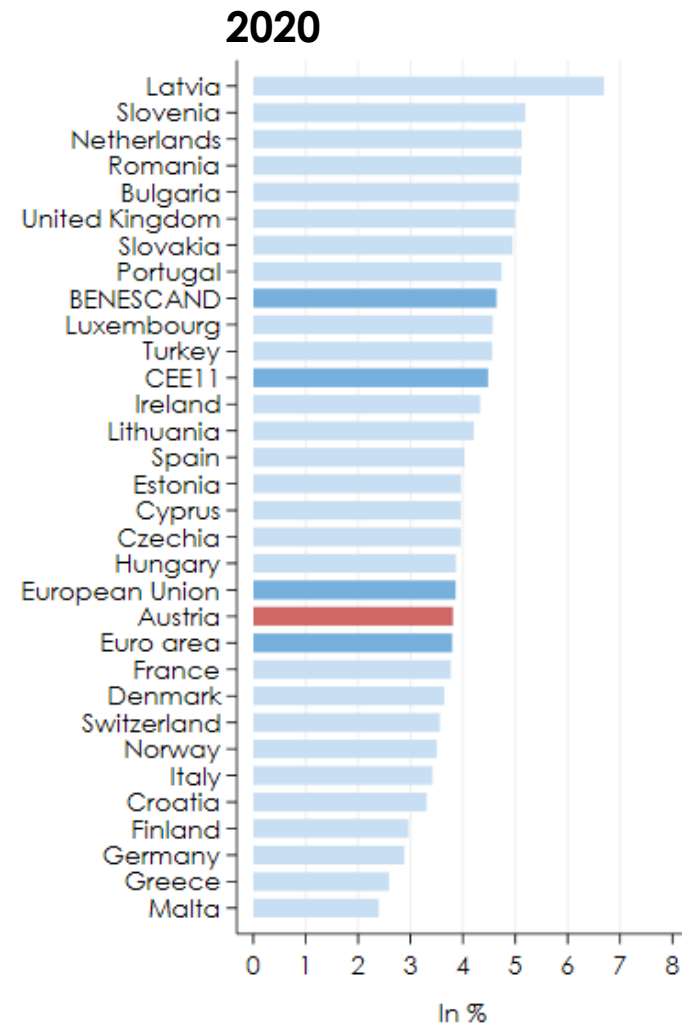
Trade of openness, size corrected



Source: EUROSTAT (AMECO), WIFO. Note: Aggregated values for the country groups: European Union and Euro area (19). Unweighted averages for the country groups MOEL11 and BENESCAND.

Firm dynamics

Share of young firms (< 5 years old)

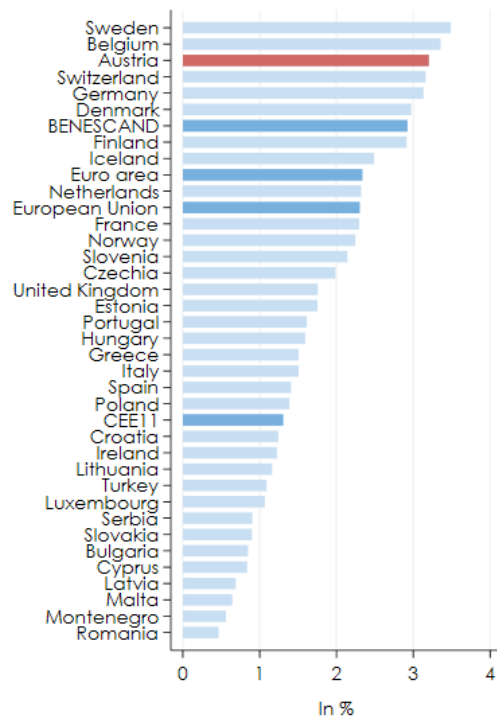


Source: EUROSTAT (SBS).

