Republic of Cyprus

CYPRUS ECONOMY AND COMPETITIVENESS COUNCIL

Cyprus Competitiveness Report 2023

Discover the latest trends and insights on Cyprus' economic performance and competitiveness in the markets.

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Preface

The 2023 Cyprus Competitiveness Report was commissioned by the Cyprus Economy and Competitiveness Council (ECC). It was implemented via a Memorandum of Research Collaboration that was signed between the University of Cyprus and the Directorate General for Growth (DG Growth) in its capacity as the ECC's Secretariat.

The project was carried out at the University of Cyprus' Economics Research Centre by a team of researchers led by Dr Sofronis Clerides and comprising Polyxeni Chrysostomide, Iuliana Ciobanu, Elena Ketteni, and Kristina Kokozidou. The research team would like to thank the ECC and its chairman, Takis Klerides, for entrusting us with this project. We would also like to express our appreciation to the members of the Steering Committee, in particular Iosifina Skordi and Eliza Petridou (DG Growth) and Andreas Assiotis (ECC). Their feedback was a valuable input in this process and the close collaboration we established was instrumental in achieving a successful outcome.

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The report is based on more than 150 statistical indicators, benchmarking Cyprus competitiveness performance over time and against 12 countries as well as the European Union or euro area average. The analysis covers a wide range of competitiveness areas, including social outcomes and sustainability indicators. It provides an objective and evidence-based picture and allows for future updates in a consistent manner.

Benchmarking is a useful exercise as it allows comparisons with other countries. The set of benchmarking countries is a mix of "role models" and "peers"; the former are countries generally thought to be leaders in many aspects of performance, while the latter are countries that are comparable to Cyprus in some respects and have similar aspirations. Thus, the report compares Cyprus against some of the best performing countries in Europe, which should be seen as a reflection of the country's ambition to be a top-tier location to do business.

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The Economics Research Centre of the University of Cyprus is an independent research institution dedicated to public service. The Centre aims at high quality research in economics and especially economic policy-oriented research related to Cyprus and Europe. Research at the Centre aims at results of high academic standards with wide international interest.

Forewords

Foreword by the Minister of Finance

The economy of Cyprus has shown consistent ability to recover swiftly from a number of serious challenges in the face of the coronavirus pandemic, the wars in Ukraine and Israel, as well as the energy crisis with severe inflationary pressures, assisted by the generous government support measures for businesses, workers and socially vulnerable groups.

One of the most important priorities of the Government is ensuring sustainable long-term development of our country and strengthening the competitiveness and resilience of our economy through a holistic approach, recognizing the need for transitioning to a new development model which takes into consideration the environmental, social and governance factors. A number of initiatives to pursue these goals include investments and reforms to expand the productive base by strengthening the primary and secondary sectors of the economy, diversifying and enhancing the tourism product, improving the business environment, attracting new investment, developing research and innovation, promoting digitalization in both the public and private sectors as well as achieving environmental sustainability and climate neutrality. A necessary element in our effort to achieve sustainable development is the promotion of social and inclusive development, which aims to improve the quality of human life. As an integral part of the above, both the Recovery and Resilience Plan (RRP) and the “THALEIA” Program include a great number of actions.

In this respect, a new ambitious economic model is currently in place and has begun to be implemented. The aim of the new long-term Strategy “Vision 2035” is to build a solid base for growth, enhance the resilience and the long-term prospects of our economy through very specific policies, investments, and reforms, by promoting all three pillars of sustainable development, i.e. achieving the green transition, promoting social and inclusive growth as well as strengthening of the economy.

Our aim is to turn into a country with high levels of resilience, productivity and competitiveness, with the education system and workforce development aligned with the skills needed for the future, with a resilient health system that follows best practices from top health systems around the world and at the same time a country that is among the pioneers in Green and Digital transition.

Recognizing this dynamic dimension, I would like to welcome the publication of the third Competitiveness Report by the Cyprus Economy and Competitiveness Council, which provides an excellent assessment of Cyprus’ competitiveness and productivity.

Moreover, I would like to express my congratulations and sincere thanks to the team of the University of Cyprus who have worked on its preparation as well as to the Chairman and members of the Economy and Competitiveness Council who have assisted through the preparation and contributed with their comments and suggestions through its completion. I am convinced that the Council will use this Report as an important instrument for providing independent policy analysis and recommendations for the benefit of our country.

Makis Keravnos
Minister of Finance

Foreword by the Chairman of the Economy and Competitiveness Council

The Cyprus Economy and Competitiveness Council, established in 2018, systematically reviews and analyses policies and developments in terms of productivity and competitiveness, contributing to the sustainable development of the Cyprus economy. The imperative for a systematic evaluation of competitiveness has grown increasingly urgent in the wake of a decade marked by frequent economic shocks experienced by the Cyprus economy. These challenges include the banking crisis, the impact of Brexit, the cessation of the Cyprus Investment Programme, the global disruption caused by the coronavirus pandemic, the conflict in Ukraine, and the inflationary shocks.

One of the Council's central duties involves the biennial preparation of the Competitiveness Report, serving as the primary analytical instrument for the Council. This report encompasses a benchmarking analysis of Cyprus' competitiveness and productivity, comparing various indices with selected European countries. Additionally, the report delves into an analysis of economic domains with relative weaknesses, highlighting the key factors that influence them. Ultimately, it identifies priority sectors requiring policy measures to enhance Cyprus' competitiveness.

The third Competitiveness Report extends the groundwork laid by the first and second Reports, maintaining a consistent methodology and a comprehensive definition of competitiveness. This iteration places increased emphasis on productivity analysis. Additionally, it introduces a novel chapter addressing the recent surge in the influx of highly skilled foreign nationals into Cyprus and examines its impact on the island’s economy. The report not only highlights the challenges posed by this demographic shift but also proposes strategies for successful management.

In this context, the Report evaluates the progress made in addressing challenges identified in prior reports and puts forth recommendations. These recommendations include the promotion of entrepreneurship, the strengthening of business linkages, the optimization of human capital for labour market needs, improvement of access to finance, development of new economic sectors and enhancement of diversification. While recognizing ongoing reforms aimed at bolstering competitiveness, the report underscores the crucial necessity for their effective implementation.

The Report also emphasizes the significance of substantial support from the European Union’s Recovery and Resilience Facility (RRF) in facilitating the transition to a greener economy and promoting digital transformation. Additionally, the RRF's timely provision of funding aligns with numerous actions outlined in the Long-Term Strategy "Vision 2035." The report emphasizes the imperative to overhaul our economic model to address challenges such as inequality, low productivity, and climate change. It positions the Long-Term Strategy and the Recovery and Resilience Facility as Cyprus' pivotal opportunity to achieve these transformative goals.

Sincere thanks are extended to the University of Cyprus, with special acknowledgment to Professor Sofronis Clerides and his team, for their efforts in preparing the 3rd Competitiveness Report. The Report is a valuable analytical instrument and aims to facilitate ongoing dialogues with stakeholders and the government. Its insights are expected to contribute significantly to the development of evidence-based policies aimed at fostering long-term sustainable and inclusive growth, thereby reinforcing Cyprus' economic potential and resilience.

Takis Klerides
Chairman, Cyprus Economy and Competitiveness Council

Executive Summary

A world in flux. The 2023 Cyprus Competitiveness Report comes out at a time of global upheaval, a realignment of international politics, disruptive technological breakthroughs, military conflict, and heightened concern over climate change. It is a complex environment for anyone to navigate, and all the more so for a small country in a turbulent region. Assessing Cyprus' competitiveness position during this turmoil is a challenge, but still needs to be done. The goal of this report is to help Cyprus identify its strengths and weaknesses and find the path towards a prosperous future for its citizens.

The Cyprus Competitiveness Report assesses the country's competitiveness performance and its determinants. It identifies key challenges and provides suitable policy actions to tackle them. It is an important resource for policy makers and can be used for broader discussions. The report goes beyond an analysis of competitiveness outcomes alone. It places major emphasis on the identification and assessment of the factors that explain Cyprus' competitiveness. To this end, the report offers a comprehensive and detailed assessment of relevant indicators, alongside the policy context and other drivers that shape the development of Cyprus' competitiveness.

National competitiveness is understood to consist of the set of institutions, policies and other factors that underpin and uphold value creation by enterprises within a country and thereby support high and rising living standards of its citizens on a sustainable basis. Based on this definition, competitiveness indicators are organised and categorised within a broad competitiveness framework. The framework used in this report distinguishes several categories of competitiveness indicators, namely:

- *Competitiveness objectives*. The ultimate aim of competitiveness policy;
- *Sustainability conditions*. Necessary for achieving and maintaining competitiveness in the long-term;
- *Competitiveness outcomes.* As the yardstick for assessing competitiveness performance through key performance metrics;
- *Competitiveness drivers*. A combination of production inputs as well as market and institutional conditions that affect the environment in which enterprises operate and create value; and
- *Endowments* and *exogenous factors*. Factors that affect competitiveness that cannot be changed through public policy.

Leading international competitiveness rankings place Cyprus among developed economies but near the bottom of the group and on a downward path. Cyprus' position deteriorated significantly during the 2010's, especially after the 2012-13 fiscal and banking crisis. It has partially recovered since, but that trend has flattened off and even reversed in the last couple of years. Being in the top quartile of all countries in the world in terms of competitiveness is not bad, but Cyprus aspires to do better.

This report benchmarks Cyprus against 12 other nations. The choice of countries is based on multiple criteria, including economic size, geography (particularly if the country is a peripheral EU location), and competitiveness track record. These countries are Denmark, Estonia, Finland, Germany, Greece, Ireland, Malta, the Netherlands, Portugal, Slovenia, the UK, and Israel. The choice of these mostly highly competitive countries reflects the ambition of the Cyprus government to catch up with the best performing countries.

Cyprus' productivity performance was adversely affected by the 2008 global financial crisis and the 2012-13 fiscal and banking crisis. Labour productivity in Cyprus is below the EU average, lagging northern European economies but on par with economies in the south and east

of Europe. It declined significantly after the debt crisis and has been stable since. Total factor productivity also dropped during the crisis and has yet to show signs of recovery. The information and communication technology sector has been a strong performer in terms of productivity improvements in recent years and holds promise for being an important growth driver for the next few years.

Cyprus has strong service exports but relatively weak inward FDI performance and employment creation, compared to the benchmarked countries. As a share of GDP, Cyprus' overall exports are dominated by service exports and are above the EU average, but the country has a large negative current account balance. Foreign direct investment inflows are relatively modest, after accounting for FDI driven by special-purpose entities. Employment levels suffered significantly after the 2012-13 banking crisis but have recovered to a substantial extent. Even though the unemployment rate never returned to the pre-crisis levels, the employment rate is now at an all-time high.

Of the more than 150 statistical indicators in this report, almost 100 are for competitiveness drivers across eight broad themes. The main themes treated in the report are:

1. **Market conditions and institutions**, referring to how well markets function and how well their functioning is supported by institutions;
2. **Business environment and institutions**, referring to the legal, administrative and regulatory environment for businesses;
3. **Industry structure, specialisation and organisation**, referring to the structure of the economy, the production of goods and services, the level of economic specialisation or diversification, how production is organised (for example, in value chains or in clusters), and whether intermediate inputs can be sourced domestically;
4. **Firm characteristics, dynamism and sophistication**, referring to the size and structure of firms, the dynamism of businesses (such as new business creation and high-growth enterprises), the level of entrepreneurship and entrepreneurial attitudes, and the sophistication of businesses and management quality;
5. **Human capital**, referring to the availability and quality of the workforce;
6. **Technology, innovation and knowledge**, referring to public investments in technology and innovation, the knowledge infrastructure, and the technological and innovation characteristics of firms. These reflect the importance of technological breakthroughs and technology-based innovations as the basis of many productivity gains;
7. **Financial infrastructure**, referring to the institutions that provide access to finance and financial services;
8. **Productive and physical infrastructure**, referring to infrastructure such as transportation, utilities or telecommunications.

With regards to national (not sectoral) competitiveness, **broad regulatory, institutional and market conditions in Cyprus are good** and are in line with those throughout the EU. Moreover, many policies are in place or are under consideration to address competitiveness weaknesses. While policy measures have been taken in the relevant areas, their effectiveness warrants additional evaluation to seek further improvements. In many instances, the country requires no new public policies, but rather more emphasis on the effective implementation and coordination of existing ones.

The indicator analysis identifies several areas where competitiveness could be enhanced. Notwithstanding the generally good regulatory, institutional and market conditions in Cyprus, recommendations for further improvement include:

- To promote **entrepreneurship and firm dynamism**, developing a holistic approach that acknowledges the interaction of entrepreneurship with other policy areas, such as access to finance, education, business linkages and external connectivity.
- To strengthen **business linkages and interaction**, supporting the integration of Cypriot firms in the supplier networks of large international companies, and enhancing collaboration between the business community and tertiary-level education and research.
- To boost the **adoption of digital technologies**, providing digitalisation incentives for key sectors of the economy, strengthening education and training for digital skills, and incentivising productivity-enhancing investments, especially for ICT assets. The pandemic has provided the impetus for this, and government policies should aim to keep the momentum going.
- To improve **access to finance,** continuing the successful efforts to strengthen the banking system, but also improving access to, and the availability of, alternative sources of finance.
- To better exploit its **human capital**, raising the number of graduates with technical and natural-science qualifications and strengthening education and training for digital skills and entrepreneurship. Monitoring current and future skill requirements should also be completed to ensure that skill needs of economic sectors are met.
- To improve **sustainability** by better enforcement of environmental policies, reducing emissions, and working towards a circular economy.

A grand vision for Cyprus. Cyprus has proven to be very versatile and quick to adapt, both to domestic crises and to often dramatic changes in its external environment. It has been less effective at formulating and implementing a long-term vision for its economy and its people. The Long-Term Economic Strategy commissioned by the Economy and Competitiveness Council and developed by external consultants promises to change all that. The strategy focuses on the opportunities and strengths that Cyprus can build on, so that it can continue to transform its economy in a sustainable way towards high growth and high value-added sectors; the Strategy's vision is to transform Cyprus to one of the world's best countries to live, work and do business. A lofty goal indeed, and an opportunity not to be missed.

Acronyms and Abbreviations

AROPE	At Risk of Poverty or Social Exclusion
BFU	Business Facilitation Unit
CARG	Compound Annual Rate of Growth
CBC	Central Bank of Cyprus
CCR	Cyprus Competitiveness Report
CEPEJ	Council of Europe European Commission for the Efficiency of Justice
CIP	Cyprus Investment Program
CIPA	Cyprus Investment Promotion Agency
CITEA	Cyprus Information Technology Enterprises Association
CPI	Corruption Perception Index
CYSTAT	Statistical Service of Cyprus
CYTA	Cyprus Telecommunication Authority
DESI	Digital Economy and Society Index
DLS	Department of Lands and Surveys
DMC	Domestic Material Consumption
EA	Euro Area
ECC	Economy and Competitiveness Council
EDGI	E-Government Development Index
EEA	European Economic Area
EIB	European Investment Bank
EIS	European Innovation Scoreboard
EPI	E-Participation Index
EPO	European Patent Office
EU	European Union
ETEK	Technical Chamber of Cyprus
FATS	Foreign Affiliates Statistics
FDI	Foreign Direct Investment
FIC	Foreign Interest Companies
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GEDI	Global Entrepreneurship Development Index
GFCF	Gross Fixed Capital Formation
GFCI	Global International Financial Center
GII	Global Innovation Index
GVA	Gross Value-Added
HICP	Harmonised Index of Consumer Prices
ICT	Information and Communications Technology
IFC	International Financial Center
IIP	International Investment Position
IMD	International Institute for Management Development
IMF	International Monetary Fund

INSEAD	Institut Européen d'Administration des Affaires
IPR	Intellectual Property Rights
IPRI	Intellectual Property Rights Index
IT	Information Technology
LP	Labour Productivity
LPI	Logistics Performance Index
LTES	Long-term Economic Strategy
NACE	Nomenclature Statistique des Activités Économiques dans la Communauté Européenne
NEET	Neither in Employment nor in Education and Training
NIIP	Net International Investment Position
NRP	National Reform Programme
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PPP	Purchasing Power Parity
PPS	Purchasing Power Standard
R&D	Research and Development
RIF	Research and Innovation Foundation
RISE	Research Centre on Interactive Media, Smart Systems and Emerging Technologies
RPPI	Residential Property Price Index
RRF	Recovery and Resilience Facility
RRP	Recovery and Resilience Plan
SDG	Sustainable Development Goals
SILC	Statistics on Income and Living Conditions
SME	Small-and Medium-Sized Enterprise
SPE	Special-Purpose Entity
SPP	Shared Prosperity Premium
SSRS	Structural Reform Support Service
STEM	Science, Technology, Engineering, and Mathematics
SWOT	Strengths, Weaknesses, Opportunities and Threats
TFP	Total Factor Productivity
TiVA	Trade in Value-Added database
TOE	Thousand Tonnes of Oil Equivalent
UK	United Kingdom
ULC	Unit Labour Cost
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
VAT	Value-Added Tax
WDI	World Development Indicators
WEF	World Economic Forum
WGI	Worldwide Governance Indicators
WIPO	World Intellectual Property Organization
y-o-y	Year-on-year
ytd	Year to date

1 Context and aims

The first Cyprus Competitiveness Report (CCR) was published by the Cyprus Economy and Competitiveness Council (ECC) in 2019. It was conceived in the wake of the banking and fiscal crisis of 2012-13 to facilitate the debate about a new growth model for Cyprus and to offer an analytical tool to comprehensively assess Cyprus' competitiveness performance, to identify key challenges, and to propose suitable policy actions to tackle them. It would serve as a valuable input for policy makers but also for broader discussion and debate. The overarching ambition of the report was to identify and assess the factors that explain Cyprus' competitiveness, rather than to simply describe its outcomes. To this end, it offered a comprehensive and detailed assessment of relevant indicators, the policy context and other factors that shape the development of Cyprus' national competitiveness. It also identified the Information and Communications Technology sector (ICT) as a promising driver of future growth and included a special chapter on its status and prospects.

The second CCR was published in 2021. It updated the previous report wherever new data were available and introduced several new indicators. It identified continuing trends as well as important changes that primarily related to the coronavirus pandemic that had hit the globe in the spring of 2020. A dedicated chapter documented the Cypriot economy's response to the pandemic and discussed how debates about the economy's future direction should be informed by the lessons learned from this unprecedented calamity.

The 2023 CCR builds on the strengths of previous reports but also features a number of important improvements: (i) it significantly expands the scope for intertemporal comparability by providing longer time series for many indicators that were displayed for one or two years in previous reports; (ii) it expands the section on productivity (5.1) with several new indicators at a more granular level and a deeper analysis; (iii) it introduces a discussion of the UN's Sustainable Development Goals in chapter 8; (iv) it includes a new chapter on the recent influx of large number of high-skilled foreign nationals into Cyprus and its impact on the island's economy.

1.1 Introduction to Cyprus

Cyprus joined the European Union in 2004, together with Malta and eight countries of Central and Eastern Europe. In 2008 it adopted the euro as its currency, thus joining the economic region known as the Euro Area (EA). Cyprus is integrated into the European single market and enjoys market access to third countries through EU trade agreements. It is strategically located at the crossroads of the European Union, Asia, the Middle East and Africa, allowing the country to promote itself as a business gateway between three continents. It has limited natural resources and agricultural potential, with less than 11 percent of the land area being arable. The discovery of natural gas in its exclusive economic zone in 2011 created hopes of a natural resource boom but the road to commercial exploitation has been rocky and the outcome remains in doubt. On the other hand, Cyprus benefits from a temperate climate, varied scenery, and diverse cultural heritage. These are important assets for the tourism sector but also provide a pleasant environment that can attract non-nationals to live and work on the island.

The combination of being a small and peripheral—but strategically situated—country with limited natural endowments drives the pattern of economic specialisation of Cyprus. Services dominate the economy, while agriculture, extractive industries and manufacturing make a relatively small contribution to GDP and employment. Tourism has traditionally been a strong service export sector and remains significant today. It has been complemented by other

export-oriented service industries, such as financial and legal services. Some niche sectors such as maritime shipping have also developed. Information and communication services have grown rapidly in recent years and have contributed significantly to the post-pandemic recovery. A large professional and administrative services sector has developed to serve these companies. The tertiary education and health sectors have also seen significant expansion in recent years.

Given its small domestic market size, its geographic location, and the openness of its economy, Cyprus is heavily exposed to regional and global developments, both economic and political. It also has a knack for producing its own crises, such as the stock market boom-and-bust of 1999-2001 and the massive credit expansion and real estate bubble of 2006-2008 that culminated in the banking sector collapse of 2013. The tendency for extremes notwithstanding, Cyprus has repeatedly shown an impressive ability to bounce back quickly from large adverse shocks. This was clearly evident after the 2013 crisis. Despite the collapse of its banking sector and the imposition of austerity measures and capital controls, Cyprus beat all expectations by returning to growth and a primary budget surplus in 2015 and sustaining robust growth rates until the COVID-19 pandemic in 2020. The pandemic was an exogenous shock that affected the entire globe, but it arguably posed a larger threat to a small, open economy that is based on services, especially tourism. Cyprus weathered this crisis well too. It had one of the smaller output contractions in Europe in 2020 and swiftly returned to previous output levels in 2021. But it was not meant to last, as rising prices, Russia's invasion of Ukraine, and the conflict in Gaza have added multiple levels of uncertainty and complexity to the global economic environment. Growth in Cyprus is decelerating, but it remains one of the highest in Europe.

There should be no doubt that Cyprus has an uncanny ability to adapt to endogenous or exogenous shocks. Yet the series of crises that Cyprus has faced in the last 20 years has revealed institutional and structural weaknesses in the economy. These weaknesses are laid out in the open in the current report. They need to be addressed for the economy to become more sustainable and resilient, allowing it to adopt to the new challenges presented by climate change and technological transformation.

The flip side of this is its inability to develop and implement a long-term economic strategy. The next section outlines the recent history of strategy and action plan development, culminating in the Long-Term Economic Strategy (LTES) prepared under the stewardship of the Economy and Competitiveness Council (ECC). The LTES is probably the first comprehensive strategy for Cyprus since the days of the five-year plans back in the 1960s and 1970s. It was the result of a consultative process involving all major stakeholders and political parties. It remains to be seen whether Cyprus will be able to implement the 'Vision 2035' proposed by the LTES.

1.2 A new growth model

The banking and fiscal crisis of 2013 was a watershed moment in the recent history of Cyprus. The Memorandum of Understanding agreed between the Government of Cyprus and the Troika of international lenders laid out an ambitious Economic Adjustment Program that aimed to restore public finances, stabilize the banking sector, and implement structural reforms to improve competitiveness and create balanced, sustainable growth. The first two objectives were achieved remarkably quickly. The program was successful in bringing down the deficit, and the government ran a primary surplus (before interest payments) as early as 2015. The banking sector was stabilized, allowing for the lifting of capital controls in April 2015. Both of those milestones were achieved much earlier than anticipated.

The third objective was more long-term in nature. In 2015, the Cyprus government approved an Action Plan for Growth, which built on the Economic Adjustment Program

and the National Reform Programmes developed as part of the Europe 2020 Strategy. The Action Plan recognized the need for a new economic model for Cyprus. It proposed targeted measures in priority areas, as well as horizontal actions that were deemed to contribute significantly to improving competitiveness and business environment, job creation and a more balanced development model, which would be less susceptible to external shocks.

The need for an assessment of the competitiveness challenges faced by the Cypriot economy grew out of this effort. The first Cyprus Competitiveness Report (CCR) was published by the Economy and Competitiveness Council (ECC) in 2019. The Council has been established in 2018 and was assigned the responsibility of monitoring competitiveness and productivity indicators and making appropriate policy recommendations. With the CCR as a key input, the Council embarked on the task of developing a full-fledged Long-Term Economic Strategy (LTES) for Cyprus. This ambitious project was initiated in early 2020 and the strategy was formally presented to the Council of Ministers in July 2022.

In 2020, the European Union set up—in response to the pandemic—the €672.5 billion Recovery and Resilience Facility (RRF) to support reforms and investments undertaken by its Member States.[1] This development came at the right time for Cyprus, giving new impetus to the efforts of implementing reforms along the lines of the LTES. In particular, the RRF's emphasis on the green transition and digital transformation is a blessing for Cyprus since, as this report documents, these are areas where it significantly lags other countries.

In line with the RRF, the Cypriot government prepared its Recovery and Resilience Plan (RRP) for 1.2 billion euros in the form of grants (1 billion) and loans (227 million).[2] The Cypriot RRP promises to undertake 58 reforms and 76 investments to address the country's shortcomings. The RRP promises to contribute 41 percent and 23 percent of its total allocation to the green and digital transformation respectively. The plan includes reforms and investment that provide the opportunity to address the economic and social challenges outlined in the EU's country-specific recommendations. Implementation of these measures is expected to improve productivity and competitiveness and increase the resilience of the Cypriot economy.

The RRP moves within the framework and directions specified by the project for the formulation of the LTES, thus preparing the ground for its implementation. This strategy, which is prepared on behalf of the ECC, aims to formulate and implement an ambitious, comprehensive, and long-term development strategy in order to make Cyprus an international model based on a thriving and prosperous economy, with a high level of competitiveness, increased productivity and export orientation, at the same time encompassing a fair and inclusive society. Specifically, the strategy envisages the transformation of Cyprus into the "Sustainable Business and Trade Centre of Europe" with a simultaneous diversification of the production base, in a way that ensures long-term sustainable development.
The development and utilisation of state-of-the-art technology as well as the promotion of environmental sustainability are key supporting parameters in all individual aspects of the vision, highlighting the level of ambition regarding Cyprus' contribution and future performance in the green and digital transition. The RRP moves in the direction specified by the LTES, filtered by the European Commission's guidelines as reflected in the "pillars" of the RRF, whilst at the same time encompassing the implementation of the Country Specific Recommendations in the context of the European semester. The LTES and the RRP are communicating vessels and are fully aligned.

[1] See Recovery and Resilience Facility.

[2] See Cyprus RRP.

The CCR should be seen as a tool that helps monitor the implementation and progress of the LTES. To facilitate this process, the CCR incorporates all the Key Performance Indicators (KPIs) identified in the strategy.

1.3 Recent economic developments

Cyprus emerged from its financial crisis quickly, first recording positive growth in 2015 and continuing to grow robustly through 2019. This was interrupted by the 2020 pandemic, an unprecedented global calamity whose long-term impact on the world economy and global affairs will not be fully understood for some time. As a small and open economy, Cyprus was bound to be hit hard by the strict restrictions in the movement of goods and people. The tourism sector was almost completely shut down in 2020. Yet the decline in GDP was contained, as other sectors were able to limit output loss. The economy shrank by 5.1 percent in 2020—less than the EU average—and rebounded strongly with 6.8 percent growth in 2021, more than making up for the previous year's loss. It was expected to continue growing at a satisfactory pace, but global developments created a new wave of uncertainty. Supply disruptions and increased demand after the pandemic contributed to the emergence of inflation in 2021. Russia's invasion of Ukraine in February 2022 led to a global growth slowdown and further fed inflation, especially affecting food and energy prices. Central banks were forced to raise interest rates, resulting in tighter financial conditions in addition to the cost-of-living pressures.

Cyprus was hit especially hard by these events because of its dependence on Russia for tourism and business services. Russia was its second largest tourist market, and it was almost completely wiped out. Sanctions and other restrictions on Russian interests adversely affected the business services sector. Nonetheless, Cyprus was able to make up most of the loss in Russian tourism with visitors from other countries. The same happened with business services; some activities were shut down, but new opportunities emerged with companies fleeing the war. Against the odds, Cyprus grew at a brisk pace of 5.6 percent in 2022. Growth decelerated significantly in 2023 as the effects of tighter monetary policy set in, but the 2.2 percent growth projection for the year is one of the highest in Europe. Unemployment only rose by a small amount during the pandemic (to 7.6 percent from 7.1 percent in 2019) and has since been on a downward trend. Inflation peaked at 8.1 percent in 2022 but is projected significantly lower in 2023, at about 3.3 percent. The inflationary episode seems to be winding down, though it did leave some scars. The purchasing power of incomes has shrunk. Households holding variable rate mortgages (the large majority) have been doubly hit as their debt payments have risen significantly and may remain elevated for some time.

Public finances have improved significantly, despite the setback caused by the pandemic. The provision of massive government support to the economy resulted in a 5.7 percent deficit in 2020, which was smaller than the EU and EA averages (6.9 percent and 7.2 percent respectively). The deficit was reduced to 2.0 percent in 2021, and Cyprus returned to a budget surplus in 2022 (2.1 percent, compared to an EA average deficit of 3.6 percent). The level of public debt that had shot up by about twenty percentage points to 118.2 percent in 2020 resumed its downward trend and stood at 86.5 percent in 2022, lower than the EU average for the first time since 2013. The improvement has been noted by rating agencies; after a September 2023 upgrade by Moody's, Cyprus' public debt is now rated as investment grade by all major rating agencies.

1.4 Cyprus' competitiveness challenges

Looking forward, Cyprus faces potential challenges and opportunities for future growth and development:

- **external economic conditions**, including volatility in energy prices, higher

interest rates, and higher prices due to changes in global value chains;
- **technological developments,** notably increasing digitalisation, offer opportunities and challenges to an economy that is specialised in service industries, such as professional services, tourism, or corporate and regional headquartering;
- **climate change** presents a significant challenge for Cyprus, given the importance of the country's climate and natural environment as a major attribute for its important tourism sector; for example, rising temperatures, drier conditions and more extreme weather events could place considerable strain on the island's resources (e.g. desertification, water scarcity, coastal damage);
- **regional socio-political developments** expose Cyprus to instability from the Middle East but also emphasise the country as a safe and secure location for business operations in the region. The events in Gaza that unfolded as this report was being written is a case in point. Developments in the region and shifting alliances must be navigated with care. Similarly, Russia's isolation after the attack on Ukraine has led to a significant shift in the business and political landscape of Cyprus;
- **natural resources,** in the form of hydrocarbon reserves in the Exclusive Economic Zone of Cyprus, have proven difficult to manage both economically and politically. Concerns about climate change and the shift away from hydrocarbons cast doubt on the potential for gainful exploitation of Cyprus' gas reserves.

1.5 How to read the report

The current document is an update of the 2019 and 2021 CCRs. It retains both the structure of previous reports and their methodological approach. The latter is described mostly in Chapter 2 and Annex I, which have been kept intact. Chapters 3-8 form the core of the report: they include the indicators and the associated analysis. The structure of these chapters has also been largely retained. An effort was made to minimize changes in writing style, although the current report departs more from the original than the 2021 report did. Chapter 1 has been updated to reflect recent developments. Chapter 9 is a new chapter that deals with the recent influx of mostly high-skilled, high-income foreign nationals in Cyprus.

Chapter 10, which provides a summary and recommendations, is always the most challenging one to write. Recommendations from previous CCRs were maintained if still relevant and progress in each area is discussed. Additional recommendations that have emerged from the analysis have been added.

The structure of the report is as follows:

- **Chapter 2** defines competitiveness and provide a competitiveness framework. The chapter is the same as in the 2019 CCR.
- **Chapter 3** provides an overview of the structure and development of the economy of Cyprus over the past decade.
- **Chapter 4** describes the performance of Cyprus in international competitiveness reports and introduces the benchmark countries used in this report.
- **Chapters 5 to 8** present a comparison of a wide range of competitiveness indicators for Cyprus and selected countries.
- **Chapter 9** describes Cyprus' strategy to attract talent, documents its success, and discusses some challenges presented by the inflow of large number of new residents in a short period of time.
- **Chapter 10** identifies the key competitiveness issues that arise from the indicators and discusses their policy implications.

The two annexes provide an additional discussion on the definition of competitiveness (reproduced from the 2019

CCR) as well as a summary scorecard of Cyprus' standing in international competitiveness rankings.

2 Competitiveness definition and framework

This report defines national competitiveness as *the set of institutions, policies and other factors that underpin and uphold value creation by enterprises in Cyprus, and thereby, support high and rising living standards of Cypriots on a sustainable basis*. This definition places an emphasis on the institutions, policies and other factors that make up the environment in which enterprises conduct business and that influence the efficiency and effectiveness of value-creating activities.

To organise and categorise different indicators and measures of competitiveness, this report's framework distinguishes several categories of competitiveness metrics or indicators. These are:

- **Competitiveness objectives.** The ultimate aim of competitiveness policy;
- **Sustainability conditions.** To achieve and maintain competitiveness in the long-term;
- **Competitiveness outcomes.** As the yardstick for assessing competitiveness performance through key performance metrics;
- **Competitiveness drivers.** A combination of production inputs along with market and institutional conditions that affect the environment in which enterprises operate and create value;
- **Endowments and exogenous factors.** The factors affecting competitiveness, while not being changeable by public policy itself.

2.1 Defining competitiveness

Competitiveness is a complex and multidimensional concept with definitions that vary according to context, whether discussed by academics, businesses, politicians, or the public. When applied to the level of firms, the notion of competitiveness is reasonably clear and intuitive, reflecting the ability of firms to compete in markets, obtain market share and generate profits. However, there is considerable debate over the definition of competitiveness at a national level. The debate centres on the factors to include in the assessment of competitiveness performance, and even whether the concept of national competitiveness is useful for formulating public policy.[3] Not least, while competition among firms can be thought of as a zero-sum game —the gain of one firm implies a loss for its competitors— the same does not apply at the level of nations.

Although the concept of national competitiveness is amorphous, efforts to define and assess national competitiveness —often popularised by leading international competitiveness rankings— have coalesced around three core characteristics that define whether a nation can be described as 'competitive':

- **A successful economic performance** that supports rising real incomes, living standards, and well-being of citizens;
- **Open, free, and fair market conditions**; and
- **A sustainable policy environment** that avoids the creation of imbalances that risk compromising successful economic, social and environmental performance in the longer term.

Underpinning these characteristics is the recognition that businesses generate economic wealth and, thereby, improve the economic well-being of citizens. At the same time, the core characteristics defining competitiveness embody the view that well-functioning markets drive the efficient allocation of resources and stimulate innovation, thus maximising returns from production and driving productivity growth.

[3] Annex I of the report introduces this debate and highlights some of the key viewpoints on the concept of national competitiveness.

At its core, a competitive economy does not focus on short-term economic gains that can undermine longer-term growth opportunities. Hence, national competitiveness is not just about creating the conditions for businesses and citizens to prosper today, but it is also about preparing the conditions that will allow them to prosper tomorrow. An economic system should be resilient, able to respond to changing circumstances and external shocks.

From a policy perspective, national competitiveness means creating an economic environment that supports value creation and economic prosperity both now and for the future. Thus, in line with widely used definitions, national competitiveness can be encapsulated as follows:

> ***National competitiveness is understood to consist of the set of institutions, policies and other factors that underpin and uphold value creation by enterprises within a country and, thereby, support high and rising living standards of its citizens on a sustainable basis.***

This definition gives a starting point for understanding and evaluating national competitiveness. It places an emphasis on the institutions, policies and other factors that make up the environment in which enterprises conduct business and that influence the efficiency and effectiveness of value creating activities. In this sense, countries compete by providing an environment that better promotes the efficient and effective use of resources (i.e. high levels of productivity), thereby generating profits, high returns on investments, and the creation of well-paying jobs. A country that offers an environment with the right conditions for value creation is more likely to be successful in attracting investment, whether foreign or domestic, and to be better able to produce and export high value-added goods and services. In turn, these attributes provide the basis for high and rising living standards.

However, to answer whether a country is competitive requires more than just absolute comparisons with other countries. Consideration also needs to be given to the country's starting situation and circumstances, including endowments such as natural resources, location, geography, climate, population, and market size, which are unchangeable by public policy. Moreover, a proper assessment of competitiveness should be set alongside national aims and ambitions for economic growth, living standards and well-being of citizens. Such considerations contribute to defining the objectives of national competitiveness and determining appropriate indicators to assess progress towards these objectives.

Consider the "beyond GDP" debate, which looks at whether a narrow focus on standard economic indicators like GDP growth and GDP per capita can properly measure national progress. If the aim of national competitiveness is equated with the well-being of citizens, rather than simply the value-creation performance of enterprises, then it is relevant to incorporate social and environmental dimensions—such as equality, happiness, and 'green' growth—within the evaluation of national competitiveness.

Ultimately, the real question from a public-policy perspective is to ask whether a country is using its competitive potential to the greatest extent possible to achieve its economic, social, and environmental goals. And, if not, what opportunities could be exploited better and what actions are necessary to achieve this?

2.2 Competitiveness Framework

Alongside the many definitions and interpretations of national competitiveness, there is an abundance of frameworks—available in international competitiveness rankings, national and regional competitiveness reports, and in the academic and business literature—used to describe dimensions of national competitiveness. These frameworks, explicitly or implicitly, reflect the underlying theoretical and

analytical concepts of competitiveness employed by their authors, while giving a basis for organising and categorising different indicators and measures of competitiveness. The frameworks may highlight specific aspects and interlinkages that their authors view as particularly important for assessing competitiveness performance or of special pertinence given the characteristics of the economy analysed.

The competitiveness framework used in this report takes a neutral view towards the different theoretical and analytical concepts of competitiveness and the most important determinants and metrics of national competitiveness. It uses a broad framework that encapsulates various definitions, concepts, and categorisations of competitiveness indicators used elsewhere, particularly in national and international competitiveness reports and rankings. Accordingly, the competitiveness framework is intended as a pragmatic tool for organising and structuring the presentation and analysis of indicators relevant for assessing national competitiveness.

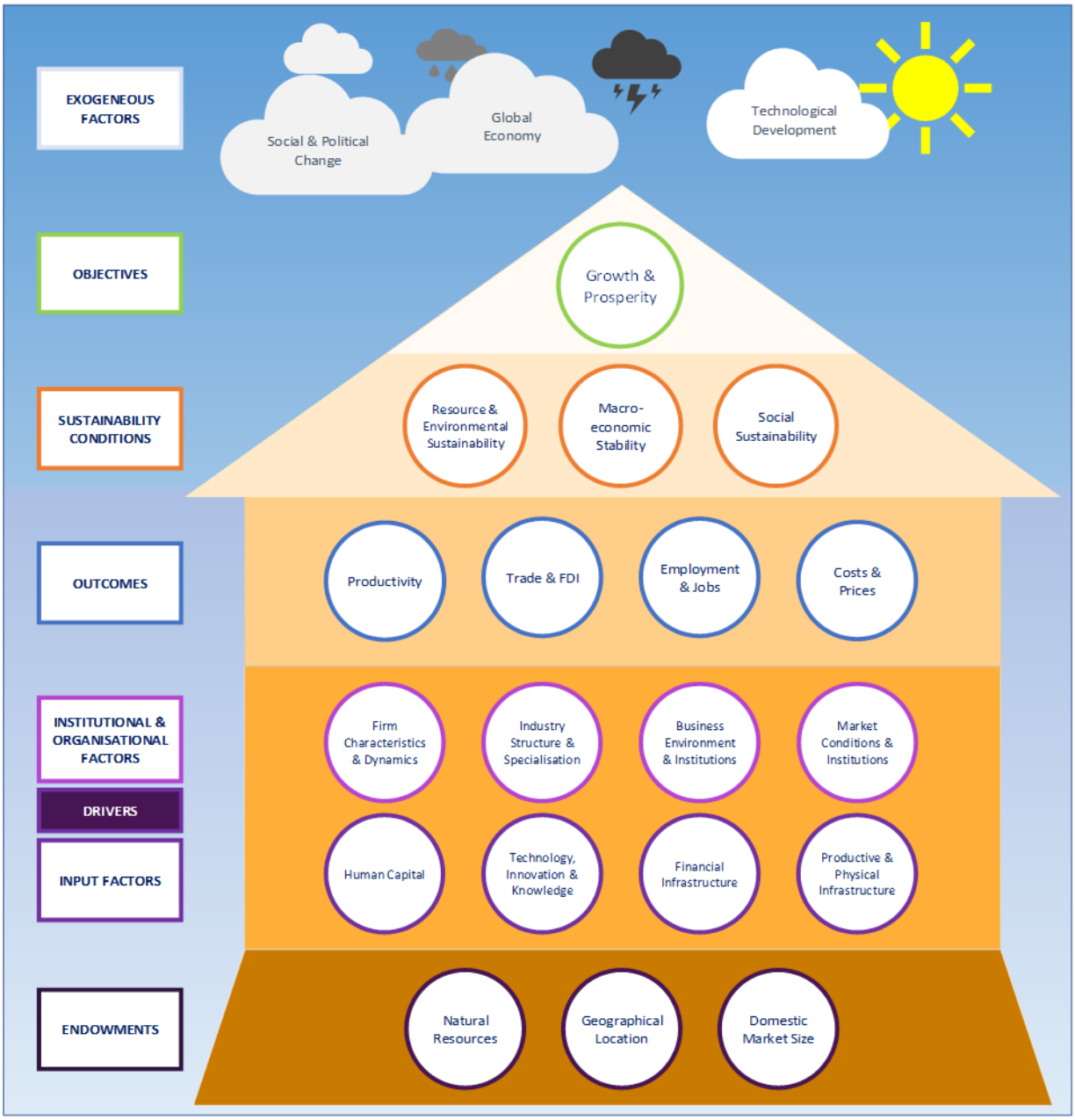
The framework, illustrated in Figure 1 distinguishes six categories of competitiveness metrics or indicators, with associated sub-categories that are thematically linked. Briefly, these are as follows:

- **Objectives**: reflecting the overarching aims and ambitions of national competitiveness, interpreted here in terms of the economic growth and prosperity that are the basis for high and rising living standards;
- **Sustainability conditions:** covering the constraints placed on short-term value-creating activities and growth so that national competitiveness can be maintained in the longer term and to ensure that wider non-economic objectives, such as social and environmental well-being, are respected;
- **Outcomes**: which provide a yardstick for assessing the current national competitiveness in terms of key performance or output metrics, such as productivity, trade, etc.;
- **Drivers:** covering a combination of production inputs along with market and institutional conditions that affect the environment in which enterprises operate and create value. These are the areas that are most directly within the scope of influence of public policies and form the focus for the policy-related analysis of competitiveness included in this report;
- **Endowments**: cover factors that can affect national competitiveness but that are either fixed or can be changed only in the long term, such as natural resources, geographical location, and domestic market size;
- **Exogenous factors:** which covers developments and conditions that can affect national competitiveness but are essentially external to the national competitiveness environment. These encompass, for example, global economic conditions, technological developments, and changes to global social and political conditions.

The interlinkages and interactions between and within the different categories and sub-categories of the competitiveness framework are often complex and the categorisation of different elements can be ambiguous. The complex interlinkages and interactions that affect national competitiveness mean that difference in opinion can arise over the correct categorisation of items within the competitiveness framework and their interpretation.

The main categories of competitiveness indicators used in the framework are described in the following sub-section

Figure 1 Competitiveness framework



Competitiveness objectives

Competitiveness objectives reflect political and societal choices. They can be defined broadly, as in this report, in terms of economic growth, prosperity and well-being of citizens, or more narrowly, for example in terms of the performance of enterprises and their ability to compete successfully in international markets. The choice of objectives is important as it directly influences the selection of appropriate metrics for evaluating whether a country is successful in pursuit of its competitiveness goals.

However, whether broadly or narrowly defined, achieving the objectives of competitiveness is not something that policy makers can directly control. Rather, public policy plays a role most directly through its influence on factors that shape and drive the competitiveness of enterprises, such as the institutional and organisational factors that affect the business environment, or the input factors, such as human capital or finance, that are available to enterprise.

Sustainability conditions

Political and societal choices influence the conditions or constraints placed on how competitiveness objectives are achieved. Economic crises, climate change and other environmental concerns as well as social conflicts have helped push concerns about the longer-term sustainability of economic growth and competitiveness models towards the forefront of public-policy agendas. Sometimes this has led sustainability criteria to be added to the overall objectives of national competitiveness. While this report treats sustainability conditions separately from competitiveness objectives, it concurs with the view that a country cannot be considered competitive unless short-term gains in growth and prosperity are achieved while simultaneously respecting the requirements of macroeconomic, social, environmental, and resource sustainability.

As recent crises have shown, economic growth can be highly vulnerable to international developments, propagating imbalances that undermine macroeconomic stability. Maintaining a sustainable macroeconomic situation—whether with balance of payments, public or private finances and debt levels, or the stability of the banking system—is important to ensure that competitiveness gains are not undermined by imbalances that harm longer-term growth.

The same logic applies to the social sphere. Mutually supportive synergies between economic, social, and environmental performance are increasingly important aspects of overall development and the general well-being of its citizens. A fair and inclusive society is not only an important public policy aim but also, by contributing to social stability and cohesion, can have a vital role in sustaining competitiveness in the longer term. Similarly, environmental degradation and non-sustainable resource use place constraints on future growth opportunities and impose costs on current and future generations.

Competitiveness outcomes

Competitiveness outcomes represent an intermediate level between the underlying factors and policy inputs that drive competitiveness and the overarching objectives of economic growth and prosperity.

The selected outcome categories—Productivity, Trade & FDI, Employment & jobs and Costs & prices—represent key metrics for the evaluation of national competitiveness performance. They reflect a mixture of the competitiveness outcomes that drive the ability of enterprises to compete internationally (e.g. productivity levels and factor costs) and the fruits of this competition (e.g. trade performance, investment attraction and employment creation).

As with the competitiveness objectives, policy makers cannot directly control competitiveness outcomes. However, public policy has an important role in setting the conditions—covered under the next heading of competitiveness drivers—that influence the likelihood of achieving successful competitiveness outcomes.

Competitiveness drivers

The competitiveness driver category covers the factors and national attributes that contribute to or influence competitiveness outcomes. In contrast to competitiveness objectives and outcomes, public policy has a strong and often direct influence in shaping competitiveness drivers. It encompasses, to a large degree, the set of factors, institutions, and policies that support and sustain value creation by enterprises within a country and, hence, national competitiveness. The competitiveness framework distinguishes two main subgroups of competitiveness factors: institutional and organisational factors as well as input factors.

The category of Institutional & organisational factors covers, on the one hand, the institutional (and social) context and market conditions, including the regulatory and other conditions affecting the competitive environment in which enterprises operate. On the other hand, it covers factors that relate directly to the structure, conduct and performance (in terms of production efficiency and innovation) of enterprises and economic sectors. The competitiveness framework distinguishes the following sub-categories of institutional and organisational factors:

- **Market conditions and institutions** are concerned with how well markets function and how they are supported by market institutions. This includes market competition in foreign and domestic markets and the regulatory conditions affecting product and labour markets.[4] Well-functioning markets drive the efficient allocation of resources, stimulate innovation and, thereby, drive productivity growth. This places attention on the institutions that regulate and support markets, such as competition authorities, consumer and labour market regulators and other supporting institutions;
- **Business environment and institutions** are concerned with the legal, administrative and regulatory environment for enterprises and their activities. It includes the effectiveness and efficiency of the public administration and business support institutions, alongside other factors that affect the ease of doing business and the surrounding legal and administrative frameworks in which enterprises conduct their business (e.g. property and other legal rights, taxation). These factors contribute to the financial and time costs of doing business and of regulatory compliance, and support efficient allocation of factors of production, which influences productivity levels and growth;
- **Industry structure, specialisation and organisation** covers the structure of the economy, the goods and services that are produced as well as associated dimensions of specialisation or diversification of economic activities. This sub-category also covers how production is organised (e.g. value chain integration or business clusters) and the availability of domestically sourced intermediate inputs. The composition and organisation of business activities in the economy has an important influence on sector-level and aggregate productivity. Examples include compositional effects (the relative prominence of high or low productivity sectors or activities in the economic structure), specialisation that facilitates

[4] Financial market conditions, which are important for Cyprus given the position of financial services in the economy, are covered separately under the input factor sub-category of '*Financial infrastructure*'.

integration in global value chains, or cluster developments that are a source of innovation and productivity growth;

- **Firm characteristics, dynamism & sophistication** are concerned with the size and structure of enterprises as well as enterprise dynamism, such as new business creation and the number of high growth enterprises. It also covers aspects such as entrepreneurship, the sophistication of businesses and management quality. These attributes capture the quality of the overall industrial tissue of an economy. They are shaped, however, by other competitiveness factors such as the business environment, market conditions and business-supporting infrastructure (e.g. financial markets), alongside more cultural aspects such as the prevalence of family-owned business and general attitudes towards entrepreneurship. The creation and growth of firms is a critical source of productivity growth and employment, while entrepreneurship and high levels of business sophistication also contribute to productivity growth and business resilience. The structure and size of firms and their level of sophistication influence possibilities for realising economies of scale and making the investments necessary to shift to high-value products and production processes. Equally, high levels of entrepreneurship and a prevalence of smaller enterprises are associated with a dynamic and competitive economy.

The category of *Input factors* covers production input factors, such as human capital and labour, technology, finance, and infrastructure. The competitiveness framework distinguishes the following sub-categories of input factors:

- **Human capital** concerns the availability and quality of the workforce. It reflects the skills, competences, ideas and other attributes embodied in workers—individually or collectively—that are used to produce goods and services. Human capital is described through indicators of education infrastructure and outcomes, and skills availability. Human capital contributes directly to competitiveness by enhancing the productivity of labour through higher knowledge and skill levels. It also contributes by helping firms to deploy capital goods or technology more effectively, and by facilitating structural transformation towards more productive activities. In turn, this increases worker's opportunities to secure high value-adding jobs and correspondingly higher wages;
- **Technology, innovation, and knowledge** concerns the infrastructure for research, technology, innovation, and knowledge development, together with firms' technological and innovation characteristics, their intangible assets, and the extent and quality of linkages between research institutions and the private sector. It reflects the importance of technology and innovation as a source of productivity gains, which includes new or upgraded products, production processes, marketing methods, or business organisations (e.g. new ways of organising value chains, business clusters, or other cooperative modes between firms);
- **Financial infrastructure** covers financial institutions and financial services providers that contribute to enterprises' access to finance and financial management. These include banks and other financial intermediaries, capital and financial markets, and public banking institutions. The quality, efficiency and diversity of financial infrastructure contributes to competitiveness through both the

provision of financial capital and services that enable enterprises to manage their daily financial affairs and investment activities. Not only is the availability and cost of capital important but, also, the diversity of financial services that are tailored to different enterprise types (e.g. corporate bonds for well-established firms to venture capital for start-ups, and specialised services such as trade credit or services for foreign investors);

- **Productive and physical infrastructure** concerns the availability, extensiveness, and quality of infrastructure that support business activities. It includes transportation infrastructure, such as roads, ports or airports, together with utilities, such as the power grid, water supply, or telecommunications networks. The availability and quality of infrastructure contributes directly to business performance, through the supply of production inputs (e.g., electricity and communication services, or transport of people and goods) and by facilitating market access. Good infrastructure improves the efficient use of inputs, enhances international market access, lowers trade costs and facilitates the flow of information.

Competitiveness endowments

Competitiveness endowments cover attributes that can affect national competitiveness but that are either fixed or cannot be changed except possibly in the very long term. This includes, for example, natural resources, geographical location and climate, and market size. These attributes can strongly influence both economic structures and the environment in which enterprises operate, influencing their behaviour and, in turn, competitiveness outcomes.

While a country may have little scope to change its competitiveness endowments, they are nonetheless important to understanding and evaluating a country's competitive position and performance, since they can provide competitive advantages or place constraints on competitiveness performance.

3 Overview of the Cyprus economy

Cyprus' economy grew strongly after joining the EU in 2004, up until the onset of the global financial and economic crisis in 2008. Cyprus weathered the global crisis relatively well, as its banks had no toxic assets and did not depend on interbank lending. It suffered a minor recession in 2009 and returned to growth in 2010. However, the imbalances that had built up during the 2000s eventually became unsustainable, causing a massive fiscal and banking crisis that culminated in the collapse of the banking sector in 2013. The crisis resulted in three years of negative growth, amounting to a total loss of 11.4 percent of GDP. Nonetheless, Cyprus exceeded expectations by returning to growth and a budget surplus in 2015. The recovery was robust, outstripping growth in the EU during 2015-2019. It came to a halt—as in most countries—in 2020 as a result of the coronavirus pandemic. Once again, the economy rebounded strongly, recovering the lost ground in 2021 and recording strong growth of 5.6 percent in 2022. The latest IMF projections point to a deceleration to 2.2 percent growth in 2023 and 2.7 percent in 2024 in the wake of higher interest rates and geopolitical tensions.

3.1 Economic structure

Structure and growth by economic sector

Cyprus has a services-based economy. In 2022, market service sectors accounted for about 66.0 percent of gross value-added (GVA) creation and non-market services added another 18.5 percent.[5] Services collectively account for over three-quarters of employment, with slightly less than five percent of employed persons providing domestic services directly to households.

Figure 2 displays the contribution of each sector to GVA and to employment. The largest sector in terms of both GVA (11.4 percent) and employment (16.2 percent) is *Wholesale & Retail Trade*. 'Finance & Insurance activities' is the second largest sector in terms of GVA (10.2 percent) but employs only 4.2 percent of the workforce. This sector has traditionally played an important role in the economy of Cyprus, providing a significant number of well-paying jobs and contributing to upward social mobility and the creation of a successful middle class. The next two largest sectors are *Information & Communication* and *Professional Services*, which represent around 9.0 and 8.8 percent of GVA and 3.5 and 7.4 percent of employment respectively. *Agriculture*, *Mining*, *Construction* and *Manufacturing* together represent around 14.4 percent of GVA and 20.5 percent of employment.

Many service sectors are labour intensive and employ a large fraction of the workforce. The second largest sector in terms of employment is the *Accommodation & Food services*, with 11 percent of employment. *Education*, *Health & Social services* jointly account for about 12.3 percent of employment. At the other end, service sectors such as *Financial & Insurance*, *Information & Communication*, and *Professional*, together with *Real Estate* activities, account for a higher share of total value-added than their corresponding share of employment, indicating that these sectors generate relatively high levels of value-added per employee. The evolution of the economy over the past decade has tended to reinforce the preeminent position of services.

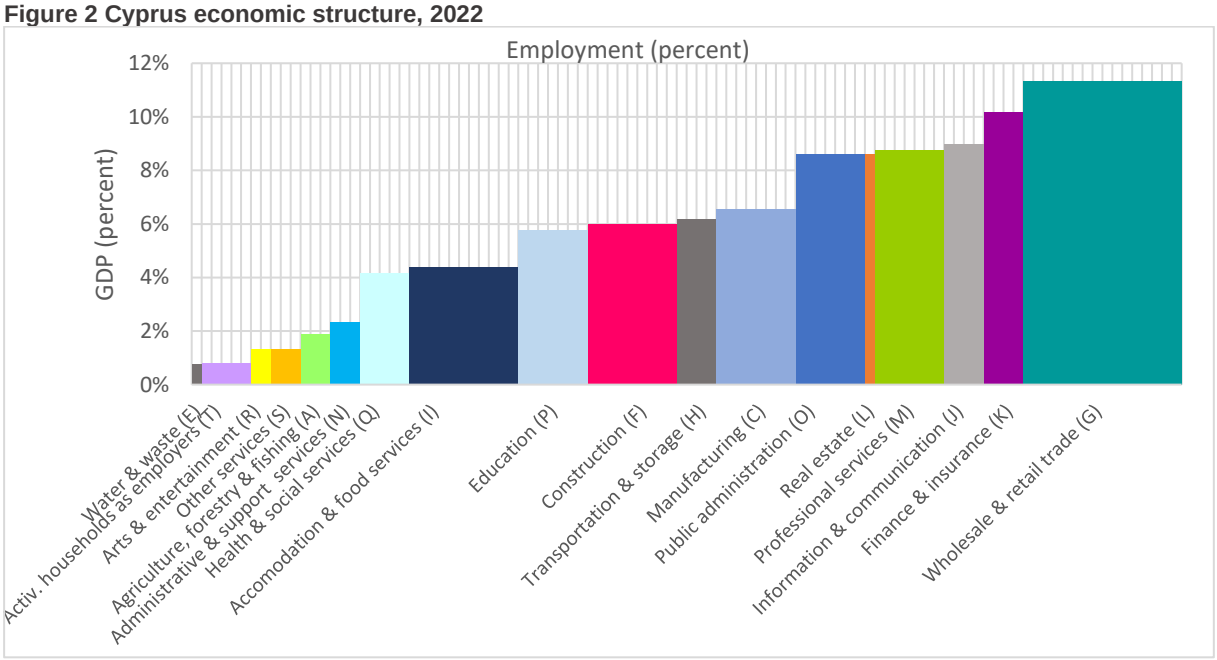
[5] Under non-market services we included public administration and defence (O); education (P); and human health and social work activities (N).

Figure 3 shows real GDP for the main economic sectors in 2013-2022 and Figure 4 does the same for employment. Two of the main non-service sectors, *Construction* and *Manufacturing*, contracted sharply following the 2013 banking and fiscal crisis. They recovered in terms of both value-added and employment levels during the 2016-2019 period, although the *Construction* sector never returned to pre-crisis levels. The outbreak of Covid-19 in 2020 led to a minor contraction, but employment appears to have increased slightly after the pandemic year. Both sectors experienced an increase in value-added in 2021, followed by a drop in 2022. With respect to employment, the manufacturing sector experienced a slight increase after the pandemic year while employment in the construction sector is falling.

Sectors with a strong dependence on consumer spending, such as *Wholesale & Retail Trade* and *Other Services*, followed a similar but less pronounced pattern over the past decade. In 2020 however, the reduction in other services is three and a half times that of wholesale and retail trade. Some segments of the latter sector, such as grocery stores, did very well during the pandemic because consumers went out less and consumed more food at home. In 2021 both sectors recovered, followed by a small drop in 2022.

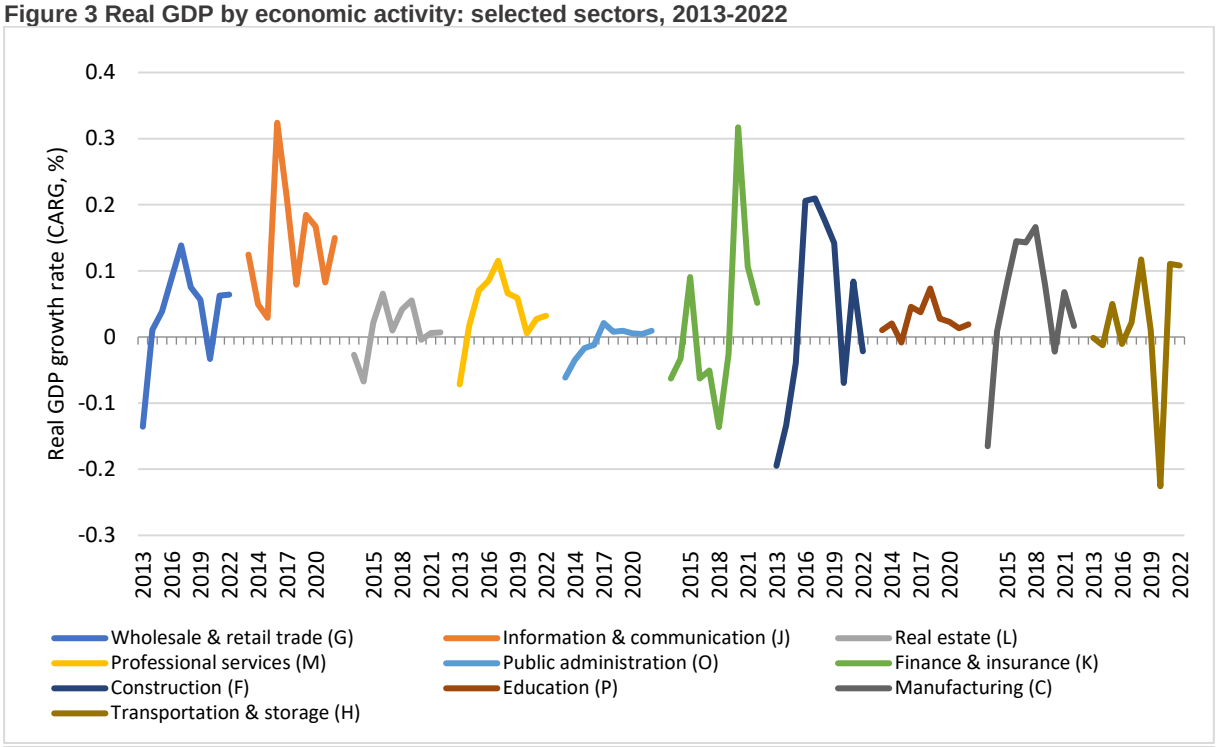
The gap created by the contraction of the financial sector in employment was partially filled by the expansion of other business and professional services such as *Information & Communication*, *Professional*, as well as *Administrative & Support*. *Education* and *Health & Social services* are becoming increasingly important. *Tourism* has rebounded strongly from the pandemic-related collapse in 2020, as reflected in value added and employment in *Accommodation and Food* services. Thus, the services-oriented nature of the Cypriot economy remains as strong as ever.

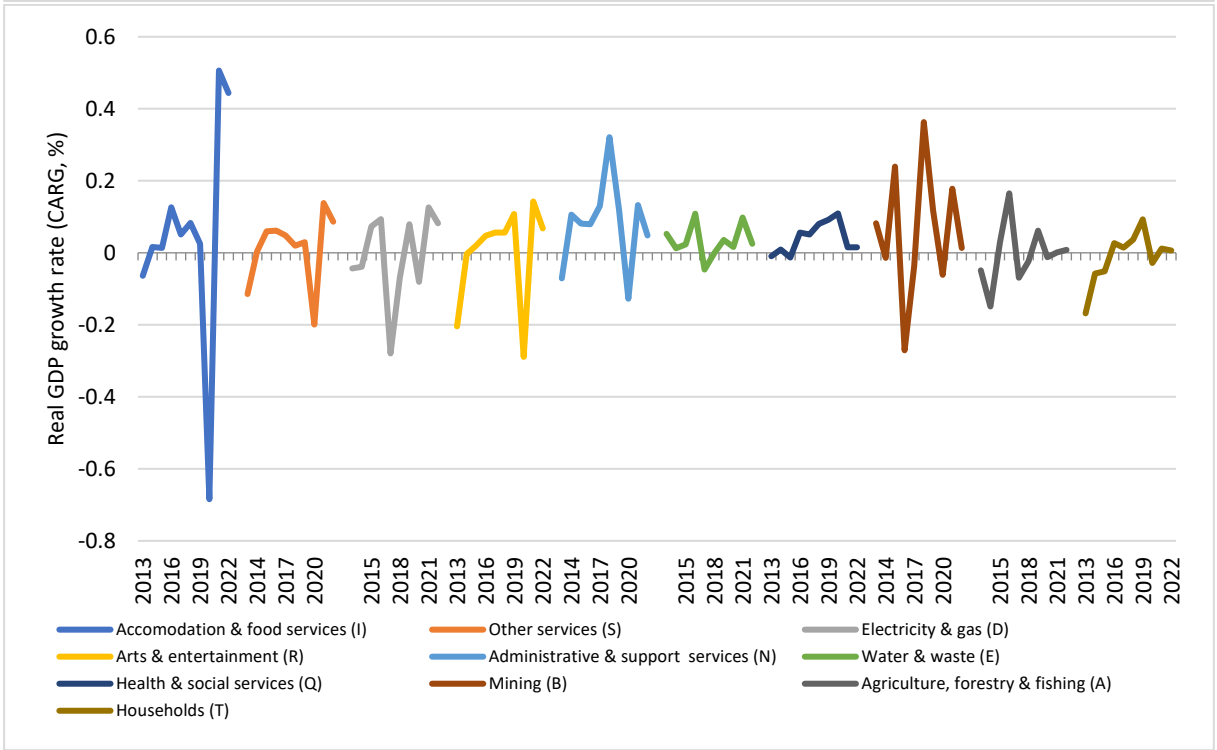
Figure 2 Cyprus economic structure, 2022



Notes: Column height represents the sector share of total value added. The column width represents the sector share of total employment. Letters in parenthesis are NACE Rev. 2 section codes. The 'Mining and Quarrying' & 'Electricity Gas, Steam, and Air Conditioning Supply' sectors are not included as their share of employment was close to zero.
Source: CYSTAT, National Accounts.

Figure 3 Real GDP by economic activity: selected sectors, 2013-2022

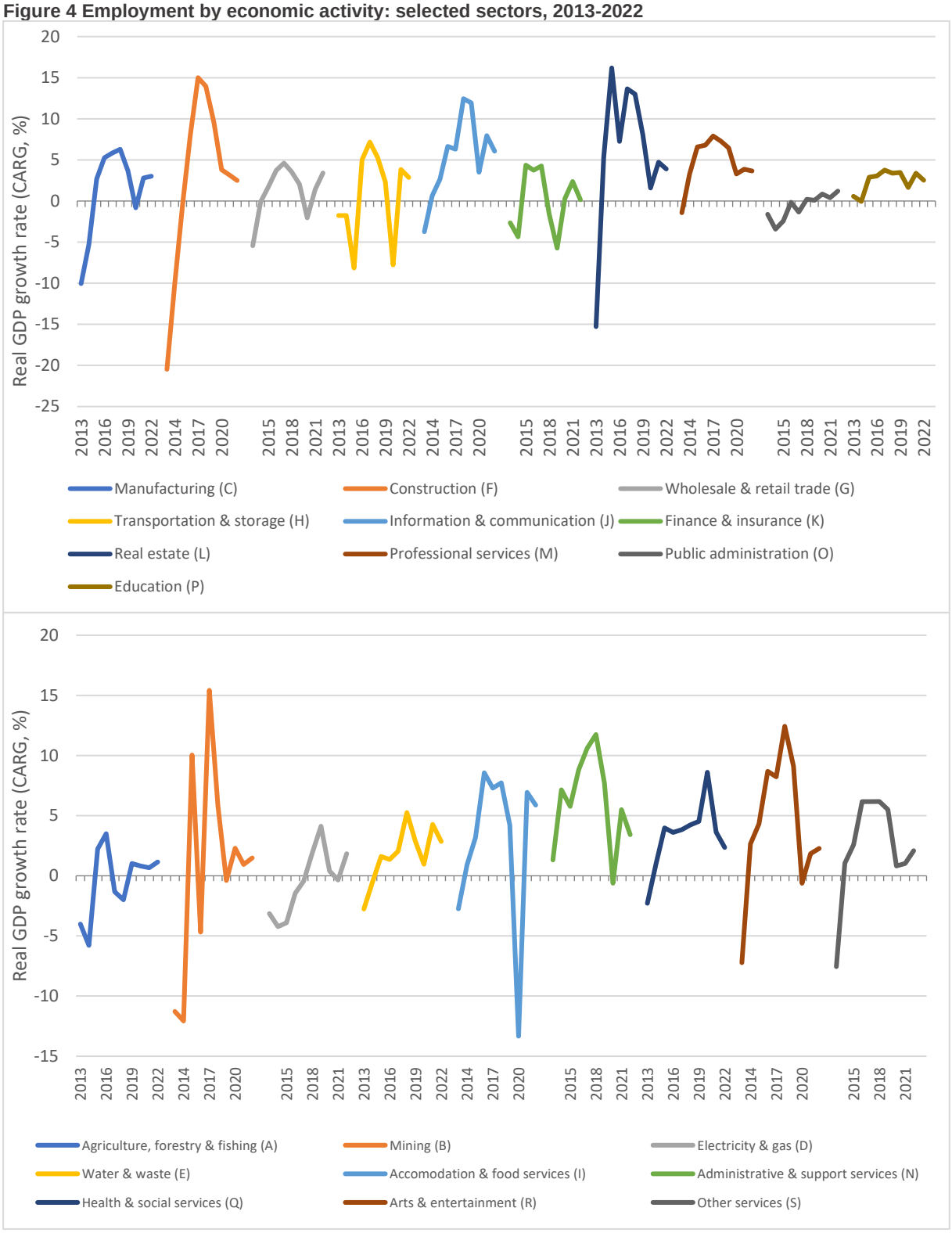




Notes: Compound annual rate of growth (CARG). Letters in parentheses are NACE Rev. 2 section codes. Sectors are ordered from largest to smallest in terms of output.

Source: CYSTAT, National Accounts: Gross Domestic Product at constant market prices 2010 (chain linking method).

Figure 4 Employment by economic activity: selected sectors, 2013-2022



Notes: Compound annual rate of growth (CARG). Letters in parenthesis are NACE Rev. 2 section codes. Excludes 'Activities of households as employers (T)'.
Source: CYSTAT, National Accounts: Persons employed.

Diversification

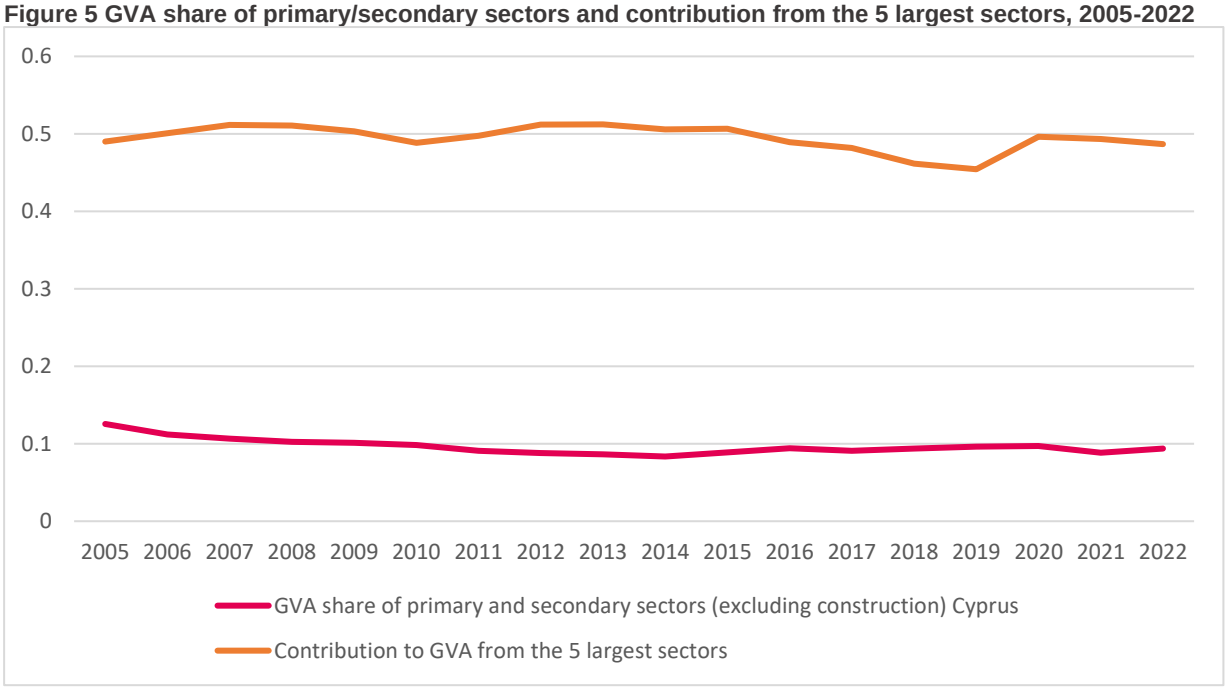
A lack of diversification is often cited as one of the main weaknesses of the Cypriot economy. When economic growth relies on a small number of sectors, the country is vulnerable to shocks in those areas. This is especially true when the sectors in question—like tourism and real estate—are dependent on foreign demand and external

circumstances that are beyond policymakers' control. The LTES proposes using the total GVA contribution of the five largest sectors as a measure of overall economic concentration: the higher the measure, the more concentrated economic activity is in a small number of sectors.

Figure 5 shows that this measure (top line) decreased between 2013 and 2019, from 51.2 percent to 45.4 percent. It jumped up to 49.6 percent in 2020 and started declining again in 2021. If we attribute the 2020 jump to the pandemic, we can conclude that the overall trend is in the right direction and may be reflective of an improving and more diversified economic structure.

The bottom line in the same figure shows the share of the primary and secondary sectors, excluding construction. The share is below 10 percent, reflecting again the economy's dependence on services.

Figure 5 GVA share of primary/secondary sectors and contribution from the 5 largest sectors, 2005-2022

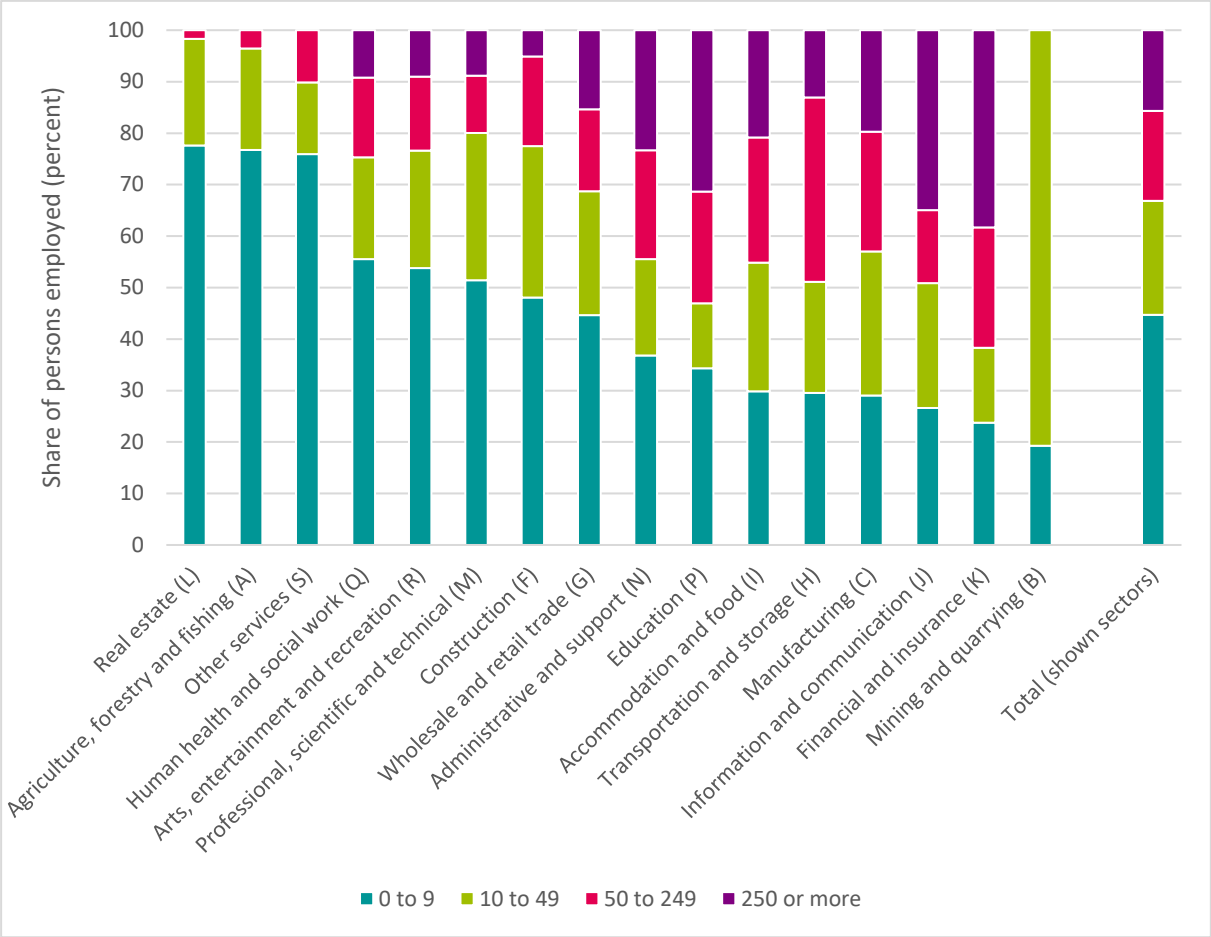


Note: The five largest sectors may be different from year to year.
Source: Eurostat, National accounts aggregates by industry (up to NACE A*64) [nama_10_a64].

Structure by firm size

Out of more than 50,000 enterprises in the non-financial business economy, around 95 percent have fewer than 10 employees. Conversely, only 0.1 percent of all enterprises in Cyprus have 250 or more employees. Outside of public administration, education and health, there are only 100 enterprises in Cyprus with 250 or more employees, with most of them in accommodation and food service activities (21) and wholesale and retail trade (15). Small and medium-sized enterprises (SMEs), defined as enterprises with less than 250 employees, account for nearly 84 percent of employment in the business economy or around three quarters of employment in the whole economy (i.e., including public administration and non-business sectors such as education and health). Figure 6 summarizes the share of employment by activity and size of the enterprise. Specifically, in large enterprises (250 or more employees) the share is higher (over 30 percent) in business sectors such as financial and insurance activities, information and communication technology, and education. In manufacturing large enterprises account for 20 percent of employment and in construction just 5 percent.

