Technology Industry / Finnish Economic Outlook
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The Finnish Technology Industry Is Comprised of Five Sub-Sectors

ELEKTRONICS AND ELECTROTECHNICAL INDUSTRY
ABB, Ensto, Murata Electronics, Nokia, Planmeca, Polar Electro, Suunto, Vacon, Vaisala…

METALS INDUSTRY
Boliden, Componenta, Kuusakoski, Luvata, Outokumpu, Ovako, Sacotec, SSAB …

MECHANICAL ENGINEERING
Abloy, Cargotec,, Fiskars, Glaston, Kone, Konecranes, Metso-Outotec, Meyer Turku, Neles, Normet, Oras, Patria, Pemamek, Ponsse, Prima Power, Stala, Valmet, Valtra, Wärtsilä…

INFORMATION TECHNOLOGY
Basware, Bilot, CGI, Digia, Efecte, Enfo, F-Secure, Fujitsu Finland, IBM, Innofactor, Knowit, Microsoft, Nixu, TietoEVRY…

CONSULTING ENGINEERING
AFRY, A-Insinöörit, Citec, Elomatic, Etteplan, FCG, Granlund, Neste Engineering Solution,, Ramboll, Rejlers, Sitowise, SWECO, WSP…

The Finnish Technology Industry Is Comprised of Five Sub-Sectors

ELEKTRONICS AND ELECTROTECHNICAL INDUSTRY
- Data communications equipment, electrical machinery, medical technology
- Turnover (2020): 18.0 billion euros
- Personnel (2020): 37,600

METALS INDUSTRY
- Steel products, non-ferrous metals, castings, metallic minerals
- Turnover (2020): 9.9 billion euros
- Personnel (2020): 16,700

MECHANICAL ENGINEERING
- Machinery, metal products, vehicles
- Turnover (2020): 32.4 billion euros
- Personnel (2020): 133,600

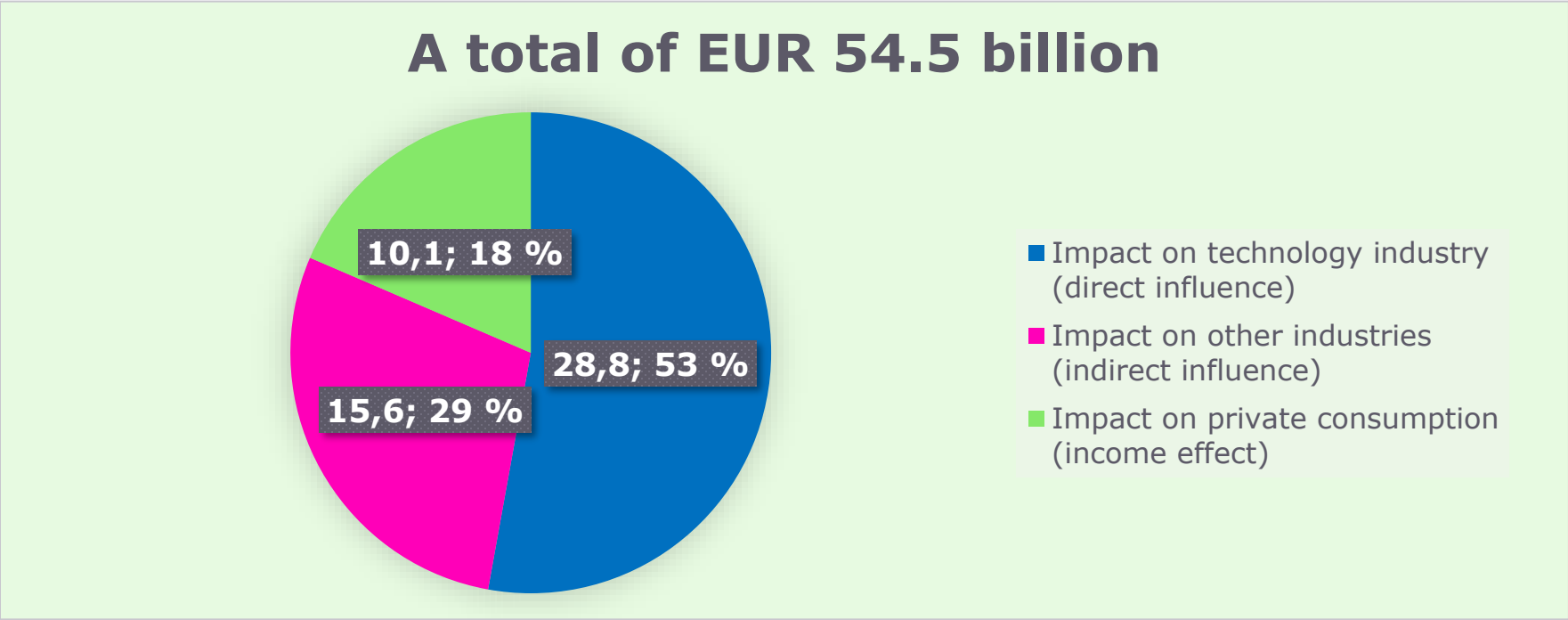
INFORMATION TECHNOLOGY
- IT services, applications and programming
- Turnover (2020): 15.3 billion euros
- Personnel (2020): 72,300

CONSULTING ENGINEERING
- Expertise for construction industry and infrastructure
- Turnover (2020): 6.6 billion euros
- Personnel (2020): 52,700

The Technology Industry – the Largest Export Sector in Finland

- Some **50 %** of total exports.
- Some **310,000** employed directly in the sector, including indirect effects **650,000** people.
- Effect on value added totaling **€ 57 billion**, or **28% of GDP** value added.
- Bring to Finland **€ 18 billion** tax revenue annually.
- Investments about **EUR 5.0 billion** annually in Finland.
- **70 %** of private-sector R&D investment.

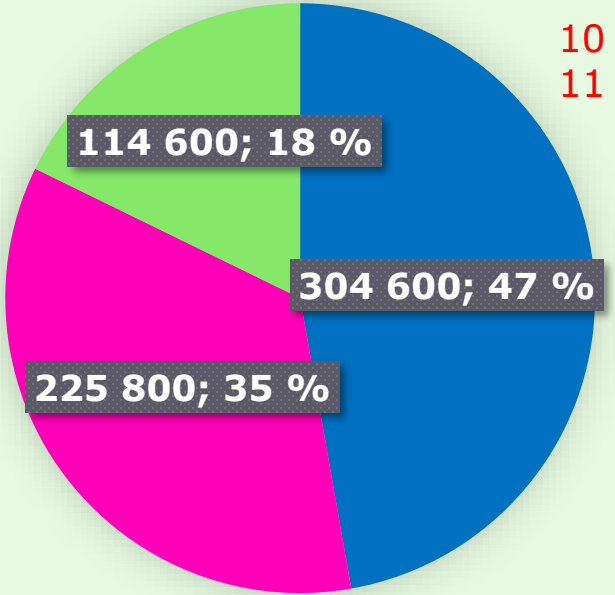
Value Added to the Economy Generated by the Technology Industry Is EUR 55 Billion, or over 28% of GDP * (2017)



*) GDP value added was EUR 193.3 billion in 2017.
Source: Economic Impact of the Technology Industry in Finland 11/2018

Technology Industry Generates nearly 650,000 Jobs in Finland (over 25% of All Employees) (2017)

A total of 644 900 employees

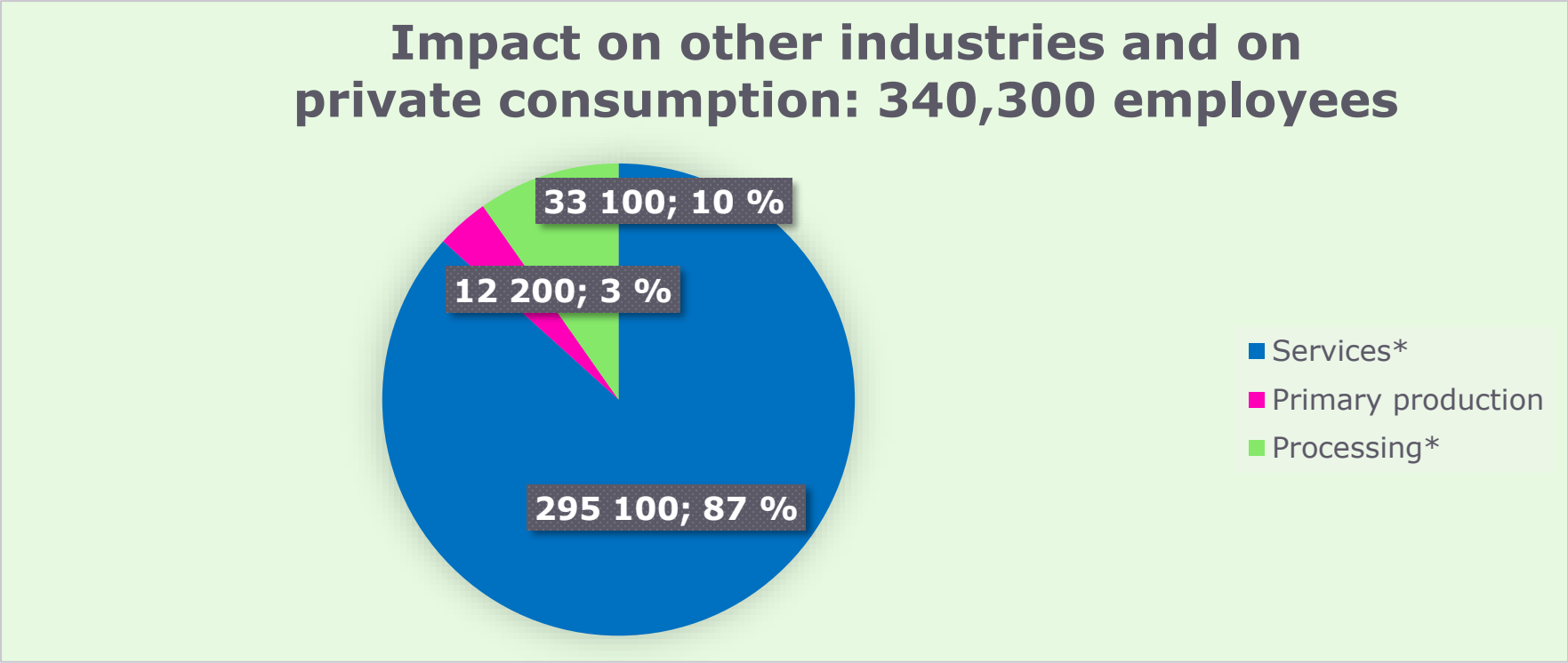


10 jobs in the technology industry bring
11 jobs to the rest of the economy

- Impact on technology industry (direct influence)
- Impact on other industries (indirect influence)
- Impact on private consumption (income effect)

Source: Economic Impact of the Technology Industry in Finland 11/2018

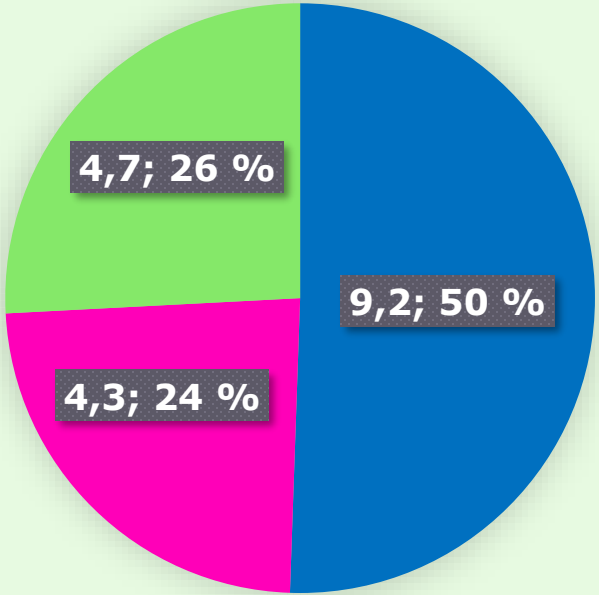
Every Job in the Technology Industry Generates almost another Job in the Services (2017)



*) Excl. the services industries in the technology industry.
Source: Economic Impact of the Technology Industry in Finland 11/2018

Technology Industry Generates over 18 Billion Euros in Tax Revenue Annually in Finland (2017)

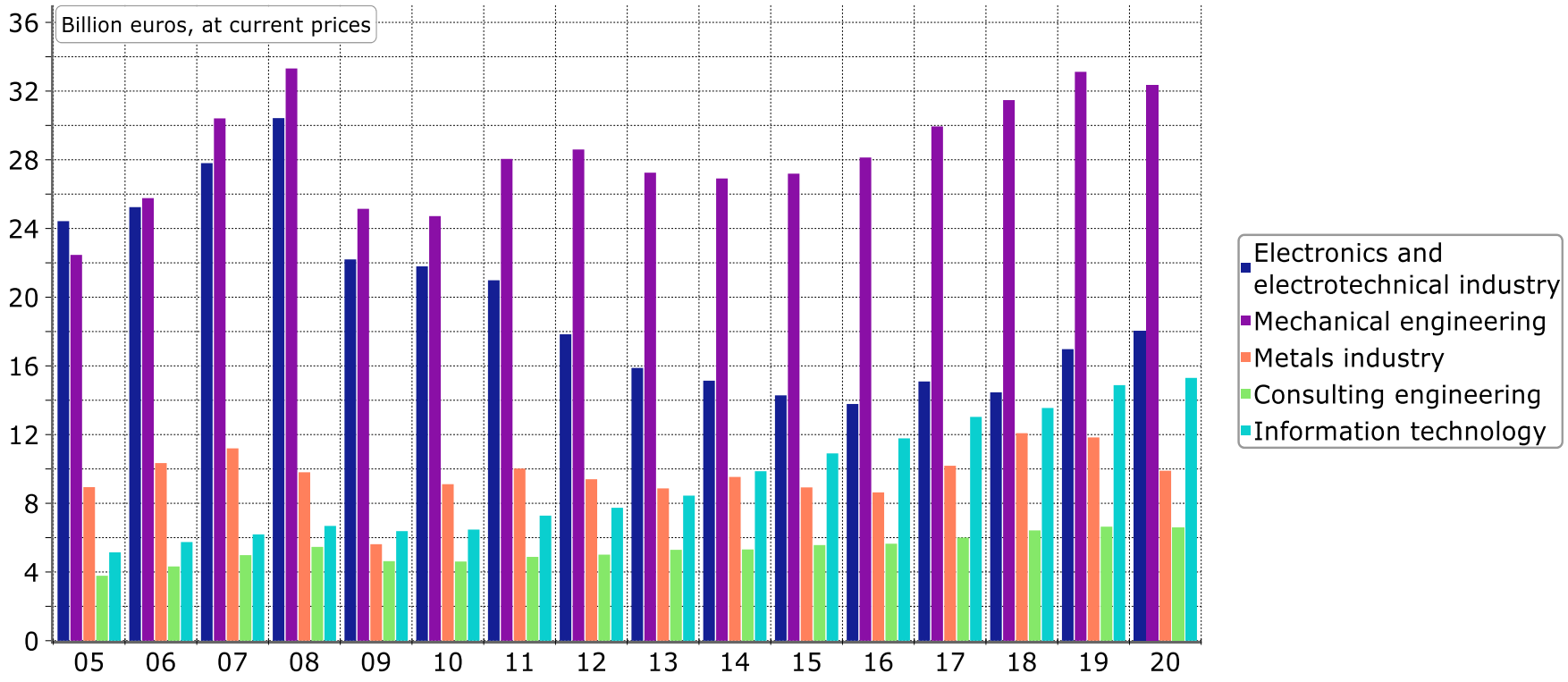
A total of EUR 18.2 billion



- Impact on technology industry (direct influence)
- Impact on other industries (indirect influence)
- Impact on private consumption (income effect)

Source: Economic Impact of the Technology Industry in Finland 11/2018

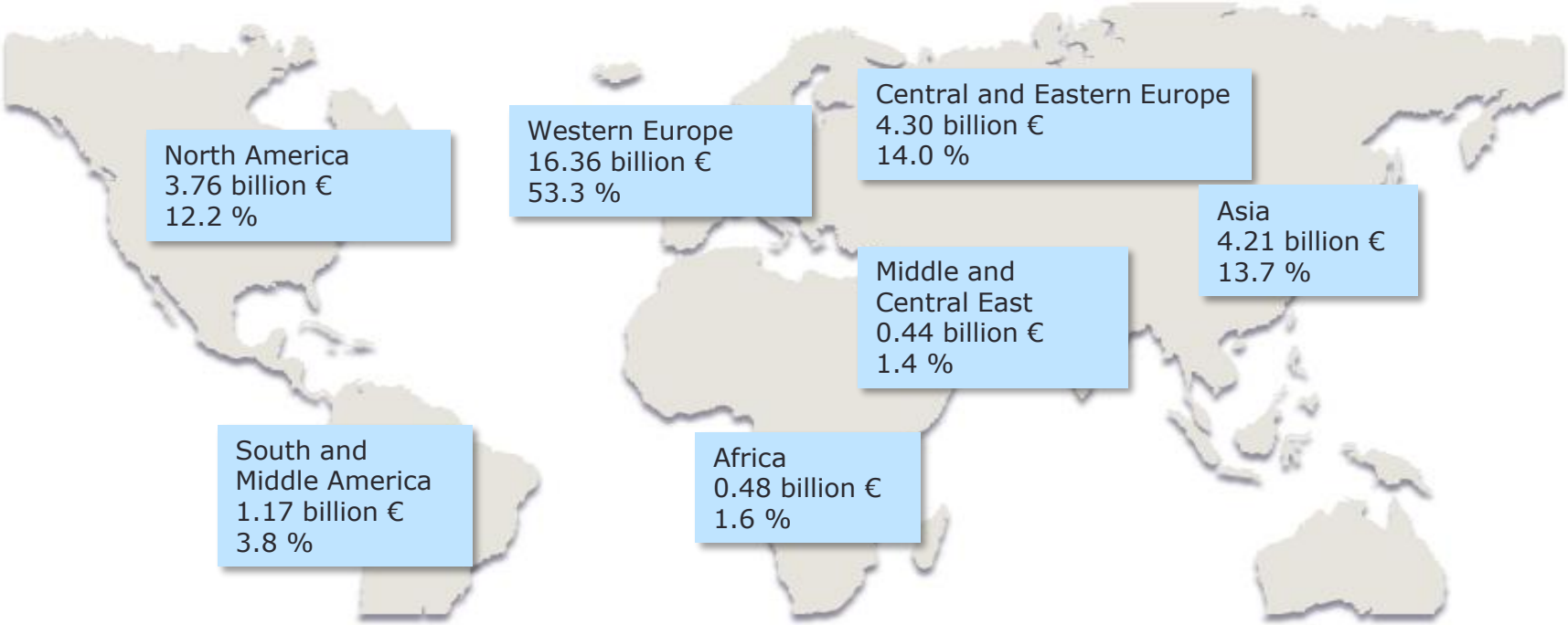
Turnover of the Technology Industry in Finland



Source: Macrobond, Statistics Finland, Technology Industries of Finland

Export of Technology Industry Goods from Finland by Area in 2020

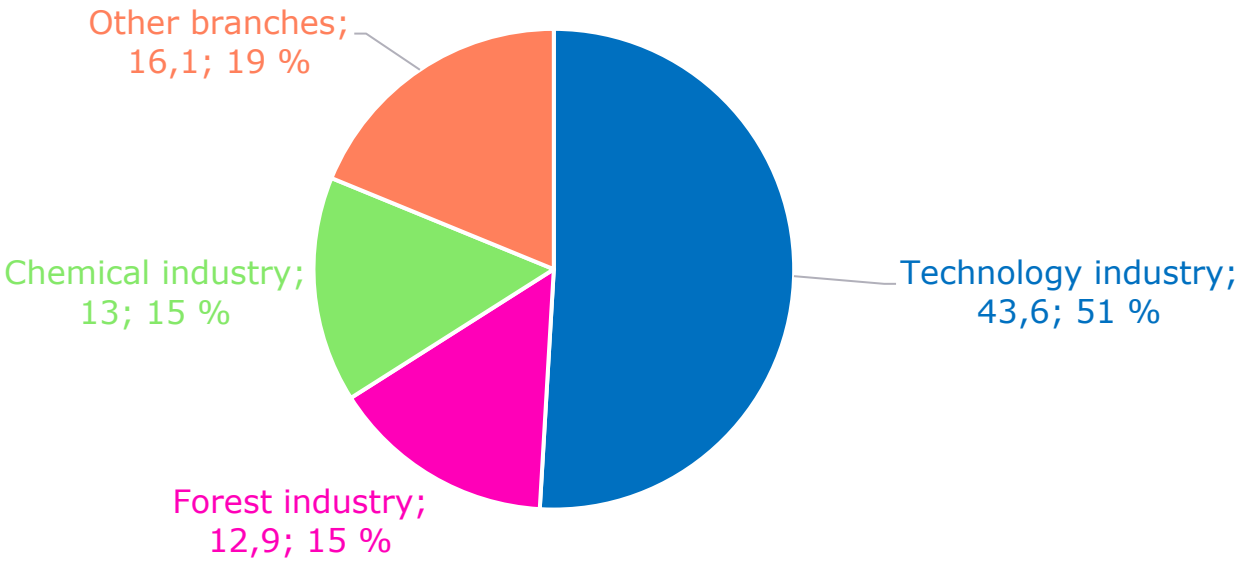
Total goods exports 30.72 billion euros*



*) In addition to goods exports the sector exported services worth some 14-15 billion euros.
Source: National Board of Customs, Statistics Finland

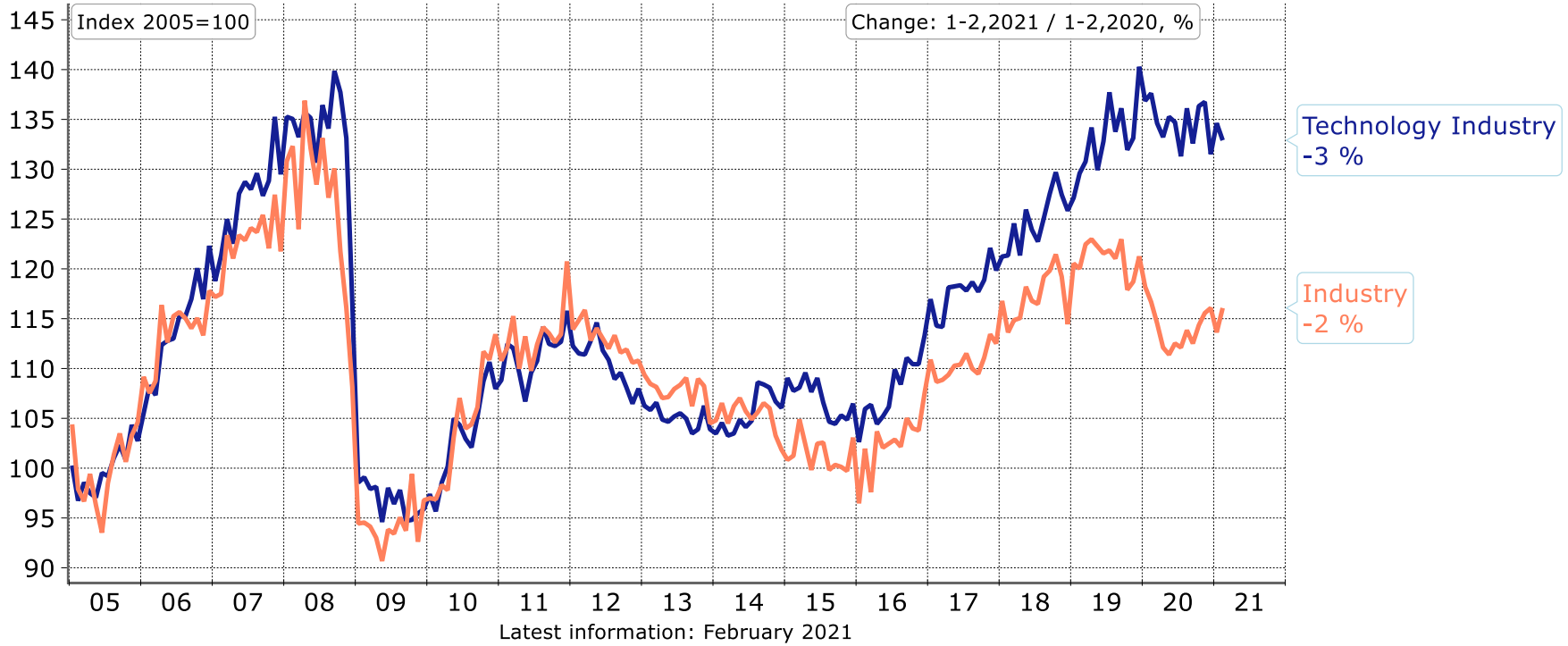
Technology, Forest and Chemical Industries Provide 81 % of Finland's Goods and Services Exports Revenue

Goods and service exports: billion euros and the share of Finnish exports in 2017



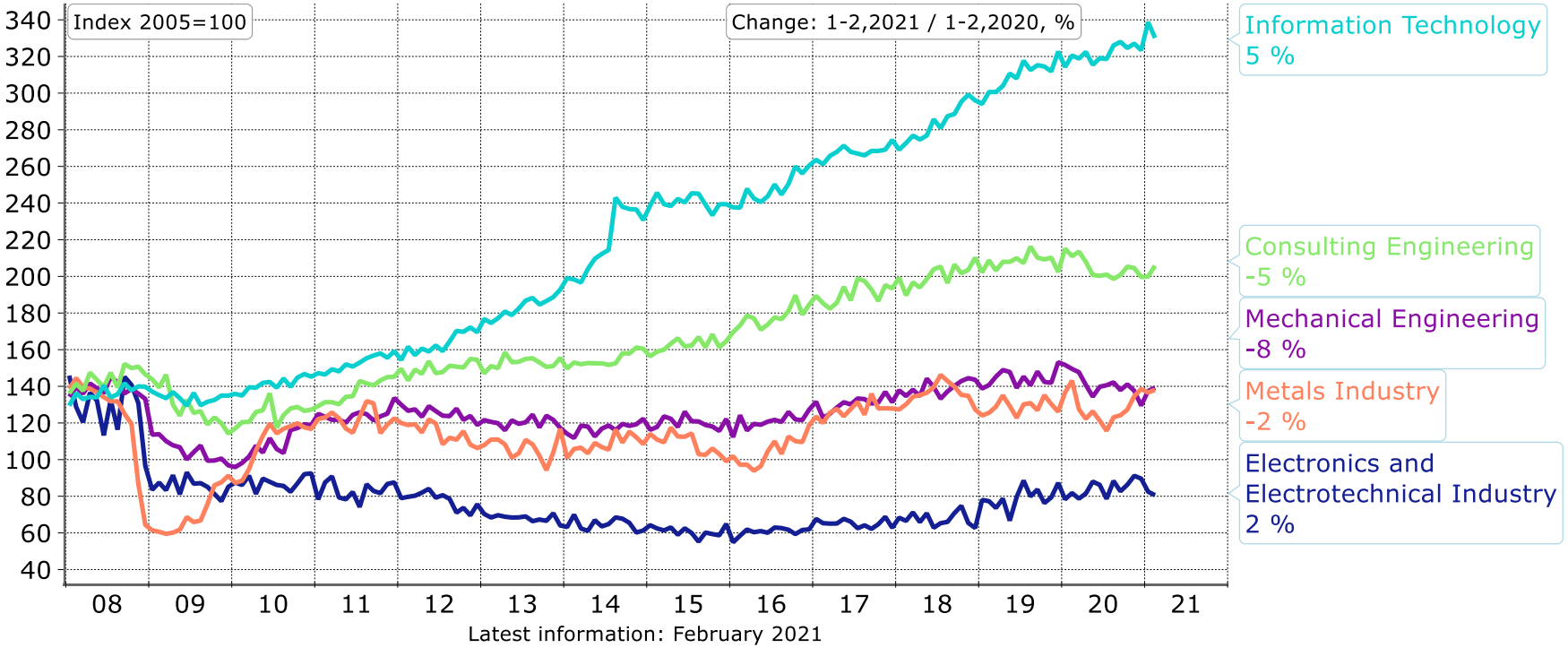
*) Service exports industry-specific data for the year 2017 are preliminary information.
Source: Board of Customs, Statistics Finland (National Accounts, Foreign trade in services), Federation of Finnish Technology Industries