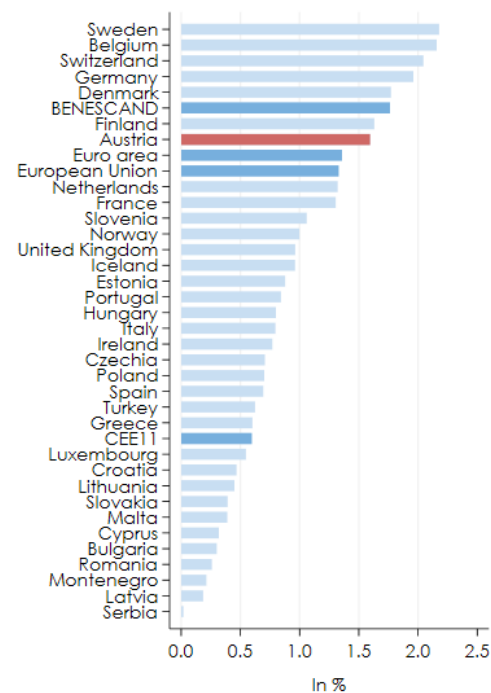
R&D expenditures

in % of GDP, 2020

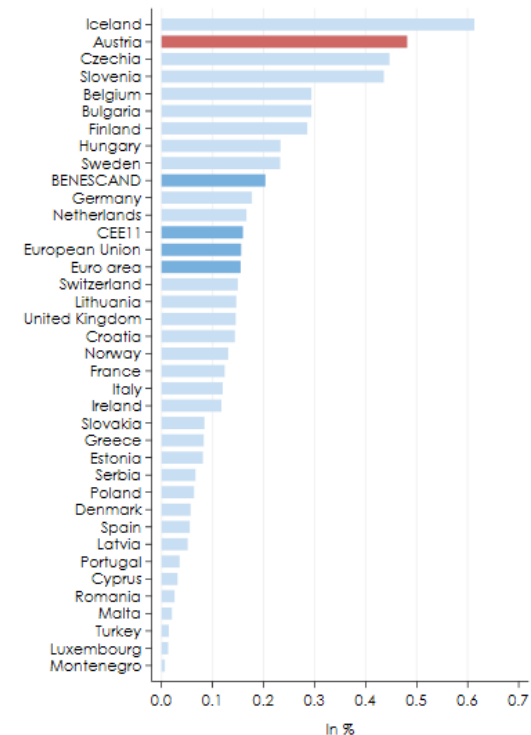
Total R&D expenditures



R&D expenditures by firms



Foreign financed (by firms)

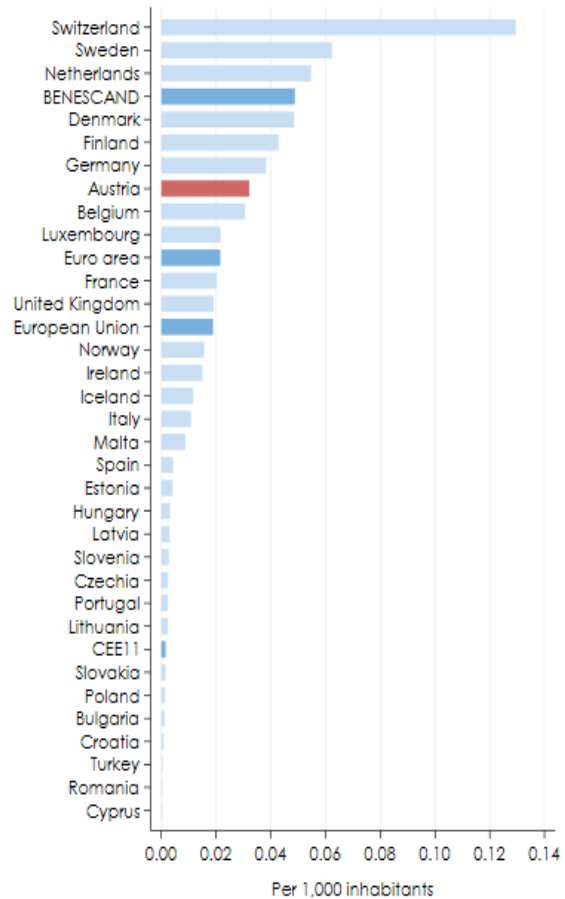


Source: EUROSTAT, WIFO.