Figure 6 Employment by economic activity and enterprise size (employees) for selected sectors, 2020



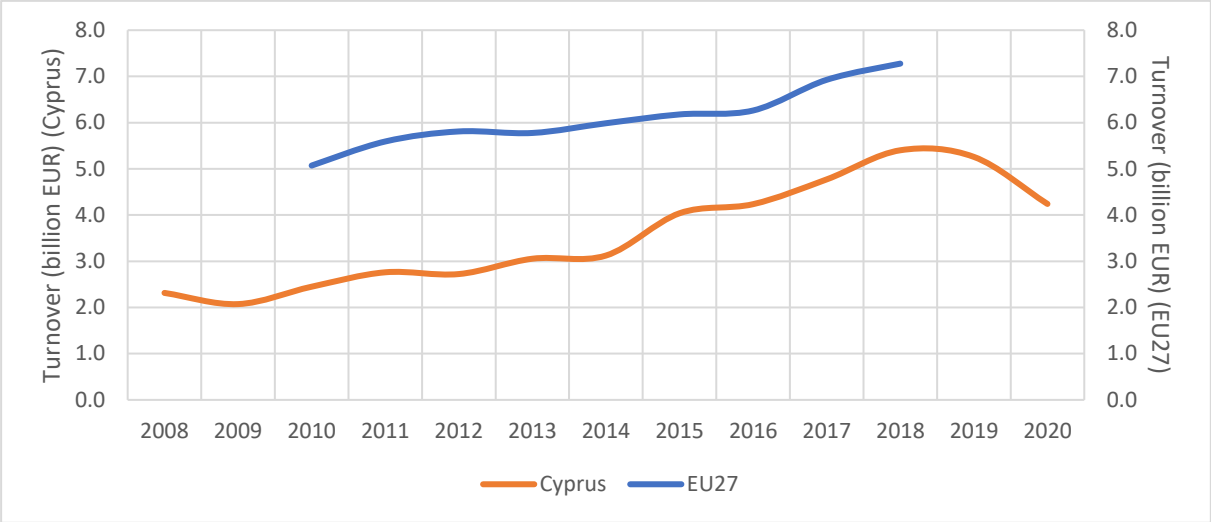
Source: CYSTAT, Business Register: Employment of enterprises by economic activity (NACE Rev. 2) and size group.

Foreign controlled enterprises

Eurostat data indicate that 300 enterprises in Cyprus are foreign-controlled, although these data do not cover some key sectors—e.g., water supply, financial activities and real estate—that are likely to be attractive for foreign enterprises. The turnover of foreign-controlled enterprises has been rising since 2009 with the exception of the crisis years 2012-14 (Figure 7). During that period, turnover recorded a slowdown in growth but no contraction, suggesting a degree of resilience among the foreign controlled enterprises that remained in Cyprus. There is a small dip in 2019 and a larger one in 2020. The former is a bit surprising, but the latter is clearly due to the Covid-19 pandemic.

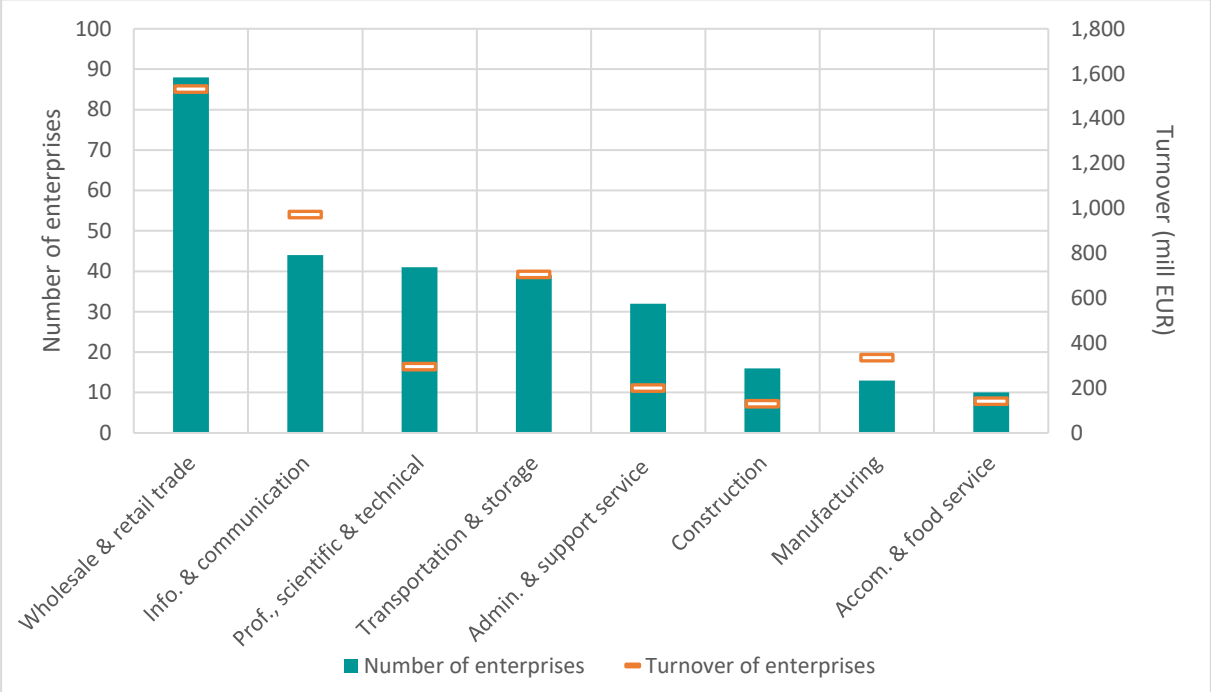
Foreign controlled enterprises are most prominent in ‘Wholesale & Retail Trade’ (88 enterprises), ‘Information & Communications’ (44) and ‘Scientific & Technical Services’ (41) (Figure 8). It should be noted that a larger number of enterprises does not necessarily mean greater economic activity. The number of enterprises in the 'Information & Communication' sector is just marginally larger than in the 'Professional, Scientific, & Technical' sector, but the turnover is roughly three times as much. This reflects the presence of a small number of large and globally important companies in the 'Information & Communication' sector.

Figure 7 Turnover of foreign-controlled enterprises, 2008-2020



Source: Eurostat, Foreign control of enterprises by economic activity and a selection of controlling countries [fats_g1a_08].

Figure 8 Foreign controlled enterprises in Cyprus by sector, 2020



Notes: Eurostat information missing for the NACE sectors Water Supply, Financial Activities, and Real Estate. Data on number of enterprises and turnover in the Manufacturing category are for 2019. Data on number of enterprises and turnover in the Accommodation and Food Service category are for 2019.

Source: Eurostat, Foreign control of enterprises by economic activity and a selection of controlling countries [fats_g1a_08].

3.2 Economic developments

The global financial and economic crisis and the domestic fiscal and banking crisis in 2012-13 have strongly influenced the development of Cyprus' economy over the last decade. About 10 percent of GDP was lost during 2011-2014. The recovery began timidly in 2015 and picked up over the next 2-3 years due to record years in tourism, solid performance by the resilient professional services sector, and a strong recovery of the construction and real estate sectors. The recovery was broad-based, with private consumption, fixed-capital investments—especially in machinery and equipment—and strong exports of services being the main drivers. The expansion came to a sudden halt in 2020 on account of the coronavirus pandemic. But the economy recovered quickly and recorded brisk growth in 2021 and 2022. Growth slowed in 2023 as a result

of tighter monetary policy and increased global uncertainty in the wake of the war in Ukraine.

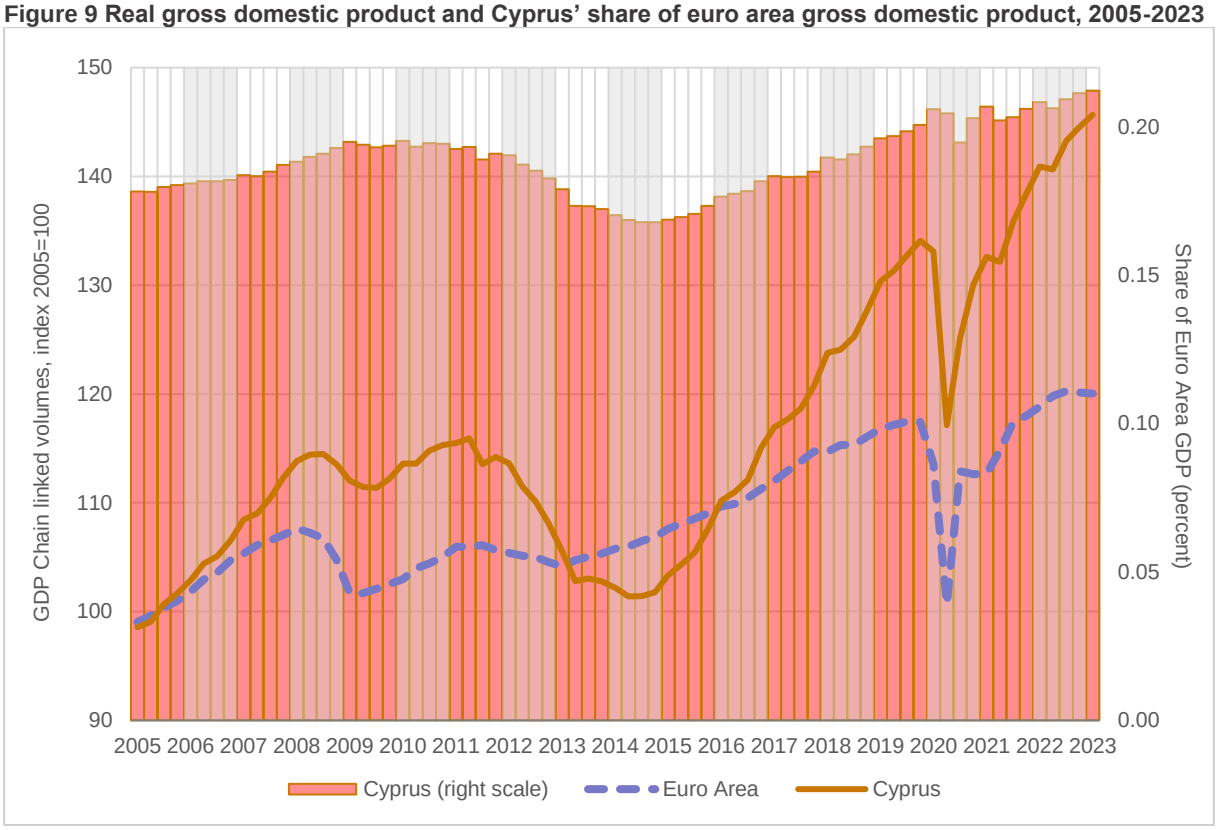
In 2022 the unemployment rate stood at the level of the EA average of 6.8 percent, while the employment level of approximately 78 percent surpasses the EA average of 74 percent.

GDP level and growth

After joining the EU in 2004 and prior to the onset of the global financial and economic crisis in 2008, Cyprus' economy grew faster than the EA average (Figure 9 and Figure 10). As a result, Cyprus' share of overall EA GDP increased from 0.178 percent in 2005 to 0.205 in 2008. When the global crisis hit, Cyprus was not severely affected because its banks had no toxic assets related to the US housing market and did not depend on interbank funding, which had dried up at the time. By contrast, the economy was hard hit by the domestic fiscal and banking crisis. It recorded three years of negative growth and an 11.4 percent contraction of the economy during 2011-2014. Cyprus' share of the EA GDP dropped to 0.169 percent in 2015.

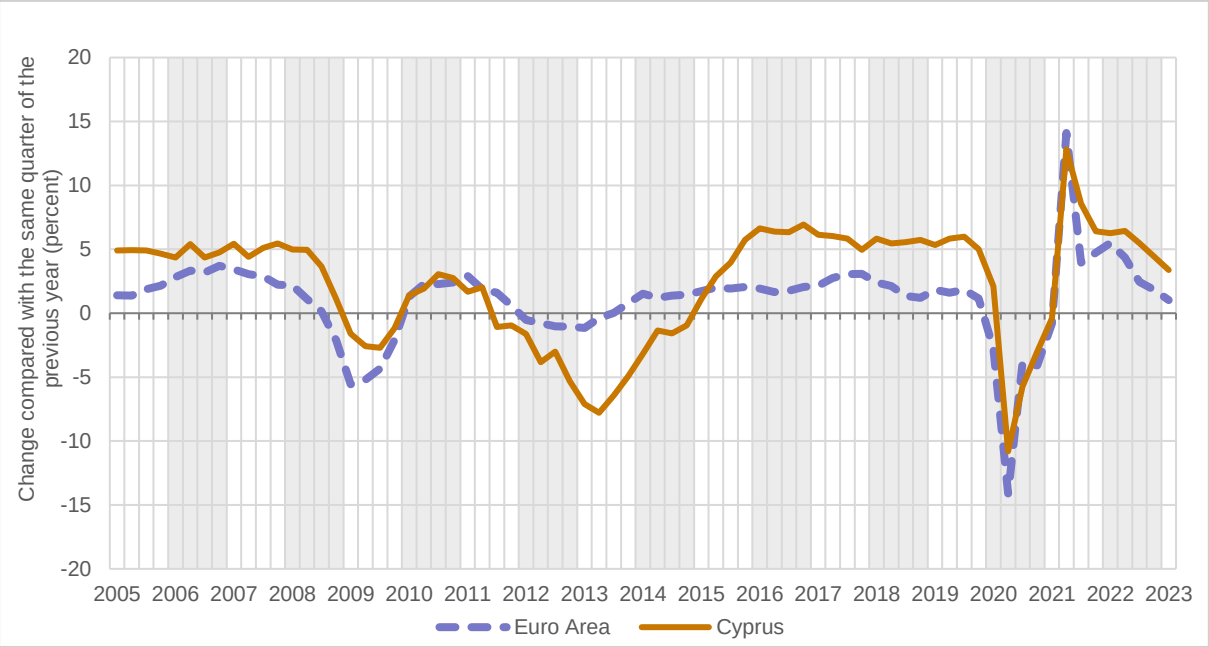
The economy recovered quickly and robustly from the banking crisis, returning to growth in 2015 and outstripping growth of the whole EA thereafter. It achieved growth rates of 6.4 in 2016 and 5.2 percent in 2017 and 2018, enabling real GDP to recover to near pre-crisis levels by the end of 2017 and surpass it in 2018. In 2019 growth slowed to 3.1 percent and the economy contracted by 5.1 percent in the pandemic year 2020. In 2021 economic growth surged to 6.8 percent but it decelerated to 5.6 percent in 2022. Cyprus' share of EA GDP rose over the pre-crisis levels and was 0.2 percent in 2022.

Figure 9 Real gross domestic product and Cyprus' share of euro area gross domestic product, 2005-2023



Notes: Data up to 2023Q1.
Source: Eurostat, Quarterly National Accounts: Gross domestic product, chain linked volumes (index 2005=100), seasonally and calendar adjusted [namq_10_gdp]

Figure 10 Quarterly growth rates of real gross domestic product, 2005-2023



Notes: Data up to 2023Q1.
Source: Eurostat, Quarterly National Accounts: Gross domestic product, chain linked volumes (index 2010=100), seasonally and calendar adjusted data [namq_10_gdp].

Decomposition of GDP growth

Figure 11 shows a decomposition of growth across the main components of GDP. The pre-2009 boom was driven primarily by private consumption. In 2009 both private consumption and investment dropped, contributing to that year's shallow recession. Private consumption recovered strongly in 2010, pulling the country into positive growth territory. Investment declined in 2011 and 2012 while consumption held steady. It dropped significantly in the crash year of 2013, contributing to the deep recession, along with investment and government consumption.

Private consumption was the main driver of the 2016-2019 boom. Investment contributed in 2016 and 2017 but slowed down thereafter. Government consumption played an important role in 2019 and even more so in the pandemic years 2020-2021, when it was the only component (other than inventories) contributing positively to growth. In 2022, the contribution of government consumption on growth was negligible, while net exports saw a substantial increase of 11.7 percentage points. The most significant change was in inventories, which contributed 4.8 percentage points.

Figure 12 shows a decomposition of growth into the contributions of the two basic factors of production—capital and labour—and of Total Factor Productivity (TFP) (see Box). There is a substantial decline in the quantity of labour from 2012 to 2014. This reflects the contraction of employment following the onset of the crisis. The return to growth in the 2015-2019 period is driven mostly by contributions from labour, non-ICT capital services and TFP growth. This will be discussed in greater detail in Section 5.1.

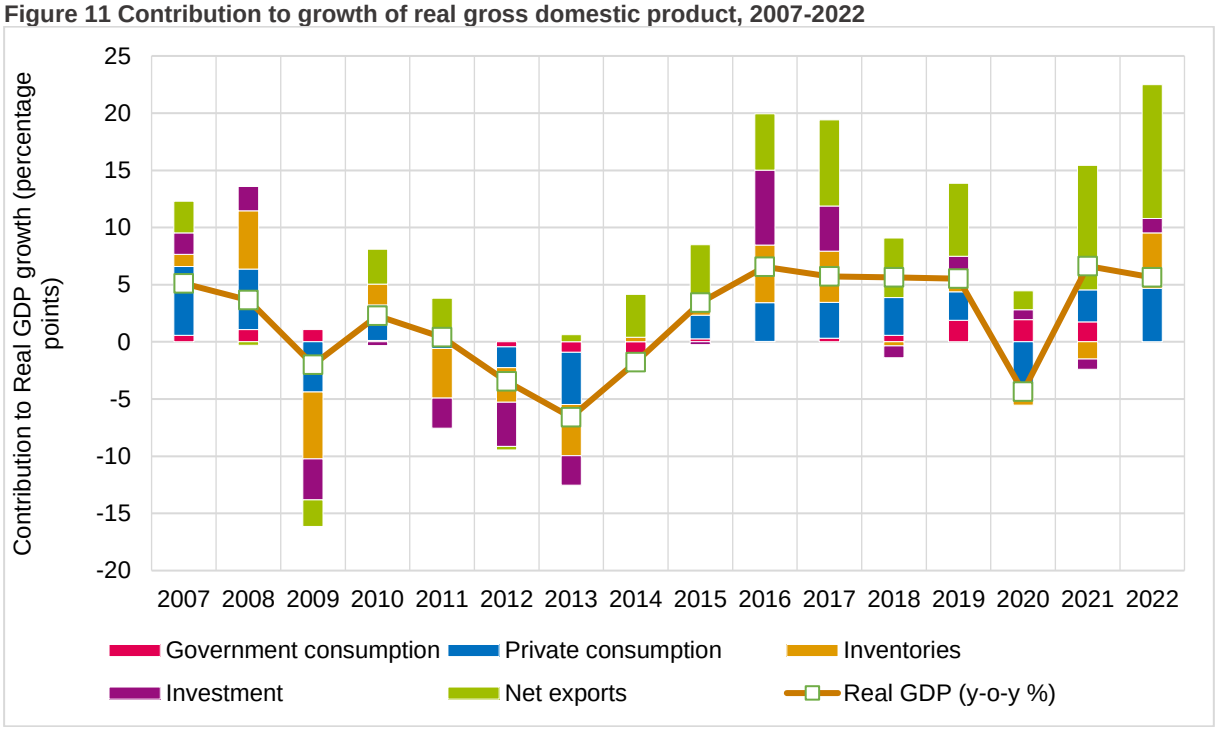
Definition: Total Factor Productivity

Total Factor Productivity (TFP), alternatively referred to as Multifactor Productivity, is the residual change in output not directly due to labour and capital inputs. TFP is often interpreted as the effect of technological change, efficiency improvements, innovation, and other non-measured contributions to output.

The data show a very limited contribution of ICT capital to growth throughout the period. The contribution of TFP is negative in 2020 due to the pandemic. It turned positive in 2021 and 2022, making the most significant contribution among all categories.

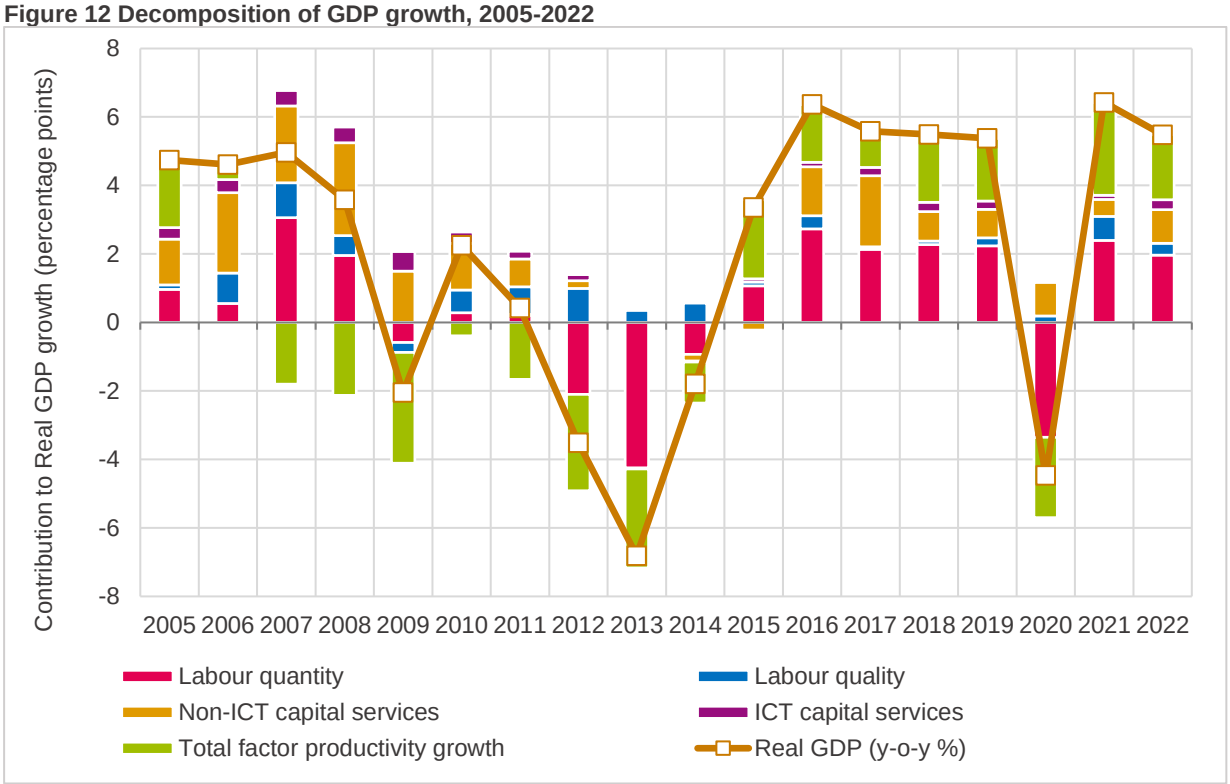
Furthermore, non-ICT capital services experienced a twofold increase in 2022 compared to 2021, while both the quality and quantity of labour declined in 2022 as compared to the previous year. Although the data suggest some recent stabilisation of TFP following a long decline, current investment patterns do not appear favourable for future productivity gains.

Figure 11 Contribution to growth of real gross domestic product, 2007-2022



Source: CYSTAT, National Accounts.

Figure 12 Decomposition of GDP growth, 2005-2022



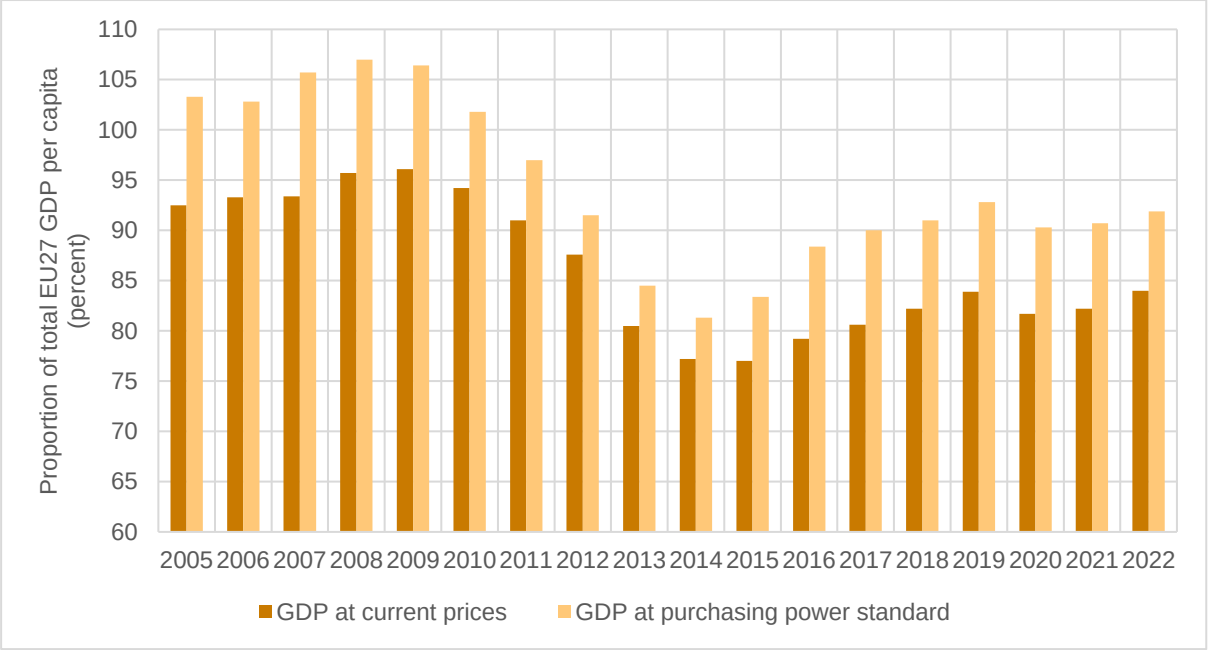
Source: Conference Board, Growth of Total Factor Productivity.

GDP per capita

Figure 13 shows the GDP per capita of Cyprus as a fraction of the EU average throughout the years. It increased from 92.5 percent to 96.1 percent of the EU average between 2005 and 2009 but dropped all the way down to 76.7 percent in 2015. It improved modestly between 2016-18, reaching 81.4 percent, but receded somewhat in 2019 and 2020. Over the subsequent two years, there has been an increase in GDP per capita.

Adjusting for price level differences between countries using the purchasing power standard (PPS) measure of GDP enhances Cyprus' relative position. Using this measure, Cyprus' GDP per capita reached 106.4 percent of the EU average in 2009 before falling to 81.3 percent in 2014. It reversed course, rising to 92.8 percent in 2019. A temporary decline was recorded in 2020, followed by an improvement over the next two years. In 2022, the ratio stood at 91.9 percent.

Figure 13 GDP per capita as fraction of EU average, 2005-2022



Source: Eurostat, Annual National Accounts: Gross domestic product at market prices. [nama_10_pc].

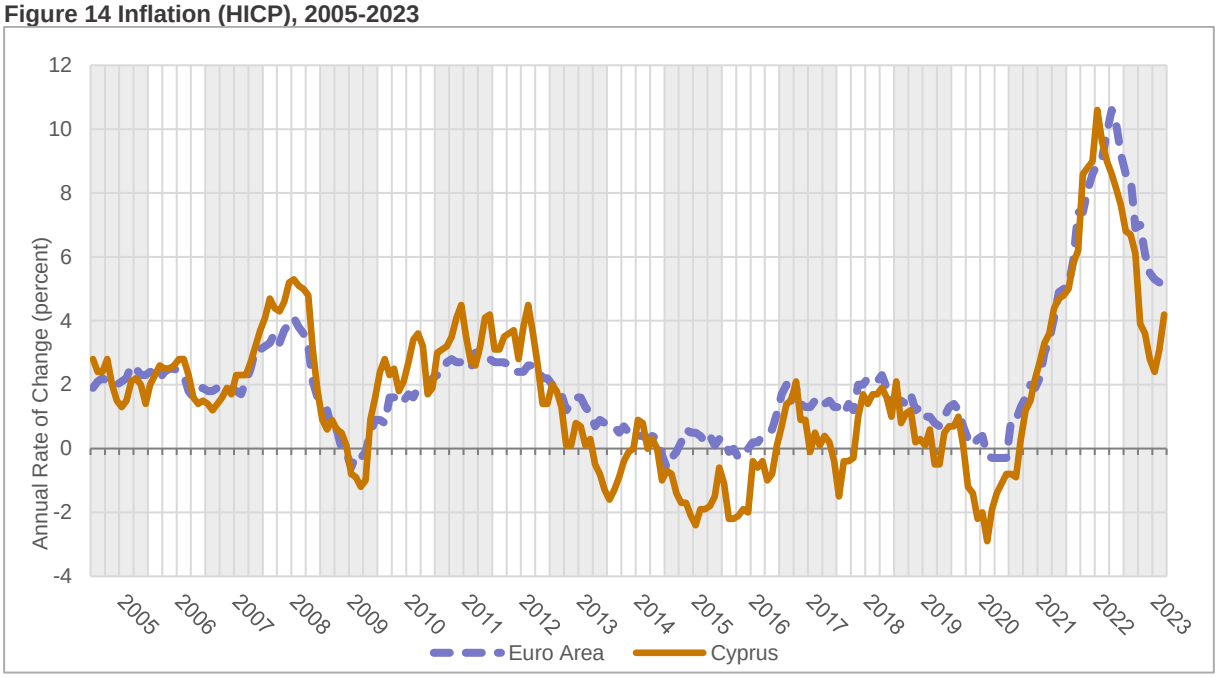
Inflation

Cyprus experienced inflation patterns closely aligned with the EA average until 2012 (Figure 14). The paths began to diverge as Cyprus was heading into its crisis and started recording lower inflation rates than the EA. It even experienced three years of disinflation between 2014 and 2016, in large part due to declining energy prices. After another short deflationary episode in late 2017 and early 2018, it moved into positive territory until the pandemic caused another round of deflation, which hit almost minus three percent in the third quarter of 2020. This was caused by weak demand and declining energy prices. The overall inflation rate for 2020 was -1.1 percent, compared to 0.3 percent for the EA.

Prices started rising again in 2021 and picked up speed in 2022. This was primarily attributed to the recovering economy, surging energy prices, and challenges within global supply chains. Inflation peaked at 10.6 percent in July 2022, surpassing the EA's 8.6 percent level at that time.

Moving into 2023, there has been a discernible easing of inflationary pressures, both within Cyprus and the EA. The most recent data available for August 2023 indicate a reduced inflation rate of 3.1 percent in Cyprus, substantially lower that the EA's 5.2 percent.

Figure 14 Inflation (HICP), 2005-2023



Notes: Data up to 2023:M06.
Source: Eurostat, HICP: Monthly data (annual rate of change), index 2015 = 100 [prc_hicp_manr].

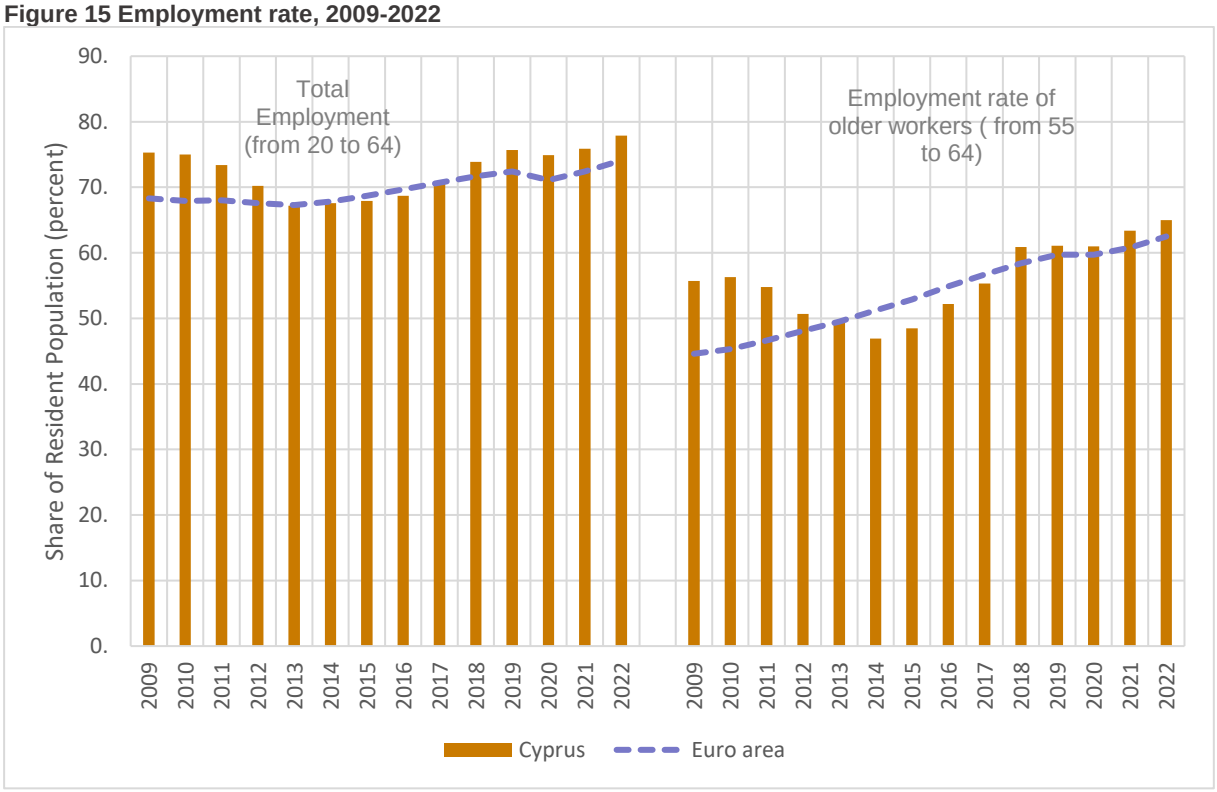
Employment and unemployment

The employment rate in Cyprus dropped from a high of 76.8 in 2007 to a low of 67.2 in 2013, a decline of almost ten percentage points (Figure 15). It started recovering in 2014 and in 2019 reached 75.7 percent, close to pre-crisis levels and three percentage points above the EA average. The rising trend was reversed in 2020 due to the coronavirus pandemic. However, it swiftly rebounded in 2021 and saw further significant growth in 2022, ultimately reaching approximately 78 percent. Additionally, employment rates for older workers (ages 55-64) appear to have followed a similar path, reaching 65 percent in 2022, slightly above the EA average.

Unemployment followed a corresponding pattern. Figure 16 shows that it had risen sharply, from below 4 percent in 2008 to 16 percent in 2014, then declined over the next five years to reach 7 percent in 2019. It rose again in 2020 but by relatively little to 7.6, as the financial support provided by the government in response to the pandemic kept layoffs in check. As economies re-opened in 2022, unemployment fell to 6.8 percent both in Cyprus and the EA.

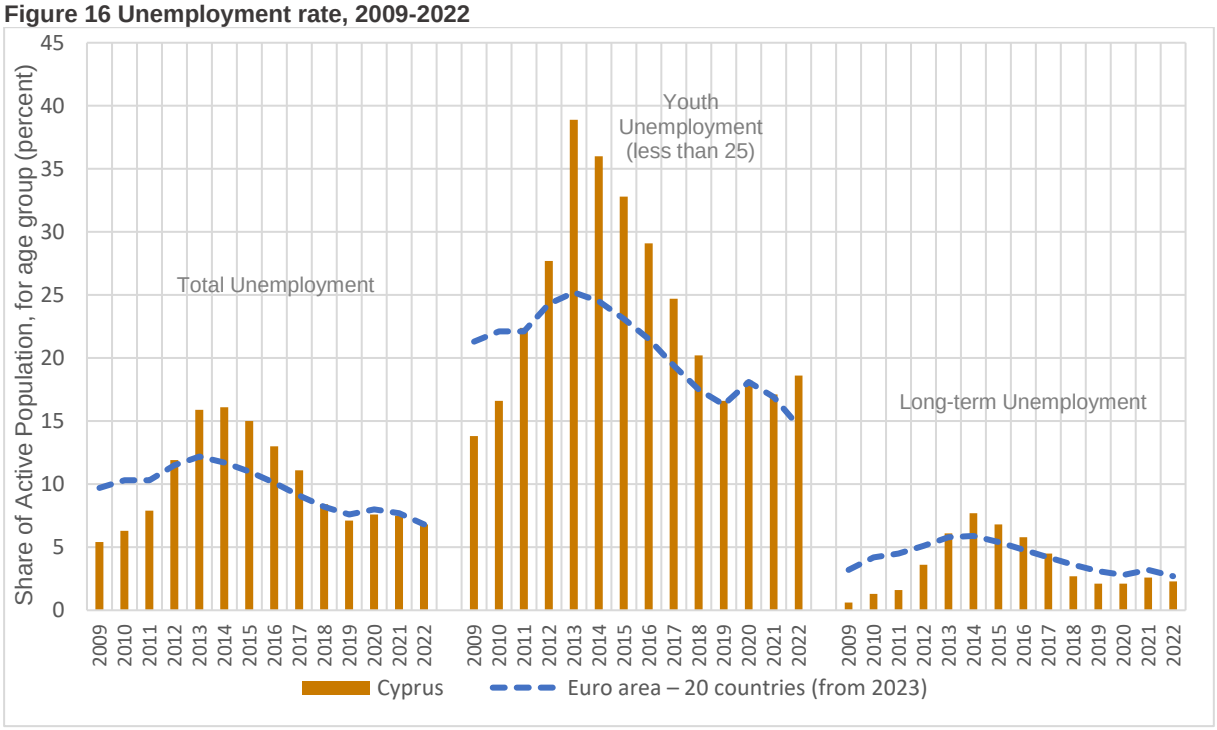
Youth unemployment rose dramatically during the crisis period, from 9 percent in 2008 to nearly 40 percent in 2013, before falling to 17 percent in 2019. It increased slightly to 18 percent in 2020, which is close to the EA level of 17 percent. In 2022, Cyprus' youth unemployment continued to increase while in EA it fell to 14.6 percent. The long-term unemployment rate has also fallen significantly since 2014 to just 2 percent, roughly one percentage point lower than the EA average. The decreasing trend persisted through 2022, with only minor fluctuations during the COVID-19 pandemic. Notably, Cyprus experienced long-term unemployment rates that were 0.5 percent lower than those observed in the EA.

Figure 15 Employment rate, 2009-2022



Source: Eurostat, Labour Force Survey: Total employment (resident population concept - LFS. [lfsi_emp_a].

Figure 16 Unemployment rate, 2009-2022



Source: Eurostat, Labour Force Survey: Unemployment [une_rt_a and une_ltu_a].

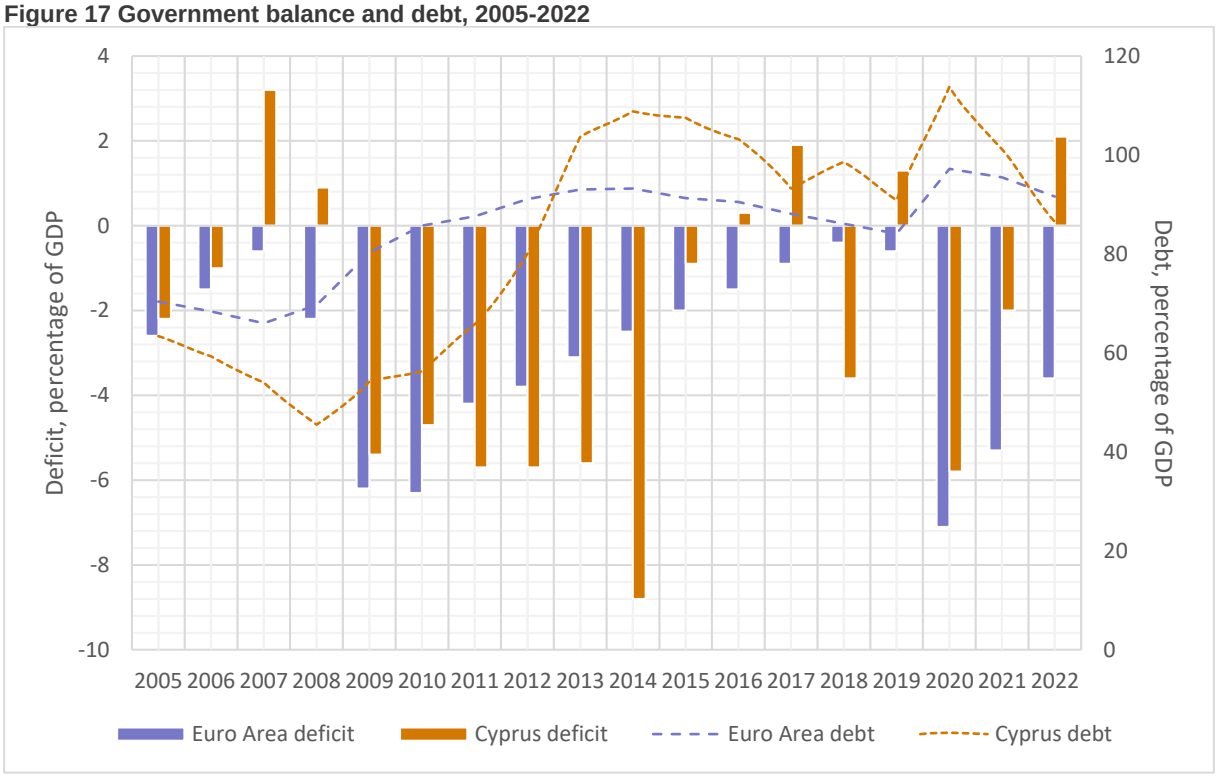
Public finances

Figure 17 shows the evolution of the Cypriot government balance and debt from 2005 to 2022. During that time period, Cyprus went from budget deficits in 2005 and 2006 to budget surpluses in 2007 and 2008 and again to a period of large deficits between 2009 and 2014, ranging from 4.7 to 5.8 during 2009-2013 and culminating in an 8.8 percent deficit in 2014. The 2014 deficit was partly due to the state's provision of €1.5 billion of capital injections to cooperative credit institutions. Implementation of the Economic Adjustment

Program successfully reduced the deficit and turned it into a surplus in 2016, 2017 and 2019. In 2018 the government recorded a 3.5 percent deficit because it picked up the tab for the final resolution of the Cooperative Cyprus Bank. In the pandemic year 2020 the provision of massive government support to the economy resulted in a 5.7 percent deficit, which was nonetheless smaller than the EU and EA averages (6.9 percent and 7.2 percent respectively). The deficit was reduced to 2 percent in 2021 and turned into a 2.1 percent surplus in 2022, a year when the EA recorded a deficit of 3.6 percent.

The level of public debt in Cyprus was significantly below the EU and EA averages before the fiscal and banking crisis, with a low of 45.5 percent of GDP in 2008. It expanded as a result of the crisis, reaching 109.1 percent of GDP in 2014. It gradually declined from that peak, reaching 94 percent in 2019, but shot up to 118.2 percent in 2020 because of pandemic borrowing. It resumed its declining trend in 2021 and closed 2022 at 86.5 percent, marking this as the first time since 2013 that Cyprus had a lower public debt than the EU average.

Figure 17 Government balance and debt, 2005-2022

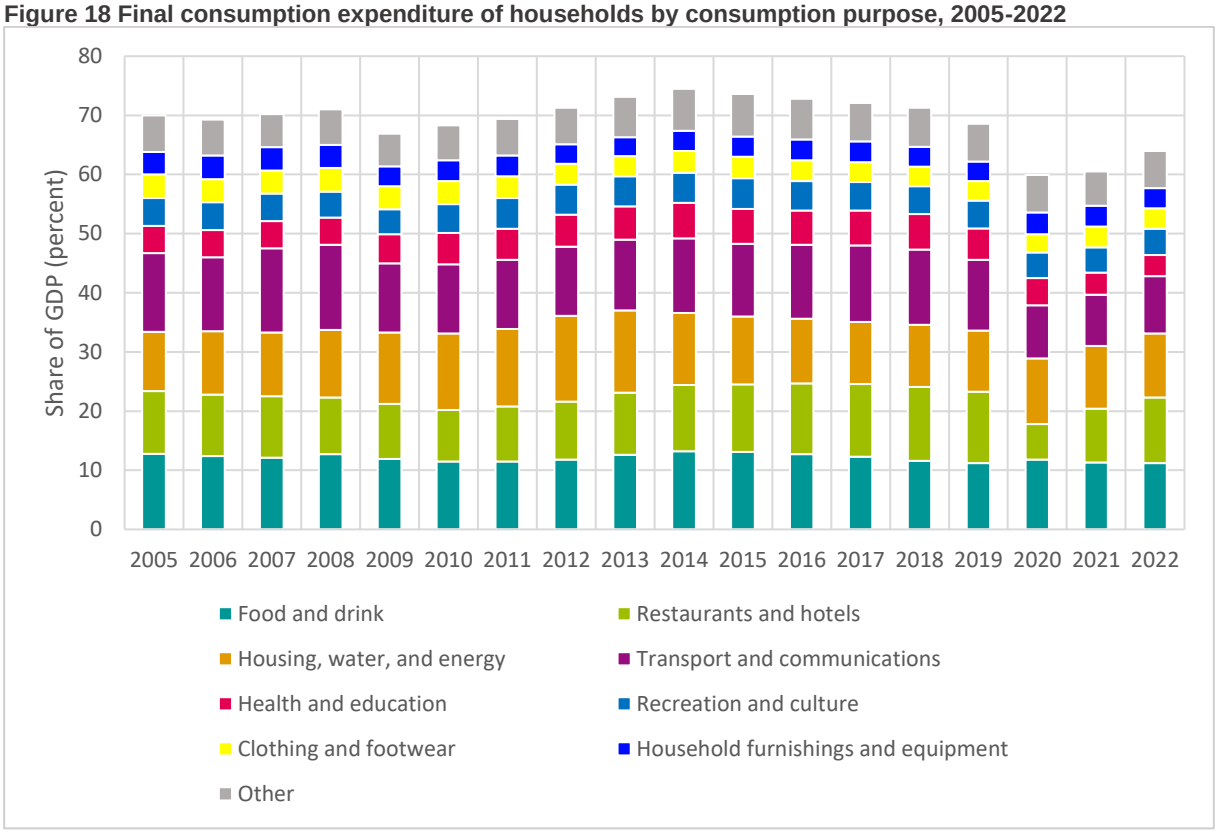


Source: Eurostat, Government deficit/surplus, debt and associated data [gov_10dd_edpt1].

Private consumption

Cyprus, Greece and Croatia are characterized by the highest ratios of household expenditure to GDP among EU member states during the last five years. In 2022, Cyprus' private consumption was 64 percent of GDP, compared to the EU27 average of 51.5 percent. It had peaked at 74.5 percent in 2014 and declined gradually over the next few years until a small recovery in 2022. The key drivers of private expenditure since 2019 are spending on food and drink, hotels and restaurants, housing and utilities, and transport and communication. Amidst the COVID-19 pandemic, household spending witnessed a decline due to the imposed lockdown measures, with the category encompassing restaurants and hotels being particularly hard-hit in a negative manner. Additionally, 'Transport & Communications' saw a significant drop of 2.3 percent between 2019 and 2022 (Figure 18).

Figure 18 Final consumption expenditure of households by consumption purpose, 2005-2022



Source: Eurostat, National Accounts: Final consumption expenditure of households by consumption purpose [nama_10_co3_p3].

Household saving and investment

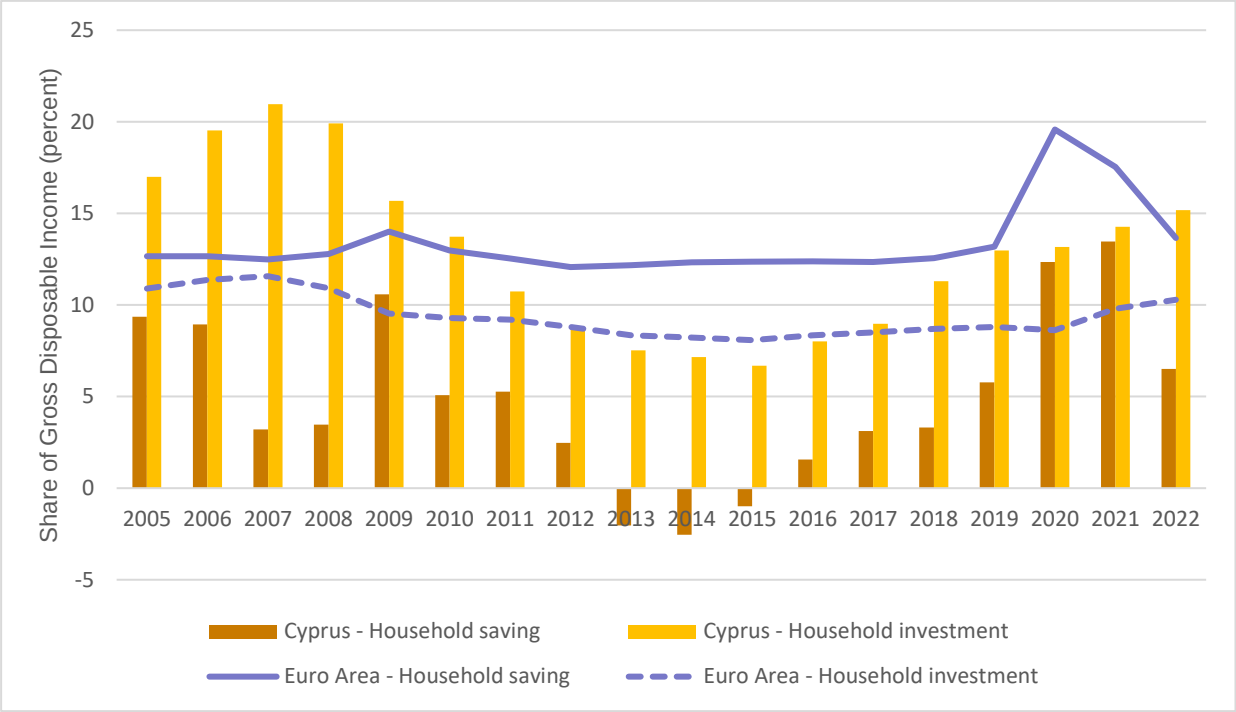
Figure 19 shows household savings and investment rates. Pre-pandemic growth in private consumption was stimulated by high levels of consumer confidence, improving wages and rising employment, while households have been running down accumulated savings to finance consumption, resulting in negative household savings rates.

The savings rate turned negative in 2013 and reached -2.6 percent in 2014. It returned to positive territory in 2016 but remained low, hovering around 3 percent. This is similar to the pre-crisis level (2007) but lower compared to the period during the crisis (2009-2011) and much lower than the EA average. In 2020 and 2021 the savings rate reached 12.4 and 13.5 percent respectively, the highest among all years of our sample. This was clearly due to the pandemic, as indicated by the fact that in 2022 it went back down to 6.5 percent. A continuation of low saving rates in the future could be a potential cause of concern if it leads to unsustainable accumulation of household debt.

The rate of household investment (mostly purchases and renovation of dwellings) is extremely high in Cyprus. It exceeded 20 percent in 2007, compared to the EA average of about 12 percent. In the aftermath of the crisis, it dropped to as low as 6.7 percent in 2015 (below the EA average of 8.1 percent) but then recovered to reach 13.0 percent in 2019 and has remained stable since. The EA average rose slightly during this period, reaching 9.4 percent in 2021 and 10.3 in 2022, but it remains significantly lower than Cyprus.

It is noteworthy that Cypriot household investment rates are higher than saving rates throughout the 2005-2022 period, while the EA average saving rate consistently exceeds the investment rate. The large investment rate of its households is one of the most striking features of the Cypriot economy.

Figure 19 Household saving and investment rates, 2005-2022



Notes: Gross disposable income adjusted for the change in the net equity of households in pension funds reserves.
Source: Eurostat, Annual Sector Accounts: Saving of households and non-profit institutions serving households and Gross fixed capital formation of households and non-profit institutions serving households [nasa_10_ki].

Fixed Investment

Cyprus recorded high investment levels in the pre-crisis period. In the boom years 2006-2008 investment exceeded 25 percent of GDP. About half of that went into construction of dwellings, while investment in non-transport equipment ranged between 5.1-5.4 percent (Figure 20). This is not an ideal allocation of capital as productivity growth comes from investment in equipment and technology rather than residential investment.

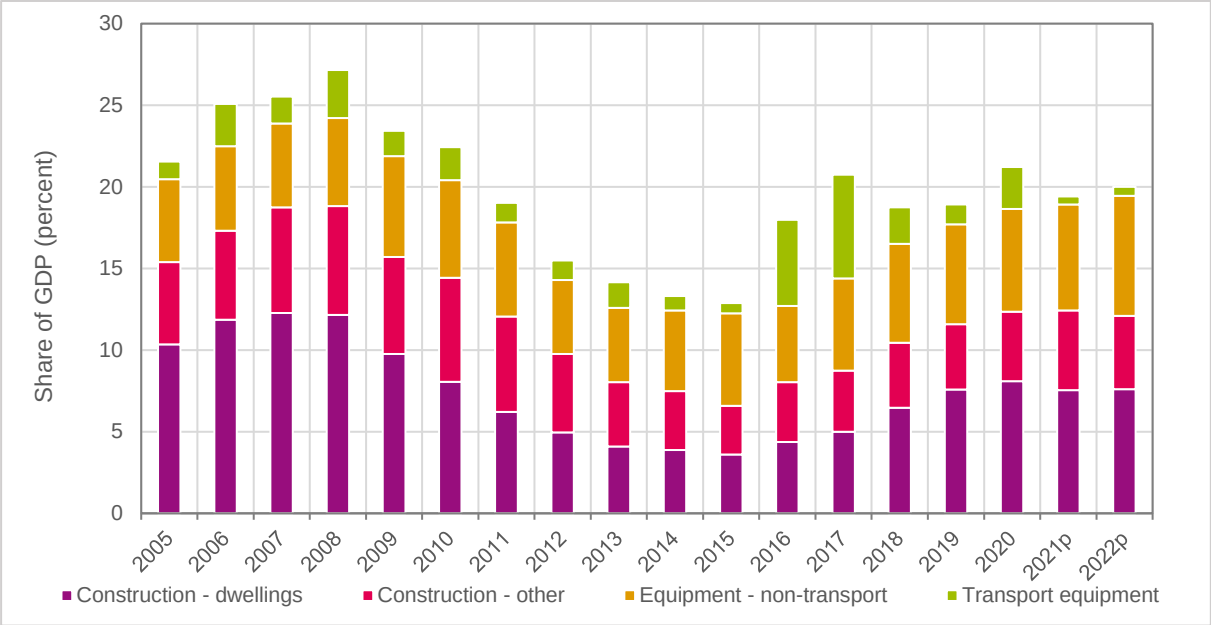
The uncertainty that started with the 2008 global financial crisis led to a drop in investment starting in 2009. It declined further as Cyprus entered its own crisis and reached a low of 12.9 percent of GDP in 2015. It has since recovered and stood at just above 20 percent of GDP in 2022. Construction has been boosted by tourism-related demand combined with a recovery in the residential real estate market, which is mainly driven by foreign demand connected to the citizenship by investment program. Residential investment has been the main source of the increase in investment observed since 2015. It reached about 8.0 percent of GDP in 2022, which is high compared to other countries but still far below the 2007 peak of 12.7 percent. The large surge in investment in transport equipment in 2016 and 2017 was likely due to activities by shipping firms and has little impact on the domestic economy.

Figure 21 shows a breakdown of equipment investment between ICT and other machinery and equipment. Both types of investment contracted sharply in Cyprus between 2010 and 2014. Investment in other machinery and equipment recovered somewhat, but never reached pre-crisis levels. In 2022 it stands at 82 percent of 2010 levels. On the other hand, investment in ICT equipment has remained low, at about 71 percent of the 2010 level. This compares with steady growth in ICT investment for the EA, which in 2022 is nearly 50.4 percent above its level in 2010. Low investment in ICT and other productive capital that could be expected to drive productivity growth should be a concern.

Note:

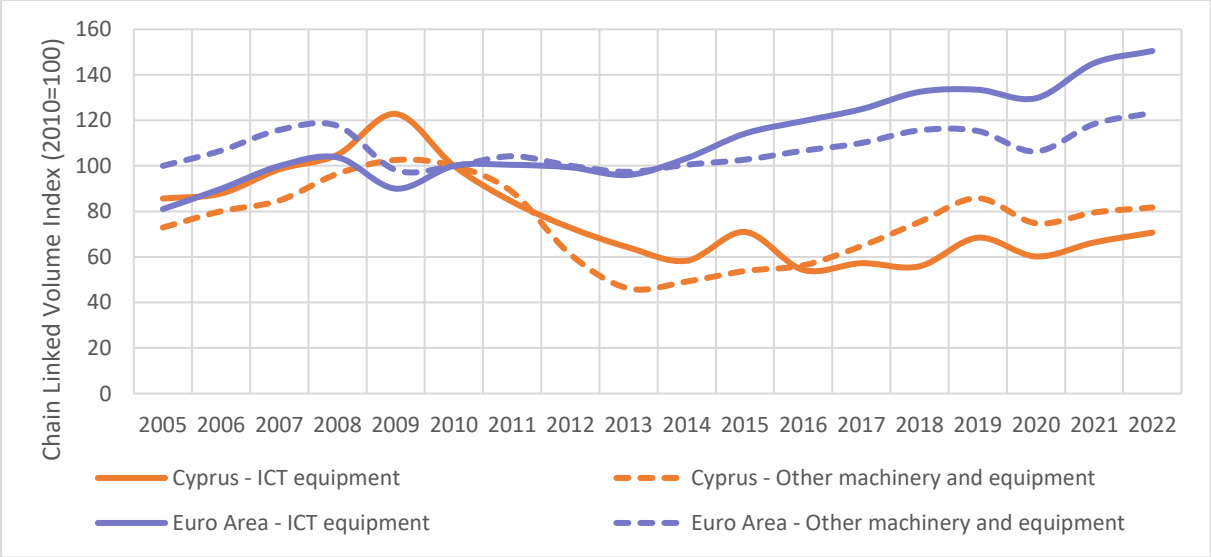
Recorded fixed investments include acquisitions by Special Purpose Entities (SPEs). The majority of SPEs in Cyprus are holding companies, but they also include non-financial companies, which are mainly used by shipping companies to register ships. Separate data for fixed investments made by SPEs are not available, but the Central Bank of Cyprus has published data on the net international investment positions of SPEs in Cyprus. These data are described Section 3.3.

Figure 20 Investment (gross fixed capital formation) by type, 2005-2022



Notes: 'Equipment – non-transport' covers the category 'Machinery and equipment and intangible fixed assets'. The values of the years 2021 and 2022 are predictions.
Source: CYSTAT, National Accounts.

Figure 21 Equipment investment (gross fixed capital formation) by type, 2005-2022



Notes: 'Other machinery and equipment' covers the category 'Other machinery and equipment and weapons systems' and excludes transport equipment.
Source: Eurostat, National Accounts: *Gross fixed capital formation by AN_F6 asset type* [nama_10_an6].

Balance of Payments

Cyprus consistently runs a deficit in the trade of goods which is largely compensated by a surplus in the trade of services. The ratio of both goods and service exports to GDP has increased over time. The increase was quite dramatic for service exports, which went from

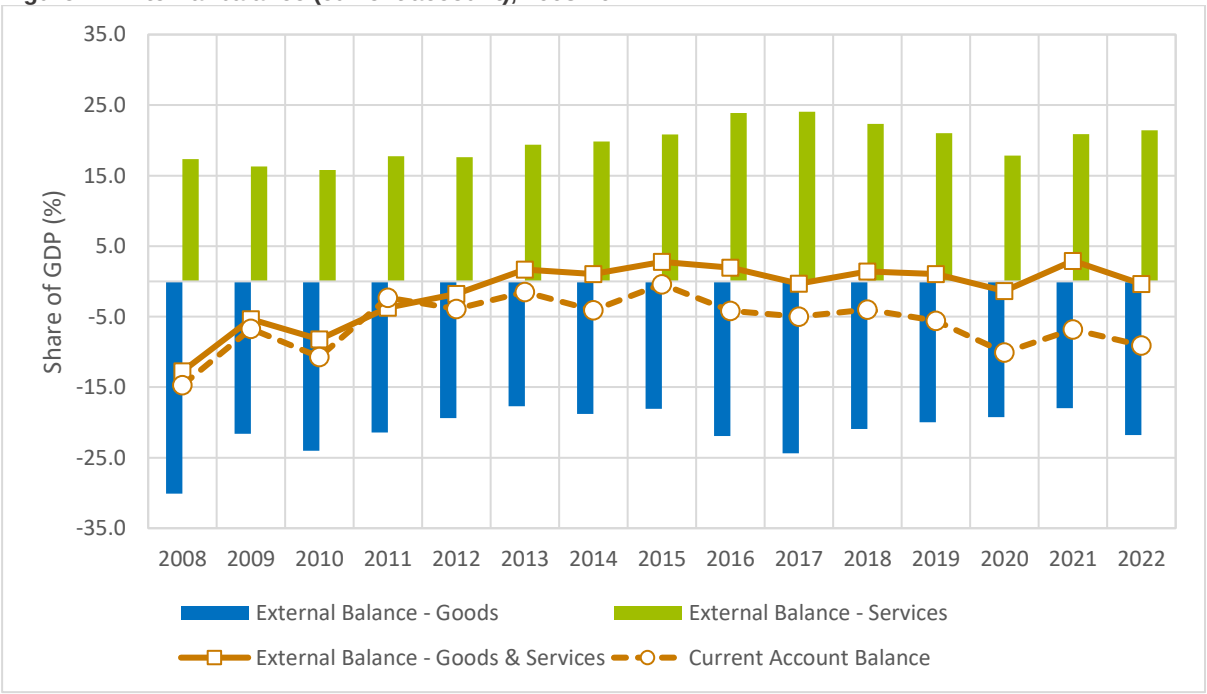
42 percent of GDP in 2007 to almost 60 percent in 2017. They declined somewhat to 53 percent in 2020 but climbed to almost 75 percent in 2022. Exports of goods to GDP stood at 17 percent of GDP in 2022.

The balance of trade in goods and services is depicted in Figure 22. The ratio of the net balance of trade in goods and services to GDP stood at -12.8 percent in the boom year 2008. The negative balance shrank when demand for imports contracted with the global financial and economic crisis and the subsequent domestic banking crisis. The net balance moved into surplus in 2013 and has been small but positive for most of the period since, with the exception of a couple of very small negative blips. The balance of the overall current account—which includes net investment income and transfers—is consistently negative throughout the period. From the very high negative peak of -14.7 percent in 2008 it shrank to just -1.5 percent in 2013. It hovered in the range of negative 4-5 percent for the next few years but expanded further to -10.1 percent in 2020 and stood at -9.1 percent in 2022.

Note:

As of 2008, Cyprus external statistics data are compiled in accordance with the IMF's Balance of Payments and International Investment Position Manual, 6th Edition (and the European System of Accounts, 2010). An important change compared to the previous methodology is that SPEs are treated as residents and are included in the current account. This is important in Cyprus because of the large shipping sector. The economic transfer of transport equipment (e.g. registration or deregistration of ships) does not affect GDP but can have a large impact on external accounts, which can distort the analysis of investment and external trade. The Central Bank of Cyprus publishes data on the impact of SPEs on Cyprus Balance of Payments. These are described in Section 3.3.

Figure 22 External balance (current account), 2008-2022



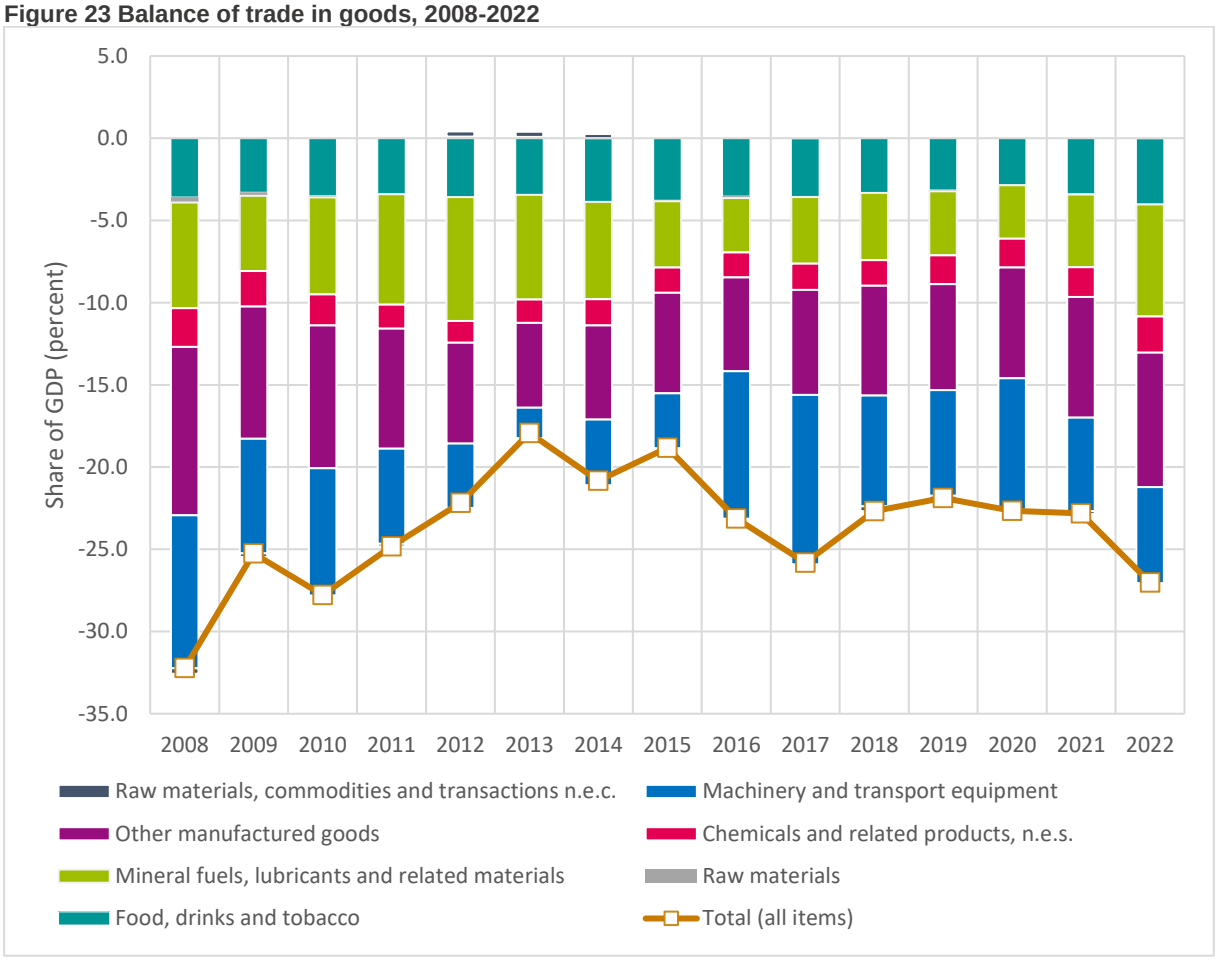
Source: Eurostat, GDP and main components [nama_10_gdp] and Balance of Payments [bop_gdp6_q]; Central Bank of Cyprus, Balance of Payments.

Goods trade balance

Figure 23 shows Cyprus' trade balance by major good category. The balance is negative in all groups. The overall deficit fell from 32 percent in 2008 to 18 percent in 2013, driven mostly by *Machinery and transport equipment* and *Other manufactured goods*, which covers a wide range of products varying from clothing and footwear to professional and

scientific equipment, paper and board, and metals. Since 2016, net imports of *Machinery and transport equipment* have increased significantly, from €600 million to €2 billion in 2017, matching the strong boost in investment in equipment shown earlier. In the following five years (2016-2020), the deficit was stable at about 23 percent, except for 2017 when it was 26 percent. In 2022, the goods trade deficit jumped up five percentage points to 27 percent, largely due to higher oil prices that almost doubled the deficit in the mineral fuels, lubricants and related materials category.

Figure 23 Balance of trade in goods, 2008-2022



Source: Eurostat, International trade by Standard International Trade Classification product group [ext_lt_intertrd].

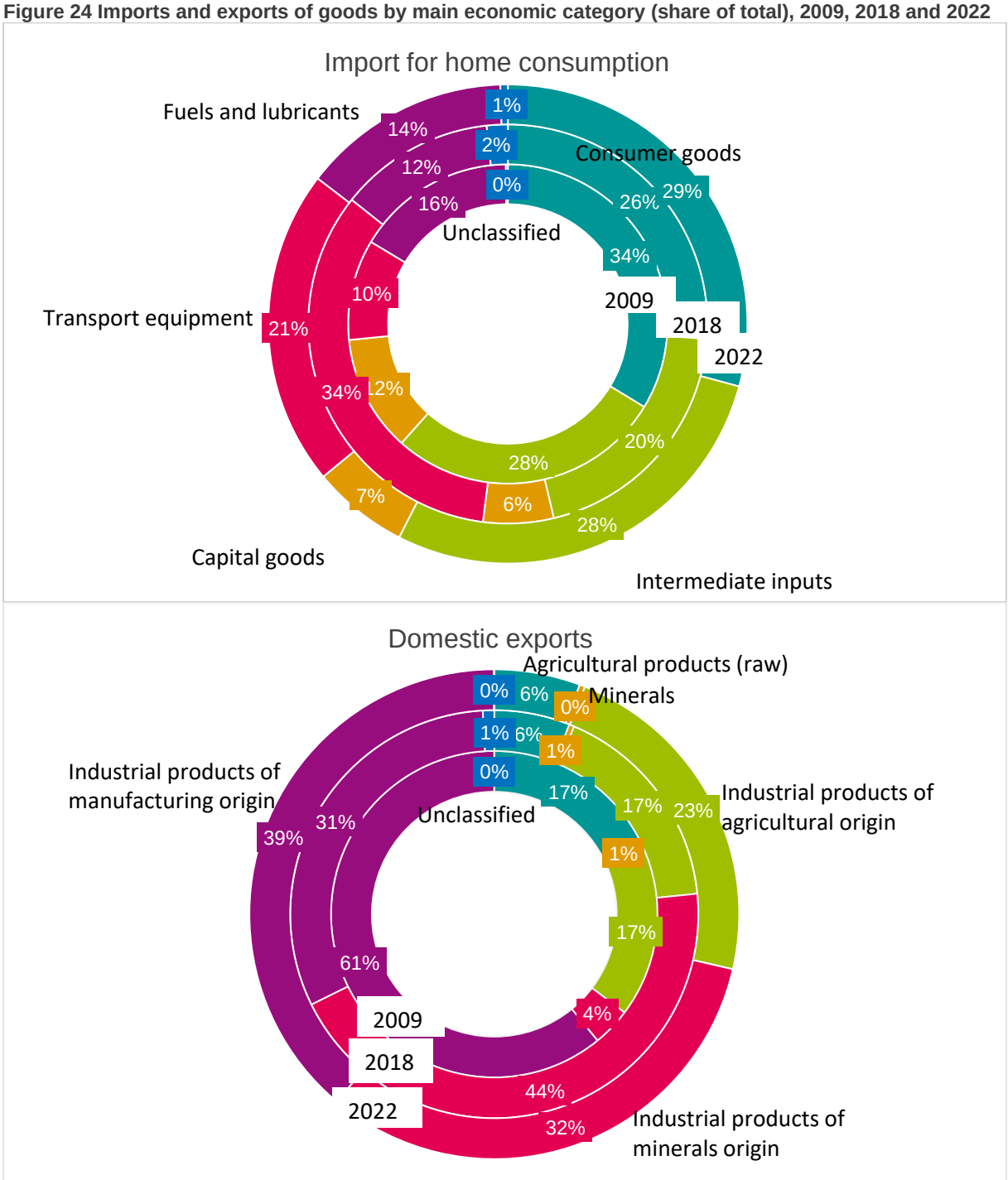
Composition of goods trade

Figure 24 provides a breakdown of imports and exports of goods by general category for the years 2009, 2018, 2022. The import side is dominated by three categories: consumer goods, intermediate inputs, and transport equipment (29 percent, 28 percent, and 21 percent in 2022). In comparison to 2018, there was a relative decrease in transport equipment and increase in the other two categories. Transport equipment imports are volatile because they consist largely of *Ships, boats and floating structures*, which vary a lot from year to year (and may be largely attributable to transactions by Special Purpose Entities as opposed to imports strictly for domestic use).

On the export side, the largest category with 39 percent in 2022 is *Industrial products of manufacturing origin*. They are followed by *Industrial products of mineral origins* (32 percent) and *Industrial products of agricultural origins* (23 percent). The second category is mostly mineral fuels and oils and is most likely re-exports attributable to a petroleum distribution terminal that opened in 2014.

Overall, the export performance of Cyprus relies on a small number of goods (see also next subsection). Pharmaceutical products dominate Cyprus' exports of non-food manufactured goods. The share of raw agricultural products in total domestic production—mostly potatoes, citrus fruits and fish—has declined over recent years but has been offset to some extent by an increase in the share of processed foods, notably halloumi cheese and fruit juices.

Figure 24 Imports and exports of goods by main economic category (share of total), 2009, 2018 and 2022



Notes: Domestic exports cover goods originating in the economic territory of Cyprus that have been wholly obtained in it or were substantially transformed by processing in it, so that the processing confers domestic origin. Domestic exports exclude goods originally imported and having undergone only repair or minor operations (e.g. blending, packaging, bottling, cleaning, sorting, husking and selling) which leave them essentially unchanged. Also excluded are stores and provisions for ships and aircraft.

Source: CYSTAT, Foreign Trade by main economic category.

Diversification of goods trade

Figure 25 provides information on the extent of diversification of Cyprus goods trade by product and in terms of exports destinations. The Herfindahl-Hirschman Index (HHI) is a measure of concentration, which is the opposite of diversification: a higher value of the index means less diversification.

The level of diversification of Cyprus' trade in goods by product decreased substantially between 2011-2015 and has been at around the same level since, albeit with some fluctuations. This suggests an inability for Cyprus to diversify its export product mix towards new, non-traditional products. The pandemic may have contributed to that, as suggested by the drop in the HHI in 2020. The upward trend in the last two years looks promising but needs to be monitored and encouraged.

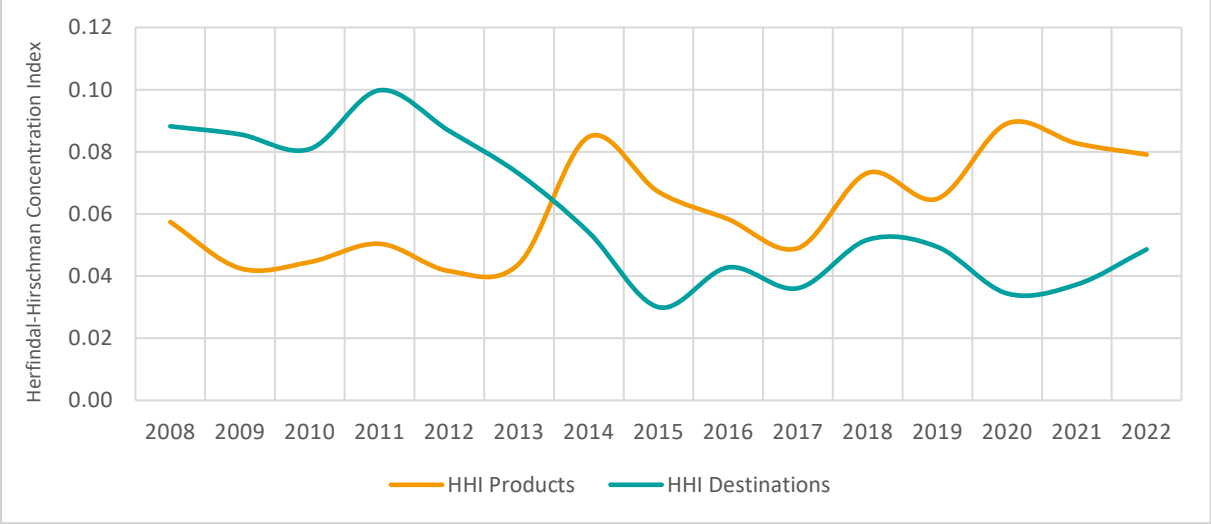
In terms of export destinations, diversification increased significantly in 2014 but declined for the next three years. It rose after 2017, reaching its peak in the 2020. Most of the rise came in 2020. It is hard to know how meaningful this is, given the highly unusual circumstances of the pandemic. Concentration has declined somewhat since 2020.

Definition: Herfindahl-Hirschman Index

The Herfindahl-Hirschman Index is a measure of the dispersion of trade value. Dispersion can be measured across products or across destinations, giving rise to the two distinct indices presented here.

The index ranges from 0 to 1, with a higher value indicating that trade is concentrated in fewer products, which may be interpreted as a greater potential vulnerability to trade shocks. Measured over time, a fall in the index indicates increasing diversification in an exporter's trade profile and, hence, lower vulnerability.