Turnover of the Industry and Technology Industry in Finland



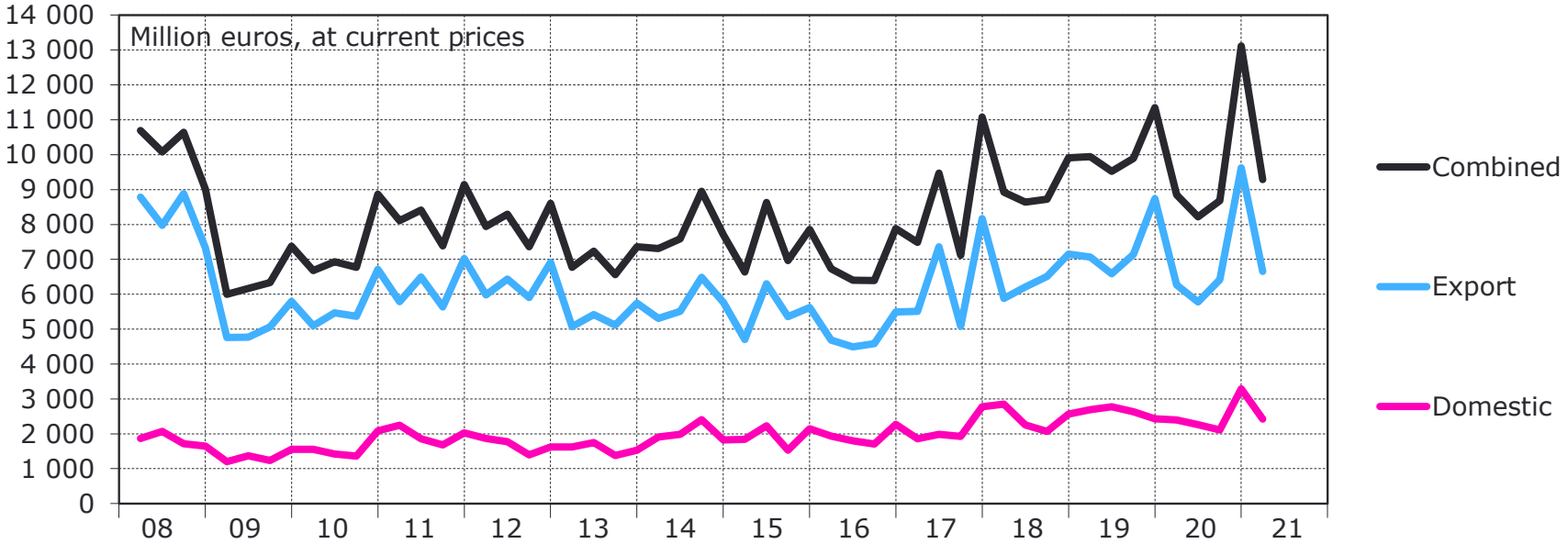
Source: Macrobond, Statistics Finland

Turnover of the Technology Industry in Finland



Source: Macrobond, Statistics Finland

Value of New Orders in the Technology Industry* in Finland

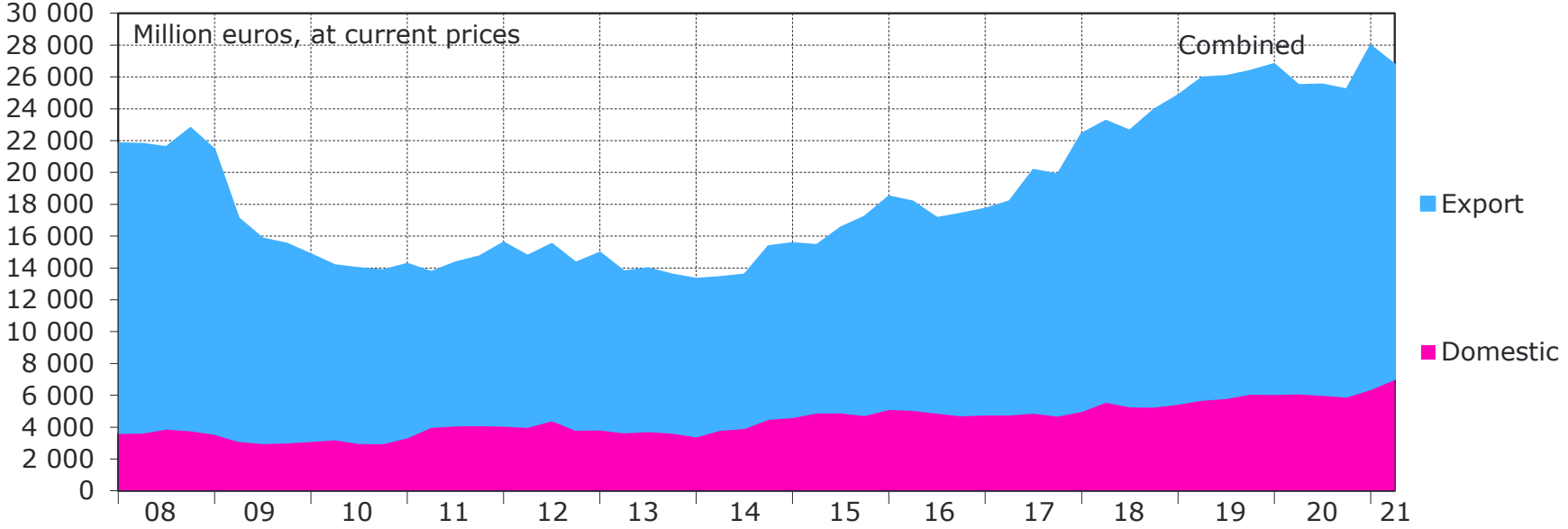


Change:	I/2021 / I,2021	I,2021 / IV,2020
Export:	+6 %	-31 %
Domestic:	+1 %	-26 %
Combined:	+5 %	-29 %

*) Excl. metals industry, game industry and data center companies

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation January-March 2021.

Value of Order Books in the Technology Industry* in Finland

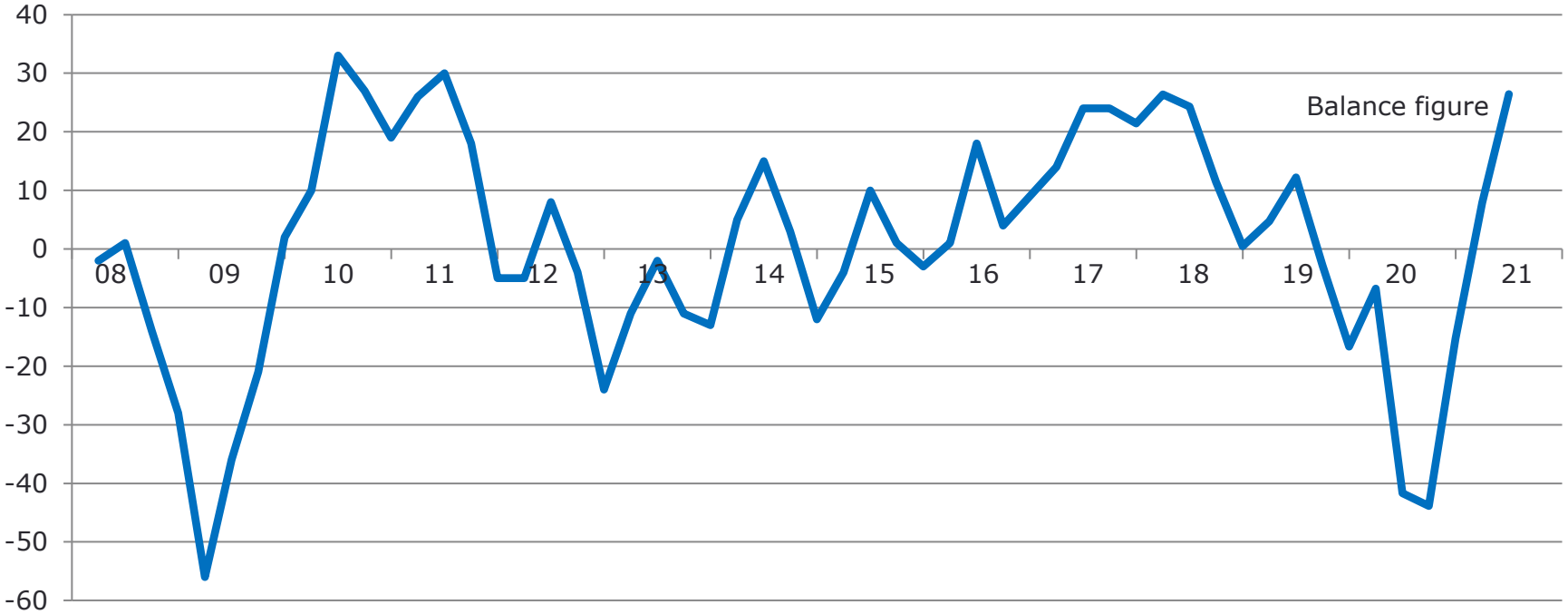


Change:	31.3.2021 / 31.3.2020	31.3.2021 / 31.12.2020
Export:	+2 %	-8 %
Domestic:	+15 %	+10 %
Combined:	+5 %	-4 %

*) Excl. metals industry, game industry and data center companies

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation 31th March 2021.

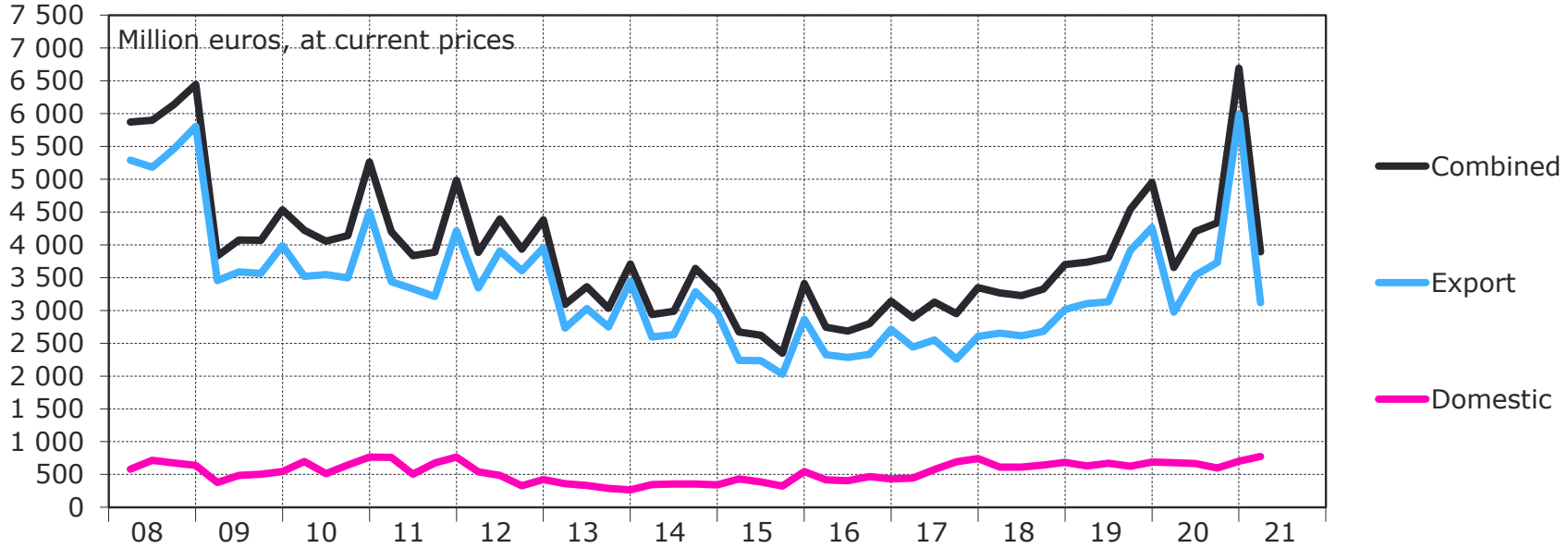
Tender Requests* Received by the Technology Industry Companies in Finland



*) ”Have you experienced a notable increase or decrease in the number of requests for tenders in recent weeks in comparison to the situation three months ago?”. Balance figure = the number of companies receiving more requests - the number of companies receiving less requests.”

Source: The Federation of Finnish Technology Industries’ order book survey’s respondent companies, the last questionnaire in April 2021.

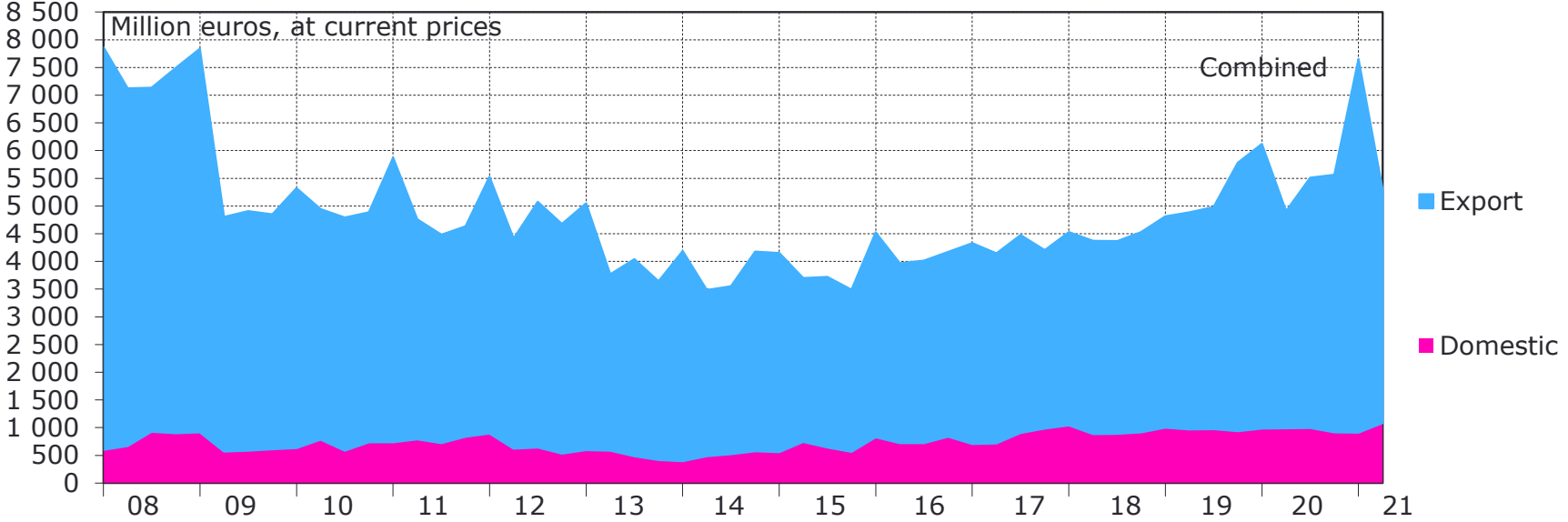
Value of New Orders in the Electronics and Electrotechnical Industry in Finland



Change:	I,2021 / I,2020	I,2021 / IV,2020
Export:	+5 %	-48 %
Domestic:	+14 %	+10 %
Combined:	+7 %	-42 %

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation January-March 2021.

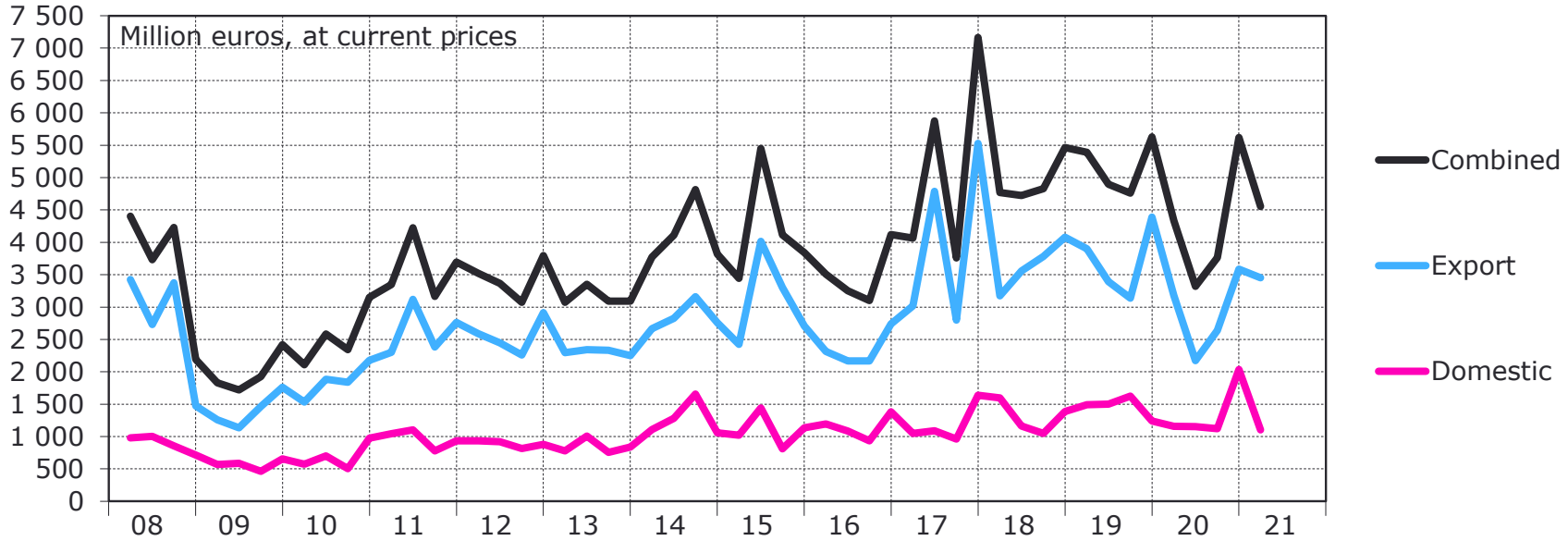
Value of Order Books in the Electronics and Electrotechnical Industry in Finland



Change:	31.3.2021 / 31.3.2020	31.3.2021 / 31.12.2020
Export:	+8 %	-38 %
Domestic:	+10 %	+19 %
Combined:	+8 %	-31 %

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation 31th March 2021.

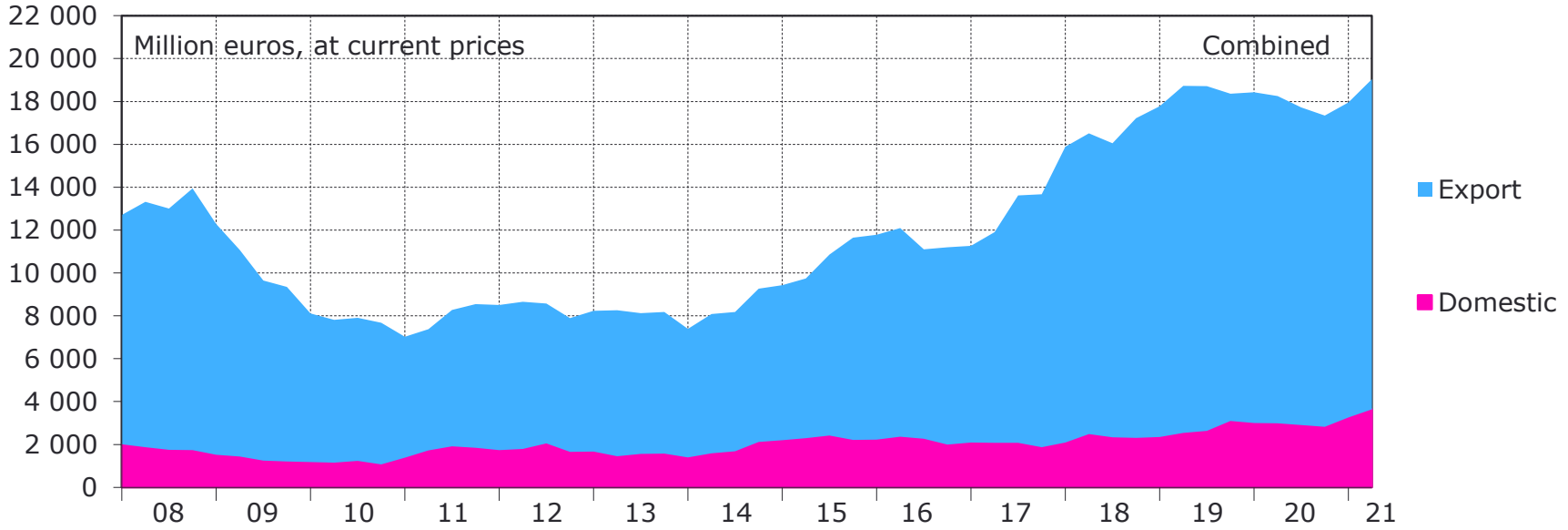
Value of New Orders in the Mechanical Engineering in Finland



Change:	I,2021 / I,2020	I,2021 / IV,2020
Export:	+9 %	-4 %
Domestic:	-5 %	-46 %
Combined:	+5 %	-19 %

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation January-March 2021.

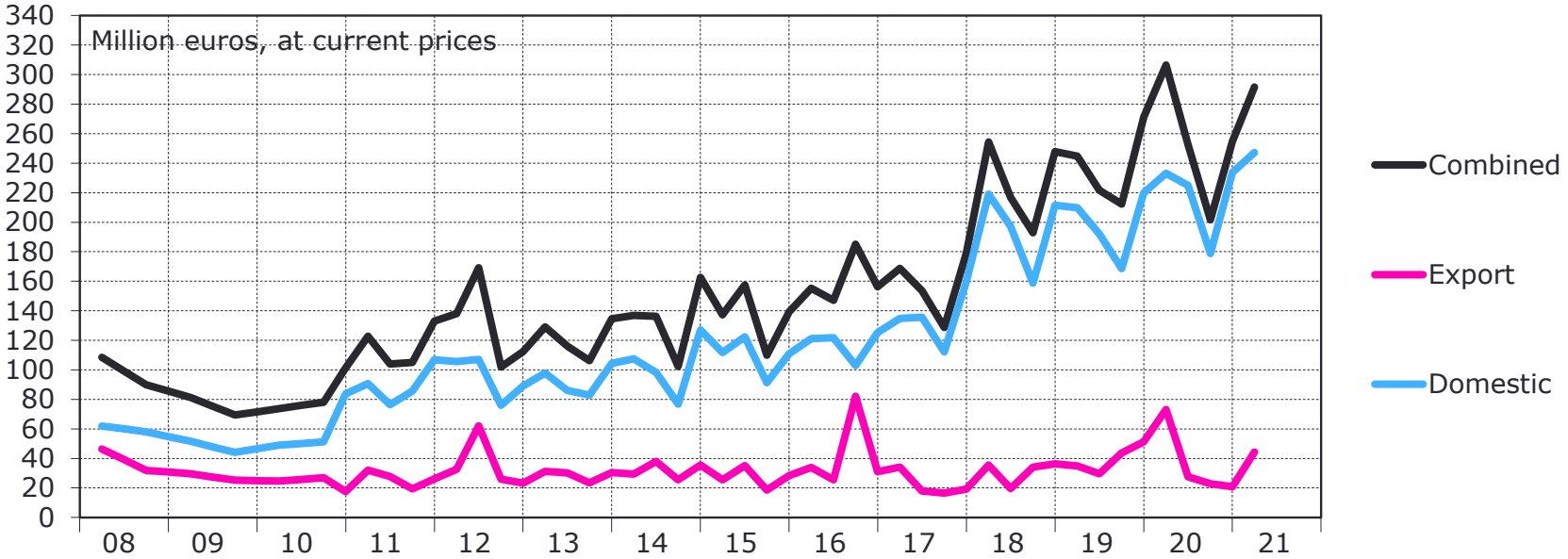
Value of Order Books in the Mechanical Engineering in Finland



Change:	31.3.2021 / 31.3.2020	31.3.2021 / 31.12.2020
Export:	+1 %	+5 %
Domestic:	+22 %	+12 %
Combined:	+4 %	+6 %

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation 31th March 2021.

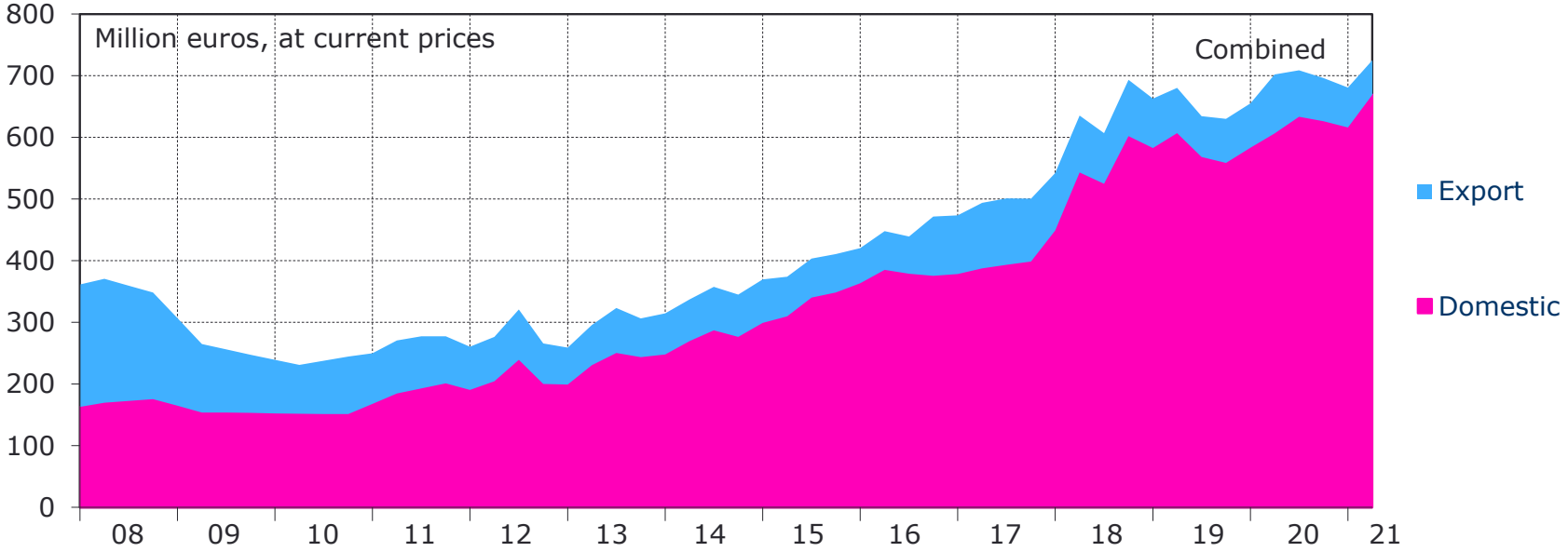
Value of New Orders in the Consulting Engineering in Finland



Change:	I,2021 / I,2020	I,2021 / IV,2020
Export:	-39 %	+112 %
Domestic:	+6 %	+6 %
Combined:	-5 %	+14 %

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation January-March 2021.