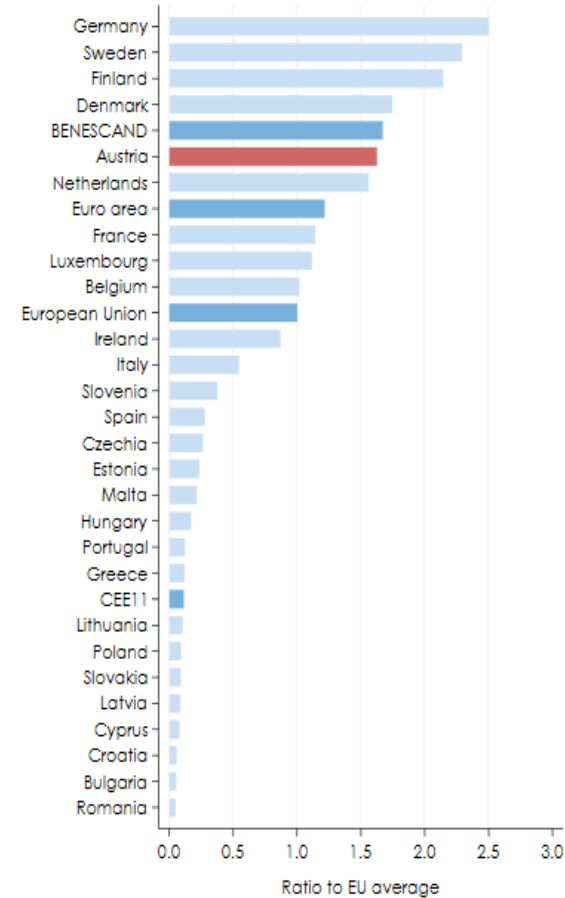
Patents

per 1.000 inhabitants / relative to EU average

Triadic patents



Super patents

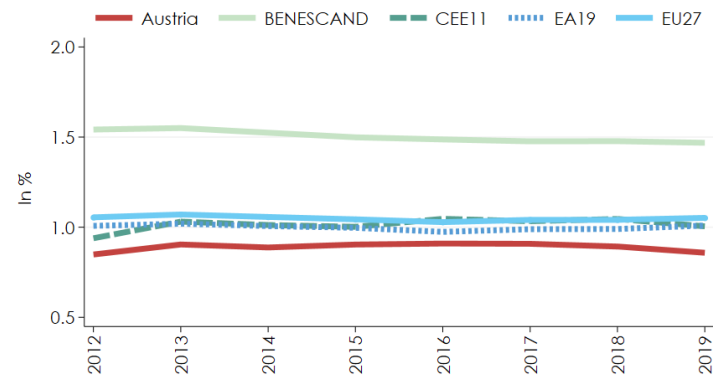


Source: Patstat, WIFO.

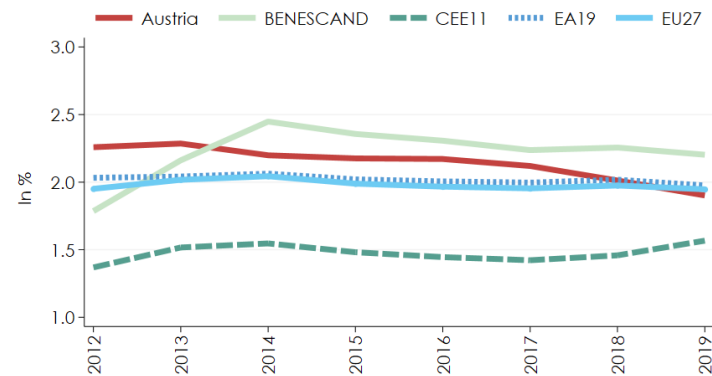
Education

Public expenditures

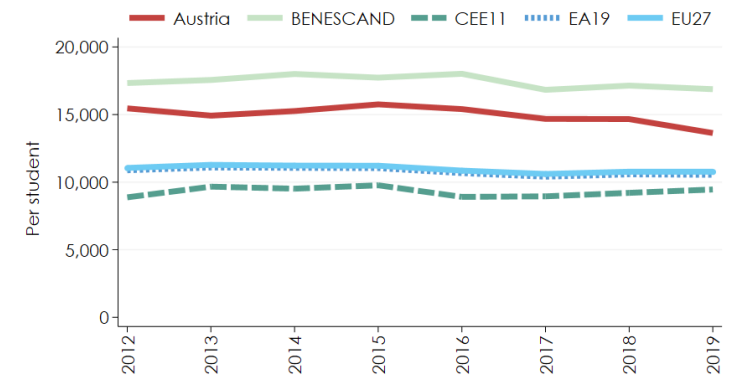
Primary education



Secondary education



Higher education

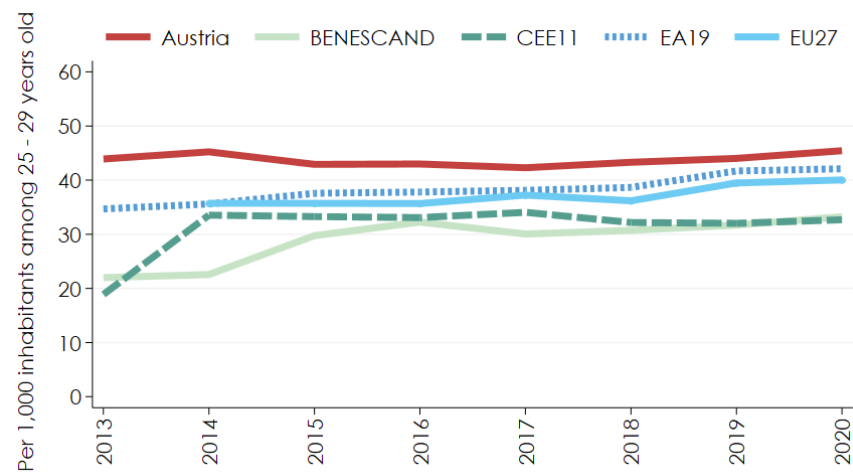


Source: OECD, WIFO.