Figure 25 Product and destination concentration index, 2008-2022



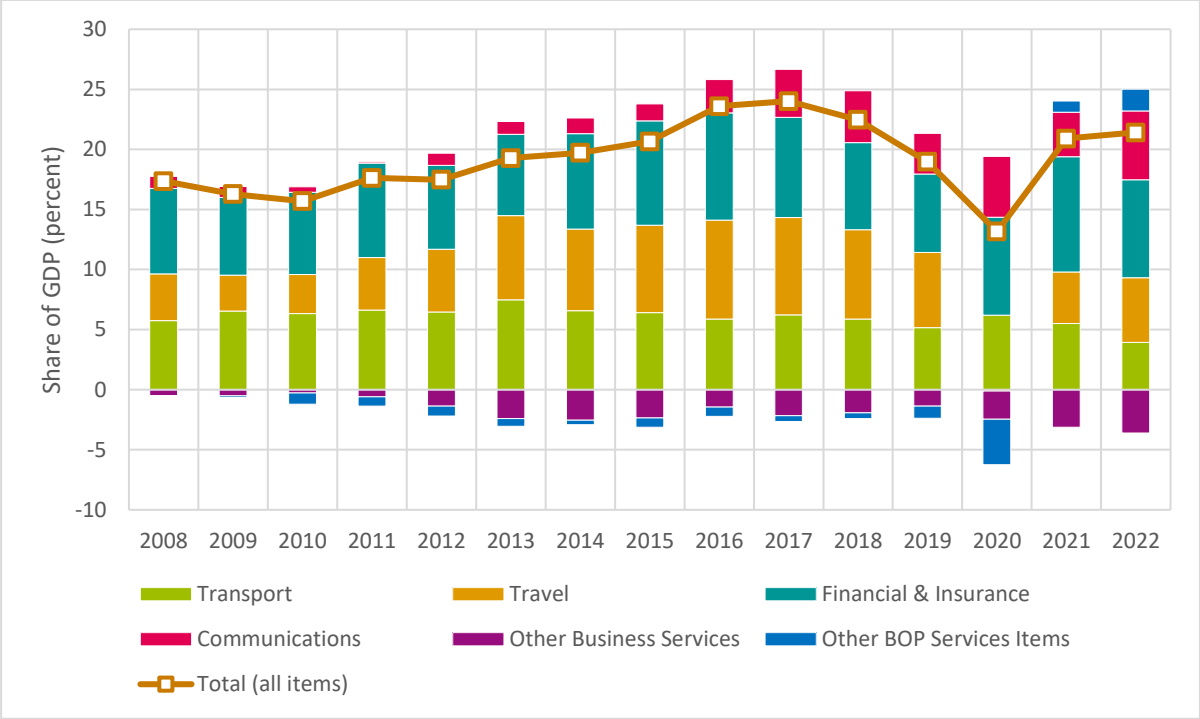
Source: World Bank, World Integrated Trade Solutions: Herfindahl-Hirschman Product Concentration Index (Export diversification).

Services trade balance

Historically, the main contributors to Cyprus' trade surplus in services are travel (mostly tourism), financial services and transport (mostly shipping). Since 2013, Cyprus has seen—alongside a strong performance from the tourism sector—a rapid expansion in exports of communication services, in particular computer services (Figure 26). The net surplus for communication services increased from 1.0 percent of GDP in 2012 to 5.7 percent of GDP in 2022. The overall services trade surplus has shrunk every year since its 2017 peak. The 2018 decline is due to an increase in GDP; the net export balance remained roughly equal. In 2019 net exports dropped in all four major categories (travel,

transport, finance & insurance, communications). In 2020 we had the near complete shutdown of the tourism market, which was partially compensated by an increase in exports in the finance and insurance sector. Tourism made a comeback in subsequent years, but without reaching its pre-pandemic levels. Overall, the services trade surplus declined from 24.0 percent of GDP in 2017 to 21.4 percent in 2022.

Figure 26 Balance of trade in services, 2008-2022



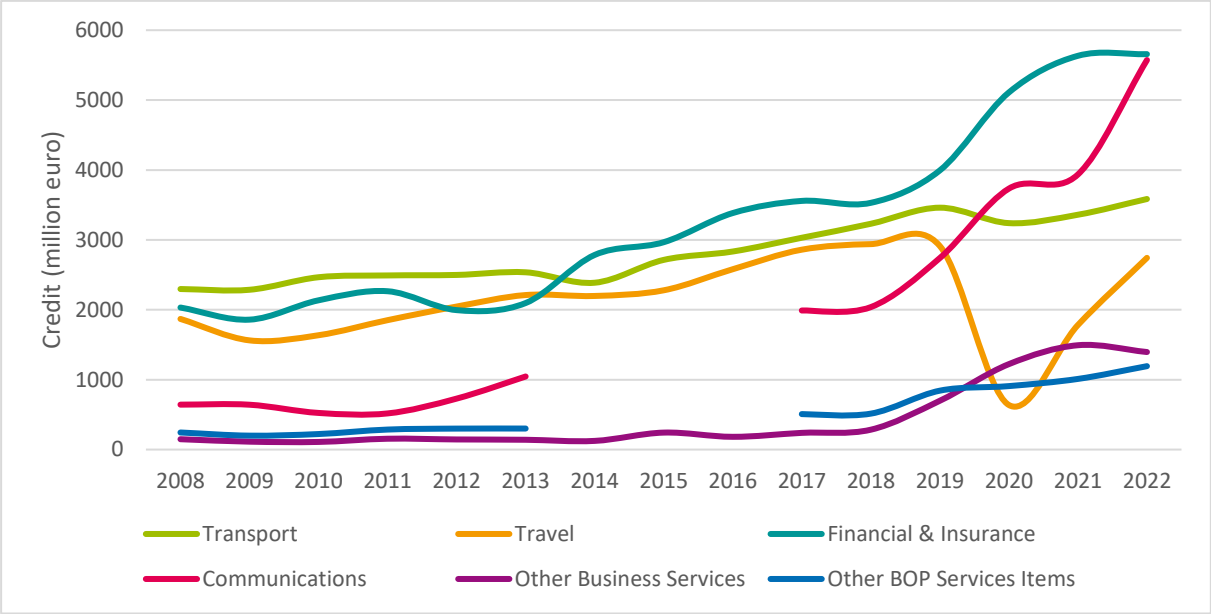
Source: Central Bank of Cyprus, Balance of Payments.

Composition of service exports

Figure 27 shows service exports levels by main economic activity. Tourism ('travel') exports have expanded significantly since 2010, reaching a peak in 2018. They declined somewhat in 2019 but collapsed in 2020 as travel came to a standstill. Over the course of the next two years, travel rebounded to the levels observed in 2017. Conversely, exports of financial services contracted slightly during the banking crisis followed by a swift recovery and a subsequent upward trajectory, marked by a notable surge during the pandemic years. Exports of telecommunication, computer, and information (ICT) services surged from 524 million in 2010 to 5,573 million in 2022, demonstrating remarkable growth. The growth was interrupted temporarily by the pandemic but resumed vigorously afterward, likely due to the relocation of headquarters of ICT companies to Cyprus and the invoicing of ICT services through these headquarters. Despite the importance of the sector, exports of other business services are limited. This reflects an orientation of the sector to domestic clients and servicing SPEs and other FDI investors who are legally (although not necessarily physically) residing in Cyprus. As these transactions are between residents, they do not count as exports.

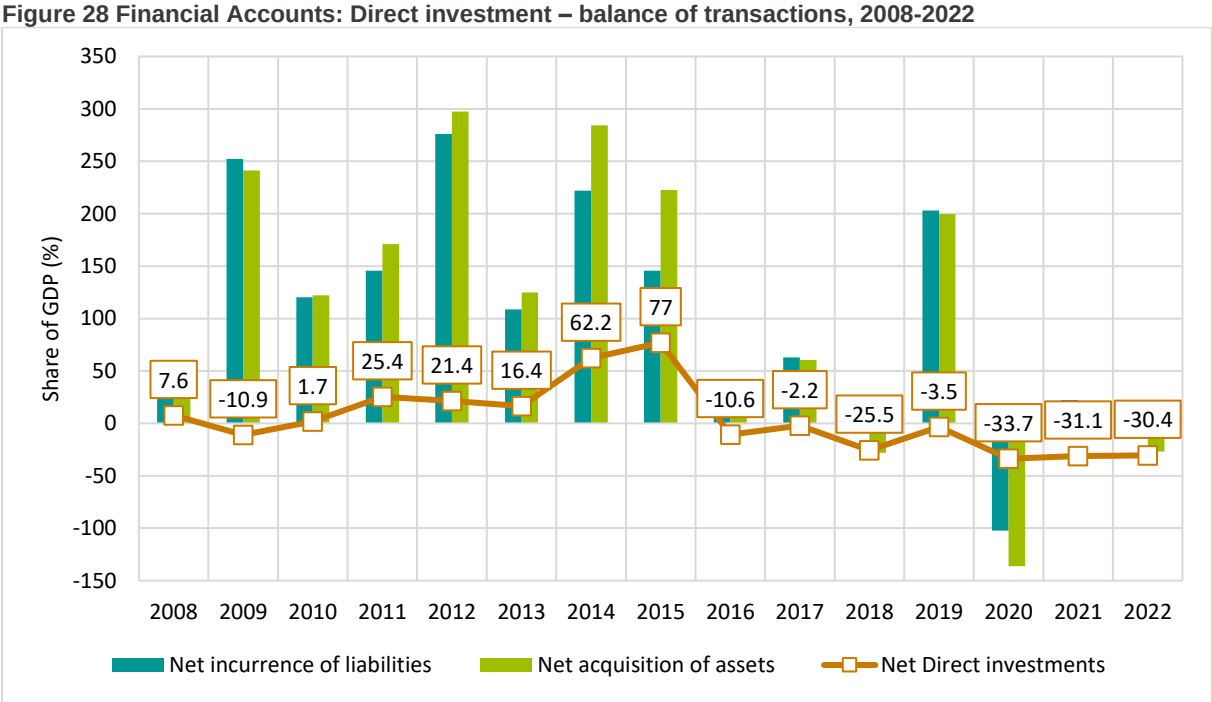
Figure 28 shows flows of direct investment in and out of Cyprus. Flows are very large because of 'round-tripping': capital is exported from a foreign country to Cyprus only to be imported back into the foreign country as FDI. These flows have minimal impact on the local economy and are not representative of real economic activity. Net FDI flows are more informative because they net out round-tripping flows. As illustrated, net FDI flows (outflows minus inflows) have been negative since 2015, meaning that incoming FDI exceeds outgoing FDI.

Figure 27 Exports of services by main economic activity, 2008-2022



Notes: Data for exports in communication services missing for 2014, 2015 and 2016.
Source: Eurostat, International trade in services (since 2010) [bop_its6_det].

Figure 28 Financial Accounts: Direct investment – balance of transactions, 2008-2022



Note: The net direct investment is calculated as net acquisition of assets minus the net incurrence of liabilities.
Source: Eurostat, Balance of Payments [bop_gdp6_q]: Balance of Payments and International Investment Position items as share of GDP.

3.3 SPEs in the balance of payments

Special Purpose Entities (SPEs) have an outsized influence on the external statistics of Cyprus. SPE activities are very large in terms of economic value but are often tangential to real economic activity on the island. Recognizing this distortion, the Central Bank of Cyprus publishes data separating SPE and non-SPE related flows and investment positions, treating SPEs as non-residents. Analysis using these data is presented in this subsection. Overall, the data show that Cyprus' balance of payments can be properly understood only by explicitly considering the activities of SPEs. The influence of SPEs needs to be accounted for when trying to

draw conclusions about the competitive performance of the 'real' domestic economy.

Definition: Special Purpose Entities

A special purpose entity (SPE) resident in an economy is a formally registered and/or incorporated legal entity recognized as an institutional unit, with no or little employment up to maximum of five employees, no or little physical presence, and no or little physical production in the host economy.

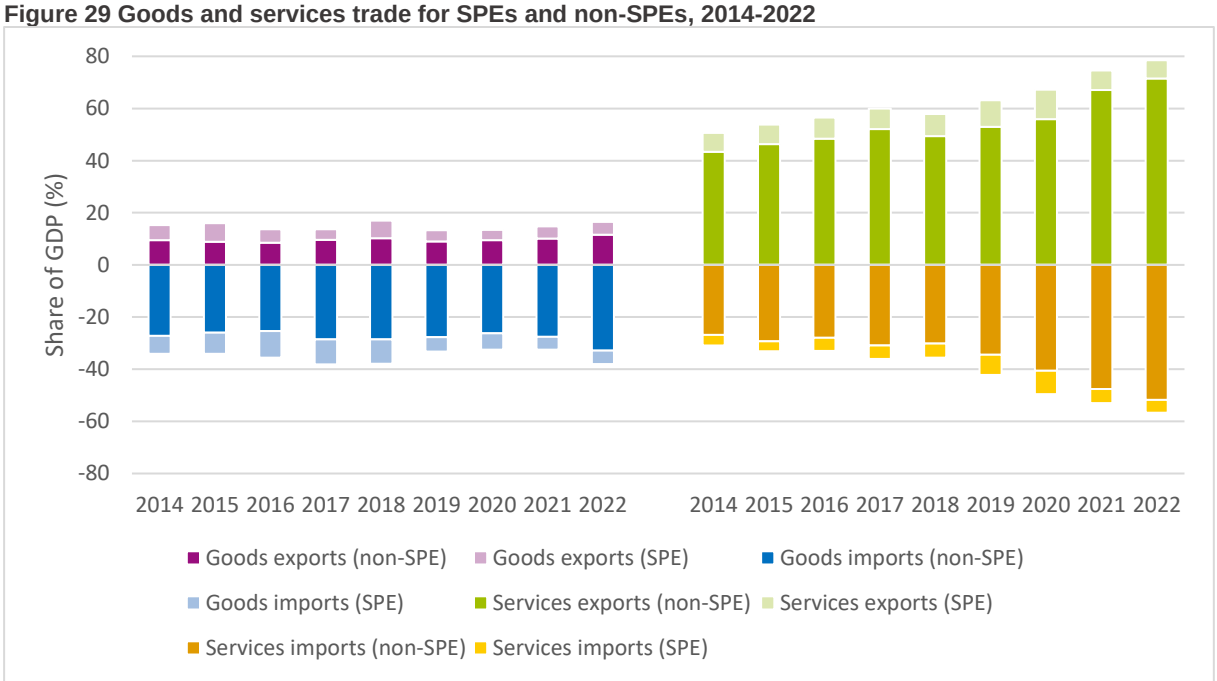
SPEs are directly or indirectly controlled by non-residents. SPEs are established to obtain specific advantages provided by the host jurisdiction with an objective to (i) grant its owner(s) access to capital markets or sophisticated financial services; and/or (ii) isolate owner(s) from financial risks; and/or (iii) reduce regulatory and tax burden; and/or (iv) safeguard confidentiality of their transactions and owner(s). SPEs transact almost entirely with non-residents and a large part of their financial balance sheet typically consists of cross-border claims and liabilities.

International groups use SPEs in Cyprus to channel funds between related non-resident entities, by ship-owning companies whose economic owner is a CY resident, that register (and deregister) ships and, also, for worldwide invoicing on behalf of parent companies. These enterprises usually have minimal interactions with the domestic (real) economy.

Trade in goods and services

Figure 29 shows a breakdown of goods and services flows for SPEs and non-SPEs. Flows of goods are on the left and services on the right. The vertical bars depict exports and imports as a percentage of GDP, broken down for non-SPEs (darker colours) and SPEs (lighter colours). A few things jump out from the graph. First, flows of goods are much smaller than flow of services. Second, there is a large deficit in goods trade and a surplus in services trade. Third, trade in goods is stable while trade in services is increasing. Fourth, SPEs are relatively much more important for goods rather than for services, especially on the export side. For example, 30 percent of exports and 13 percent in imports in 2022 were associated with SPEs. The equivalent figure for services is nine percent for both exports and imports. It should be noted that, although SPEs are responsible for a bigger fraction of goods trade than services flows, SPE flows for goods and services are of the same magnitude in absolute terms.

Figure 29 Goods and services trade for SPEs and non-SPEs, 2014-2022



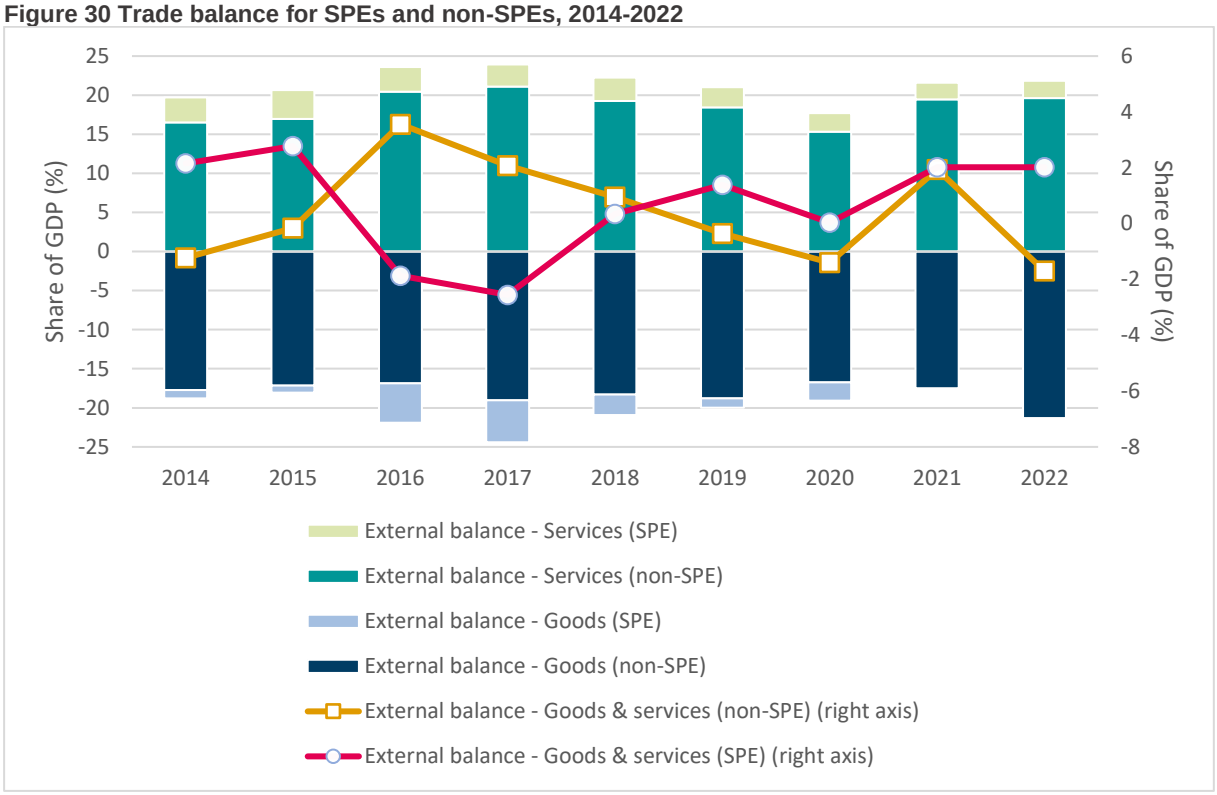
Source: Cyprus Central Bank: Core economic indicators with supplementary information on the impact of SPEs.

Balance of trade

Figure 30 shows the trade balance for SPEs and non-SPEs. The goods trade balance for SPEs was in deficit until 2021 and 2022, when it has been essentially zero. It therefore added to the negative goods trade balance for the rest of the economy. Services trade shows a surplus that has shrunk somewhat in recent years but remains positive.

The overall external balance (including both goods and services) for SPEs and non-SPEs moved in opposite directions during the early part of the period under examination. SPEs had a positive balance in 2014 and 2015, while non-SPE trade was roughly balanced. As the economy recovered in 2016, they moved in opposite directions: non-SPE trade had a large surplus while SPE trade went into a deficit. The two paths converged in 2018 as the non-SPE surplus shrunk and SPE trade went into surplus. The latter has remained robustly positive, while non-SPE trade has been in deficit since 2019, with the exception of a two percent surplus recorded in 2021.

Figure 30 Trade balance for SPEs and non-SPEs, 2014-2022



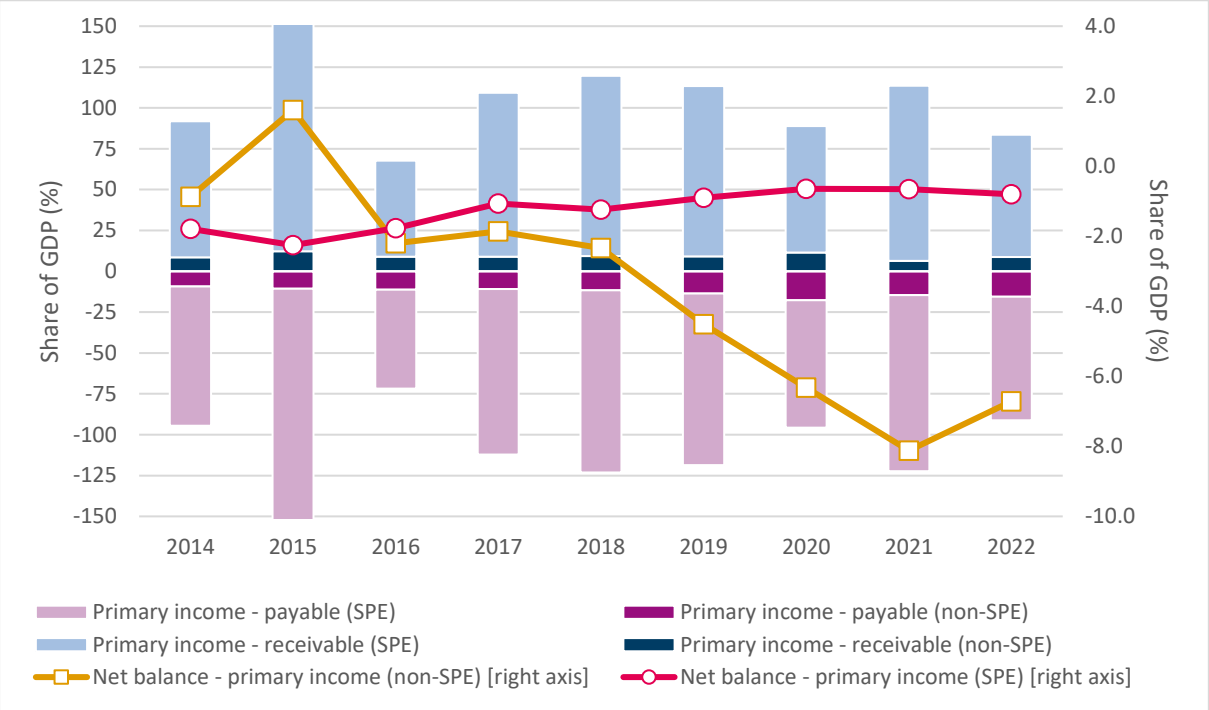
Source: Cyprus Central Bank: Core economic indicators with supplementary information on the impact of SPEs.

Primary account

SPEs are responsible for a very large proportion of primary income flows—i.e., income flows between resident and non-resident institutional units—in Cyprus' current account. This can be seen in Figure 31, where lighter colours (SPEs) dominate darker colours (non-SPEs). From 2014 to 2022, SPEs constituted 83 percent and 75 percent of inward (receivable) flows and 85 percent and 76 percent of outward (payable) primary account flows. This reflects the nature of SPEs and the movement of large funds by these companies, which strongly increase gross figures for primary income flows. The SPE net balance has been negative throughout the period 2014-2022 but it has been shrinking, going from -2.3 in 2015 to -0.8 in 2022. There was a decline in SPE activity in 2020—likely due to the pandemic—and then again in 2022. Time will tell if the latest decline is related to structural changes in Cyprus' international business sector.

The primary income account for non-SPEs has recorded increased deficits in the last three to four years. This reflects the influx of foreign firms: profits of foreign-owned firms are recorded as payable income, and therefore increase the deficit in the primary income account.

Figure 31 Primary account for SPEs and non-SPEs, 2014-2022



Source: Cyprus Central Bank: Core economic indicators with supplementary information on the impact of SPEs.

Net international investment position

The Net International Investment Position (NIIP) measures at a specific point in time, the gap between the amount of claims and liabilities of residents vis-à-vis non-residents, including gold reserves and foreign currency reserves of the country. Based on the sign (positive or negative), it characterises the country as a net creditor or debtor (see Box for formal definition).

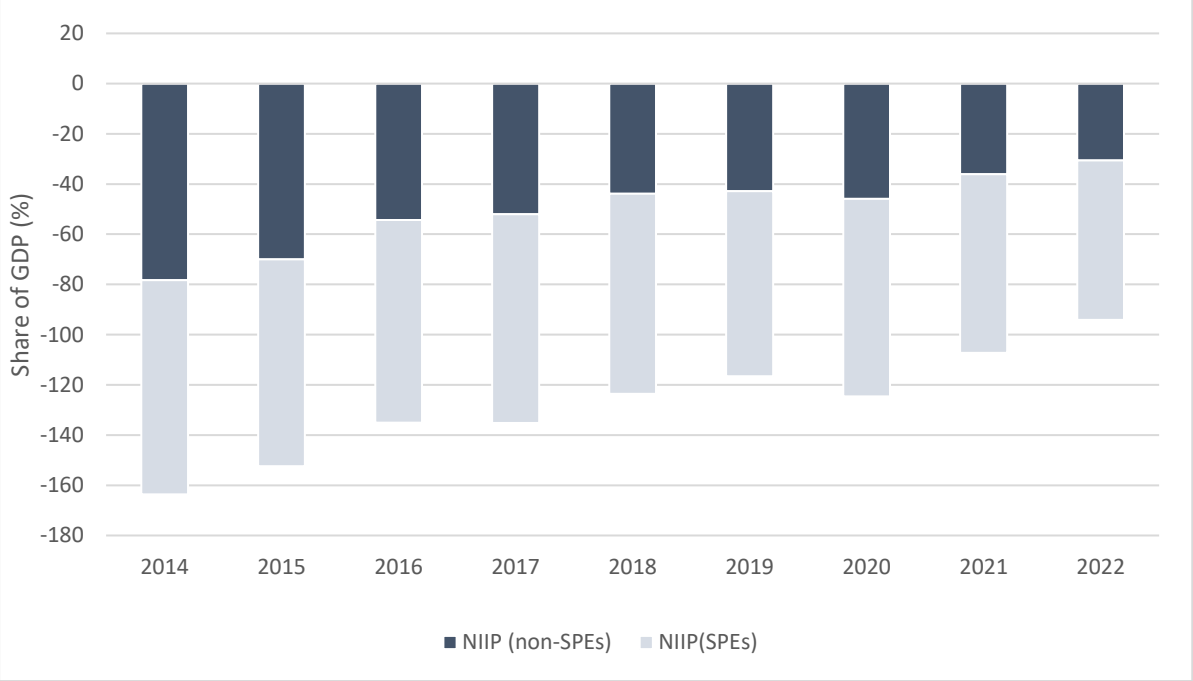
Figure 32 shows the net international investment position of Cyprus, breaking it down for SPEs and non-SPEs. The balance is negative, as Cyprus as a net recipient of capital. The contribution of SPEs to Cyprus' negative NIIP has grown over time, from 52 percent in 2014 to 67 percent in 2022. This is mostly due to a contraction in the NIIP position of non-SPE entities rather than an increase in SPE activities; if anything, the latter have shrunk in absolute terms. In 2020Q3, the stock of financial liabilities of SPEs exceeded their assets by €17.9 billion, equivalent to around 85 percent of Cyprus' GDP. In 2022, both SPEs and non-SPEs reduced the deficit to 64 percent and 31 percent respectively.

In other words, the value of SPE-owned assets held in Cyprus (liabilities) far outweigh SPE-owned assets held outside the country. This is mainly due to ship-owning companies, which have financial liabilities (for example, loans from abroad) while their assets are mainly real assets (i.e., ships). In the NIIP, only financial instruments are included and therefore, ships, which are real assets, are not included in the NIIP.

Definition: Net International Investment Position (NIIP)

According to Eurostat and based on the IMF Sixth Balance of Payments Manual (BPM6), the International Investment Position (IIP) is a statistical statement that shows at a point in time the value and composition of: -financial assets of residents of an economy that are claims on non-residents and gold bullion held as reserve assets, and -liabilities of residents of an economy to non-residents. The difference between an economy's external financial assets and liabilities is the economy's net IIP, which may be positive or negative. Respectively the NIIP provides an aggregate view of the net financial position (assets minus liabilities) of a country vis-à-vis the rest of the world. It allows for a stock-flow analysis of external position of the country. The indicator is expressed in percent of GDP. The indicator is based on the Eurostat data from the Balance of payment statistics, i.e., the same data source used for the current account balance.

Figure 32 NIIP for SPEs and non-SPEs, 2014-2022



Source: Cyprus Central Bank: Core economic indicators with supplementary information on the impact of SPEs.

The financial account

The financial account is the component of the balance of payments that records financial transactions between residents and non-residents. Since the overall balance of payments must always be zero, the financial account for Cyprus must be in surplus in order to balance the deficit of the current (and capital) account. In essence, the financial account explains how the current account deficit is financed.

Foreign inflows are classified in two main categories: direct investment (FDI) and portfolio investment. Direct investment includes real estate transactions plus equity investments that result in a controlling interest in a company. Portfolio investment includes non-controlling equity investments (below 10 percent) plus debt securities, which is primarily government lending.

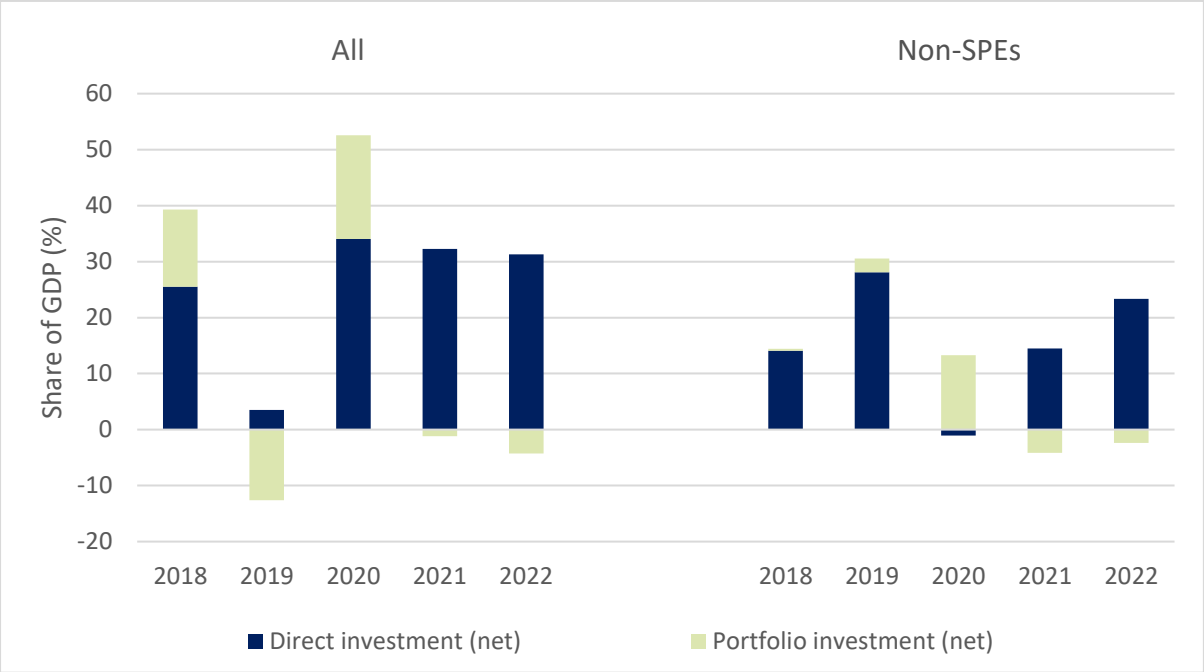
Figure 33 shows how direct and portfolio investment evolved between 2018-2022. The left side of the graph displays total flows, including SPEs. Figures are reported as a percentage of GDP. Positive numbers represent net investment inflows, meaning that inflows from non-residents exceed outflows from residents. It can be easily observed that flows are highly volatile. There are large and positive direct investment inflows every year except 2019, when the inflow is quite small. Portfolio investment is small in absolute terms and can be positive

or negative. In 2019 it was negative and outweighed the positive direct investment flows, leading to an overall investment outflow.

As explained above, the full data do not provide a good picture of real economic activity on the island because of the activities of SPEs. The second part of the graph reports flows that exclude SPE activities.[6] These flows are less volatile, though there is still significant variation across years. Direct investment is much more important than portfolio investment, with the exception of the pandemic year 2020, when there was a net outflow of direct investment. There was a net outflow of portfolio investment in 2021 and 2022.

The overall conclusion is that the current account deficit is financed primarily by direct investments, and that there is substantial volatility in investment flows across years even after excluding SPE activities.

Figure 33 Net flows of direct and portfolio investment, 2018-2022



Source: Cyprus Central Bank: Balance of Payments, Current and Financial Accounts; Annual data.

[6] We are grateful to the Central Bank for providing this non-publicly available information.

4 Introduction to benchmarking Cyprus' competitiveness

Cyprus' competitive performance is benchmarked in the current report against 12 countries selected on the basis of multiple criteria. The majority are chosen because of their similarity to Cyprus in terms of economic size, geographical proximity, or island or peripheral EU location, while some are aspirational choices. The countries are Denmark, Estonia, Finland, Germany, Greece, Ireland, Malta, the Netherlands, Portugal, Slovenia, the UK, and Israel. The choice of these mostly highly competitive countries also reflects Cyprus' ambition to compare itself to the best-performing countries.

In the first two versions of the CCR, the benchmarking was based on three well-known national assessments and the rich data provided therein. These were the World Economic Forum's (WEF) *Global Competitiveness Report (GCR)*; IMD Business School's *World Competitiveness Yearbook (WCY)*; and the World Bank's *Doing Business (DB)*. Unfortunately, the WEF and the World Bank recently discontinued the projects (see box below). Two new national assessments have been introduced in the current report to complement the WCY: the Economist Intelligence Unit's *Business Environment Index (BEI)* and the European Union's *Regional Competitiveness Index (RCI)*.

Cyprus' position in these rankings has fluctuated considerably over the years. It took a particularly pronounced dip during the 2012-13 banking crisis and its aftermath but recovered in the years that followed. It is currently ranked 45th out of 64 countries in the IMD ranking, and 33rd out of 82 countries in the BEI ranking. At the European level, Cyprus sits at the 20th position in the RCI index that ranks the 27 European nations. That puts Cyprus at about the 30th percentile (better than 30 percent of countries) in the IMD and RCI rankings and at the 40th percentile in the BEI ranking.

4.1 Cyprus in international competitiveness reports

International competitiveness benchmark reports and rankings have garnered increasing attention, often being widely reported in the media, and serving as a reference point in public debate on economic and industry-related policies. They also work as an information source for investors and the business community. While the underlying methodologies and correct interpretation of findings is often debated (see Box), the prominence given to these reports and rankings is witness to their popularity as a tool for quick comparison of national competitiveness across countries or time.

From a policy perspective, such reports can highlight areas of relative strength or weakness, or of improving or deteriorating trends. It should be noted that the rankings provide a picture based largely on the present or recent past situation, which does not necessarily provide a reliable forecasting tool for a country's future development. A possible exception to that is the Business Environment Index (BEI) developed by the Economist Intelligence Unit, which claims to be forward-looking.

The following sub-sections briefly describe the competitiveness performance of Cyprus in the most prominent international comparative competitiveness publications. A more comprehensive presentation, covering a wider range of competitiveness indices, is provided in Annex II.

Methodological issues for the construction of national competitiveness indices and rankings

Headline comparative rankings of national competitiveness are typically based on composite indices that aggregate across several indicators. These Indicators may be based on quantified data and statistical measures or as is often the case, findings from perceptions surveys or expert judgements. The construction of competitiveness indices and rankings poses three fundamental methodological challenges: (1) to make an appropriate selection of suitable indicators; (2) to develop a mechanism that allows indicators—often with different units and scales of measurement—to be aggregated into meaningful composite indices; and (3) when information is drawn from perceptions surveys or expert judgements, to ensure that subjective biases do not have an undue influence on the objectivity and comparability of indicators and indices across countries, over time, or in relation to different competitiveness themes. Furthermore, variations in the number of experts consulted in each country might lead to measurement errors.

In view of the above, when confronted by 'headline' rankings that aim to synthesise national competitiveness within a single measure, it is important to recognise that such indicators mask considerable conceptual and methodological complexities and can only be properly understood if these complexities are considered. Taking headline figures at face value can easily lead to misinterpreting a nation's competitive situation and the factors that drive its competitive performance.

WEF Global Competitiveness Index

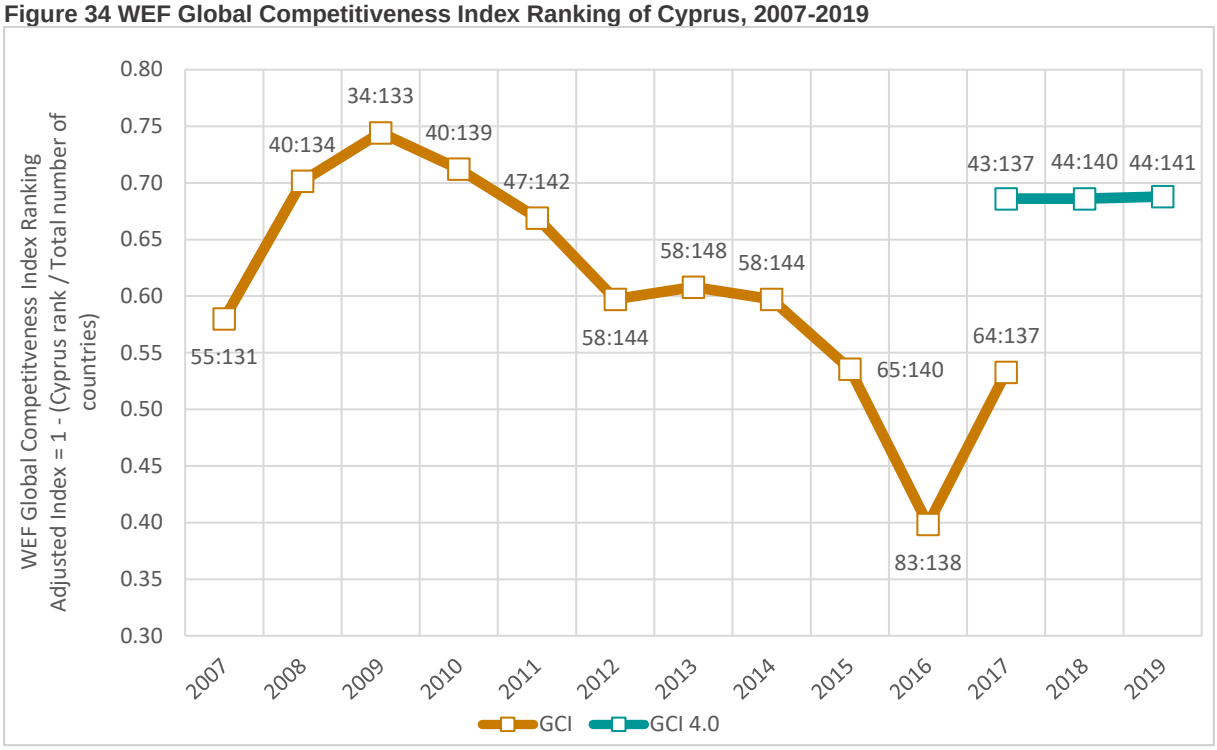
The Global Competitiveness Index (GCI) from the World Economic Forum (WEF) was the world's most prominent international competitiveness ranking for four decades. It was produced annually from 1979 until 2019 (see adjacent box for more details). Even though it has been discontinued, we report some of its key findings relating to Cyprus for the sake of continuity and because it allows us to look at historical trends beyond just a few years. In 2018 the WEF implemented a significant methodological revision named GCI 4.0. Out of the 98 indicators used up to that point, only 34 were retained; the other 64 were replaced with alternative measures. The 12 pillars were also drastically reorganized.

Rankings for 2017 were provided with both methodologies, but only rankings with the new methodology have been published since. This has created a comparability problem, as it is not possible to track a country's performance over any period that includes the 2017 break, especially if one is interested in specific pillars or indicators.

The GCI has broad coverage, with 137 countries included in the 2017 edition. The index integrates 12 competitiveness pillars that address aspects such as infrastructure, the macroeconomic environment, and business sophistication. The GCI makes extensive use of an opinion survey that gathers perceptions on a host of competitiveness-related national conditions, supported by complementary indicators based on statistical data.

Figure 34 displays Cyprus' overall ranking in the period 2007-2017. Having risen to 34th place in 2009, Cyprus slid down in the crisis years to reach a low of 83rd in 2016, before rising to 64th in 2017. The new methodology—GCI 4.0—was beneficial to Cyprus as it ranked at 43 in 2017 – 21 positions higher than with the previous methodology. It remained stable in the next couple of years, ending up at 44 in 2019.

Figure 34 WEF Global Competitiveness Index Ranking of Cyprus, 2007-2019



Notes: Due to changes in the methodology (e.g., changes in weights for the aggregate index/pillars), the previous GCI index and the new GCI 4.0 index are shown separately. Data using the new GCI 4.0 methodology are available only for 2017, 2018 and 2019.

Source: World Economic Forum (WEF), Global Competitiveness Reports, 2008 to 2019 editions.

World Bank Doing Business

While the WEF and IMD reports and rankings offer comprehensive coverage of multiple competitiveness themes, the World Bank's Doing Business Report focuses more narrowly on the business environment, analysing regulation that encourages efficiency and supports freedom to do business.

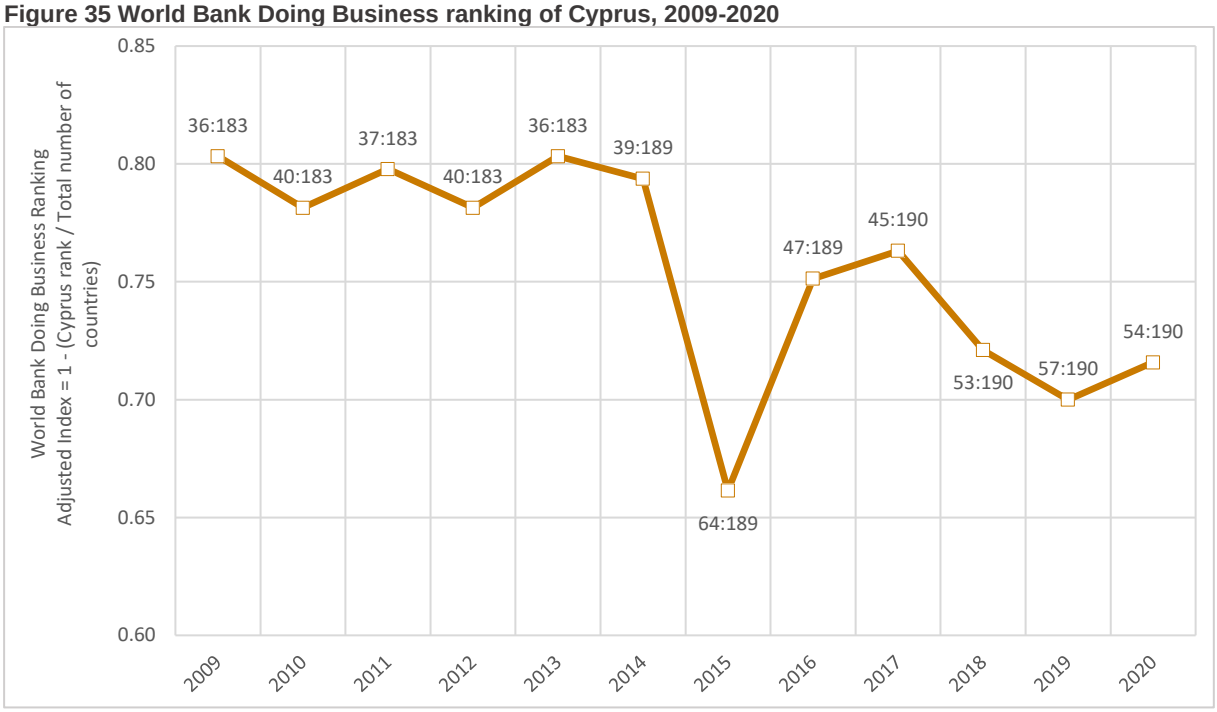
The ranking is based on 12 areas of business regulation: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, employing workers, and contracting with the government. The Doing Business data are based on a detailed reading of domestic laws, regulations, and administrative requirements as well as their implementation in practice as experienced by private professionals. The 2020 Report covers 190 economies.

Figure 35 shows evolution of Cyprus' overall ranking from 2009, when it first appeared, until 2020, when the last Report was published. Cyprus ranked between 36th and 40th from 2009 to 2014 but dropped precipitously to 64th in 2015. It quickly rebounded, albeit partially, reaching 45th place in 2017. It then slipped again, dropping to 57th in 2019. In the latest 2020 ranking it recovered somewhat to 54th place. Some caution is necessary when tracking changes over time, as the method used to construct the ranking has changed several times, and underlying causes of changes in position can be difficult to ascertain. The sharp drop in 2015 and quick recovery in 2016 is testament to this problem.

Looking at specific pillars, Cyprus performs well in some topic areas (e.g., *Resolving insolvency*, *Protecting minority investors* and *Paying taxes*) but has weaknesses in other areas (e.g., *Enforcing contracts* and *Dealing with construction permits*). Between 2019 and 2020 Cyprus rose from 38th to 21st position in *Paying taxes* mainly because of the implementation of an online system for filing and paying mandatory labour contributions.

Smaller changes over time should not be over-interpreted. However, the large improvement in *Getting electricity* is noteworthy, with Cyprus having improved from 160th position in 2015 to 70th position in 2019 descending to 75th position in 2020.

Figure 35 World Bank Doing Business ranking of Cyprus, 2009-2020



Source: World Bank, Doing Business Reports 2009 to 2020 editions.

IMD World Competitiveness Yearbook

The WCY was launched in 1997. Cyprus was first included in 2017 at the initiative of the University of Cyprus' Economics Research Centre. The 2023 Yearbook covers 64 mostly developed countries and relies on a mix of statistical indicators and findings from a perceptions survey. The IMD indicators are combined into 20 categories that are presented under four broad headings of Economic performance, Government efficiency, Business efficiency, and Infrastructure. The overall ranking is calculated based on 255 ranked criteria included in the Yearbook (163 based on hard data and 92 on survey data).

In 2023, IMD ranked Cyprus 45th among 64 countries for its overall competitiveness performance (Figure 36). This marks a drop of five spots from 2022 and fifteen spots from the high point achieved in 2020 (30th place). Three consecutive years of declines have brought Cyprus to its lowest position ever in this ranking. The analysis below will delve into the reasons behind this troubling decline.

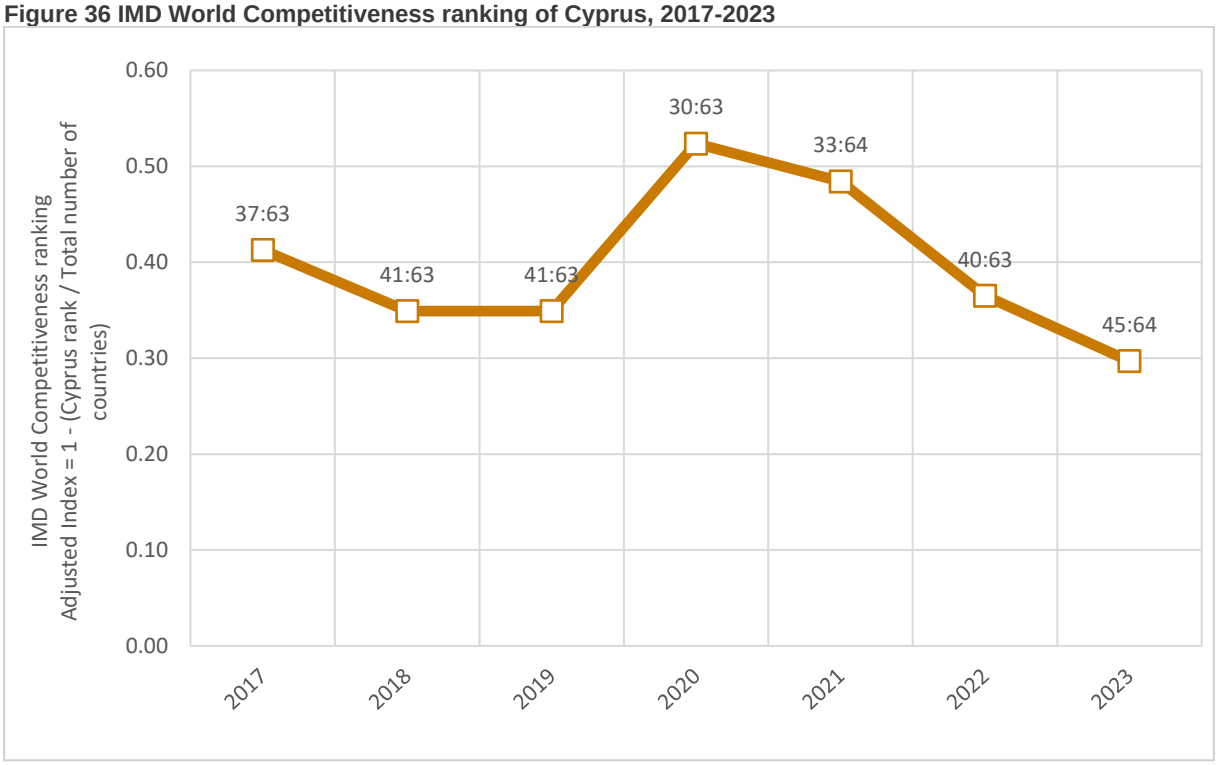
The headline figure masks considerable difference in performance across areas. Table 1 shows the IMD competitiveness ranking of Cyprus by pillar for every year during 2017-2023. The colour scheme—with darker colours indicating a stronger performance—makes it easy to identify pillars where Cyprus is strong and those where it lags, and also to track changes over time. In terms of general economic performance, Cyprus started from a modest 28th place in 2017 but improved significantly, reaching the impressive 13th slot in 2020 and 2021. It took a dive, however, in 2022 when it fell to 38th place and a further large decline in 2023 when it dropped to 47th.

This was largely due to the sharp drop in *International investments,* where Cyprus ranked 1st in 2021 but dropped to 16th in 2022 and 47th in 2023. This drop was to a large extent a correction, as the top ranking in 2021 seemed likely to be due to temporary factors, perhaps related to the citizenship program. It is also likely that other countries were hit harder by the pandemic and suffered

relatively greater losses during 2020-2021. Nonetheless, the drop to 47th place is shocking and suggests the presence of structural problems in attracting foreign investment, as indicated also by declining direct investments (Figure 28).

In addition to *International investments*, Cyprus worsened in the *Prices* pillar, but shows a modest improvement in the last year when in the *Domestic Economy* pillar. Cyprus has also been doing worse in both the *Government Efficiency* and the *Business Efficiency* categories. The decline is across the board in almost all categories, with especially poor ratings in the *Management practices* pillar (63rd), *Attitudes and values* (54th), and *Institutional framework* (51st). Cyprus has held its position in the *Infrastructure* category despite a significant decline in the *Education* pillar, from 5th place in 2020 to 19th in 2023.

Figure 36 IMD World Competitiveness ranking of Cyprus, 2017-2023



Source: IMD World Competitiveness Yearbook 2017 to 2023 editions.

Table 1 IMD World Competitiveness ranking of Cyprus by competitiveness pillar, 2017-2023

Pillar Name	2017	2018	2019	2020	2021	2022	2023
Economic performance	28	22	19	13	13	38	47
International investment	5	6	8	2	1	16	47
Prices	14	6	6	4	7	12	13
International trade	39	38	15	53	45	43	48
Domestic economy	46	48	59	53	50	59	49
Employment	57	56	43	34	32	32	37
Government efficiency	**22**	**28**	**32**	**21**	**25**	**24**	**30**
Tax policy	9	11	16	13	14	16	16
Business legislation	19	25	23	19	23	28	26
Public finances	38	31	56	32	39	34	34
Societal framework	23	31	28	19	24	21	25
Institutional framework	39	45	46	37	40	43	51
Infrastructure	**40**	**41**	**42**	**38**	**41**	**40**	**42**
Health and environment	27	31	33	29	28	29	31
Basic infrastructure	46	49	53	48	49	48	55
Scientific infrastructure	60	56	56	53	59	56	51
Technological infrastructure	56	60	60	49	50	48	53
Education	3	5	4	5	18	17	19
Business efficiency	**50**	**53**	**52**	**35**	**43**	**44**	**55**
Productivity and efficiency	49	47	44	37	44	39	48
Labour market	45	48	45	24	31	36	46
Attitudes and values	42	50	53	36	43	48	54
Management practices	58	52	58	40	50	52	63
Finances	48	55	54	31	40	43	45

Source: IMD World Competitiveness Yearbook 2017 to 2023 editions.

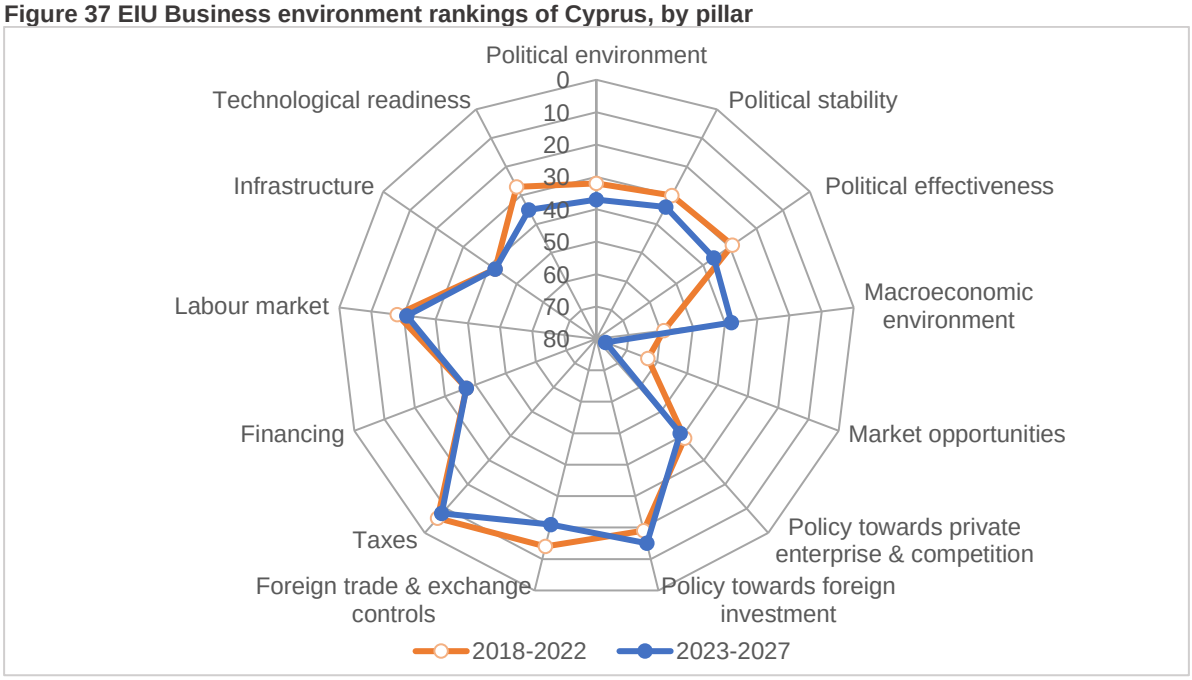
EIU Business Environment Index

The Business Environment Index has been developed by the Economist Intelligence Unit to measure the attractiveness of doing business in 82 countries with 91 indicators. Figure 37 shows Cyprus' ranking by pillar in the last two editions of the BEI, for 2018-2022 and 2023-2027. Cyprus does well (ranks in the top 20) in taxes, trade, policy towards foreign investment and labour market. In most other areas it ranks between 30th and 40th. An exception is market opportunities, where it ranks very low because of its small size and relative geographic isolation. In most pillars the position of Cyprus is either stable or deteriorates slightly in 2023-2027. The exceptions are the macroeconomic environment, which improves considerably, and market opportunities, which records a sharp decline that is difficult to explain.

EU Regional Competitiveness Index

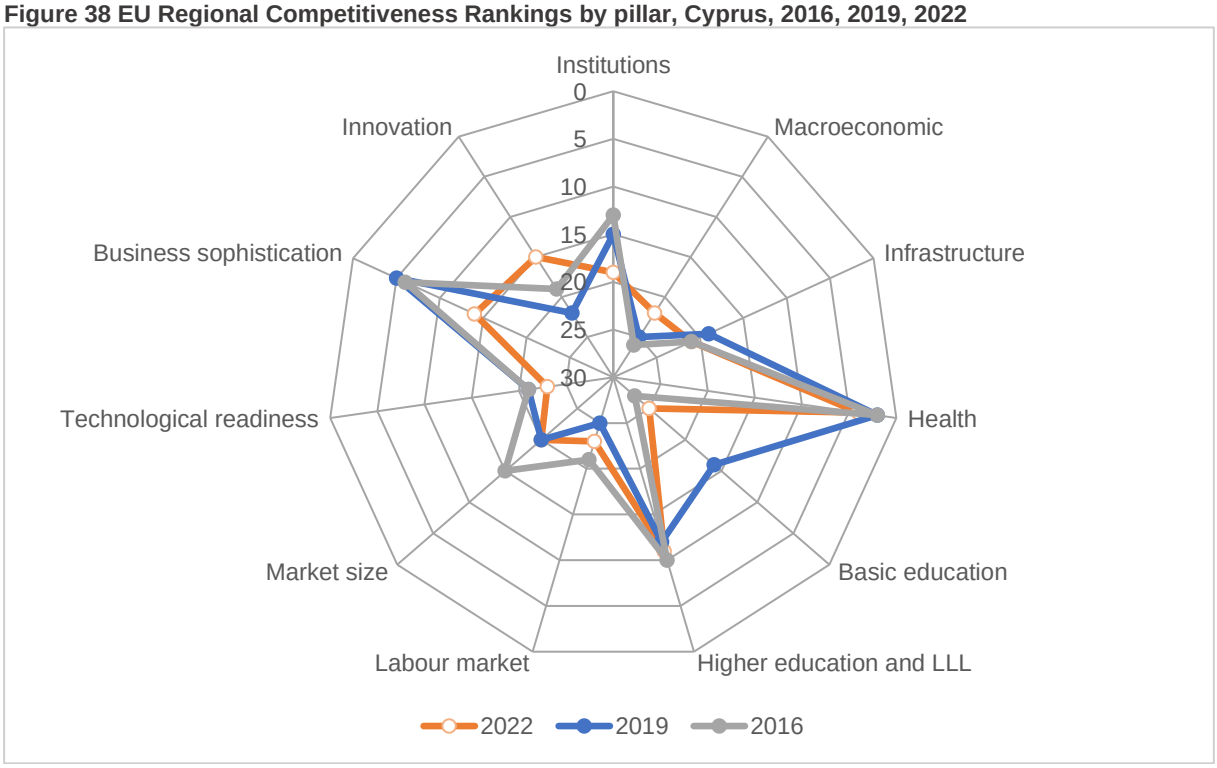
The EU's RCI rank was launched in 2010 and is published every three years. The 2022 edition uses a fully revised methodology and recalculates the previous two editions, thus allowing comparability across time. RCI 2.0 is composed of 3 sub-indices (Basic, Efficiency, Innovation) and of 11 pillars on the different aspects of competitiveness: 'Institutions', 'Macroeconomic stability', 'Infrastructures', 'Health', 'Basic education', 'Higher education, training and lifelong learning', 'Labour-market efficiency', 'Market size', 'Technological readiness', 'Business sophistication' and 'Innovation'. Cyprus' ranking among the EU27 in the 2016, 2019 and 2022 edition of the RCI is shown in Figure 38. In 2022 Cyprus ranks in the bottom half in all pillars except 'Health' and 'Higher education and lifelong learning'. 'Basic education' shows some erratic swings that cast doubt on its validity.

Figure 37 EIU Business environment rankings of Cyprus, by pillar



Note: Rankings for 2023-2027 are estimates.
Source: The Economist, EIU Business Environment Rankings

Figure 38 EU Regional Competitiveness Rankings by pillar, Cyprus, 2016, 2019, 2022



Note: LLL stands for lifelong learning.

Source: European Commission; EU Regional Competitiveness Index 2.0 - 2022 edition.

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4.2 The benchmark countries

To allow a proper assessment of Cyprus competitive performance, this report benchmarks the situation of Cyprus against 12 countries. The choice of countries is based on multiple criteria, including similarities to Cyprus in terms of economic size, geographical proximity, or an island or peripheral EU location. The selection criteria also include countries that are important trading partners or international trade competitors of Cyprus, alongside countries identified as among those with the strongest

national competitiveness performance. Finally, data availability and comparability considerations were included in the selection criteria. The final list of benchmark countries is: Denmark, Estonia, Finland, Germany, Greece, Ireland, Malta, the Netherlands, Portugal, Slovenia, the UK, and Israel (comparable data for Israel and the UK are not always available because they are not EU countries).

Key characteristics, growth and economic structure

Table 2 presents some data on population and GNI for Cyprus and the benchmark countries. Cyprus is smaller in terms of population and overall economy than all countries except Malta. It ranks a bit higher (9th) in GNI per capita, although it drops to 11th when this is measured at purchasing power parity (PPP). Cyprus' relatively low ranking reflects the emphasis on choosing benchmark countries that Cyprus can look up to.

Compared to the benchmark countries, Figure 39 shows that Cyprus weathered the 2008 global financial crisis relatively well but was hit severely by the European debt crisis, especially because of its links to the Greek economy. It culminated in the collapse of the banking sector in 2013, and a consequent steep recession. Cyprus returned to GDP growth in 2015, with the growth rate reaching 6.6 percent in 2016. It maintained high growth for 2017 and 2018, placing it alongside the fastest growing economies among the benchmark countries.

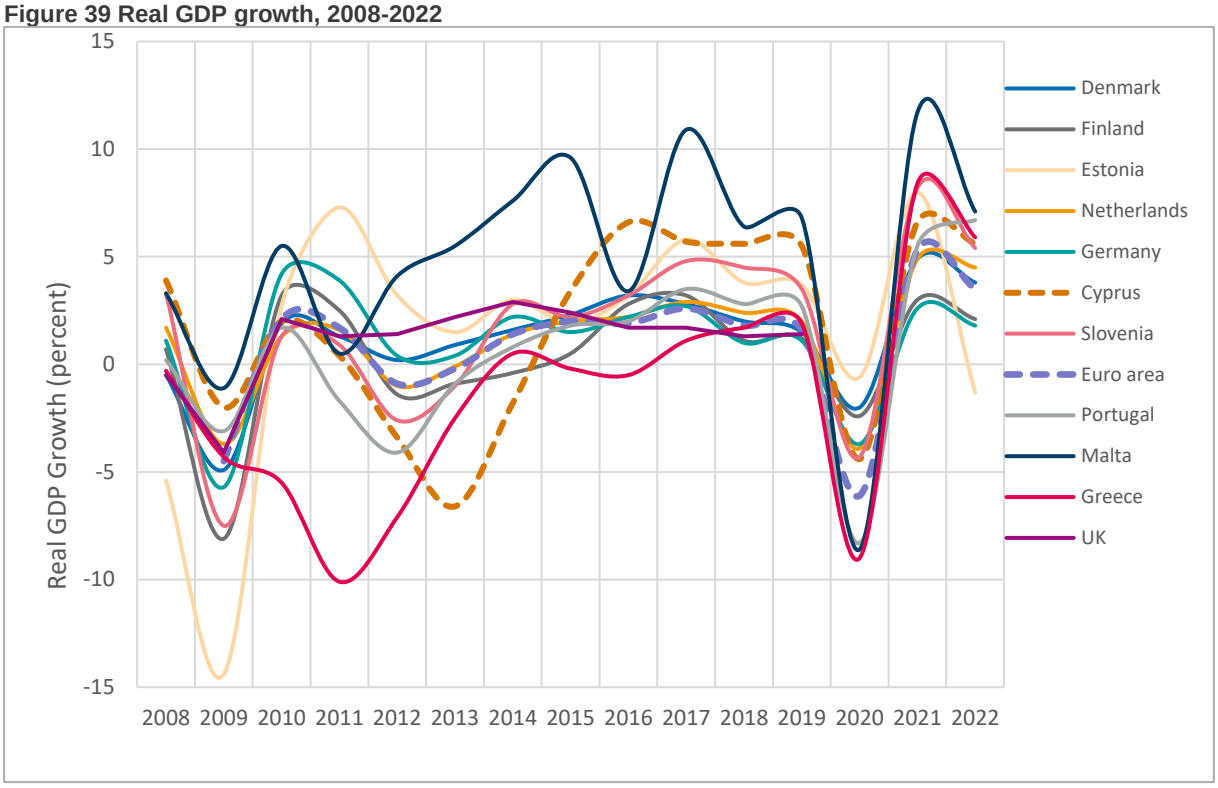
Growth slowed down somewhat in 2019, reaching 5.5 percent, and was reversed because of the COVID-19 pandemic. The Cypriot economy contracted 4.4 percent in 2020, which is larger than the average of the benchmark countries (3.6 percent) but smaller than the EU average (5.6 percent). It rebounded sharply with 6.6 percent growth in 2021 and 5.6 in 2022, among the best performances in the EU. The war in Ukraine does not seem to have had a negative effect, despite initial fears. In fact, it may have even helped by attracting Russian and Ukrainian businesses.

Table 2 Population and Gross National Income, 2021

	Population millions (rank)	GNI Euro billions (rank)	GNI per capita Euro thousand (rank)	GNI per capita at PPP Euro thousand (rank)
Cyprus	1.2 (12)	22 (12)	24.1 (9)	34.4 (11)
Denmark	5.9 (7)	349 (5)	57.9 (2)	56.6 (2)
Estonia	1.3 (11)	31 (11)	22.4 (11)	35.4 (10)
Finland	5.5 (8)	257 (7)	45.3 (4)	47.6 (5)
Germany	83.2 (1)	3,738 (1)	43.8 (5)	50.9 (4)
Greece	10.6 (4)	181 (9)	16.9 (13)	26.8 (13)
Ireland	5.0 (9)	324 (6)	64.5 (1)	66.7 (1)
Israel	9.4 (6)	408 (4)	41.8 (6)	37.1 (8)
Malta	0.5 (13)	14 (13)	26.1 (8)	38.7 (7)
Netherlands	17.5 (3)	839 (3)	46.8 (3)	53.7 (3)
Portugal	10.3 (5)	212 (8)	20.2 (12)	30.2 (12)
Slovenia	2.1 (10)	52 (10)	24.0 (10)	36.7 (9)
UK	67.3 (2)	2,642 (2)	37.7 (7)	42.9 (6)

Notes: GNI = Gross National Income; PPP = Purchasing Power Parity; Converted from $US, €1 = $1.18.
Source: World Bank, World Development Indicators (WDI).

Figure 39 Real GDP growth, 2008-2022



Notes: Ireland (not shown) achieved GDP growth of 24.4 percent in 2015, which can largely be attributed to profit shifting activities of multinationals (Council on Foreign Relations, 2018).
Source: Eurostat, Real GDP Growth Rate [tec00115].

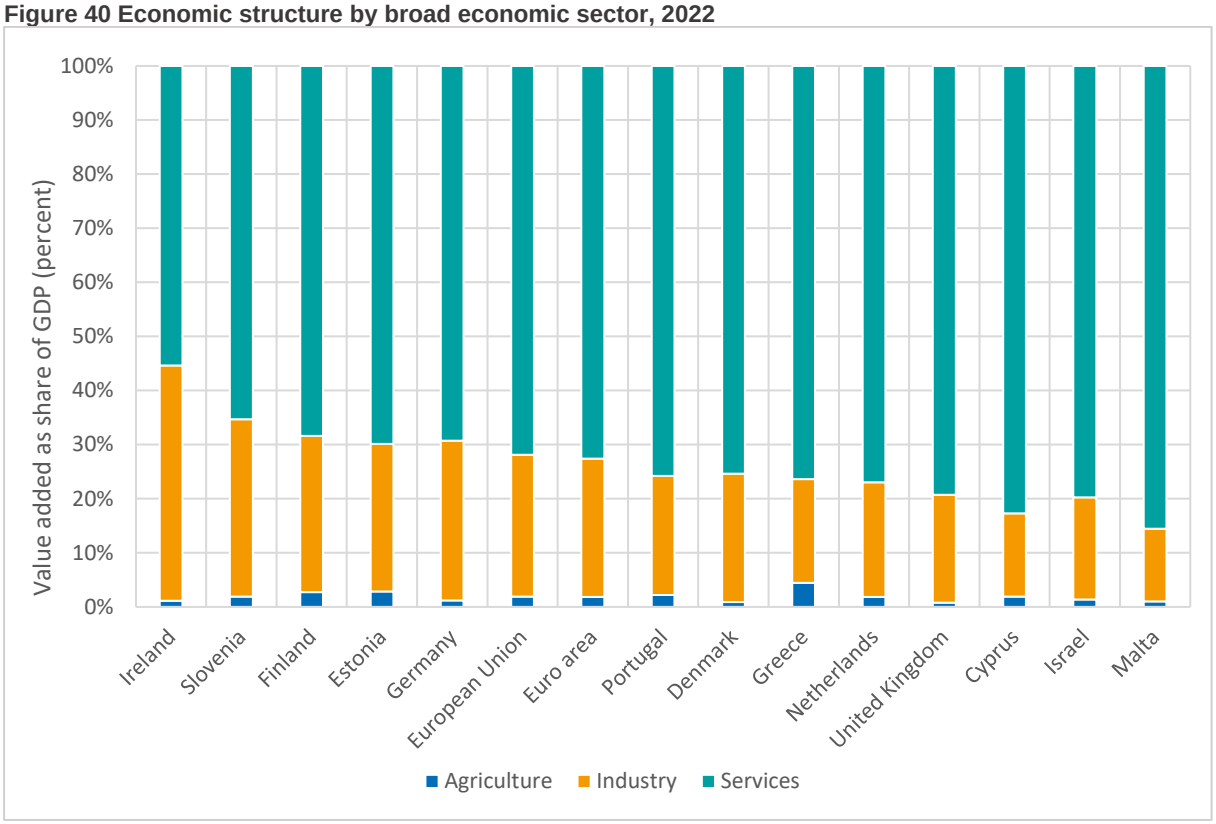
Figure 40 shows the breakdown of economic activity among the primary, secondary, and tertiary sectors. Cyprus has the highest share of GDP in service industries and the lowest share of GDP in industry (the secondary sector, which includes manufacturing, mining, energy and utilities). This reflects the fact that Cyprus essentially transitioned from being an agricultural economy to a service economy without ever developing a significant manufacturing sector.

Figure 41 shows the breakdown of employment by establishment size. The economy of Cyprus consists primarily of small and medium-sized enterprises, although this situation is not exceptional when compared to other benchmark countries.

Although the share of employment in SMEs is high in Cyprus when compared to the EU average and to larger economies such as Germany or the UK, it is similar to the shares observed in economies of comparable size, such as Malta or Estonia. Cyprus stands out, however, for its low share or employment in larger enterprises with more than 250 employees, as highlighted in Section 3.1.

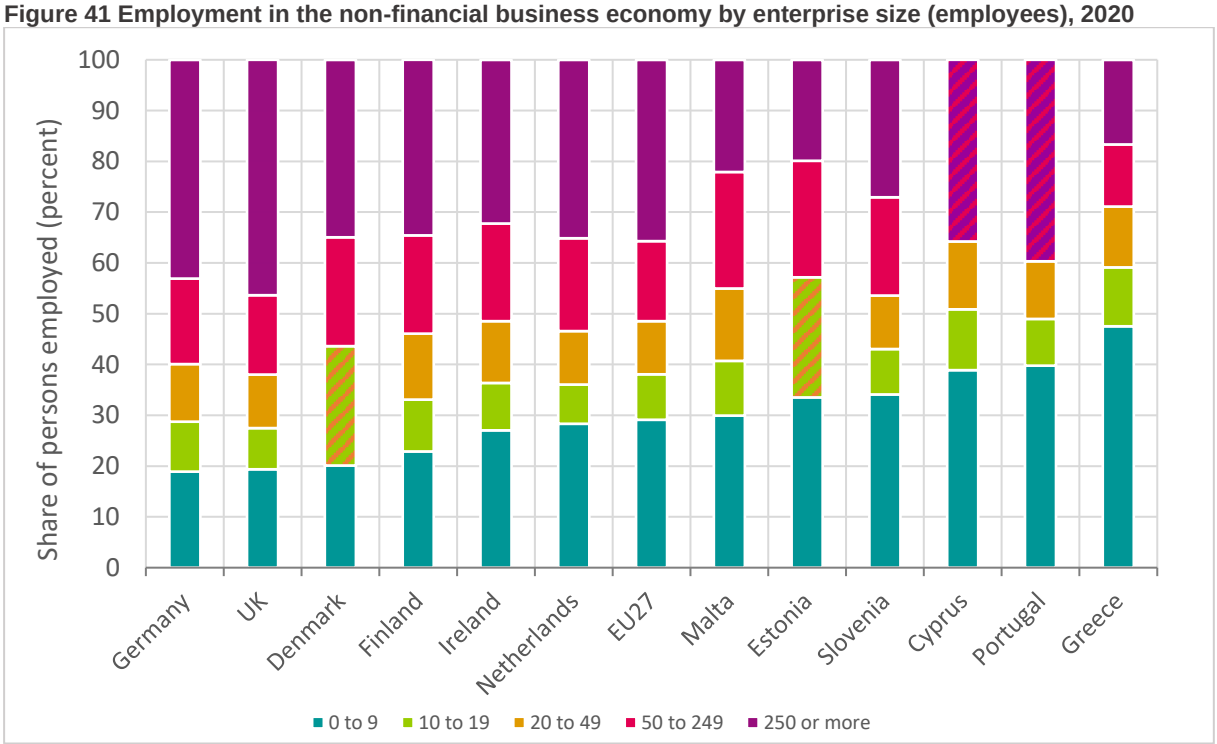
Given the role that larger enterprises can play in shaping a country's pattern of economic specialisation and export potential, as well as serving as anchors for value chain integration, the absence of larger enterprises is a potential concern.

Figure 40 Economic structure by broad economic sector, 2022



Note: Latest available data for Israel is 2021.
Source: World Bank, WDI: Structure of output [T4.2].

Figure 41 Employment in the non-financial business economy by enterprise size (employees), 2020



Notes: The non-financial business economy includes the sectors of industry, construction and distributive trades and services. It refers to economic activities covered by Sections B to J and L to N including S95 of NACE Rev. 2.
For Cyprus and Portugal, the size categories '50 to 249' and '250 or more' are combined.
For Denmark and Estonia, the size categories '10 to 19' and '20 to 49' are combined.

Source: Eurostat, Annual Enterprise Statistics by size class for special aggregates of activities [sbs_sc_sca_r2] and own calculation.

Performance of the benchmark countries in international competitiveness ranking

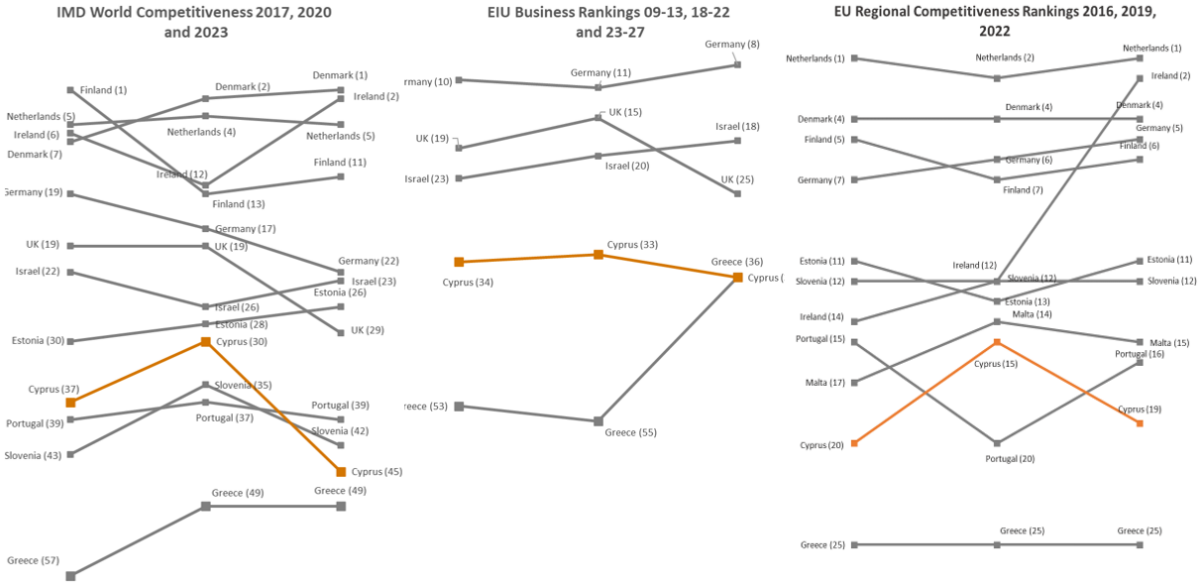
Figure 42 provides a summary of the performance of Cyprus and the benchmark countries in three recent international assessment exercises. The two rankings from the previous report that have been discontinued, WEF GCI and Doing Business, have been replaced with The Economist's BEI and the European Commission's RCI rankings.

The findings across these assessments are consistent and indicate that Cyprus consistently outperforms Greece but lags the other benchmark countries. Specifically, when examining trends over time, we observe that Cyprus experienced improvement during 2019 and 2020, evident in both the IMD and the EU-RCI rankings.

However, subsequent data indicate a decline in Cyprus' position, which drops to the level of earlier periods, like 2016 or 2017, or even lower. In the case of The Economist's BEI rankings, Cyprus saw a modest improvement from 2018-2022 compared to the 2009-2013 period. Nevertheless, the estimates suggest a future decrease in its ranking.

Countries such as Slovenia and Portugal, which had previously ranked lower than Cyprus, have notably surpassed Cyprus in recent assessment periods. This shift implies that Cyprus might be facing challenges in maintaining its competitive position, which need to be addressed for improvement to occur.