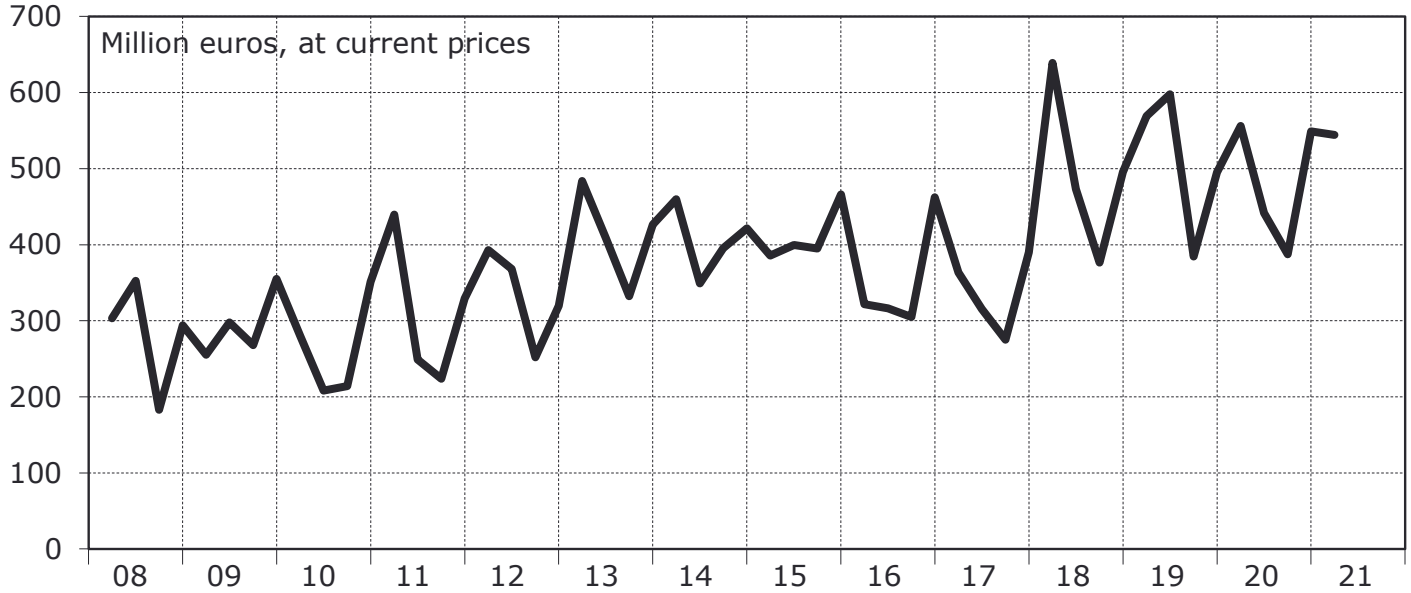
Value of Order Books in the Consulting Engineering in Finland



Change:	31.3.2021 / 31.3.2020	31.3.2021 / 31.12.2020
Export:	-41 %	-14 %
Domestic:	+10 %	+9 %
Combined:	+3 %	+7 %

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation 31th March 2021.

Value of New Orders in the Information Technology* in Finland

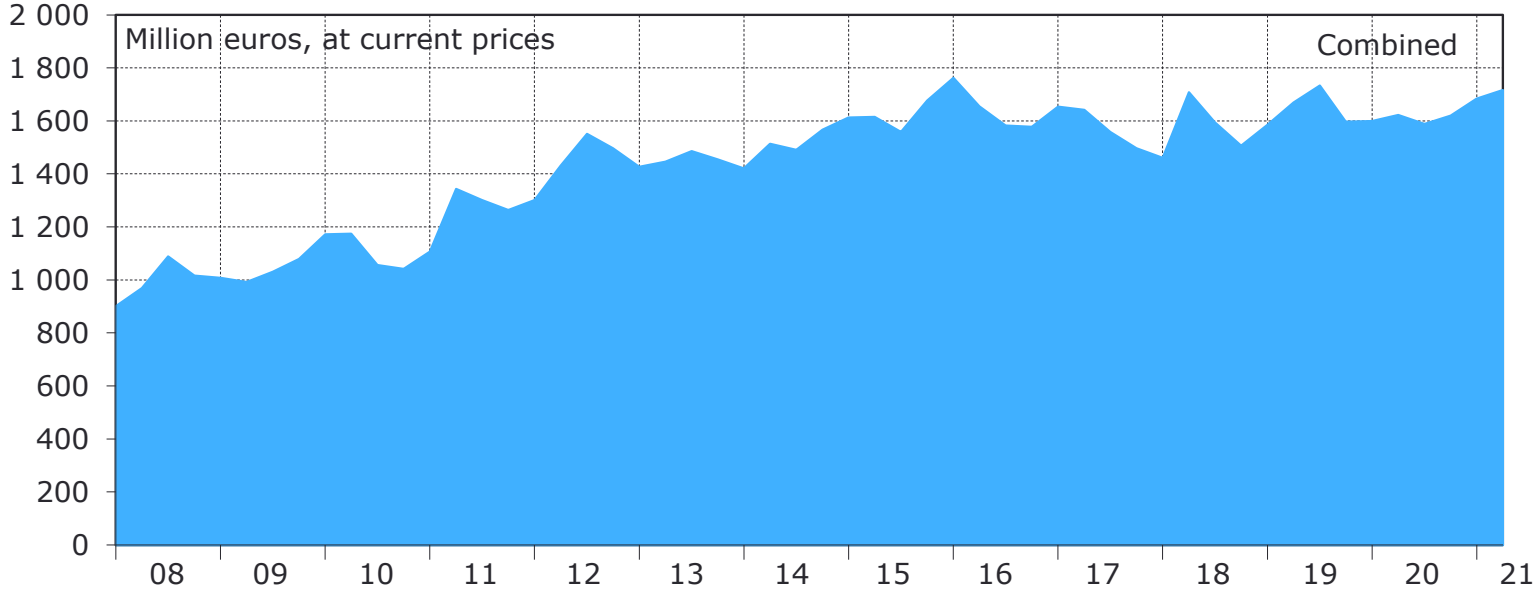


Change:	I,2021 / I,2020	I,2021 / IV,2020
Combined:	-2 %	-1 %

*) Excl. game industry and data center companies

Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation January-March 2021.

Value of Order Books in the Information Technology* in Finland

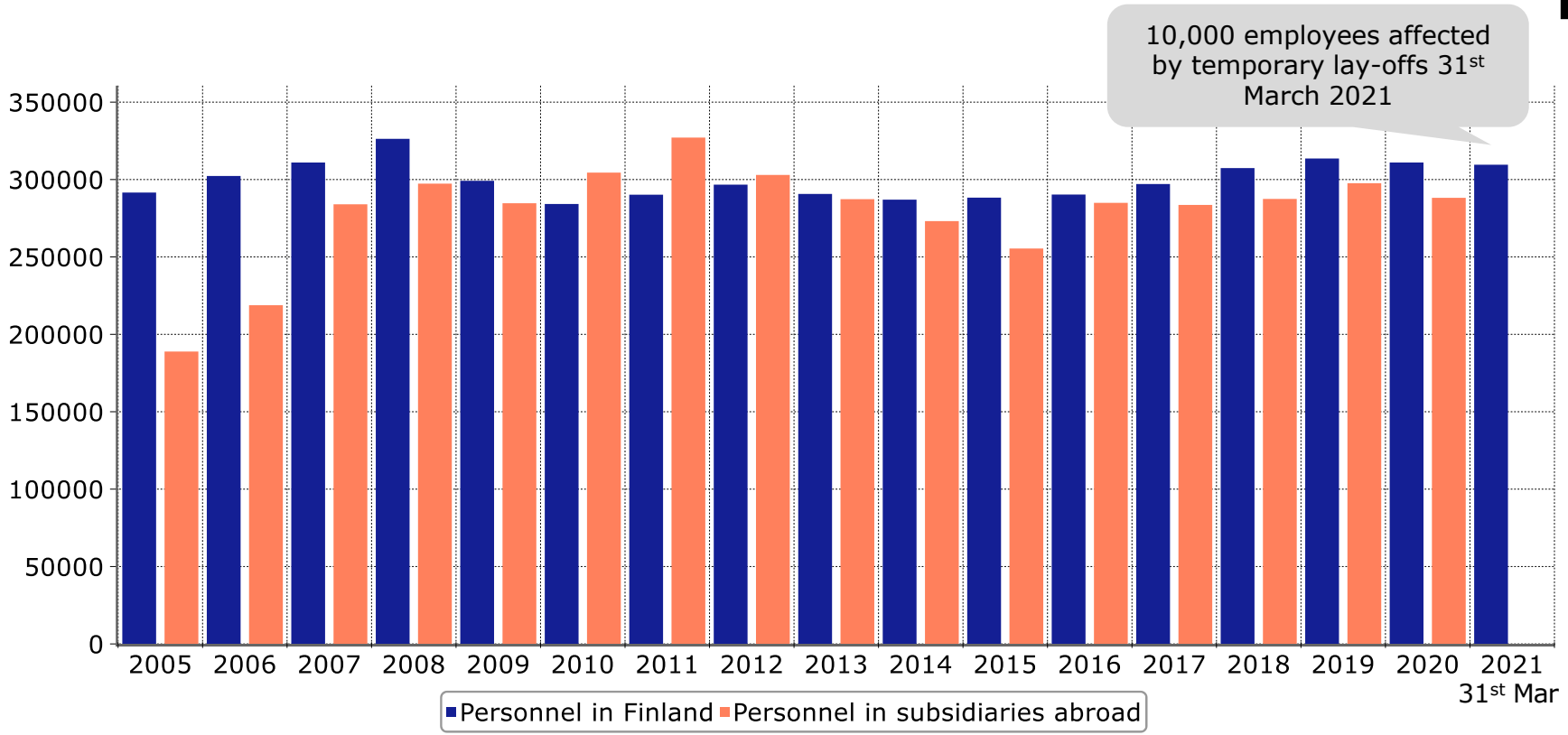


Change:	31.3.2021 / 31.3.2020	31.3.2021 / 31.12.2020
Combined:	+6 %	+2 %

*) Pl. pelialan ohjelmistoyritykset ja datakeskukset

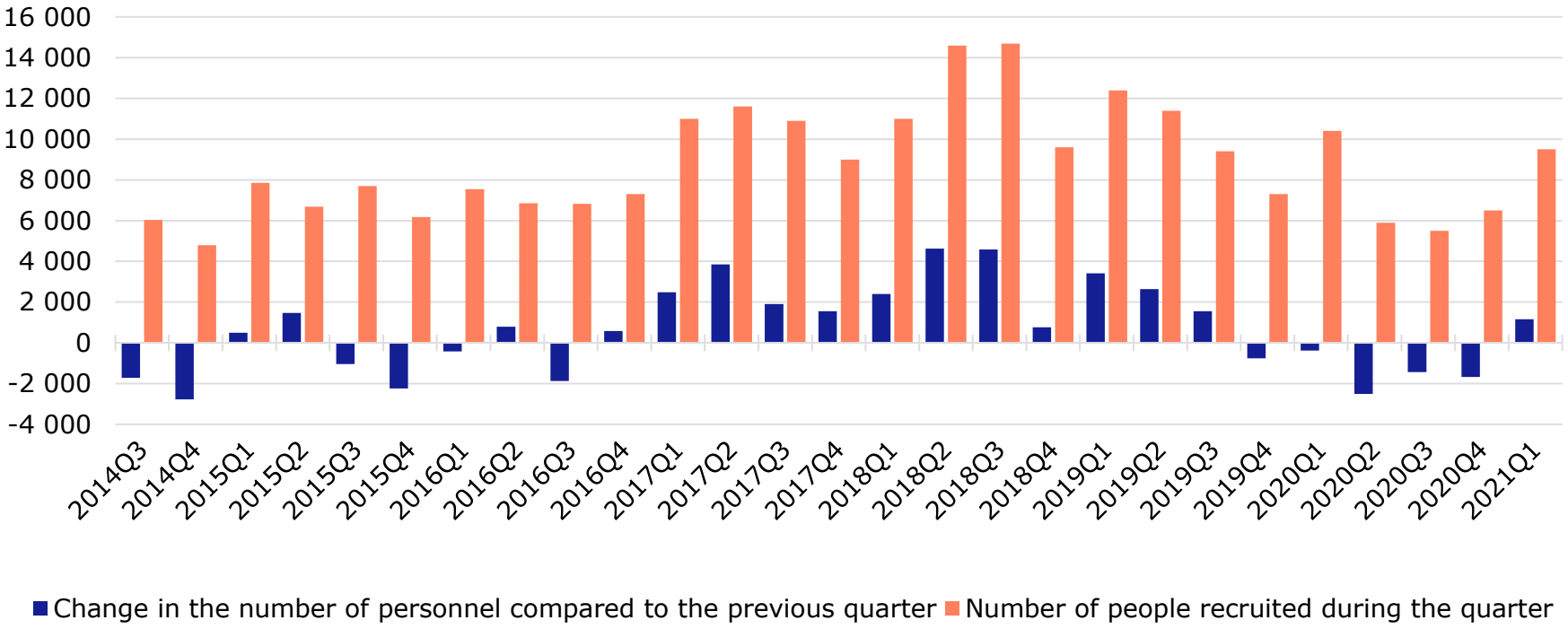
Source: The Federation of Finnish Technology Industries' order book survey's respondent companies, latest observation 31th March 2021.

Technology Industry Personnel



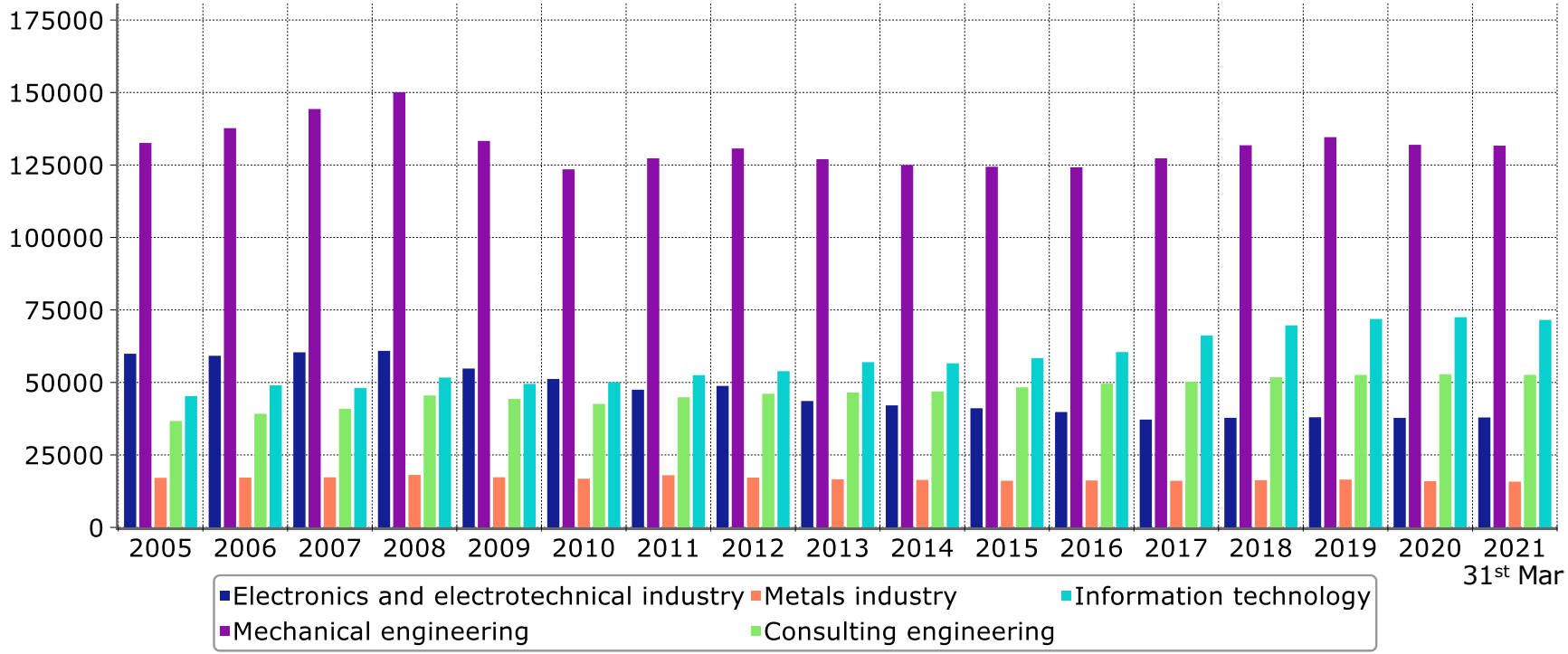
Source: Statistics Finland, The Federation of Finnish Technology Industries' labour force survey, Macrobond

Technology Industry Personnel Recruitment in Finland by Quarters



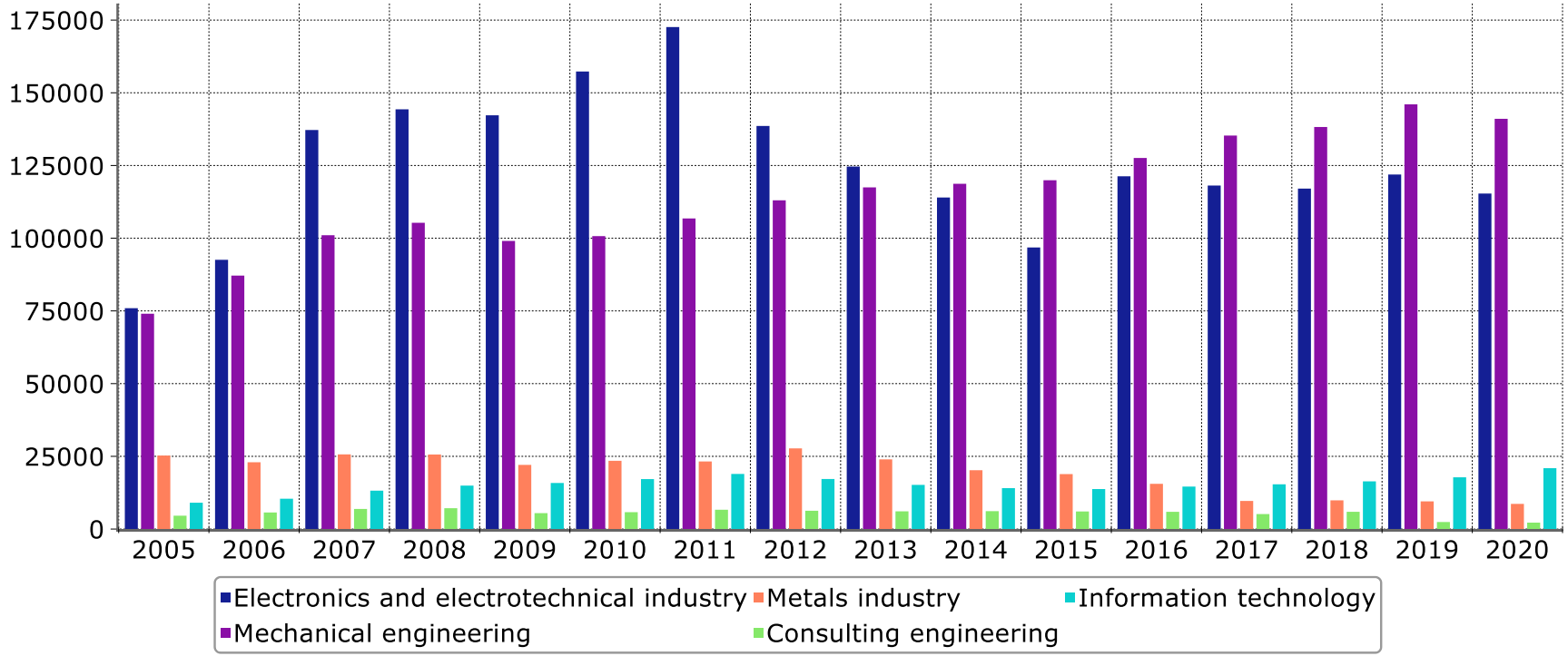
Source: The Federation of Finnish Technology Industries' labour force survey

Technology Industry Personnel in Finland by Industry



Source: Statistics Finland, The Federation of Finnish Technology Industries' labour force survey, Macrobond

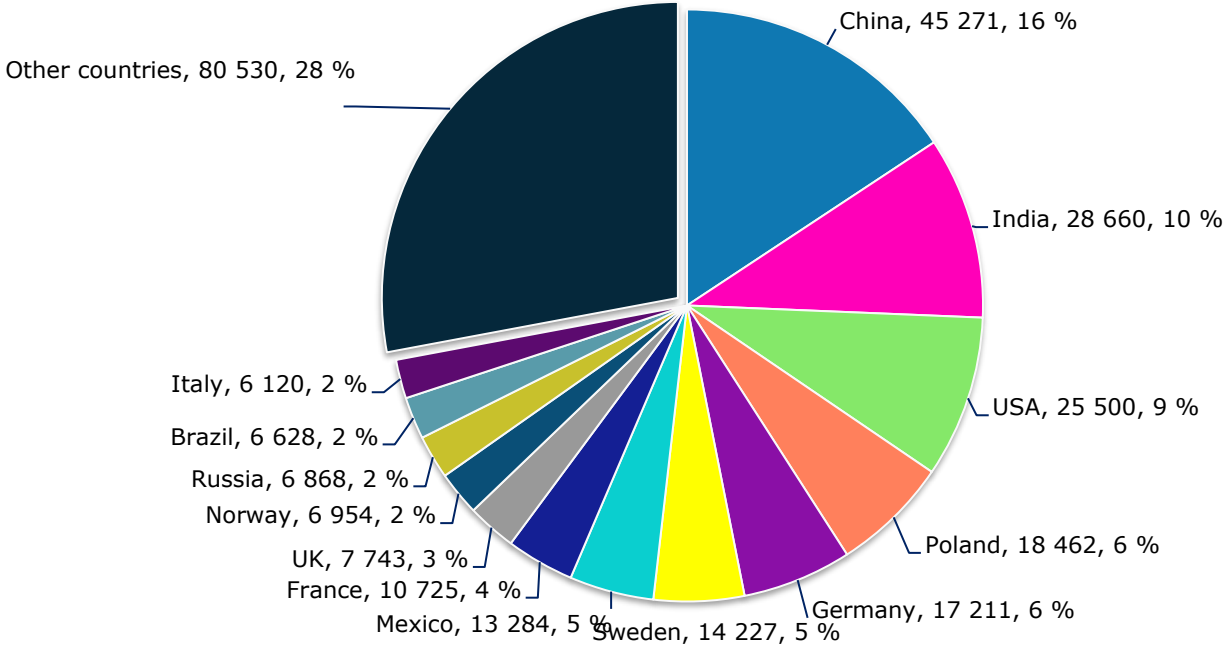
Technology Industry Personnel in Subsidiaries Abroad by Industry



Source: The Federation of Finnish Technology Industries' labour force survey, Macrobond

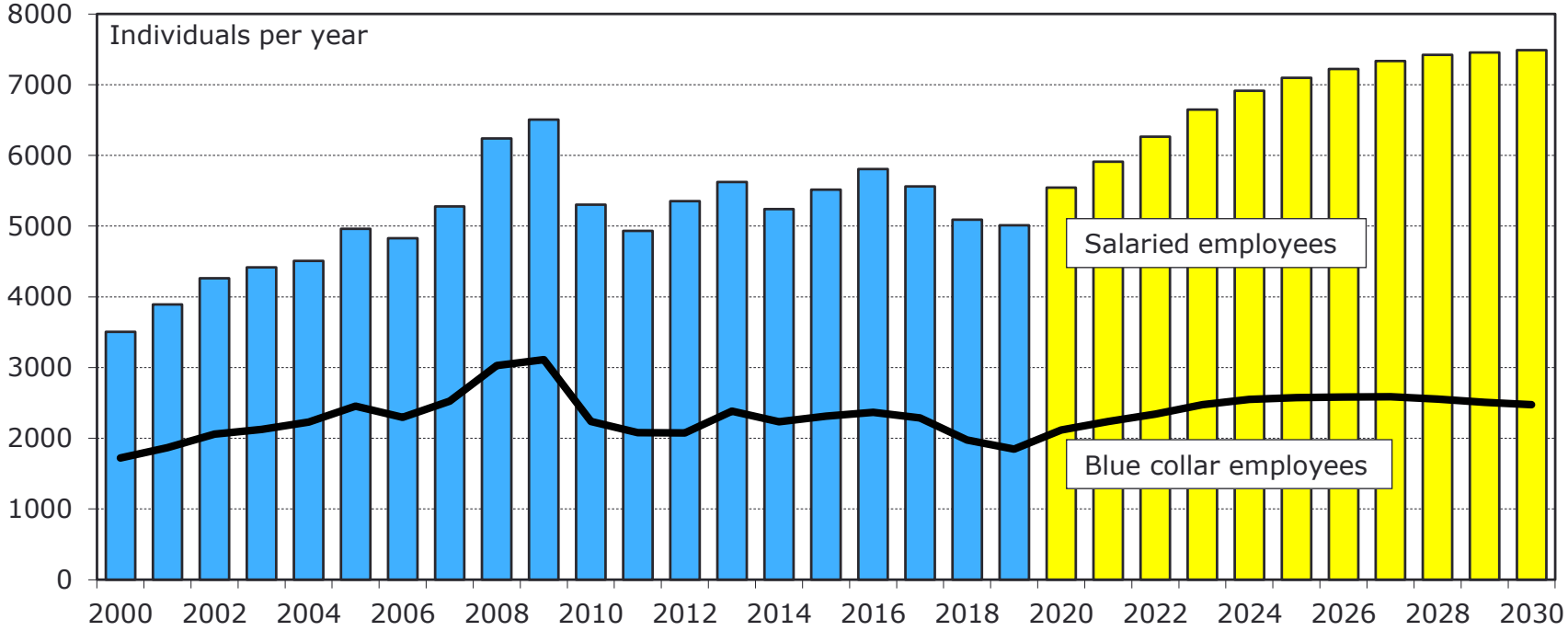
Technology Industry Personnel in Subsidiaries Abroad by Country

Information from year 2020



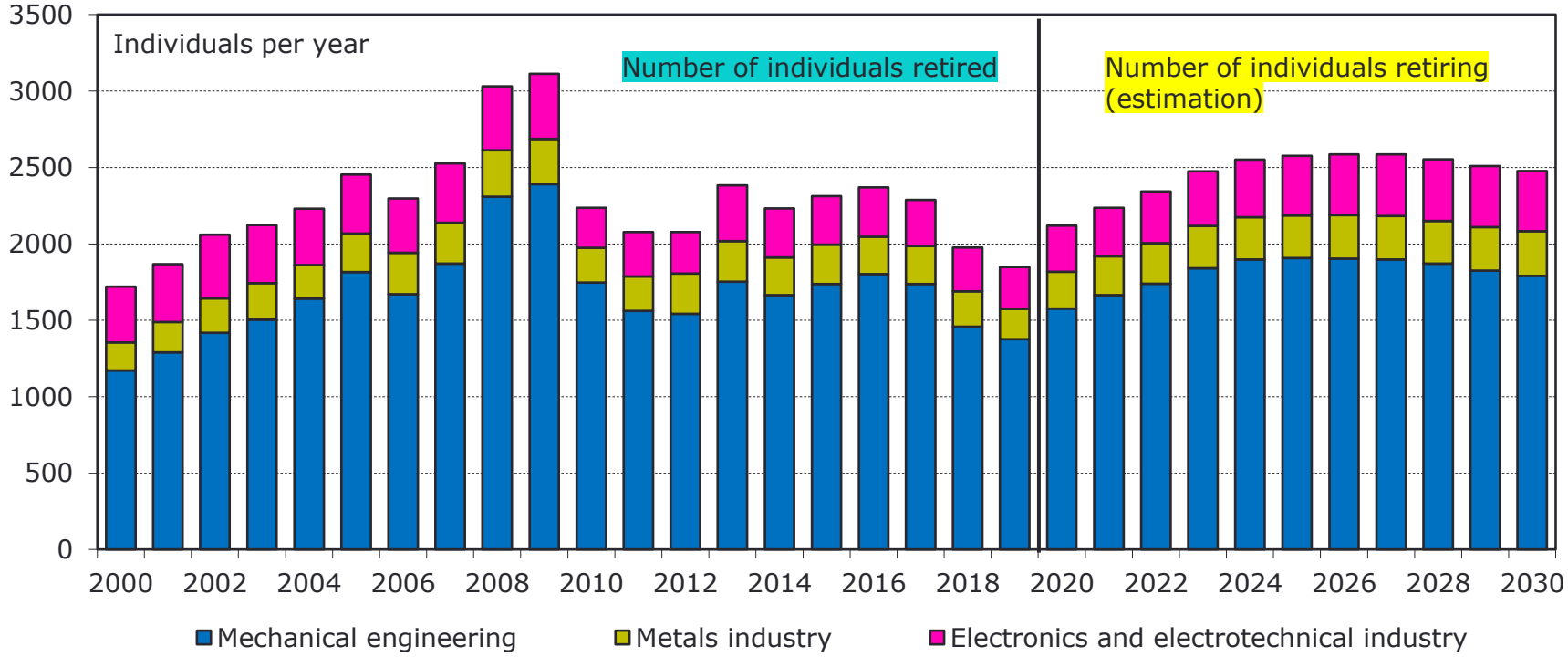
Source: The Federation of Finnish Technology Industries' labour force survey

Retirement of Technology Industry Personnel in Finland



Source: Wage inquiry of the Techonology Industries of Finland, Finnish Centre for Pensions, Statistics Finland

Retirement of Technology Industry Blue Collar Employees in Finland



Source: Wage inquiry of the Techonology Industries of Finland, Finnish Centre for Pensions, Statistics Finland

Overview of the Situation in the Technology Industry and Outlook for Summer 2021

- Turnover in Finland totalled some EUR 82 billion in 2020. Growth from the previous year was about one percent for the full year.