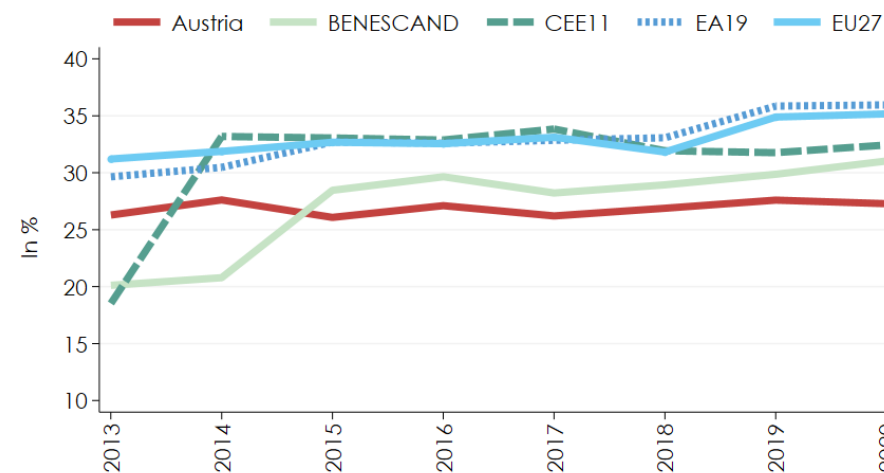
MINT graduates

Share among 25-29 years old

ISCED 5-8



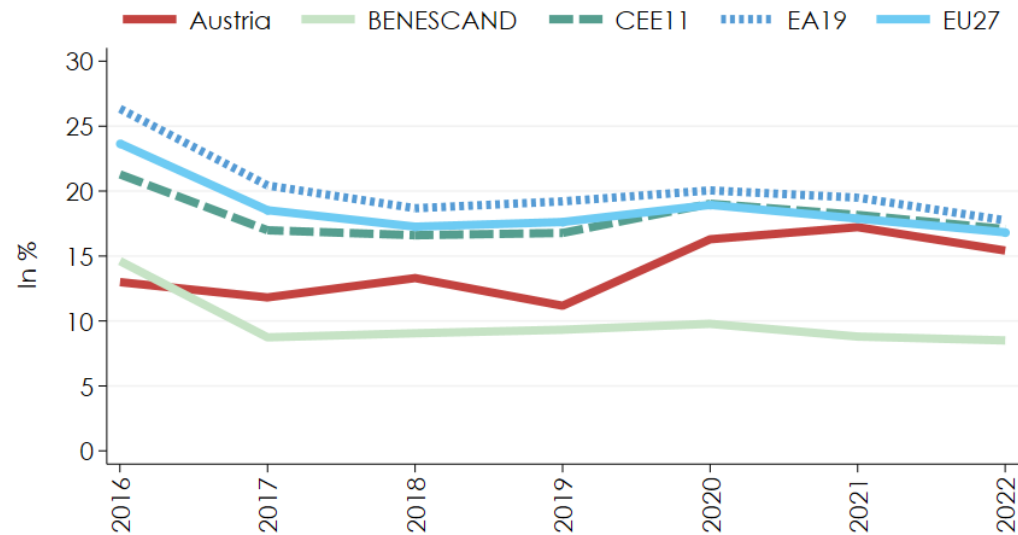
ISCED 6-8



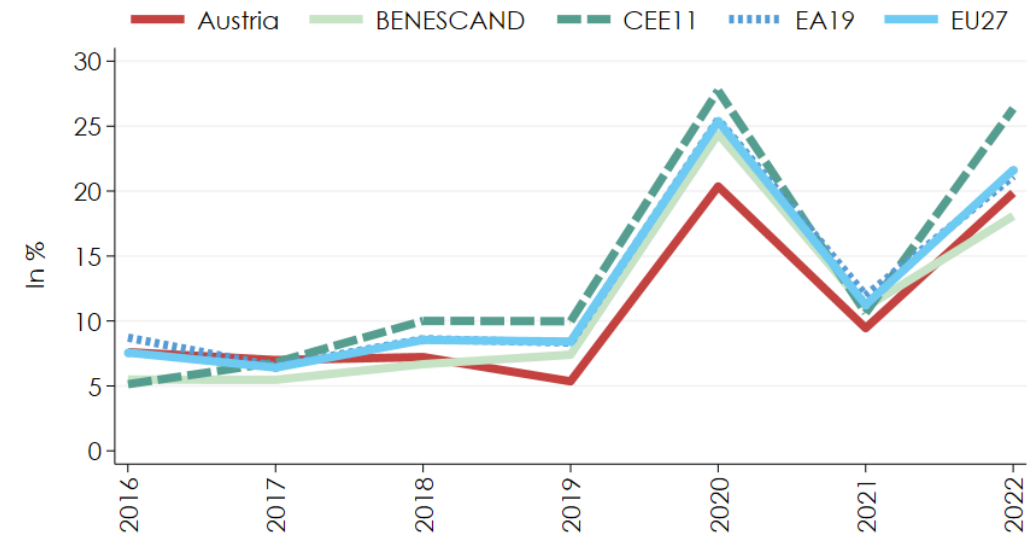
Source: OECD, WIFO.