Figure 42 International Competitiveness Rankings



Notes: The IMD World Competitiveness Ranking had 64 countries in 2023, and 63 countries in 2020 and 2017. Cyprus was added in 2017, Malta is not included.
The Economist Intelligence Unit's Business Environment Ranking had 82 countries in all analysed periods. The European Union's Regional Competitiveness Index (RCI) 27 countries in all analysed periods. Rankings are self-produced based on the scores.

Source: IMD, Economist Intelligence Unit's Business Environment Index (BEI), European Union's Regional Competitiveness Index (RCI)

5 Competitiveness outcomes

Competitiveness outcomes serve as a yardstick for assessing overall competitiveness performance. They include productivity, trade and foreign direct investment, employment and jobs, and costs and prices. Labour productivity in Cyprus lags behind most, but not all, benchmark countries. It is below the EU average and lags behind Northern European economies but is comparable or exceeding labour productivity in other Mediterranean economies. Total factor productivity, which measures the productivity of two factors of production (capital and labour), has fallen in recent years, with the decline having been greater in Cyprus than in any other benchmark country except Greece.

Cyprus' overall exports as a share of GDP are above the EU average but are heavily skewed towards service exports. Cyprus is one of the few benchmark countries with a negative current account balance. Foreign direct investment inflows are relatively modest compared to most benchmark countries, after accounting for FDI driven by special-purpose entities. Employment levels suffered significantly after the 2008 global financial crisis and the 2012-13 banking crisis. They recovered significantly but never managed to return to pre-crisis levels, as they were hit again by the Covid-19 pandemic in 2020. Lastly, while the costs of labour and real estate are relatively low, businesses face higher than average costs for electricity and broadband internet access.

5.1 Productivity

Productivity performance is regarded as one of the most important indicators and main 'intermediate' outcome for national competitiveness. High productivity can drive exports and attract investment, contributing to employment and higher wages while reducing the cost of production. Productivity growth determines real economic growth and, in turn, prosperity. For this reason, it is treated by some competitiveness reports as a proxy for national competitiveness.

However, caution is required in the interpretation of productivity indicators due to conceptual and measurement issues. This applies particularly to the measurement of productivity in service activities that are especially important for Cyprus, with both the value of inputs and outputs often being difficult to quantify. Also, measurement of service outputs can be affected by changes in asset values rather than productivity changes. These caveats notwithstanding, the analysis of key productivity indicators in this section shows that Cyprus suffers from chronic low productivity levels and growth rates, compared to the benchmark countries.

National productivity indices are of special importance as they are used in aspects of policy making. The two commonly used measures of productivity are total factor productivity (TFP) and labour productivity (LP). These two measures are not independent of each other. LP growth equals TFP growth plus capital deepening (defined as the ratio of capital services to hours worked: if capital increases faster than labour hours, the ratio increases, indicating a substitution of capital for labour). A third indicator that will be analysed below is unit labour cost, which captures the labour cost of producing a unit of output.

Labour productivity

Labour productivity (LP) is measured as the quantity of output produced by a unit of labour. Cyprus' LP is below the EA average and lower than most benchmark countries (Figure 43). The highest productivity levels are recorded in Ireland, followed by the northern economies of Denmark, Netherlands, and Finland. Greece, Portugal, Estonia, and Slovenia are at the other end, with lower LP levels than Cyprus.

Figure 44 shows the evolution of LP in Cyprus over time. It was rising from 2005 until 2008, at which point it started a long decline that lasted until 2014. Since then, it has been fluctuating around the same level, which is lower that the level of the 2000s. An upward trend in the last couple of years holds promise of further improvements in the future.

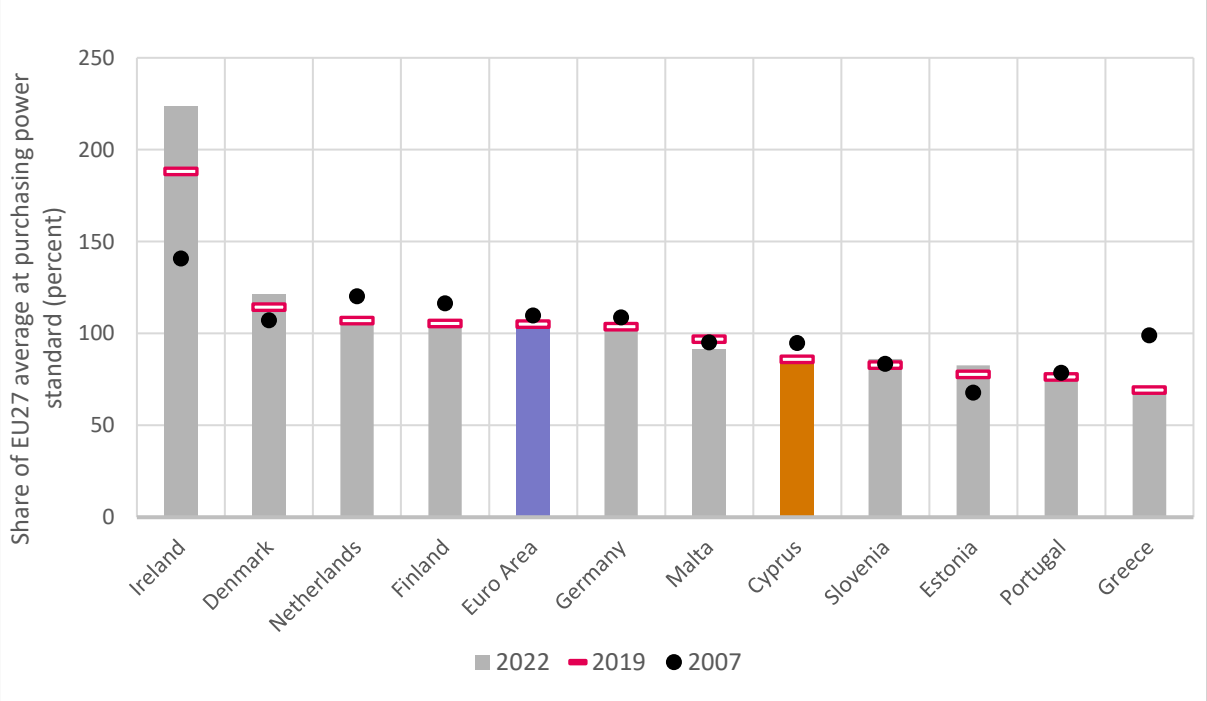
Availability of data on LP by enterprise size is inconsistent (Figure 45). In most countries, including Cyprus, productivity is lower in smaller enterprises. This corroborates a well-known stylized fact in the economic literature. Across all enterprise sizes, labour productivity in Cyprus is below the EU average and is behind the best-performing countries, such as Ireland, Denmark, and Finland.

Definition: Labour productivity

Labour productivity is defined as output per unit of labour input. Output is typically taken to be real or current GDP or value-added, while units of labour are variously defined in terms of number of workers or hours worked, among others. To obtain comparable measures across countries, an adjustment is made for price-level differences between countries using the PPS measure of GDP.

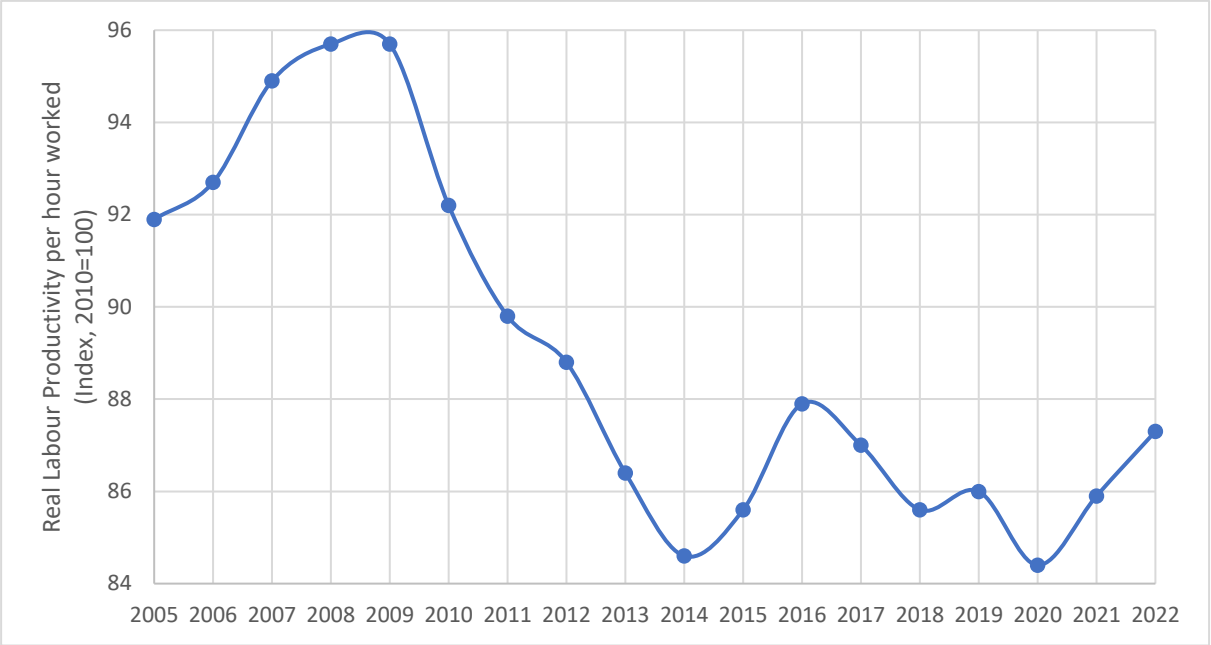
Real labour productivity per hour worked: GDP in volume terms (real) divided by total hours worked by employees and self-employed.

Figure 43 Labour productivity at PPS, 2007, 2019 and 2022



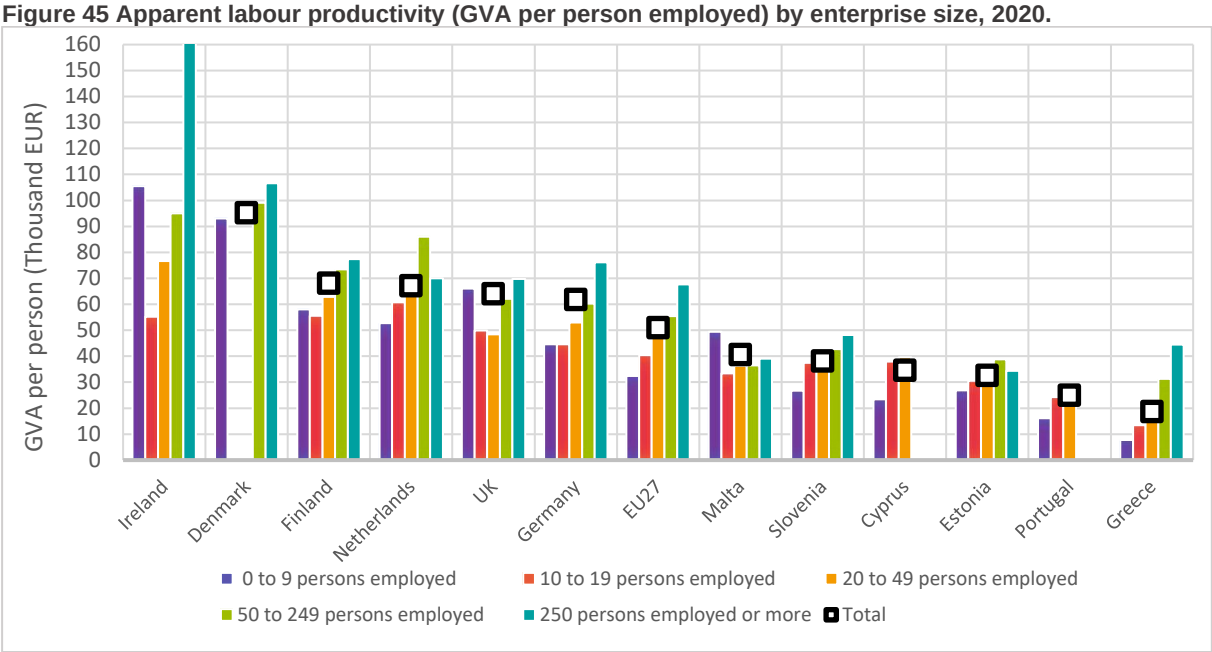
Notes: Ireland's high labour productivity might also be related to the impact of profit shifting activities of multinationals on GDP (Council of Foreign Relations, 2018). For United Kingdom data for 2019 were used.
Source: Eurostat, Labour productivity and unit labour costs [nama_10_lp_ulc].

Figure 44 Real Labour Productivity per hour worked, Cyprus 2005-2022



Source: Eurostat, Labour productivity and unit labour costs [nama_10_lp_ulc].

Figure 45 Apparent labour productivity (GVA per person employed) by enterprise size, 2020.



Notes: Data missing for Enterprise Classes for three benchmarking countries; Estonia values for enterprise sizes 10-19 and 20-40 from 2019. Ireland values for enterprise sizes 10-19 from 2019. Denmark missing values for 10-19 and 20-49.
Source: Eurostat, Annual enterprise statistics by size class for special aggregates of activities [sbs_sc_sca_r2].

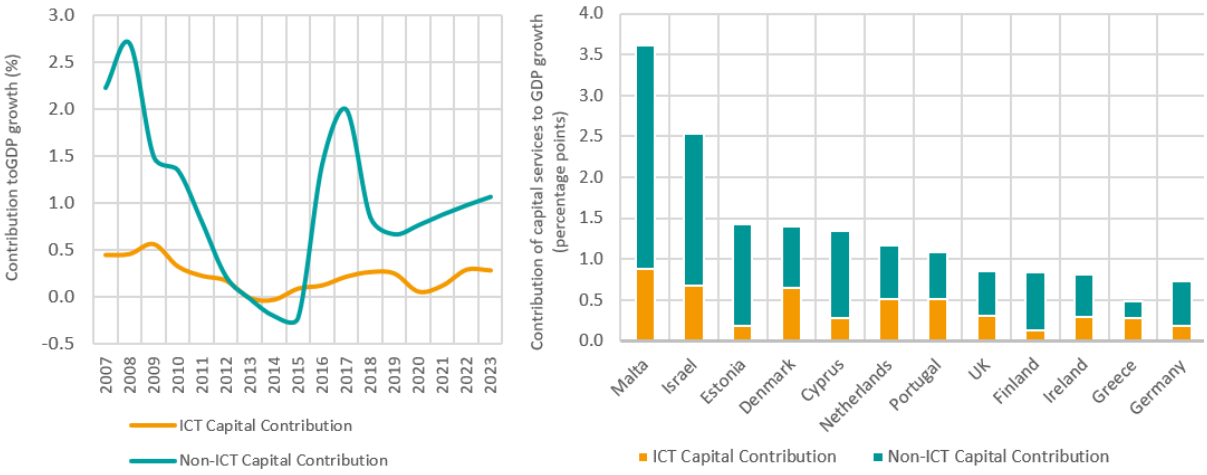
Contribution of capital to GDP growth

Capital services are the flow of productive services provided by (physical) assets used in production. As described in Section 3.2, they have played an important role in Cyprus' GDP growth, except during and shortly after the 2012-13 banking crisis (in which we observe negative or zero contribution). This contribution derives mainly from non-ICT assets, with ICT assets making a small contribution to GDP growth as Figure 46 depicts. Nonetheless, this contribution is growing and bodes well for the future. In 2023, Cyprus was among the top five countries in terms of total capital contribution to growth.

Total factor productivity

Total factor productivity (TFP) captures the part of real growth in GDP that is not explained by the contributions from labour and capital. It shows how labour and capital inputs, productively combined, are used to generate GDP. TFP growth reflects phenomena such as advances in general knowledge, advances of organizational structures or management techniques, reductions in inefficiency and the reallocation of resources to more productive uses. TFP shows the efficiency of an economy or the level of competitiveness with respect to both labour and capital inputs.

Figure 46 Capital service contribution to GDP (Cyprus and benchmark countries), 2007-2023



Notes: Graph showing the contribution of capital services provided by assets to GDP growth, differentiated between ICT assets and non-ICT assets; Data for 2022 are estimates, while 2023 data are forecasts from The Conference Board.

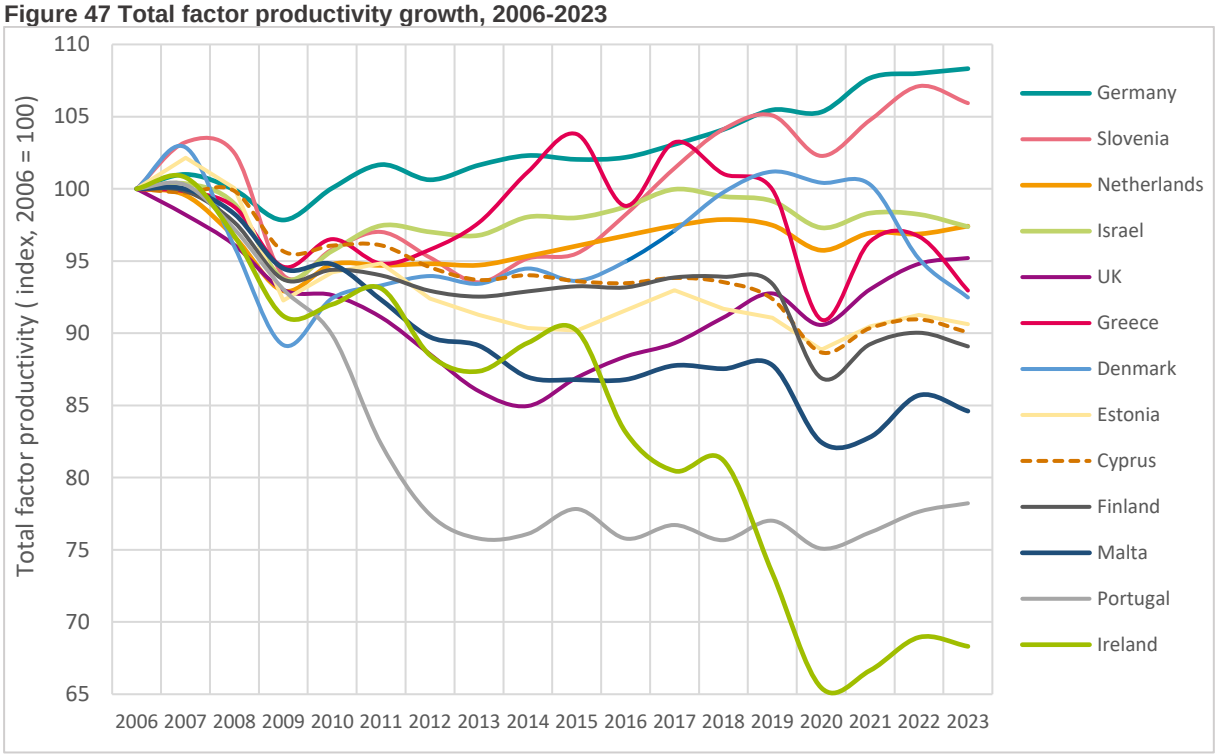
Source: Conference Board, Contribution of Total Capital Services to GDP growth, 2023.

Figure 47 shows the TFP index (2006=100) for Cyprus and the benchmark countries. An index does not provide information about absolute productivity levels but is useful in understanding changes in TFP over time. A key observation is that TFP declined in all countries between 2006 and 2009. About half the countries saw TFP recovering after 2009, while in the remaining countries it continued to decline for several years. Germany and Slovenia stand out with their high productivity growth; they are the only countries with a TFP index above 100 in 2023.

Cyprus finds itself in the group of countries with declining TFP. Its TFP index in 2023 is 90, down ten percent from the 2006 level and about five percent from 2009. Finland, Malta, Portugal, and Ireland do even worse. Ireland's striking decline must be interpreted with caution as it is probably an artefact of the presence of large US multinationals, as has been observed in other data. Cyprus' unimpressive TFP growth is consistent with earlier findings showing that TFP's contribution to growth is often negative (Figure 12).

The causes of low TFP growth cannot be directly identified, but typically it is associated with lower rates of enterprise innovation and lower adoption rates of digital and other efficiency-enhancing technologies. Low TFP may also reflect structural factors, such as a prevalence of small firms and predominance of manual, labour-intensive service sectors. In Cyprus, investments in ICT and other productive capital are relatively low (Figure 21).

Figure 47 Total factor productivity growth, 2006-2023



Notes: Data for 2022 are estimates, while 2023 data are forecasts from The Conference Board.
Source: Conference Board, Growth of Total Factor Productivity, 2023.

Unit labour cost

From a policy perspective, labour productivity is a key reference statistic in wage bargaining. Using labour productivity and the wage rate, one can calculate unit labour cost, which captures competitiveness with respect to labour. Unit labour cost (ULC) is the labour cost of producing one unit of output. An increase in ULC indicates a loss of competitiveness.

Figure 48 presents the nominal ULC based on hours worked (compensation of employees per hour worked divided by real labour productivity per hour worked) for Cyprus and benchmark countries for the period 2010-2022. Estonia and Malta saw the biggest increases in ULC. Cyprus' ULC is lower in 2022 than it was in 2010, as is the case with Greece. An even greater decline is recorded for Ireland, but the usual caveat applies for this country. Cyprus' ULC declined in the period 2012-2016, during and after the crisis. It started rising in 2017 but has not yet reached 2010 levels. The decline in ULC is good for competitiveness but it reflects the shrinking of labour incomes associated with the crisis.

Sectoral productivity analysis for Cyprus

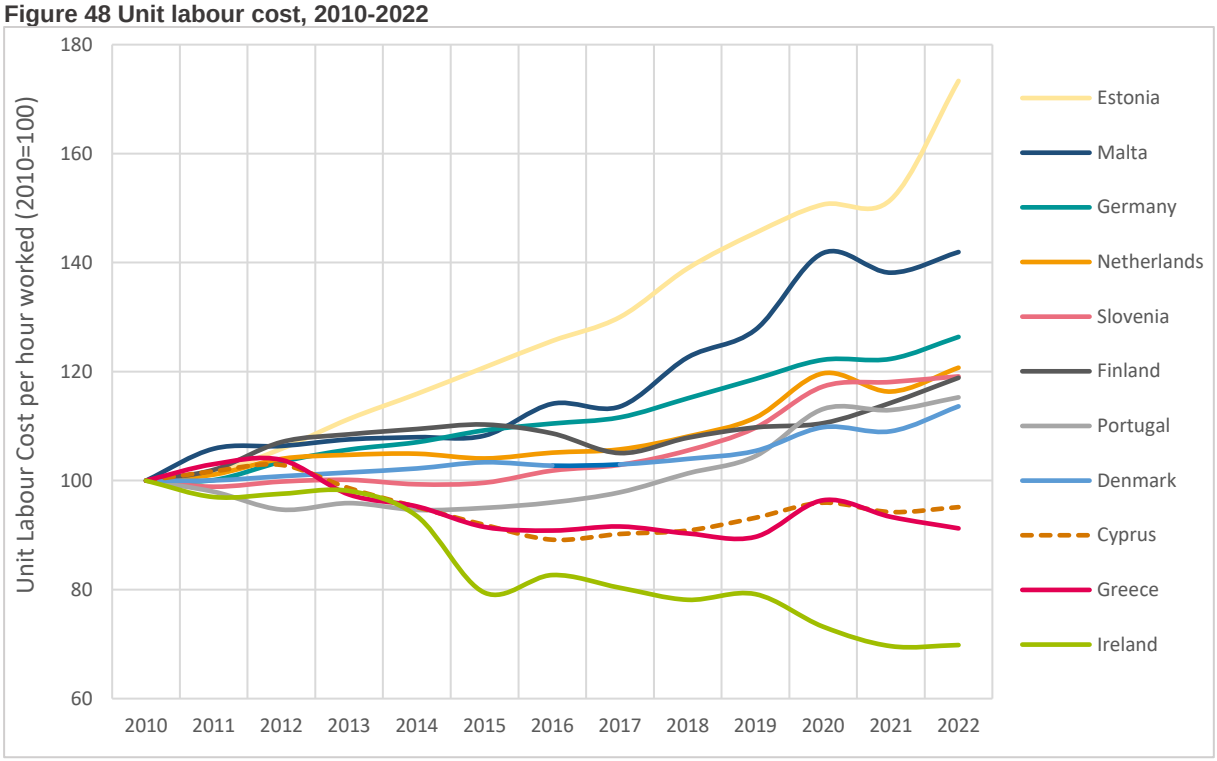
This subsection presents an analysis of productivity in the main sectors of economic activity in Cyprus using LP, TFP and ULC.[7] The indicators are used to evaluate which sectors are more efficient and can potentially contribute to the future growth of the economy of Cyprus. The indicators for eight sectors are presented in Figure 49. It should be noted that ULC is an inverse measure of competitiveness, therefore it is expected to move in the opposite direction to LP and TFP.

The rapid productivity growth of the information and communication technology sector (ICT) stands out. It appears that the ICT sector is essentially driving up Cyprus' overall LP. During 2015-18, growth in the ICT sector was essentially cancelled out by a decline in productivity in the finance and insurance sector. That sector's recovery means that the continued productivity growth

[7] The data were kindly provided by the University of Cyprus Economics Research Centre.

of the ICT sector is responsible for the growth in overall productivity in the last two years, as seen in Figure 44. In most sectors LP and TFP move together, suggesting that the major contributor to labour productivity is TFP, while capital deepening is rather small. This is an indication that this period is characterised by low capital intensity; investment is low or directed into low productive capital. Essentially, labour productivity is primarily influenced by technological advancement.

Figure 48 Unit labour cost, 2010-2022



Source: Eurostat, Labour productivity and unit labour costs [nama_10_lp_ulc].

The Construction sector is an exception. The two indices move together, but the large gap between them suggests that capital deepening also contributes to LP growth (even though the gap is relatively stable throughout the period 2012-2022, suggesting steady substitution between capital and labour – no increases are observed in the capital deepening ratio). Both LP and TFP experience fluctuations. This is the only sector in which both productivity indices decline after 2019.

Productivity in the construction sector exhibits substantial volatility. It recorded a big rise in 2013 but then lost almost all the gain in the next two years. This is clearly related to significantly reduced activity in the sector due to the crisis. Its productivity improved gradually over the next few years but has been on a declining path since 2019. Agricultural productivity also went through a period of volatility in the first half of the 2010s, but the sector is too small to affect overall productivity levels. The remaining sectors are more stable. The pandemic impacted the wholesale and retail trade sector and the arts sector, but the rest remained unaffected.

Increases in both TFP and LP are observed in the Industry and Information & Communication sectors, while the other sectors exhibit varying trends over time. ULC trends across sectors are move diverse. The Information & Communication sector has declining ULC, an indication of increasing competitiveness. The Industry sector has a negative trend in ULC starting in 2012 until 2017, at which point it flattens out.

Figure 49 Indices of competitiveness in Cyprus per sector, 2010-2022

Source: Eurostat; Labour productivity and unit labour costs at industry level [nama_10_lp] for LP and ULC. Economics Research Centre (CypERC), University of Cyprus, for TFP.

The Industry sector includes mining, manufacturing, electricity, and water supply industries. Looking at these specific industries (data only for LP and ULC until 2021) we can see that higher LP and lower ULC (relatively stable between 2010-2021) exist in manufacturing and water supply. The electricity sector experienced a drop in LP and an increase in ULC after 2016; both levels remained unchanged after that. The Agriculture and Construction sectors have increasing ULC after 2018, signalling challenges in terms of labour competitiveness.

In the Finance & Insurance sector, a drop in both LP and TFP was observed along with an increase in ULC during the period from 2015 to 2018. However, there was a notable recovery in LP and TFP in 2020, accompanied by a decline in ULC. After 2020, the sector shows improvements with respect to competitiveness based on the indices used. LP and TFP in the Agriculture sector declined in the 2012-2014 and the 2016-2017 periods, accompanied by increases in the ULC. After 2017 the productivity indices slightly improved but appear to be quite stable, while unit labour costs increased pointing to low competitiveness. This sector is quite small with respect to its share in GDP and does not impact the overall productivity picture significantly.

The graph labelled 'Wholesale & retail' includes wholesale & retail trade, transport, and accommodation. From 2013 to 2019 both LP and TFP were increasing, and ULC was decreasing. The picture changed in 2019-2020 in which LP and TFP experienced a huge drop and ULC increased, likely due to the pandemic. After 2020 the indices were again reversed, pointing to improvements in their competitiveness. Breaking the sector into its individual industries (data only available for LP and ULC from 2010-2021), we see that LP and ULC were rather stable for trade and transport throughout the period of investigation. Changes occur in the accommodation industry, which experienced a drop in LP and an increase in ULC in 2019-2020 period. It follows that this industry, which was highly affected by the pandemic, is driving the changes observed in the whole wholesale and retail sector.

The Professional-Administrative sector shows no changes within the period under investigation. We can see that LP, TFP and ULC are rather stable, especially after 2014. Lastly, the Arts & entertainment sector followed a steady course in the early years with respect to all three indices. LP and TFP experienced a drop in 2019 and ULC increased, effects that can be related to the pandemic. Minor improvements in all three indices are observed after 2020.

The above analysis offers valuable insights into productivity and competitiveness drivers. We see that some sectors display positive trends and others encounter challenges that could impact the country's economic growth prospects. Different sectors are influenced by distinct factors affecting productivity, including technological advances, capital deepening, and labour efficiency. The Information & Communication sector stands out with its rapidly improving productivity, reflected in increasing TFP and LP and in declining ULC. The sector's improving efficiency and competitiveness make it a promising driver of future growth for Cyprus.

The Industry sector also exhibits improved productivity with continuous growth in TFP and LP, while ULC has been stable after 2017. The Finance and Insurance sector also seems promising with respect to competitiveness and efficiency, although it is vulnerable to external events. Conversely, sectors like Agriculture and Construction face challenges. Construction in particular exhibits increasing ULC and declining productivity in the last years of our sample, characteristics that suggest great losses of competitiveness.

5.2 Trade and foreign direct investment

The ability to export goods and services, to enter new foreign markets and to gain and retain market share are, important outcome indicators of competitiveness. As is the ability to attract and retain foreign direct investment. However, the economic structure and business model of Cyprus, with its strong emphasis on services, pose challenges for assessing comparative performance in these areas.

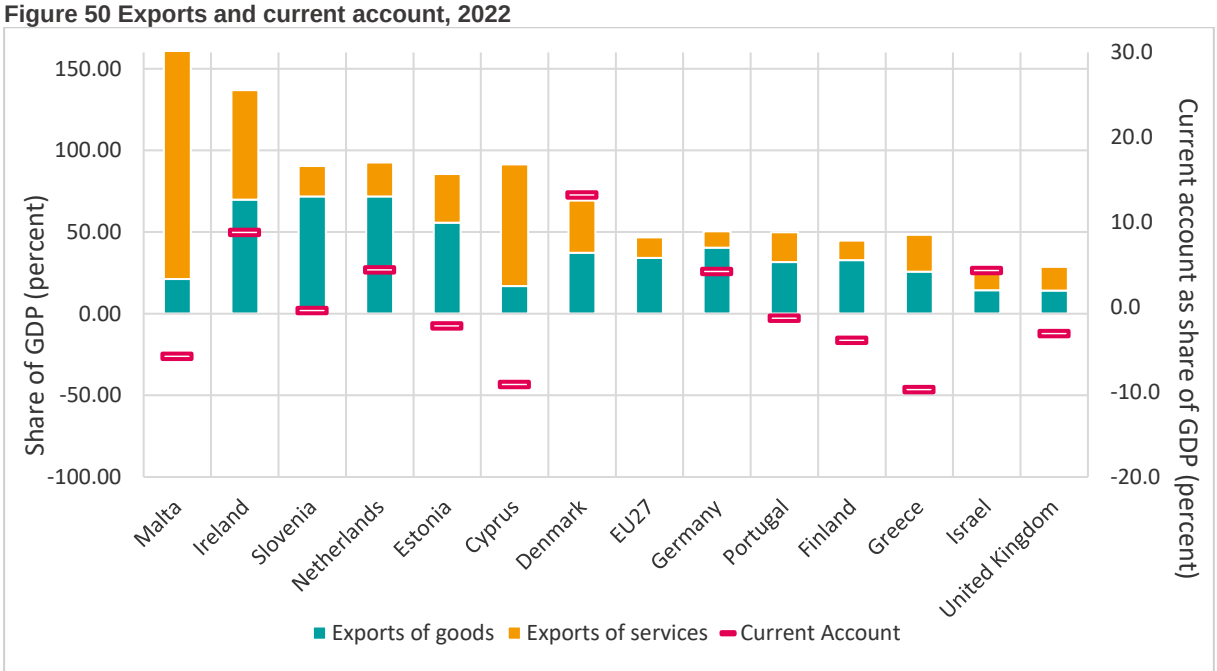
First, for goods trade, it is important to distinguish genuine domestic exports from re-exports and, also, the domestic value added to those exports. For the latter, value-added statistics for trade are not readily available for Cyprus.

Second, for trade in services, the detail and reliability of data are usually lower than for goods. With respect to both trade and FDI, as noted earlier in this report, transactions by Special Purpose Entities (SPEs) can strongly influence overall recorded investment values without reflecting the underlying competitive performance of the economy.

Trade performance

The economic structure and specialisation of Cyprus is reflected in trade statistics. As depicted in Figure 50, service exports account for a relatively large share of GDP compared to goods. While Cyprus' overall exports as a share of GDP are above the EU average, they are relatively low compared to other benchmark countries such as Malta, Ireland, and Slovenia. The balance between goods and services in exports is also more even in other benchmark countries, except for Malta. Cyprus continues to have a negative and deteriorating current account balance; the current account deficit went from 6.3 percent in 2019 to 11.9 percent in 2020. Part of this was of course due to the COVID-19 pandemic and particularly the severe hit on the tourism sector. After the pandemic ended in 2022, Cyprus had a current account deficit of 9.1 percent. It's important to highlight that compared to other countries, Cyprus holds the second-largest current account deficit relative to its GDP, with Greece occupying the top spot in this regard

Figure 50 Exports and current account, 2022



Source: Eurostat, GDP and main components (output, expenditure and income) [namq_10_gdp]. Data for Israel from World Bank, WDI: *Goods exports and services exports* [BX.GSR.MRCH.CD & BX.GSR.NFSV.CD] and *GDP (current US$)* [NY.GDP.MKTP.CD].

Export market survival

Figure 51 shows the export survival throughout the years. Estimates from the World Bank indicate that Cyprus develops fewer products for export and exports to fewer markets than other countries. For new products or destinations that began in 2010, the likelihood of surviving for a year was only 41 percent, lower than all other benchmark countries.

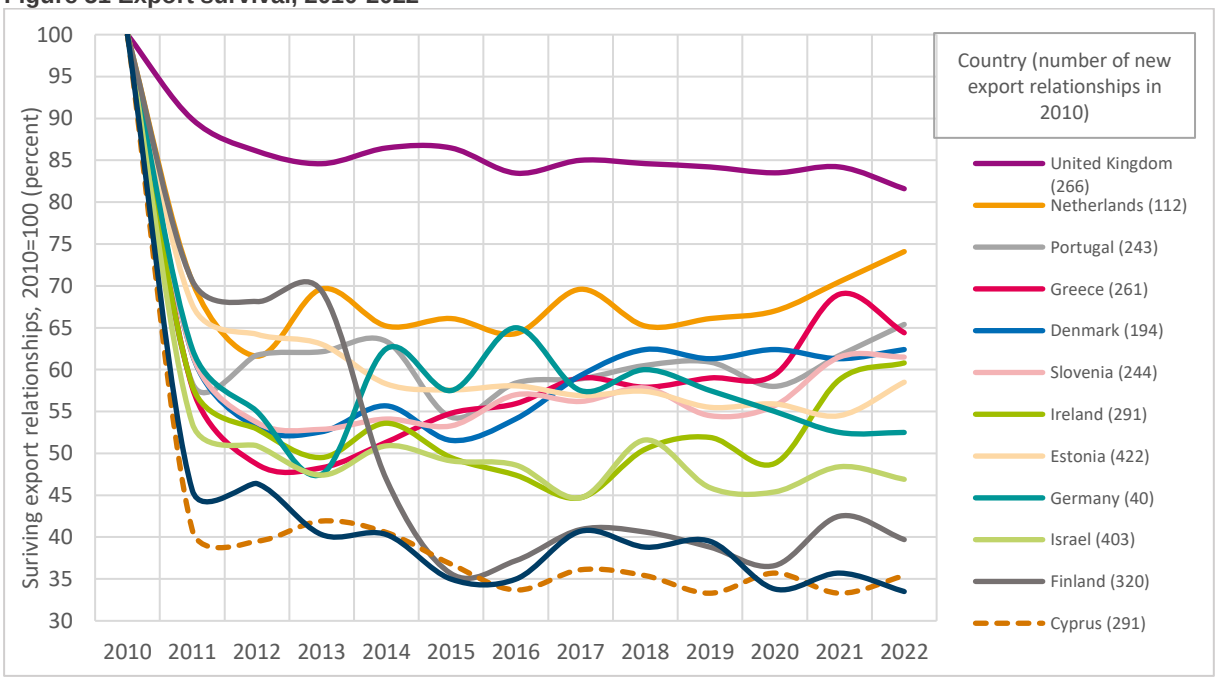
After twelve years, the likelihood of this export relationship still existing is even lower at only 35 percent. Findings for other years, not shown here, suggest a similar pattern. This suggests that Cypriot business may be less successful in establishing and sustaining export relationships than their counterparts in other benchmarked countries.

Definition: Export survival

Export survival looks at whether firms that have started exporting specific products to new foreign markets are able to survive in these markets. In the absence of readily available data at the firm level, the export survival indicator measure uses data at the product level as a proxy. The export survival indicator records the number of new product-partner relationships (with a trade value of at least US$10,000) in a given start year.

A new relationship is considered to be a product-partner relationship for which there was no exports recorded in the previous year (e.g., if Cyprus exported natural honey to South Africa in 2010 but has not done so in the year before, it is counted as a new product-partner relationship). Then, in following years, the number of these relationships that are sustained is monitored (allowing for the inclusion of relationships that resume after a short hiatus). The export survival rate is then the percentage of new product-partner relationships formed in the start year that still exist in a subsequent year.

Figure 51 Export survival, 2010-2022



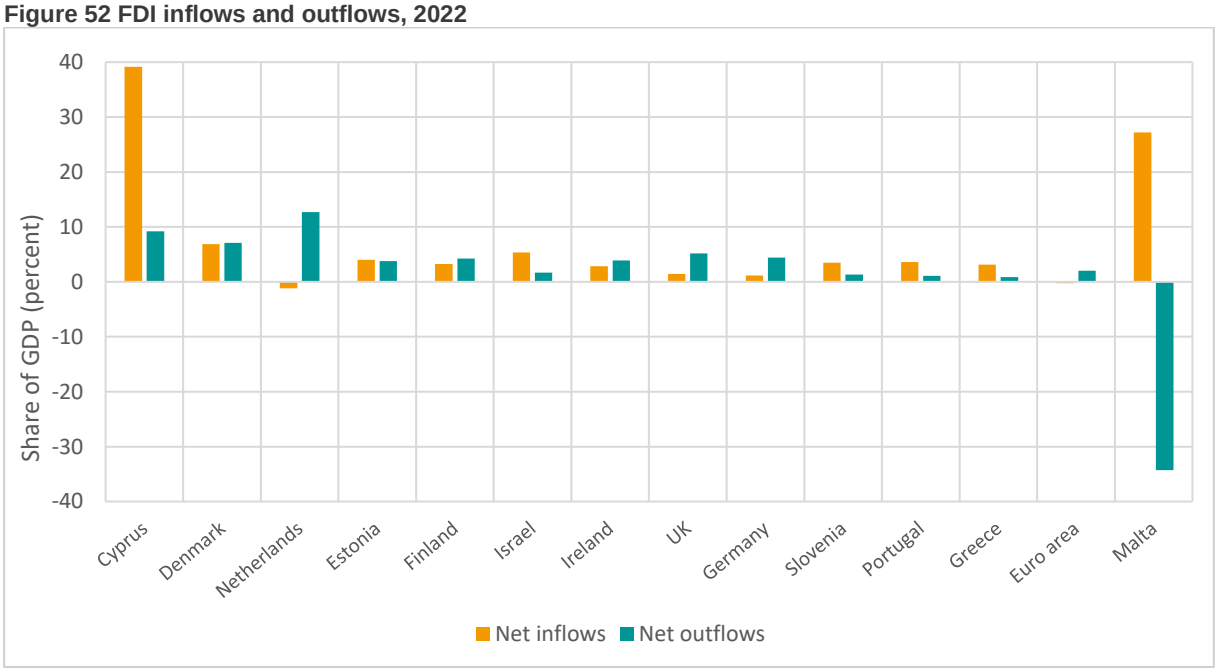
Source: World Bank, World Integrated Trade Solutions: *Export Survival - Export Duration.*

Foreign direct investment

Cyprus is first in FDI flows by a very wide margin. As it is shown in Figure 52, in 2022, Cyprus experienced a notable recovery in FDI as a percentage of its GDP, following previous pandemic-induced contractions. FDI inflows accounted for a substantial 40 percent of Cyprus's GDP, signifying renewed investor confidence and heightened interest in the

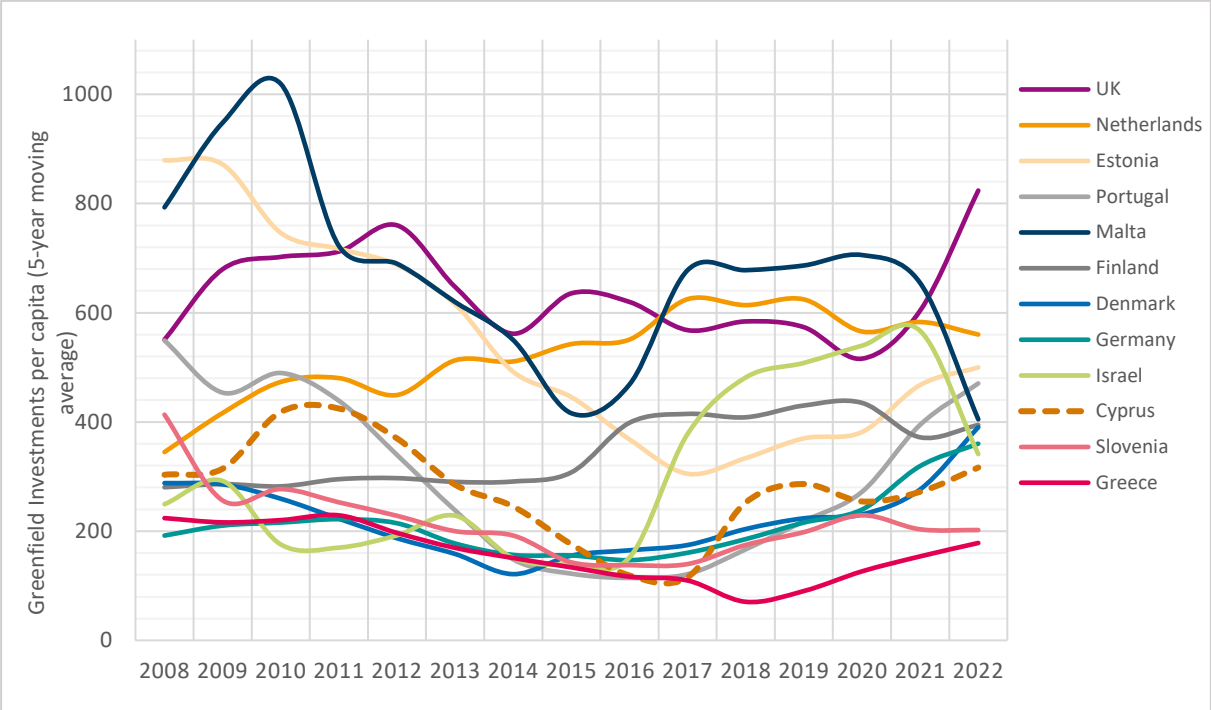
Cypriot economy. Concurrently, FDI outflows also rebounded, though to a lesser extent, at 9percent of GDP. The majority of benchmark countries exhibit relatively modest figures (below 10 percent), though there are notable exceptions. For instance, the Netherlands reports 12 percent in FDI outflows, while Malta demonstrates a substantial 27 percent in FDI inflows. They include transactions related to the activities of Special Purpose Entities, which have minimal impact on the Cypriot economy. Hence, gross FDI numbers overstate foreign investments in productive activities in the domestic economy. An alternative measure that reflects more accurately the level of foreign productive investment is the value of announced greenfield FDI projects as depicted in Figure 53. The value of such projects in Cyprus is relatively modest compared to most benchmark countries. This measure is also highly variable, so we take the five-year moving average to remove some of the fluctuations. Hence this measure should also be interpreted with caution.

Figure 52 FDI inflows and outflows, 2022



Notes: Net values refer to the value of FDI flows (inflow or outflow) less the values of FDI disinvestments.
Source: World Bank, World Development Indicators: Foreign direct investment, net outflows (percent of GDP) [BM.KLT.DINV.WD.GD.ZS] and Foreign direct investment, net inflows (percent of GDP) [BX.KLT.DINV.WD.GD.ZS].

Figure 53 Greenfield investments, 5-year moving average 2008-2022

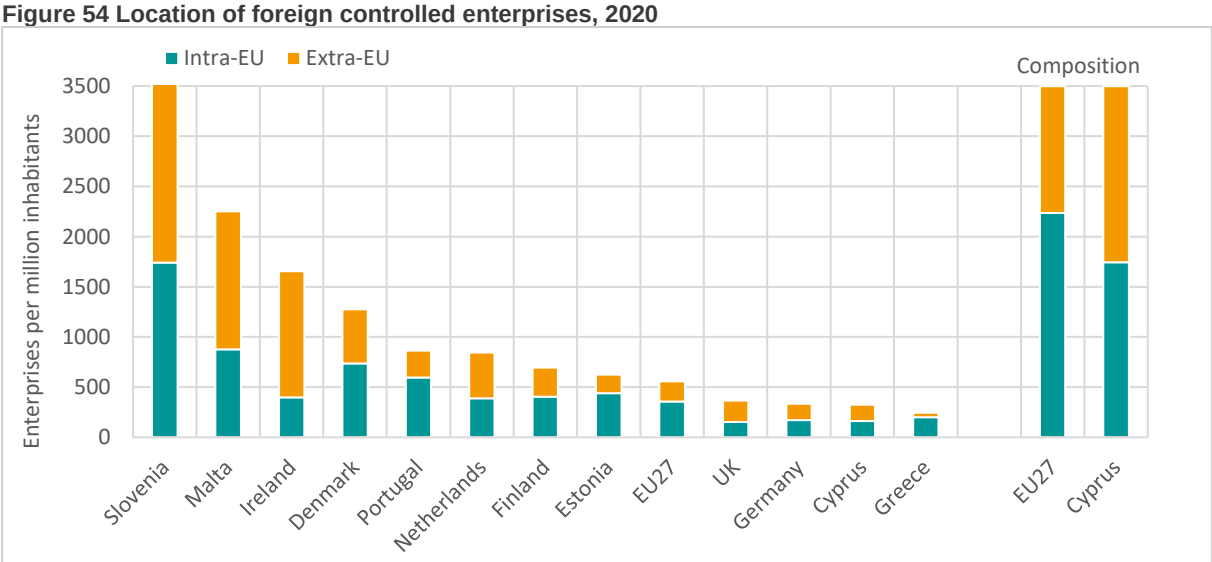


Notes: Own calculations, based on Greenfield Investments and converted to per capita value. Ireland has been omitted from the graph to provide a clearer view of the remaining benchmark countries' trends over the analysed time frame. Data are based on press releases, media reports and data from business associations and investment agencies; these sources are unlikely to be complete and may contain information on announced FDI projects that do not materialise.
Source: UNCTAD (based on Financial Times Ltd, FDI Markets): Value of announced greenfield FDI projects

Foreign controlled enterprises

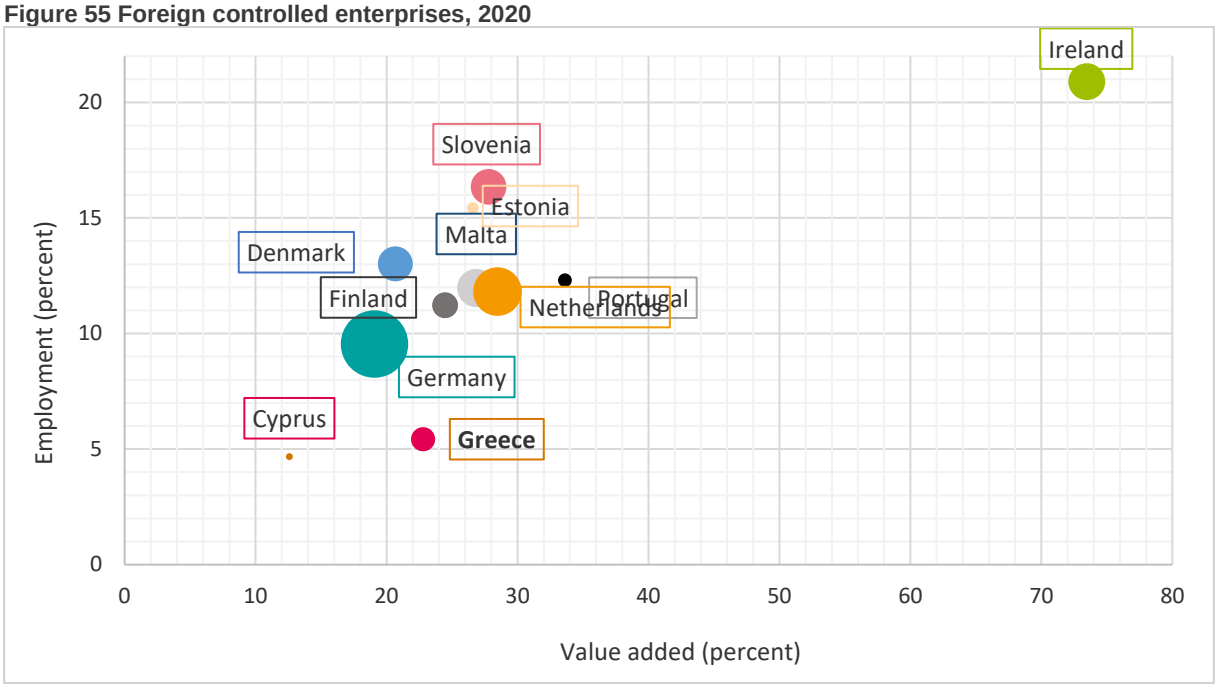
Foreign affiliate trade statistics (FATS) provide information on key economic indicators of foreign-controlled enterprises and exclude those SPEs that have no employees and no turnover. The number of foreign controlled enterprises in Cyprus is relatively low. As shown in Figure 54, in 2020 the number of foreign-controlled enterprises in Cyprus, measured on a per-capita basis, was below the benchmark countries except Greece. Nowhere other than in Greece is the share of foreign controlled enterprises in total employment and value-added as low as it is in Cyprus (Figure 55).

Figure 54 Location of foreign controlled enterprises, 2020



Notes: For United Kingdom and Greece data for 2017 were used.
Source: Eurostat, Foreign control of enterprises by economic activity and a selection of controlling countries (from 2008 onwards) [fats_g1a_08].

Figure 55 Foreign controlled enterprises, 2020



Notes: Size of the bubbles represents the number of Foreign Controlled Enterprises in the country.
For United Kingdom data for 2017 were used.
Source: Eurostat, Foreign control of enterprises [fats_g1a_08] and Value Added in Foreign Controlled Enterprises [egi_va1].

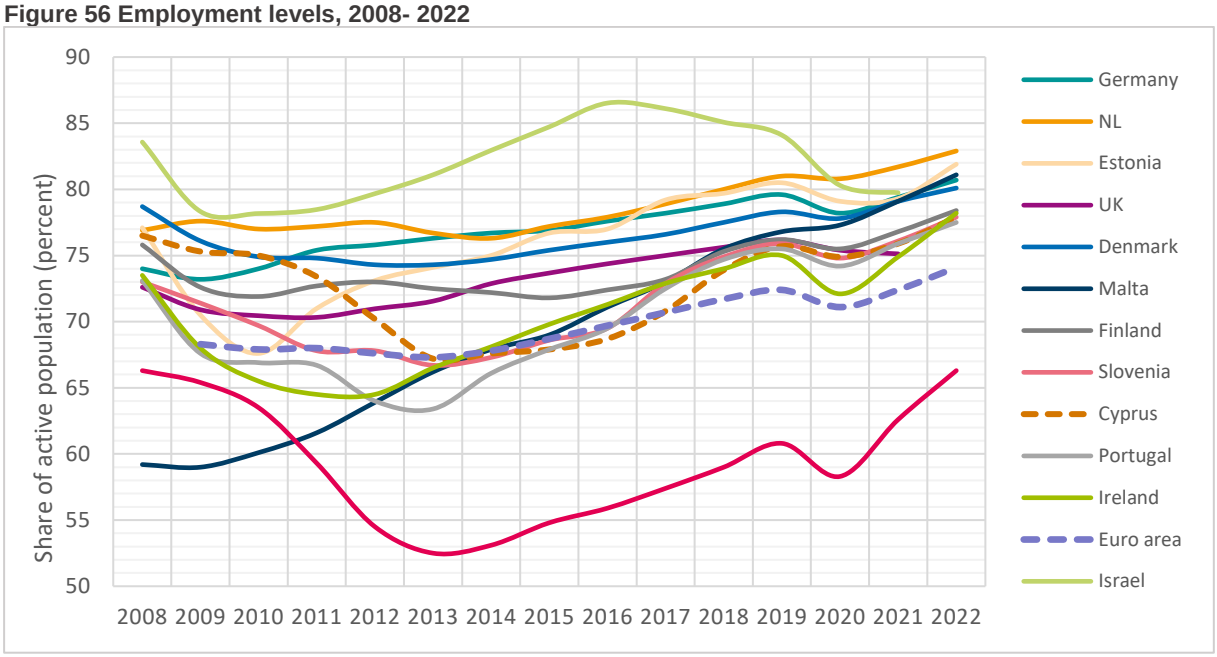
5.3 Employment and jobs

Employment

Figure 56 shows the employment levels for 2008-2022. The employment rate (the proportion of the working age population that is employed) of Cyprus stood at 77.9 percent in 2022, slightly higher than it was in 2008. It took a big dip between 2008 and 2013, falling by 9.3 percentage points. It gradually rebounded and reached 75.7 percent in 2019, only to drop again in 2020 because of COVID-19 (74.9 percent). Cyprus' employment rate was about seven percentage points higher than the euro area average prior to the crisis. It dropped below it in the aftermath of the crisis but overtook it again in 2018 and has since remained above it.

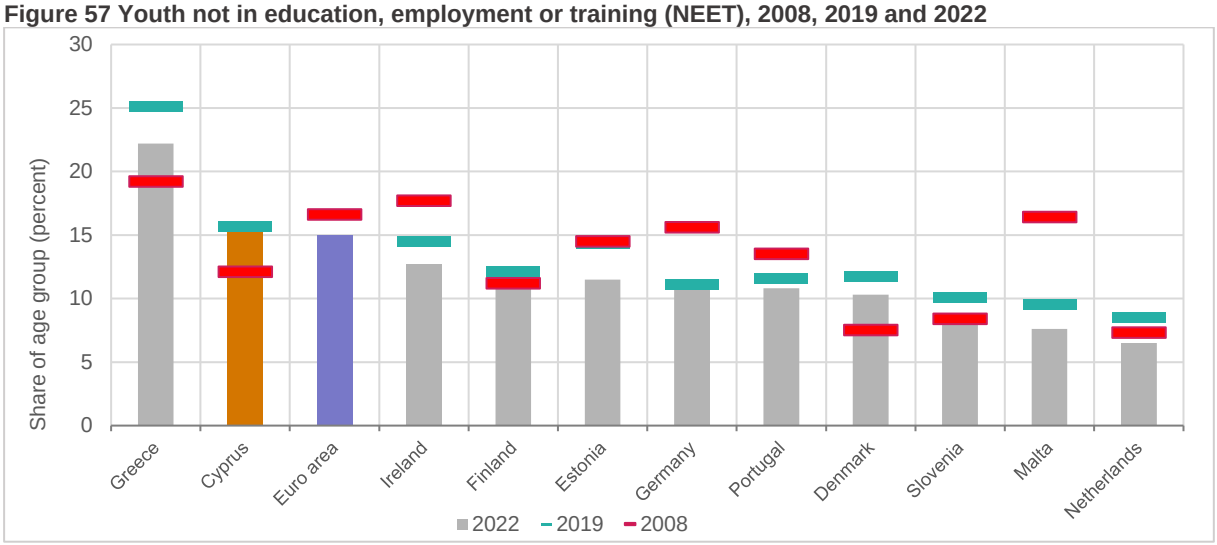
In Figure 57, Cyprus is ranked 10th among the benchmark countries in 2022, only doing better than Greece. Cyprus' low overall employment level is also reflected in a high rate of young people (aged 20 to 34) not in education, employment, or training (NEET).

Figure 56 Employment levels, 2008- 2022



Note: No data for Israel in 2022.
Source: Eurostat, Labour Force Survey [lfsi_emp_a]: Employment level and growth. OECD, Employment and activity by sex and age - annual data, for Israel.

Figure 57 Youth not in education, employment or training (NEET), 2008, 2019 and 2022



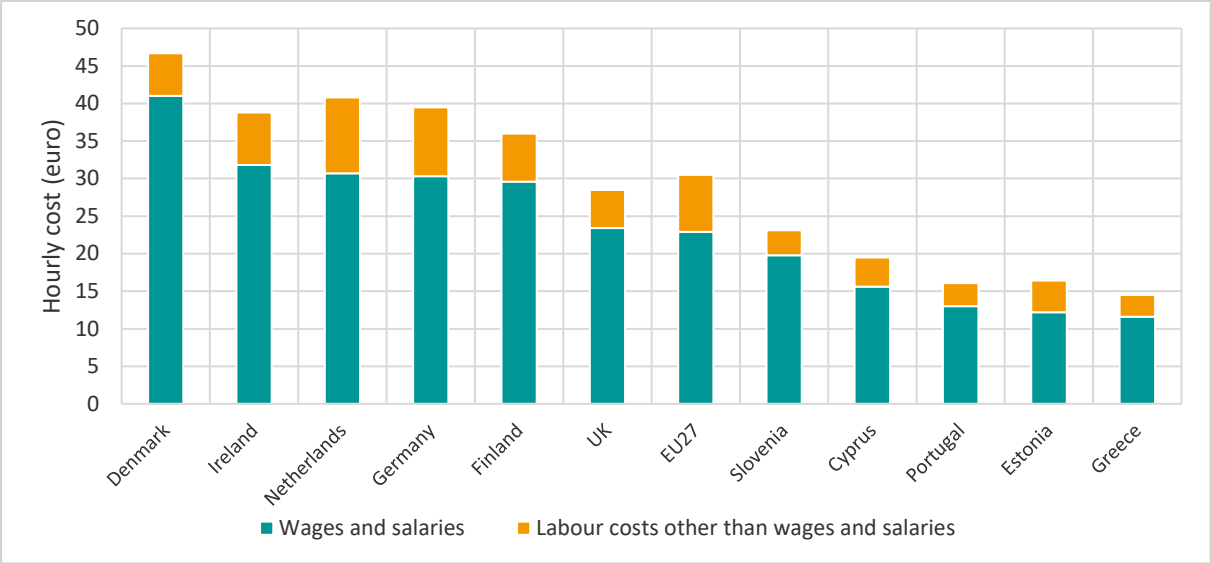
Note: UK was removed from this analysis as there is no data after 2019 to compare.
Source: Eurostat, Young people neither in employment nor in education and training by sex, age and labour status (NEET rates) [edat_lfse_20].

5.4 Costs and prices

Cost of labour

As illustrated in Figure 58 Cyprus is on the lower side when it comes to net earnings in comparison to both other benchmark countries and the EU average. This shortfall can be attributed to not only the comparatively low wages and salaries but also to non-wage costs. It's important to note, however, that several countries such as Portugal, Estonia, and Greece are facing even lower labour costs. This is reflected in a very low tax wedge on labour, which is significantly below all benchmark countries (see Figure 77). Although low labour costs can confer a cost competitiveness advantage to enterprises, they are potentially also symptomatic of low levels of productivity and imply lower levels of income and purchasing power of workers.

Figure 58 Labour costs and earnings, 2022

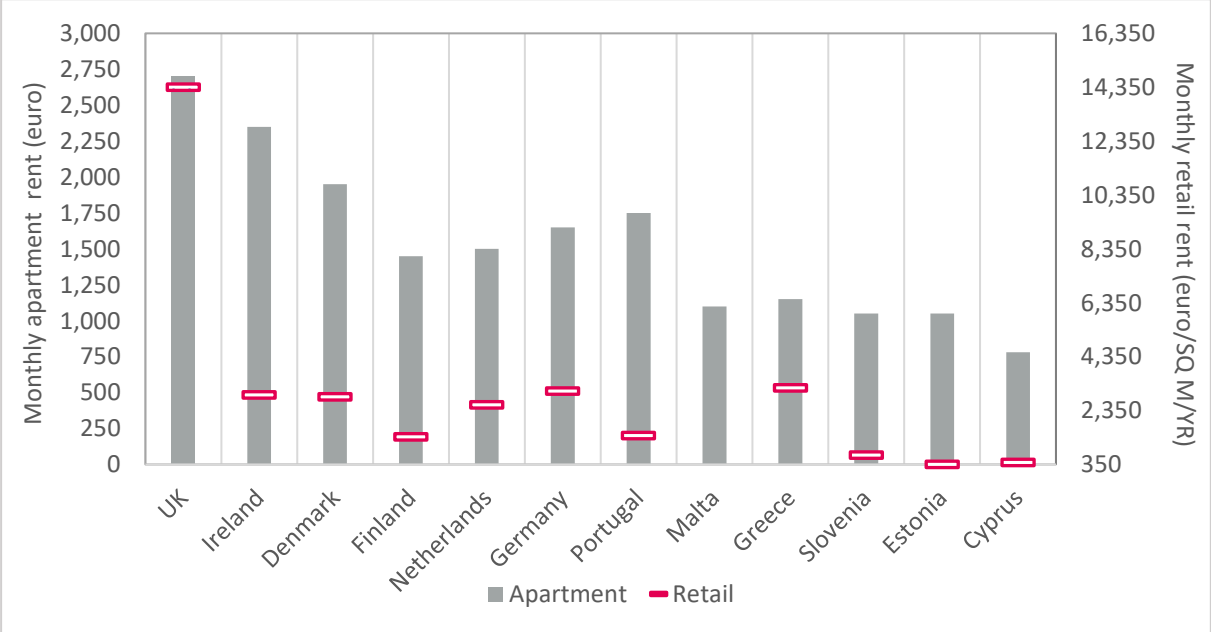


Notes: For United Kingdom data for 2019 were used. Malta has been excluded from the graph due to data uncertainties.
Source: Eurostat: Labour cost levels by NACE Rev. 2 activity [lc_lci_lev].

Real estate costs

The cost of real estate in Cyprus is also low, as shown in Figure 59. Apartment and retail rents are among the lowest compared to benchmark countries. Data on office rents are not available, but low commercial and residential rents would suggest that these are similarly low. As with labour costs, low rent costs can be viewed as a competitive advantage. They could reflect low levels of demand from businesses and households, or over-investment in housing and office space.

Figure 59 Rental prices for apartments and retail spaces, 2022



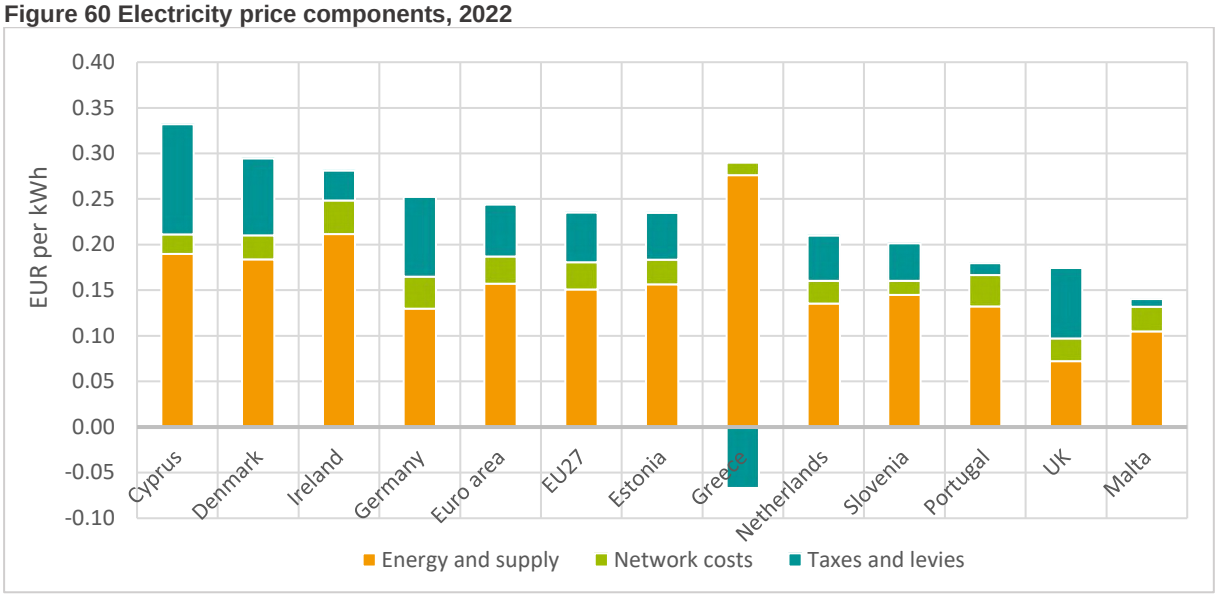
Note: For Cyprus, the prices for apartments reflect Nicosia, while prices for retail reflect Limassol Anexartisias Avenue. No retail price data for Malta for any year/not included in the Cushman & Wakefield report.
Source: Eurostat, Estate Agency Rent Surveys (2022): Rent for 2-bedroom flat; Cushman & Wakefield (2022).

Electricity costs

Electricity for non-household customers in Cyprus is expensive, due to high energy and supply costs. Reasons include the small size of the country and the dependence on imports of fossil fuel for electricity generation. Figure 60 highlights Cyprus' high cost of

electricity relative to other benchmark countries. Even when we exclude taxes and levies, the cost remains elevated only being slightly lower than Greece and Ireland. This indicates that the combined impact of energy and supply, as well as network costs, significantly contributes to Cyprus' electricity cost burden.

Figure 60 Electricity price components, 2022



Notes: For United Kingdom data for 2019 were used. Greece's negative taxes were dues to a number of received compensations and subsidies as an amount of €/MWh in their electricity bills, different for each month and according to monthly consumption.

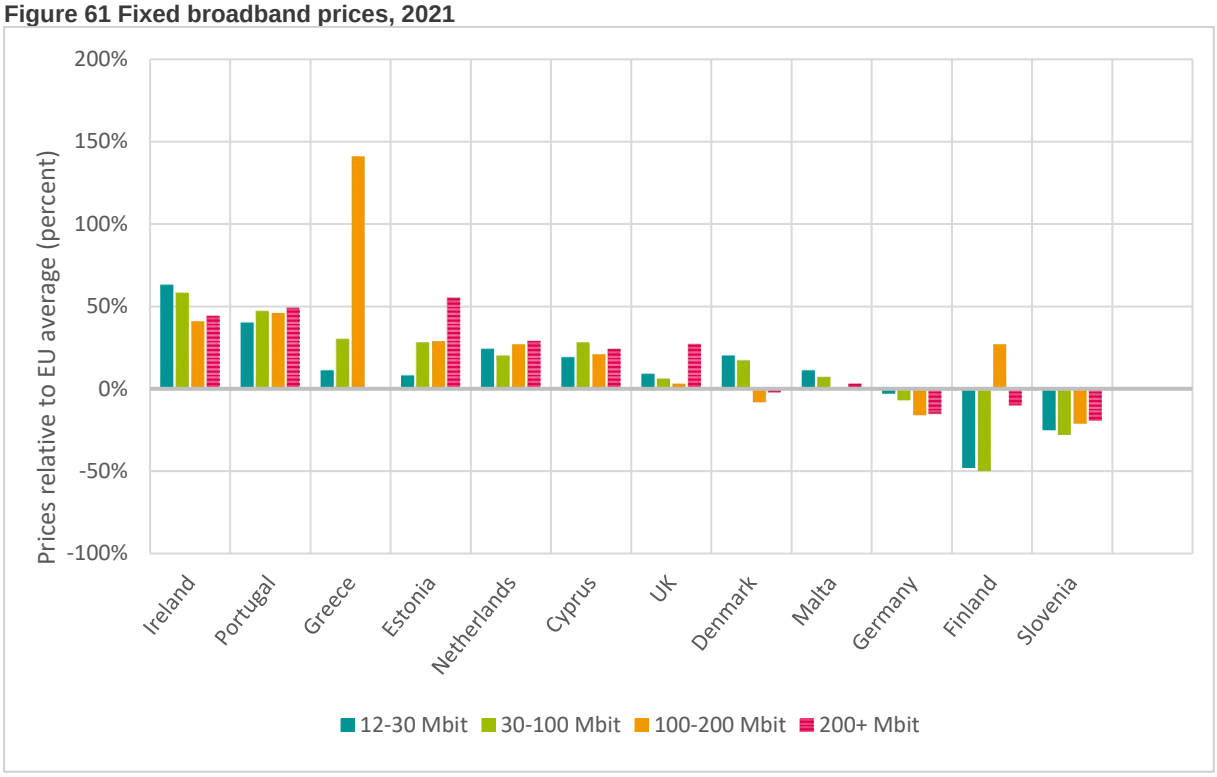
Source: Eurostat: Electricity prices components for non-household consumers [nrg_pc_205_c].

Broadband costs

Figure 61 shows the fixed broadband prices among the benchmark countries. Fixed broadband prices in Cyprus exhibit a distinctive pattern when contrasted with the EU27 countries as a whole. According to findings in the report, for consumers seeking internet speeds between 30-100 Mbps, the prices are higher than the EU average. On the other hand, those in search of internet speeds exceeding 200 Mbps, coupled with fixed phone and TV services, will find that the prices are slightly lower than the EU average. Thus, we see Cyprus being somewhat in the middle of the group.

High prices are likely responsible for relatively low internet use in Cyprus. An explanation for the high cost is a lack of competition, with the small market size limiting the number of providers.

Figure 61 Fixed broadband prices, 2021



Source: European Commission (2022), Fixed Broadband Prices in Europe 2021. *Prices compared with EU average (single play)*

6 Benchmark of institutional & organisational competitiveness drivers

Institutional and organisational competitiveness drivers are factors that affect the environment in which enterprises and economic sectors operate. This also includes those factors that relate directly to the structure, conduct and performance (in terms of production efficiency and innovation) of enterprises and economic sectors. These are grouped into four themes: (1) market conditions and institutions, (2) business environment and institutions, (3) industry structure, specialisation and organisation, and (4) firm characteristics, dynamism and sophistication.

Market conditions and institutions refers to how well markets function and how well they are supported by institutions. Business environment and institutions refers to the legal, administrative and regulatory environment for businesses. Industry structure, specialisation and organisation refers to the structure of the economy, the goods and services that are produced, and how specialised or diversified the economy is. This theme also covers how production is organised, for example in value chains or in clusters, and whether intermediate inputs can be sourced domestically. Firm characteristics, dynamism and sophistication refers to the size and structure of firms, enterprise dynamism (such as new business creation and high growth enterprises), the extent of entrepreneurship and entrepreneurial attitudes, business sophistication and management quality.

6.1 Market conditions & institutions

Trade Openness

Market conditions and institutions refers to how well markets function and how they are supported by market institutions. This includes how well competition functions for products, services, and employees in both foreign and domestic markets as well as the regulatory conditions affecting these markets. Given the importance of capital markets and the importance of financial services for the Cyprus economy, conditions in capital markets are covered separately under the theme *Financial market development*.

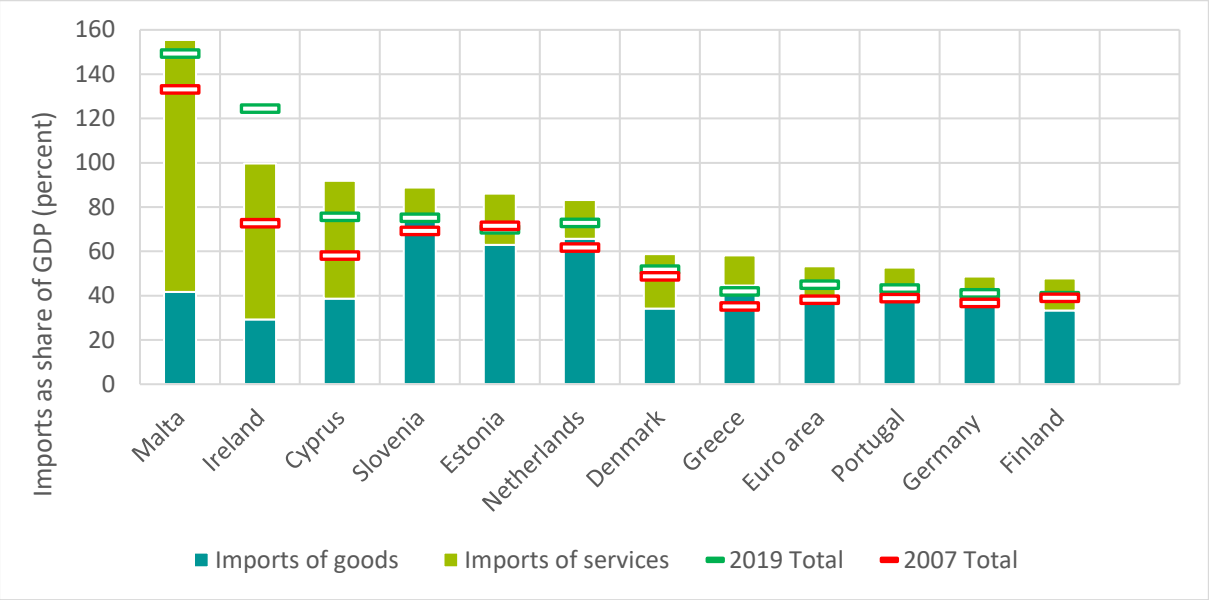
Although a good range of indicators on market conditions and institutions is available for Cyprus, it is unfortunate that a number of useful OECD indices are unavailable: these include the OECD Service Trade Restrictiveness index, which covers barriers to trade in services, the OECD Product Market Regulation index, which covers economy-wide and sectoral regulation and competition, and the OECD Indicators of Employment Protection, which cover the strictness of labour market regulation.

Cyprus displays a high degree of trade openness as measured by imports of goods and services as a share of GDP. Cyprus' imports of goods and services in 2022 were equivalent to 91.9 percent of GDP (Figure 62). This is slightly above the corresponding levels for Slovenia and Estonia (88.8 and 86.1), but below Ireland and especially Malta, where imports correspond to nearly 99.6 and 155.5 percent of total GDP respectively[8]. Openness has increased over time: Cyprus imports were 75.5 percent of GDP in 2017, compared to just 58.0 percent in 2007. Generally, smaller countries tend to be more open. This relation is displayed in Figure 63, which plots import levels against GDP.

[8] Imports and exports close to or above 100 percent of total GDP can be explained by re-exports, where goods pass through the ports and airports of a country, from one third country to another third country.

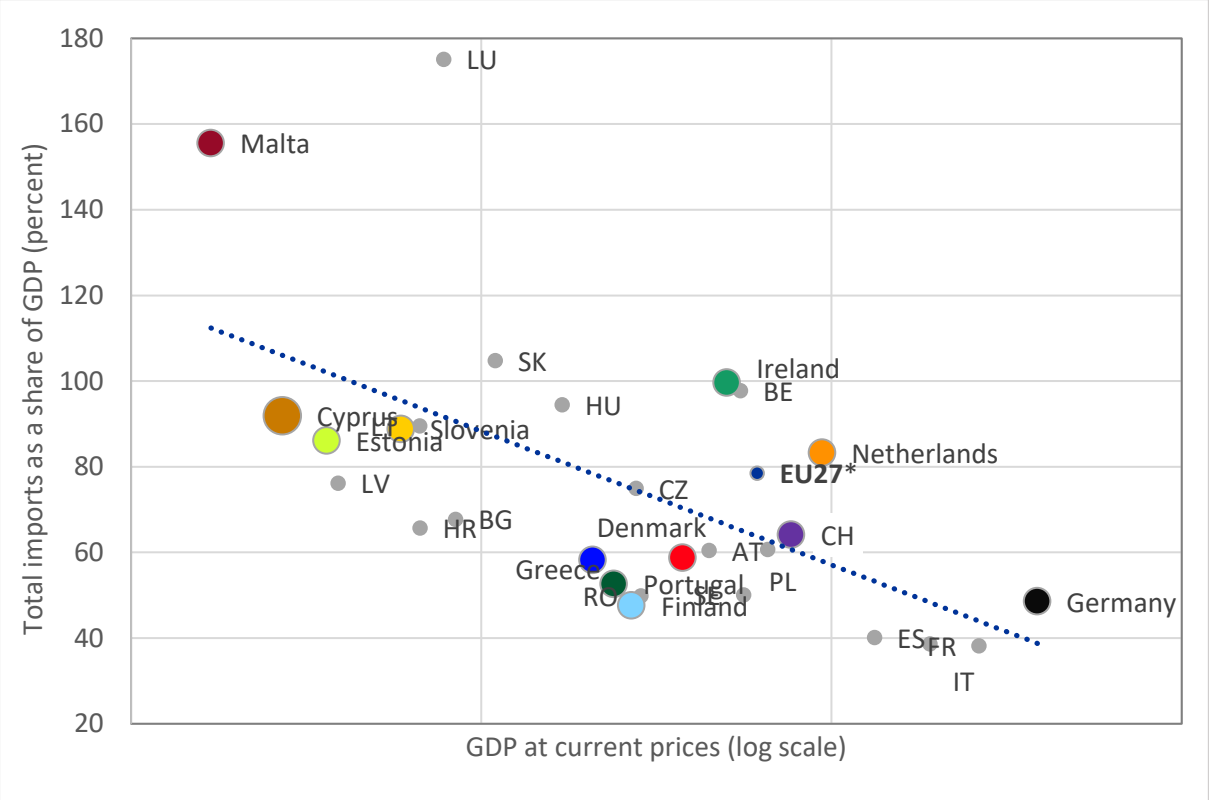
According to this, Cyprus imports a bit less than its size would suggest. Figure 64 plots the same relation using only imports coming from outside the EU. Cyprus is still far below Malta and Ireland but has substantially more extra-EU trade than all other EU countries except Luxembourg.