- The monetary value of new orders reported between January-March 2021 was 29% lower than in the preceding quarter, but 5% higher than in the corresponding period in 2020.

- At the end of March, the value of order books was 4% lower than at the end of December, but 5% higher than in March 2020.

- The turnover of the technology industry in Finland is estimated to be higher in the summer 2021 than at the same time a year ago.

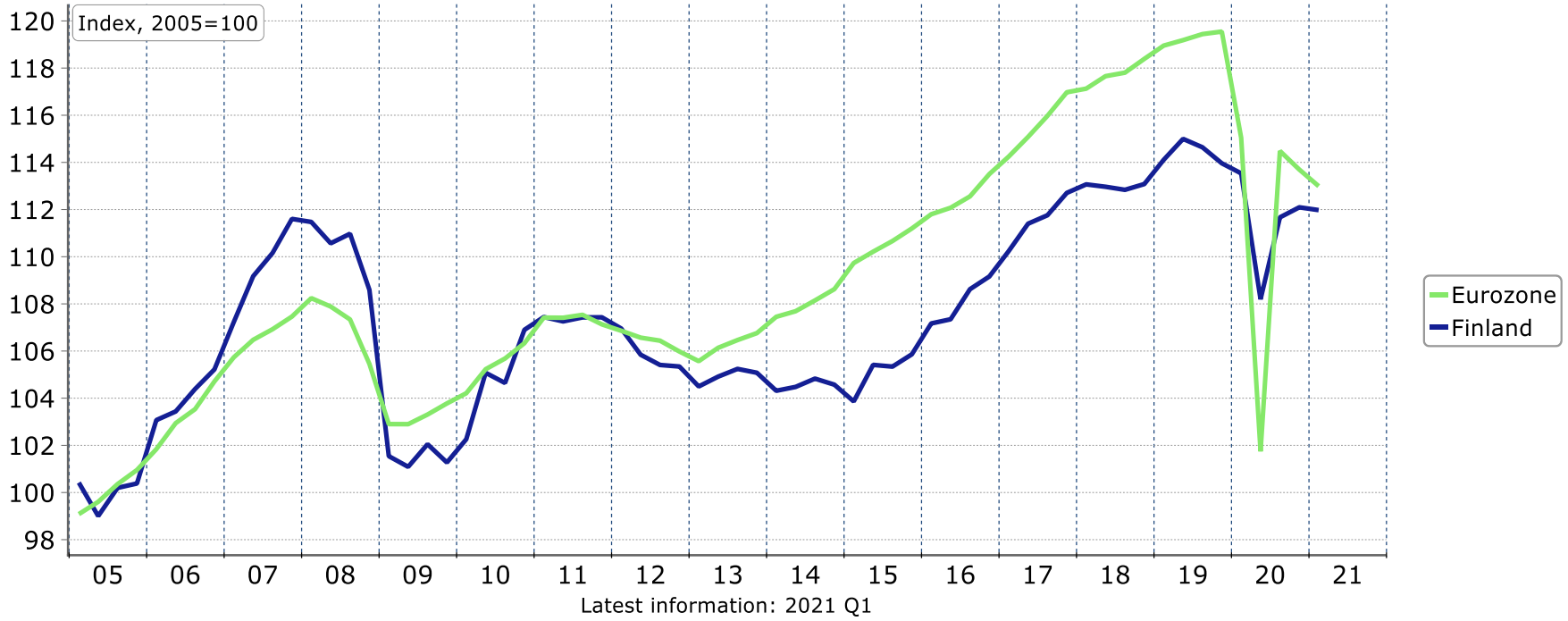
- The number of employees in Finland at the end of March 2021 was slightly less than an average in 2020, but increased compared to December 2020. The number of employees was about 309,600, which is 1,400 less than an average in 2020.

- Recruitment of new staff was on the rise again in January-March. There were a total of 9,500 recruitments, compared to just over 28,000 in 2020.

World Economic Outlook

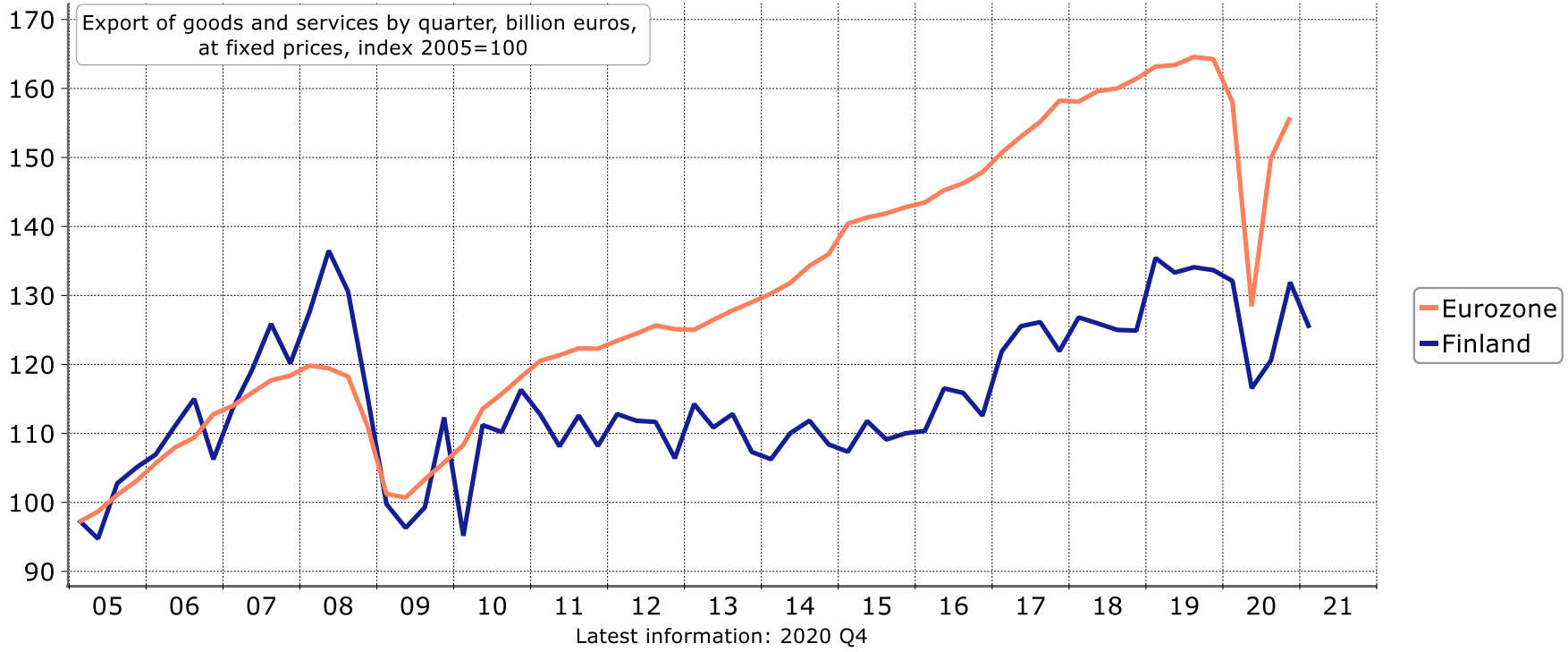
- Finland as a Part of Global Economy

In the Euro Area, the GDP Recovery Came to a Halt in Late 2020 and Early 2021



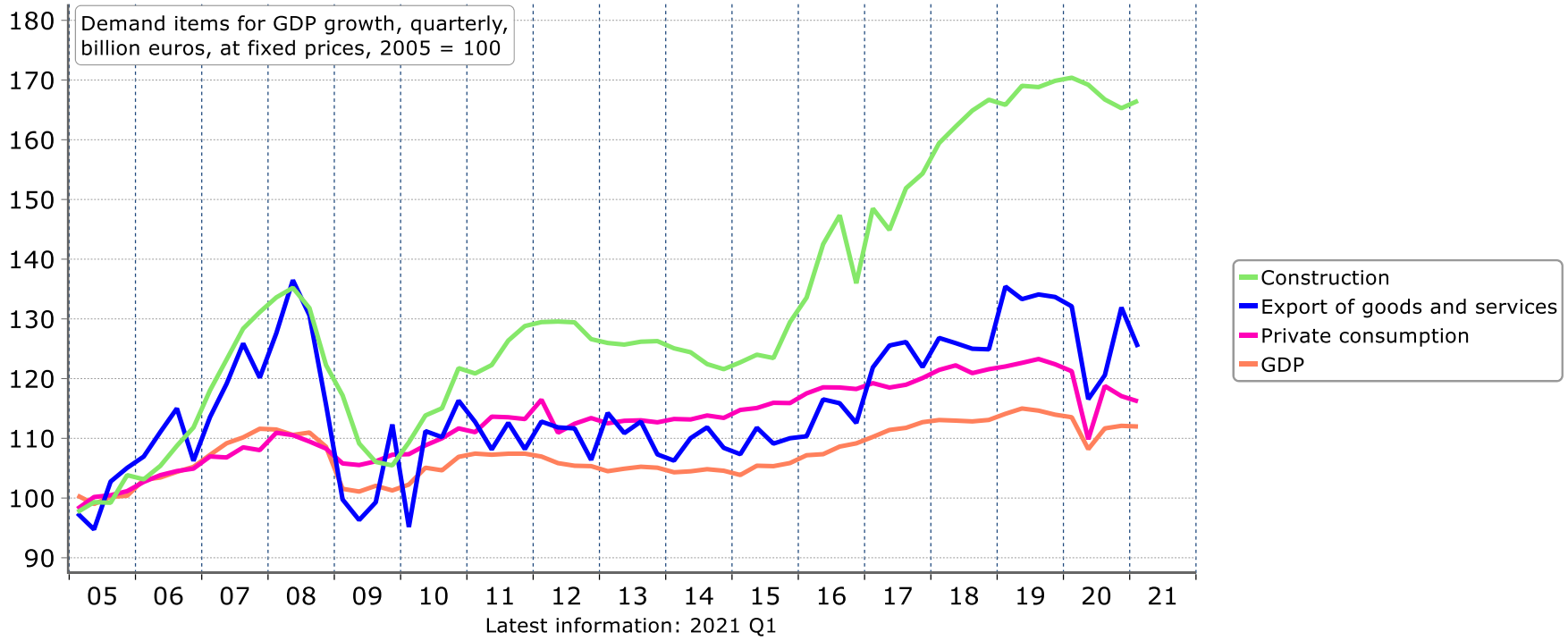
Lähde: Macrobond

Finland Is Clearly Behind in the Growth of Exports Relative to the Euro Countries



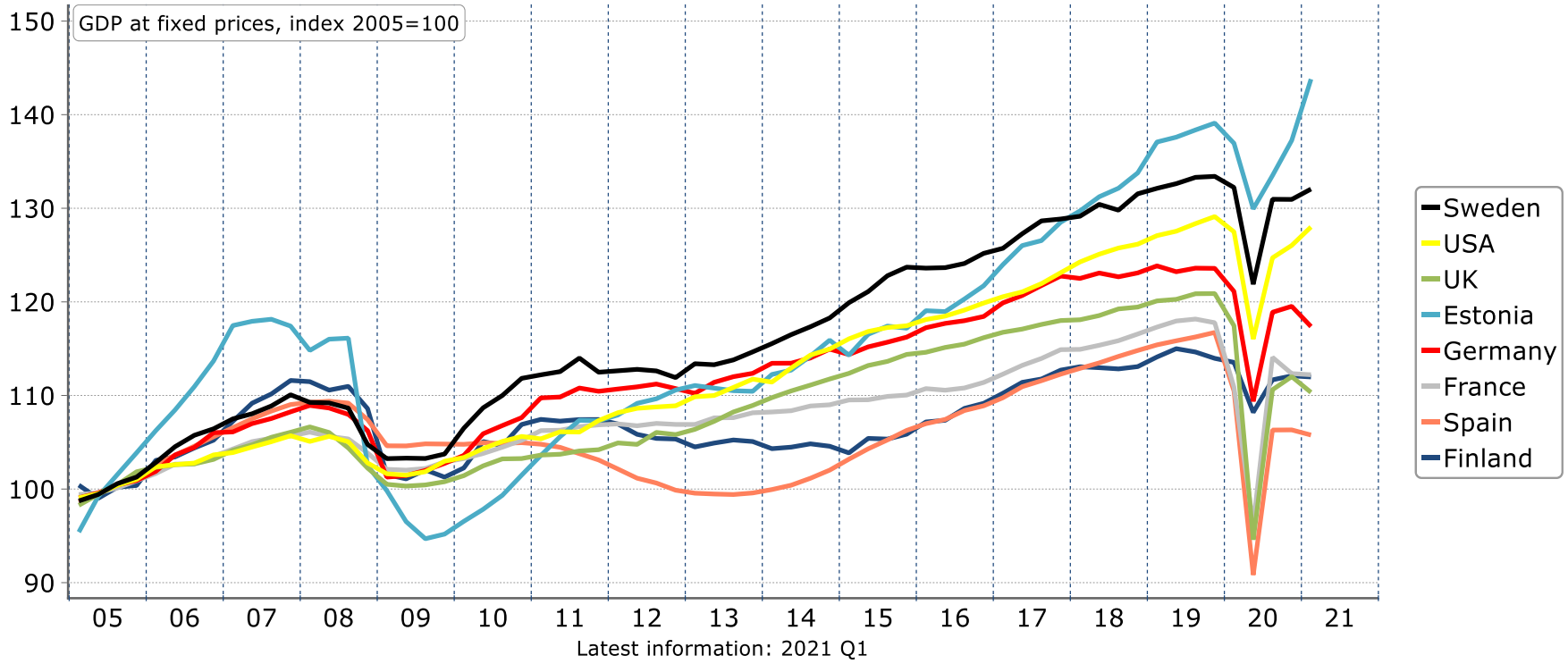
Source: Macrobond, Eurostat

Finnish GDP Has Decreased, Especially Due to Private Consumption and Construction



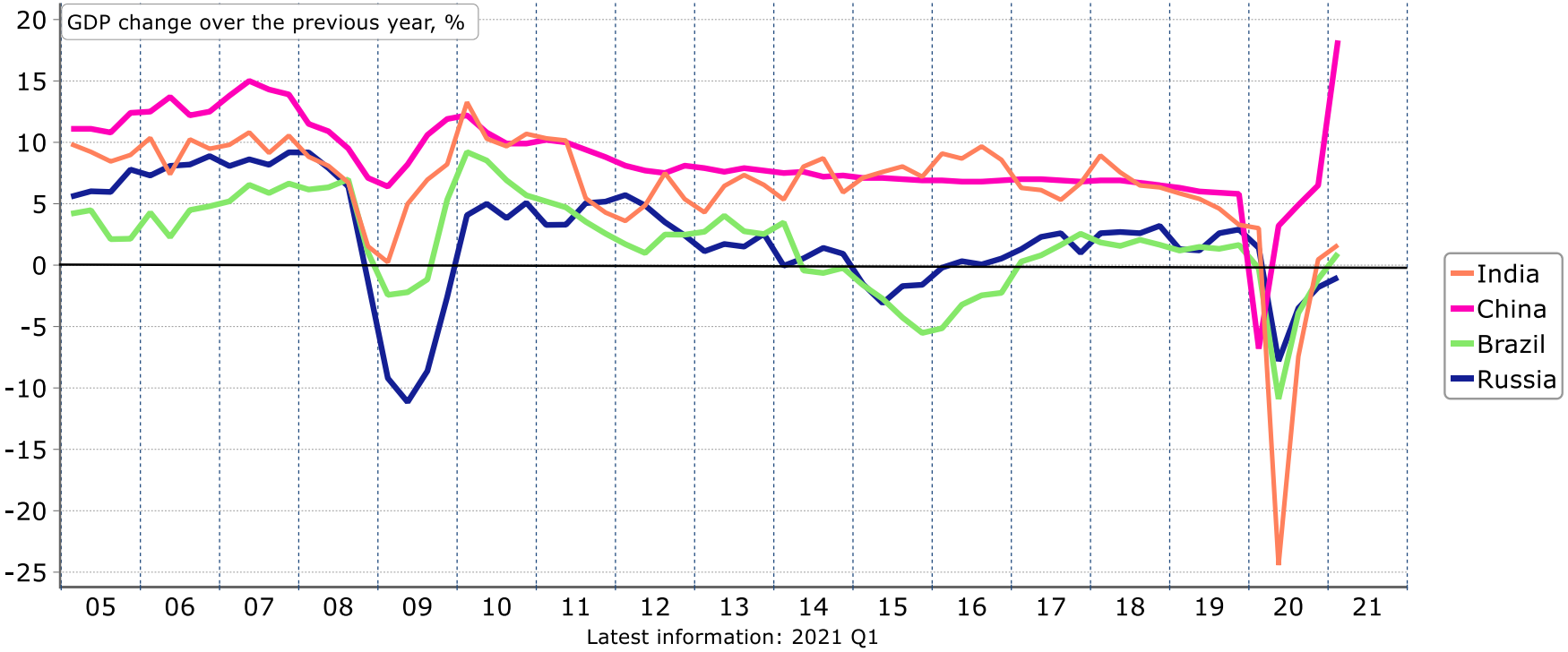
Source: Macrobond, Statistics Finland

In Many Countries, GDP Growth Slowed after Autumn 2020

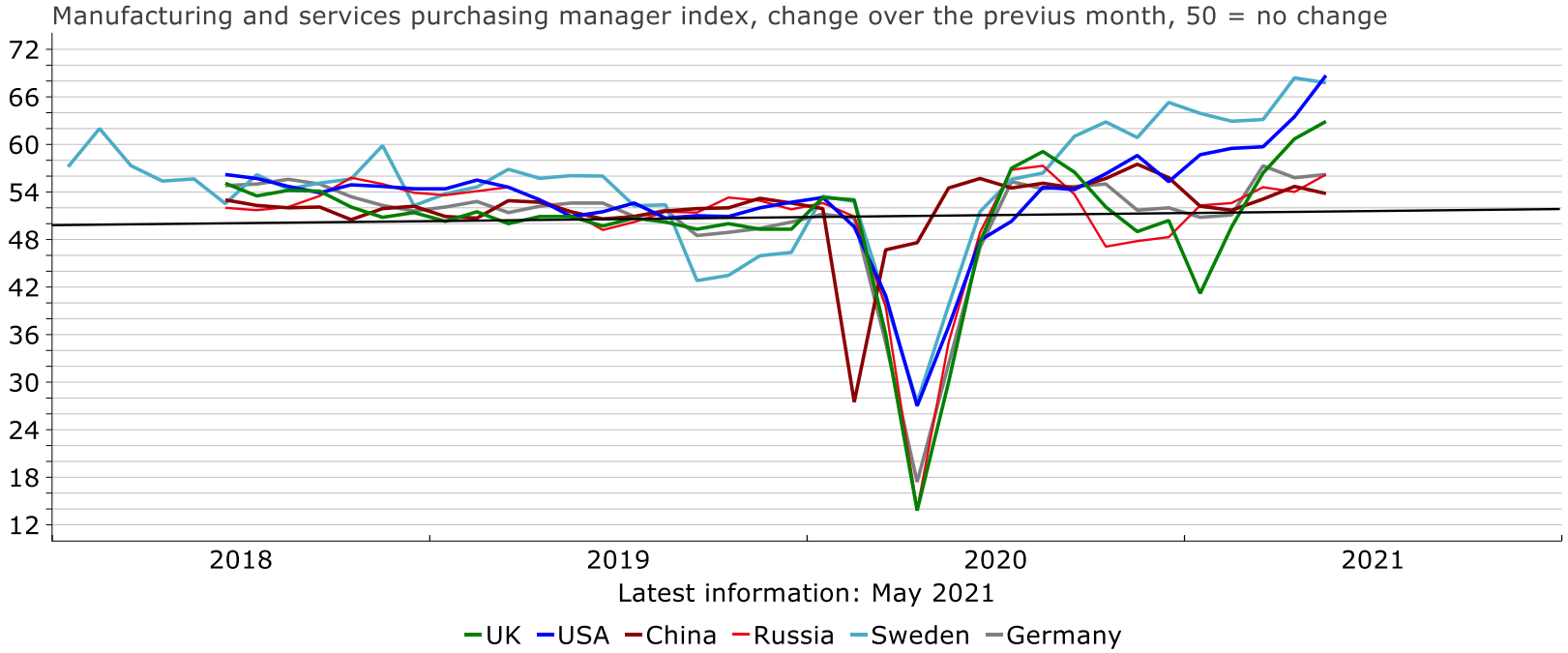


Souce: Macrobond

In Developing Countries, Economic Recovery Has Continued

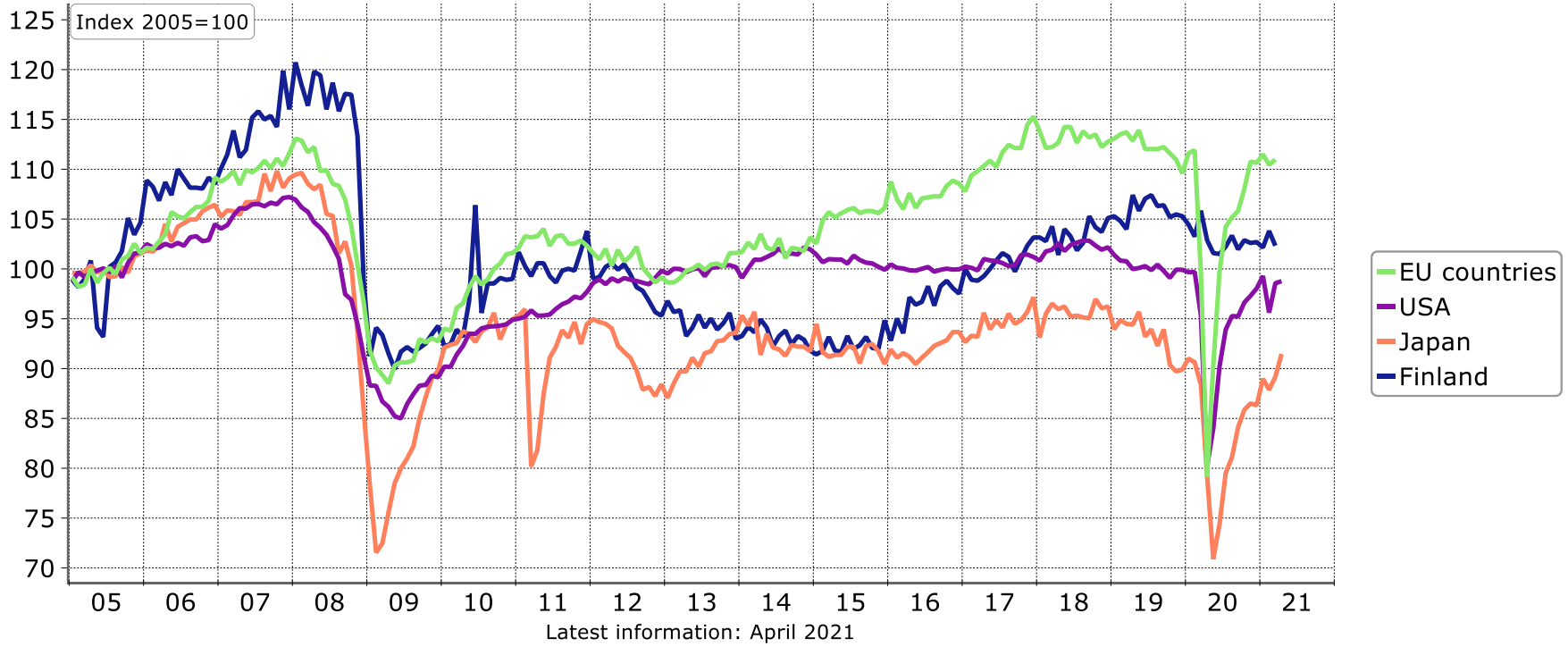


Purchasing Manager Indices for the Entire Business Sector in Finland's Most Important Export Countries