Financing constraints

Major financing constraints



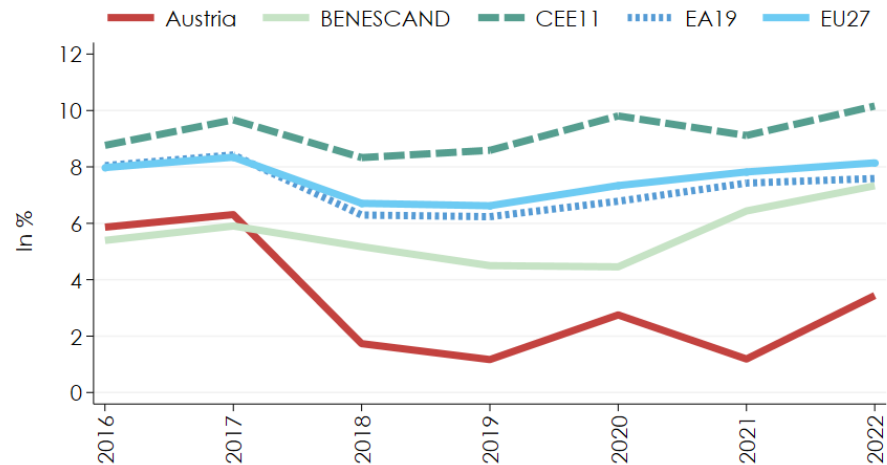
Constraints in external finance



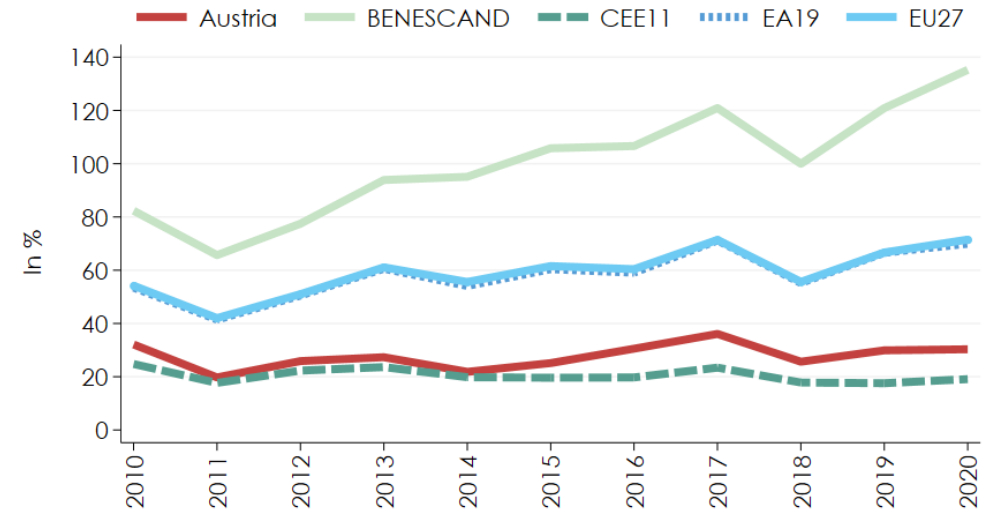
Source: EIBIS, WIFO.