Figure 62 Imports of goods and services, 2007, 2019 and 2022



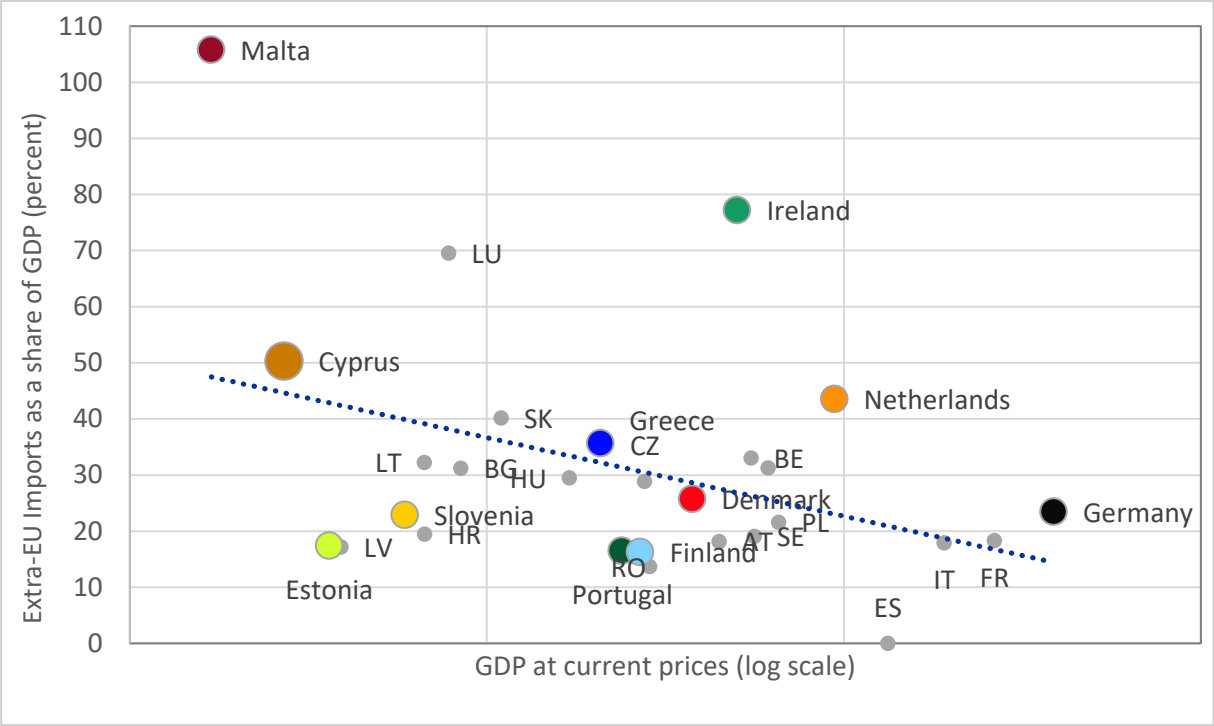
Notes: No data available for UK for 2022.
Source: Eurostat, GDP and main components (output, expenditure and income) [nama_10_gdp].

Figure 63 Trade openness: total imports of goods and services as a fraction of GDP, 2022



Notes: Benchmark country names are written in full, other countries in two-digit code. EU27* based on arithmetic mean GDP of EU Member States and total EU imports (intra and extra-EU) of goods and service as a share of total EU GDP.
Source: Eurostat, National Accounts (nama_10_gdp and nama_10_exi).

Figure 64 Trade openness: extra-EU imports of goods and services compared to level of GDP, 2022



Notes: EU27* based on arithmetic mean GDP of EU Member States and total EU imports (extra-EU) of goods and service as a share of total EU GDP. No data for Switzerland.
Source: Eurostat, National Accounts (nama_10_gdp and nama_10_exi).

Trade Freedom

Trade freedom refers to a country's ability to engage in international transactions of goods and services. This in turn can allow businesses and individuals to capture the gains of comparative advantage, expanding the country's production possibility frontier and the efficiency of the allocation of resources by encouraging domestic market competition.

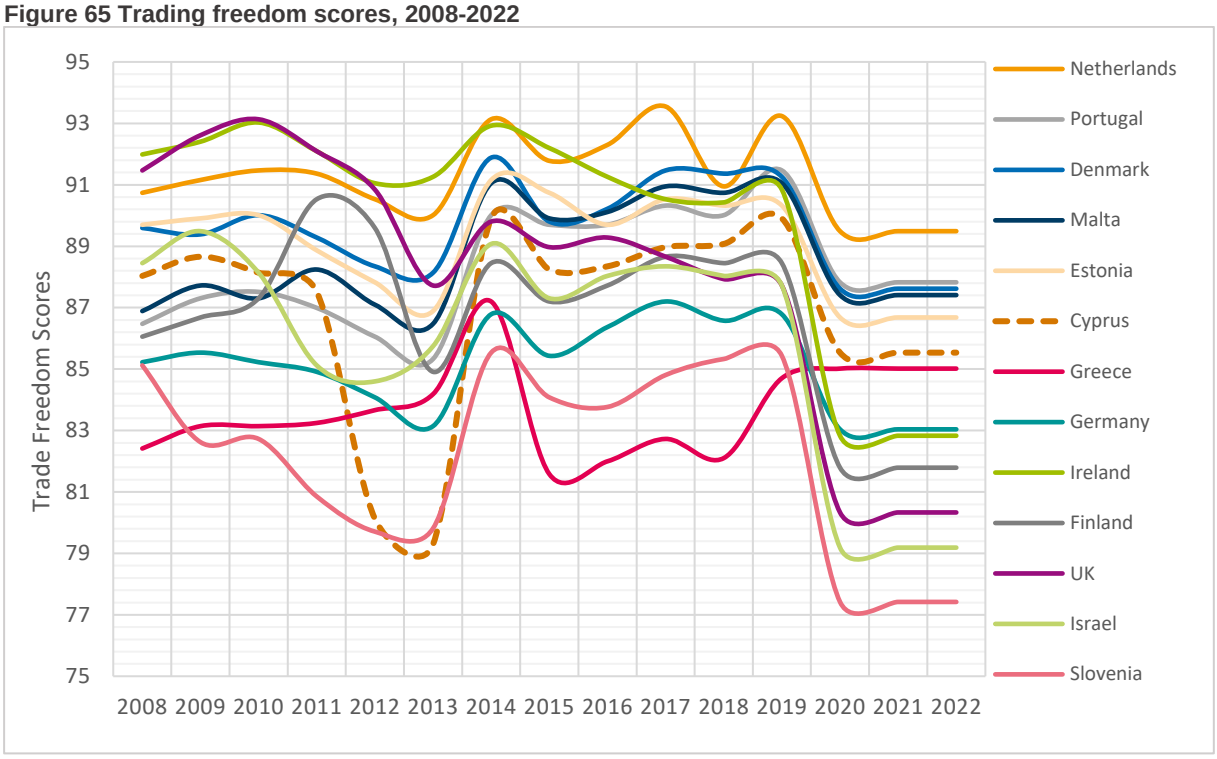
Figure 65 depicts the Atlantic Council's trade freedom scores. A high score signifies a nation that maintains low tariff levels, enforces efficient and streamlined customs clearance procedures, possesses a freely convertible currency, and imposes minimal restrictions on the movement of both physical and human capital. With the exception of the crisis period, Cyprus has performed well in this respect, outscoring more than half the benchmark countries. In 2022 it recorded a score of 85.5, which is not very far from the top 89.5 score of Netherlands.

Description: Trade Freedom Index

The Trade Freedom index by the Atlantic Council is one of the sub-indicators of the Economic Freedom pillar. The two remaining pillars include Legal and Political Freedom. Trade Freedom incorporates a wide spectrum of trade-related constraints, encompassing tariffs, quotas, covert administrative barriers, as well as regulations governing exchange rates and capital mobility. The index is scaled from 0 to 100, with 0 representing no freedom and 100 corresponding to maximum freedom.

This is not surprising given the trade data shown in Figure 62 to Figure 64. Cyprus is an open economy, a member of a large trading bloc (the EU) and is generally open for business. The impact of the 2013 banking crisis on the score is evident, yet Cyprus displayed remarkable resilience and recovered swiftly. The impact of the pandemic is also apparent and affected all countries with the interesting exception of Greece.

Figure 65 Trading freedom scores, 2008-2022



Source: The Atlantic Council, Prosperity that Lasts; The 2023 Freedom and Prosperity Indexes.

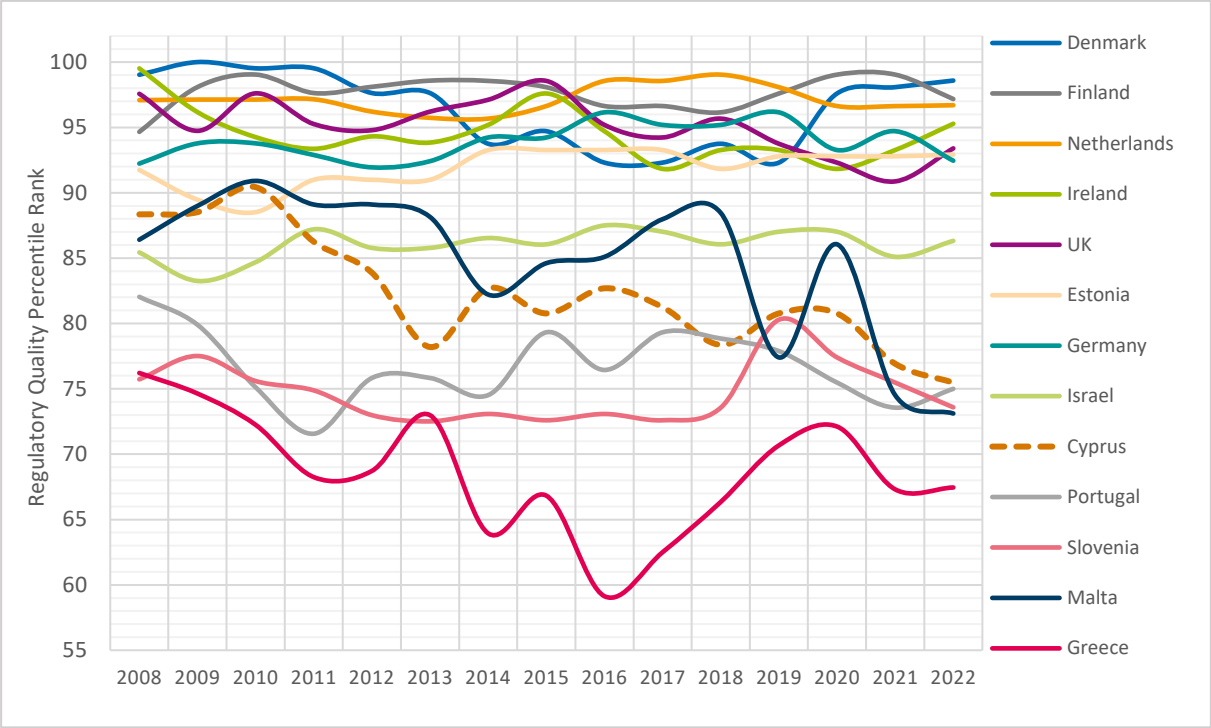
Regulatory Quality

Effective and efficient regulation ensures the smooth operation of markets and facilitates economic growth. Figure 66 shows the percentile ranking of the benchmark countries in regulatory quality perceptions as reported in the World Bank's World Governance Indicators from 2008 to 2022. Denmark, Finland, and the Netherlands consistently rank among the top-performing nations in terms of regulatory quality. Cyprus finds itself in the lower half of the benchmark countries with a percentile rank of 75 in 2022 (better than Greece, Malta, Slovenia, and Portugal). More concerning is the fact that Cyprus has been on a downward trend for more than a decade.

Description: Regulatory Quality

Regulatory Quality is a perceptions-based indicator of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The estimate of governance ranges from -2.5 to 2.5 (weak and strong governance performance). The percentile rank among all countries, ranges from 0 to 100 (lowest and highest rank).

Figure 66 Regulatory Quality, Percentile Ranking, 2008-2022



Notes: Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
Source: World Bank, Worldwide Governance Indicators (WGI).

Labour Freedom Index

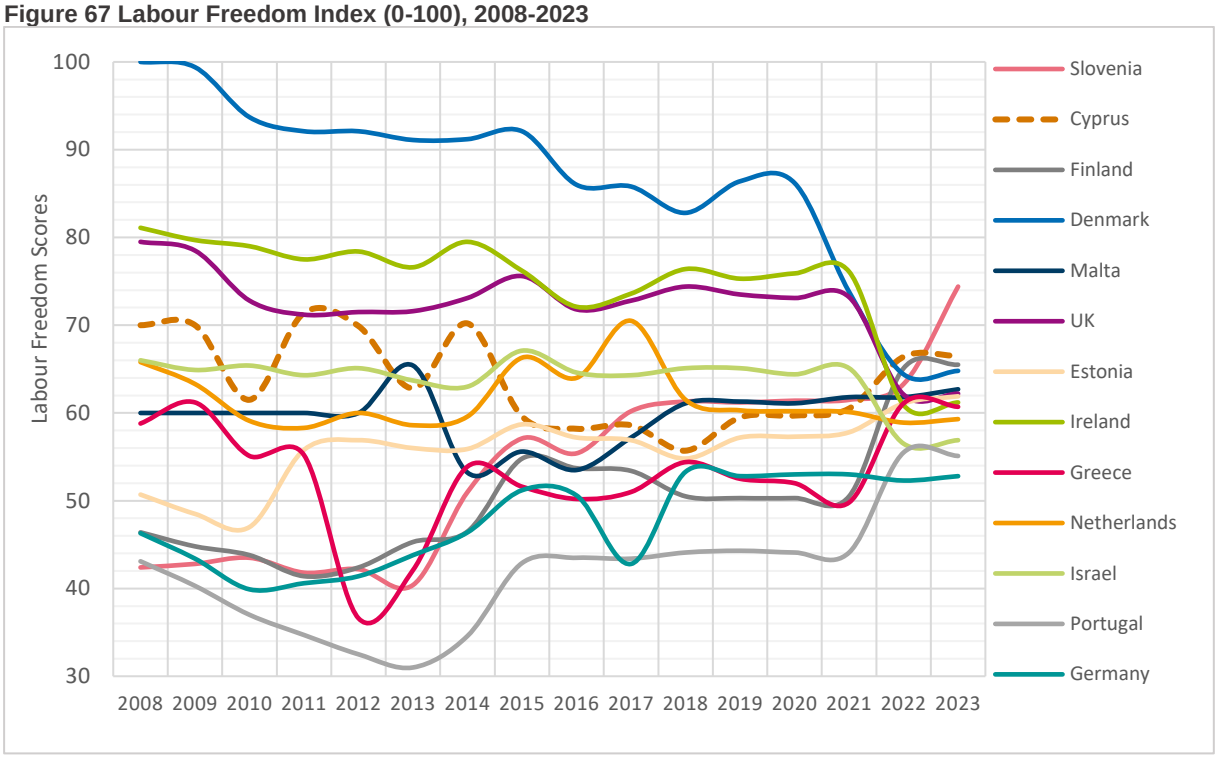
Figure 67 shows the Labour Freedom index from the Heritage Foundation for the period 2008-2023. A higher value of the index indicates more labour flexibility (less labour market regulation). Perhaps the most striking thing about this figure is how countries have converged over time. The index should be interpreted with care, as less market regulation does not necessarily imply improved competitiveness. While less labour market regulation might imply flexibility and reduce the burden faced by firms, it might also mean less social stability and cohesion, or less committed and motivated workers. Furthermore, less labour market regulations such as the absence of employment protection might also reduce workers' quality of life and productivity.

In 2023, Cyprus ranks 21st out of 179 countries in terms of labour freedom and is second among benchmark countries. This ranking implies that the nation's policies may facilitate job creation and enhance its overall economic competitiveness. However, it is important to note that a high labour freedom score can also raise concerns about worker protections, income inequality, and labour rights.

Description: Labour Freedom Index

The Heritage Foundation's Labour Freedom Index is a composite index that measures various aspects of the legal and regulatory framework of a country's labour market. It includes six equally weighted factors: the ratio of the minimum wage to the average value-added per worker, the hindrance to hiring additional workers, the rigidity of hours, the difficulty of firing redundant employees, legally mandated notice period, and mandatory severance pay.

Figure 67 Labour Freedom Index (0-100), 2008-2023



Source: The Heritage Foundation, Labour Freedom Index, 2008-2023

6.2 Business environment & institutions

Business environment and institutions refers to the legal, administrative, and regulatory environment for businesses[9]. The business environment includes the efficiency of the public administration, the quality of institutions, the ease of doing business, the quality of property rights, and the efficiency and attractiveness of taxation. The foundations of the business environment are legal accountability and an equal, fair and independent legal system, combined with political stability and respect of property rights. These fundamental rights are all guaranteed by the constitution of Cyprus and the EU charter. Furthermore, Cyprus is a stable democracy, as evidenced by the resilience of its political system in the face of the fiscal and banking crisis, which represented a major economic and social shock.

Business Freedom

Figure 68 depicts Heritage Foundation's Business Freedom scores for the period 2008-2023, which are a measure of an individual's ability to establish and run an enterprise without undue interference from the state. A country that applies its regulations evenly and transparently can lower the regulatory burden by facilitating long-term business planning, while a country that applies regulations inconsistently adds to the regulatory burden by creating an unpredictable business environment.

Cyprus finds itself near the bottom of the list of benchmark countries, doing better than Greece only. Several countries saw improvements in their scores after 2021. On a global scale, Cyprus ranks 18th out of 176 countries in 2023. This, according to the report, indicates that the overall freedom to

[9] A distinction is made between 'Market conditions & institutions', which is concerned with how the regulatory environment affects the functioning of specific markets, and 'Business environment and institutions', which is concerned with the institutional environment as it affects the performance of individual firms, regardless of the market it operates in.

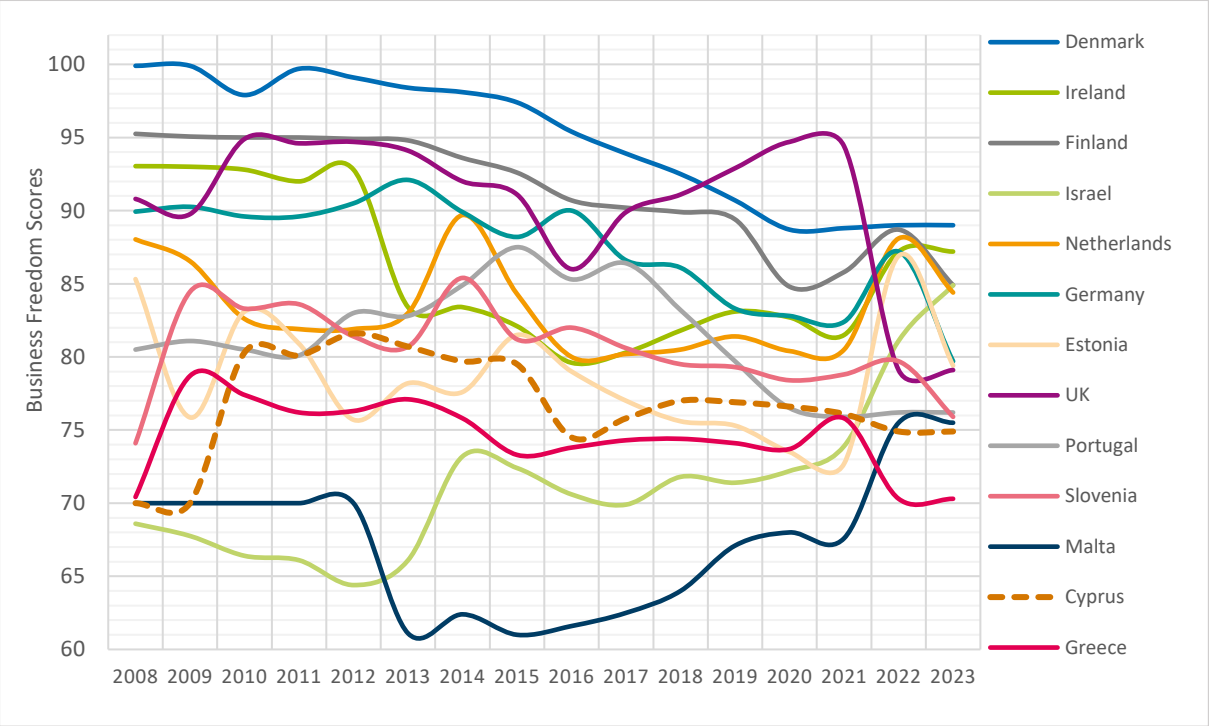
start, operate, and close a business is relatively well maintained within the regulatory framework, and there is no minimum capital requirement.

Description: Business Freedom Scores

This component assesses the extent to which a country's regulatory and infrastructural conditions impede the efficient operations of businesses. The business freedom score assigned to each country falls within a range from 0 to 100, where a score of 100 indicates the most favourable business environment.

The quantitative score is derived from a diverse set of factors that influence the ease of initiating, running, and terminating a business, including access to electricity, business environment risk, regulatory quality, and women's economic inclusion. Business Freedom is a sub-index of Economic Freedom within the regulatory efficiency category.

Figure 68 Business freedom scores, 2008-2023



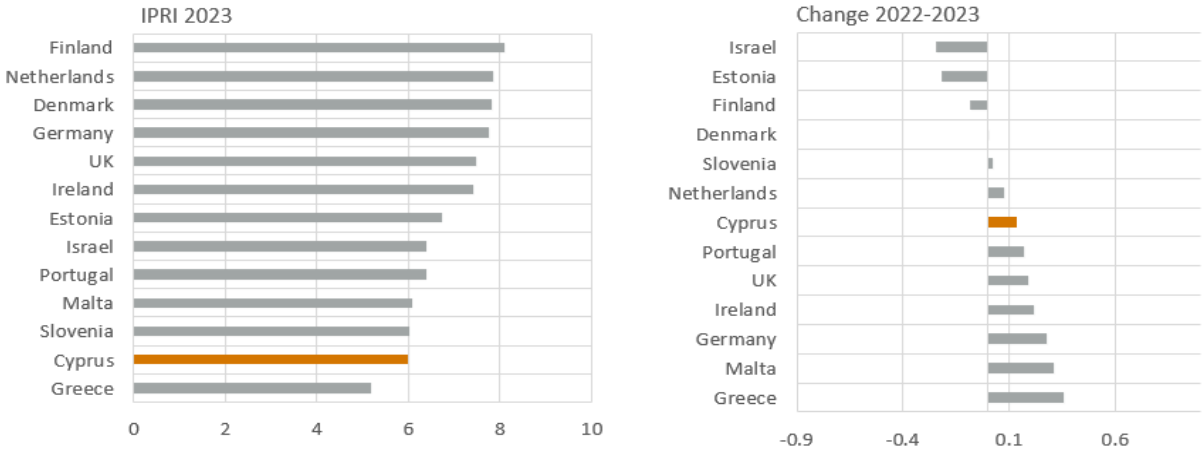
Source: The Heritage Foundation, 2023 Index of Economic Freedom.

International Property Rights

The International Property Rights Index ranks Cyprus below most benchmark countries (Figure 69 and Figure 70). Cyprus scores relatively weakly in all three components of the index, namely intellectual property rights, patent protection, and copyright protection. On the positive side, its score is not much lower than the group of five countries above it, and has made an improvement since 2022, as see in the figure on the right.

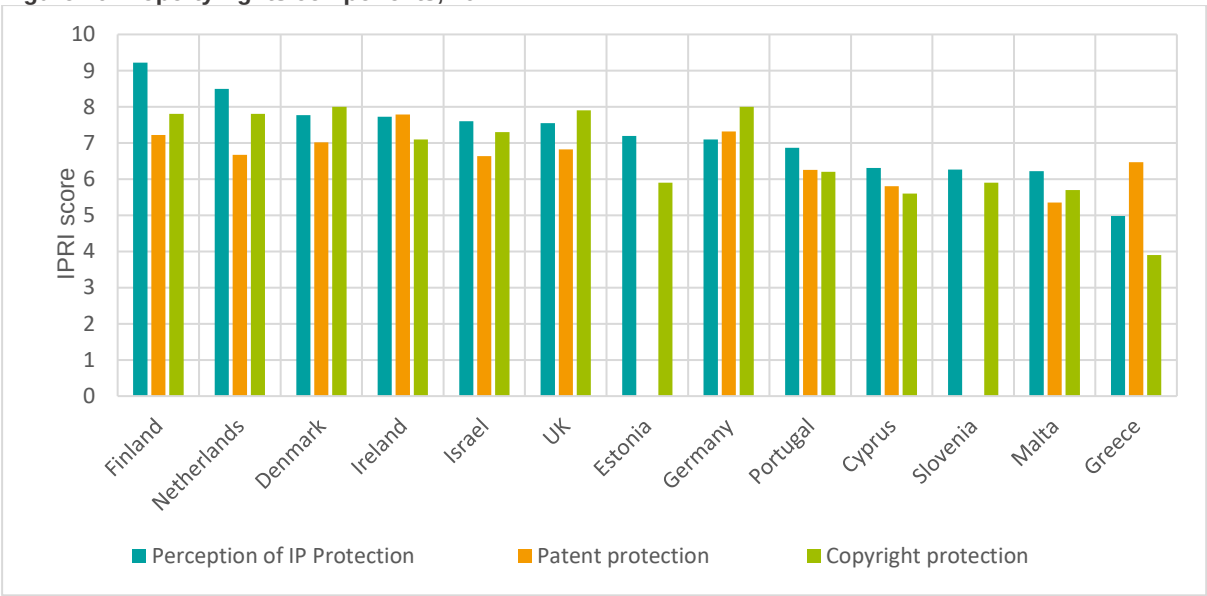
Current Cypriot legislation on intellectual property rights and copyrights is fully harmonised with all relevant and applicable EU Directives and Regulations and provides a high level of protection. The new Cypriot Law on Trademarks, No. 63(I) of 2020, entered into force in 2020. These changes should help improve Cyprus' performance with respect to the protection of Intellectual Property Rights Index.

Figure 69 International property rights index, 2023



Notes: The overall grading scale of the IPRI ranges from [0 – 10] and a higher number indicates a better property rights system.131 countries are assessed by the index. No data for Estonia is available for 2023, thus we used 2022-2021.
Source: Property Rights Alliance, International Property Rights Report 2023, 2022 and 2021 editions.

Figure 70 Property rights components, 2022



Source: Property Rights Alliance, International Property Rights Report 2022.

Corruption

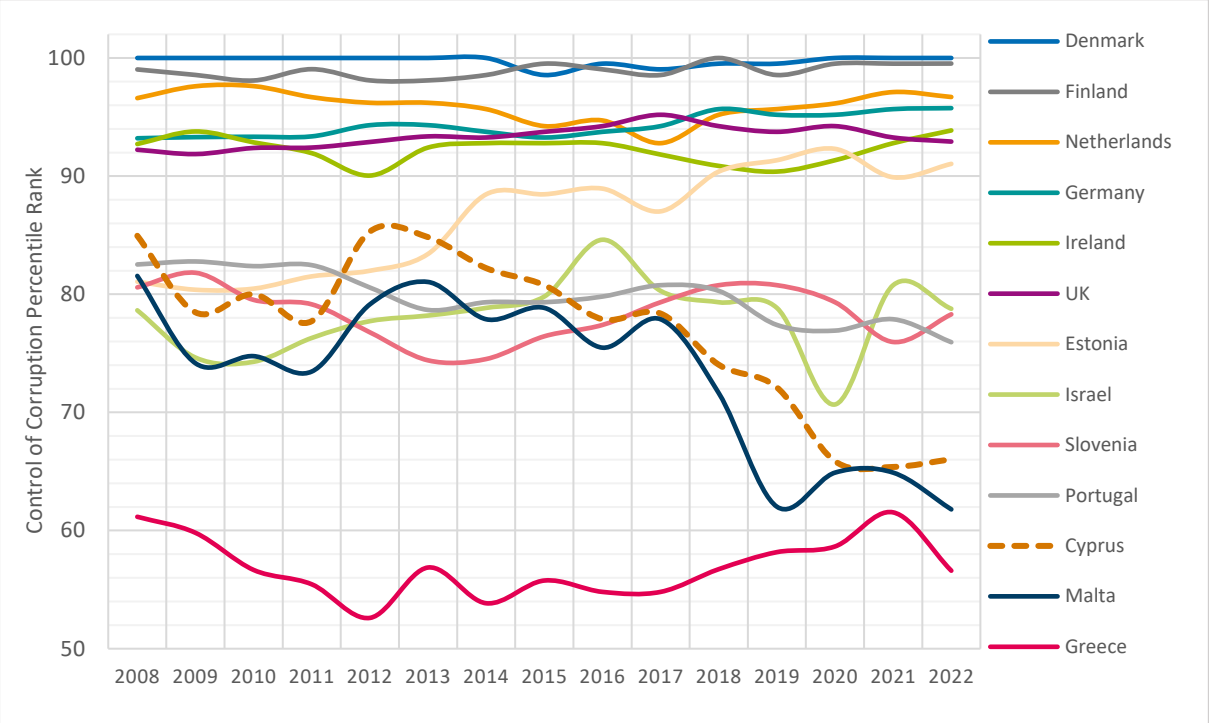
The World Bank's Governance Indicators include the Control of Corruption Index, which captures perceptions of the extent to which public power is exercised for private gain. Cyprus ranks below most benchmark countries with a score of 65, as compared to Denmark and Finland score of 100 in 2022 (Figure 71). It has not always had such a low score. It was close to 85 in 2012 but has been steadily declining since.

Cyprus ranks similarly in Transparency International's (TI) widely followed Corruption Perceptions Index (CPI).[10] TI also produces the Global Corruption Barometer, which is based on citizen surveys. In the 2021 EU Barometer, 65 percent of Cypriot respondents reported that corruption in their country increased in the previous 12 months, a higher percentage than all other EU countries by a significant margin.

[10] See CPI.

Furthermore, according to the Eurobarometer Spring Survey on corruption, 66 percent of respondents in Cyprus perceive a notable increase in corruption levels. This percentage stands significantly higher than the European Union average of 45 percent, as well as that of other benchmark countries except for Malta.[11] The data on corruption paint a troubling picture that Cyprus certainly needs to contend with as it aims to become a reputable place to do business.

Figure 71 Control of Corruption, 2008-2022



Notes: The Control of Corruption gives countries a score ranging from 0 (highly corrupt) to 100 (very clean). Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.
Source: World Bank, WGI: Control of Corruption.

Performance of public institutions

The smooth and efficient operation of public institutions is a key determinant of a country's economic performance. The World Bank's Figure 72 shows the performance of Cyprus and the benchmark countries in terms of effectiveness of government institutions. Cyprus is ranked second from the bottom, only doing better than Greece. The gap is particularly pronounced compared to the best performers in northern and western Europe.

Figure 73 shows the Voice and Accountability Index, which captures perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Here also Cyprus is ranked second from the bottom, just above Greece. There was an improvement after the low of the 2013 crisis, but the index took a significant negative turn after 2019, possibly because of the passport scandal.

World Governance Indicators try to measure the quality of governance of public institutions.

The public sector wage bill is an indication of the size of the public sector and the salaries paid to civil servants. Figure 74 shows the size of the wage bill as a fraction of GDP. Cyprus' wage bill is relatively high, at similar levels as Scandinavian countries (and Greece). For a fair comparison, this indicator

[11] Eurobarometer Survey 2023

should be seen in conjunction with the quantity and quality of public services provided in each country. Scandinavian countries are thought to provide high levels of public services and can therefore justify a high public sector wage bill. This may not be true of Cyprus or Greece.

Figure 75 shows Cyprus' 2022 performance in two related indicators from the United Nations, the E-Government Development Index and the E-Participation Index (see box). There is a striking division of countries into three very distinct groups: five mostly northern countries are in the top right, indicating high performance in both indicators; a second group of five countries (including Cyprus) are in the middle; and another three countries lag in both indicators. The good news about Cyprus is that it is on an upward trajectory: in 2018, it was near the bottom of the rankings across both dimensions.

Description: Government Effectiveness

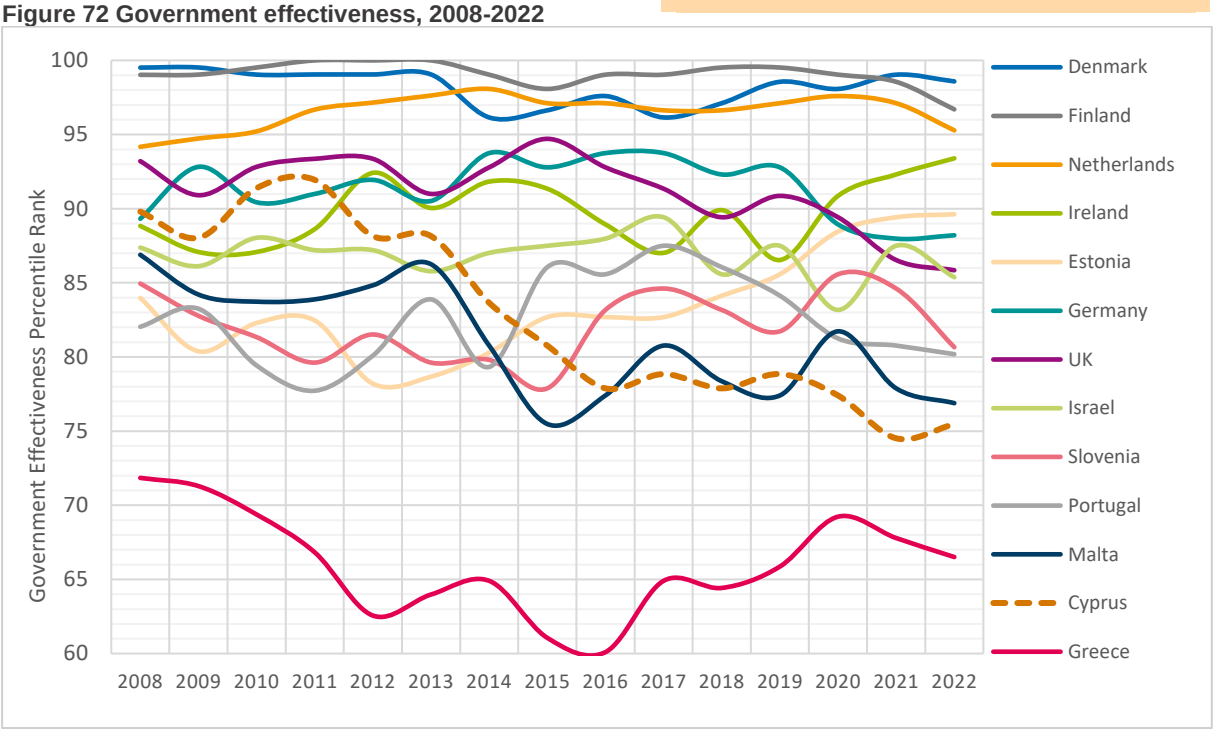
Government effectiveness measures the quality of public services; the quality of the civil service and its independence; the quality of policy formulation and implementation; and the credibility of the government's commitment to such policies. It is based on a variety of existing indicators.

Description: United Nations E-Government indices

E-Government Development Index (EDGI) rates the performance of national governments based on the average of three indices: Online Service Index, Telecommunication Index and Human Capital Index (each with a possible value between zero and one).

E-Participation Index (EPI) assesses online participation utilizing a three-point scale that distinguishes between the provision of information, consultation, and decision-making. It takes values from 0 to 1, with higher values suggesting that government efforts to actively engage people in collaborative governance is enhanced.

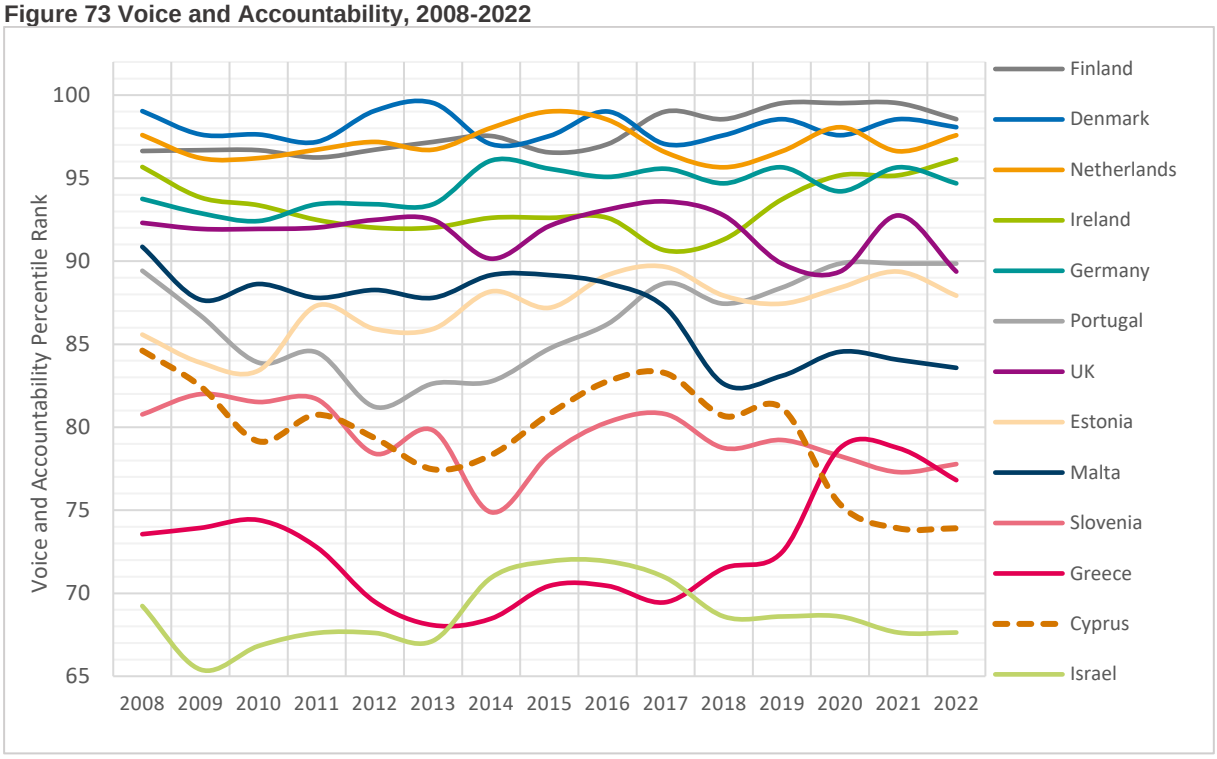
Figure 72 Government effectiveness, 2008-2022



Notes: Percentile rank among all countries (ranges from 0 (lowest) to 100 (highest) rank). Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

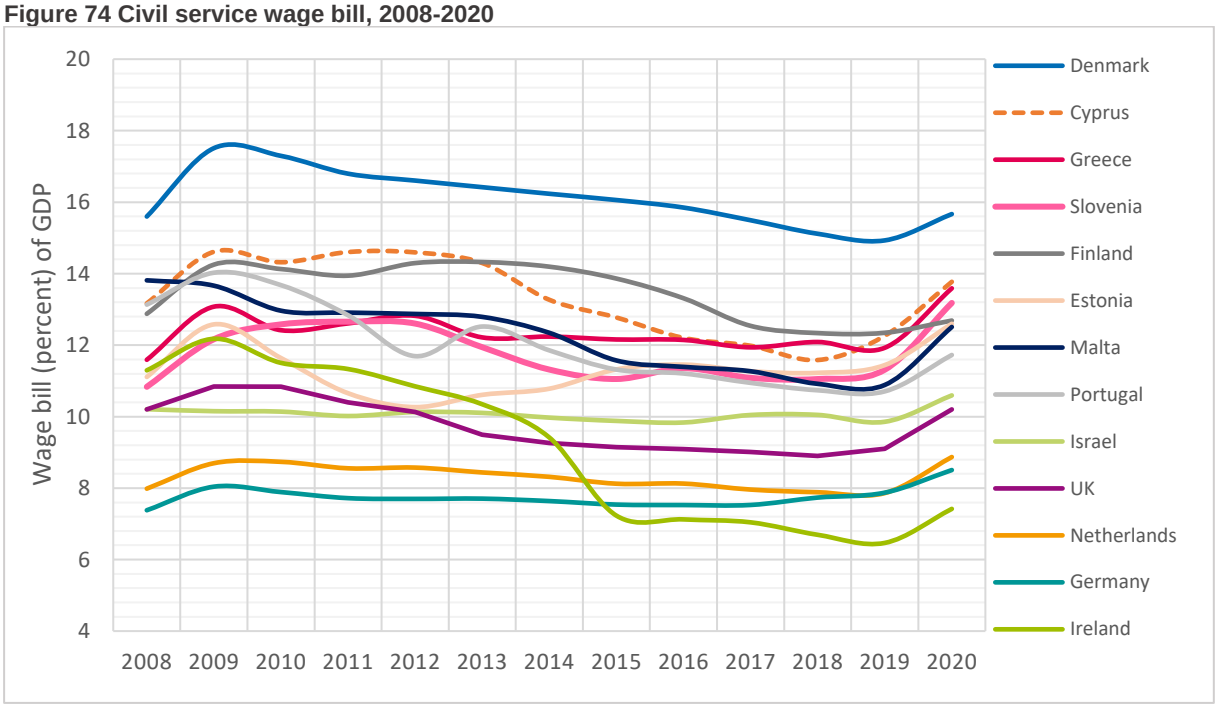
Source: World Bank, WGI: Government Effectiveness.

Figure 73 Voice and Accountability, 2008-2022



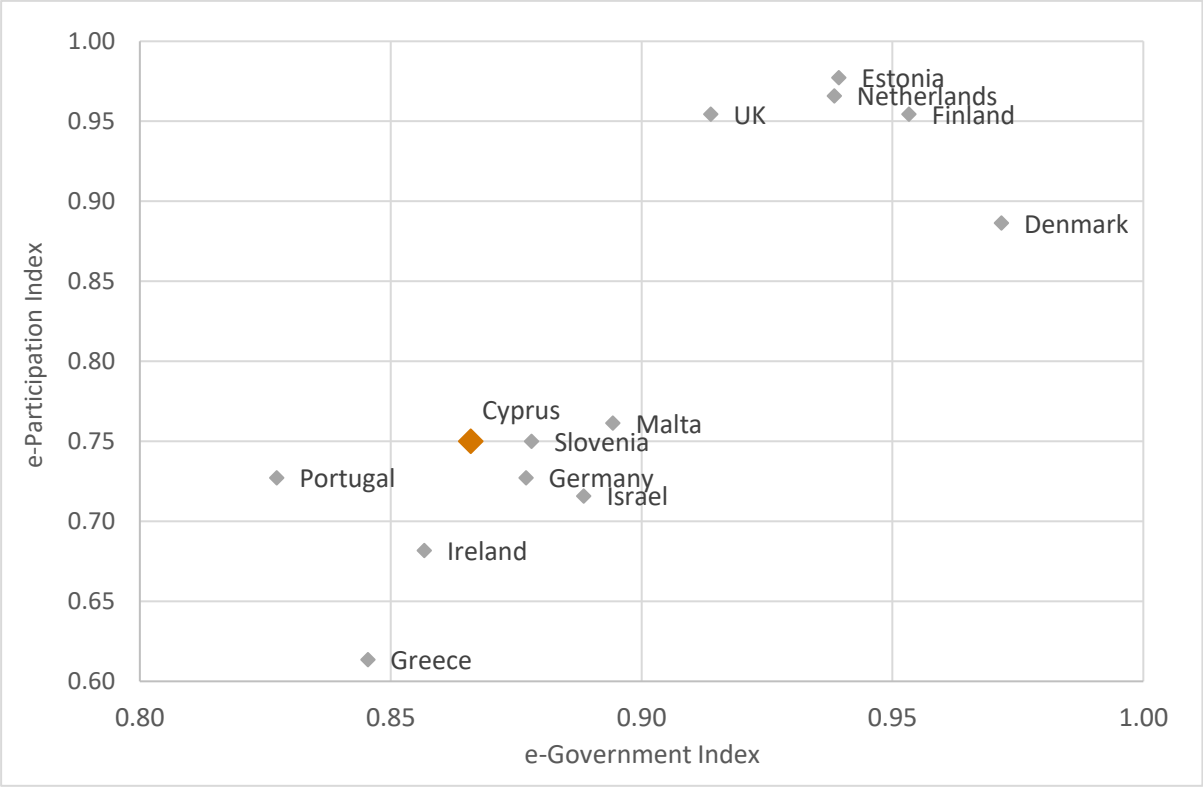
Source: World Bank, WGI: Voice and Accountability.

Figure 74 Civil service wage bill, 2008-2020



Source: World Bank, Worldwide Bureaucracy Indicators, Wage bills as percent of GDP

Figure 75 E-Government and E-Participation, 2022



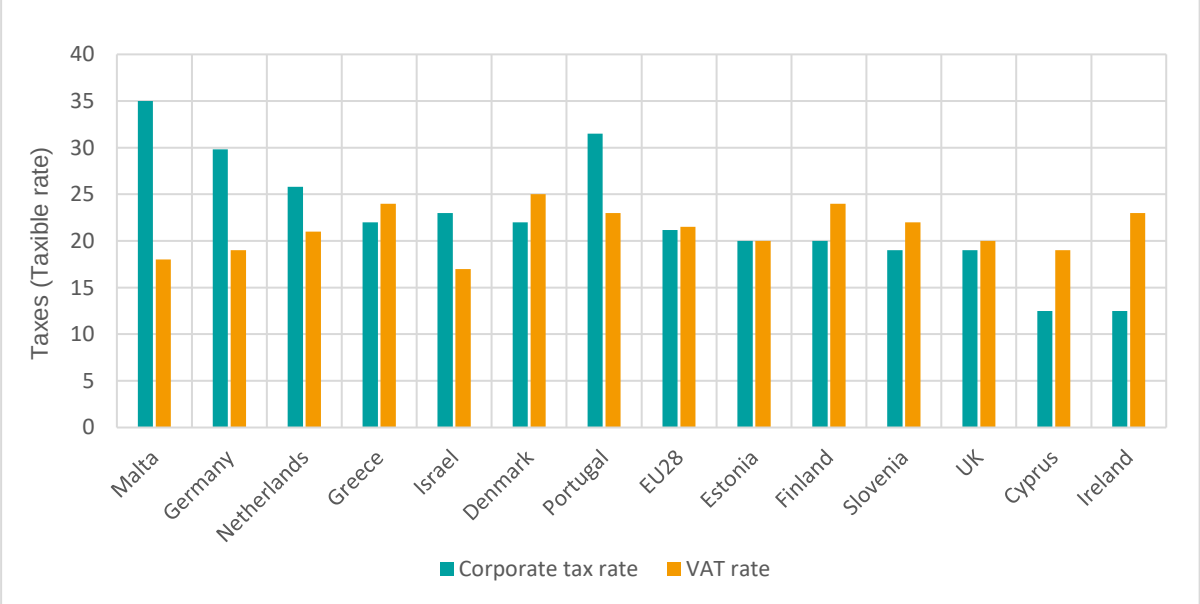
Source: United Nations, e-Government Survey 2022. EDGI and EPI.

Taxation

The tax environment in Cyprus is generally attractive. As shown in Figure 76 Cyprus and Ireland have significantly lower corporate tax rates than the other benchmark countries. The Cypriot value-added tax (VAT) rate is also relatively low at 19 percent, though variation in this rate is smaller.

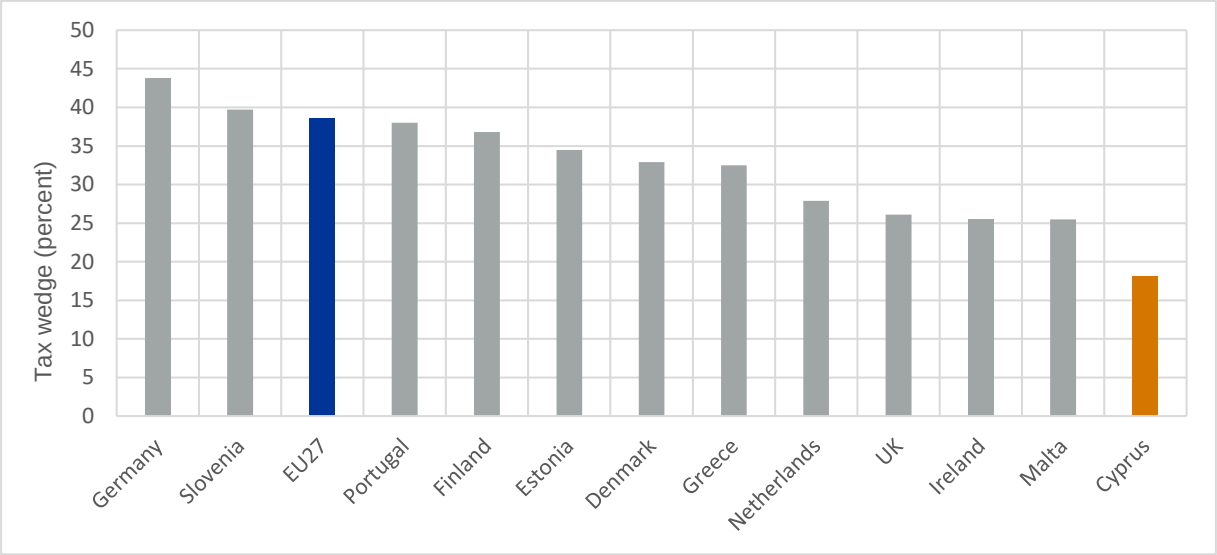
Figure 77 shows that the tax wedge on labour income in Cyprus is the lowest among the benchmark countries. A low tax regime, in combination with low wage rates and low non-wage costs for labour (see Figure 58) contributes to reducing the cost burden on businesses and enhances the attractiveness of Cyprus as an FDI destination.

Figure 76 Tax rates, 2022



Source: KPMG, Tax Tools 2023; European Commission DG Taxation and Customs Union, Taxation Trends in the European Union Report 2023; and Israel Ministry of Finance Tax Authority (retrieved from Trading Economics, 2023).

Figure 77 Tax wedge on labour, 2022

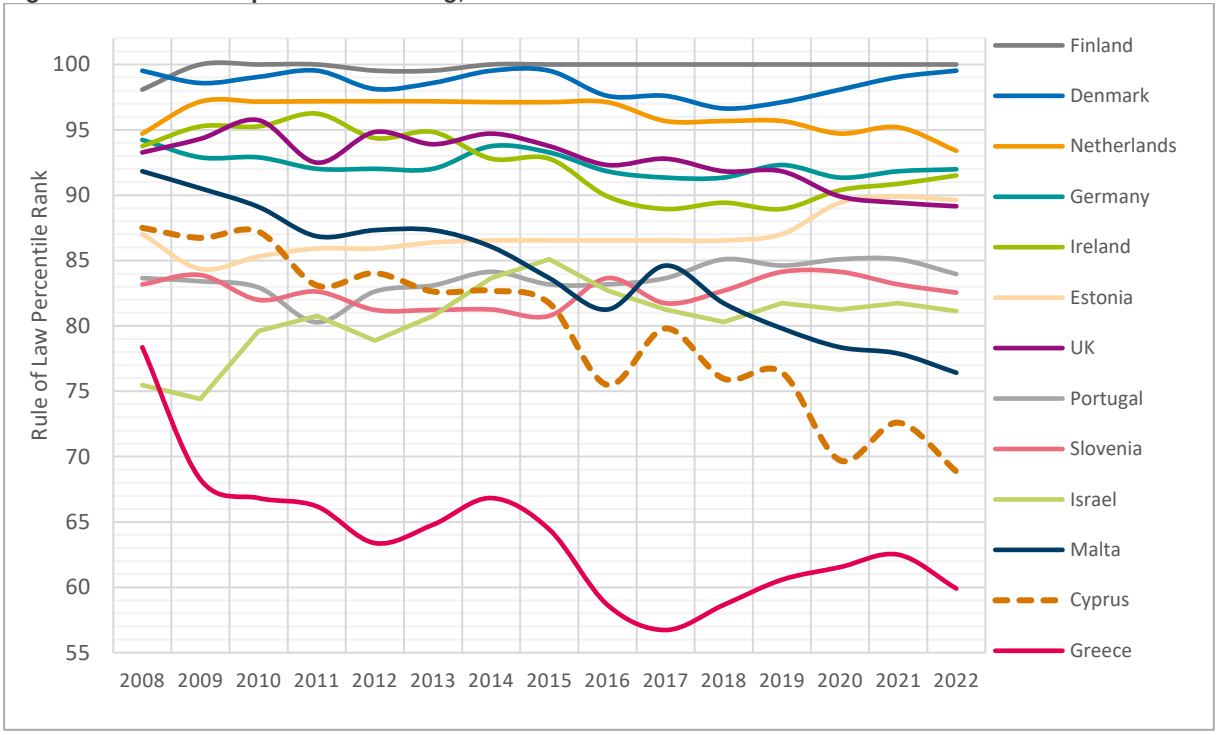


Notes: The tax wedge is defined as the percentage difference between the amount of taxes paid by an average worker (single, without children) and the total labour cost for the employer. For the UK, 2019 data have been used.
Source: Eurostat, Tax wedge on labour costs [earn_nt_taxwedge] and IMF (2022).

Justice

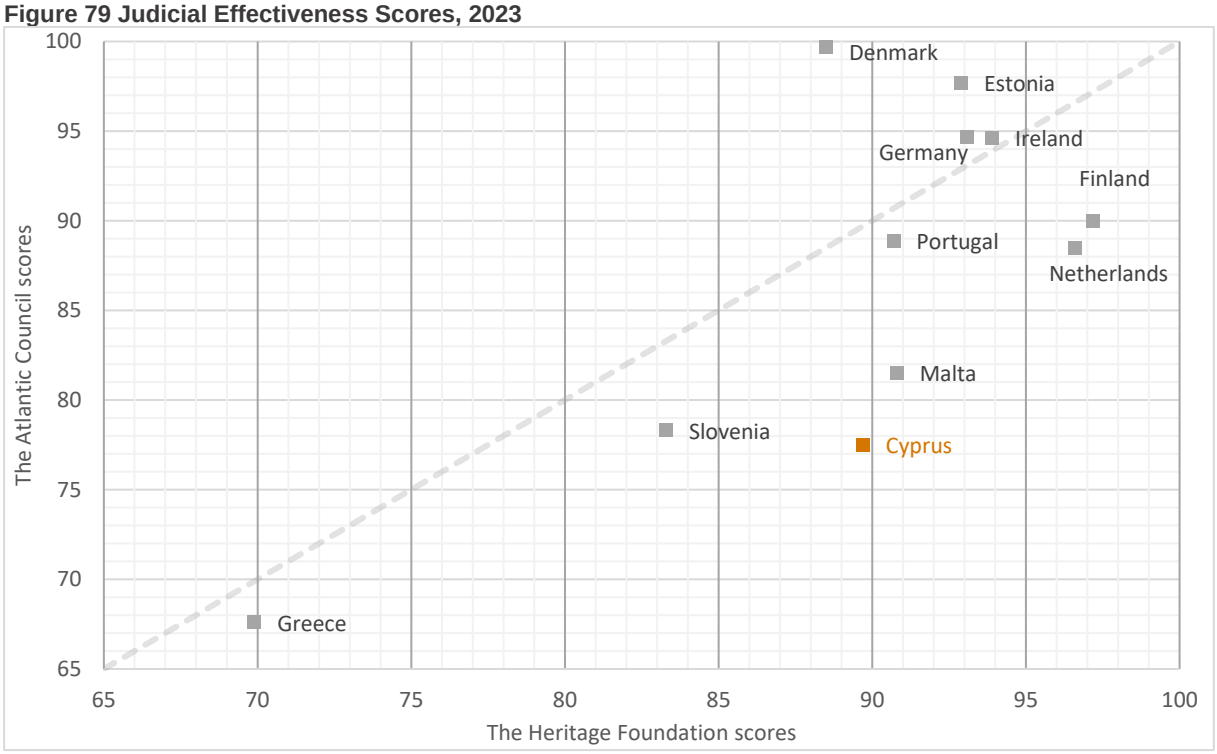
The efficiency, quality and independence of the justice system is an important contributor to the business environment. Several indicators suggest that Cyprus has significant room for improvement in this area. Figure 78 shows the percentile ranking of the benchmark countries in the "rule of law", a perceptions-based indicator encompassing several aspects of justice and the legal system. Cyprus ranks very low, only doing better than Greece. Even more worryingly, it is moving in the wrong direction, as the distance between Cyprus and the top performers is increasing.

Figure 78 Rule of law percentile ranking, 2008-2022



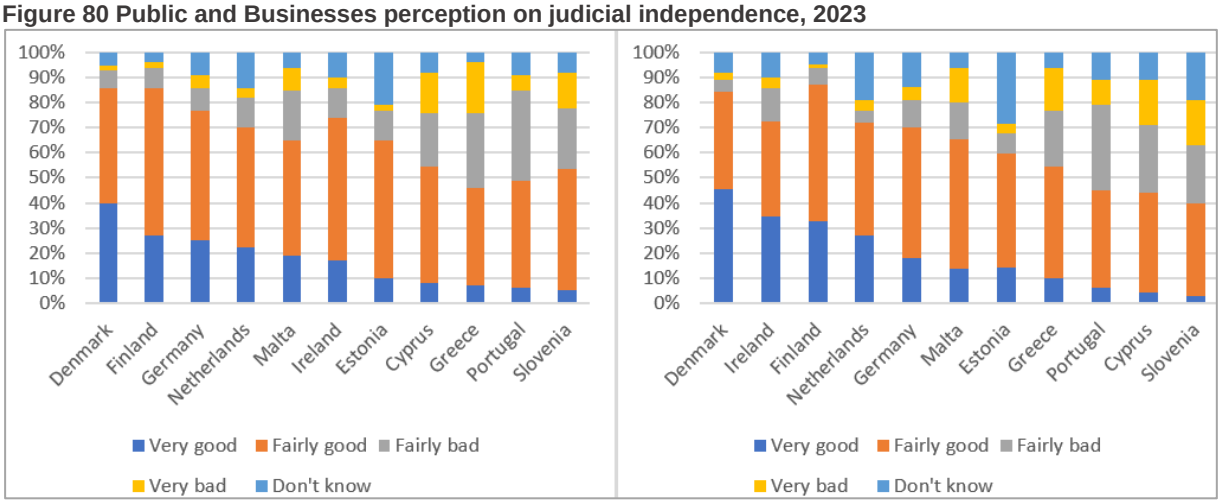
Notes: Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Percentile rank among all countries (ranges from 0 (lowest) to 100 (highest) rank).
Source: World Bank, Worldwide Governance Indicators (WGI).

Figure 79 Judicial Effectiveness Scores, 2023



Source: The Heritage Foundation; The Judicial Effectiveness Sub-index of the Economic Freedom Index (2023), The Atlantic Council; Judicial Effectiveness sub-index (2023)

Figure 80 Public and Businesses perception on judicial independence, 2023



Note: The countries are in descending order based on the percentage of "Very Good" perceptions.
Source: European Commission; Standard Eurobarometer Spring 2023.

Figure 79 displays Cyprus' position in two assessments of judicial effectiveness, one by the Atlantic Council and one by the Heritage Foundation. These measures are constructed by each organization from a variety of data. Cyprus looks slightly better in these indices. Its Heritage Foundation score is better than three countries and not too far below best practice. Its Atlantic Council score is lower, putting it in a group of laggards with Malta and Slovenia, but far above Greece.

Figure 80 provides Eurobarometer survey evidence on how the public (left side) and businesses (right side) assess the judiciary system on the effectiveness, quality, and autonomy of national justice systems, which are essential for enforcing EU law, promoting mutual trust, and sustaining long-term growth –principles of the EU.

There is substantial variation in perceptions across the benchmark countries. The proportion of companies giving their national courts and judges a "very good"

independence rating ranges from 3 percent in Slovenia to 46 percent in Denmark. Cyprus is close to Slovenia, with only 4 percent of companies providing a high rating. The perspective from the general public is somewhat more positive, with 8 percent of the population perceiving their country's justice system as very independent.

The survey also provides evidence on the reasons behind the responses. Across all countries, most companies attribute their positive assessment of national justice system independence to the status and position of judges, which sufficiently guarantees their autonomy. Conversely, the general public emphasizes that their positive perception of the justice system's independence arises from the absence of interference or pressure from economic or other specific interests. This holds true for all benchmark countries except Malta.

Efficiency is another important characteristic of any justice system. As the old adage goes, “justice delayed is justice denied”. The data suggest that Cyprus is doing poorly in this regard. Figure 81 shows that the time needed to resolve cases is between one and a half and three years on average, placing Cyprus among the worst performers. There is also a significant backlog of pending civil, commercial, administrative and other cases and Cyprus ranks last in this regard (Figure 82).

Figure 83 shows that Cyprus spends relatively less on the judicial system (as a share of GDP) and has relatively fewer judges based on its population size. In comparison to other benchmark countries, Cyprus has adopted the fewest ICT tools within its justice system, as indicated in Figure 84. This limited utilization of technology has a detrimental impact on the system's operational efficiency.

One principal cause of delays and backlogs, which has hampered the effectiveness of measures taken by the Government to reinforce the judicial system, is the increase in the workload of the courts due to the global financial and economic crisis and the domestic fiscal and banking crisis. Since 2010, there has been a sharp increase in the number of civil cases filed, including appeals, related mostly to the financial sector. These cases are complex and do not lend themselves to speedy disposition.

The issues facing the judicial system have been recognised by the government, with justice being identified as a priority area for reforms. A functional review of the court system has already marked-out several areas for reform, providing recommendations on management structure, case management, judicial time management, judicial training, and alternative dispute resolution procedures. The measures being taken are outlined in the Box below.

Cyprus Judiciary Reform: Overview of Recent Legislative Changes

The Cyprus House of Representatives Plenary recently approved seven laws to align existing legislation with a new legal framework, effective from July 1, 2023. The reform introduces an Appellate Court that handles appeals from all courts except the Supreme Constitutional Court. The laws outline the Appellate Court's specific jurisdiction, including appeals against decisions from the Administrative Court, Rent Control Court, Commercial Court, and Admiralty Court.

One law aims at regulating apprentice lawyers' participation before the Supreme Constitutional Appellate Court. It also assigns the Appellate Court to handle appeals against decisions from the Cyprus Bar Association's Disciplinary Board.

Another law extends the Effective Remedies for Violation of the Right to a Timely Hearing Law to cover cases at the Supreme Constitutional Appellate Court. It also designates the Administrative Court, not the Supreme Court, for cases involving the promotion of public servants.

Amendments relevant to the Judicial and Public Administration Reform that already are in effect are the introduction of a fully-fledged e-Justice system for the filling and management of all new Court

cases and the constant development of the e-interface of the Public Administration services.

As of September 1st, 2023, Cyprus implemented new Civil Procedure Rules (CPR), which apply to all cases filed after that date. The new rules are based on the English CPR due to the shared legal culture and the necessity for a streamlined, efficient procedure. They aim to simplify court procedures, making them more accessible to the public through practical language, modern technology, and judge-led case management.

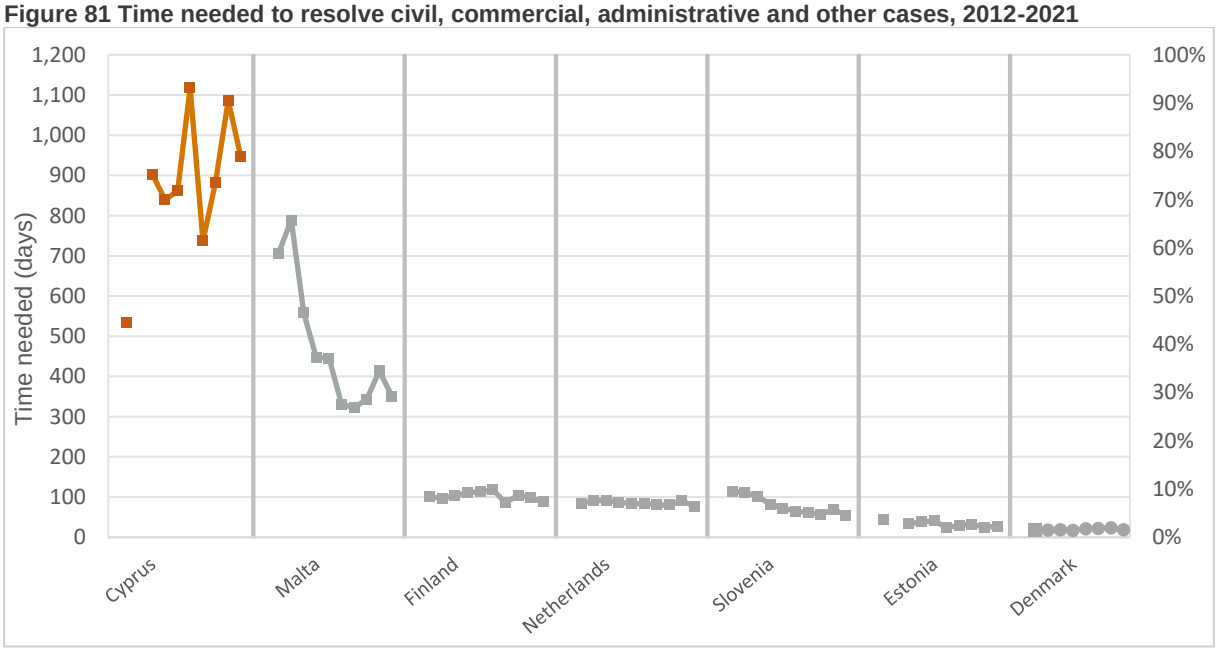
Description: Clearance rate

The clearance rate is the ratio of the number of resolved cases over the number of incoming cases. It measures whether a court is keeping up with its incoming caseload. When the clearance rate is about 100 percent or higher, it means the judicial system can resolve at least as many cases as new cases enter the system.

Description: Availability of ICT for case management

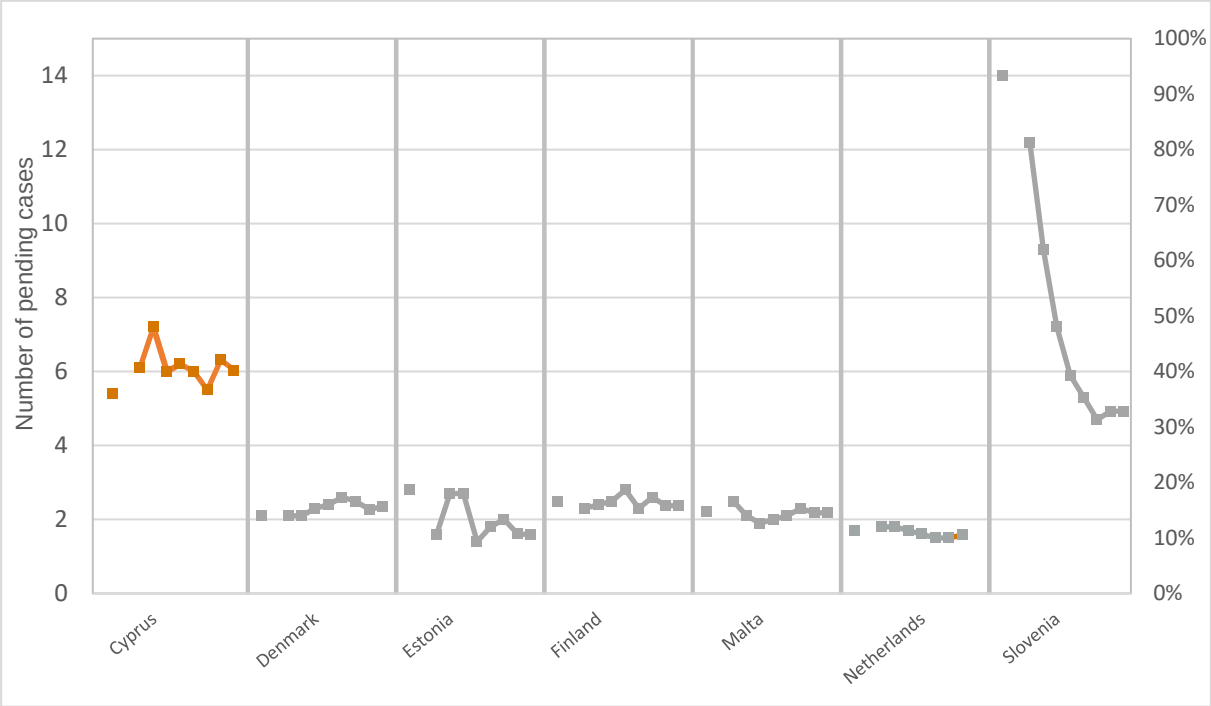
Availability of ICT for case management is assessed using the EU Justice Score methodology, and calculated as follows: equipment rate from 100 percent (device completely deployed) to 0 percent (device non-existing) indicates the functional presence in courts of the device covered by the graph, according to the following scale: 100 percent = 4 points if applicable to all matters / 1.33 points per specific matter; 50-99 percent = 3 points if applicable to all matters / 1 point per specific matter; 10-49 percent = 2 points if applicable to all matters / 0.66 point per specific matter; 1-9 percent = 1 point if applicable to all matters / 0.33 points per specific matter.
Source: 2021 EU Justice Scoreboard.

Figure 81 Time needed to resolve civil, commercial, administrative and other cases, 2012-2021



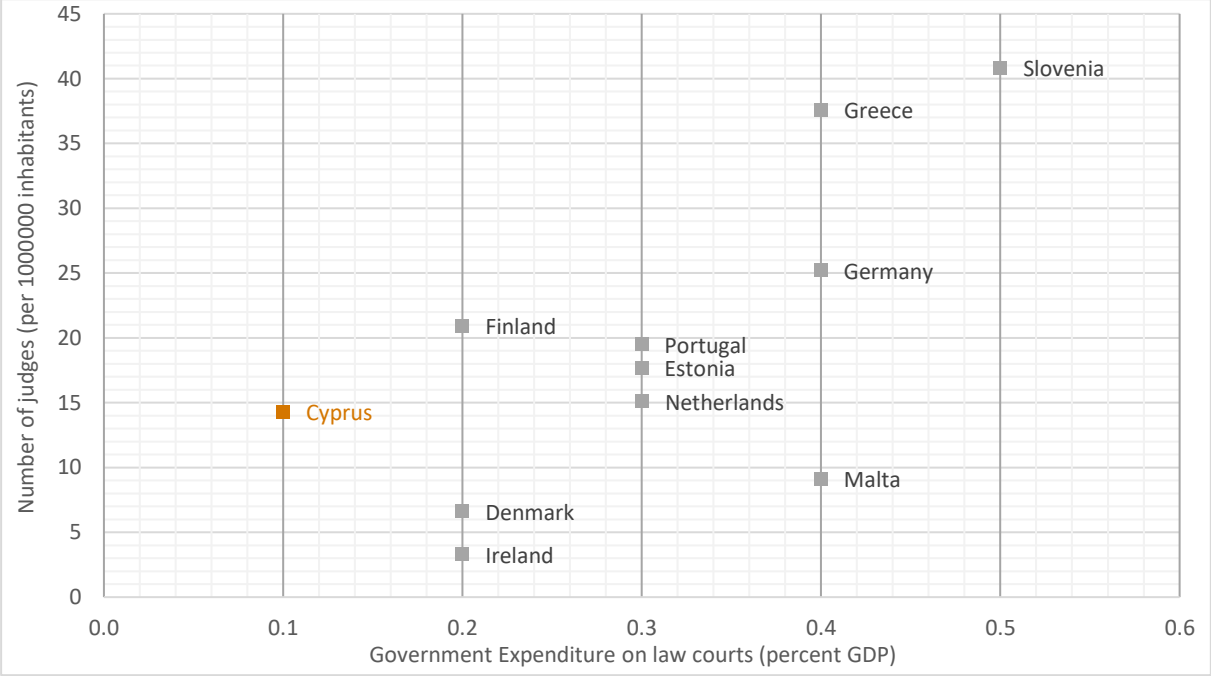
Notes: No data available for Ireland, Israel, UK, Portugal, Greece and Germany.
Source: European Commission for the Efficiency of Justice (CEPEJ) (2023).

Figure 82 Number of pending civil, commercial, and administrative and other cases, 2012-2021



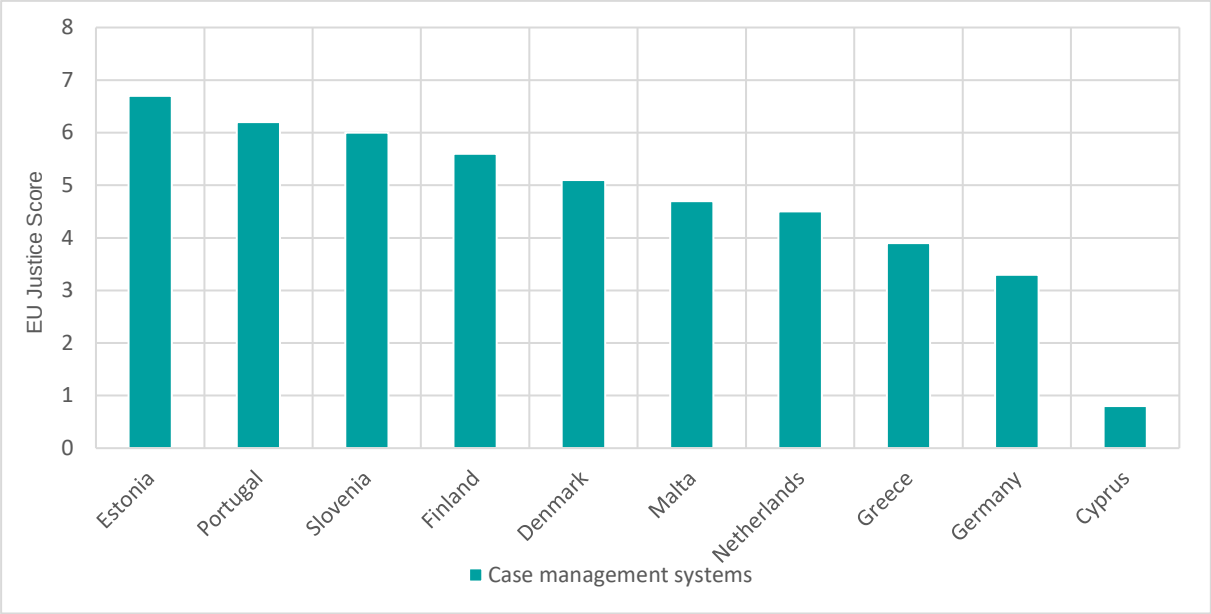
Notes: Number given is per 100 inhabitants. No data available for UK, Portugal, Israel, Ireland, Greece and Germany.
Source: European Commission for the Efficiency of Justice (CEPEJ) (2023).

Figure 83 Expenditure on law courts and number of judges, 2021



Source: Eurostat, General government expenditure by function [gov_10a_exp]; and European Commission for the Efficiency of Justice (CEPEJ) (2023).

Figure 84 Availability of ICT for case management, 2020



Notes: Cyprus scores an extremely low 0.8 on the EU Justice Score, indicating that very few ICT tools are used in case management.