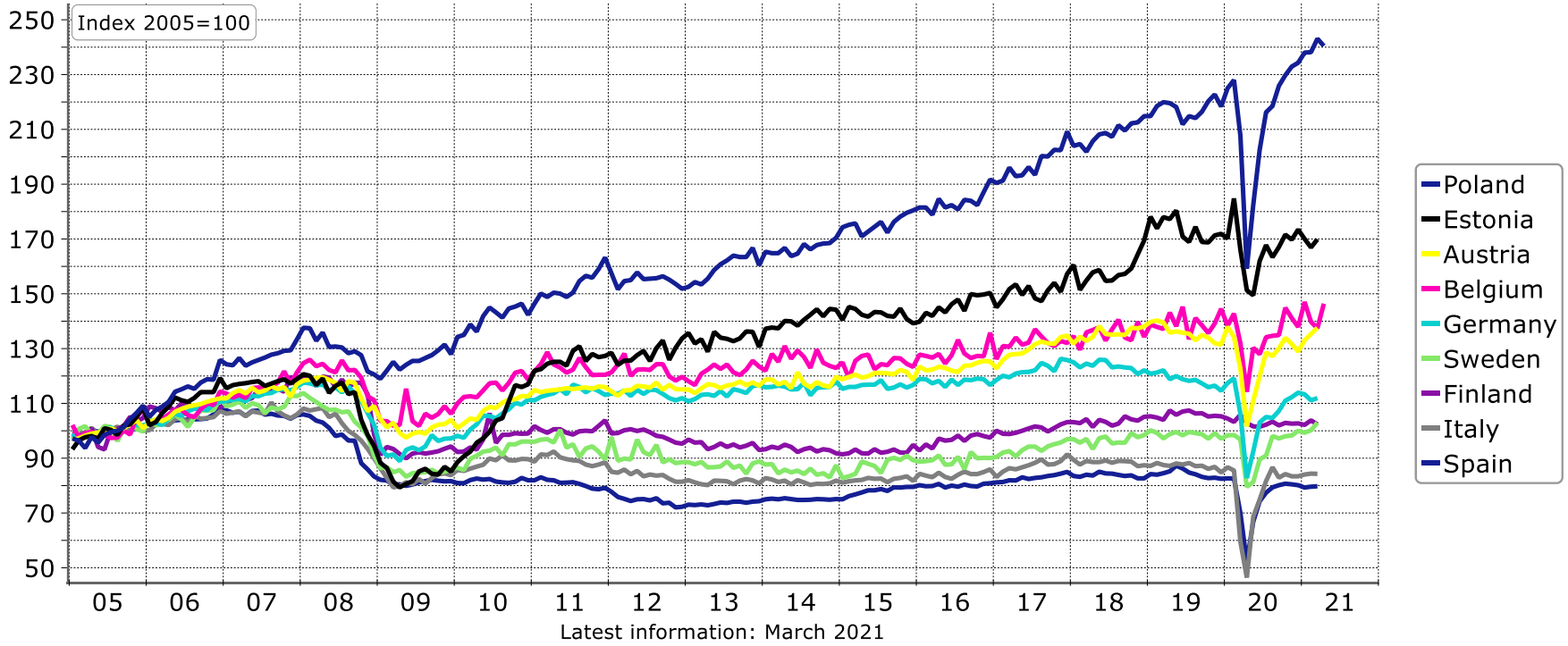
Source: Macrobond. Markit

The Recovery in Industrial Production Continues in Several Countries



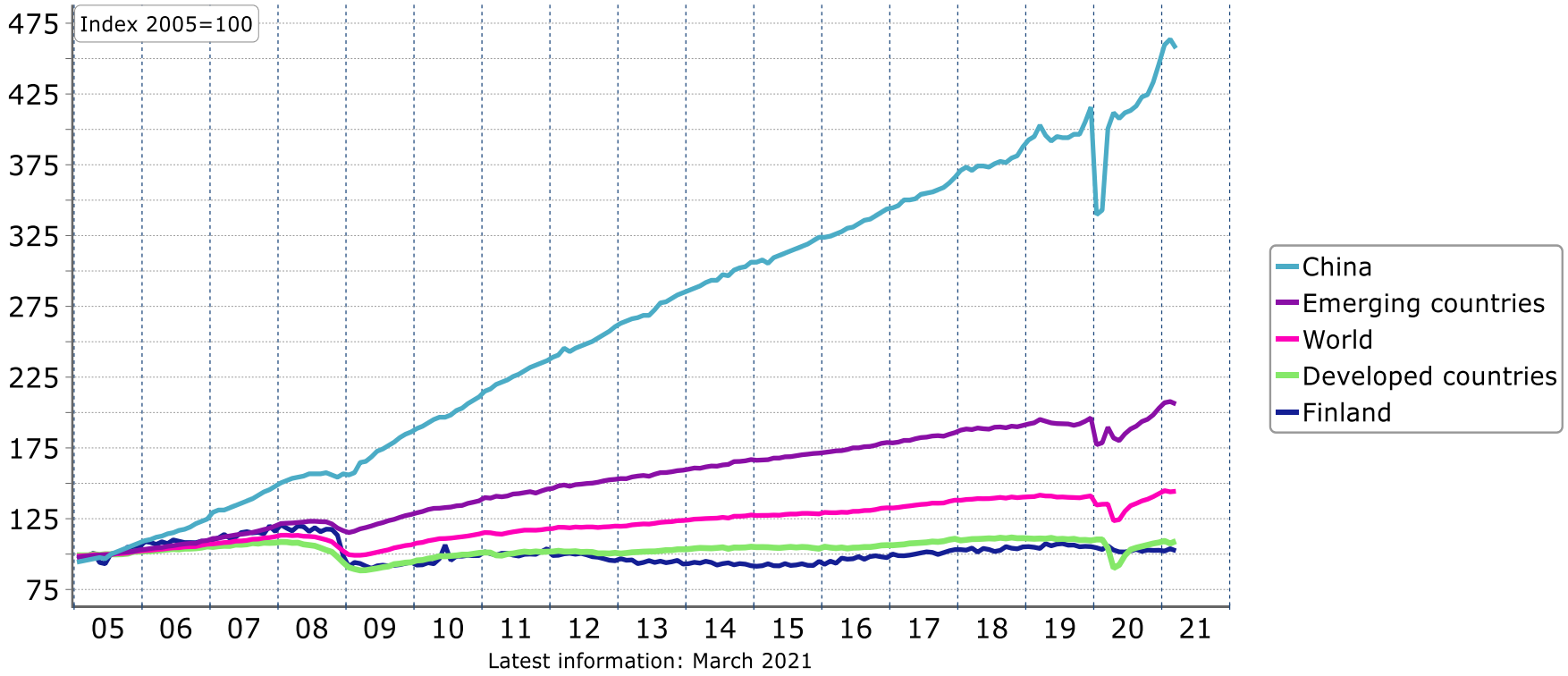
Source: Macrobond

The Recovery in Industrial Production Continues in Several Countries



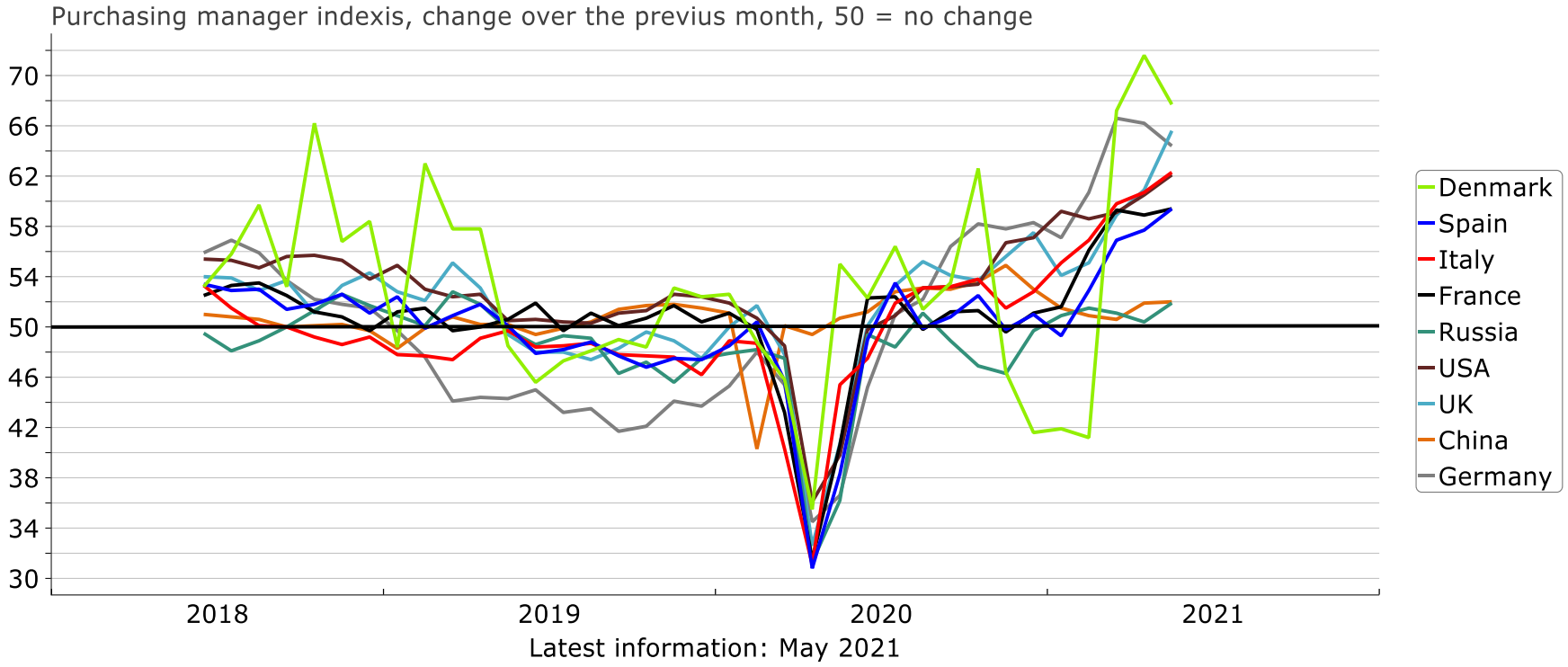
Source: Macrobond

Industrial Production Is Recovering Globally

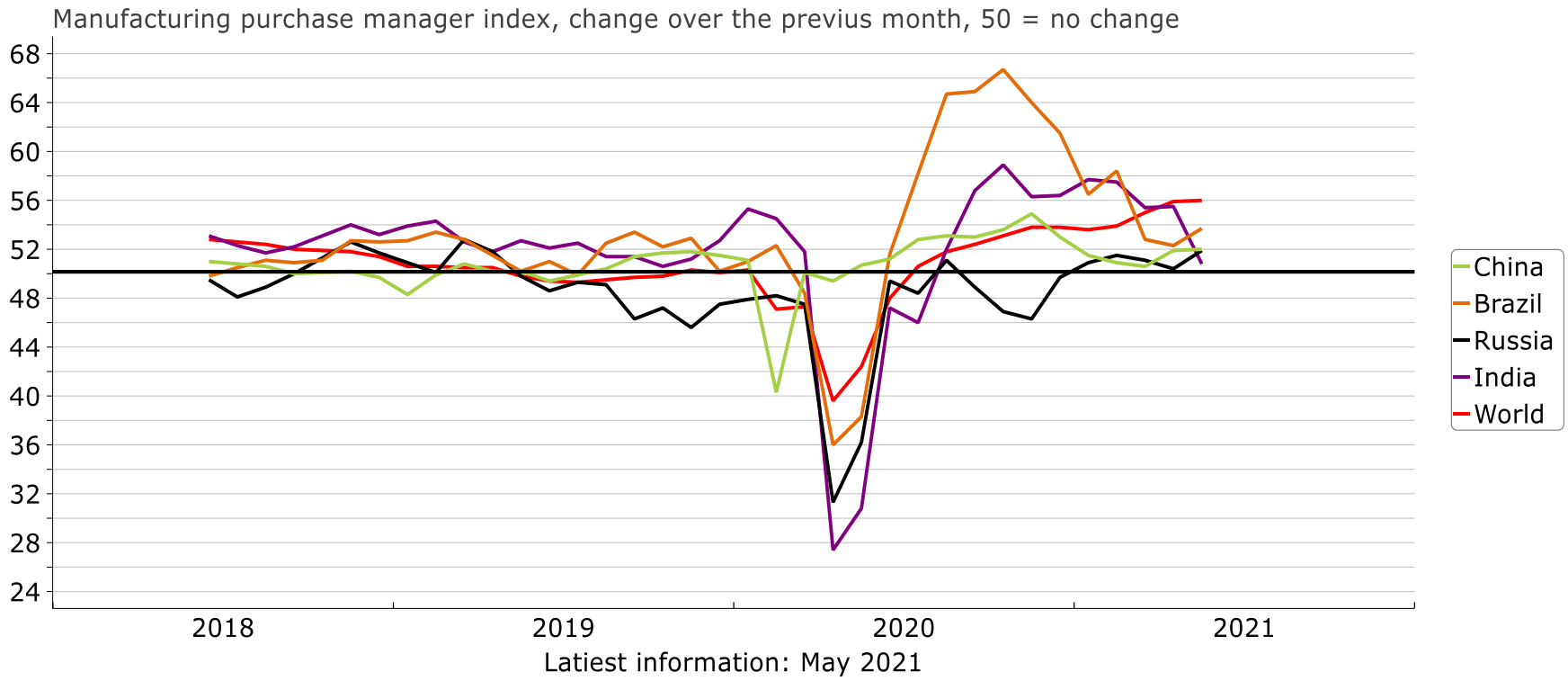


Source: Macrobond, The CPB Netherlands Bureau for Economic Policy Analysis

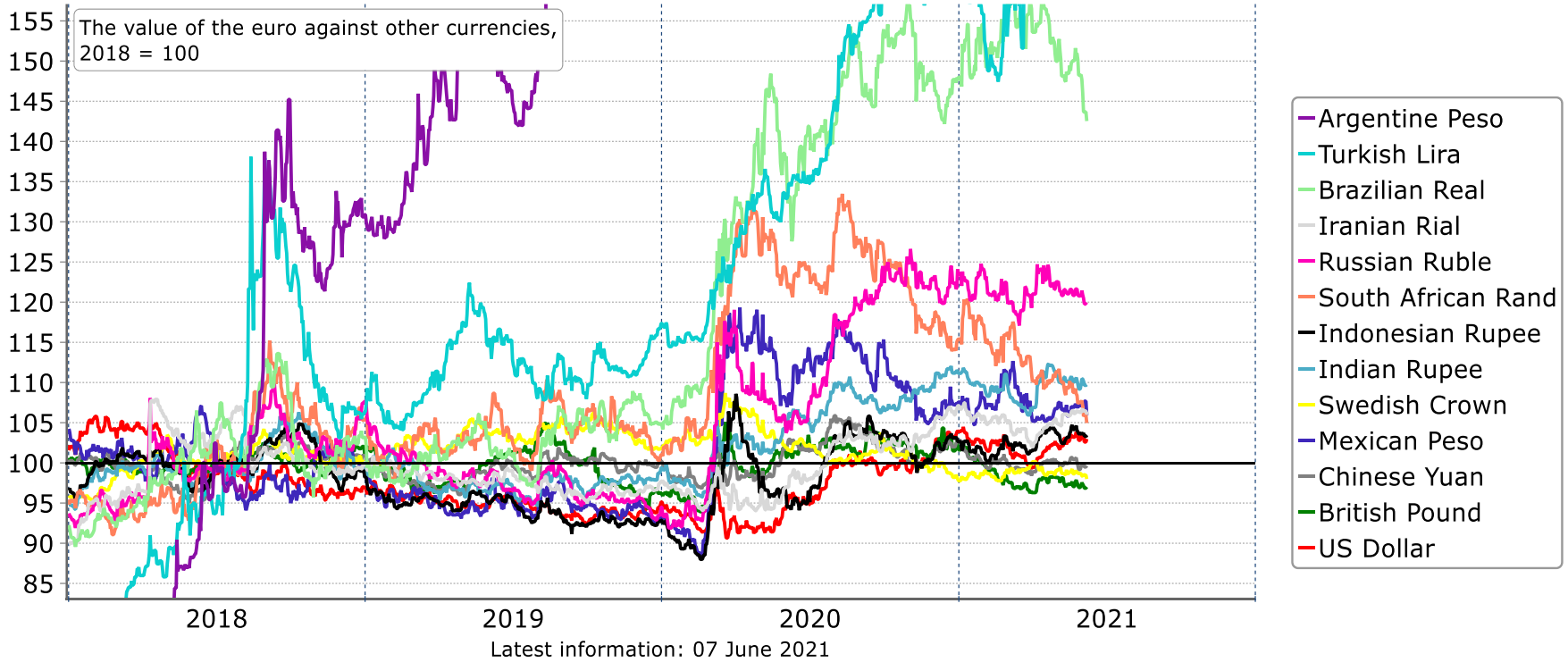
Industrial Purchasing Managers ’Indices in March Show Continued Growth in Most Countries



Industrial Production Grew in May in All Major Developing Countries



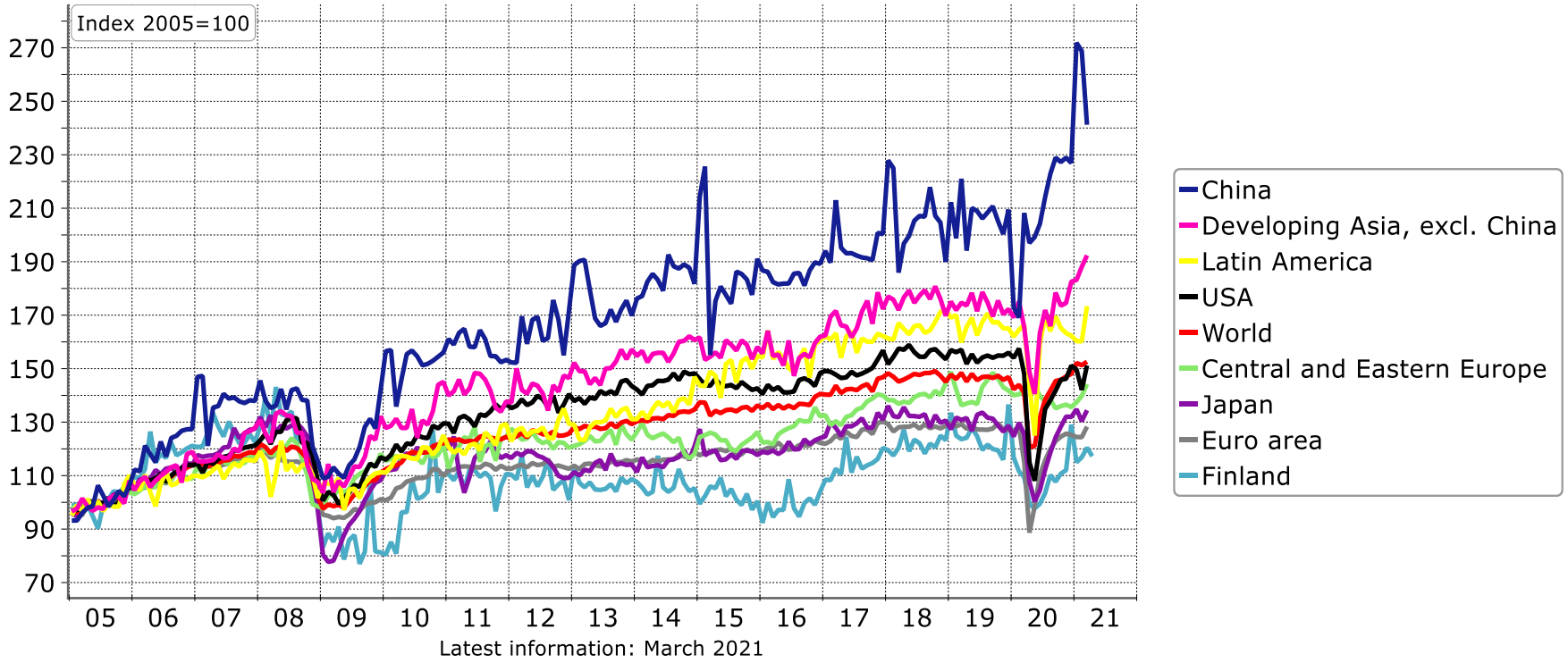
Exchange Rates (when the Curve Rises, the Value of the Euro Strengthens Against the Other Currency)



Source: Macrobond

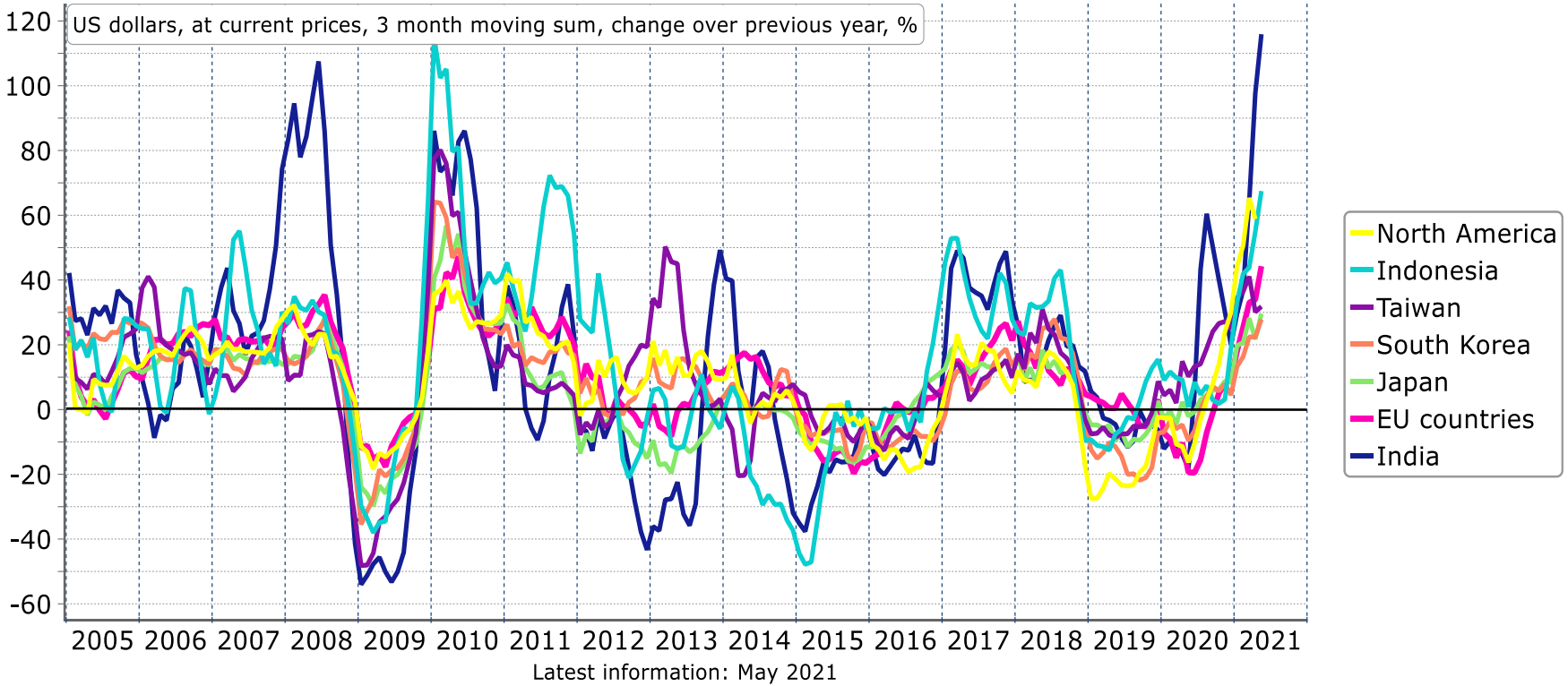
World Trade Has Recovered

Goods export volume



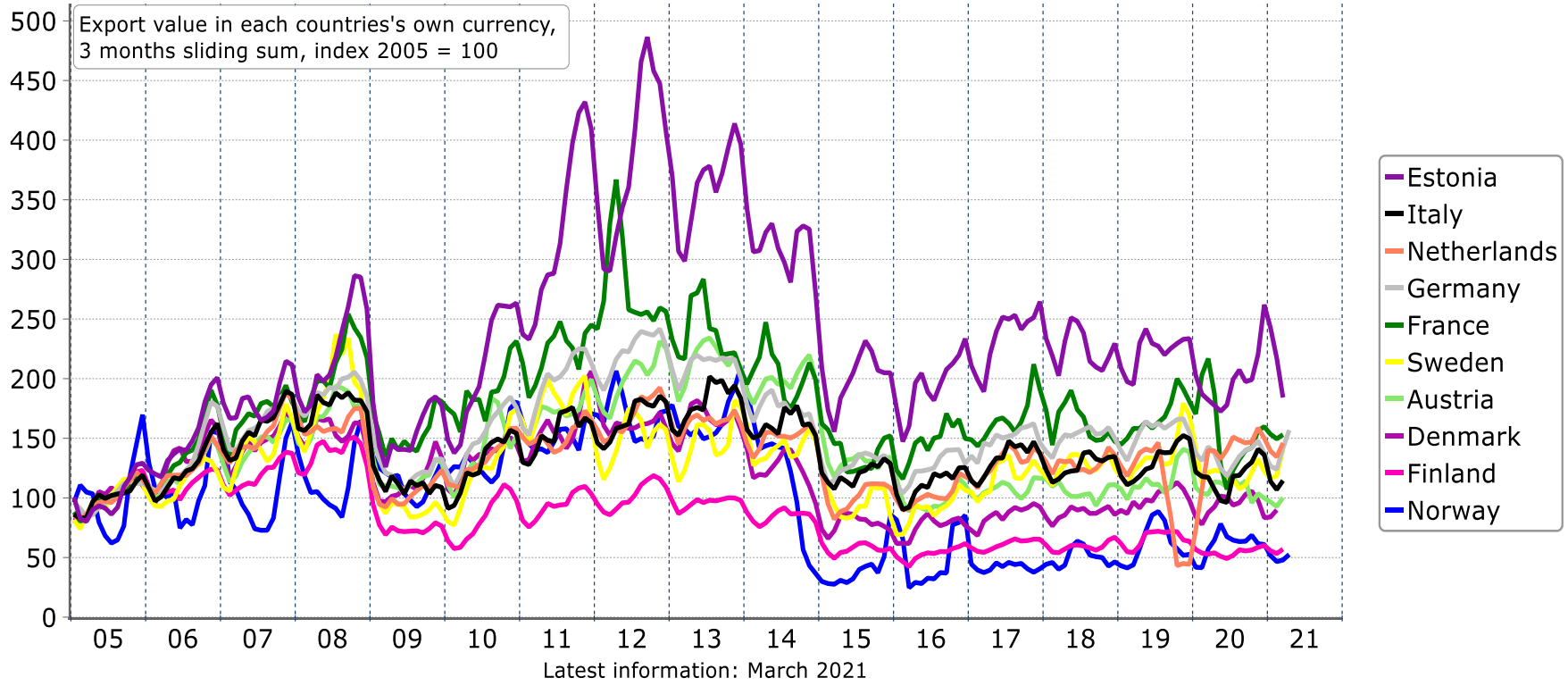
Source: Macrobond, The CPB Netherlands Bureau for Economic Policy Analysis