Credit constraints and market capitalisation

Credit constrained firms



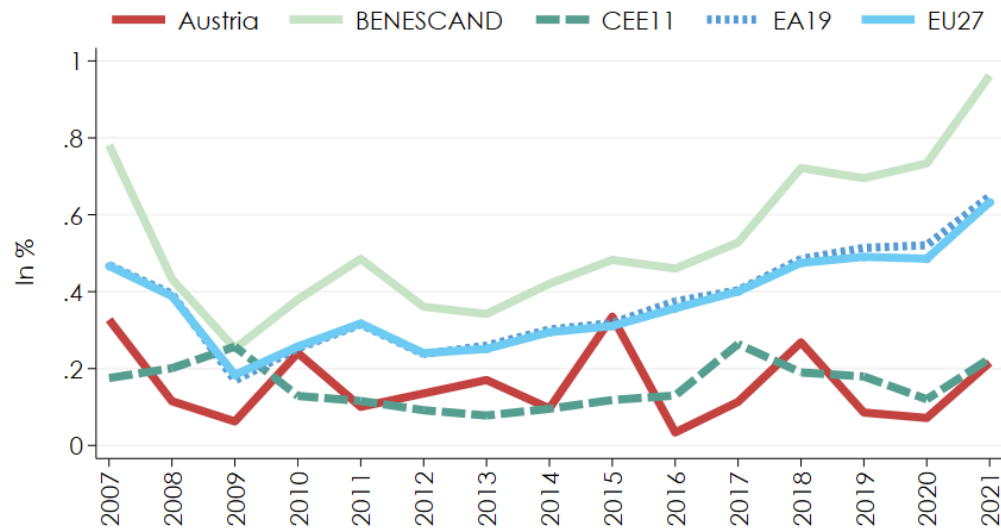
Market capitalisation



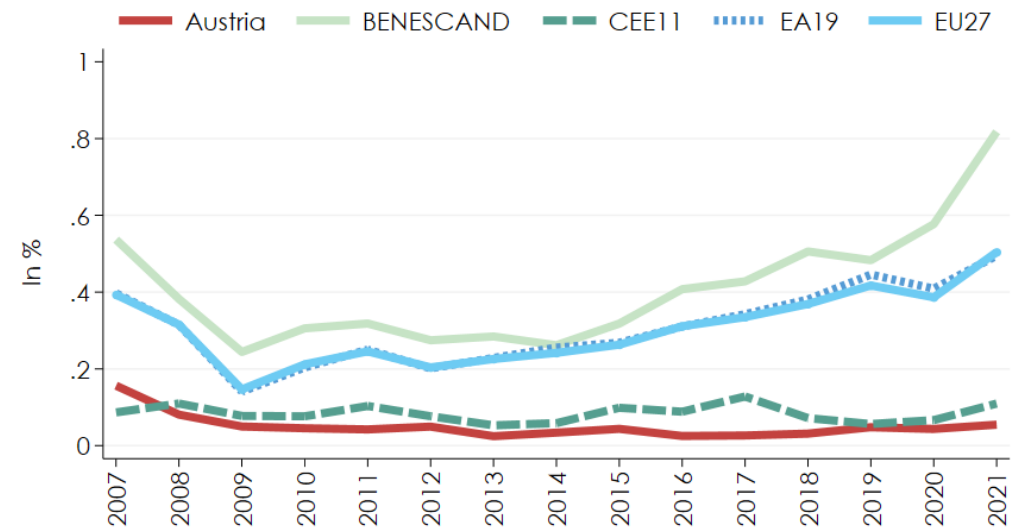
Source: EIBIS, WIFO.

Venture capital

Market statistics



Industry statistics

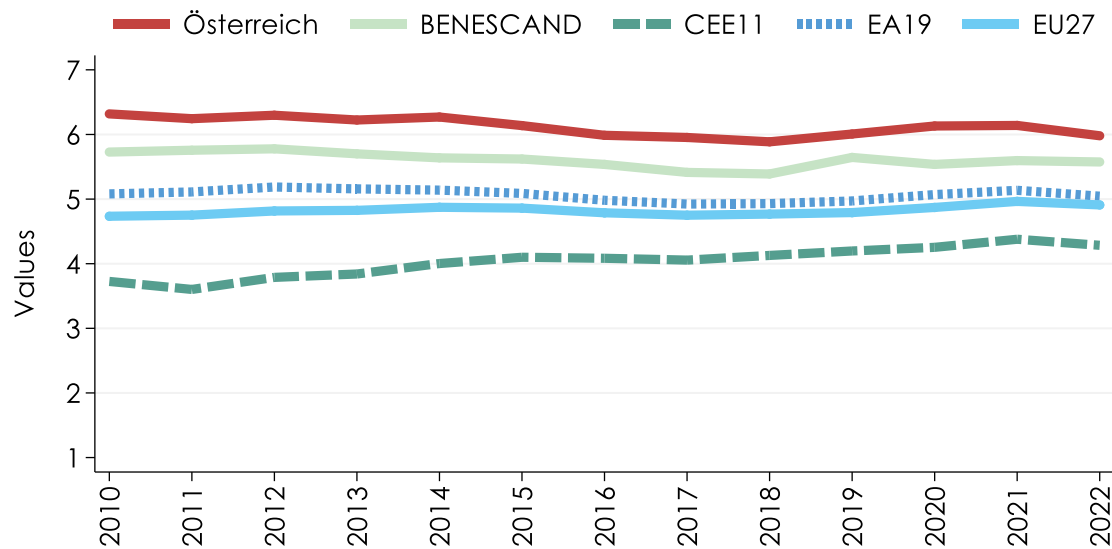


Source: Invest Europe, WIFO.