Source: European Commission for the Efficiency of Justice (CEPEJ) (2022). Study on the functioning of judicial systems in the EU Member States, questionnaire 2012-2020

6.3 Industry structure, specialisation & organisation

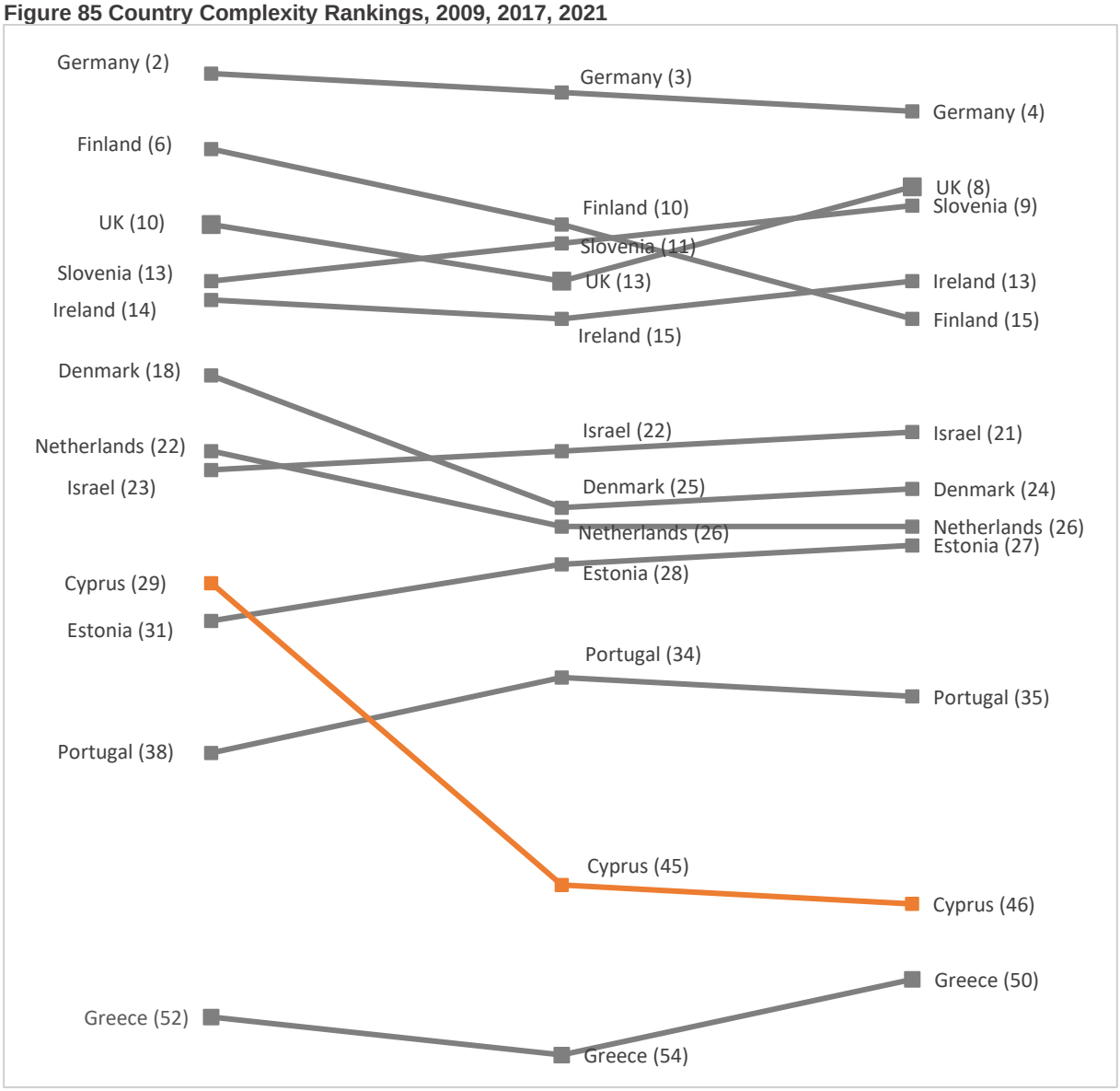
Industry structure, specialisation and organisation refers to the structure of the economy, the goods and services it produces, and how specialised or diversified the economy is. This theme also covers how production is organised, for example, how value chains or clusters are structured and whether intermediate inputs are sourced domestically. Comparative information on the economic structure of the benchmark countries is provided in Section 4.2.

Country Complexity Rankings

Economic development requires the accumulation of productive knowledge and its use in more industries and in complex industries. To assess the state of a country's productive knowledge, Harvard's Growth Lab has developed the Economic Complexity Index (ECI), a measure of the diversity and complexity of a country's exports. Economic complexity can serve as a powerful indicator, reflecting the diversity and sophistication of a nation's productive capacities inherent in its exports.

Figure 85 displays the Country Complexity Rankings of all benchmark countries at three points in time. In 2021, Cyprus ranked 46th out of 133 countries and is below all benchmark countries except Greece. Compared to more than a decade prior, Cyprus economy has become less complex, dropping 17 positions in the ECI ranking. This can be attributed to a lack of diversification of exports. Moving forward, Cyprus would do well to take advantage of a moderate number of opportunities to diversify its production using its existing knowhow. It is worth noting that Cyprus's economic complexity slightly falls short of expectations given its income level.

Figure 85 Country Complexity Rankings, 2009, 2017, 2021



Source: Harvard University, Growth lab; Country and Product Complexity Rankings.

6.4 Firm characteristics, dynamism & sophistication

Firm characteristics, dynamism & sophistication refers to the size and structure of firms, enterprise dynamism (such as new business creation and presence of high-growth enterprises)[12], the extent of entrepreneurship and entrepreneurial attitudes, and the sophistication of businesses and management quality. These attributes, which represent the overall industrial tissue of the economy, are important determinants of the competitiveness of firms, sectors and the economy as a whole. They are shaped, however, by other competitiveness factors such as the business environment, market conditions and business-supporting infrastructure, such as financial markets.

As described in Section 3.1, small and medium-sized enterprises (less than 250 employees) dominate the economy. More employees work in micro enterprises with

[12] For Cyprus, data on firm creation and survival as well as high growth firms are only available up until 2015. As this was still an exceptional year for Cyprus, shortly after the banking crisis, this data is unlikely to provide an accurate assessment of the situation today.

less than 10 employees. The share of employment for these micro enterprises account for 45 percent in the whole economy. Cyprus also has a low share of employment in large enterprises (250 or more employees), although the underlying data exclude financial services, which are important for Cyprus. The presence of large enterprises matters because they can serve as important anchors by creating demand for intermediate inputs. They can also more readily export and enter new markets, showing the path for smaller companies. Finally, they quickly develop new technologies through more formalised innovation activities.

Entrepreneurship

Entrepreneurship is a key element of a dynamic and vibrant economy. The Global Entrepreneurship Monitor (GEM) is an organization that reports on entrepreneurial activity in participating countries. GEM defines the entrepreneurial context of a particular economy in terms of 13 different characteristics, labelled the Entrepreneurship Framework Conditions (EFCs). Each country is assessed on the 13 EFCs by a group of experts. Higher scores are indicative of a conducive environment for business growth, aiding the transition from new to established businesses.

Figure 86 provides a visual representation of expert ratings for six benchmark countries featured in the 2022/2023 GEM report. This assessment reveals a nuanced landscape, with economies excelling in certain EFCs while lagging in others. Cyprus displays a diverse range of EFC performance. It does well in Government Policy: Support and Relevance, securing a place in the top 20 among the 51 economies. Conversely, Cyprus places in the bottom ten in Entrepreneurial Finance, Government Entrepreneurial Programs, and Physical Infrastructure.

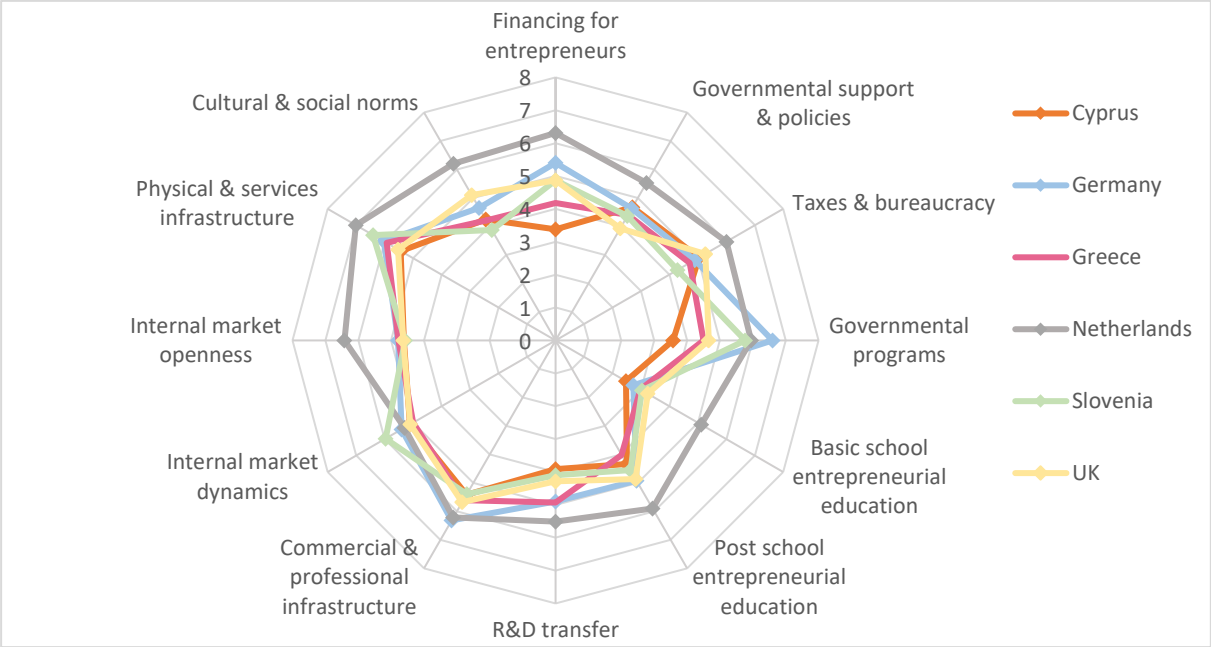
In 2018, GEM introduced the National Entrepreneurship Context Index (NECI) to address the challenge of assessing global entrepreneurial opportunities and comparing economic competitiveness. This index is a simple sum of the 13 EFCs to produce a single-valued indicator. Cyprus' overall entrepreneurial environment showed modest progress in 2022 compared to 2021, as indicated by an increase in its NECI score from 4.2 to 4.3. This improvement in performance elevates Cyprus's ranking among GEM economies from 37th to 33rd, underscoring the nation's commitment to enhancing its entrepreneurial ecosystem.

Description: National Entrepreneurship Context Index (NECI)

The NECI score spans from 0 to 10, with values exceeding 5 indicating a more favourable entrepreneurial environment with adequate framework conditions.

The government introduced its “Action Plan 2022” to attract businesses in key sectors including technology, shipping, biogenetics, and biotechnology.

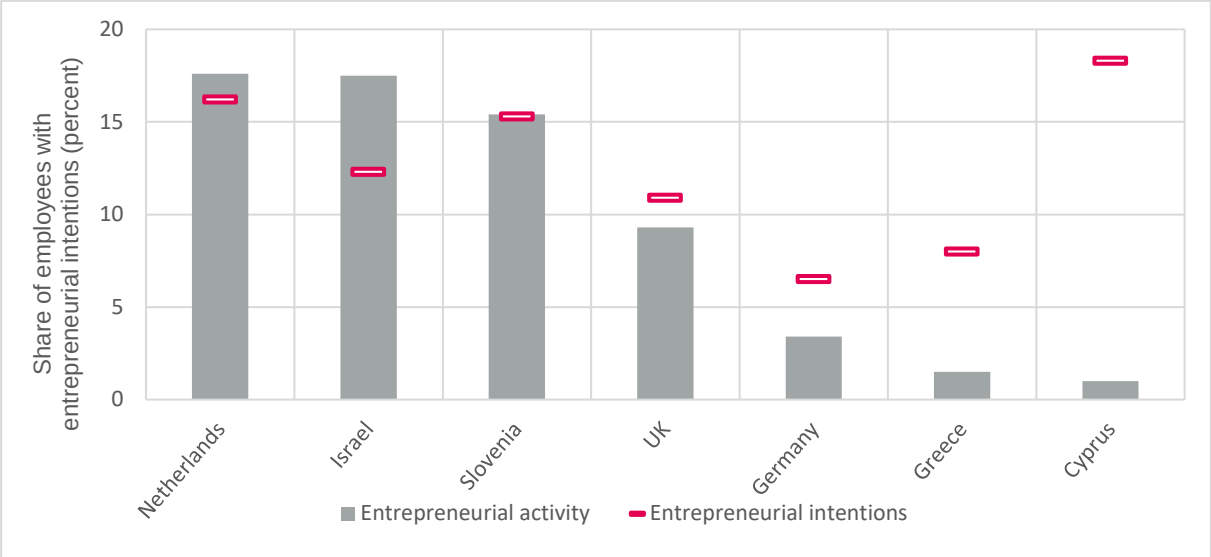
Figure 86 Rankings of Entrepreneurial Framework Conditions 2022/2023



Notes: A total of 51 countries are assessed in this report, including 6 of the benchmark countries.
Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor Global Report 2023-2022.

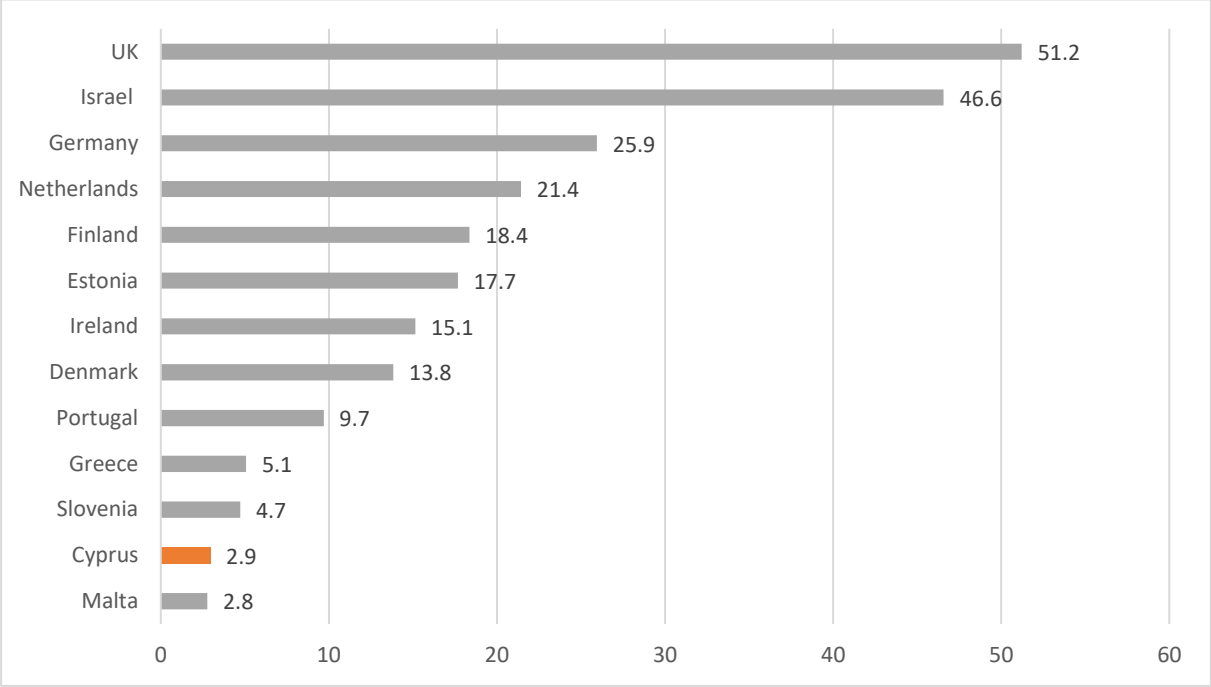
Figure 87 shows survey results on participation in entrepreneurial activities and on entrepreneurial intentions. Cyprus is last in the proportion of employees engaging in entrepreneurial activities such as developing new products or setting up new business units within their own firms. By contrast, Cyprus ranks first in the number of individuals reporting an intention to start a new business within the next three years. This striking contrast suggests that constraints on entrepreneurship within firms exist but, conversely, individuals have a considerable appetite to engage in entrepreneurial activities. Cyprus' performance in entrepreneurship is in line with the EU average, having improved since the last reference period (2018). However, the country lacks specific support measures and matching schemes to ensure successful business transfers. The fear of failure in Cyprus is again among the highest in the EU, having increased by 20 percentage points since 2015 (55 percent compared to EU of 44 percent – European Commission, 2019a.

Figure 87 Entrepreneurial activities and intentions, 2022



Notes: Entrepreneurial activity measured by the percentage of employees participating in entrepreneurial activities for their intentions measured by the percentage the population aged 16-64 planning the start a new business, including any type of self-employment, within the next three years' employer, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary. Recent data not available for Denmark, Finland, Ireland, Malta and Portugal. Data for EEA has been taken from the 2021-2022 GEM report as that specific question isn't asked in the GEM 2023-2022.
Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor Global Report 2021-2022 & 2023-2022.

Figure 88 The Global Startup Ecosystem Index, 2023



Source: Startup Blink; The Global Startup Ecosystem Index, 2023

The Global Startup Ecosystem Index is a new tool that ranks the startup ecosystems in 1,000 cities and 100 countries. Each ecosystem has a total score, which is the sum of three sub-scores measuring quantity, quality, and business environment. The total score is not only used as a mechanism for sorting and ranking ecosystems, but also provides insights into the score gaps between ecosystems. The positions of Cyprus and the benchmark countries are depicted in Figure 88. Cyprus is near the bottom of the group, just above Malta.

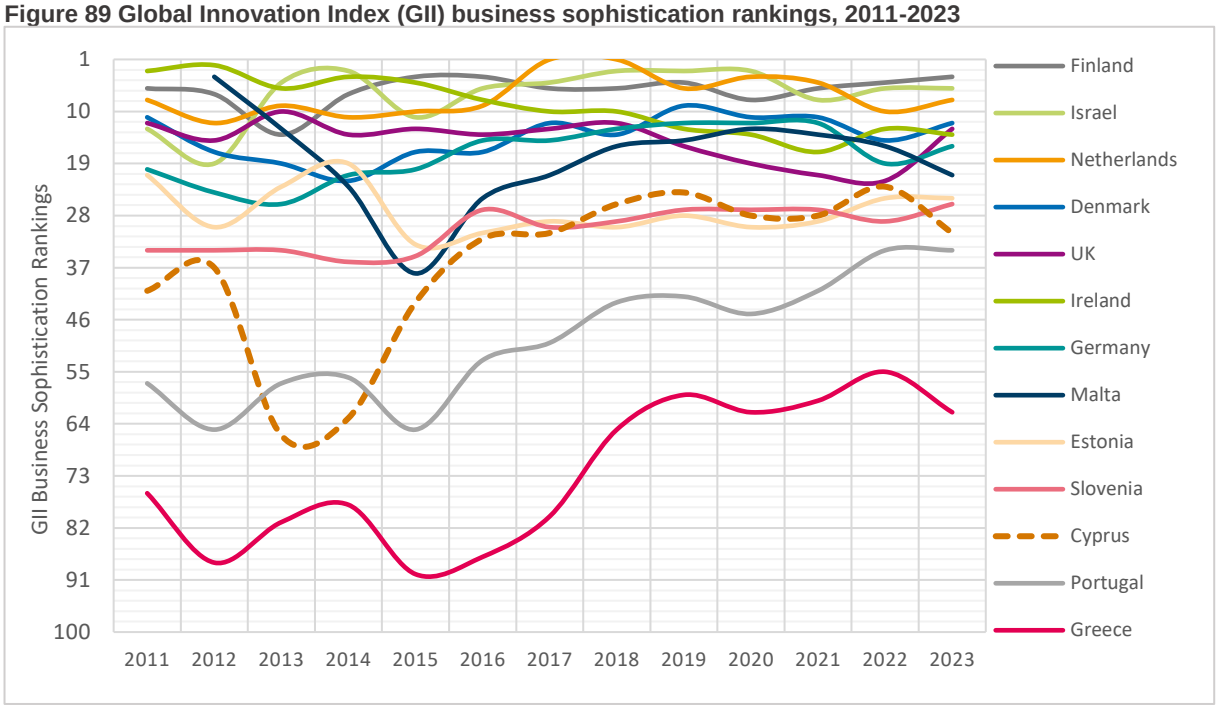
The report concludes that Cyprus has a modern, service-based economy with a strong talent pool, displaying one of the EU's highest graduate-per-capita ratios. However, it has

been relatively unnoticed in the startup arena due to funding challenges and a lack of success stories, affecting local entrepreneurial motivation. To address this, the government has introduced initiatives such as tax incentives, a startup visa, and funding options. Leveraging its untapped startup potential, Cyprus is seeing growth in accelerators, incubators, and research institutions working on innovative projects. To further boost entrepreneurship and its global startup presence, the government should promote venture capital funds and support startup culture.

Business Sophistication

Figure 89 reports the business sophistication rankings from the Global Innovation Index (GII). The business sophistication indicator aims to assess how conducive firms are for innovation in promoting activities. Cyprus has shown some improvement since 2017 in terms of business dynamism, as its ranking went from 31st to 23rd in 2022, and was doing better than Estonia, Slovenia, Portugal, and Greece. However, this gain was reversed in 2023 as Cyprus slid back to 31st place.

Figure 89 Global Innovation Index (GII) business sophistication rankings, 2011-2023



Source: Cornell University, INSEAD, and WIPO (2023), The Global Innovation Index 2021-2023.

Figure 90 presents gross fixed capital formation (GFCF) by the business sector as a fraction of GDP. Business investment in Cyprus is low. It declined from 10 to 6 percent between 2008 and 2015. It jumped in 2016 and 2017 but this was a temporary blip related to the transport sector, as discussed in relation with Figure 20. It has been around 8 percent in the last few years, much lower than the 12-15 percent that most benchmark countries invest. Greece is an exception at the bottom and Ireland is an extreme outlier at the other end thanks to investments by US tech companies.

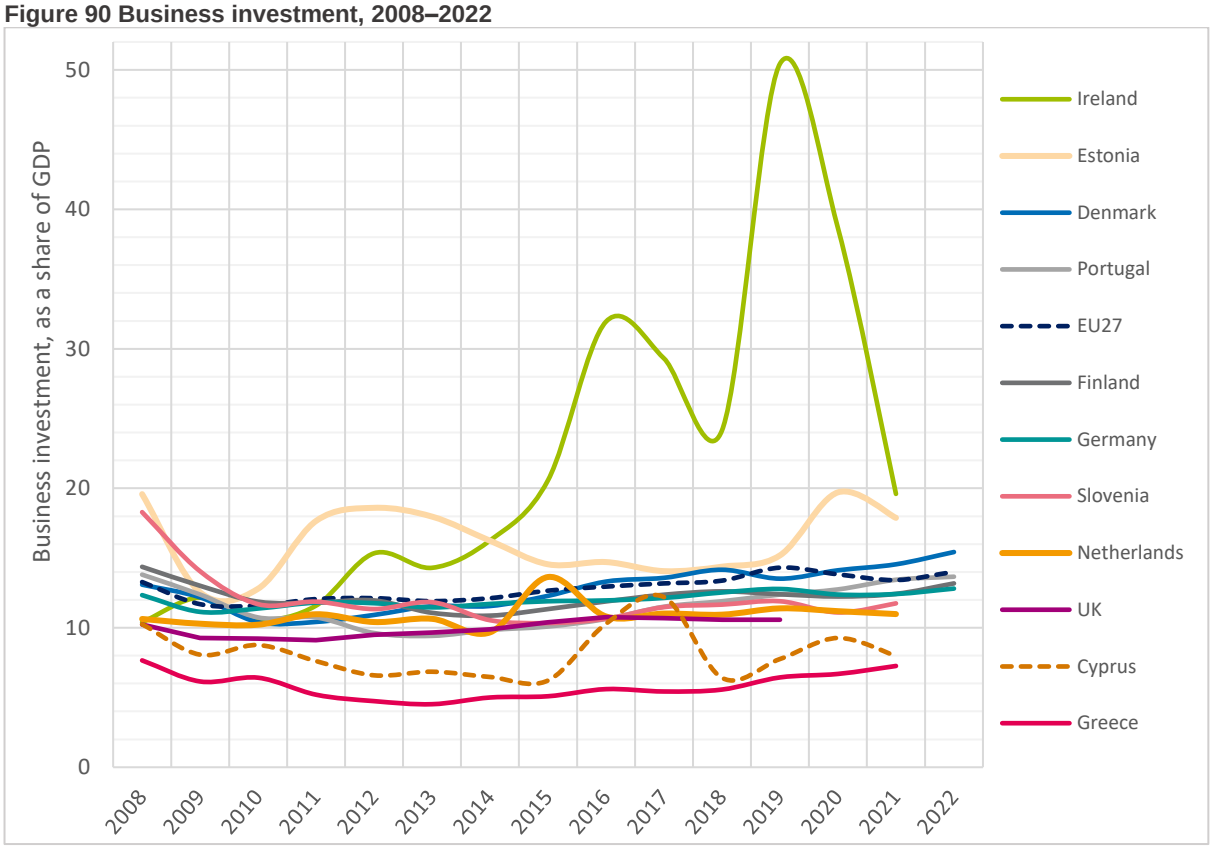
Figure 91 shows the allocation of investments across various asset categories. Estonia and Cyprus stand out in allocating almost a quarter of their business investment to land, business buildings and infrastructure.

Cyprus has the largest allocation to training of employees. This comes at the expense of investment in R&D (which is the lowest among the benchmark countries) and to machinery & equipment and organization and improvements in business processes (one of the lowest). Overall investment in intangible assets (R&D, software, training and business

processes) accounted for about 33 percent of investment, which is not too far below the EU average of 37 percent. Overall, not only does Cyprus invest less than other countries, but it also directs less of its investments in productivity - enhancing activities like R&D, software, and machinery & equipment.

Finally, Figure 92 shows investment intensity, that is, total investment per employee. The figure reaffirms Cyprus' weak investment performance, as it is positioned towards the bottom of the group, only doing better than Malta.

Figure 90 Business investment, 2008–2022



Note: Data not available for 2022 for Cyprus, Greece, Estonia, Ireland Netherlands, Slovenia. Data for the UK is available only until 2019. Data for Malta and Israel is not available for any time period.

Source: Eurostat, Investment share of GDP by institutional sectors [sdg_08_11].

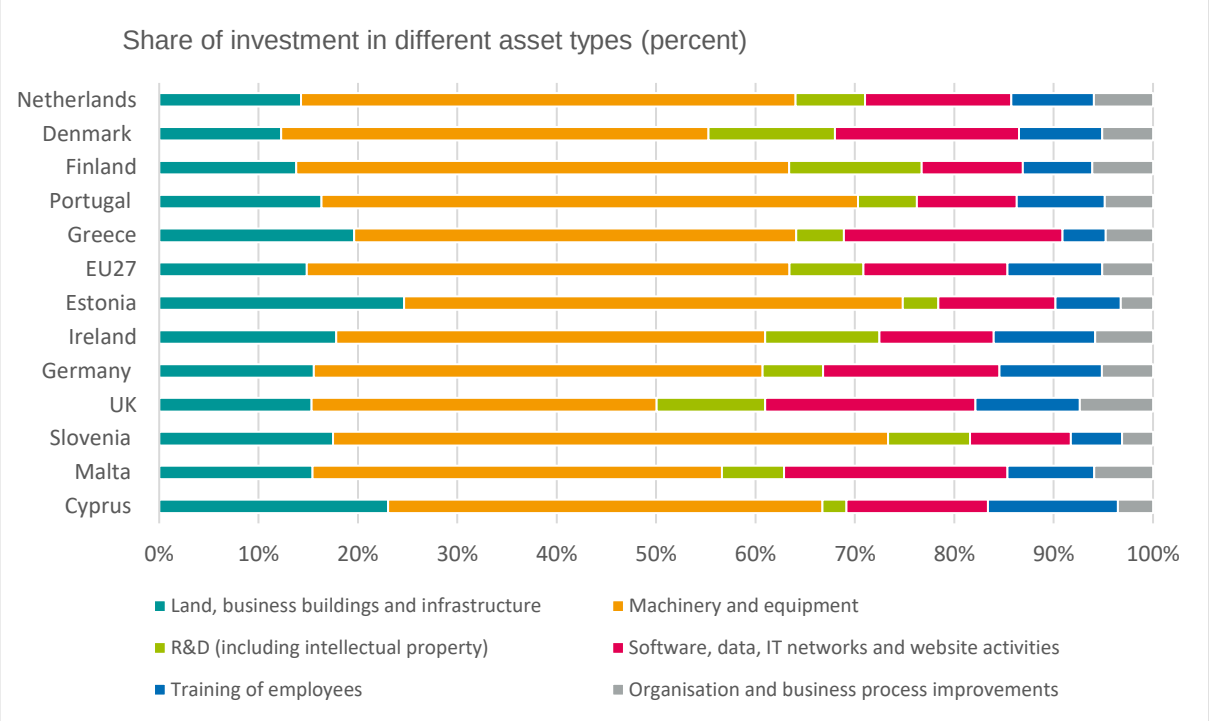
Description: Intangible assets

There are various definitions of intangible assets but generally they are considered to cover assets created through innovation and discovery, assets embedded in organisational practices (also including investments in customer satisfaction, product quality and brand reputation), and assets related to human capital. Intangible assets cover, for example, investment in R&D, innovation and technology development, training/education of workers, internal organisation structures, customer and institutional networks, market exploration and development (marketing), and software and information technology.

It has long been recognised that intangible investment, such as, for example, R&D or software, are important for understanding productivity, competitiveness, and economic growth. National accounts definitions have increasingly recognised this importance, with the asset category of 'intellectual property products' currently comprising items such as R&D, mineral exploration, computer software and databases, entertainment, literary and artistic originals.

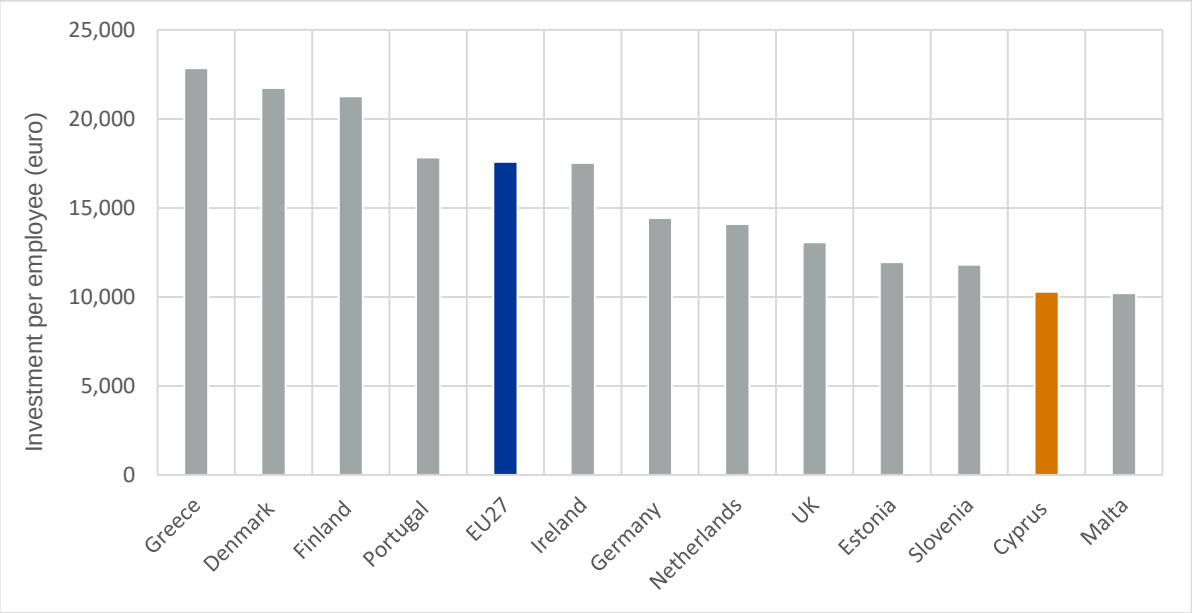
Source: Thum-Thysen et al. (2017).

Figure 91 Investment by asset type, 2022



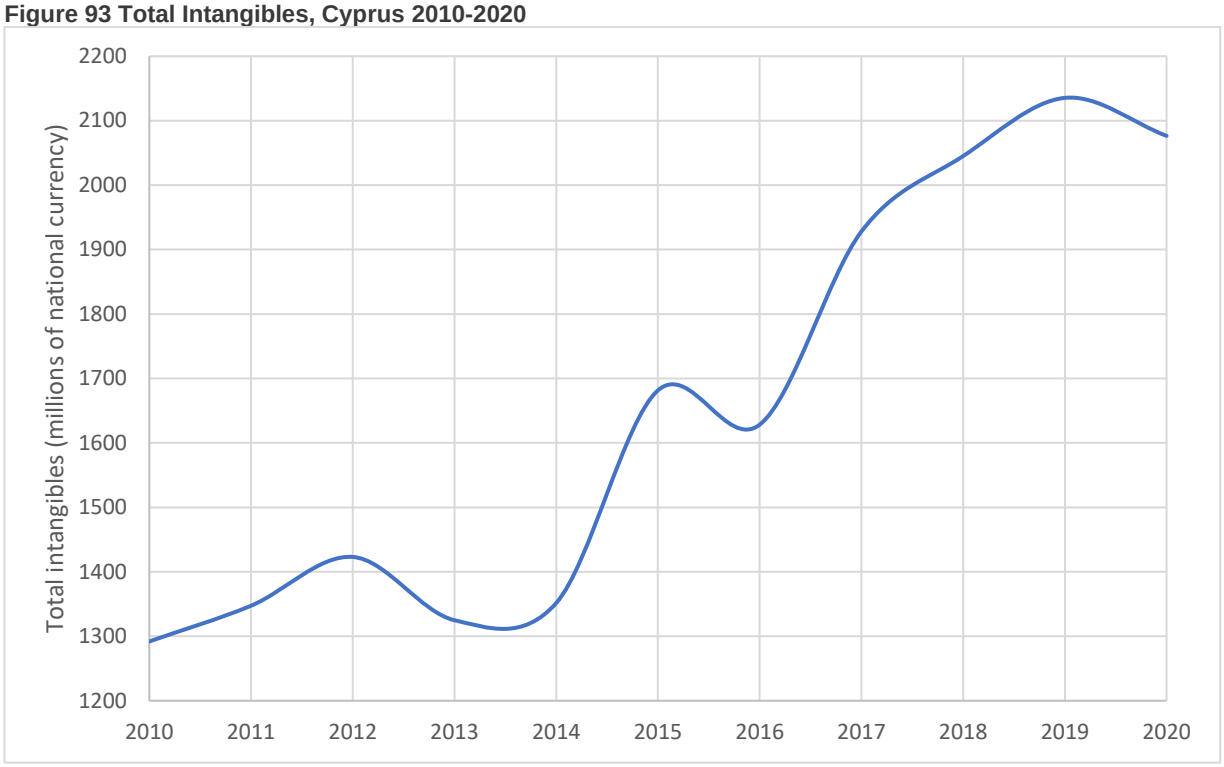
Note: No data available for Israel. 2021 data for the UK has been used.
Source: EIB Investment Survey, Investment Activity: Average share of investment in different asset types, 2022.

Figure 92 Investment intensity, 2022



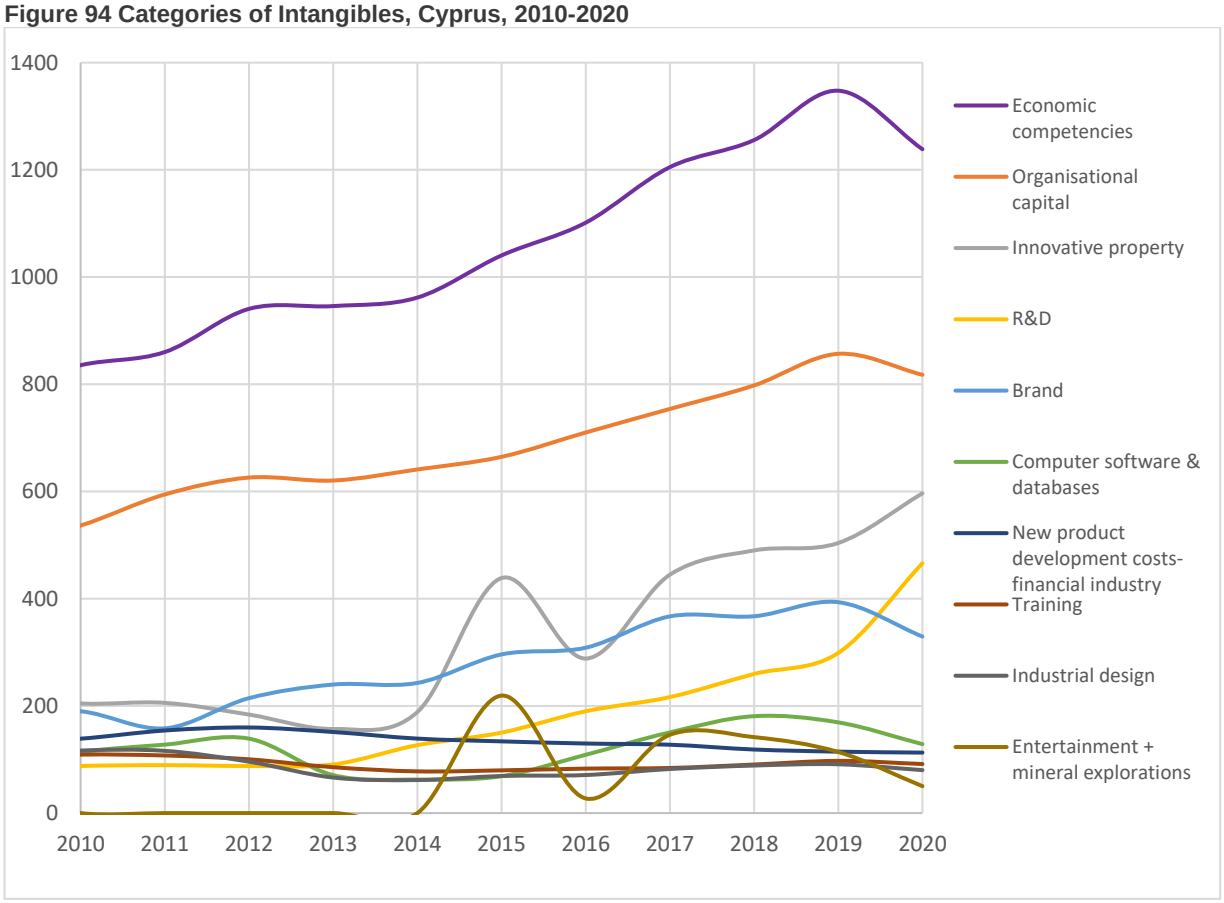
Note: No data available for Israel. 2021 data for the UK has been used.
Source: EIB Investment Survey, Investment intensity: Total investment per employee, 2022

Figure 93 Total Intangibles, Cyprus 2010-2020



Source: EUKLEMS & INTANProd database, Luiss Lab of European Economics.

Figure 94 Categories of Intangibles, Cyprus, 2010-2020



Source: EUKLEMS & INTANProd database, Luiss Lab of European Economics.

An increasing number of studies have shifted their focus towards intangible assets, recognizing their pivotal role in driving economic growth within the contemporary global and digital economy (European Commission, 2017)[13]. Thus, we take a deeper look at Cyprus's investments in total intangibles (Figure 93) and by specific categories (Figure 94). The data reveal a consistent upward trajectory from 2010 to 2020, indicating steady growth, with certain categories showing more rapid increases compared to others.

Intangible assets can be categorized into two groups: those already officially classified as investments in national accounts (such as software, R&D, mineral exploration, and entertainment and artistic originals), and those that are not traditionally considered as investments (including brands, organizational capital, design, and training). As of 2020, the most prominent categories in terms of intangible assets investments were 'Economic Competencies,' 'Organisational Capital,' and 'Innovative Property.' Conversely, the categories with the lowest level of investment were 'Training,' 'Industrial Design,' and 'Entertainment & Mineral Exploration.' Increases in investment are observed in most categories except in industrial design, training and new product development costs in the financial industry in which investment remains stable throughout the years.

Additionally, in 2019 a drop is observed in the brand and computer and software databases categories. The overall positive trajectory of investments in intangible assets is a plus that Cyprus can build on in order to shift more investment into productivity-enhancing sectors.

[13] European Commission: Eurostat review on National Accounts, 2017.

7 Benchmark of input factor competitiveness drivers

Input factor competitiveness drivers are those factors that directly feed into the production and value-creation processes of enterprises. These are grouped into four themes: human capital; technology, innovation, and knowledge; financial infrastructure; and productive and physical infrastructure.

Human capital refers to the availability and quality of the workforce. Technology, innovation, and knowledge refers to public investments into technology and innovation, the knowledge infrastructure, and the technological and innovation characteristics of firms. It reflects the importance of technological breakthroughs and technology-based innovations as the basis of many productivity gains. Financial infrastructure covers the institutions that provide access to finance and financial services. Productive and physical infrastructure refers to infrastructure such as transportation, utilities, or/and telecommunications.

7.1 Human capital

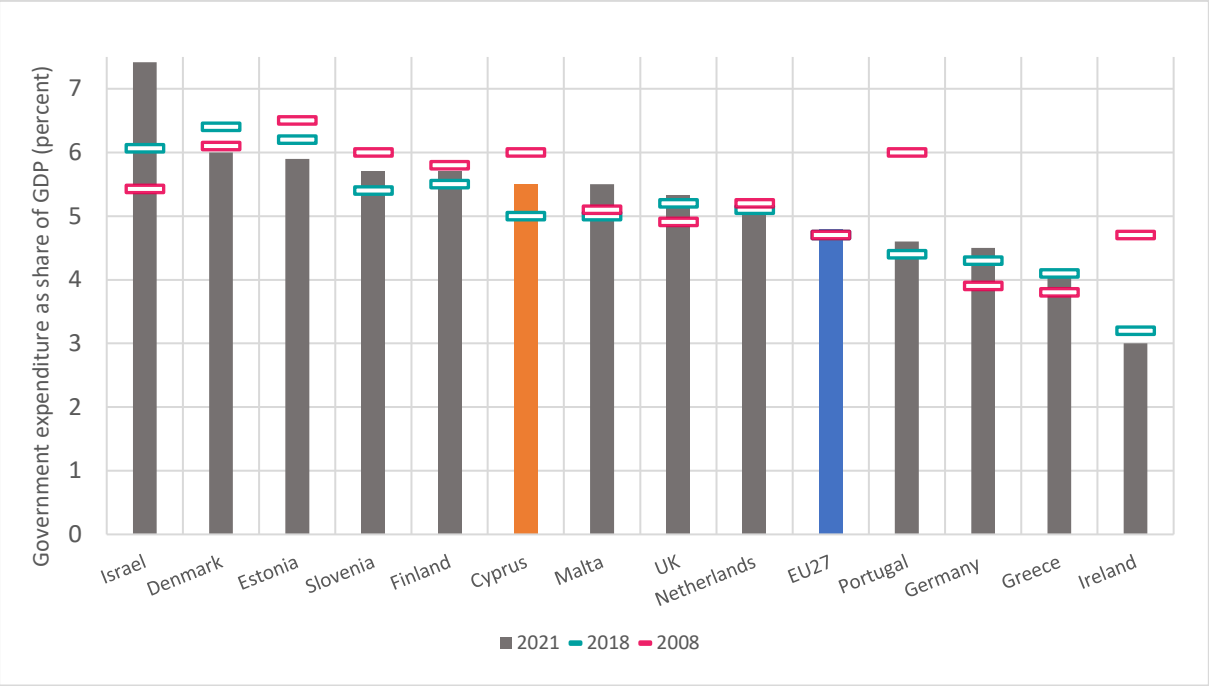
Human capital refers to the availability and quality of the workforce. It reflects the skills, competences and other attributes embodied in workers—individually or collectively—that are used to produce goods, services, and ideas. Human capital is described through indicators that capture the provision of education, educational attainment and outcomes, and the availability and quality of specific skills.

Education System

Figure 95 shows government expenditures in education in relation to GDP. In 2021, Cyprus allocated 5.5 percent of its GDP towards education, surpassing the EU27 average of 4.8 percent and ranking sixth among benchmark countries in terms of public spending on education. Cyprus tops the tables when it comes to private spending, as shown in Figure 96. Private spending on education in Cyprus is by far the highest at 2 percent of GDP in 2022. The next highest countries in 2022 are Greece at 1.5 percent, Malta at 1.1 percent and Portugal at 1.0 percent. The EU27 average is just 0.4 percent. Cyprus is also the only country where private spending is increasing. Putting public and private spending together, Cyprus ranks first with 7.7 percent of GDP spent on education.

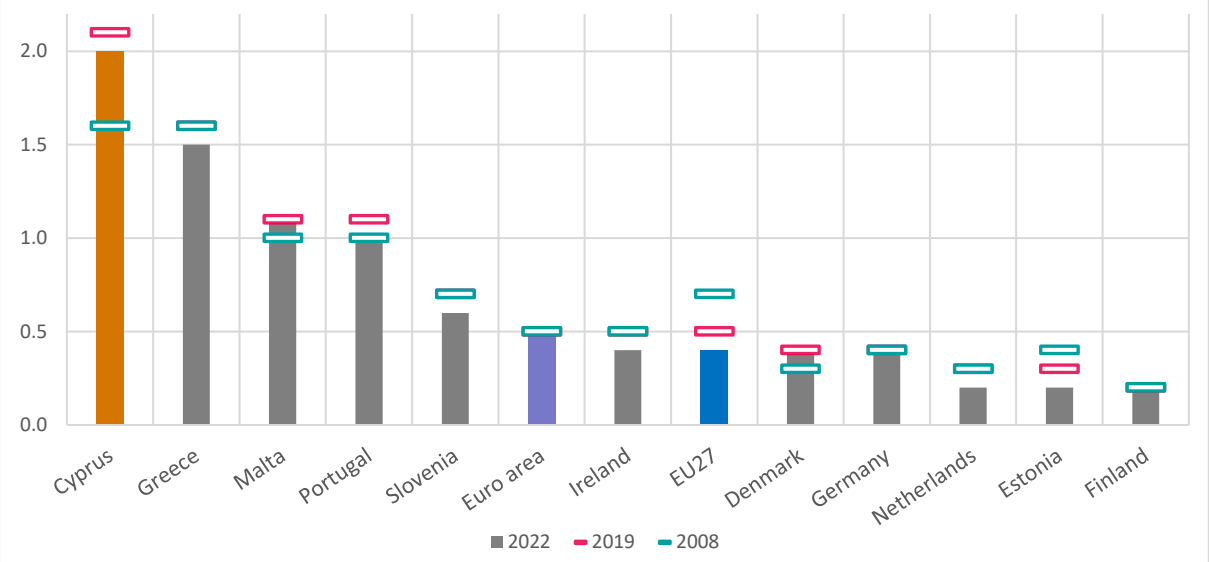
As shown in Figure 97Figure 96, Cyprus also has one of the highest proportions of the population that has completed tertiary-level education, with 43.3 percent, in 2022. A further 37.8 percent have completed secondary education. This compares to the EA average of 31 percent of the population having tertiary education, and 41.8 percent with secondary education, in 2022. Although the level of adult participation in learning is relatively low in Cyprus compared to other benchmark countries, as we see in Figure 98 there has been an improvement in 2022, compared to previous periods.

Figure 95 Government expenditure in education, 2008, 2018 and 2021



Source: Eurostat, General government expenditures by function [gov_10a_exp]. World Bank, World Development Indicators data for Israel and the UK.

Figure 96 Private expenditure in education, 2008, 2019 and 2022



Notes: No data for Israel and UK. The data of Ireland and Euro area of 2021 was used as data for 2022.
Source: Eurostat, Final consumption expenditure of households by consumption purpose [nama_10_co3_p3]

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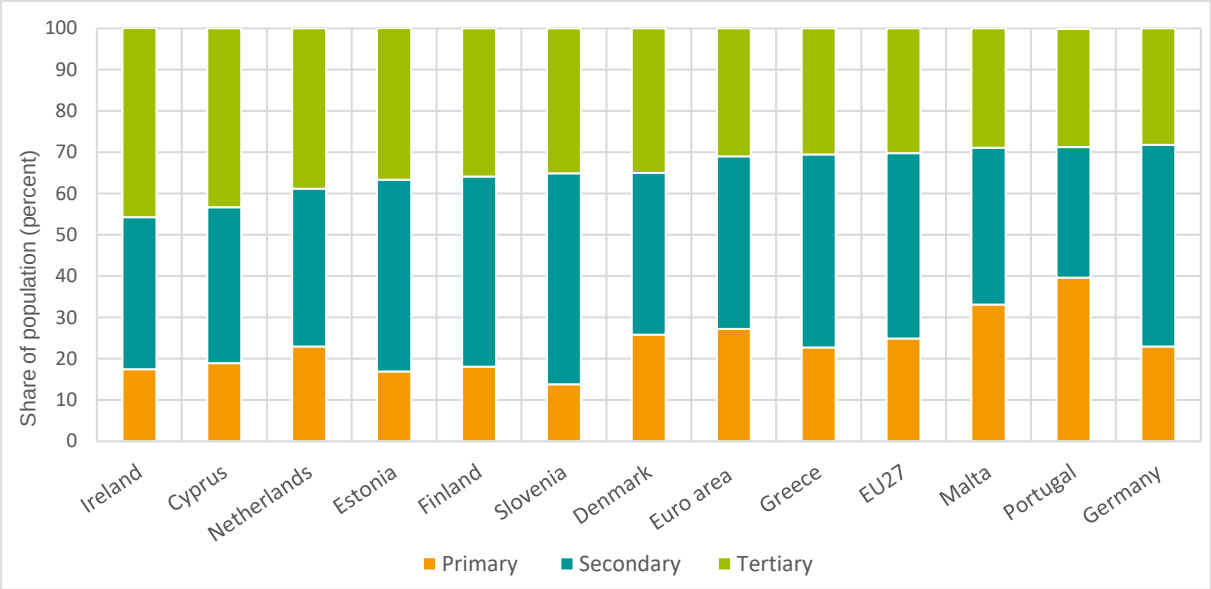
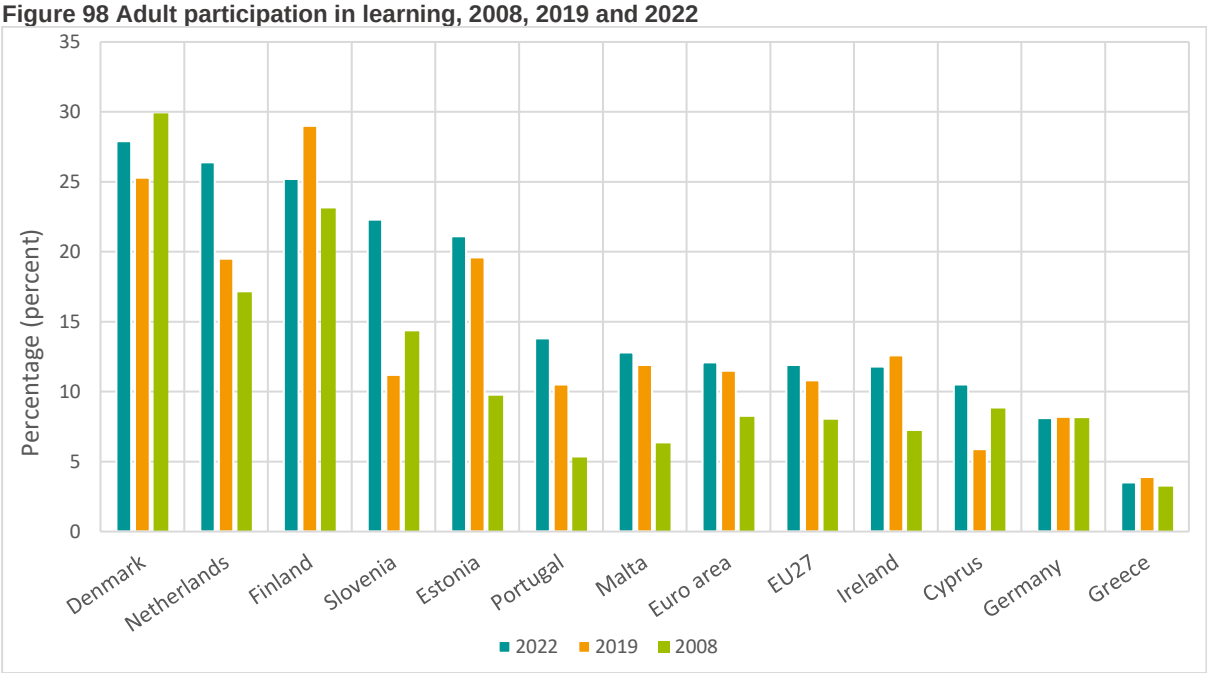
Figure 97 Educational attainment levels of population aged 15-64, 2022



Notes: No data for Israel and UK
Source: Eurostat, Population by educational attainment level, sex and age (percent) – main indicators [edat_lfse_03].

Figure 98 Adult participation in learning, 2008, 2019 and 2022

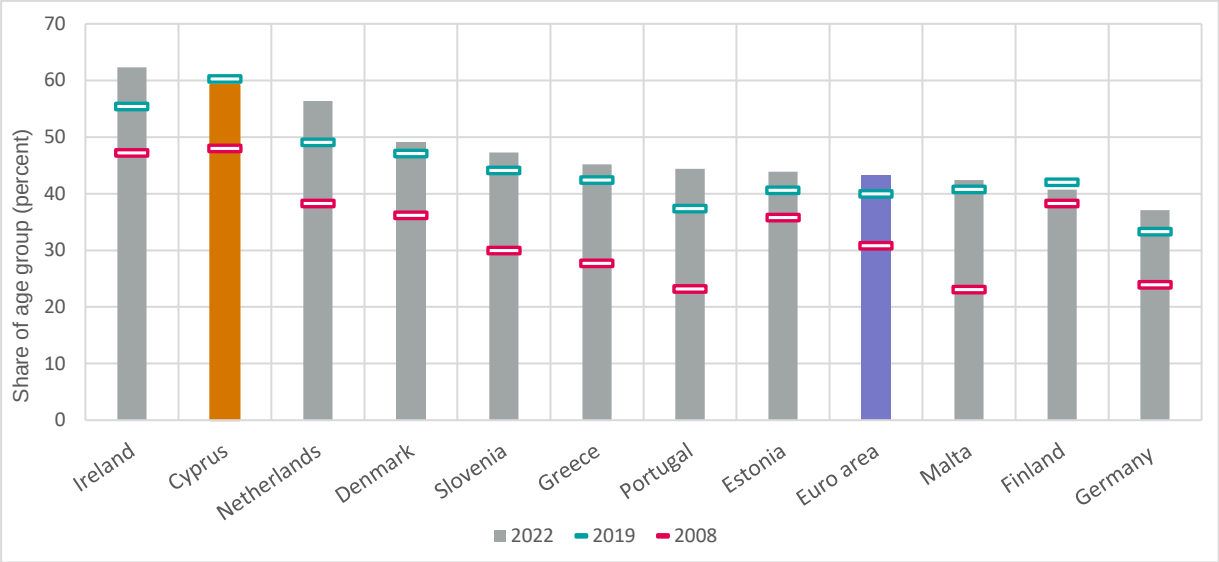


Notes: No data for Israel and UK
Source: Eurostat, Participation rate in education and training (last 4 weeks) by sex and age [trng_lfse_01].

Moreover, Cyprus currently has the second highest share of 25- to 34-year-olds with tertiary education of all benchmark countries, with 59.2 percent, which is higher than the EA average of 43.2 percent (Figure 99).

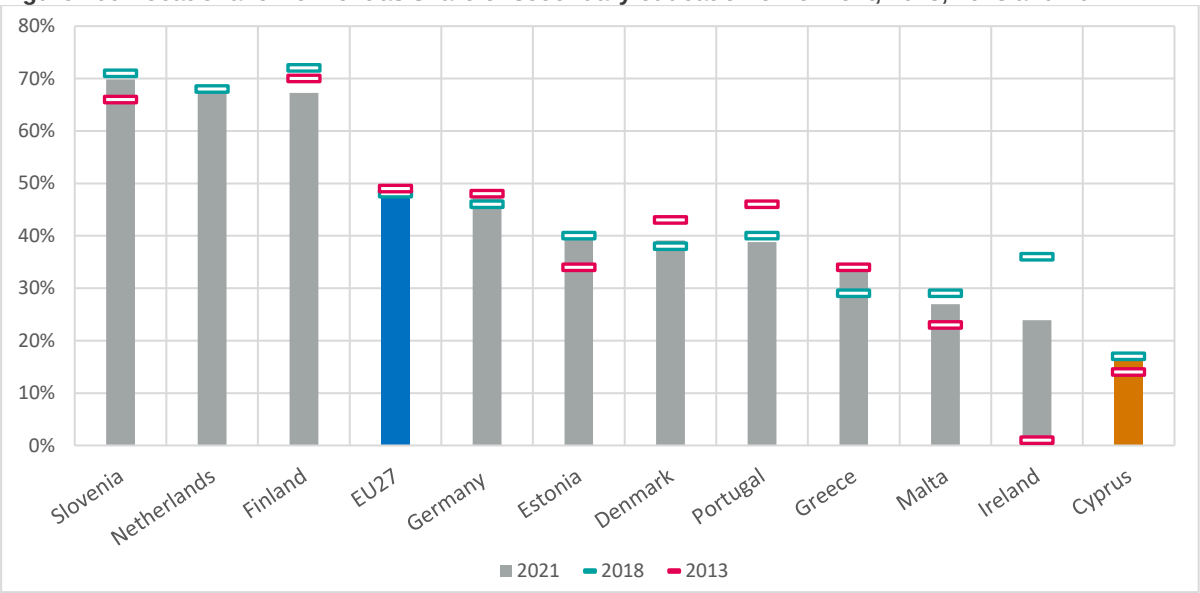
While overall tertiary educational levels are impressive, as shown in Figure 100, Cyprus has a comparatively low share of pupils enrolled in vocational secondary education (the lowest among benchmark countries), with only 18 percent compared to the EU27 average value of 49 percent. The low level of vocational education for Cyprus is a mirror image of the high levels of tertiary education, suggesting that secondary-level education is orientated towards preparing students for entry into tertiary education, rather than equipping them with specific skills to enter the job market.

Figure 99 Share of 25-34-year-olds with tertiary education, 2008, 2019 and 2022



Notes: No data for Israel and UK
Source: Eurostat, Population by educational attainment level aged 25-34 [edat_lfse_03].

Figure 100 Vocational enrolment as share of secondary education enrolment, 2013, 2018 and 2021

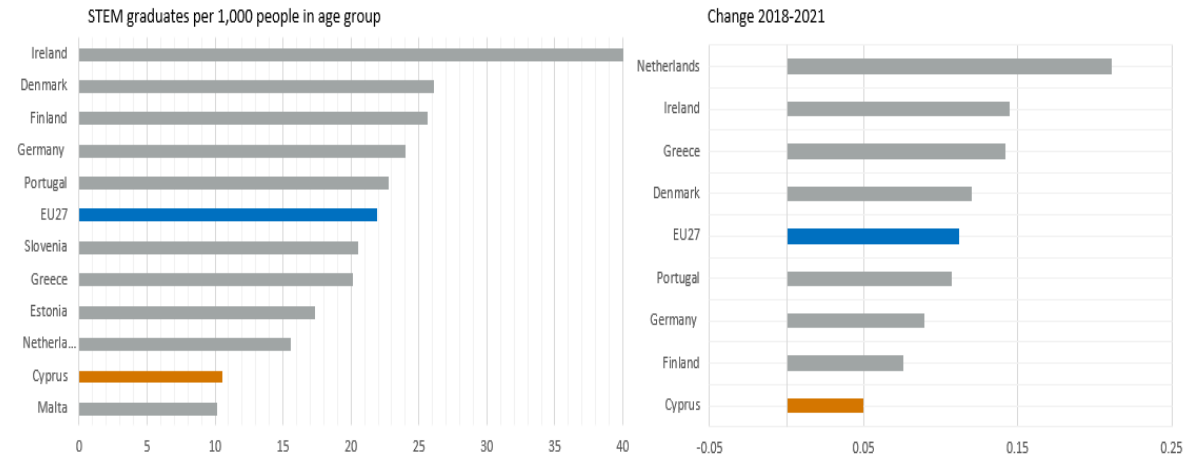


Notes: No data for Israel and UK.
Source: Eurostat, Pupils enrolled in upper secondary education by programme orientation, type of institution and intensity of participation [educ_uoe_enrs04].

Alongside a low rate of vocational education, among the benchmark countries, as depicted in Figure 101 Cyprus also has the second lowest proportion (10.5 per 1000 people) of Science, Technology, Engineering and Mathematics (STEM) graduates among 20-29-year-olds, in 2021. The country with the highest number, Ireland, has 40.3 STEM graduates per thousand individuals ages 20-29, almost four times the number in Cyprus.

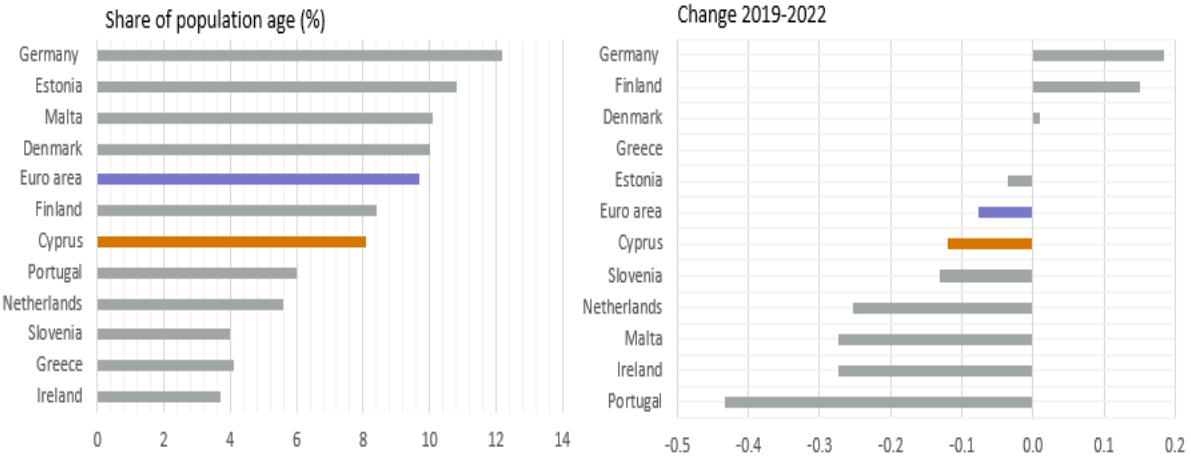
Figure 102 shows the fraction of early school leavers, i.e., students who fail to obtain upper-secondary qualification or equivalent. This proportion in 2022 stood at 8.1 percent of the total population, which was 1.6 percentage points lower than the EA average. Ireland performs best with a rate of 3.7 percent while Germany has the worst outcome at 12.2 percent. In most of the benchmark countries, including Cyprus, the fraction of early leavers is declining, but in Germany and Finland the fraction of early leavers actually rose in the past 3 years.

Figure 101 STEM graduates among 20- to 29-year-olds, 2021



Notes: No data for UK and Israel. For Malta, Estonia and Slovenia, the data of 2020 was used as data for 2021.
Source: Eurostat, Graduates in tertiary education, in science, math., computing, engineering, manufacturing, construction per 1000 of population aged 20-29 [educ_uoe_grad04].

Figure 102 Early school leavers in the young population, 2022



Notes: No data for Israel and UK
Source: Eurostat, Early leavers from education and training by sex and labour status [edat_lfse_14]

Educational performance and skills

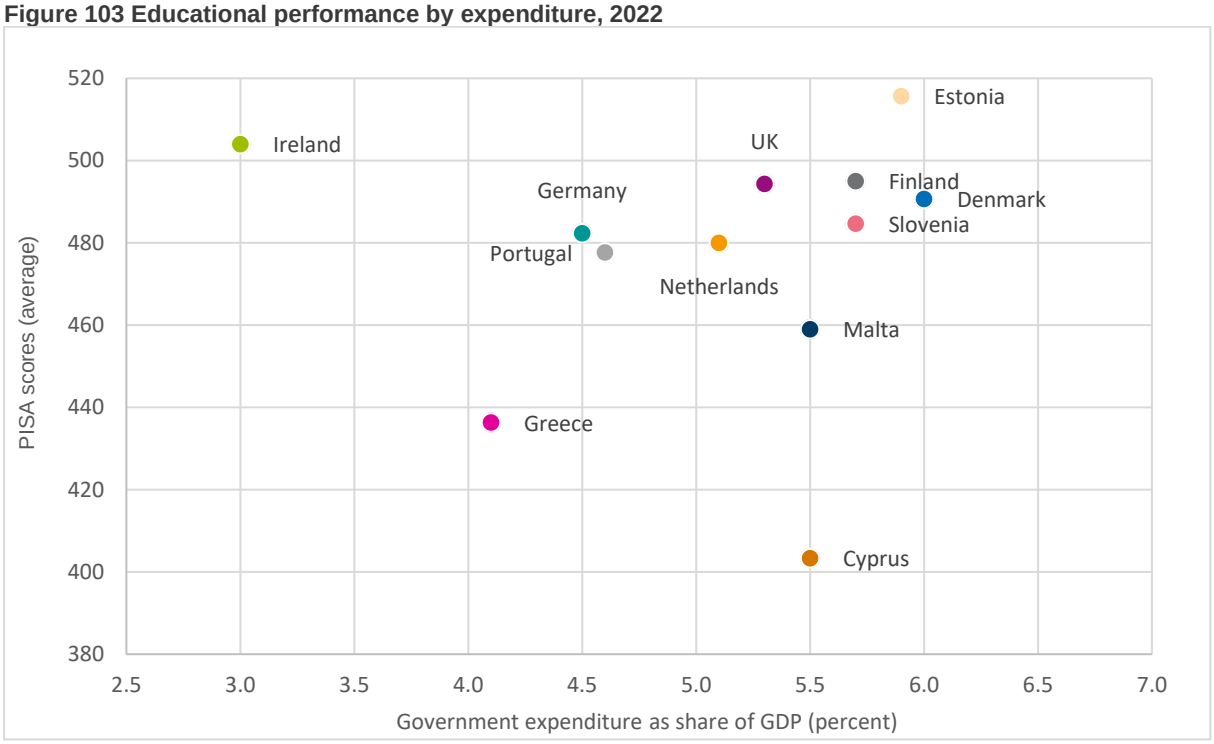
While the education system in Cyprus is seemingly well-funded and produces large numbers of tertiary graduates, educational outcomes do not match the level of spending.

Figure 103 shows that Cyprus has the lowest PISA results for science, mathematics and reading among the benchmark countries and the majority of OECD countries. Although standardized test scores can be criticized for overly emphasizing quantifiable aspects of education, Cyprus stands out as a country with relatively high expenditure on education and weak test scores. This suggests that improving educational outcomes may not require only increased funding but rather improved effectiveness of the educational system.

As already noted, Cyprus had a low proportion of graduates in STEM subjects. As shown in Figure 104, digital skill levels in the population are concentrated around the 50 percent mark. Among the benchmark countries, Cyprus's share of 16–74-year-olds reporting they have basic or above basic digital skills, is 50 percent, compared to an EU average of 54 percent, in 2022. At the same time, 28 percent of firms in Cyprus report that they provide ICT training, which is above the EU average of 22 percent and comparable to most benchmark countries.

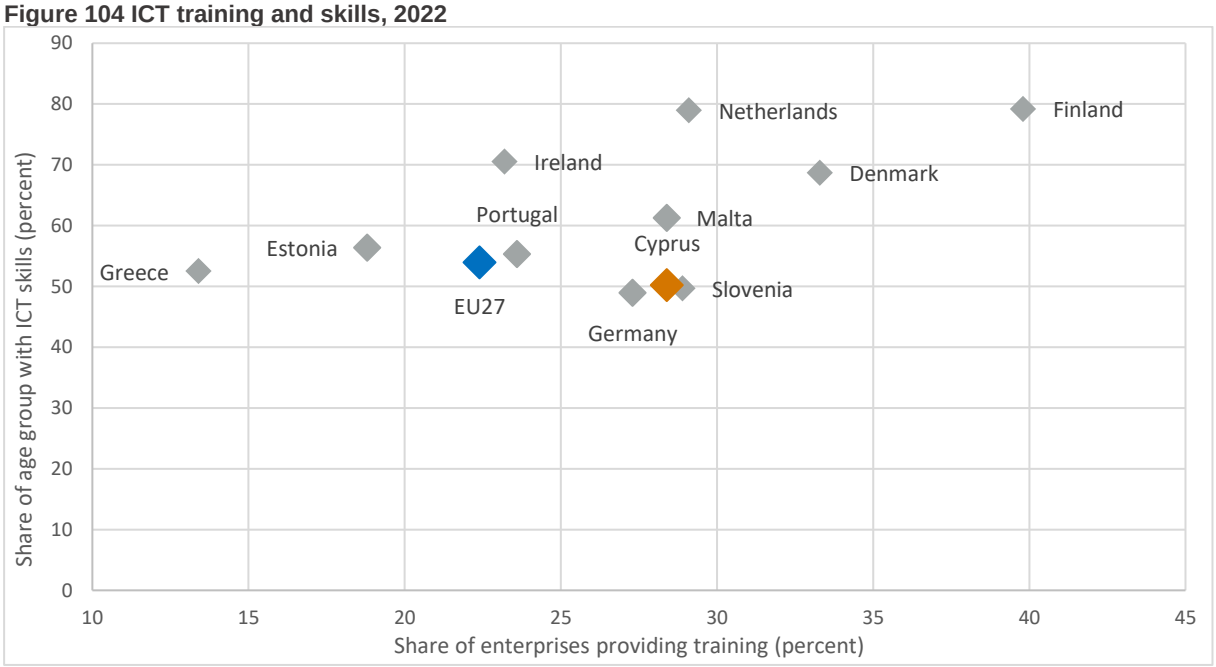
The comparatively low level of digital skills can be viewed in the context of various indicators that point to low levels of adoption of digital technologies in the private sector. Even if current demand for digital skills is modest, the increasing importance of digital technologies across all sectors suggests that Cyprus may be at risk of failing behind if the Cypriot workforce and the educational system are not fully prepared to adapt to the new and emerging trend.

Figure 103 Educational performance by expenditure, 2022



Notes: Unweighted average of PISA scores for Mathematics, Science and Reading, own calculation.
Source: PISA, Mean scores, 2022; Eurostat, General government expenditures by function [gov_10a_exp]. World Bank, World Development Indicators data for Israel and the UK.

Figure 104 ICT training and skills, 2022



Notes: ICT Training measured by the share of enterprises providing ICT training to their employees. ICT Skills measured as the share of individuals of age 15 and above with basic or above basic overall digital skills. No data for Israel and UK. ICT skills are data of 2021 used for 2022.
Source: Eurostat, Individuals who have basic or above basic overall digital skills by sex [tepsr_sp410], and Enterprises that provided training to develop/upgrade ICT skills of their personnel by NACE Rev. 2 activity [isoc_ske_ittn2].

Skills mismatch

The well-funded education system in Cyprus appears to deliver a highly educated workforce, with a high proportion of tertiary graduates and low levels of vocational training. There seems to be a weak emphasis on more scientific and technical subjects, including ICT-related skills.

Moreover, although cyclical conditions may explain overall labour market conditions, Cyprus has high rates of youth unemployment (Figure 16) and a comparatively high proportion of young persons who are not in employment, education, or training (Figure 57). This may indicate that the education system is failing a small, but not insignificant, number of students that are unable to enter the workforce or further pursue their education or training.

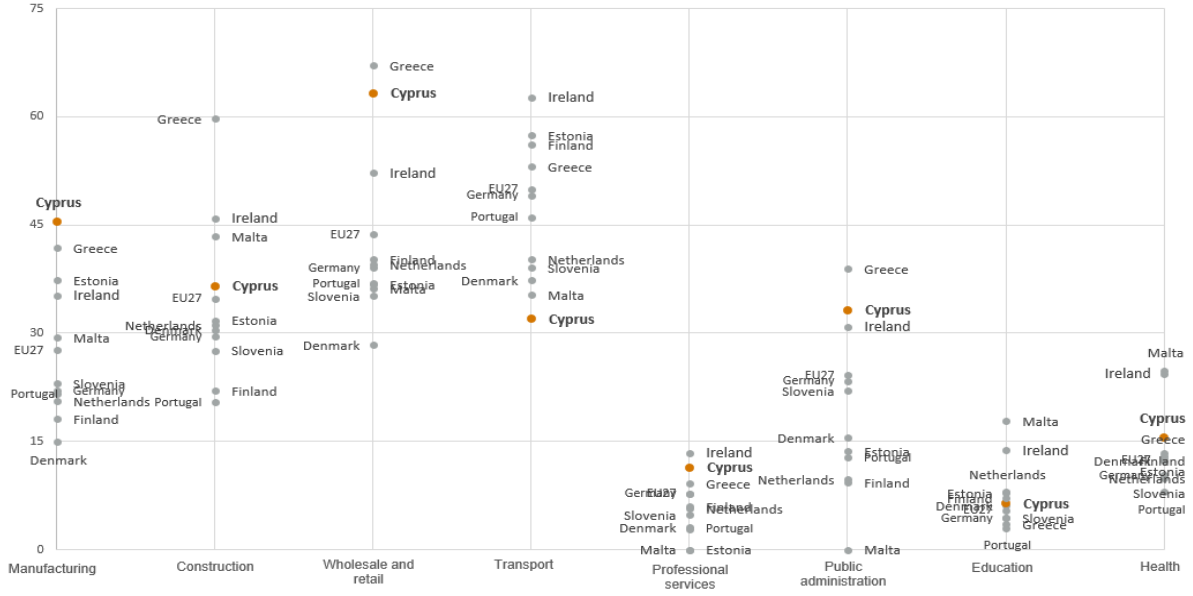
Discrepancies between educational attainment and the demands of the labour market are evident through the estimation of skills mismatch. Figure 105 illustrates the extent of skills mismatch across various industries in all benchmark countries. Based on the proportion of tertiary education graduates currently employed in low-skilled jobs, in 2022, Cyprus has one of the highest levels of over-qualification in the workforce among the benchmark countries, particularly in manufacturing, wholesale and retail, professional services, public administration and health.

Similarly, a mismatch of horizontal skills (Figure 106) suggests that many employees work in occupations that are unrelated to their field of education. This mismatch is also present in many diverse fields, from humanities and education to health.

Taken together, these findings suggest that the educational system is not successful in delivering a skilled workforce corresponding to market needs. This is an important competitiveness issue if it means that employers, particularly in the private sector, are constrained by a lack of appropriately skilled workers. And it is an issue for those unable to find work that suits their level and field of education.

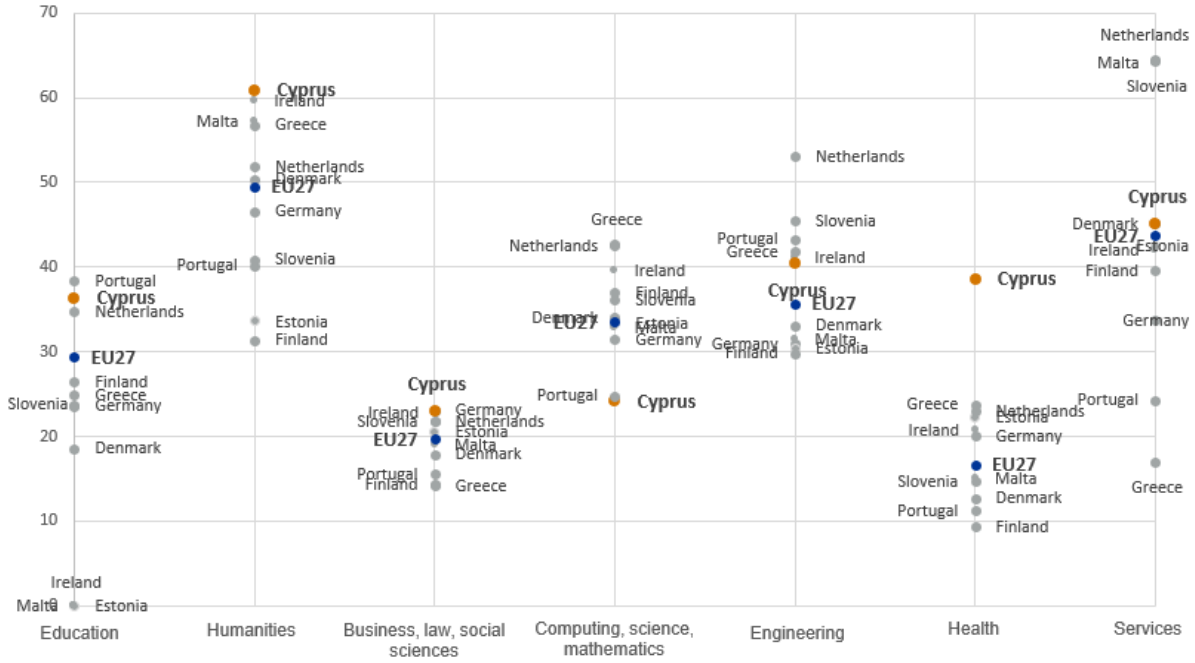
Finally, it could also imply that employers and workers need to pursue further training, whether through post-education or in-house training. However, as shown above, it appears that levels of in-work training in Cyprus are comparable to the levels seen in the benchmark countries.

Figure 105 Vertical skills mismatch per industry, 2022



Notes: No data for Israel and UK.
Source: Eurostat, Vertical skills mismatch: over-qualification rate [lfsa_eoqgang2].

Figure 106 Horizontal skills mismatch per subject area, 2020



Notes: No data for Israel and UK
Source: Eurostat, Horizontal skills mismatch.