Chinese Imports Have Recovered Strongly



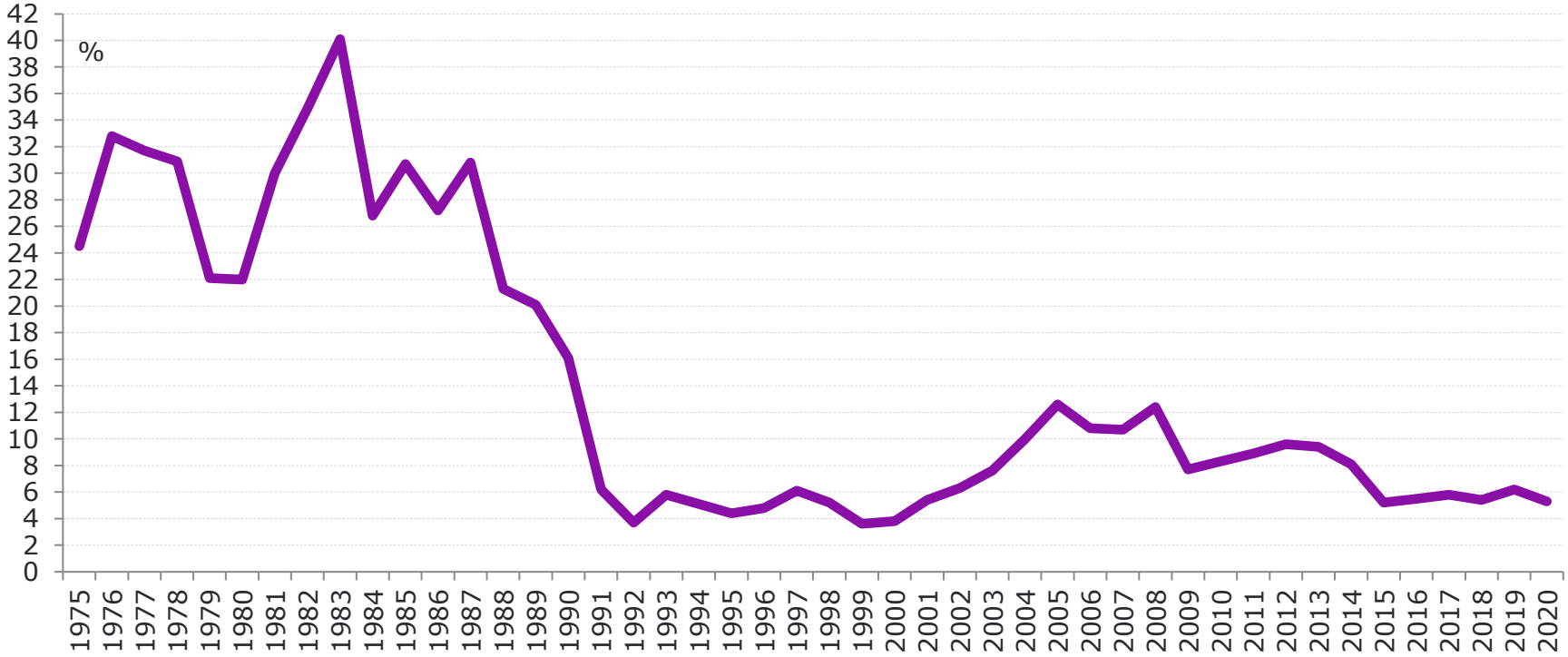
Source: Macrobond

EU Exports to Russia Are Stagnating



Source: Macrobond

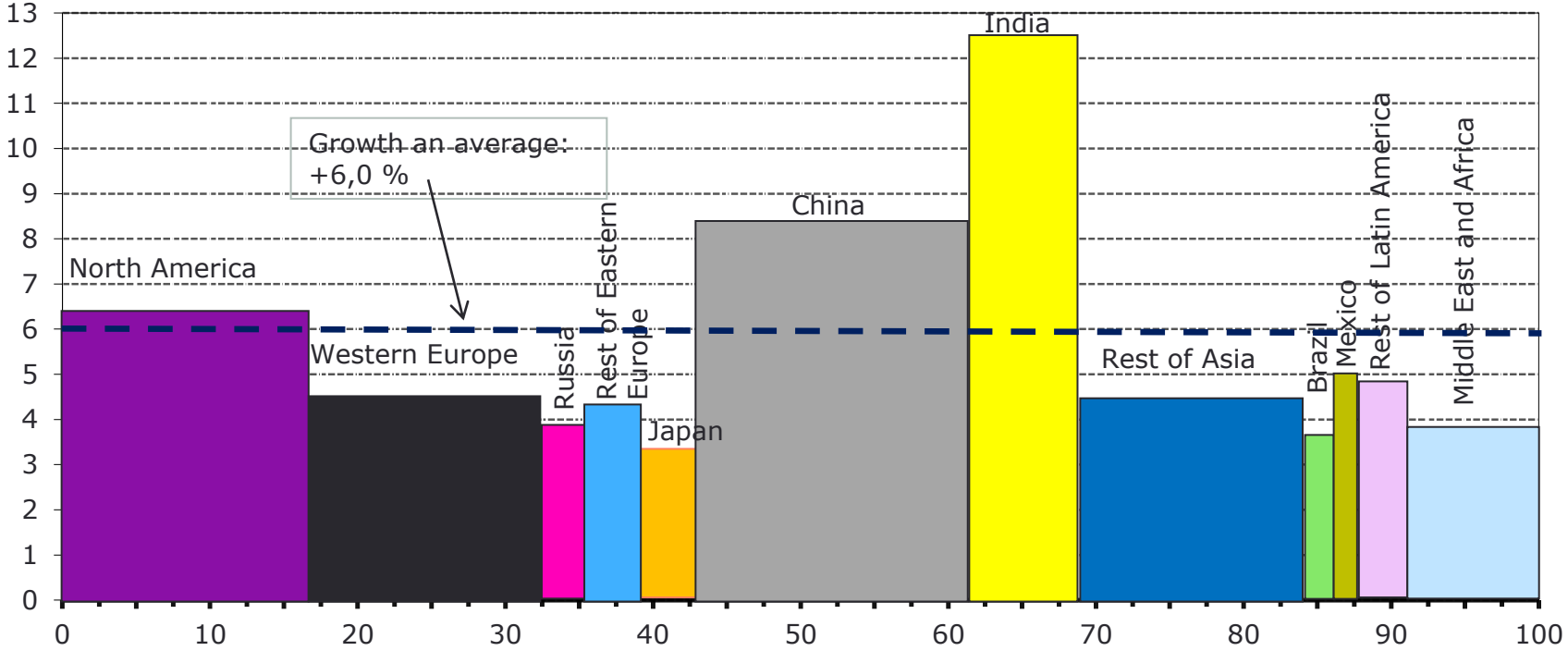
Russia's* Share of the Technology Industry's Finnish Exports Has Fallen to about 5 Percent



*) Soviet Union up to 1991
Source: Finnish Customs

The Global Economy Is Forecast to Grow by 6 % in 2021, after Decreased by 3.3% in 2020

GDP growth 2021/2020, %

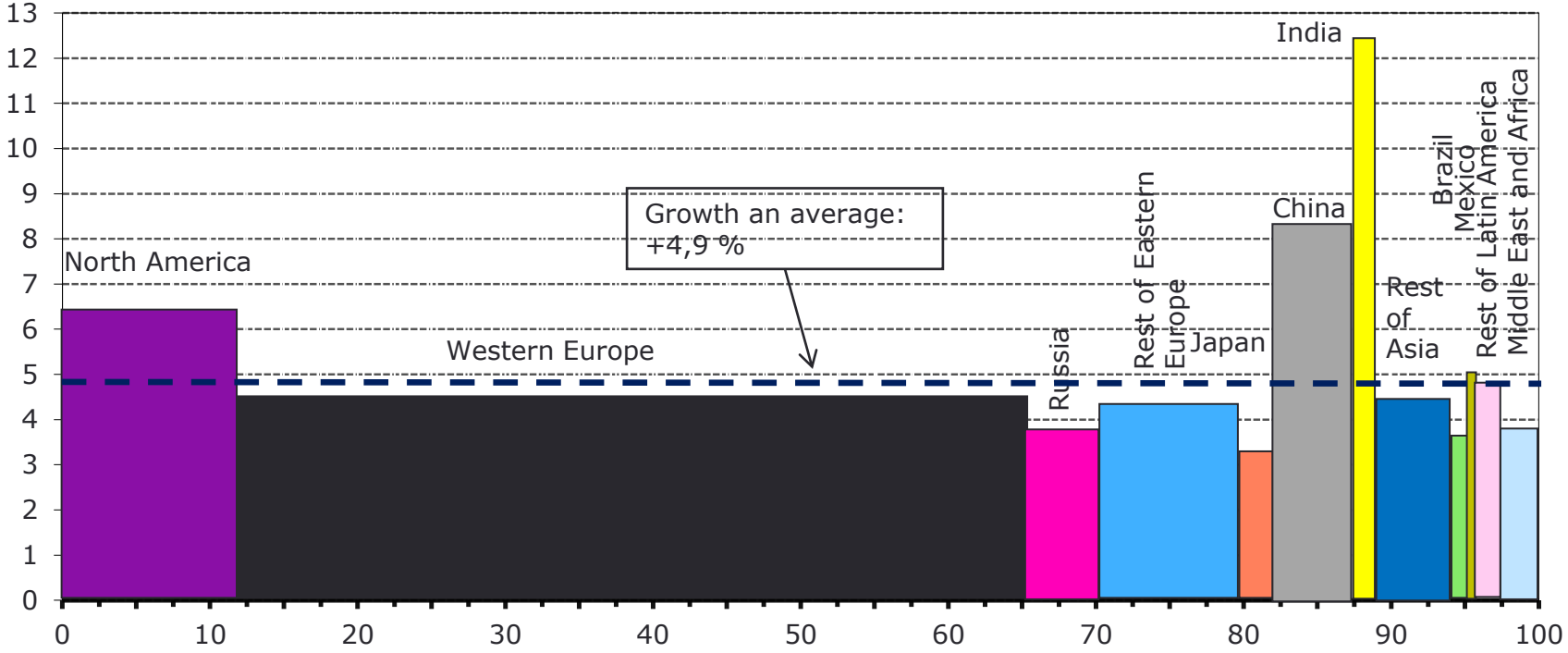


The width of the bar indicates the share of global GDP in 2020 (adjusted for purchasing power parity), %

Source: IMF (April 2021)

In the Export Market of the Technology Industry, Demand Will Increase by 4.9 % in 2021

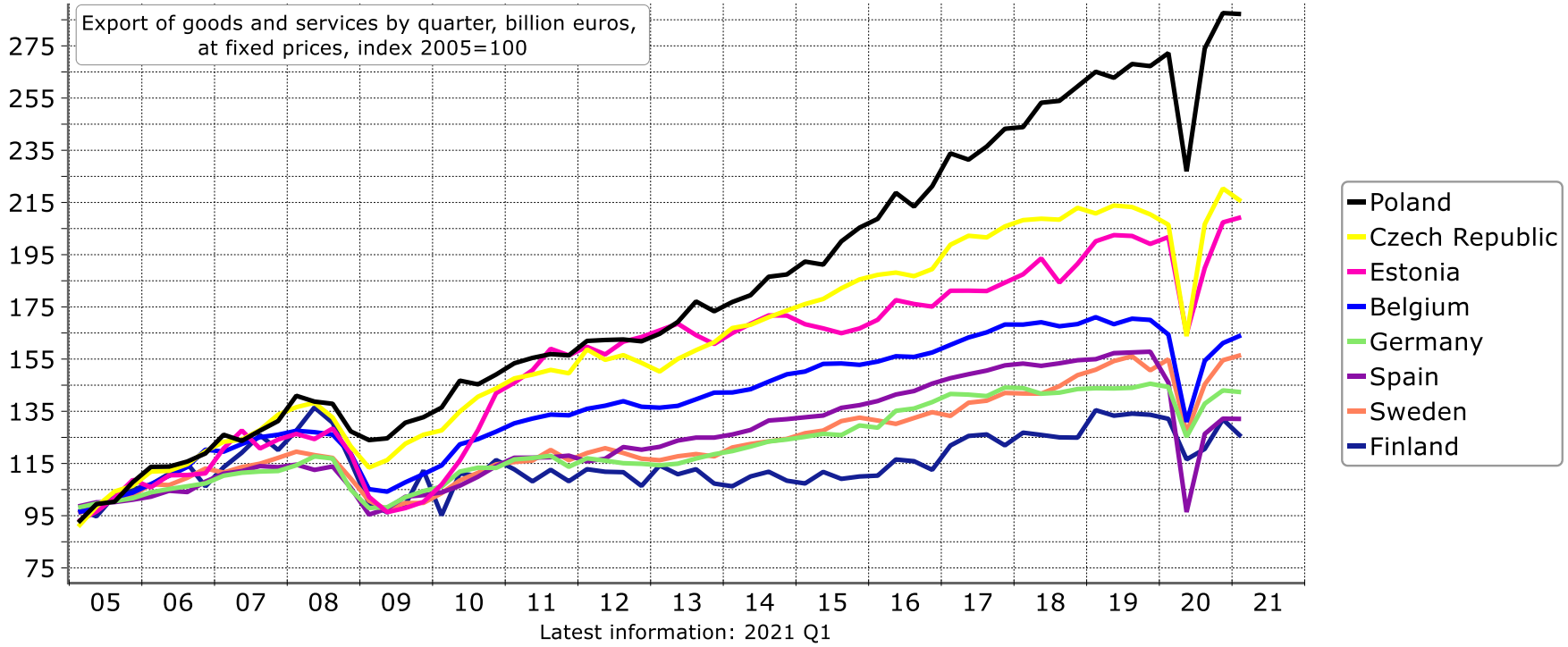
GDP growth 2021/2020, %



Source: IMF (April 2021)

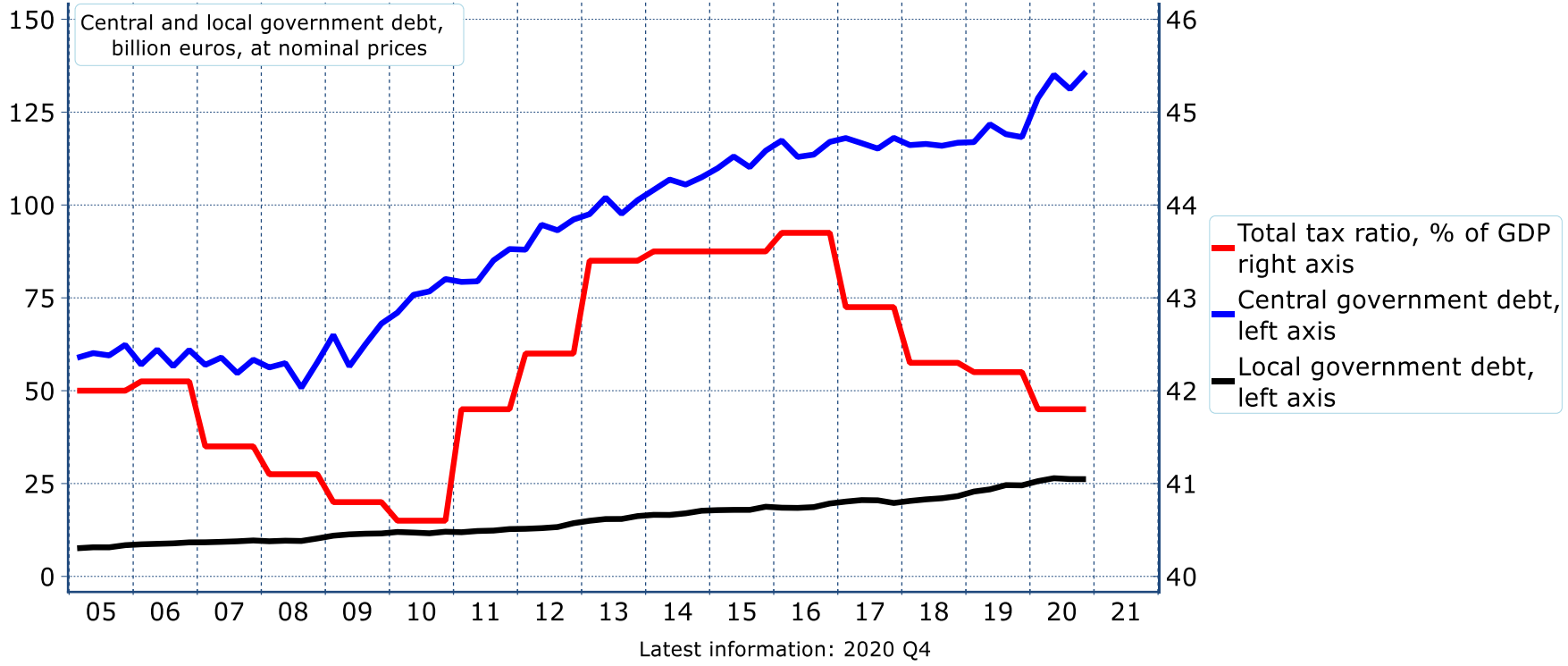
Finland’s Economic Growth Relies on Exports and Investments

Finland's Exports Lagged behind Its Competitors Even before the Corona Crisis



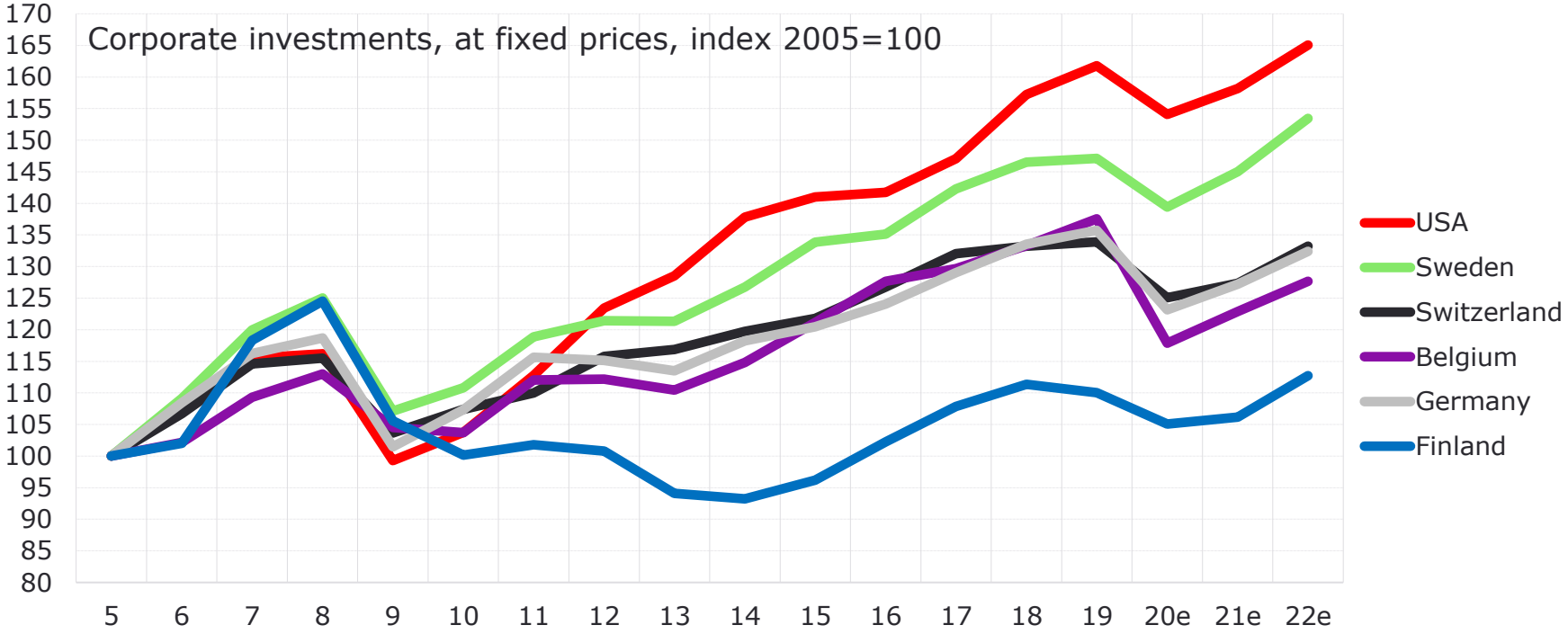
Source: Macrobond, Eurostat

Central and Local Government Debt Was Already High Before the Corona Crisis



Source: Macrobond, Eurostat

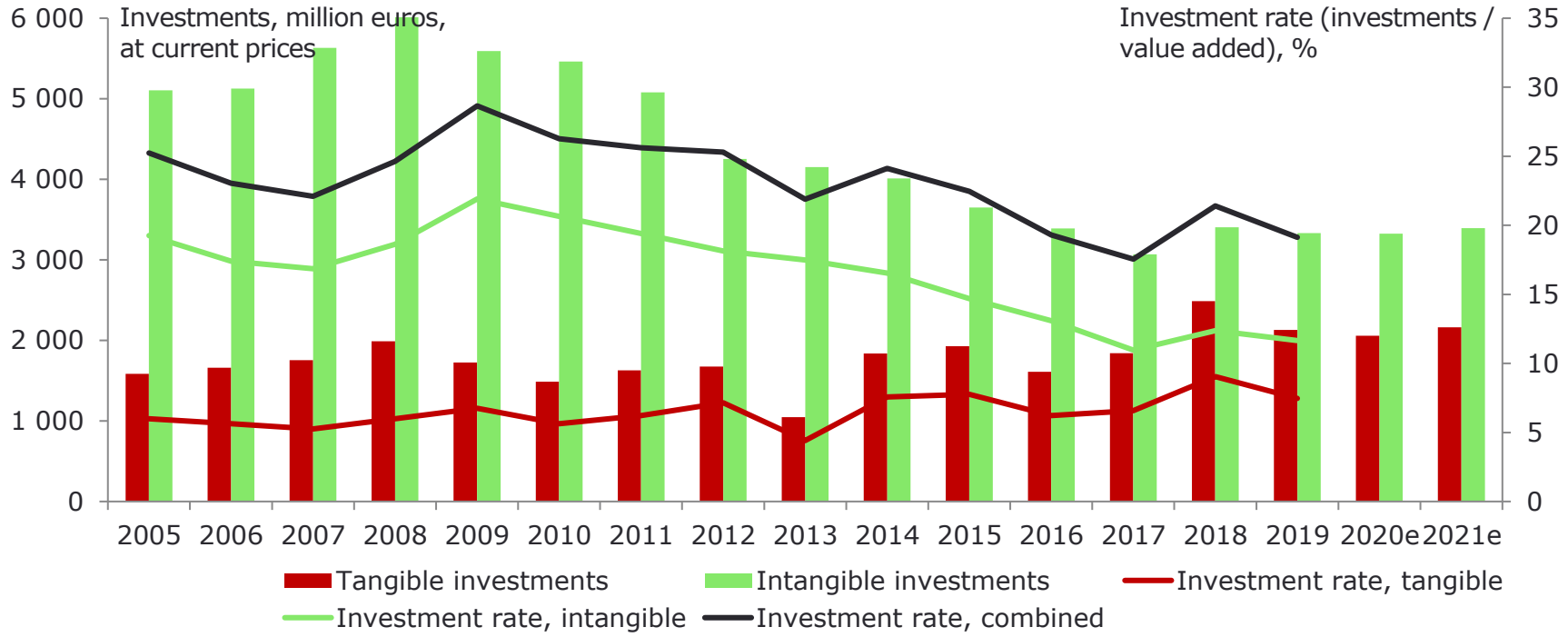
Unlike the Competitor Countries, in Finland Business Investment Is Still Below the Level in 2008



Source: OECD, Economic Outlook (December 2020)

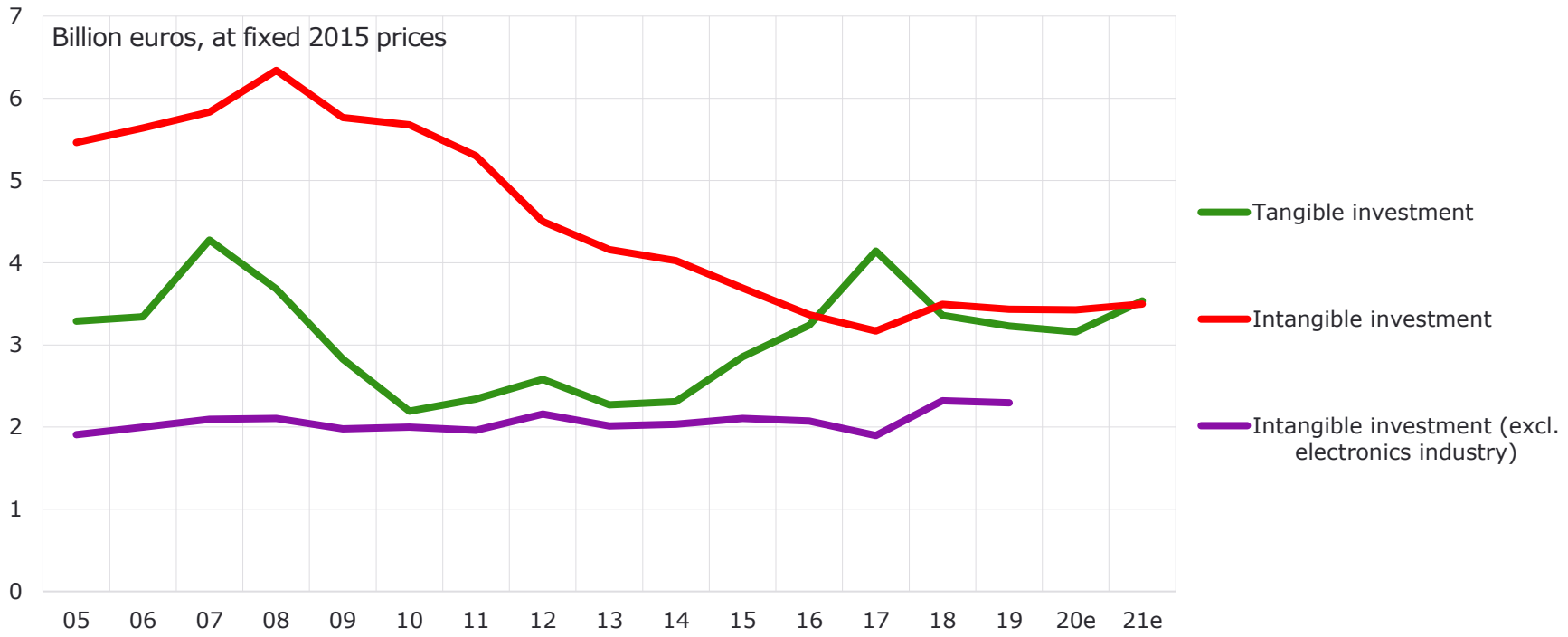
Investment Rate in the Technology Industry in Finland Fell after the Financial Crisis

Tangible and intangible investments in Finland



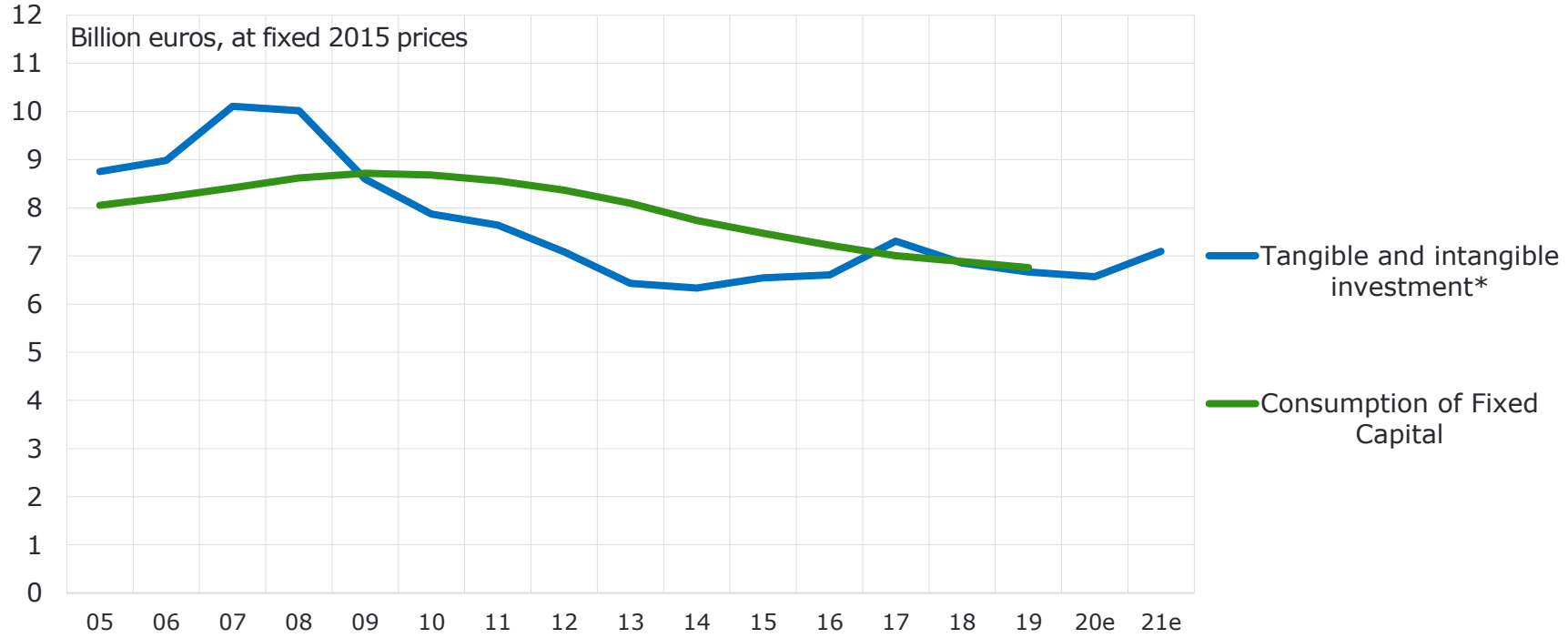
Source: Eurostat (National Accounts), EK Investment Survey (January 2021)
*) Intangible investments include e.g. investment in research and development and computer software.