Quality of public infrastructure

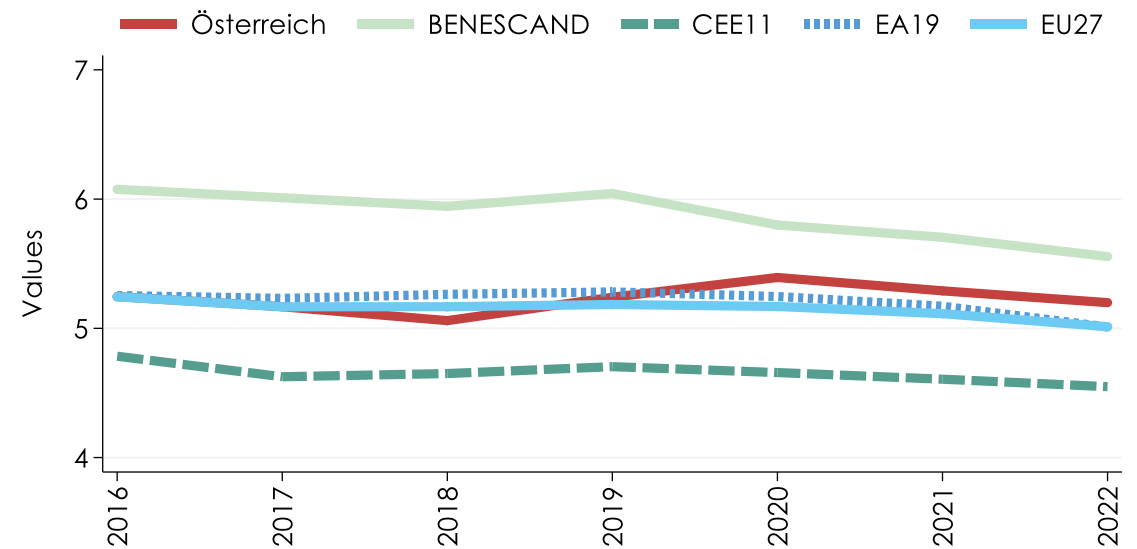
Executive opinion survey (EOS)

Road network



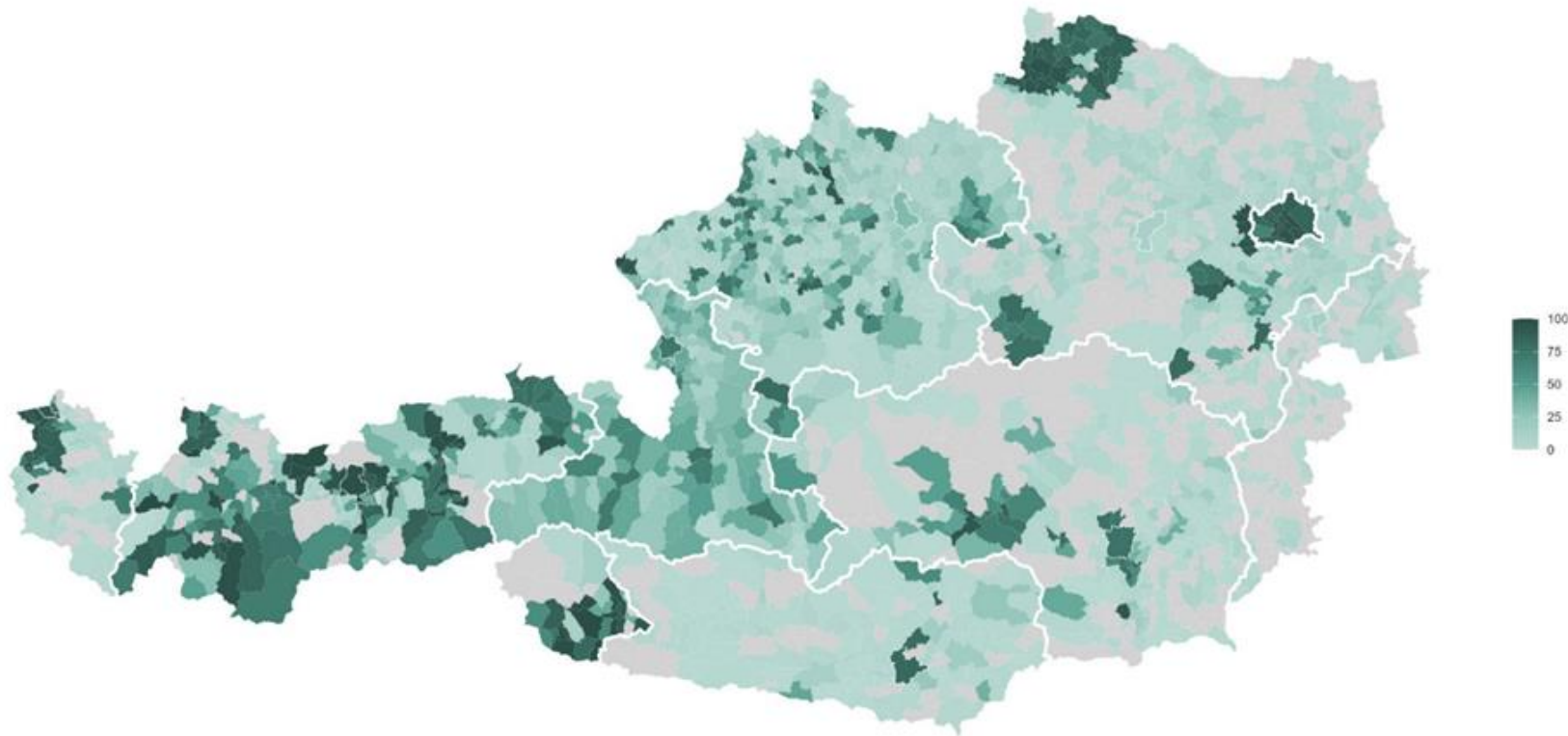
Source: WEF, WIFO.