Description: Skills mismatch

A skills mismatch in the labour markets is defined as a situation where skills of workers do not match the skill requirements and needs of their jobs. A vertical skills mismatch is a situation in which the level of educational attainment does not match the skill requirements of the job (over and under-qualification). For example, a university graduate employed as a salesclerk in retail is a vertical skills mismatch. A horizontal skills mismatch is a situation in which the type of education does not match the skill requirements of the job. For example, an engineering graduate employed as a hotel manager is typically a horizontal skills mismatch.

In practice, the measurement of skills mismatch is difficult, and the data shown are produced by Eurostat on an experimental basis. Eurostat defines vertical skills mismatch or over qualification as a situation in which employed persons who have attained tertiary education work in occupations for which a tertiary education level is not required. A horizontal skills mismatch is defined as a situation in which the field of education of an employed person is not related to their current occupation.

Source: European Commission, 2019b

7.2 Technology, innovation, and knowledge

Technology, innovation, and knowledge refers to public investments into technology and innovation, the knowledge infrastructure, and the technological and innovation characteristics of firms. It reflects the importance of technological breakthroughs and technology-based innovations as the basis of many productivity gains. It covers product innovation (i.e., the introduction of new or improved products), innovations in production processes, new marketing methods, new organizational methods, new business practices, and new ways of organizing value chains or other forms of cooperation.

To some extent, the small size of the domestic market of Cyprus could limit opportunities for technology, innovation, and knowledge creation by both the public and private sector. Also, structural and cyclical factors may come into play. For example, the service-oriented structure of the economy, the lack of large enterprises, any lingering effects from the

domestic banking crisis and constraints on public finances that weigh on the public sector's ability to maintain and expand public investments and the knowledge infrastructure.

At the same time, the relative openness of the economy, integration with the EU, and high levels of educational attainment are factors that should facilitate and promote technology, innovation and knowledge creation.

Innovation performance

Cyprus' performance in the European Innovation Scoreboard (EIS) has improved significantly in recent years. It has risen from near the bottom of the pile in 2016 to the top half of the benchmark group and its score is above the EU average in 2023 (Figure 107). This is an encouraging development, but it should be noted that the increasing trend seems to have plateaued in the last couple of years.

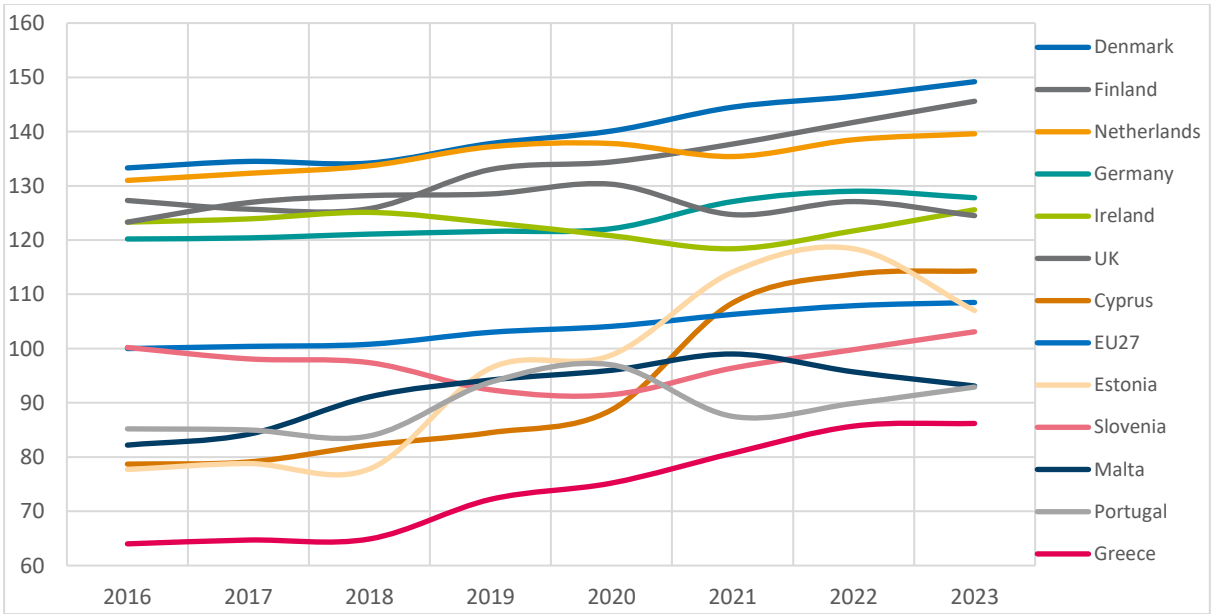
Most of the countries increased their score in EIS 2023 compared to the score in EIS 2016. Specifically, 33 countries showed an improvement in performance whereas only 5 witnessed a fall. Cyprus, Greece, Czechia and Estonia indicated the greatest improvement in the Summary of Innovation Index of EIS 2023. Cyprus is still classified as a Strong Innovator with a performance above the EU average. The significant improvement of Cyprus is due to very strong increases in several indicators, including public-private co-publications, international scientific co-publications, innovative SMEs collaborating with others, trademark applications and population with tertiary education.

Although not presented here, the data underlying the Innovation Scoreboard show that, while Cyprus does particularly well in educational attainment and academic research outputs, it struggles to translate this prowess into a strong innovation performance of the private sector.

The Global Innovation Index ranks Cyprus rather well in knowledge and technology outputs; a result driven by strengths in academic research and publications, new business creation and FDI outflow (Figure 108).

For the total outputs (knowledge and technology and creative) Cyprus is ranked poorly compared to benchmark countries. Similarly, it does weakly when compared to most benchmark countries in terms of per capita patent applications to the European Patent Office (Figure 109).

Figure 107 European Innovation Scoreboard Index, 2016 - 2023

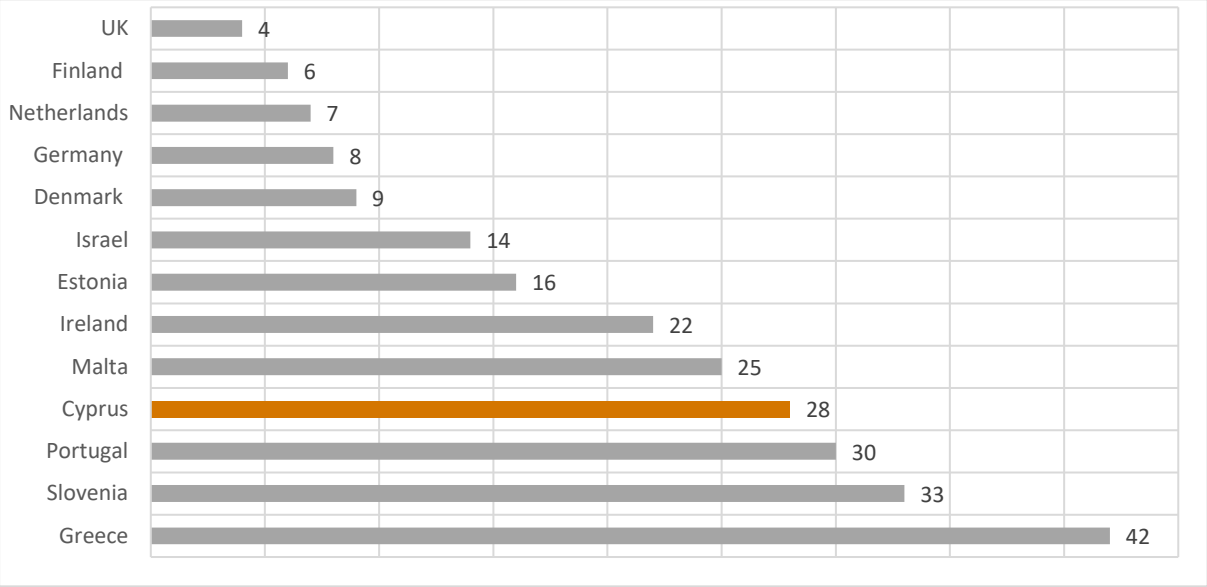


Notes: No data for Israel
Source: European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs, European Innovation Scoreboard 2023

Description: European Innovation Scoreboard[14]

The EIS' framework has been revised within years in order to be consistent with new policy developments and to provide a better approach measurement of innovation status of the country. The EIS 2021, distinguishes between four main types of activities – Framework conditions, Investments, Innovation activities, and Impacts – and 12 innovation dimensions, capturing in total 32 indicators. Each main group includes an equal number of indicators and has an equal weight in the Summary Innovation Index. Within each group every indicator has the same weight. EIS 2023 includes new indicators on digitalisation and environmental sustainability, bringing the scoreboard more in line with the EU political priorities.

Figure 108 Global Innovation Index ranking, 2023



Source: Cornell University, INSEAD, and WIPO (2023), The Global Innovation Index 2023.

Description: Global Innovation Index[15] (sub-indices)

Knowledge and Technology Outputs Index

Knowledge and technology outputs is a sub-index of the Global Innovation Index, and covers knowledge creation, impact, and diffusion. Knowledge creation includes patents or publications. Knowledge impact includes per capita growth rates, new business creation or technology adoption by firms. Knowledge diffusion includes trade in knowledge-intensive good or services or FDI outflows.

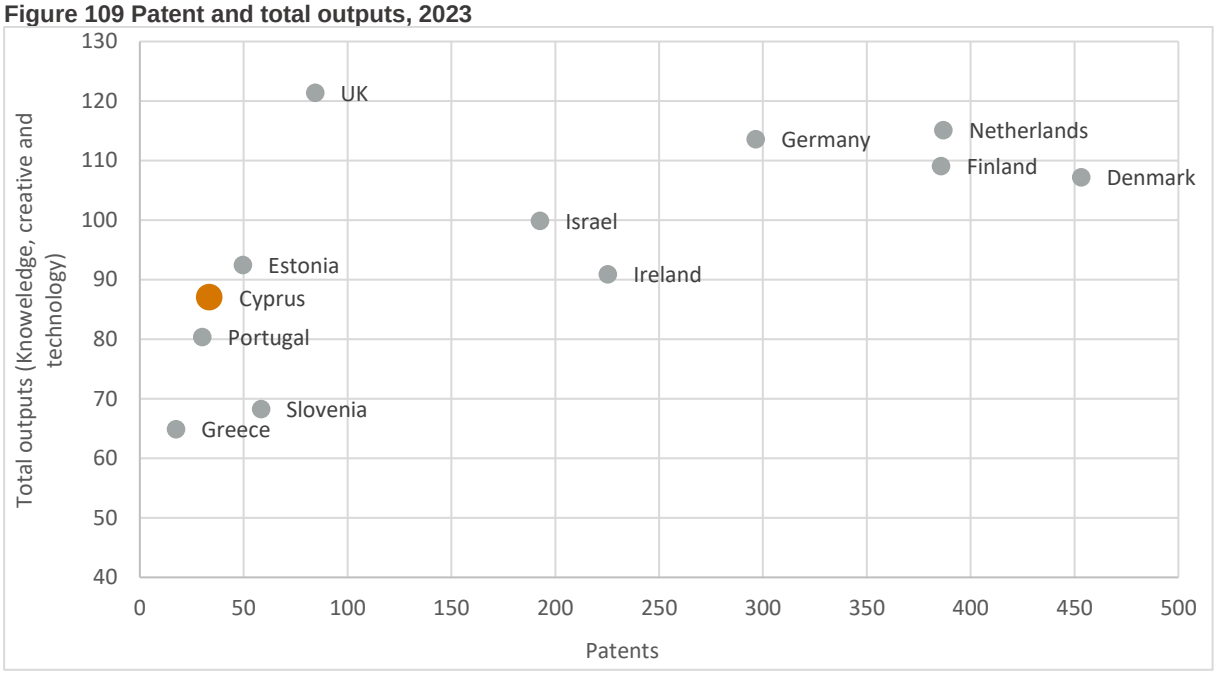
Creative Outputs Index

The creative outputs index is a sub-index of the Global Innovation Index. It covers intangible assets, creative goods and services, and online creativity. Intangible assets include the creation of new business models, organisational models, trademarks, and industrial designs. Creative goods and services include the creation of films, publications, or other media products. Online creativity includes an online presence through top-level domains, Wikipedia edits or YouTube uploads.

[14]Developed by the European Commission.

[15] Co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.

Figure 109 Patent and total outputs, 2023



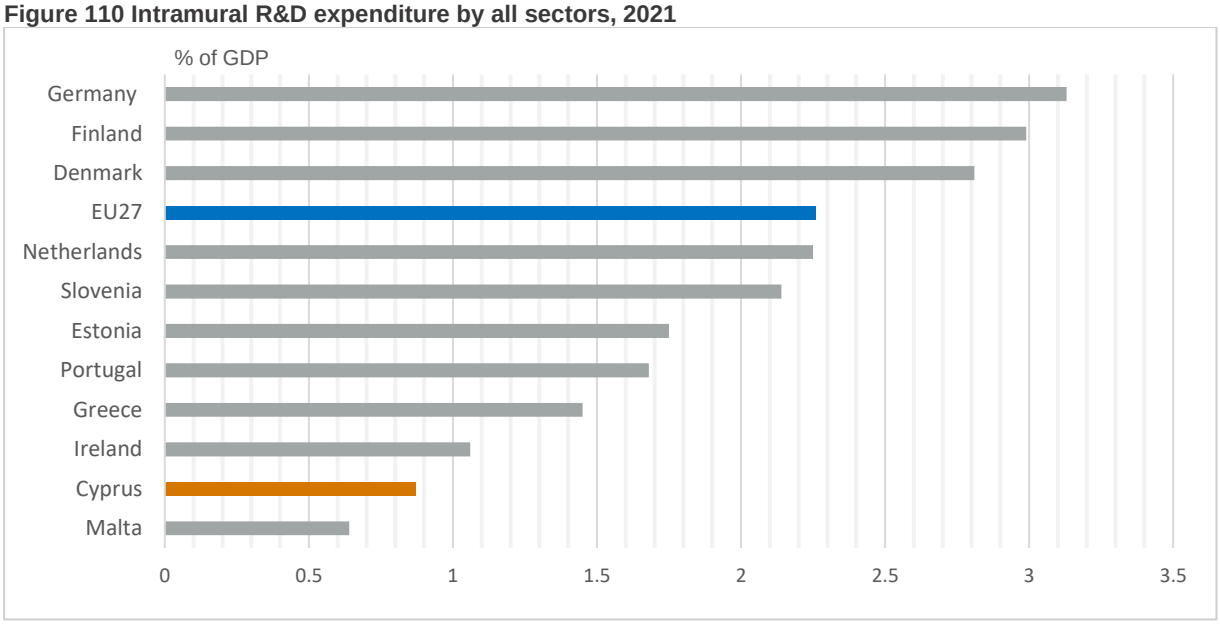
Notes: No data for Malta. For the Patent Index the data from 2022 was used.
Source: Cornell University, INSEAD, and WIPO (2023), The Global Innovation Index 2023: Knowledge and Technology Outputs and European Patent Office (EPO) statistics: European patent applications per country of residence of the first named applicant 2022.

Research and development expenditure

Overall investment in research and development in Cyprus is low. As depicted in Figure 110, in 2021 Cyprus ranks behind all benchmark countries in R&D expenditure as a share of GDP, except for Malta. Countries such as Germany, Denmark and Finland have shares that are more than three times higher than Cyprus. About 39 percent of R&D expenditures in Cyprus comes from the public sector (i.e., public administrations and universities - Figure 111).

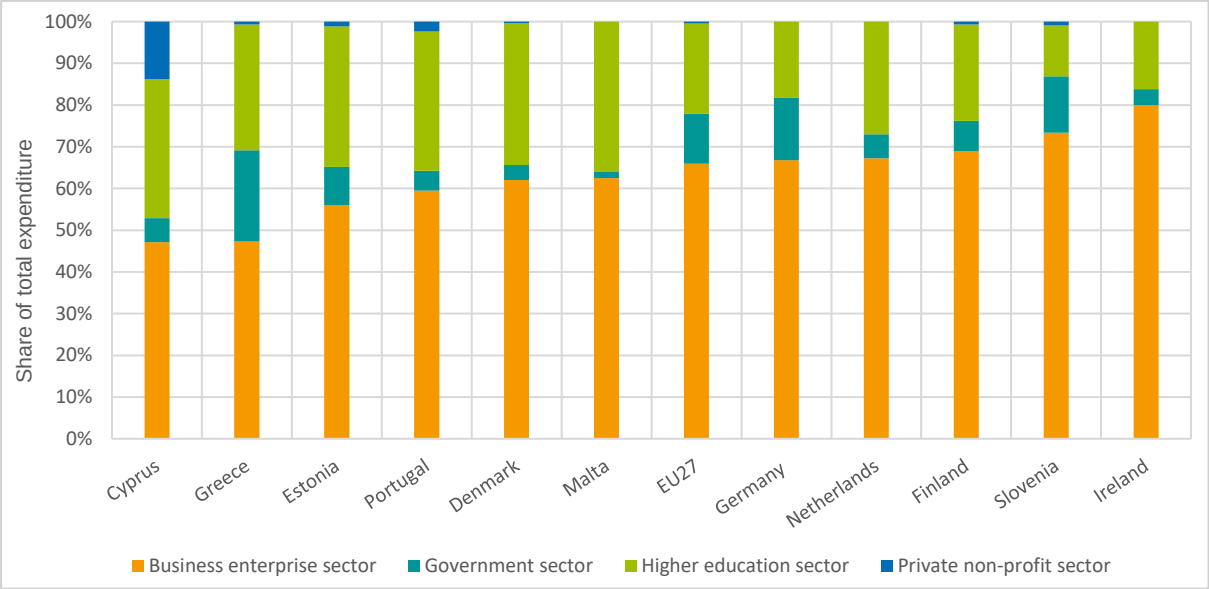
This means that public R&D expenditure is similar as in many other benchmark countries. Hence the deficit in R&D spending in Cyprus is due to the very limited contribution of the private sector, just 0.41 percent of GDP (Figure 112).

Figure 110 Intramural R&D expenditure by all sectors, 2021



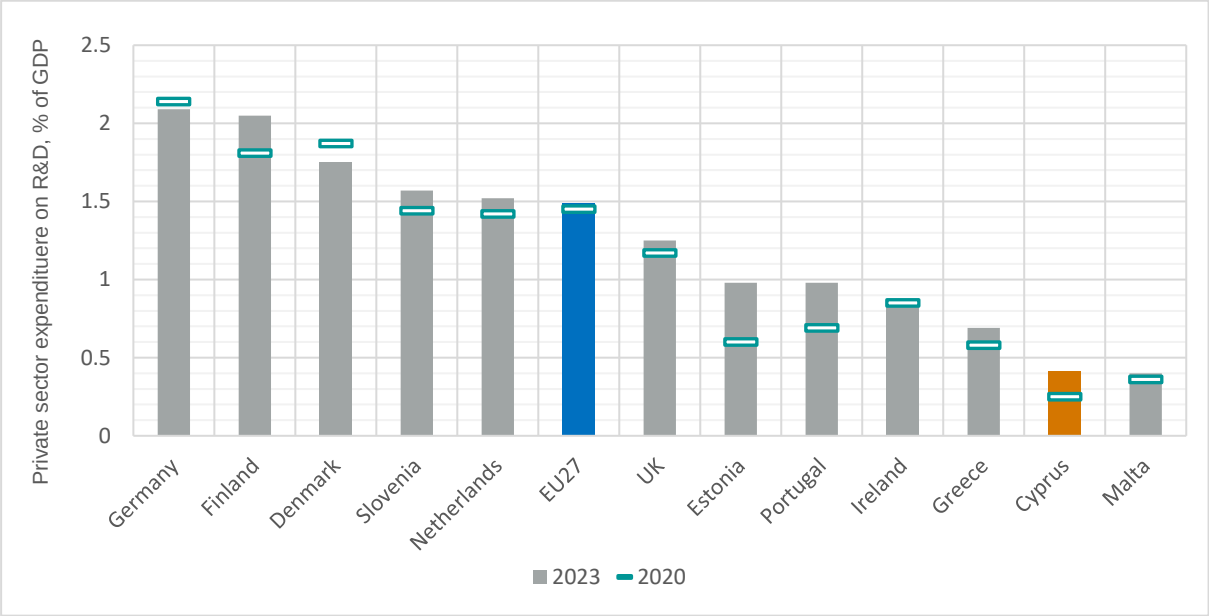
Notes: No data for UK and Israel
Source: Eurostat, Intramural R&D expenditure (Gross domestic expenditure on R&D – GERD) by sectors of performance and source of funds, [rd_e_gerdfund].

Figure 111 Intramural R&D expenditure by sector of performance, 2021



Notes: No data for UK and Israel
Source: Eurostat, Intramural R&D expenditure (GERD) by sectors of performance and source of funds [rd_e_gerdfund].

Figure 112 Private sector expenditure on R&D, 2020 & 2023



Notes: No data for Israel. For UK the data of 2022 was used for 2023.
Source: European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs, European Innovation Scoreboard 2023.

Knowledge Institutions

Cyprus has nine universities, out of which three are public and six are private. This is a remarkable number given the size of the country. Clearly, a population of less than a million cannot sustain such a large number of universities. These institutions must attract foreign students in order to become viable, and some of them are indeed doing quite well in that area. In addition to the universities, there are a large number of tertiary level institutions offering non-university degrees and vocational training.

Two of the three public universities feature in the Times Higher Education World University Rankings lists of the global top 1,799 research-intensive universities: The University of Cyprus (ranked between 401 500) and the Cyprus University of Technology (ranked between 601-800). Both universities also feature in the 2023 Times Young University Rankings (established in the last 50 years), coming in at 99th (University of Cyprus) and 126th (Cyprus University of Technology). This is a good performance

given the small size of Cyprus and the young age of its universities. In fact, when adjusting for population size, Cyprus is first among the benchmark countries (Figure 113).

The strength of Cyprus in academic research reflects the high share of research and development expenditures allocated to the higher education sector. It also relates to the high share of tertiary education graduates, contributing to and reflecting the strength of universities in Cyprus. It is also the strength of universities and academic research that the newly created National Board for Research and Innovation is seeking to exploit.

Table 3 illustrates Cyprus's world digital competitiveness ranking and its breakdown by pillar from 2017 to 2023. The colour scheme – with darker colours indicating a stronger performance – makes it easy to identify pillars where Cyprus is strong and those where it lags, and also to track changes over time.

The overall World digital competitiveness ranking of Cyprus started from the 53rd slot improved until 2020 and took a dive and reached the 51st slot in 2023. In terms of Knowledge, Cyprus started from a modest 46th place in 2017 and improved significantly, reaching the 39th slot in 2022 and then 48th in 2023. This decline was due to the sharp decline in Scientific Concentration, where Cyprus ranked 51st in 2017, 26th in 2022 and reached the 40th slot in 2023.

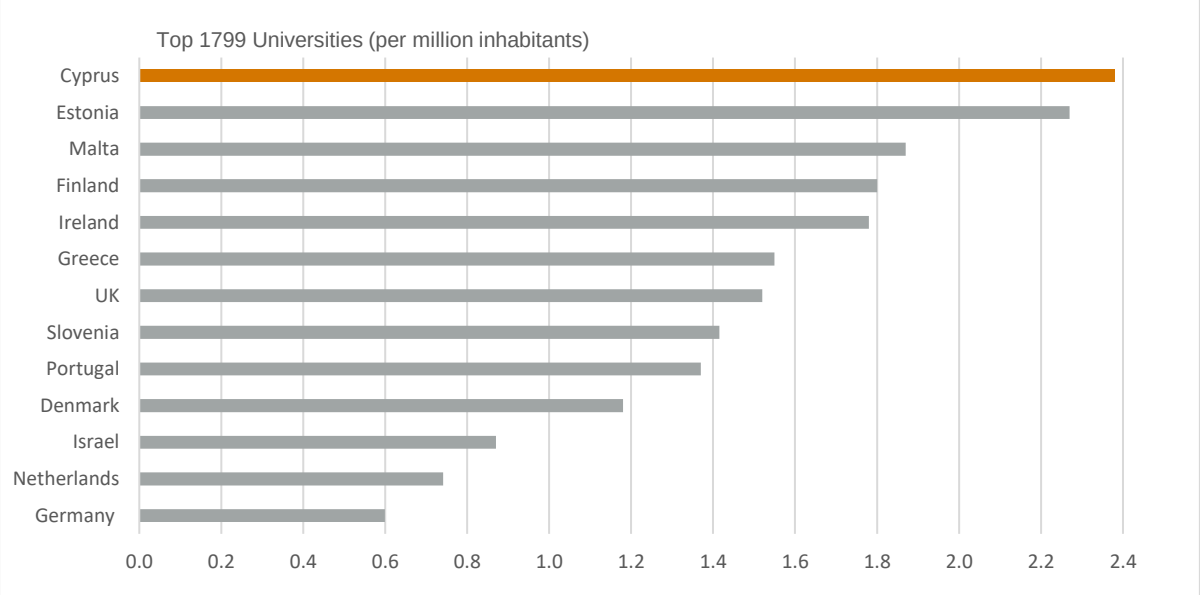
In the Technology pillar Cyprus demonstrated limited improvement, with only one of the three sub-factors, Technological Framework, improving from 54th in 2017 to 49th in 2023. The other two sub-pillars either worsened or remained unchanged.

Cyprus experienced fluctuations in terms of Future Readiness over the years, going from a modest 54th rank in 2017 to the 39th place in 2022 and then declined again to the 53rd slot in 2023. While it made progress in areas like Adaptive Attitudes (from 56th in 2017 to 46th in 2023) and IT Integration (from 47th in 2017 to 39th in 2023), there was a decline in Business Agility (from 51st in 2017 to 63rd in 2023).

Description: Times Higher Education World University Rankings

The Times Higher Education World University Rankings lists the top 1,799 research-intensive universities in the world. The ranking is based on the new WUR 3.0 methodology, which includes 13 performance indicators, covering five areas: teaching, research environment, research quality, industry and international outlook.

Figure 113 Number of universities in the global Top 1799 per capita, 2023



Notes: Own calculations, dividing the number of Top 1799 Universities per country by the number of inhabitants.
Source: Times Higher Education, World University Ranking 2023.

Table 3 IMD World Digital Competitiveness ranking of Cyprus by competitiveness pillar, 2017-2023

Pillar Name	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*
Overall Ranking	**53**	**54**	**54**	**40**	**43**	**45**	**51**
Knowledge	**46**	**55**	**55**	**40**	**39**	**39**	**48**
Talent	56	62	62	57	56	53	55
Training & Education	22	29	33	30	29	40	44
Scientific Concentraion	51	52	53	35	29	26	40
Technology	**54**	**56**	**59**	**52**	**53**	**52**	**53**
Regulatory Framework	45	51	56	47	47	50	53
Capital	54	60	60	52	54	54	56
Technological Framewok	54	49	48	52	52	49	49
Future Readiness	**54**	**44**	**40**	**29**	**34**	**39**	**53**
Addaptive attitudes	56	45	34	28	27	36	46
Business agility	51	45	57	42	50	53	63
IT integration	47	46	38	29	33	29	39

Source: IMD world digital competitiveness ranking.

Enterprise technology adoption and innovation activity

Cyprus has low rates of technology adoption by businesses. Relative to the benchmark countries, Cyprus has relatively few firms selling online. Few companies use enterprise resource-planning software, electronic invoicing, or big data analytics (Figure 114).

These findings are consistent with the low country complexity rankings (Figure 85), the low startup ecosystem index (Figure 88) and the low business dynamism (Figure 89).

Figure 114 Enterprise technology adoption rates, 2022

Country	Enterprises selling online	Employees using computers	Enterprise Resource Planning (ERP) software	Enterprises utilizing electronic invoicing	Big data analysis
Cyprus	20	56	34	13	6
Denmark	36	80	50	57	27
Estonia	19	55	23	62	10
EU27	20	60	38	32	14
Finland	28	87	48	83	22
Germany	20	62	38	18	18
Greece	17	47	32	**n/a**	13
Ireland	35	64	24	19	23
Malta	30	57	39	22	30
Netherlands	25	77	43	25	27
Portugal	18	48	52	17	11
Slovenia	20	60	36	58	7
UK	**n/a**	**n/a**	**n/a**	21	27

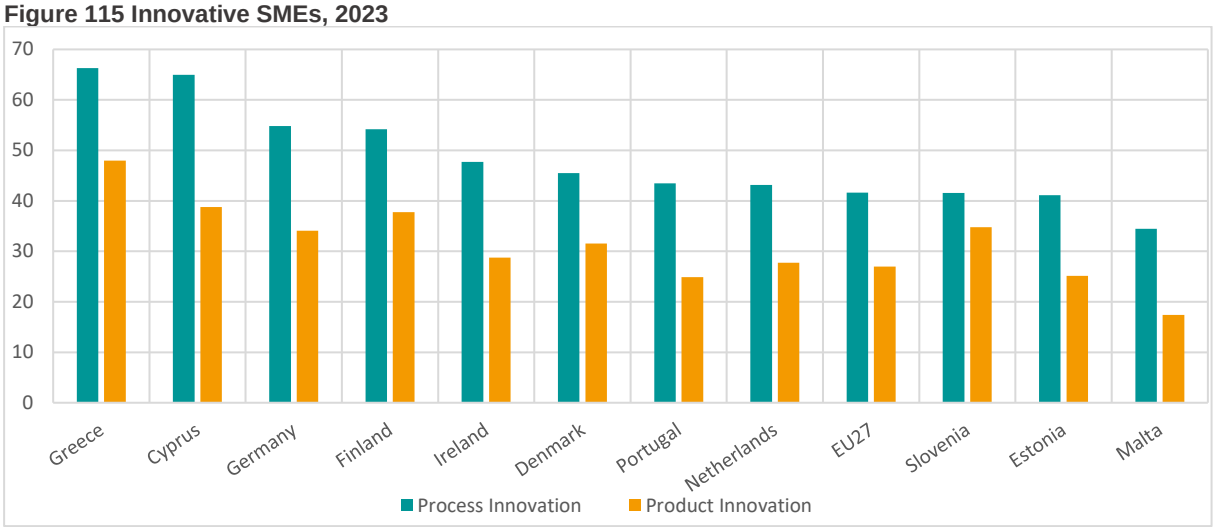
Notes: No data for Israel. For the 3rd column, data from 2021 was used. For the last two columns, data from 2020 was used.
Source: Eurostat, Enterprises selling online with at least 1 percent turnover [tin00111], Use of computers and the internet by employees [isoc_ci_cm_pn2], Enterprises who have ERP software package to share information between different functional areas [isoc_eb_iip], Enterprises sending e-invoices, suitable for automated processing [isoc_eb_ics], Big data analysis [isoc_eb_bd].

Some encouraging findings come from the most recent European Innovation Scoreboard (2023), where Cyprus is found at the top (below Greece) on the innovation performance of SMEs compared to other benchmark countries (Figure 115). Compared to findings in the previous CCR, Cyprus shows a mixed trend in innovation. While there's a recent dip in Product Innovation (from 48.2 in 2021 to 38.8 in 2023) and a slight decrease in Process Innovation (from 65.6 in 2021 to 64.9 in 2023), the long-term progress since 2017 is notable. Product Innovation has improved significantly from 22.2, and Process Innovation from 35.0 in 2017. This trend suggests a positive shift towards greater technology adoption and innovation in Cyprus.

The dominance of service sectors and the lack of large firms may contribute to the observed low technology adoption and innovation activity in Cyprus. As Figure 116 depicts, the share of total enterprises with e-commerce sales in Cyprus, which is a measure of the ICT usage in enterprises and adoption of digital technologies, is the lowest amongst the benchmarking countries, with Greece and Malta taking the next lowest places.

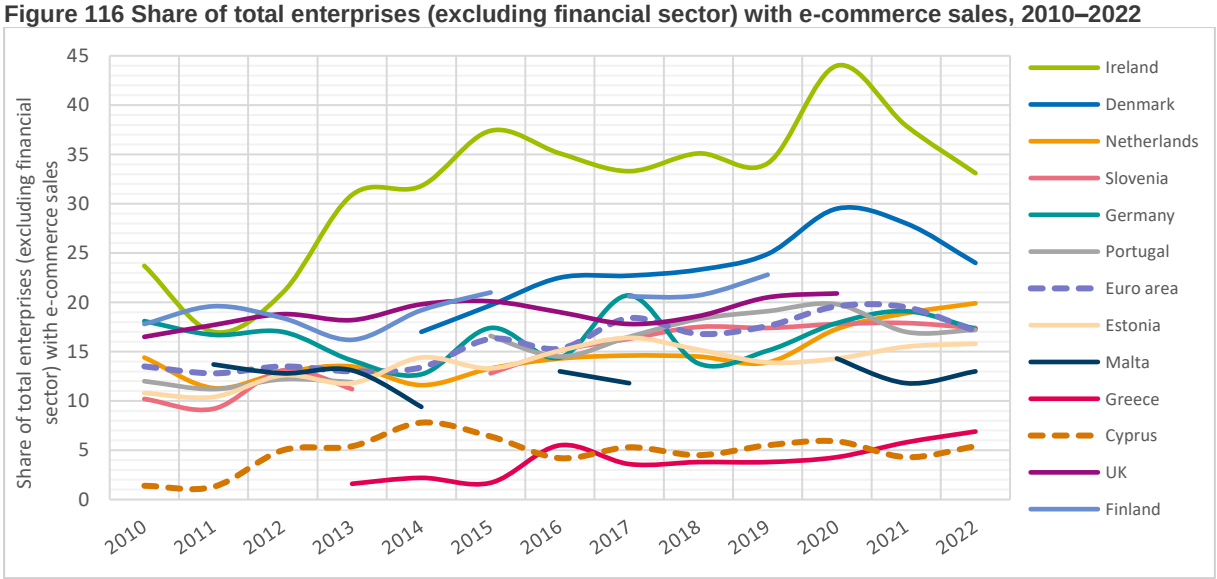
This is cause for concern, as a lack of adoption of digital technologies does not only affect productivity, but also reflects on the ability of firms to adapt and take advantage of opportunities presented by new trends and developments.

Figure 115 Innovative SMEs, 2023



Notes: No data for Israel and UK
Source: European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs, European Innovation Scoreboard (EIS) 2023, Percentage of SMEs introducing product and process innovation.

Figure 116 Share of total enterprises (excluding financial sector) with e-commerce sales, 2010–2022



Notes: No data for Israel, UK and Finland for 2022
Source: Eurostat, Value of e-commerce sales by NACE Rev.2 activity [isoc_ec_evaln2].

7.3 Financial infrastructure

Financial infrastructure refers to the institutions that provide access to finance and financial services. These include banks and other financial intermediaries, capital and financial service providers, insurance companies, and public institutions such as the Central Bank of Cyprus, the Cyprus Stock Exchange Commission, and the Insurance Companies Control Service.

As of October 2023, Moody's Investors Services evaluated the credit rating of Bank of Cyprus at Baa3, while S&P Global Ratings rated it at BB- in April 2023, and Fitch Ratings assigned a rating of B+ in December 2022. Overall, the credit rating of Bank of Cyprus has experienced a two-notch increase from 2021 to 2023, indicating enhanced creditworthiness concerning its financial obligations.

Cyprus' membership in the Eurozone and the severity of the 2012-13 banking crisis are key considerations for the assessment of the financial infrastructure. Findings from the WEF GCI in 2019 document the profound impact of the domestic banking crisis on perceptions of Cyprus' financial infrastructure. In 2011-2012, before the domestic banking crisis, financial market development was assessed as a strong point of Cyprus' competitiveness, with the country ranking 25th out of 142 countries.

Following the crisis, in 2013-2014 Cyprus ranked 62nd out of 148 countries. By 2017-2018, the country's ranking had improved, securing the 60th place out of 137 countries. In the WEF 2018, the new GCI 4.0 methodology was implemented, leading to the replacement of the financial market development pillar with the financial system pillar. Notably, in 2018, Cyprus secured the 95th position out of 140 countries, and in 2019, it exhibited improvement by climbing to the 76th rank out of 141 countries.

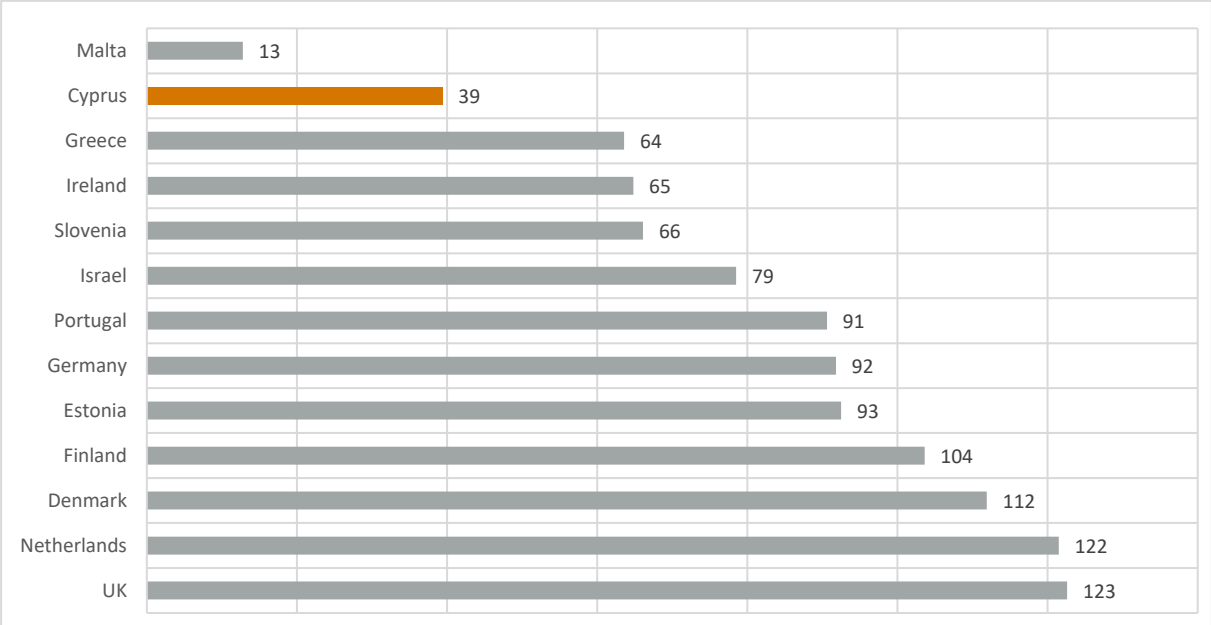
For post-2019 rankings, as the GCI is no longer available, we turn to other indicators. The European Innovation Scoreboard includes a Finance and Support dimension, where Cyprus ranks 39th out of 160 countries (Figure 117). It's worth noting that this represents Cyprus's lowest performance among all dimensions, highlighting the need for potential improvements in this particular area. This dimension comprises three key indicators: R&D expenditures in the public sector, venture capital expenditures, and government support for business R&D.

Definition: Finance and support dimension in the European Innovation Scoreboard (EIS)

The annual European Innovation Scoreboard (EIS) provides a comparative assessment of the research and innovation performance of the EU Member States and the relative strengths and weaknesses of their research and innovation systems. The EIS 2023 distinguishes between four main types of activities – Framework Conditions, Investments, Innovation activities and Impacts. Investments captures investments made both the public and business sector and differentiates between three innovation dimensions:

- Finance and support includes three indicators including R&D Expenditures in the public sector, venture capital expenditures and direct government funding and government tax support for business R&D.
- Firm Investments includes three indicators including R&D expenditures in the business sector, non-R&D innovation expenditures and innovation expenditures per person employed in innovation – active companies.
- Use of information technologies includes two indicators including Enterprises providing training to develop or upgrade ICT skills of their personnel and employed ICT specialists.

Figure 117 Cyprus Finance and support scores, 2023



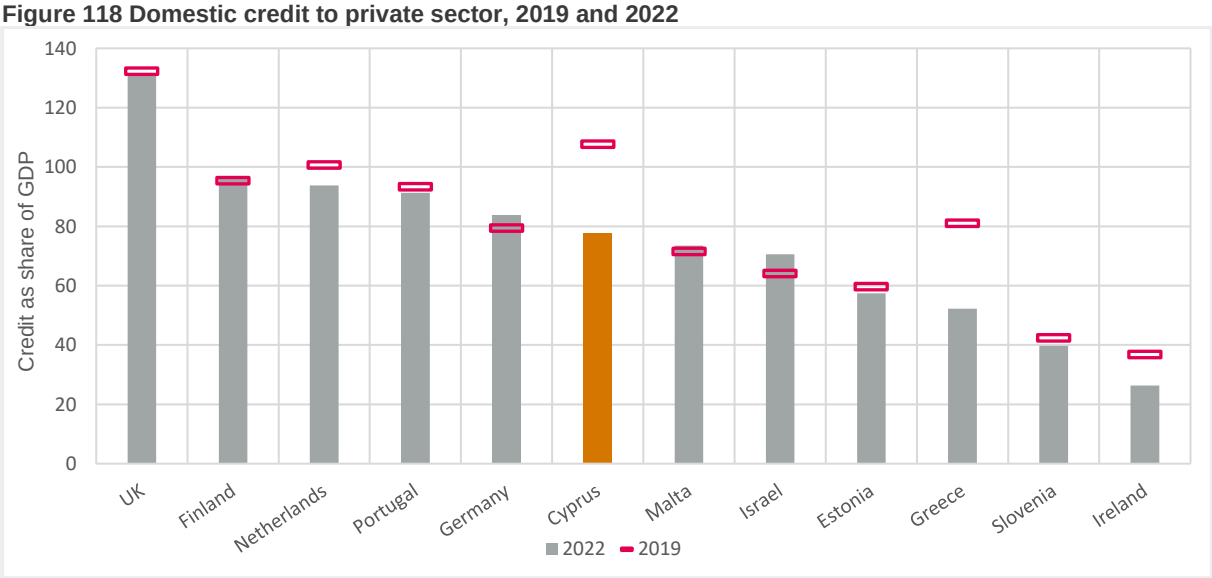
Source: European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs, European Innovation Scoreboard 2023.

An important contributing factor is the relatively high ratio of domestic credit to GDP in Cyprus compared to the benchmark countries. Although the ratio has declined from almost 110 percent of GDP to 78 percent from 2019 to 2022, it still is in the middle of the benchmark countries (Figure 118).

A similar picture emerges with respect to non-performing loans (Figure 119). Cyprus leads with bad loans accounting for 7.7 percent of its total credit, followed by Greece at 6.5 percent, while no other country exceeds 5 percent. Although these figures represent a significant proportion of non-performing loans, it is essential to note the substantial improvement from the high level of 50 percent recorded in 2015.

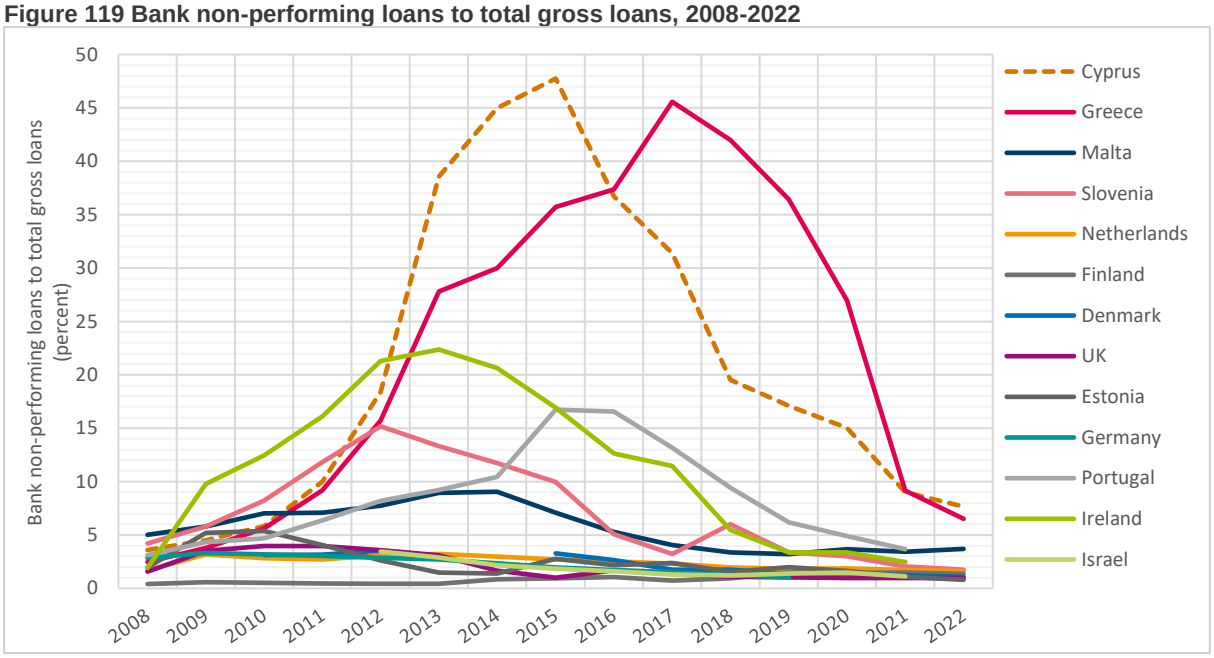
The road to normalization of the Cypriot financial system was long and arduous, but significant progress has been made. The pandemic hit the globe before the Cypriot banking sector has fully recovered. This was cause for concern, but so far, the evidence suggests that there will be no reversal. This is encouraging as it indicates improved resilience of the Cypriot banking sector.

Figure 118 Domestic credit to private sector, 2019 and 2022



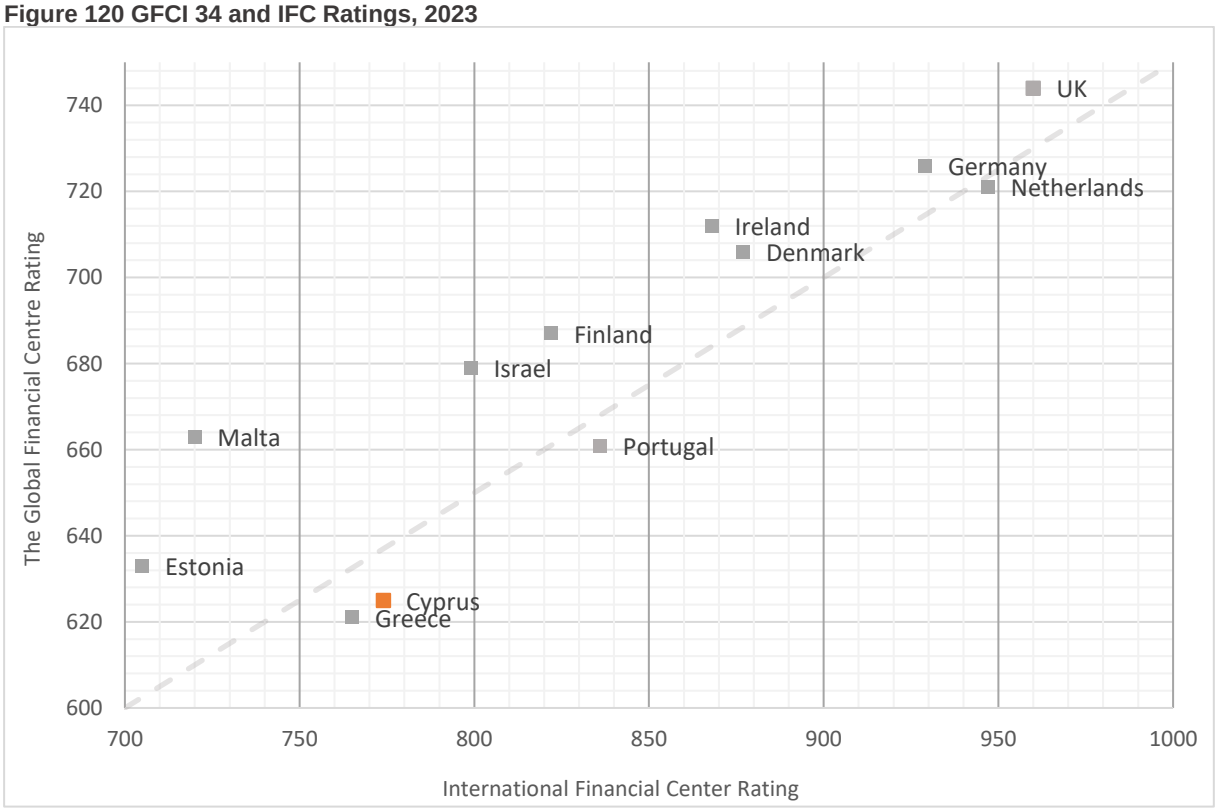
Notes: No data for Denmark.
Source: World Bank Data, Domestic credit to private sector (percent of GDP).

Figure 119 Bank non-performing loans to total gross loans, 2008-2022



Notes: No data for Germany, Portugal, Ireland and Israel for 2022.
Source: World Bank, WDI: Bank non-performing loans to total gross loans (percent), [FB.AST.NPER.ZS]

Figure 120 GFCI 34 and IFC Ratings, 2023



Notes: No data for Slovenia.
Source: Financial Center Futures, Global financial centres Index 34, 2023 and International financial centres Ranking, 2023

According to Global Financial Centres Index 34, Cyprus's major financial centres are ranked relatively low, compared to the benchmarking countries (Figure 120). Specifically, Cyprus's IFC score in 2023 was 774, slightly higher than Greece, Malta, and Estonia and GFCI 34 score in 2023 was 625, placing Cyprus at the bottom two of the benchmarking countries. This is a cause of concern, as it may indicate that Cyprus is dealing with poor business environment (discussed in Section 6.2) and human capital (discussed in Section 7.1).

Global Financial Centres Index 34 (GFCI 34)

The Global Financial Centres Index is published bi-annually by the Z/Yen Group, which provides evaluations of competitiveness and rankings for the major financial centres around the world. It is updated every March and September and has emerged as a "barometer" of the development of global financial centres, receiving wide attention from diverse segments of society.

The GFCI 34 provides profiles, rating and rankings for 132 financial centres, drawing on two separate sources of data - instrumental factors (external indices) and responses to an online survey. It was compiled using 147 instrumental factors. These quantitative measures are provided by third parties including the World Bank, The Economist Intelligence Unit, the OECD, and the UN. The instrumental factors were combined with 53,789 assessments of financial centres provided by 9,097 respondents to the GFCI online questionnaire.

The six areas of competitiveness of GFCI 34 are the following:

- Business Environment: Political Stability and Rule of Law, Institutional and regulatory Environment, Macroeconomic Environment and tax and cost competitiveness
- Human Capital: Availability of skill personnel, Flexible Labor Market, Education and Development and quality of life
- Infrastructure: Built infrastructure, ICT Infrastructure, Transport Infrastructure
- Sustainable Development: Depth and Breadth of Industry clusters, availability of capital, market liquidity and economic output
- Reputation: City brand and appeal, Level of Innovation, Attractiveness and Cultural Diversity and Comparative Positioning with other centres
- Financial Sector Development

International Financial Centres Ranking (IFC)

IFC ranks the competitiveness of global financial hubs based on assessments from a questionnaire together with over 50 indices from organizations such as the Organisation for Economic Co-operation and Development (OECD), the World Bank, and the Economist Intelligence Unit.

It ranks 115 global financial centres and uses data collected from thousands of financial services professionals and global bankers responding to the questionnaire.

The ranking is based on a global online survey of 220,000 financial professionals and international bankers, who evaluated 900 cities on 50 factors in 7 broad areas of competitiveness, including:

- business environment;
- size & volume of financial activities;
- capital market size;
- human capital availability;
- a base for business; reputation; and
- international wealth management.

Access to finance

It was documented above that Cyprus has a large financial sector, and credit is relatively easily available. However, Figure 121 shows that the cost of credit in 2023 is high, particularly for non-financial corporations. Cyprus is among the top three countries, alongside Estonia and Greece, with the highest borrowing costs for non-financial corporations. When it comes to households, Cyprus ranks second after Estonia in terms of having the most expensive cost of borrowing, further underscoring its position among benchmark countries. High costs of credit can be a significant burden on companies, particularly smaller enterprises.

The cost of resolving insolvency is one possible contributing factor to high borrowing costs in Cyprus. While Cyprus has made considerable progress in improving its insolvency framework, a lack of effective insolvency services and a slow judicial system means that Cyprus lags the EU average in terms of the cost of resolving insolvency – though it does better in terms of time required (European Commission, 2019a). The latter is somewhat surprising given the well-documented slowness of the Cyprus justice system (see section 6.2).

Figure 122 shows survey data from the European Investment Bank (EIB) on sources of financing for corporations. Financing can be external, internal (retained earnings), or

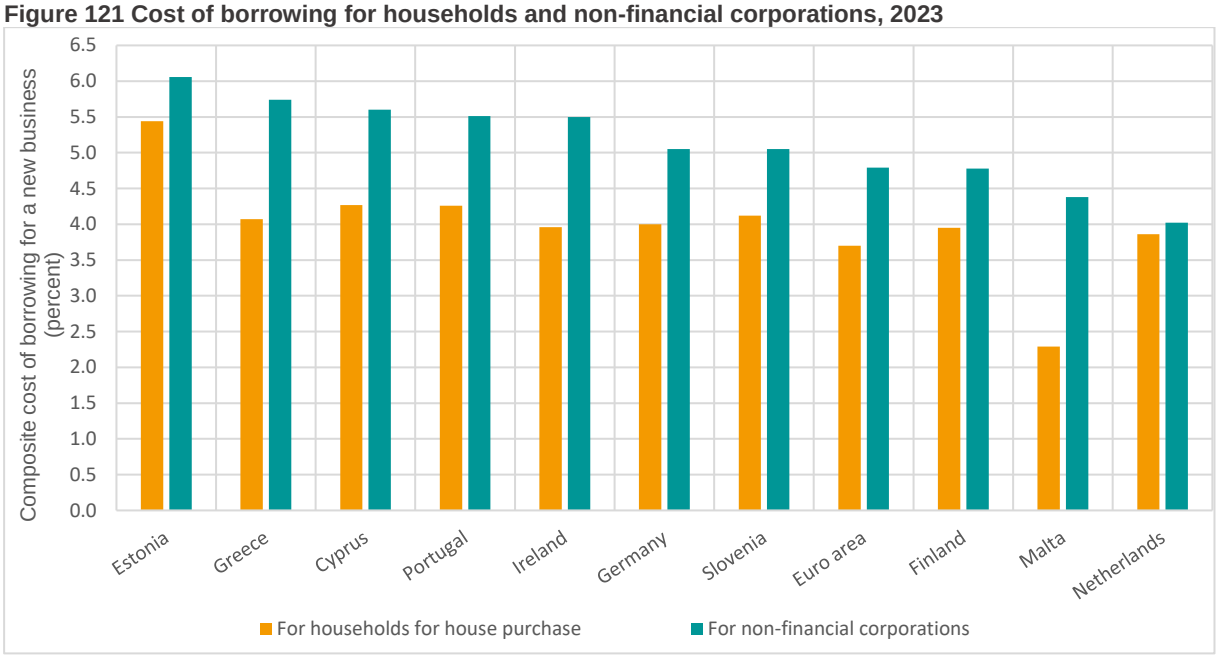
intra-group funding. In all countries firms rely primarily on internal funding to finance their activities. Cyprus lies roughly in the middle of the group in terms of reliance on internal funding. Previous EIB surveys (reported in CCR 2021) included a further breakdown of external funding into different sources. Cyprus stood out for its heavy reliance on bank loans.

Almost no external finance comes from, for example, issuance of bonds or equity or loans from family, friends, or a business partner. Similarly, the stock exchange plays virtually no role in firm financing, as the number of non-financial companies listed on the Cyprus stock exchange is very small. This information is not available in the latest survey reported here, however, it seems likely that the situation has not changed much in a couple of years.

Potential explanations for the reliance on bank financing include the dominance of SMEs and the small size of the Cypriot market. It is not clear, however, whether the lack of diversity results from a lack of alternative funding offers, or because firms are not willing or capable to access alternative funding sources. However, given high borrowing costs, it would be puzzling if firms did not seek out alternative funding sources, which may suggest that supply rather than demand is the main issue.

The EIB survey includes information on the fraction of firms that are financially constrained. As shown in Figure 123, Cyprus is one of the top three countries, behind Greece and Finland. Almost 9.5 percent of firms in Cyprus face constraints in obtaining financing, compared to an EU average of 6 percent.

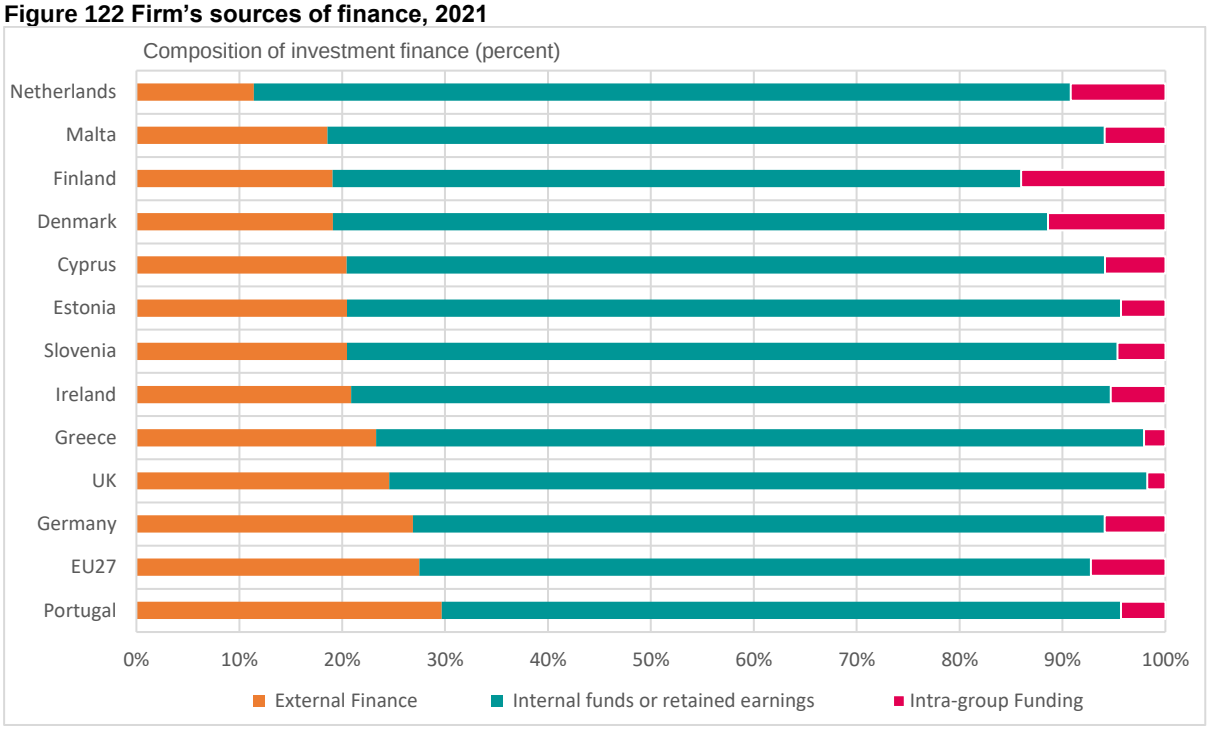
Figure 121 Cost of borrowing for households and non-financial corporations, 2023



Notes: No data for Denmark, Israel and UK.

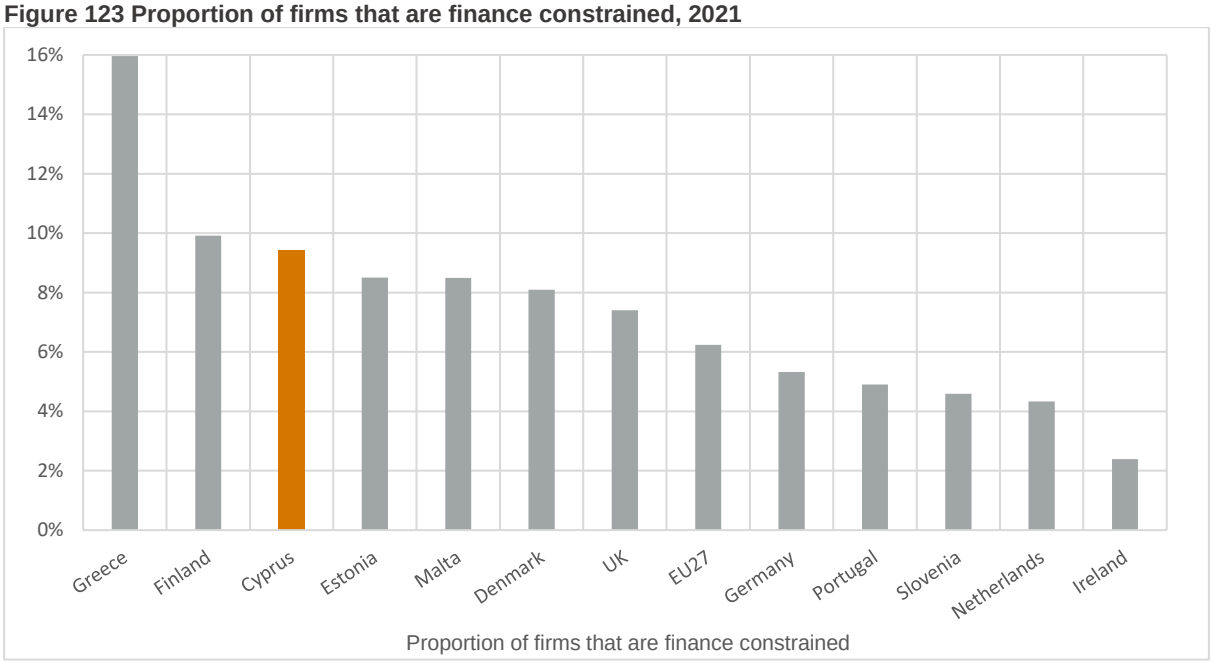
Source: European Central Bank: Composite cost of borrowing indicator, June 2023.

Figure 122 Firm's sources of finance, 2021



Notes: No data for Israel
Source: European Investment Bank, Investment Survey: Composition of investment finance, by source, EIBS 2022.

Figure 123 Proportion of firms that are finance constrained, 2021



Notes: No data for Israel
Source: European Investment Bank, Investment Survey: Proportion of firms that are finance constrained, EIBS 2022.

7.4 Productive and physical infrastructure

Productive and physical infrastructure refers to infrastructure such as transportation, utilities, or telecommunications. It covers both hard and soft infrastructure, and, adopting a broad definition, also includes outcomes such as connectivity. The extensiveness and quality of infrastructure can be measured in various ways.

First, this includes the stock of and investment in infrastructure, with the latter also providing an outlook on the future stock of infrastructure.

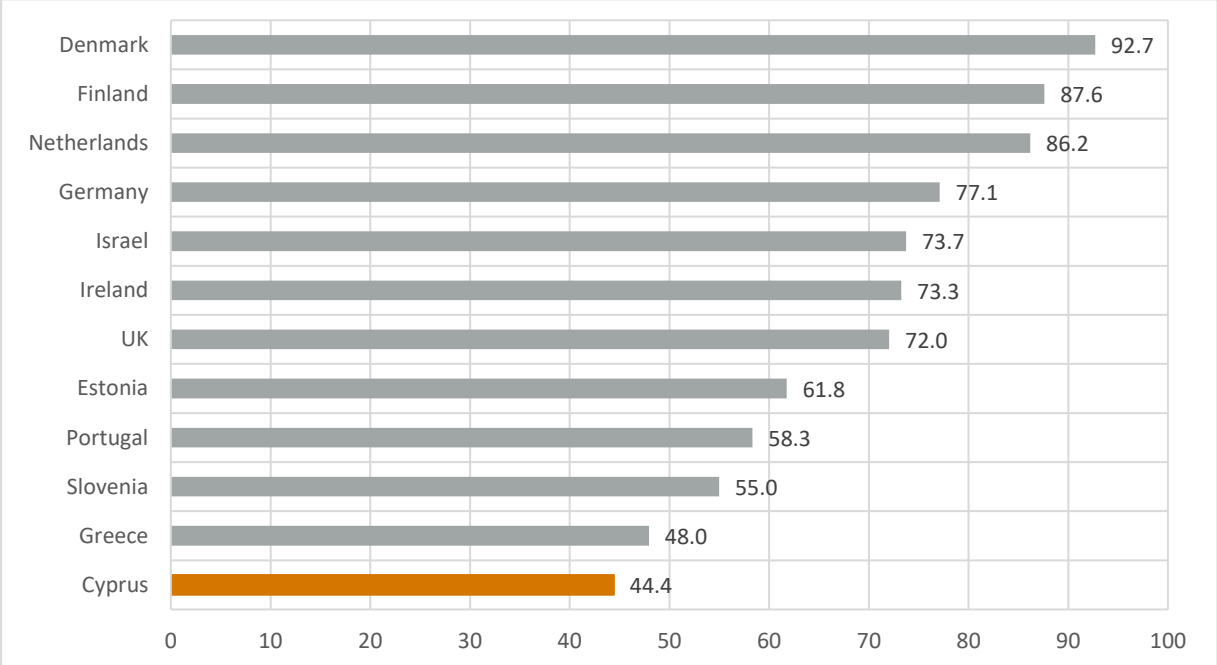
Secondly, the quality of infrastructure can be measured by indicators on costs, such as the cost of shipping a container, or indicators that directly measure quality, such as internet speed.

Infrastructure

Infrastructure is one of the main pillars in any assessment of competitiveness. The scores of the benchmark countries in the IMD infrastructure ranking are shown in Figure 124.

Cyprus is at the bottom of the group, as was the case in the last GCI ranking in 2019. To better understand this negative outcome, the rest of this section provides a more detailed analysis of infrastructure in key areas, with a focus on transport and ICT.

Figure 124 Infrastructure IMD scores, 2023



Notes: No data for Malta
Source: IMD World Competitiveness Yearbook 2023.

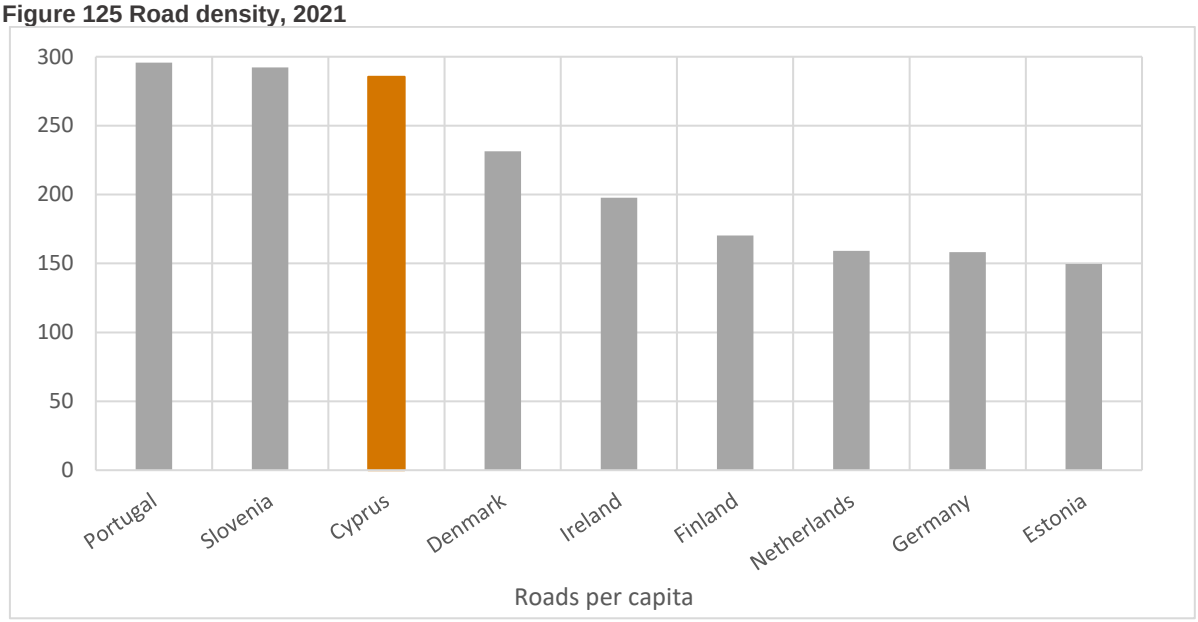
Transport

Measured by kilometres of road per capita, the road infrastructure in Cyprus is relatively extensive compared to most benchmark countries. The high per-capita level of road infrastructure reflects a combination of the small geographical size of the country, the relatively high population density, and the clustering of population along an axis from Nicosia to Larnaca, and Limassol to Paphos (Figure 125).

External connectivity provided by ports and airports is especially important to island economies such as Cyprus. While country size and geographical location influence the overall level of external connectivity, there is some evidence that Cyprus performs less well in terms of external connectivity and international transport infrastructure than some benchmark countries with a similar reliance on trade connections that are not land-based.

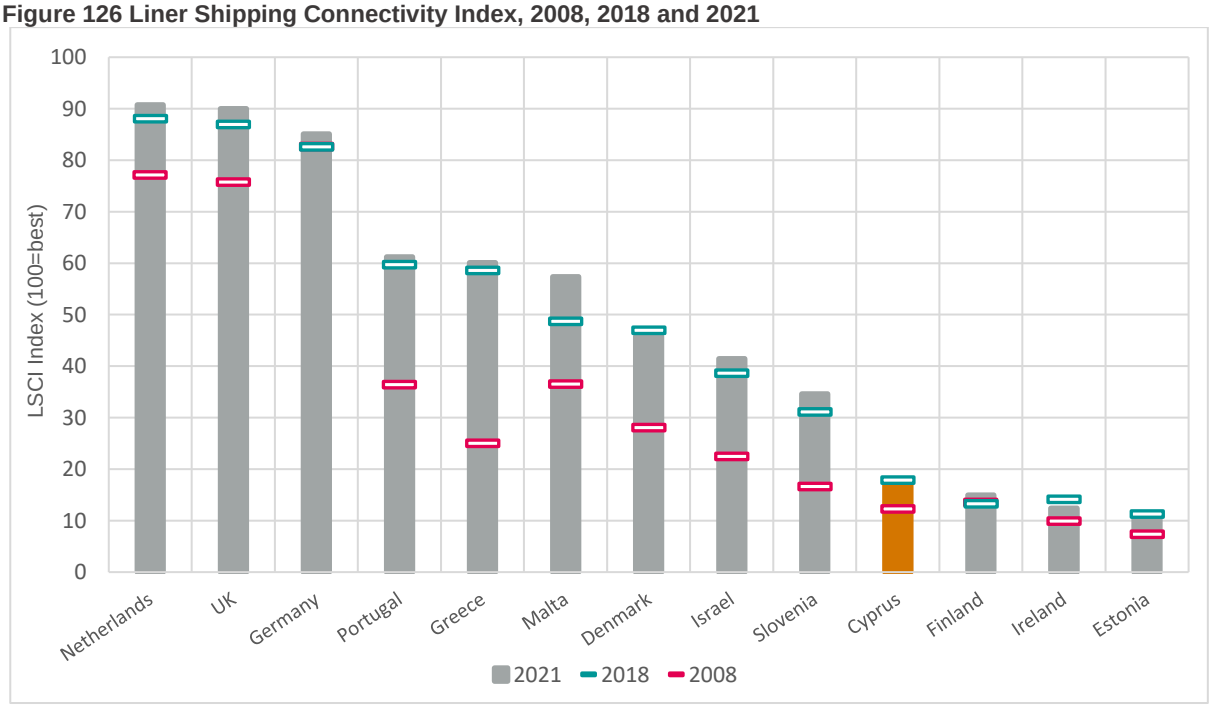
In the maritime area, liner shipping connectivity for Cyprus is below that of geographically proximate countries such as Greece, Malta, and Israel (Figure 126). Furthermore, while many countries have improved substantially since 2008, Cyprus has only improved marginally and therefore fell further behind compared to the rest of the countries.

Figure 125 Road density, 2021



Notes: No data for Israel, UK, Malta and Greece
Source: Eurostat, Length of motorways and e-roads [road_if_motorwa].

Figure 126 Liner Shipping Connectivity Index, 2008, 2018 and 2021



Notes: The liner shipping connectivity index is a composite index, based on five components of the maritime transport sector: number of ships, their container-carrying capacity, maximum vessel size, number of services, and number of companies that deploy container ships in a country's ports.
Source: United Nations Conference on Trade and Development (UNCTAD), Liner Shipping Connectivity Index, 2021.

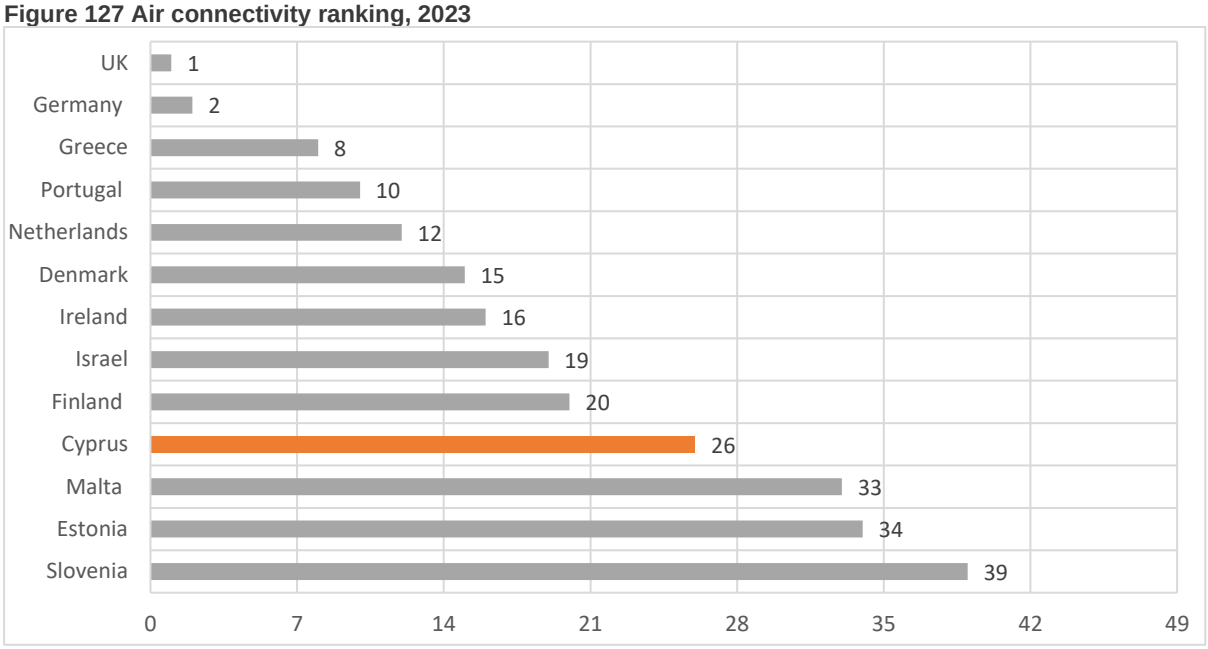
Along with Slovenia, Malta and Estonia, in 2023, Cyprus has a low ranking in terms of Airport Industry Connectivity (Figure 127). Country size is an important explanation for connectivity, with larger countries such as the UK or Germany being better connected than smaller countries like Cyprus. These structural factors imply that it may be hard for policy makers and airport authorities to address weak connectivity.

Despite Cyprus's low air connectivity score in 2023, compared to 2018, Cyprus's air connectivity score has improved by 17 percent, placing Cyprus as the European country with the highest increase in the direct and indirect connections amongst 31 countries.

Moreover, in 2022 Cyprus ranks in the bottom in the World Bank Logistics Performance

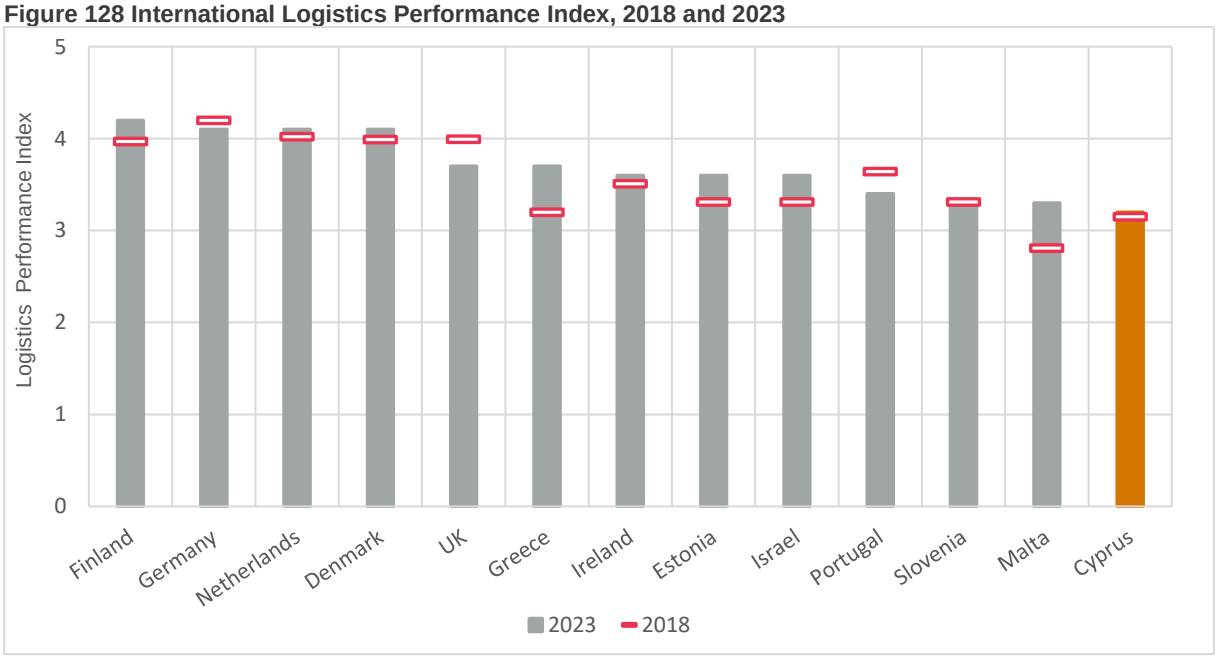
Index (Figure 128). Underlying information behind this indicator identify weak spots in the ease of arranging competitively priced shipments, the competence and quality of logistics services, and the ability to track and trace consignments. This suggest that soft infrastructure may matter as much as the physical infrastructure for delivering improvements in Cyprus' overall international logistics performance.