Industrial Tangible and Intangible Investment* in Finland Have Not Yet Reached the 2007-2008 Levels



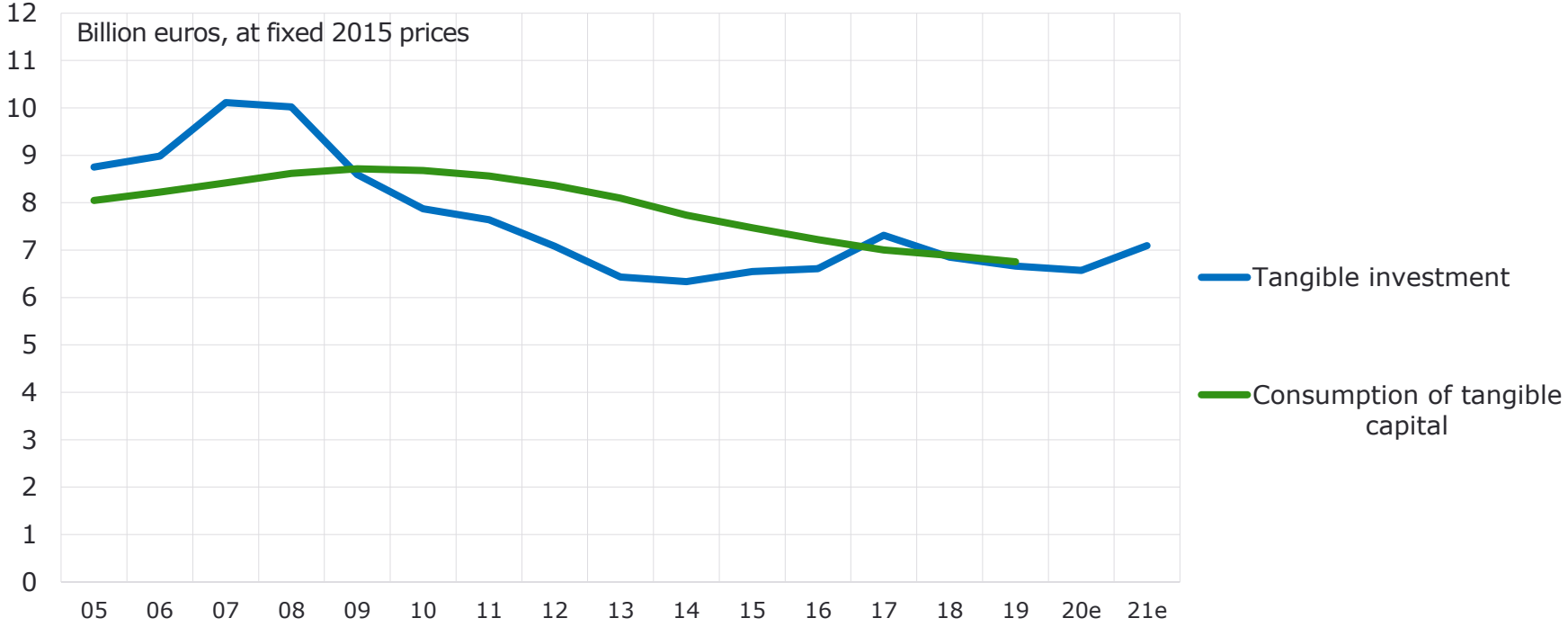
*) Including software investments.
Source: Statistics Finland (National Accounts), Confederation of Finnish Industries' Investment Survey January 2021

Total Industrial Investment in Finland Is Now at Around the Level of Capital Consumption



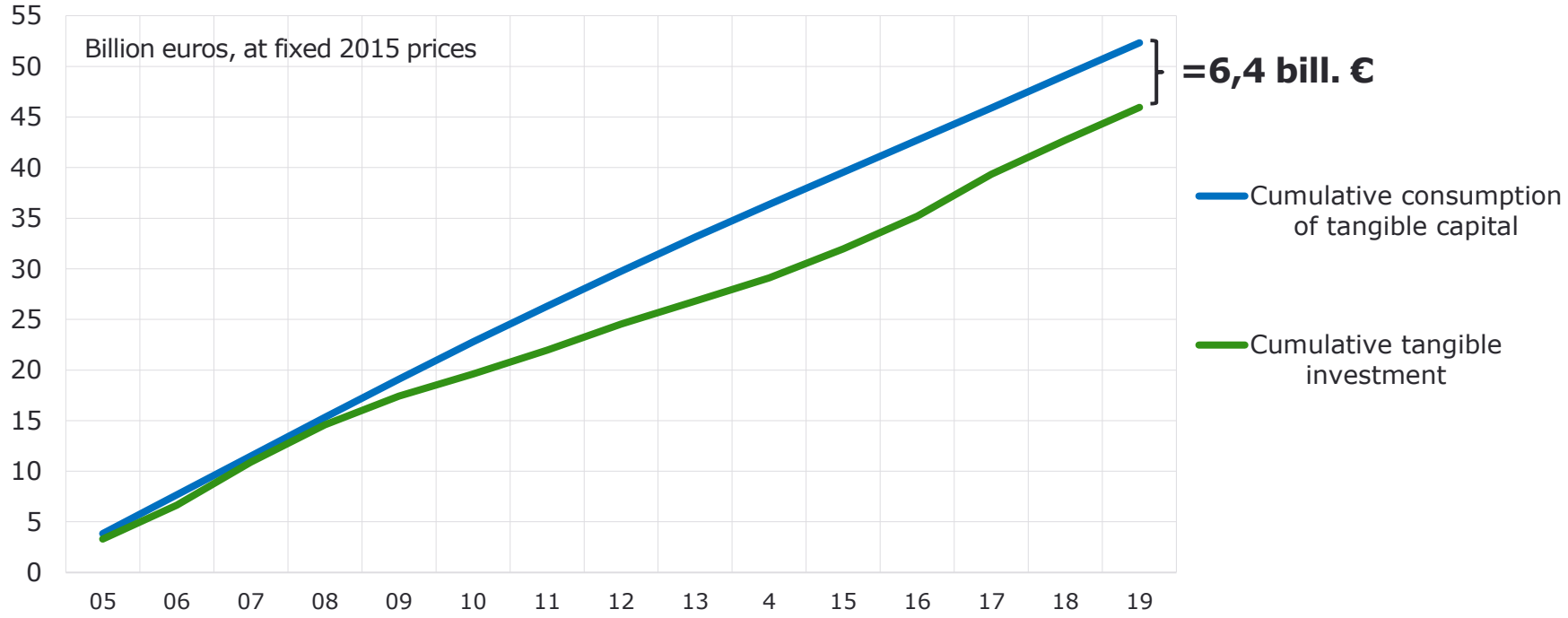
*) Including software investments.
Source: Statistics Finland (National Accounts), Confederation of Finnish Industries' Investment Survey January 2021

Tangible Investments by Industry in Finland Are Now at the Level of the Consumption of Capital



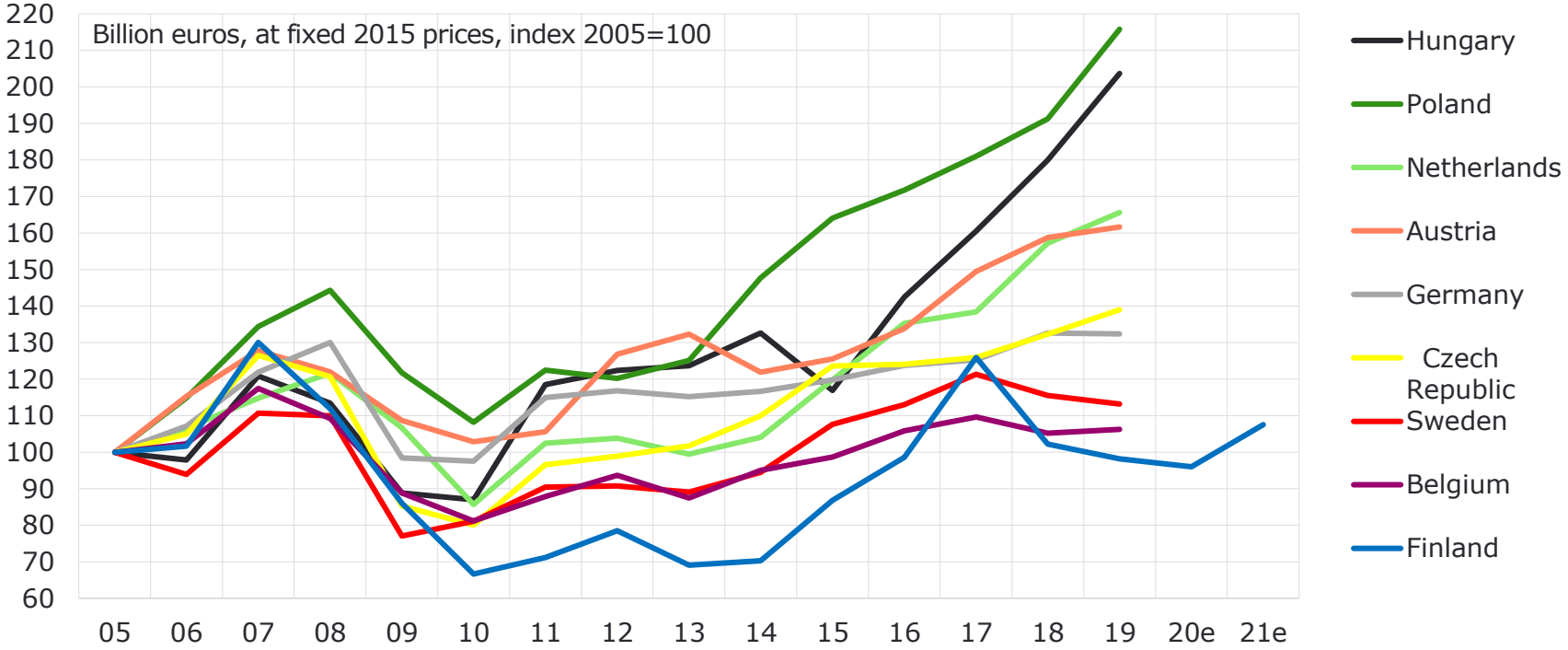
Source: Statistics Finland (National Accounts), Confederation of Finnish Industries' Investment Survey January 2021

Industrial Production Capital in Finland Has Disappeared Significantly, Especially after 2008



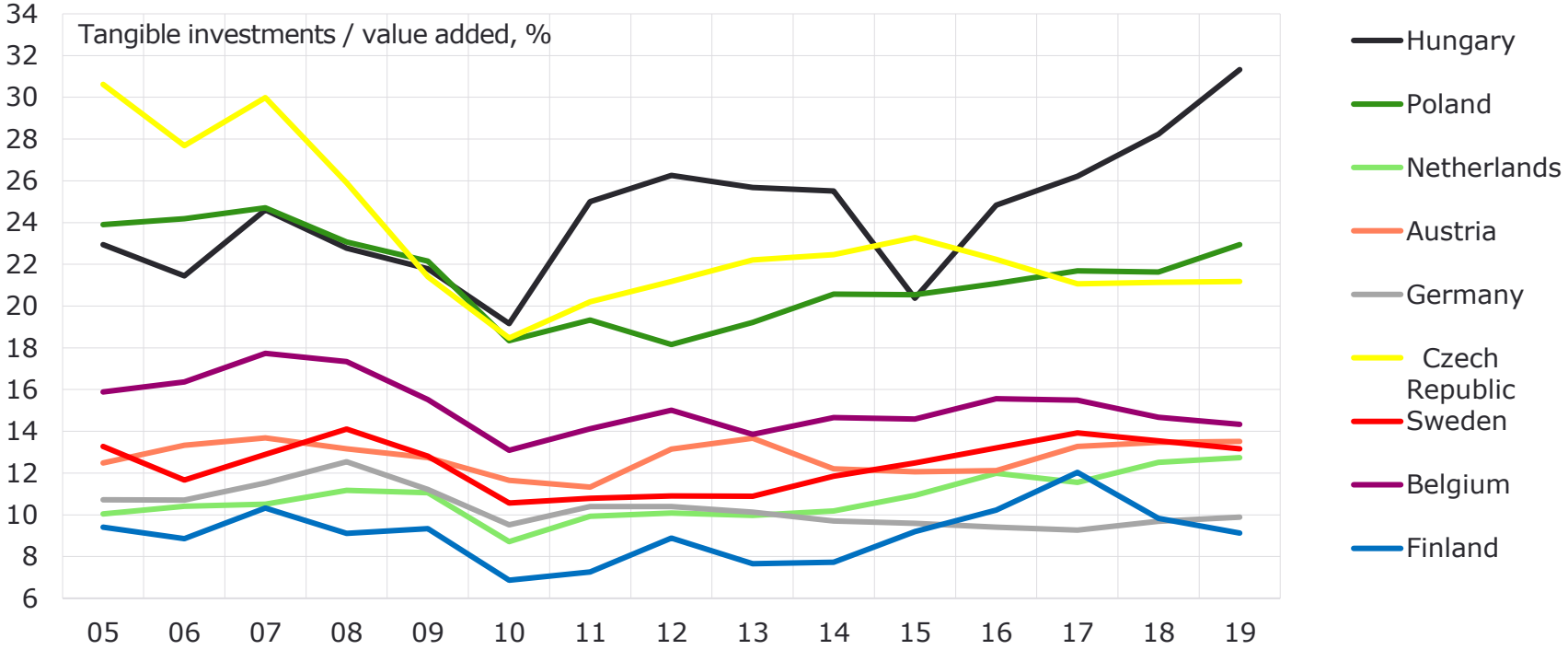
Information on consumption of tangible capital is at 2010 prices.
Source: Statistics Finland (National Accounts)

Industrial Tangible Investment Growth in Finland Has Lagged behind that of Competitors



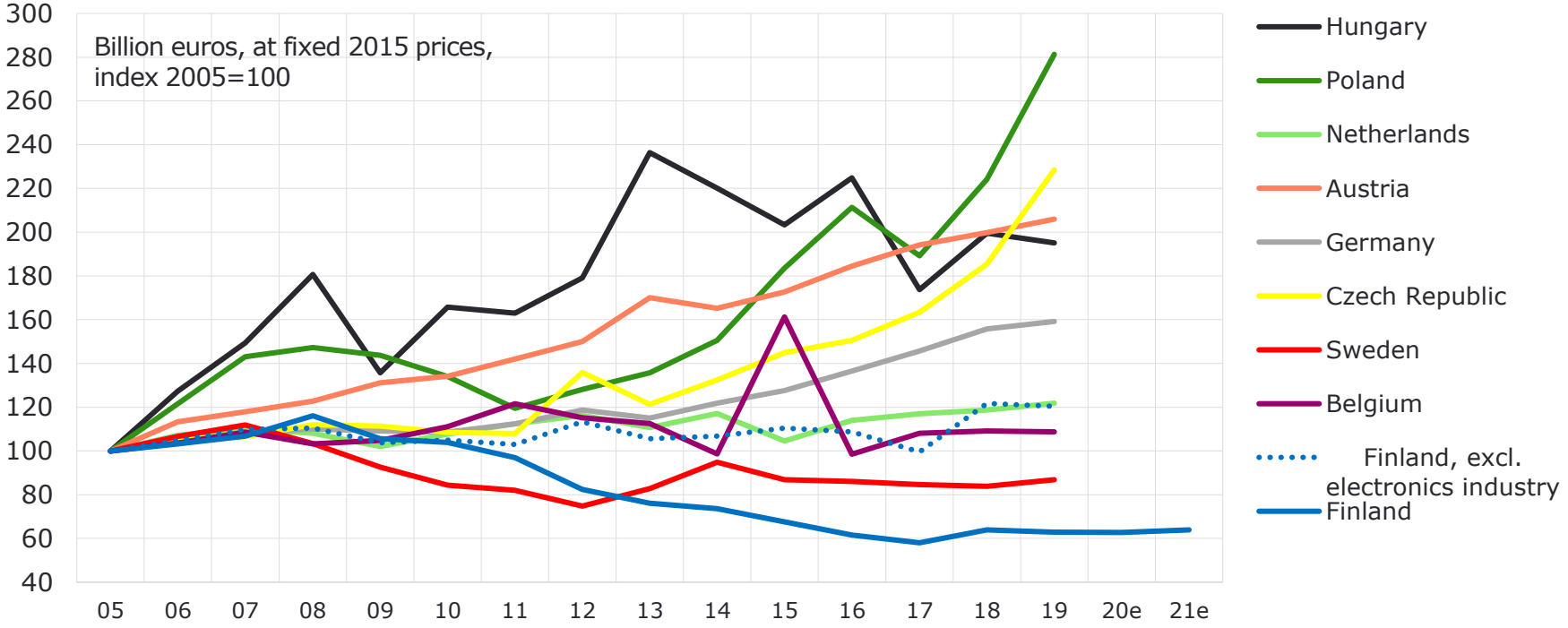
Source: Eurostat (National Accounts), Confederation of Finnish Industries' investment survey, January 2021

Investment Rate in Industrial Tangible Investments Is at a Low Level in Finland



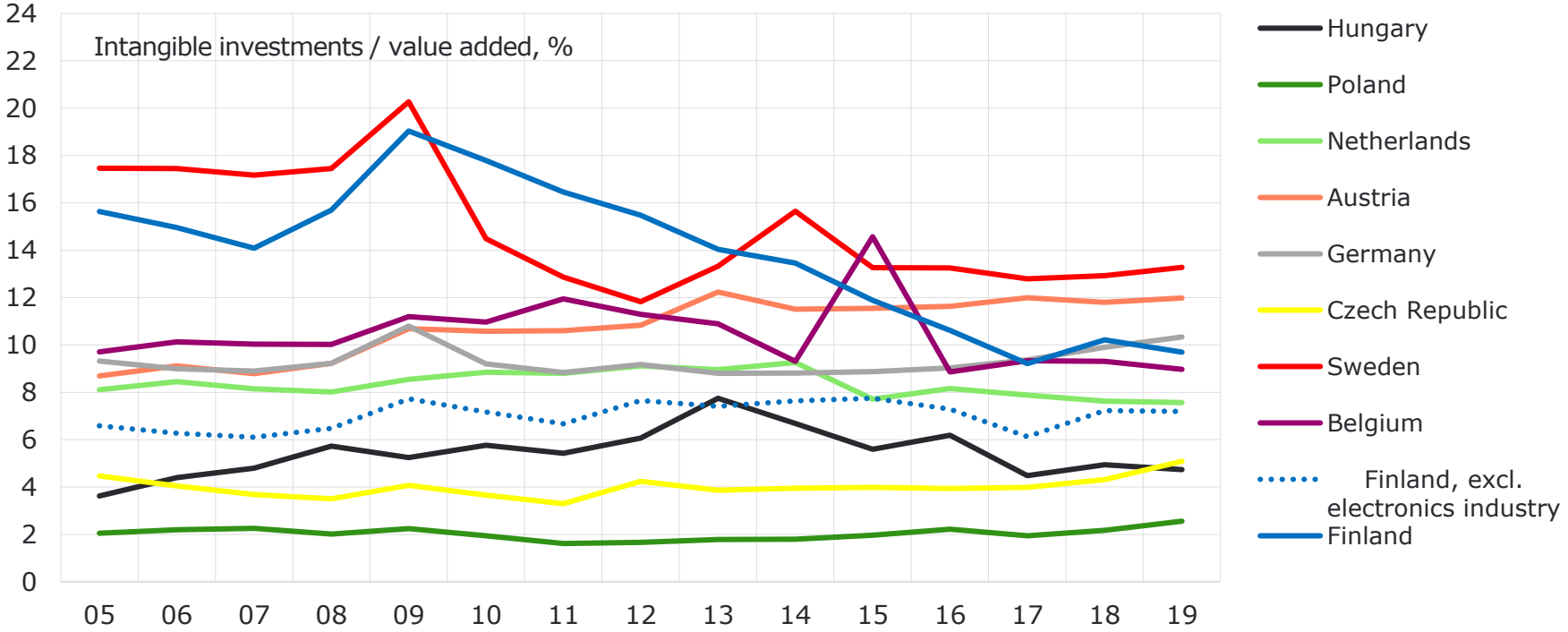
Source: Eurostat (National Accounts)

Industrial Intangible Investments * in Finland Have almost Halved since 2005



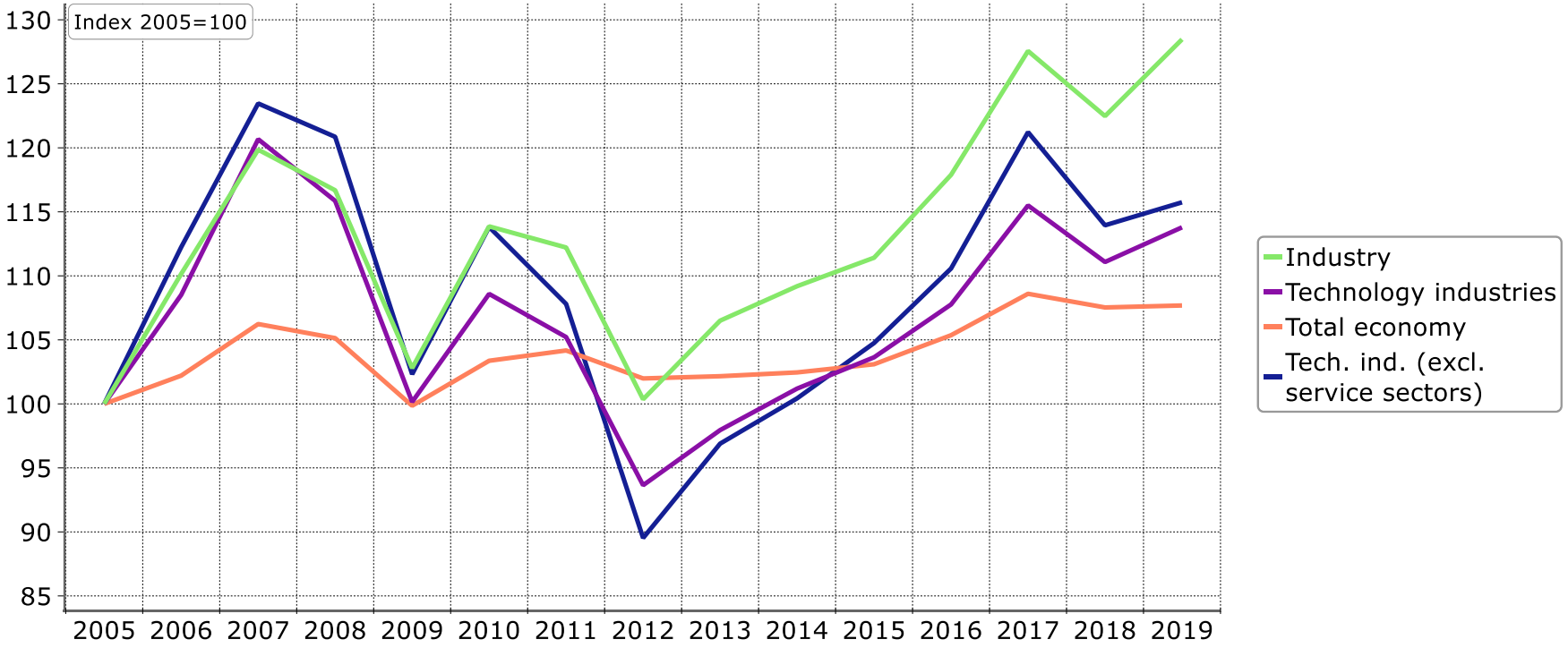
*) Intangible investments include research and development and software investments etc.
Source: Eurostat (National Accounts), Confederation of Finnish Industries' investment survey, January 2021

Investment Rate of Industrial Intangible Investments* Has Dropped Significantly in Finland



*) Intangible investments include research and development and software investments.
Source: Eurostat (National Accounts)

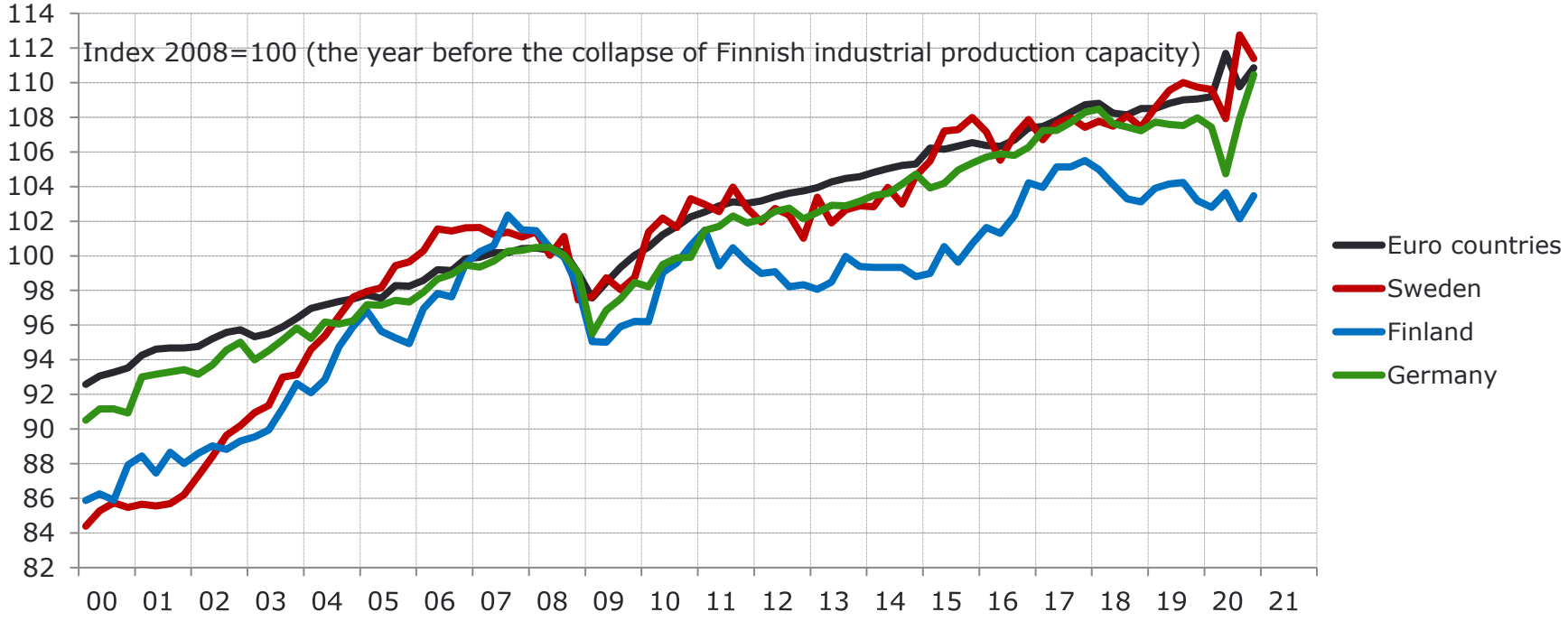
Investments and productivity* are Decisive for Finland's Success