Air connections



Fixed-line broadband

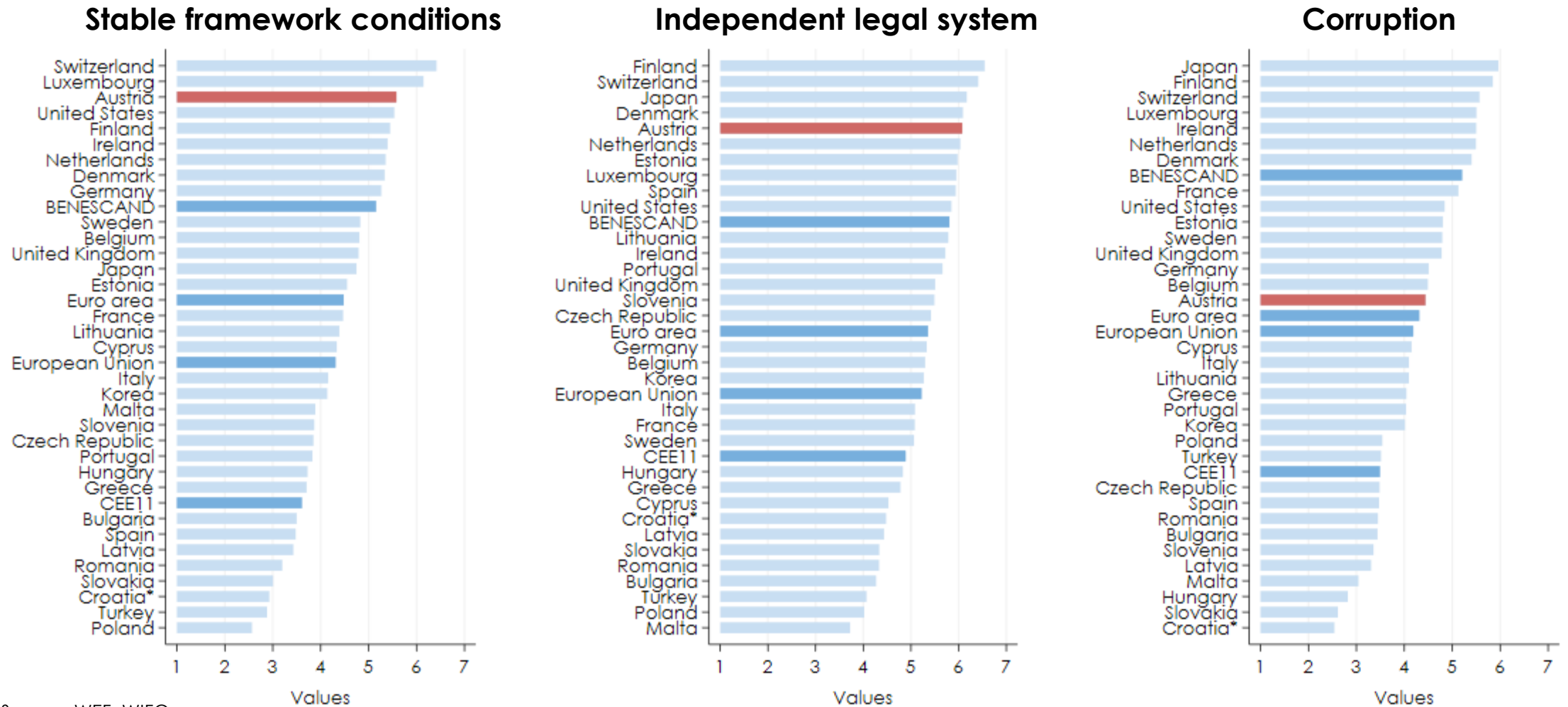
Share of households with (potential) access to ≥ 1 GB download in %



Source: BMF, WIFO.

Quality of public institutions

Executive opinion survey (EOS)



Source: WEF, WIFO.

Main findings (iii)

■ Competition

- Declining share of young companies (< 5 years)

■ Innovation

- High R&D rate but only intermediate patent performance

■ Education

- Low spending at the primary level

■ Corporate finance

- Below-average market capitalization and little venture capital

■ Infrastructure

- Generally positive; exception: fixed-line broadband

■ Public institutions

- Surveys traditionally show high scores on trust in public institutions, but recently Austria has fallen back into midfield in terms of corruption

The WIFO radar

- https://www.wifo.ac.at/en/research_priorities/competitiveness/competitiveness_radar

WIFO



ÖSTERREICHISCHES INSTITUT FÜR
WIRTSCHAFTSFORSCHUNG

Michael Peneder

michael.peneder@wifo.ac.at

<https://michael.peneder.wifo.ac.at/>
@PenederMichael