*) Productivity is measured as real value added per hours worked. When productivity grows (the curve rises) value added grows more than hours worked.
Source: Statistics Finland

Finland's GDP Productivity Has Lagged Behind Other EU and Euro Countries

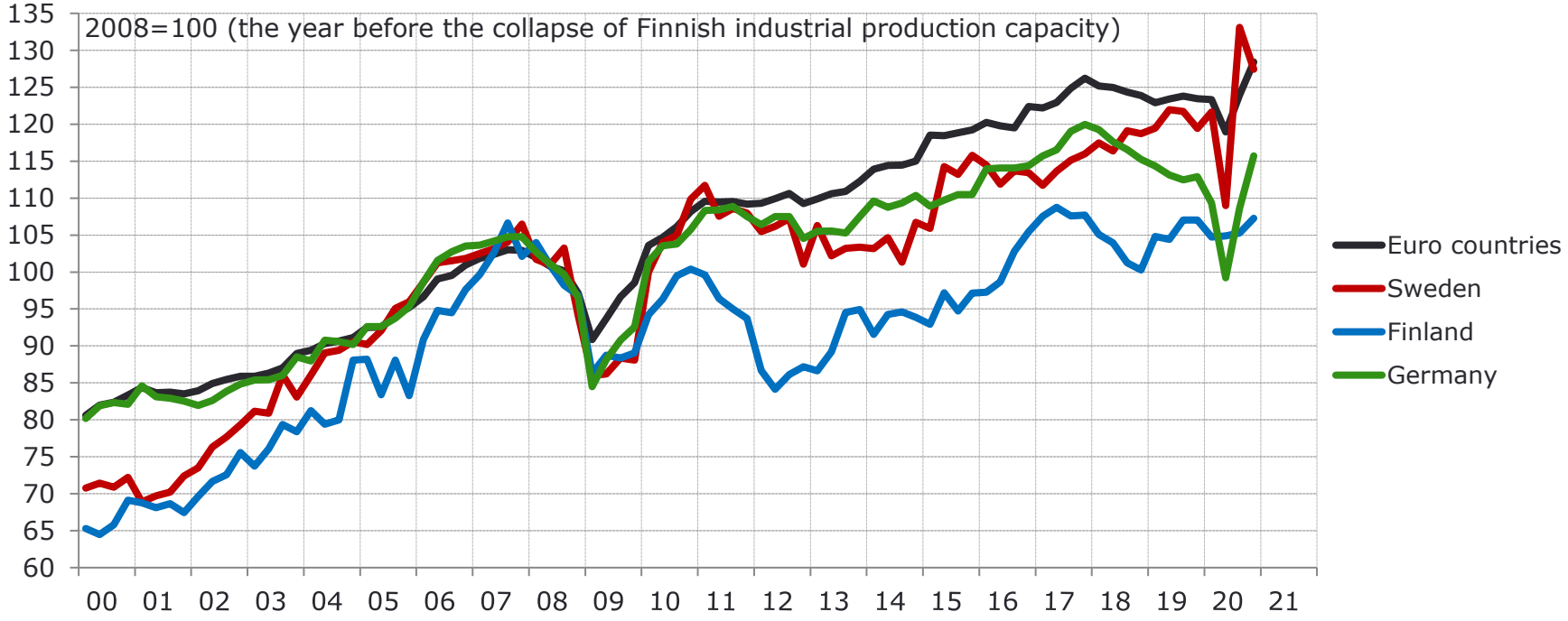
GDP at fixed prices / hours worked



Latest information October-December 2020.
Source: Eurostat: Quarterly National Accounts

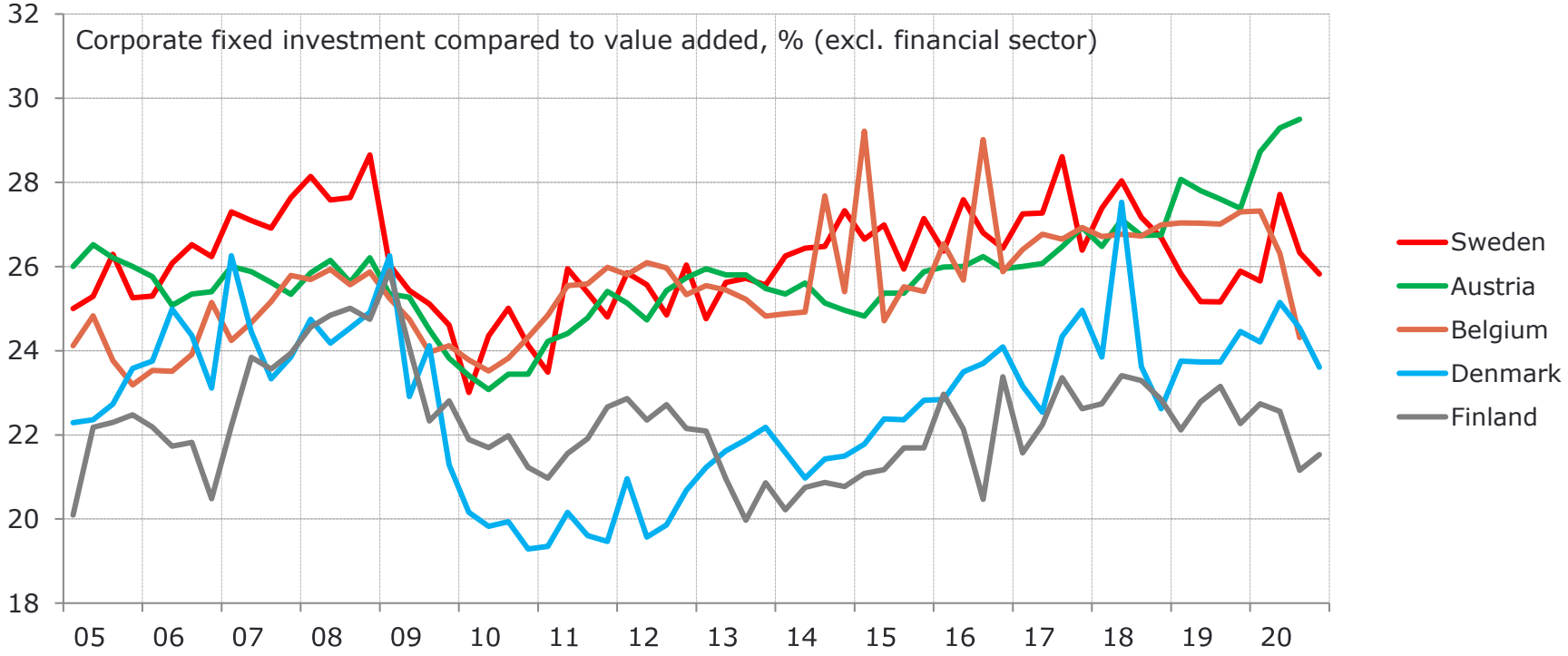
In Industrial Productivity, Finland Is Still Behind the EU and Eurozone Average

Industrial value added at fixed prices / hours worked



Latest information October-December 2020.
Source: Eurostat: Quarterly National Accounts

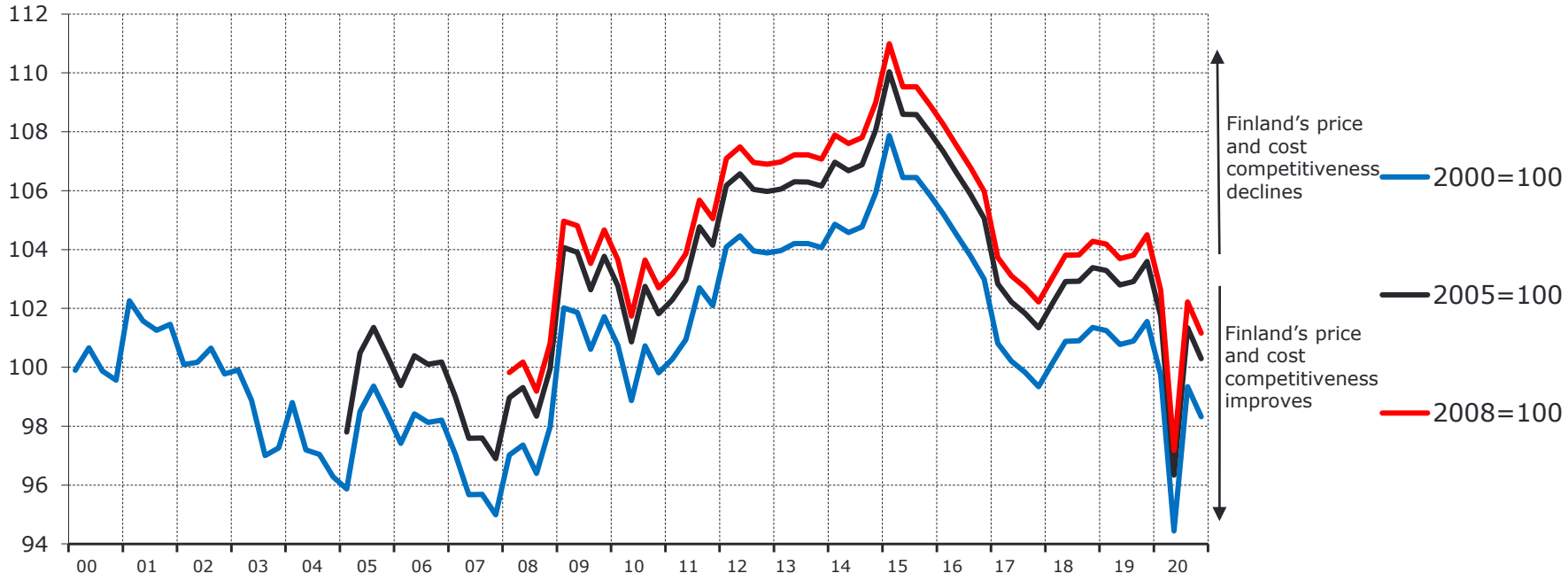
The Investment Rate of Companies in Finland Is Clearly Lower than in the Main Competitor Countries



Lates information October-December 2020.
Source: Eurostat

There Is Still Room for Improvement in Finland's Cost Competitiveness

Unit labour costs in the whole economy = labour costs / productivity, including the influence of effective exchange rates

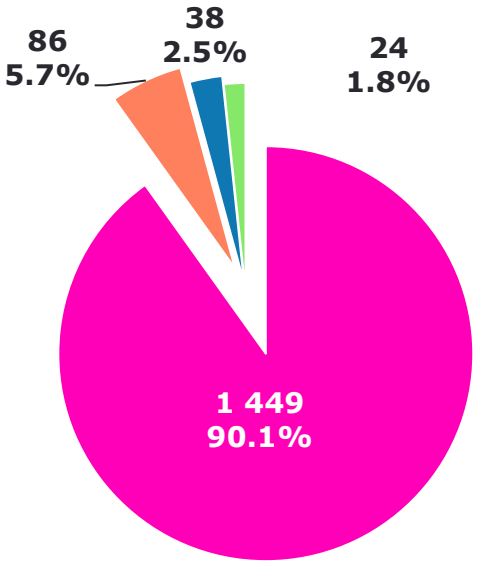


*) **In the ECB Harmonised Competitiveness Index**, the average effective exchange rate of each country is calculated vis-à-vis 38 main trade partners, as well as the development of unit labour costs for the total economy.
Latest information October-December 2020. Source: European Central Bank

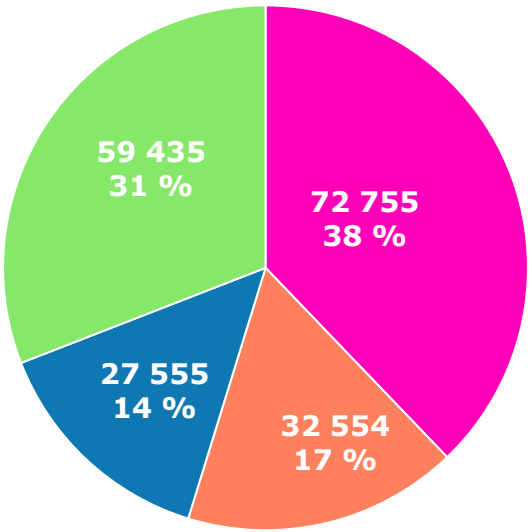
Member Companies of the Federation of Finnish Technology Industries

The Federation’s Member Companies 2019

Number of enterprises / 1,608



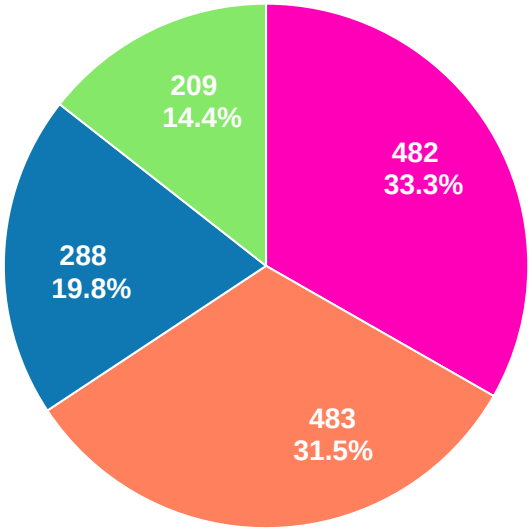
Number of personnel / 192,299



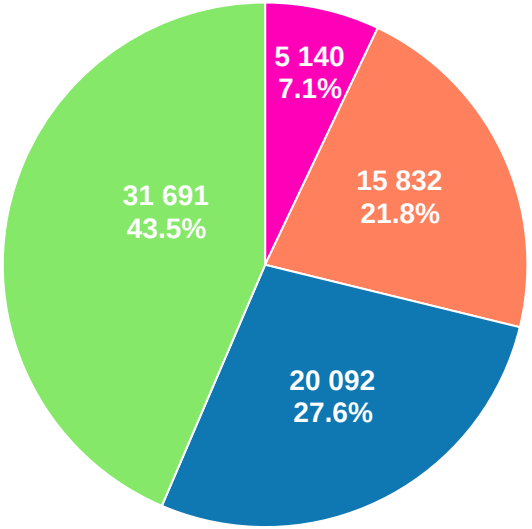
- 1–249 employees
- 250–499 employees
- 500–999 employees
- 1000– employees

The Federation’s SME Member Companies 2019

Number of enterprises / 1,449



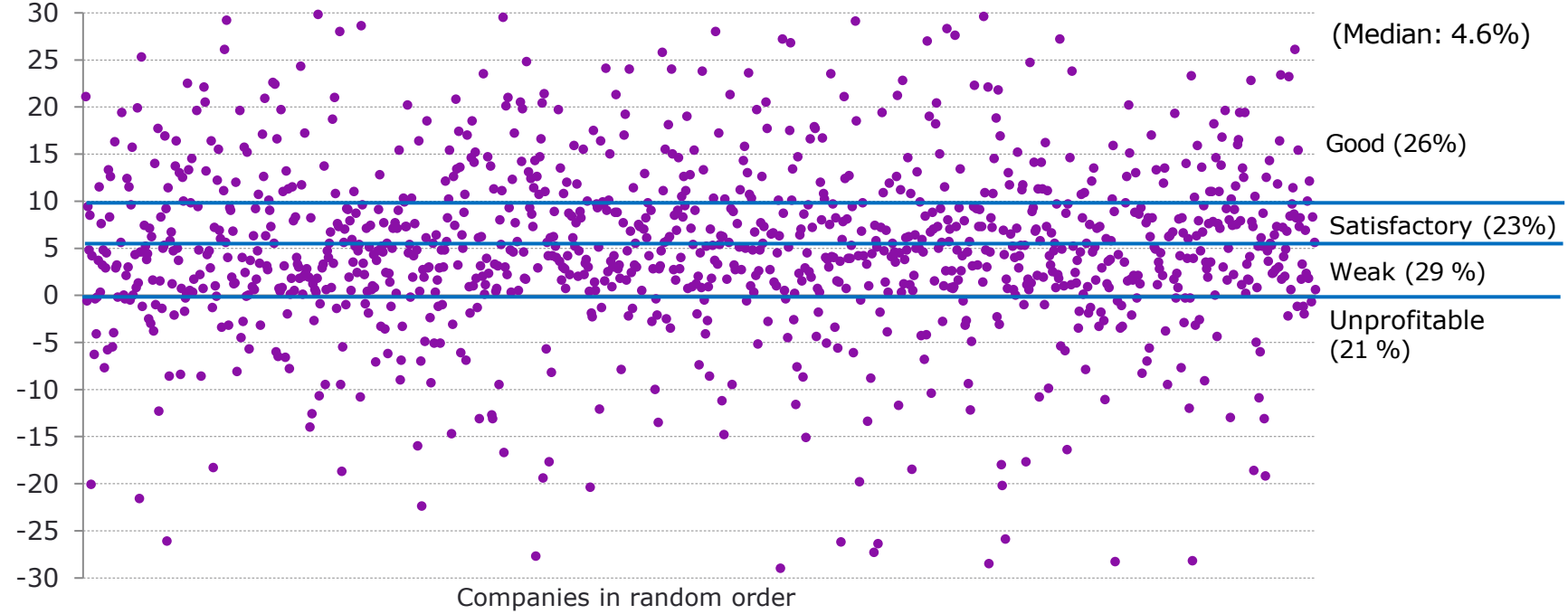
Number of personnel / 72,755



- 1–19 employees
- 20–49 employees
- 50–99 employees
- 100–249 employees

Operating Profit in the Member Companies of Technology Industries of Finland in 2019

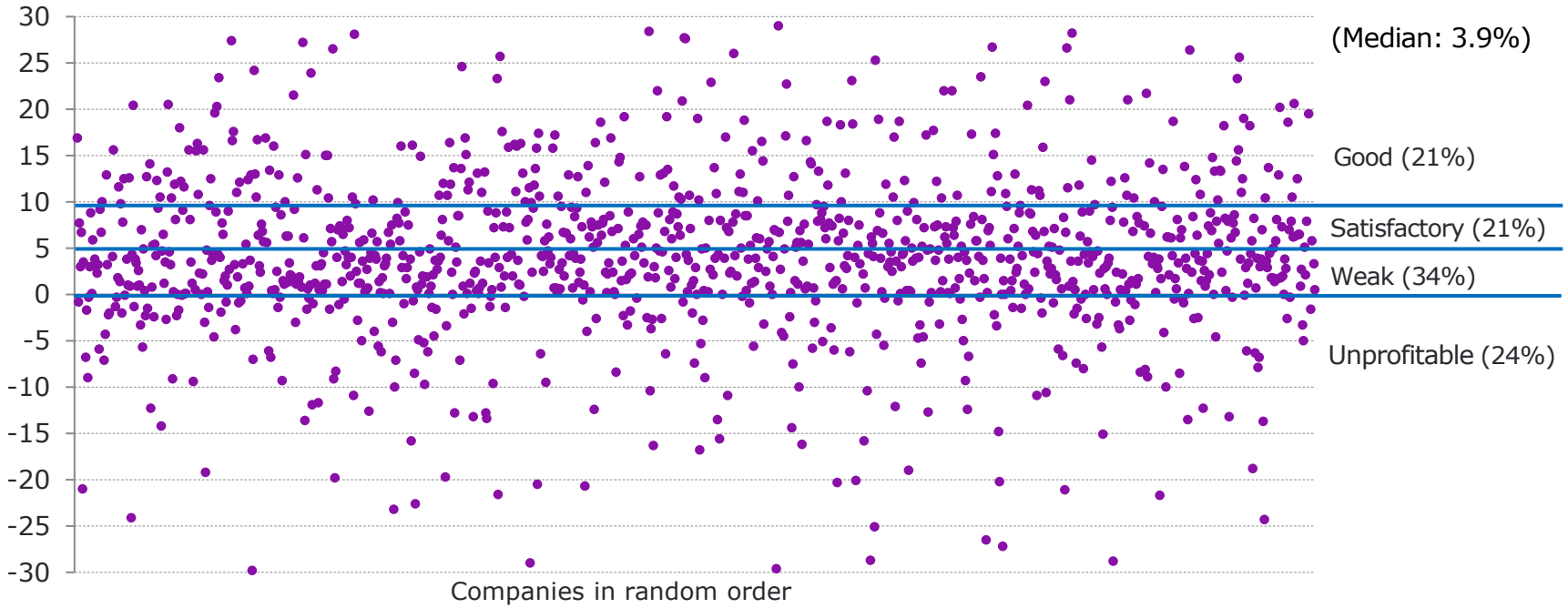
Operating profit-% = operating result / turnover * 100 (before taxes and financial income and expenses)



Source: Statistics Finland

Net Profit in the Member Companies of Technology Industries of Finland in 2019

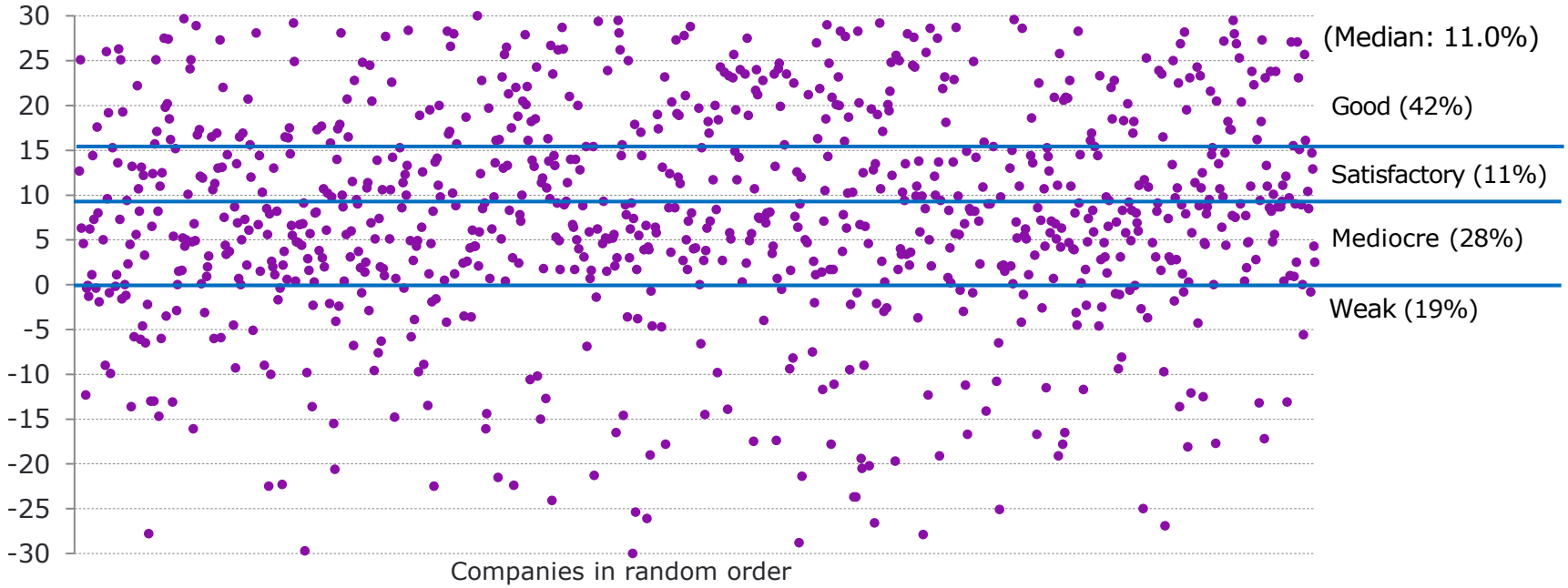
Net profit -% = net profit / turnover * 100 (after tax and financial income and expenses)



Source: Statistics Finland

Return on Assets in the Member Companies of Technology Industries of Finland in 2019

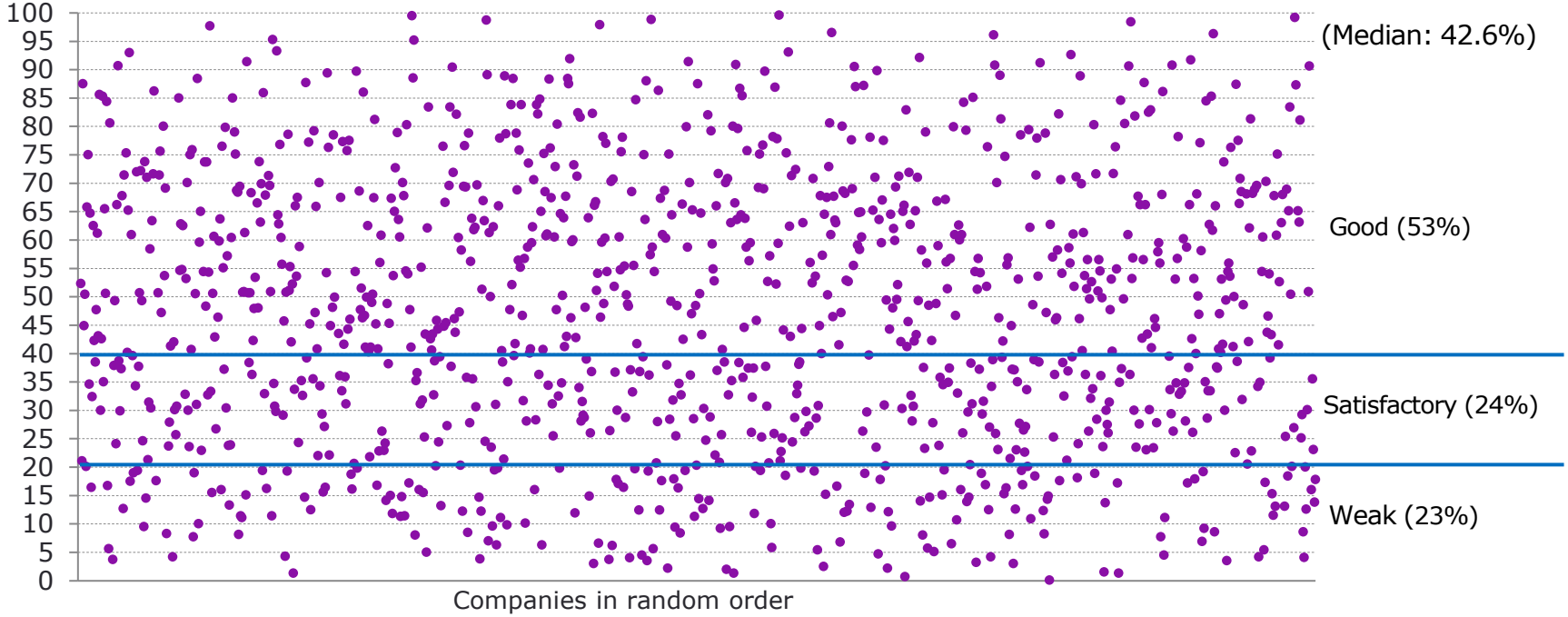
Return on assets -% = (net income + financial expenses + taxes) / (capital invested in the financial year) * 100



Source: Statistics Finland

Equity Ratio in the Member Companies of Technology Industries of Finland in 2019

Equity ratio -% = (total equity + total appropriations accrued) / adjusted balance sheet * 100



Source: Statistics Finland