Figure 127 Air connectivity ranking, 2023



Notes: Airport connectivity is defined as the sum of direct and indirect connectivity – thus measuring the overall level to which an airport is connected to the rest of the world.
Source: Airports Council International - Europe, Airport Industry Connectivity Report, 2023.

Figure 128 International Logistics Performance Index, 2018 and 2023



Source: World Bank, Logistics Performance Index, 2023.

Definition: International Logistics Performance Index (World Bank)

The World Bank Logistics Performance Index (LPI) benchmarks countries' performance on trade logistics across 139 countries. The LPI is based on a worldwide survey of operators on the ground (global freight forwarders and express carriers), providing feedback on the logistics "friendliness" of the countries in which they operate (domestic LPI) and those with which they trade (international LPI). Feedback from operators is supplemented with quantitative data on the performance of key components of the logistics chain in the country of work. The international LPI ranks countries on six dimensions of trade. They are:

- **Customs:** The efficiency of customs and border management clearance;
- **Infrastructure:** The quality of trade and transport infrastructure;
- **Ease of arranging shipments:** The ease of arranging competitively priced shipments;
- **Quality of logistics services:** The competence and quality of logistics services;
- **Tracking and tracing:** The ability to track and trace consignments;
- **Timeliness:** The frequency with which shipments reach consignees within scheduled or expected delivery times.

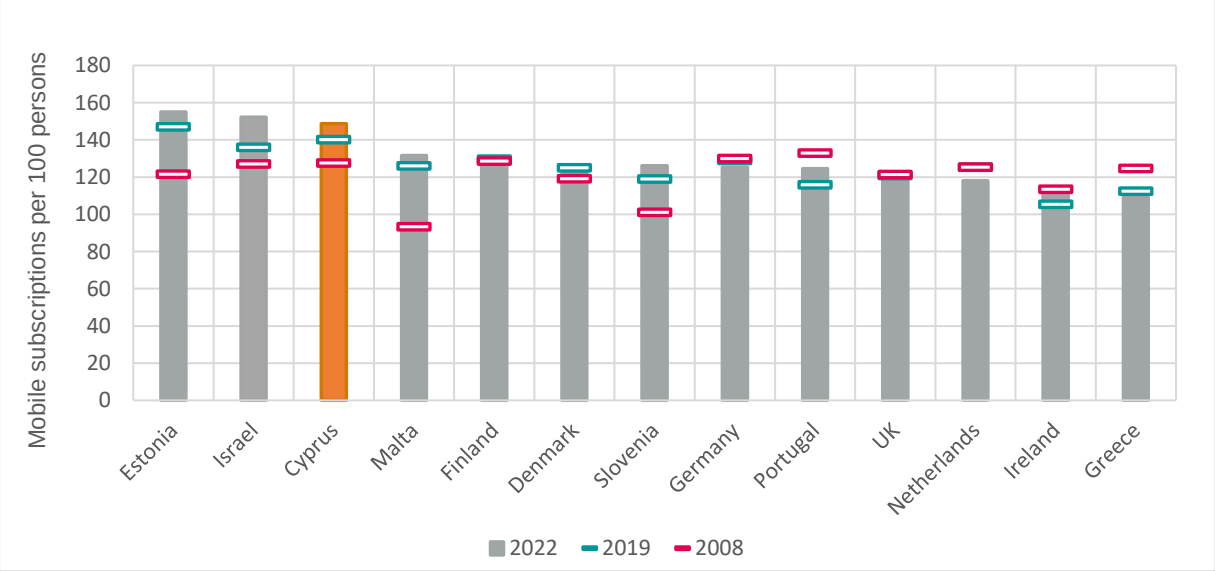
ICT infrastructure

Cyprus aligns closely with benchmark countries concerning fixed and mobile phone subscriptions, as illustrated in Figure 129. Nevertheless, when examining its overall performance, weaknesses become apparent in the domains of internet accessibility, computer usage, and adoption, despite the nation's commendable levels of educational attainment. More specifically, average internet speed seems to be one problem area, with European Data Journalism placing Cyprus well below the benchmark countries, except for Greece in downloading and uploading speed (Figure 130).

The small market size or peripheral location do not seem to explain this outcome, as countries such as Denmark and Netherlands provide significantly higher speeds. The European Commission's Digital Economy and Society Index also finds that connectivity is a weak spot for Cyprus, along with human capital (i.e., digital skills), which are both below the EU average (Figure 131).

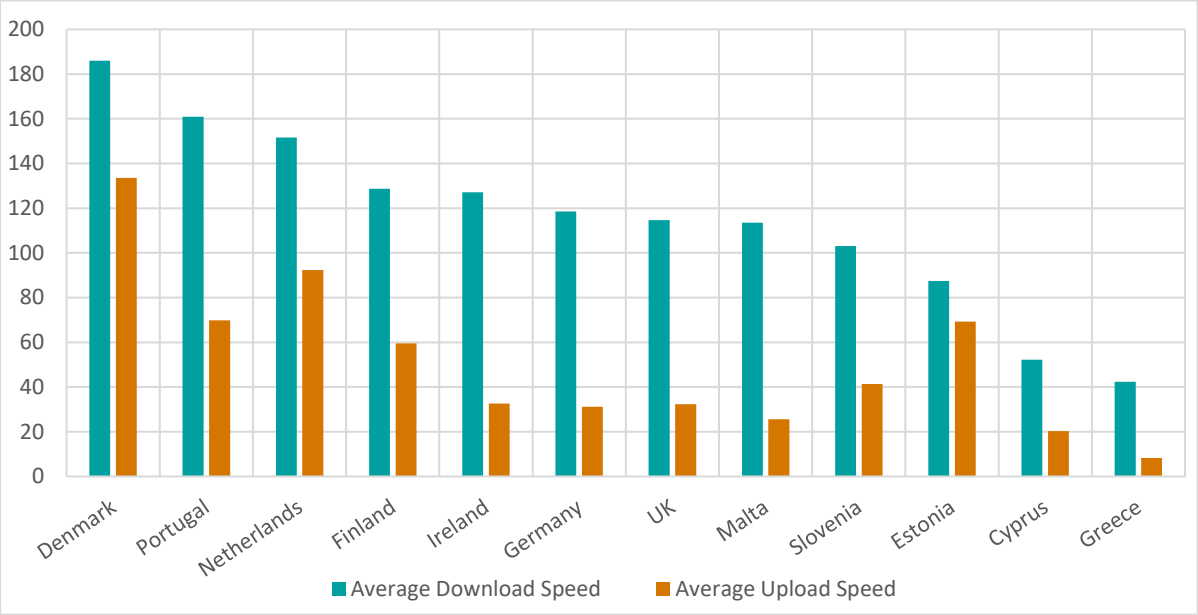
Potentially, this creates the possibility of a negative cycle, whereby low internet speeds, low broadband penetration and high prices create a barrier to digital adoption and acquisition of digital skills and, conversely, these constrain demand for broadband internet and hence restrict incentives for suppliers to roll-out infrastructure investments and service.

Figure 129 Mobile-cellular telephone subscriptions, 2008, 2019 and 2022



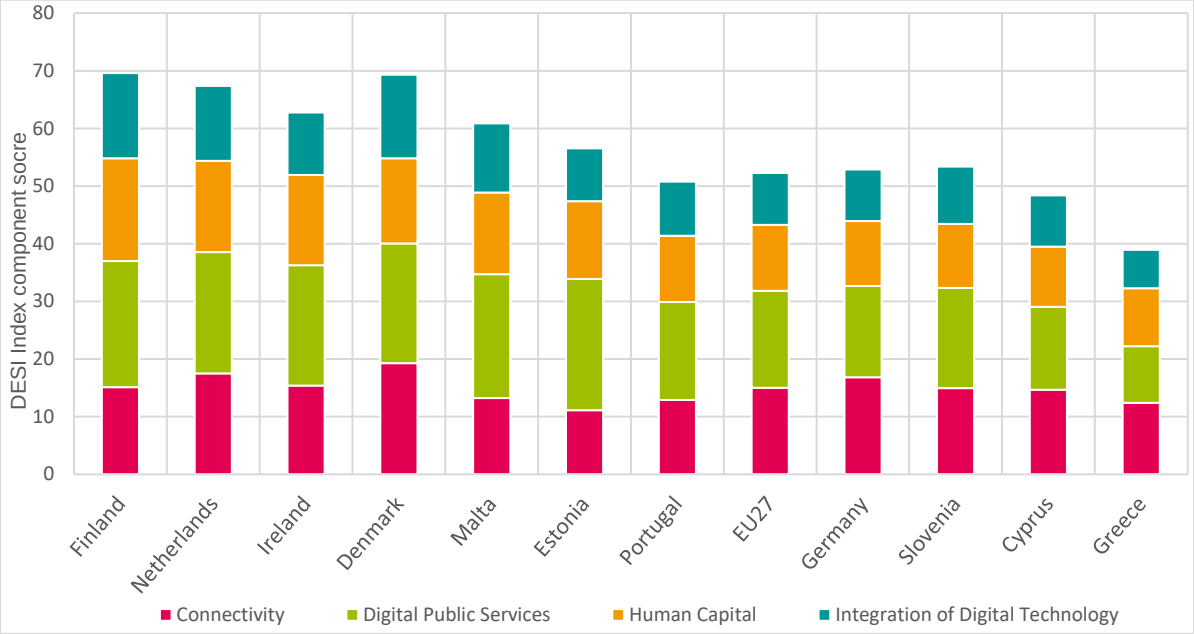
Notes: The data of Cyprus for 2021 was used for 2022
Source: World Bank, Development Indicators: Mobile cellular subscriptions (per 100 people) [IT.CEL.SETS.P2]

Figure 130 Average Download and Upload speed, 2022



Notes: No data for Israel
Source: European Data Journalism, 2022

Figure 131 Digital Economy and Society Index, 2022



Notes: The Digital Economy and Society Index (DESI) is based on about 33 indicators, in four dimensions: connectivity, human capital, integration of digital technology, and digital public services. No data for Israel and UK.
Source: European Commission, Digital Scoreboard, Digital Economy and Society Index(DESI), 2022

8 Social and environmental sustainability

Social and environmental sustainability are important societal objectives. They are also important preconditions for achieving and maintaining competitiveness in the long-term. Social sustainability in Cyprus faced a big challenge in the aftermath of the 2012-13 banking crisis, with high rates of unemployment, increased risk of poverty, loss of income and wealth, and higher inequality. The country weathered these challenges well but was still in the recovery phase when the 2020 pandemic hit the globe, presenting societies with a new set of unique and unforeseen challenges. As the pandemic was receding, increased geopolitical tensions added an additional level of uncertainty.

In comparison to the benchmark countries, Cyprus' ecosystem vitality and, to a lesser extent, environmental health is weak. This is concerning given the implications for the attractiveness and viability of Cyprus as a tourism destination and its ambition to attract entrepreneurial talent. Cyprus is vulnerable to climate change and needs to address the risks of rising temperatures, desertification, water supply, air quality, marine depletion. Many of these are global issues that are beyond the control of a small island but there are several areas where public policy can have a significant impact. Cyprus' record in this respect is lacking: the use of renewable energy is low, the production of waste is high, and the recycling rate and share of waste not going to landfills are low. Cyprus faces major challenges in eight out of the 17 UN Sustainable Development Goals (SDGs) and significant challenges in another six. Only three SDGs are on track to be achieved by the target date of 2030. Cyprus can and should do better to ensure sustainable growth in a pleasant living environment.

8.1 Social performance

Indicators of social performance present a mixed picture for Cyprus compared to the benchmark countries. The global financial and economic crisis and the domestic banking crisis had a negative impact on indicators of social performance for Cyprus. The economic recovery led to an improvement in several dimensions, but the pandemic halted or even reversed the positive trend. Even post-pandemic, these negative trends have been persistent, and Cyprus saw small improvements if any at all.

Table 4 Average satisfaction rating by country

Country	2013	2018	2021	2022
Finland	8.0	8.1	7.9	7.7
Netherlands	7.8	7.7	7.6	7.6
Denmark	8.0	7.8	7.3	7.5
Slovenia	7.0	7.3	7.5	7.5
Ireland	7.4	8.1	7.3	7.4
Malta	7.1	7.5	7.1	7.4
Cyprus	6.2	7.1	6.8	7.2
Estonia	6.5	7.0	7.2	7.2
EU27	7.0	7.3	7.2	7.1
Portugal	6.2	6.7	7.0	7.0
Greece	6.2	6.4	6.8	6.7
Germany	7.3	7.4	7.1	6.5

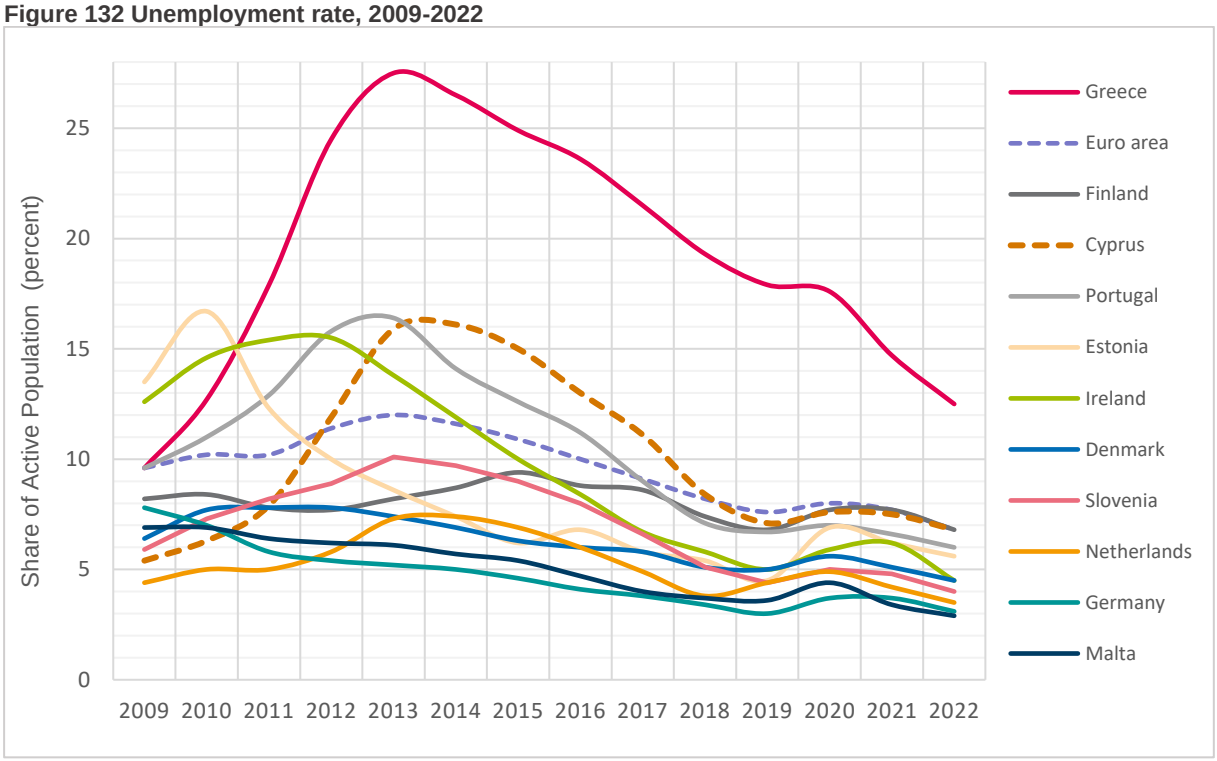
Source: Eurostat, Average rating of satisfaction by domain, sex, age and educational attainment level [ilc_pw01].

Table 4 presents a measure of overall life satisfaction by residents of the benchmark countries, with darker colours implying a higher level of satisfaction. Cyprus positioned itself near the midpoint of the table, in 2022 with a rating of 7.2, the same as Estonia and slightly above the EA average of 7.1. The six countries above Cyprus and Estonia have ratings between 7.4-7.7, while the four countries below are in the 6.5-7.0 range. Germany's surprising bottom place in this table is the result of a sharp drop from previous years. This is likely due to the war in Ukraine and its consequences on the lives of German citizens.

Unemployment

Figure 132 shows the unemployment rate during 2009-2022. Unemployment in Cyprus has been declining steadily since its 2014 peak of 16.1 percent, except for a pandemic-related pick-up in 2020. In 2022 it was 6.8 percent, higher than most of the benchmark countries except Greece but very close to the EA average (which is pulled up by the high unemployment rate of Greece). The analysis in Section 3.2 shows that long-term unemployment remains in check (2.3 percent versus the EA average of 2.7). Perhaps most worrying is the uptick in youth unemployment in 2022 to 18.6 percent, which is substantially higher than the EA average of 14.6 percent.

Figure 132 Unemployment rate, 2009-2022



Notes: No data for Israel and the UK.
Source: Eurostat, Labour Force Survey: Unemployment [une_rt_a].

Risk of poverty and social exclusion

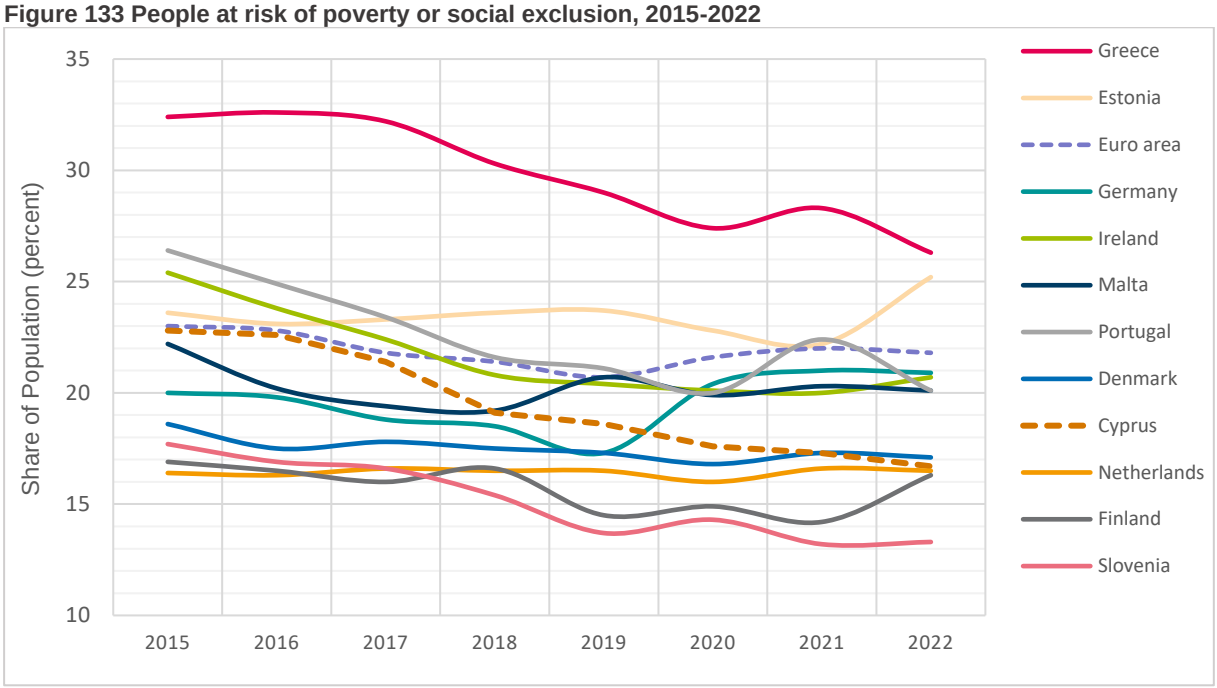
Cyprus exhibits a commendable performance in relation to the risk of poverty and social exclusion when compared to other benchmark countries. Since 2015, there has been a steady decline in the number of individuals facing a risk of poverty or social exclusion in Cyprus (Figure 133).

Definition: At risk of poverty or social exclusion

At risk of poverty or social exclusion, abbreviated as CARG, refers to the situation of people either at risk of poverty, or severely materially deprived, or living in a household with a very low work intensity. The AROPE rate measures the share of the total population that is at risk of poverty or social exclusion.

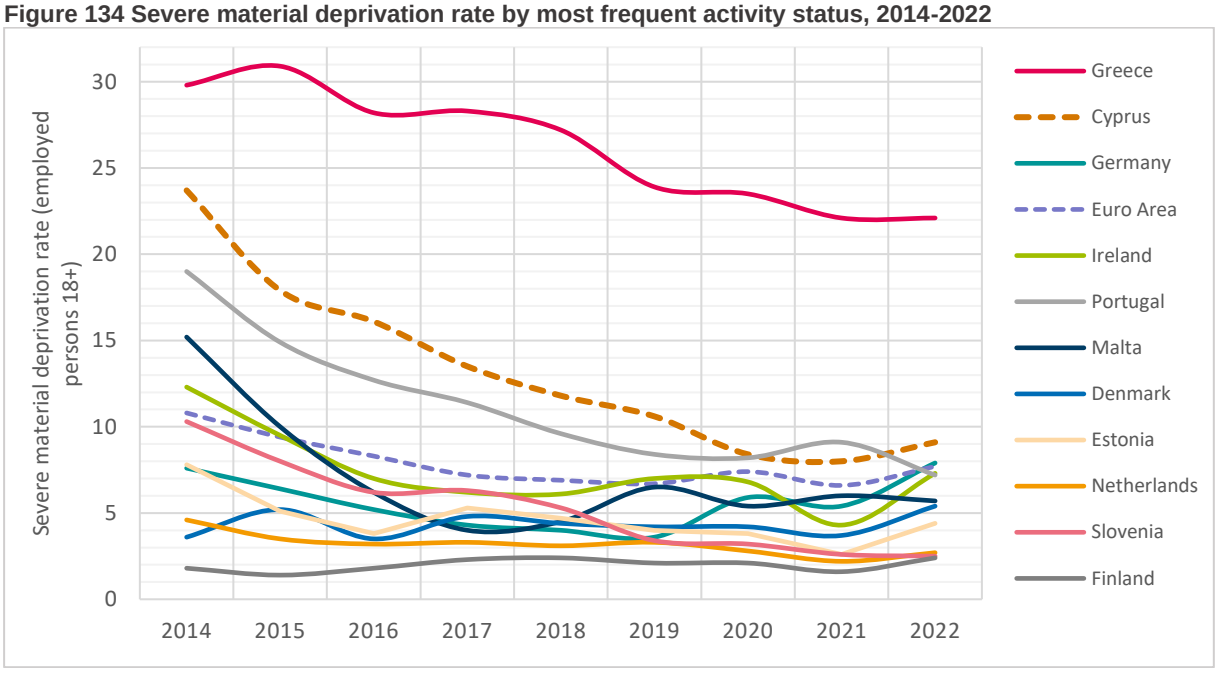
In 2022, Cyprus does better than all but three benchmark countries. Moreover, Cyprus has bucked the EA trend that has seen an increase of people at risk since 2019. An indicator of material deprivation displayed in Figure 134 paints a different picture. Although it has improved significantly since 2014, Cyprus still does worse than all benchmark countries except for Greece. In 2022 there is also a reversal of the positive trend, which is a matter of concern. A similar reversal occurred in several countries and is likely related to the pandemic and the war in Ukraine.

Figure 133 People at risk of poverty or social exclusion, 2015-2022



Notes: No data for Israel.
Source: Eurostat, People at risk of poverty or social exclusion by age and sex [ilc_peps01N].

Figure 134 Severe material deprivation rate by most frequent activity status, 2014-2022



Notes: No data for Israel.
Source: Eurostat, Material and social deprivation rate by age, sex and most frequent activity status (population aged 18 and over) [ILC_MDSD01__custom_7042743].

Shared Prosperity

Shared prosperity is a concept introduced by the World Bank to measure the extent to which economic growth is inclusive (see box). There are two indicators. *Shared prosperity* is the average annual growth rate in income or consumption of the bottom 40 percent of the population in a country. *Shared prosperity premium* is the difference between the growth of the poorest 40 percent and the growth rate for the entire population.

Figure 135 depicts these two indicators. Shared prosperity is positive in all benchmark countries, reflecting an improvement in the standard of living of the poorest 40 percent. Cyprus does well with an annualized growth rate of approximately 4.6%, surpassed only by Ireland and Estonia.

Although shared prosperity indicates how the poorest in each country have fared in recent years, this measure alone does not reveal whether the progress at the bottom of the distribution is the result of widespread growth benefiting all groups or whether it is the result of a shift in the distribution of economic gains toward the bottom 40 (Lakner et al. 2022). To distinguish between these scenarios, the analysis includes the Shared Prosperity Premium (SPP) which can be seen as a measure of changes in inequality. The SPP is positive in most benchmark countries, signifying relative improvements in the well-being of the bottom 40 percent of the population. Malta and Germany were exceptions and had a negative SPP, suggesting a relatively less favourable outcome for the lower-income segment in those countries. Cyprus again comes out as a strong performer in this respect, trailing only Greece and Ireland.

Definition: Shared Prosperity

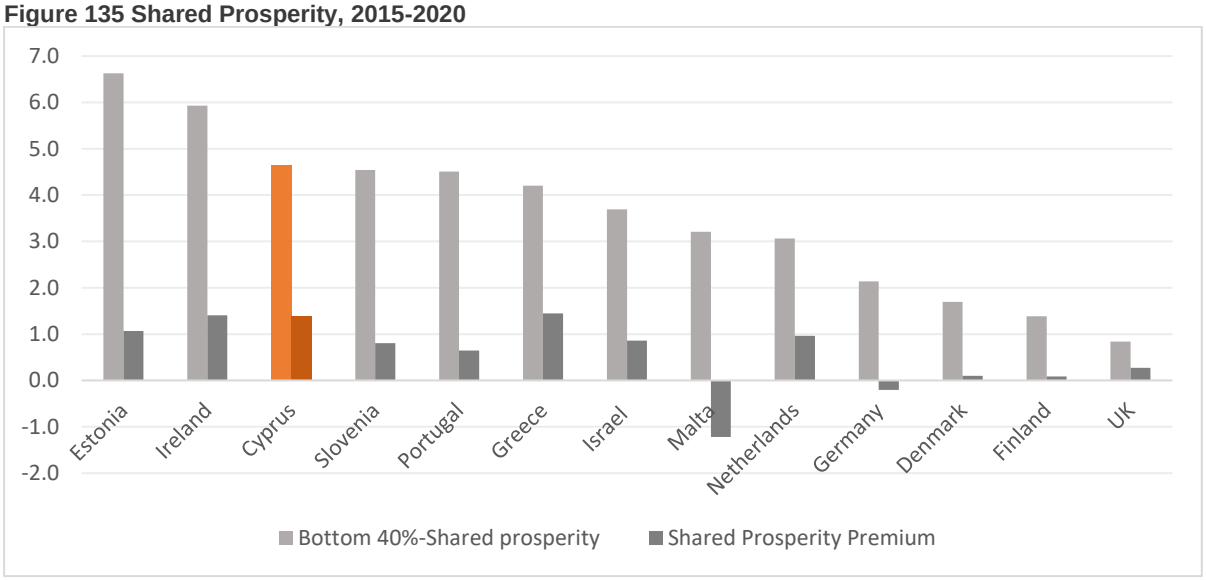
Shared prosperity measures the extent to which economic growth is inclusive by focusing on household consumption or income growth among the poorest population. It is measured as the annualized growth rate in the average consumption or income per capita of the poorest 40 percent (the bottom 40) of the population in a country.

The shared prosperity premium is the difference between the growth of the poorest 40 percent and the growth rate for the entire population.

A positive premium indicates that economic growth is more inclusive, benefiting a larger portion of the population, particularly those in lower income groups.

According to the World Bank, they “are important indicators of inclusion and well-being that correlate with reductions in poverty and inequality.”

Figure 135 Shared Prosperity, 2015-2020



Source: World Bank, Global Monitoring Database (GMD).

Health

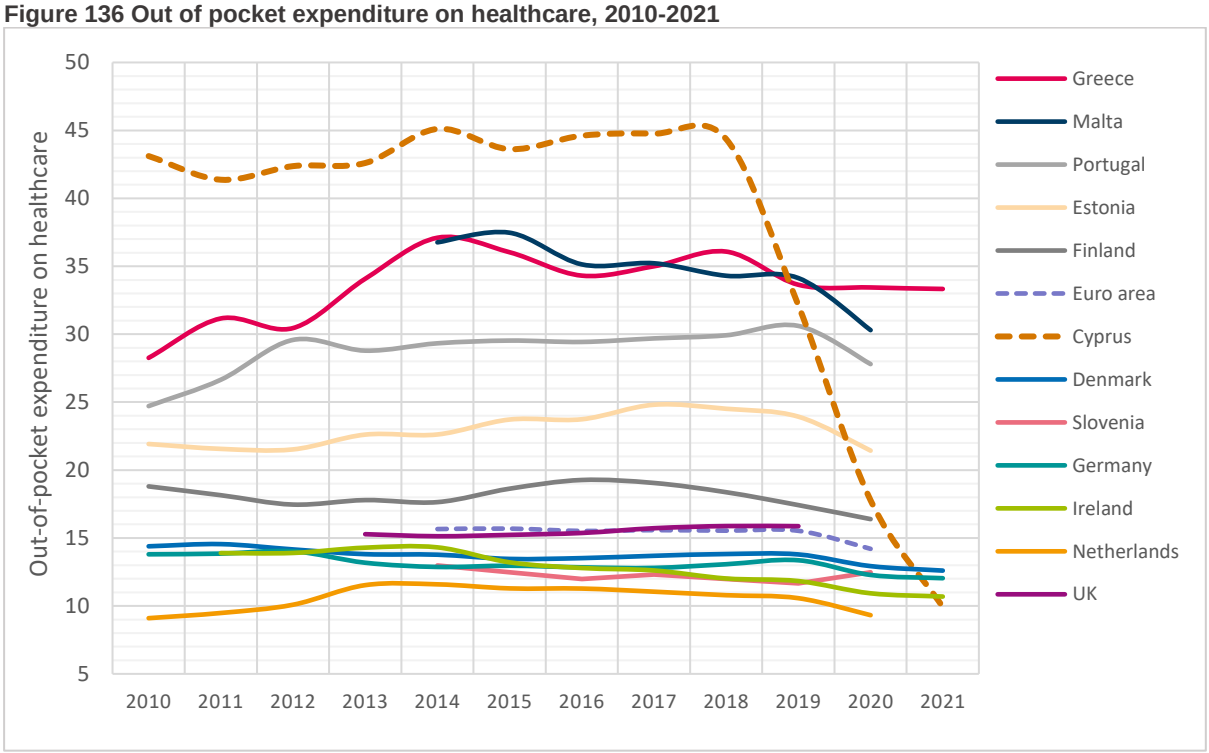
The health of a country's residents is an important source of competitiveness. This section examines four indicators related to health. Figure 136 shows out-of-pocket expenditures on healthcare. Cyprus stood out with the highest expenditures by far until 2018. This was a direct result of the lack of a national health system. Expenditures drop substantially in 2019, the year that the General Healthcare System (known by its Greek acronym GESY) was put in operation (starting March 1st). The declining trend continued through 2020 and 2021, as the scheme went into full operation. This decline in expenditures does not translate into increased disposable income for households, as much of the savings have been channelled into contributions to GESY. All said, GESY was clearly a milestone reform that provides for greater equality in access to health care.

Figure 137 shows peoples' self-perceived health. The percentage of people rating their own health as good is among the highest in Cyprus, ranking second among benchmark countries in 2022.

The positive self-perception comes in some contrast with the next two indicators. Figure 138 shows overweight rates for children in nine countries for which data are available. Cyprus and Greece are head and shoulders above the rest, with a rate of 43.5 percent for the 2018-2020 period, while the third worst country is at 33 percent. The two countries are also on a worsening trend.

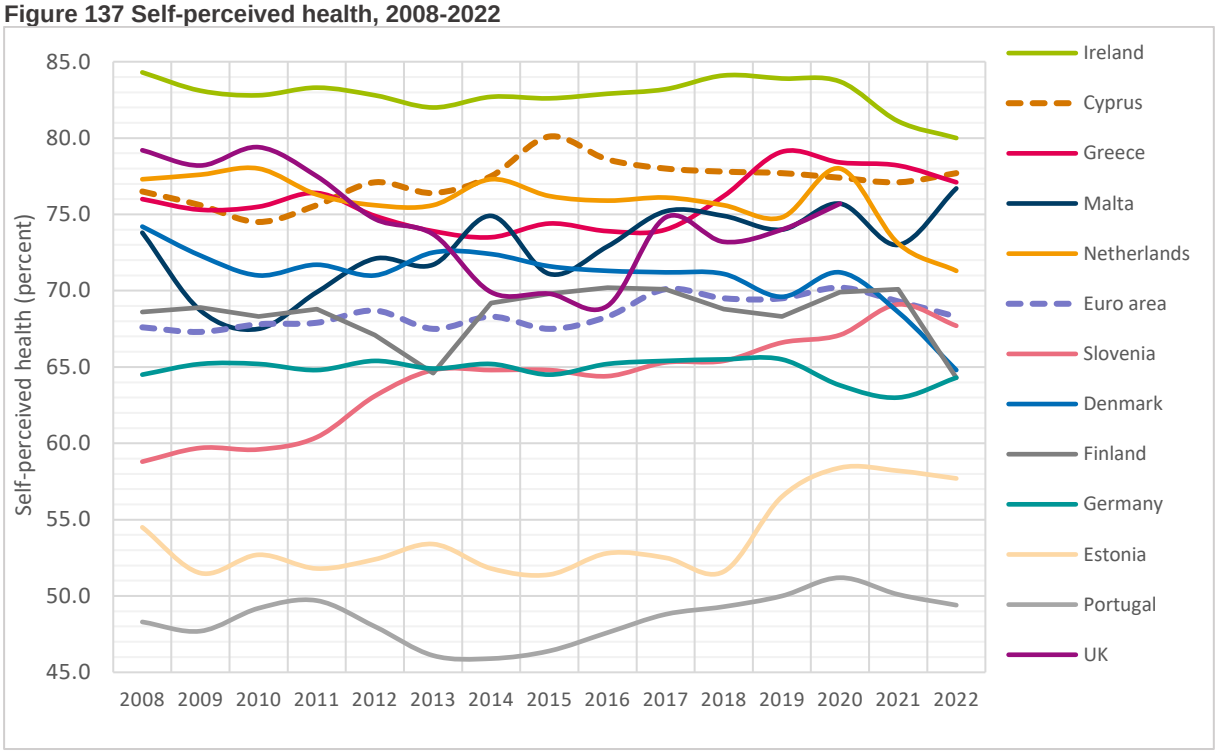
Figure 139 shows the percentage of adults currently using tobacco products. Smoking is losing its appeal in all countries, a positive development from a public health perspective. Tobacco use in Cyprus remains high despite the declining trend. In 2020 it surpassed Greece to become the country with the highest tobacco use among this group.

Figure 136 Out of pocket expenditure on healthcare, 2010-2021



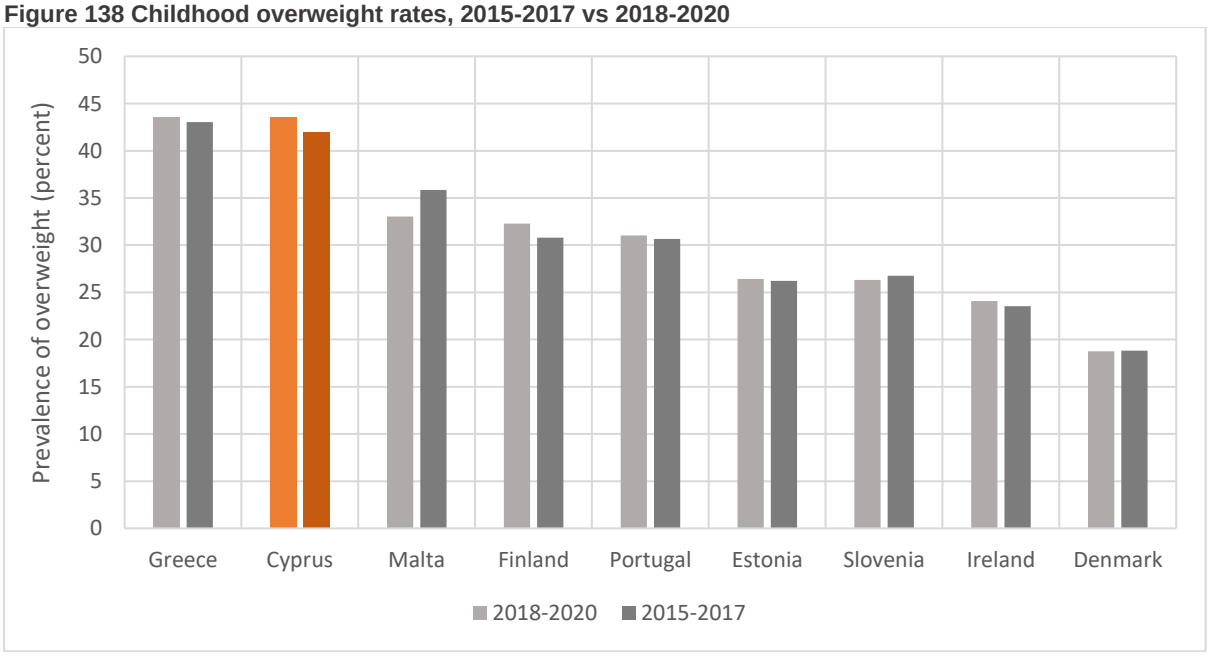
Notes: No data for Israel. Missing data for countries like Malta, Netherlands, Portugal, the UK and EA for some periods.
Source: Eurostat, Out-of-pocket expenditure on healthcare [tepsr_sp310]

Figure 137 Self-perceived health, 2008-2022



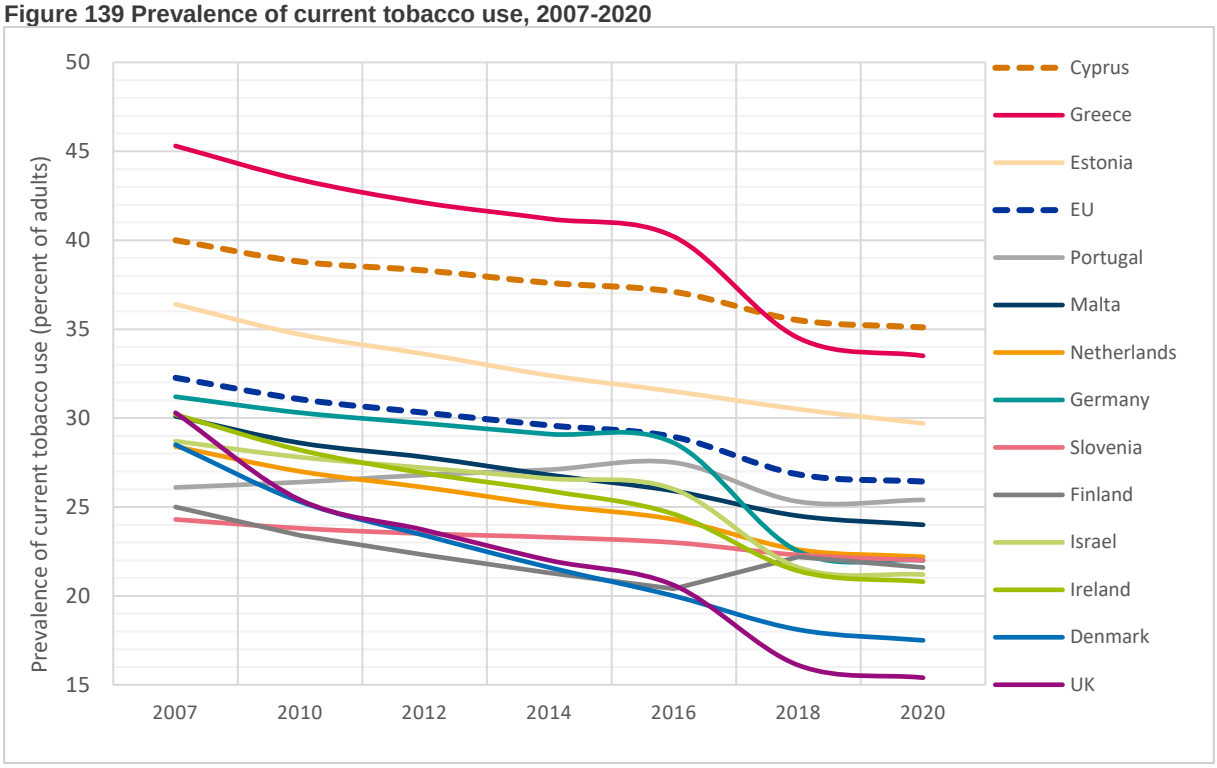
Notes: No data for Israel. Self-perceived health, percent of population at good or very good.
Source: Eurostat, Self-perceived health by sex, age and labour status [hlth_silc_01].

Figure 138 Childhood overweight rates, 2015-2017 vs 2018-2020



Notes: No data for Germany, Netherlands, UK and Israel. Country-specific prevalence of overweight (including obesity) according to WHO definition among boys and girls, by age (percent)
Source: WHO European Childhood Obesity Surveillance Initiative (COSI) Report on the fifth round of data collection, 2015-2017 (2021) and 2018–2020 (2022).

Figure 139 Prevalence of current tobacco use, 2007-2020



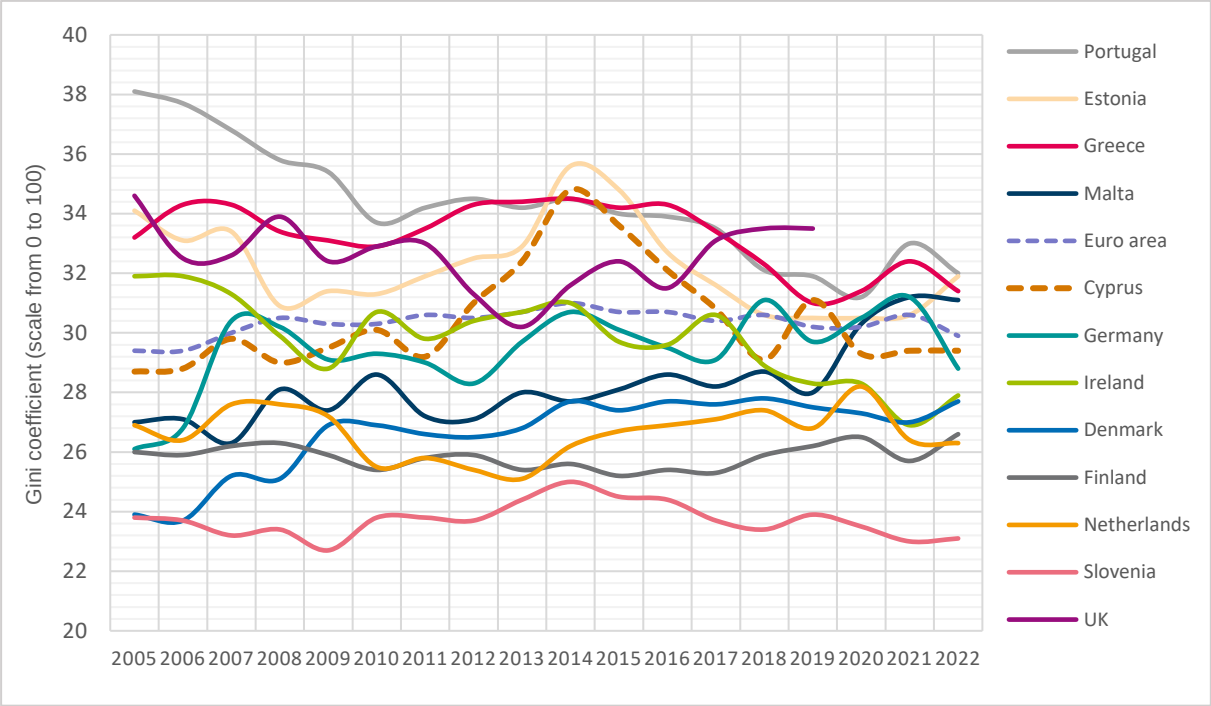
Notes: No data for Israel.
Source: World Bank, World Development Indicators, Prevalence of current tobacco use (percent of adults)

Income Inequality

The most common measure of income inequality is the Gini coefficient (box). It ranges between 0 and 100, with a higher number meaning higher inequality. Figure 140 shows the evolution of the Gini coefficient in Cyprus and the benchmark countries. The picture that emerges is similar to that on poverty risk or social exclusion. Cyprus was in the middle of the pack in 2008 but found itself second behind Estonia in 2014, as inequality rose rapidly because of the financial crisis. Conditions improved starting in 2015 but took a negative turn in 2019 for reasons that are not clear. It improved again in the pandemic year 2020 and has been stable since. In 2022, Cyprus was in the middle of the group with a Gini coefficient of 29.4, just below the EA average of 29.9.

Definition: Gini coefficient
The Gini coefficient measures the extent to which the distribution of income within a country, deviates from a perfectly equal distribution. A coefficient of 0 expresses perfect equality where everyone has the same income, while a coefficient of 100 expresses full inequality where only one person has all the income. The Gini coefficient of equalised disposable income measures the extent to which the distribution of equalised disposable income after social transfers deviates from a perfectly equal distribution.

Figure 140 Gini coefficient of equivalised disposable income, 2005-2022



Notes: No data for Israel.
Source: Eurostat, Gini coefficient of equivalised disposable income (EU-SILC survey) [ilc_di12].

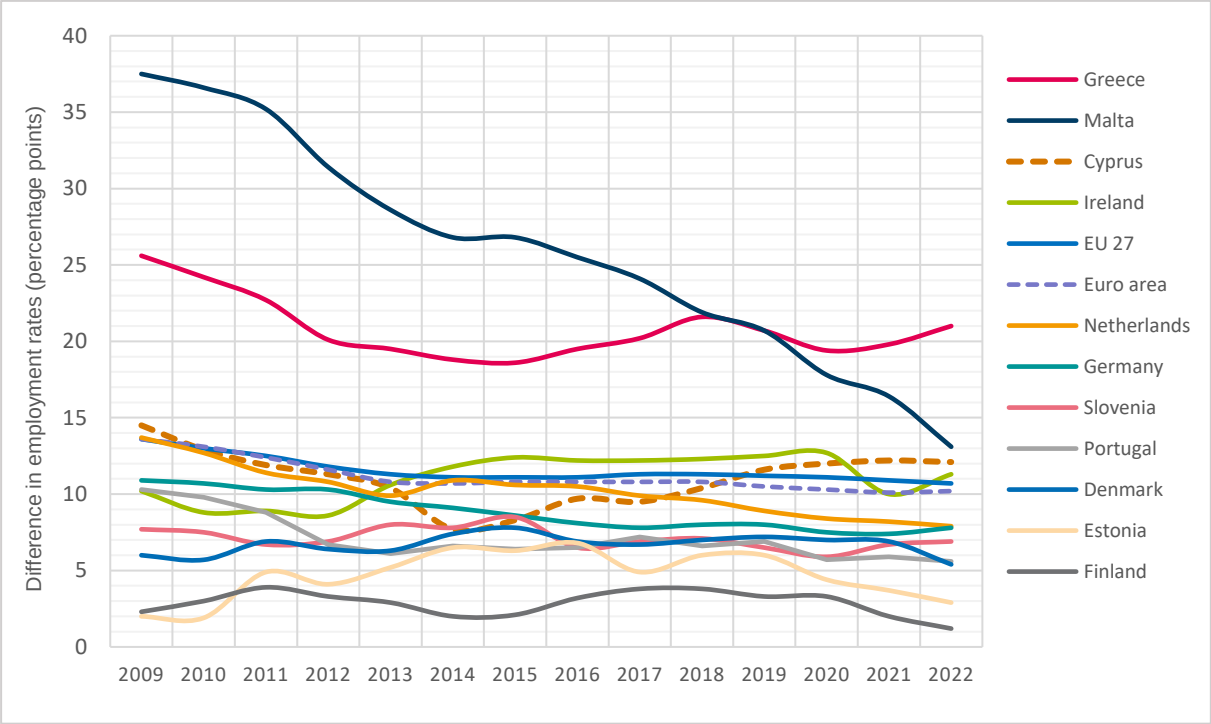
Gender employment gap

Figure 141 shows the gender employment gap, the difference between the employment rates of men and women. Cyprus was on an improving path until 2014, at which point the gap stood at 7.7 percent. The gap increased for the next few years, reaching 12.0 percent in 2020 and ending up at 12.1 percent in 2022. This is the fourth largest in the group and higher than the EU27 average of 10.2 percent. The sharp decline in 2013-14 might be due to the financial crisis hitting men harder, causing a temporary narrowing of the gap. Overall, in the group, there is no clear declining pattern, with the obvious exception of Malta that started with an extremely high gap. Greece also started off with a very high gap which has narrowed somewhat but has stabilized and is now by far the highest in the group. The EU27 and EA averages have record very small declines in the last three to four years. Cyprus' employment gap was the third highest in 2022, after Greece and Malta.

Definition: Gender employment gap

The gender employment gap is defined as the difference between the employment rates of men and women aged 20-64 (i.e., the employment rate for men less the employment rate for women). The employment rate is calculated by dividing the number of persons aged 20 to 64 in employment by the total population of the same age group.

Figure 141 Gender employment gap, 2009-2022



Notes: No data for Israel and the UK.
Source: Eurostat, Labour Force Survey: Gender employment gap [tesem060].

Gender Inequality Index

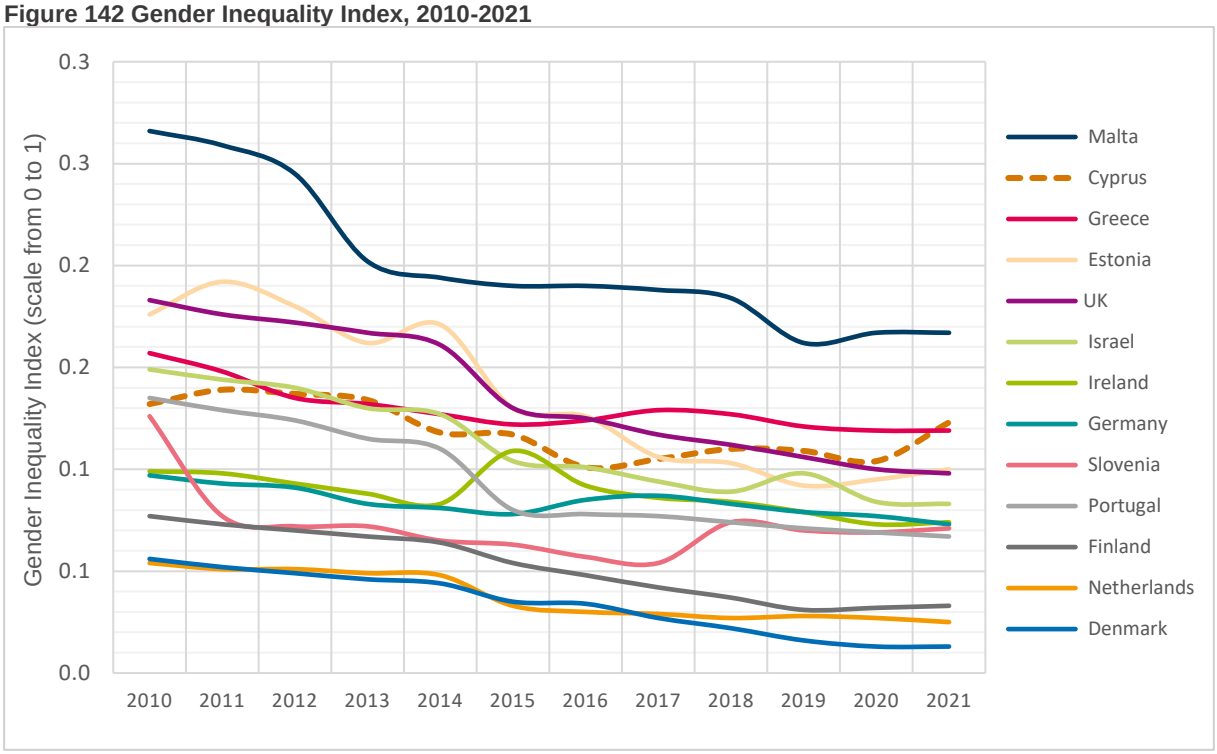
Figure 142 shows the UNDP's Gender Inequality index, which is a broad composite index of gender equality. A higher number indicates higher inequality. Cyprus performs reasonably well. It was in the middle of the group in 2010, better than Malta, the UK, Greece, Israel, Ireland, and Estonia, but below northern European countries. All countries have experienced declining inequality since then, but Cyprus' improvement stalled after 2016 and even took a turn to the worse in 2021.

As a result, Cyprus had the second highest inequality in 2021. This is a worrying trend that needs to be closely examined. One reason behind the worsening of the index in 2021 is the decline in the share of seats occupied by women in parliament, from 20 percent in 2020 to 14 percent in 2021.

Definition: Gender Inequality Index

The Gender Inequality Index measures gender inequalities in three important aspects of human development: reproductive health, measured by maternal the mortality ratio and adolescent birth rates; empowerment, measured by the proportion of parliamentary seats occupied by women and the proportion of adult women and men aged 25 years and older with at least some secondary education; and economic status, expressed as labour-market participation and measured by the labour force participation rate of women and men aged 15 years and older. The Index ranges between 0 and 1, with higher values indicating greater inequality.

Figure 142 Gender Inequality Index, 2010-2021



Notes: Euro area and EU average are not depicted in this figure.
Source: UNDP, Gender Inequality Index.

Gender Gap Index

An additional source of information is the WEF's Global Gender Gap Index. In the year 2023, Cyprus holds the 106th position among 146 countries, earning a score of 0.678 points. This places Cyprus at the lowest rank among the benchmark nations, indicating persistent challenges in terms of gender equality. This pattern has been consistent over the entire period from 2008 to 2023, with occasional shifts in positions observed, particularly in comparison with Greece or Malta (Figure 143).

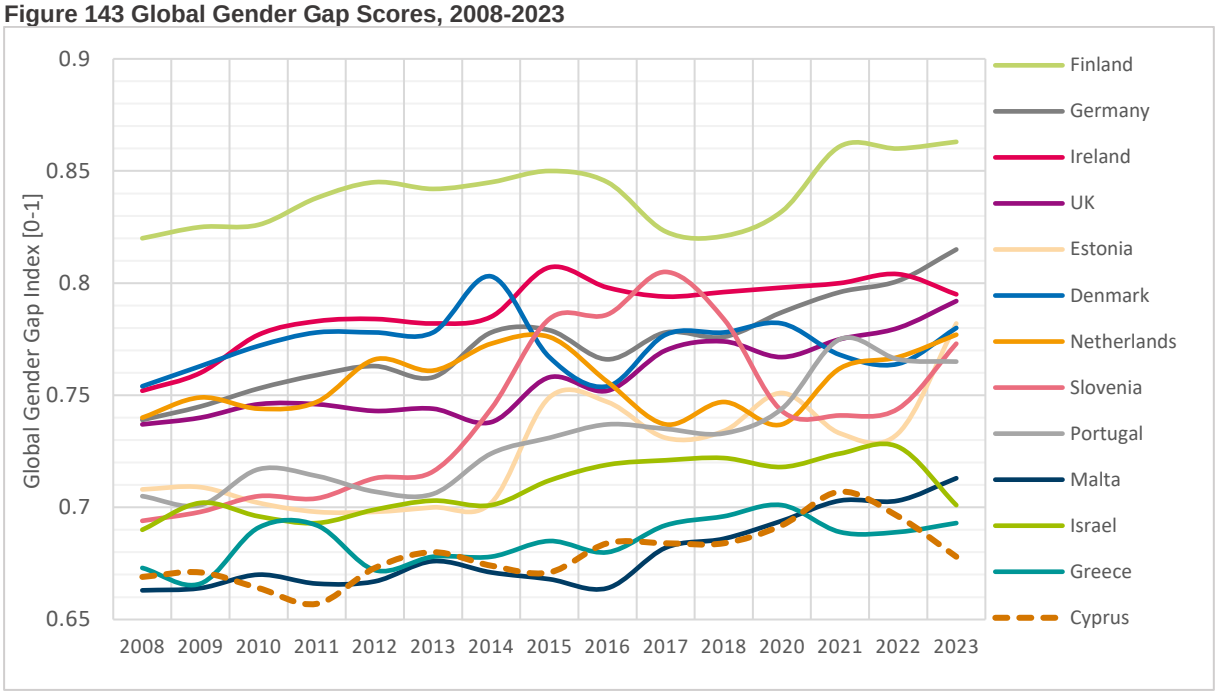
Cyprus demonstrates relatively strong performance in women's labour force participation and access to education. It faces substantial challenges in the realms of political representation and women's health. Addressing these specific issues is imperative for reducing the gender gap and fostering inclusivity within the nation.

Definition: The Global Gender Gap Index

The Global Gender Gap Index was first introduced by the World Economic Forum (WEF) in 2006 to benchmark progress towards gender parity and compare countries' gender gaps across four dimensions: economic opportunities, education, health, and political leadership.

The Global Gender Gap Index is measured on a scale ranging from 0 to 1, where a score of 1 represents the attainment of complete gender parity, indicating the successful closure of the gender gap.

Figure 143 Global Gender Gap Scores, 2008-2023



Note: The report for the year 2019 was omitted due to the impact of the global pandemic. A total of 146 countries were included in the 2023 Report.
Source: WEF; Global Gender Gap Reports 2008 to 2023 - Gender Gap Index.

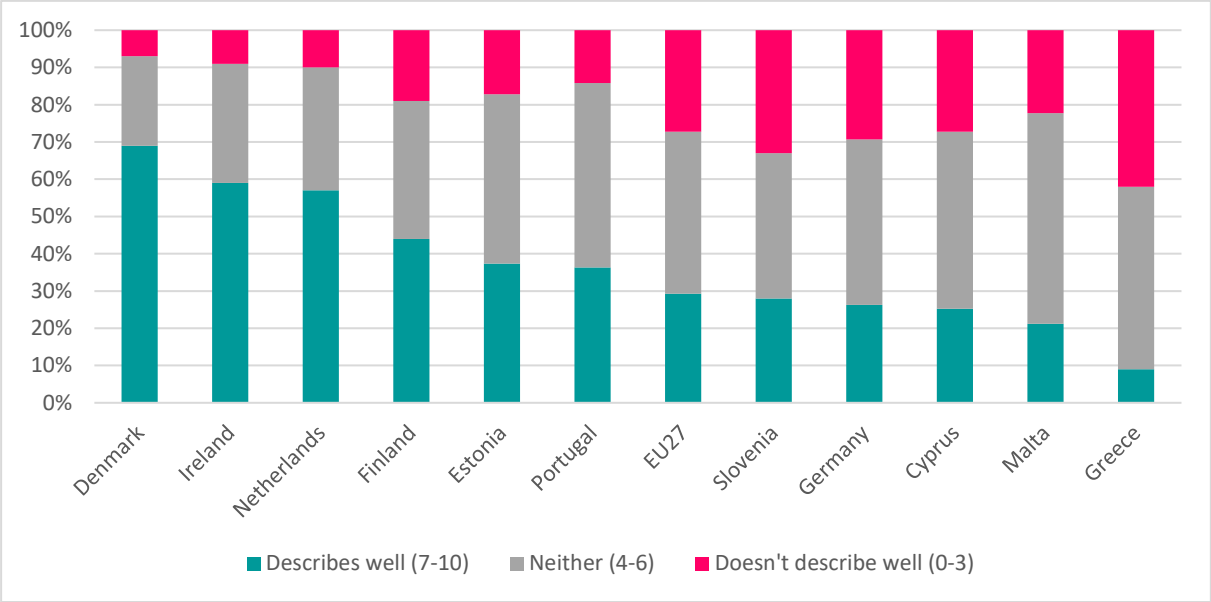
Social capital and trust

Social capital is defined as the set of shared norms and values that contribute to well-being (OECD, 2013). It has received a lot of attention in recent decades as an important determinant of social progress and well-being, an additional factor of production alongside the more traditional forms of capital (physical and human) and technology. There are several initiatives aiming at obtaining measures of social capital.

One dimension of social capital is trust. The OECD defines trust as “a person’s belief that another person or institution will act consistently with their expectations of positive behaviour”. The 2021 CCR reported measures of trust obtained from the World Values Survey (WVS). As there are no updates to the WVS, we report results from the Spring 2023 Eurobarometer survey.

Respondents were asked to indicate the extent to which the statement "you assume that people have only the best intentions" describes them, on a scale from one to ten. Figure 144 presents the results. For clarity, response values were grouped into three categories: "Does not describe you" (values 0-3), "Describes you" (values 7-10), and "Neither" (values 4-6).

Figure 144 Trust in people, 2023



Source: European Commission; Standard Eurobarometer Spring (2023).

Across the EU27, respondents are roughly split between "describes well" (29 percent) and "doesn't describe well" (27 percent), with a large fraction adopting a neutral stance (43 percent). Cyprus is slightly below this average with a 25 percent positive ("describes well") responses, but outperforms Slovenia, Germany, and especially Greece. Although Cyprus is below average, the results of the Eurobarometer survey are encouraging as they are substantially better than the WVS results.

8.2 Resource use and environmental performance

Overall environmental performance

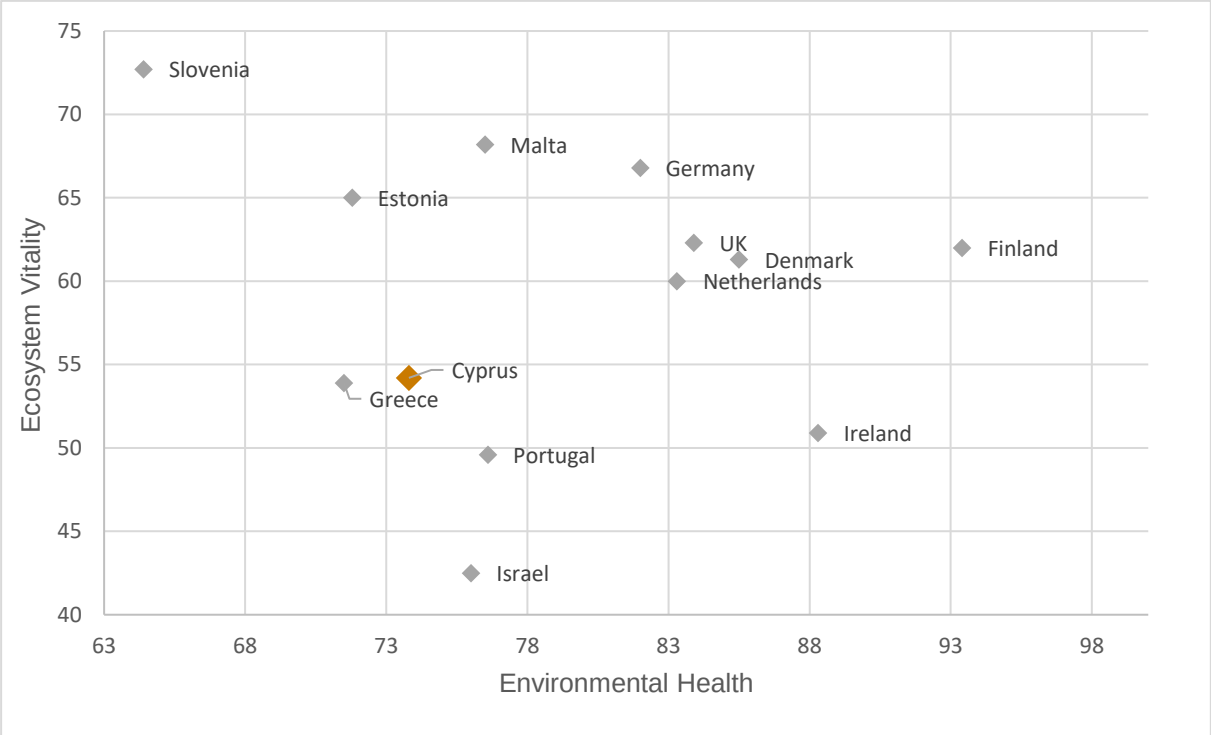
Figure 145 shows the Environmental Performance Index, which is a broad composite measure of environmental health and ecosystem vitality developed at Yale University. In 2022, Cyprus ranks 22nd out of 180 countries. It has a global rank of 26 for the environmental health sub-index (10th among benchmark countries) and 45 for the ecosystem vitality sub-index (9th among benchmark countries), outperforming Ireland, Israel, Greece, and Portugal.

Overall, Cyprus performs well in global terms but holds a comparatively modest position at the European level and in comparison, to benchmark countries. A similar picture emerges with respect to ecosystem vitality. Cyprus is at the bottom half among benchmark countries and there is some distance between its score and that of the countries immediately above it. This raises concerns about the potential impact on the country's allure as a tourism destination. Thus, it needs to maintain a balance between exploiting ecological resources (e.g., eco-diversity, habitat, or water resources) for tourism purposes while preserving ecosystem vitality.

Definition: Environmental Performance Index

The Environmental Performance Index is a composite index measuring environmental health and ecosystem vitality. Environmental health is assumed to rise with economic growth and prosperity. It includes indicators such as access to drinking water, water quality and air quality. Conversely, ecosystem vitality is assumed to come under strain from industrialization and urbanization, and includes indicators such as water resources, forestry and fisheries resources, and biodiversity. The index is scaled to be between 0 and 100, with 100 indicating a better performance.

Figure 145 Environmental Performance Index, 2022



Source: Yale Center for Environmental Law and Policy and Center for International Earth Science Information Network: Environmental Performance Index.

Greenhouse gas emissions and energy intensity

Figure 146 shows the volume of greenhouse gas emissions over time. Cyprus had made progress in reducing man-made greenhouse gas emissions per capita up until 2013. Between 2014 and 2019, greenhouse gas emissions per capita increased, putting Cyprus in second place after Ireland. Emissions dropped across the board in 2020 and 2021 because of the pandemic-induced economic slowdown. This makes it difficult to judge where countries stand in 2021. The bottom line is that Cyprus is a high emitter of greenhouse gases, despite having a small manufacturing sector.

A contributing factor to Cyprus' relatively high emissions has been a rapid increase in energy demand. Cyprus saw the biggest rate of increase in energy demand among EU member states, growing 62 percent from 1.6 to 2.6 million tonnes of oil equivalent between 1990 and 2021 (Eurostat, complete energy balances)[16].

Definition: Greenhouse gas emissions

The Greenhouse gas emissions indicator shows man-made emissions of the 'Kyoto basket' of greenhouse gases that includes carbon dioxide, methane, nitrous oxide, and the so-called F-gases These gases are aggregated into a single unit using gas-specific global warming potential factors and expressed in units of CO2 equivalents. The indicator does not include emissions and removals related to land use, land-use change and forestry, nor does it include emissions from international maritime transport. It does include emissions from international aviation as well as indirect CO2 emissions. CO2 emissions from biomass with energy recovery are not included in national greenhouse gas totals.

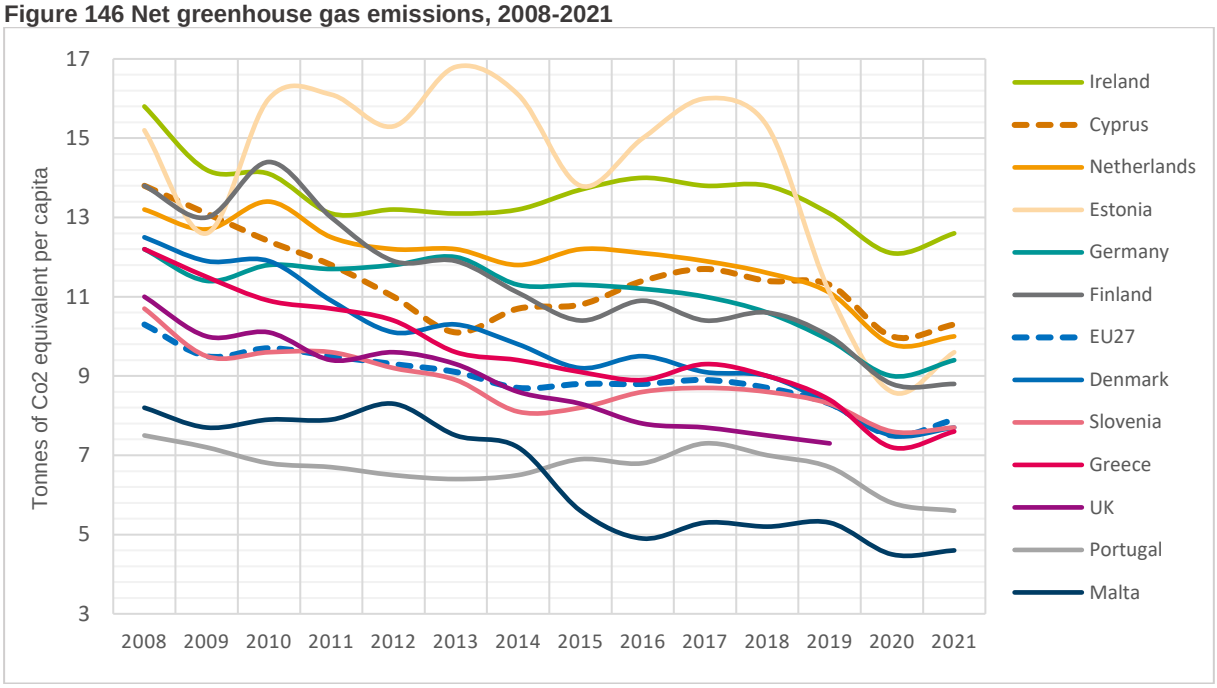
Definition: Energy intensity

Energy intensity is calculated based on Eurostat Energy Balances and GDP data and is expressed as gross inland consumption of energy in tonnes of oil equivalent (TOE) relative to gross domestic product.

[16] Eurostat Energy Balances

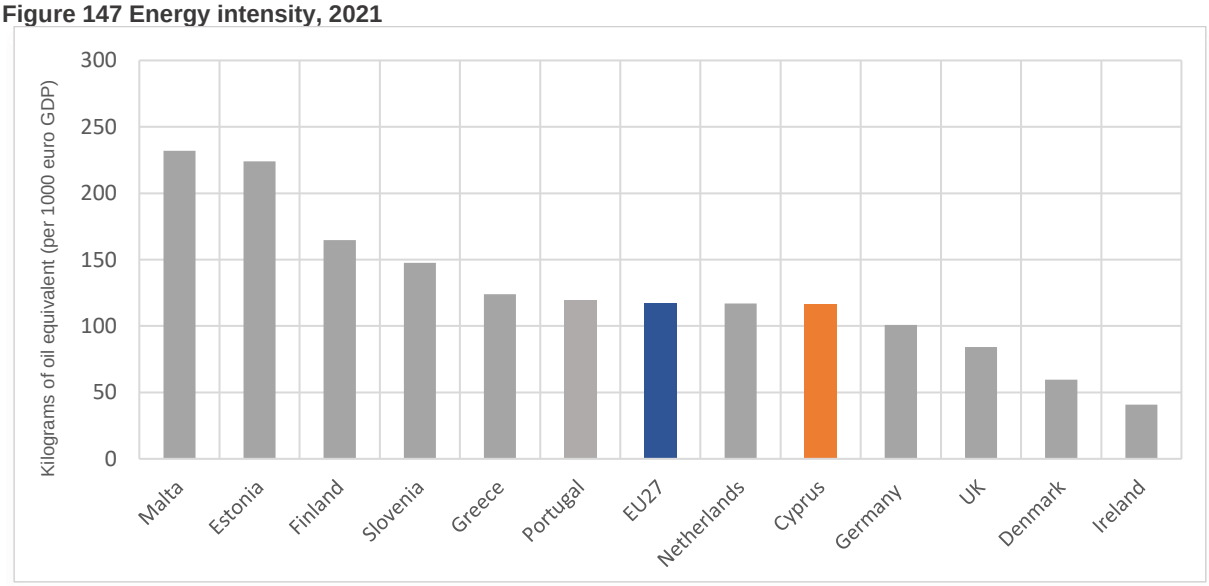
Figure 147 depicts energy intensity, a measure of how much energy a country uses relative to its economic activity. Cyprus is below but very close to the EU27 average and has lower intensity than most benchmark countries.

Figure 146 Net greenhouse gas emissions, 2008-2021



Notes: No data for Israel.
Source: Eurostat: Greenhouse gas emissions per capita [sdg_13_10].

Figure 147 Energy intensity, 2021



Source: Eurostat, Energy intensity [nrg_ind_ei]

Renewable energy

Cyprus' dependence on fossil fuels (mainly oil and petroleum products) in gross available energy is the highest in the EU at around 86 percent (European Commission, 2021)[17]. As shown in Figure 148, Cyprus' renewable energy share was 13.8 percent in 2019, placing the country fifth from the bottom among benchmark, ahead of Ireland, the UK, the Netherlands and Malta, but some distance behind Germany, Greece and the

[17] European Commission (2021).

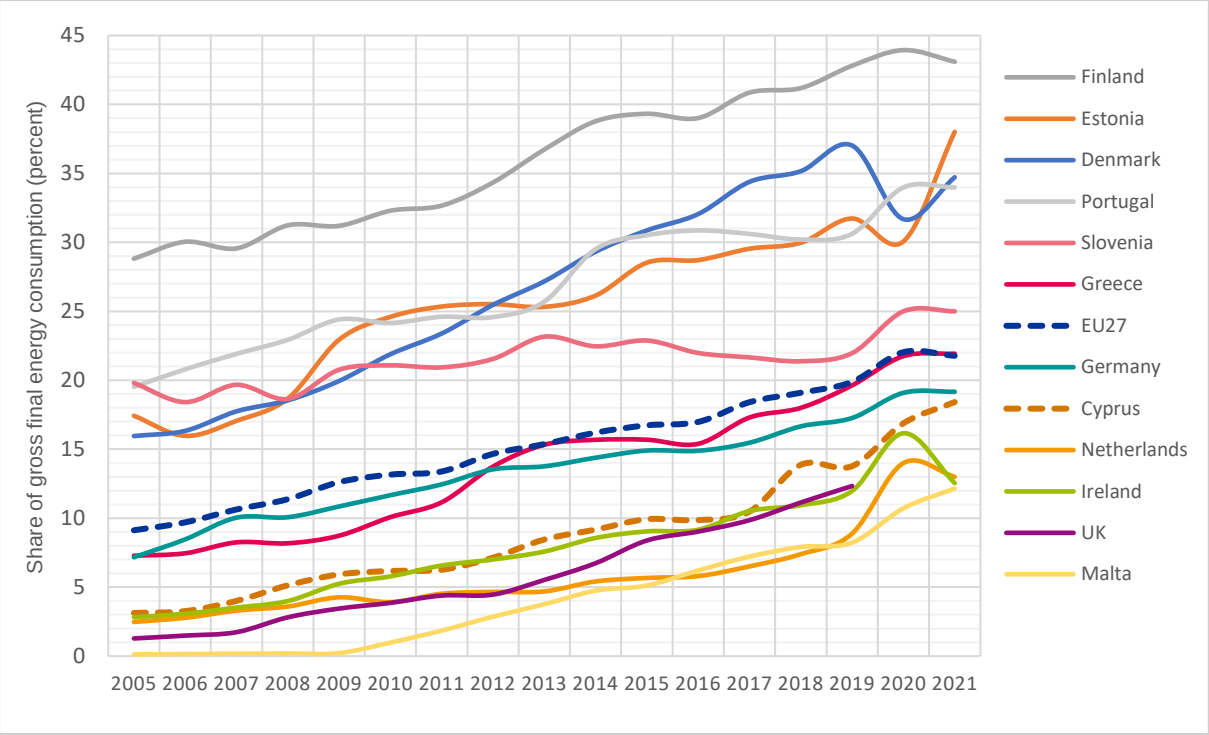
EU. Cyprus reached the target of 13 percent of gross final energy consumption by 2020 two years ahead of schedule in 2018. There was a slight setback in 2019, but since then, Cyprus has been consistently increasing its renewable energy usage, reaching 18.4 percent in 2021. There may be some concern that continued strong economic growth may undermine achieving this objective.

Definition: Renewable energy in gross final energy consumption

This indicator shows the share of renewable energy consumption in gross final energy consumption according to the Renewable Energy Directive.

The gross final energy consumption is the energy used by end consumers (final energy consumption) plus grid losses and self-consumption of power plants.

Figure 148 Renewable energy in gross final energy consumption, 2005-2021



Notes: No data for Israel.
Source: Eurostat: Share of renewable energy in gross final energy consumption [sdg_07_40].

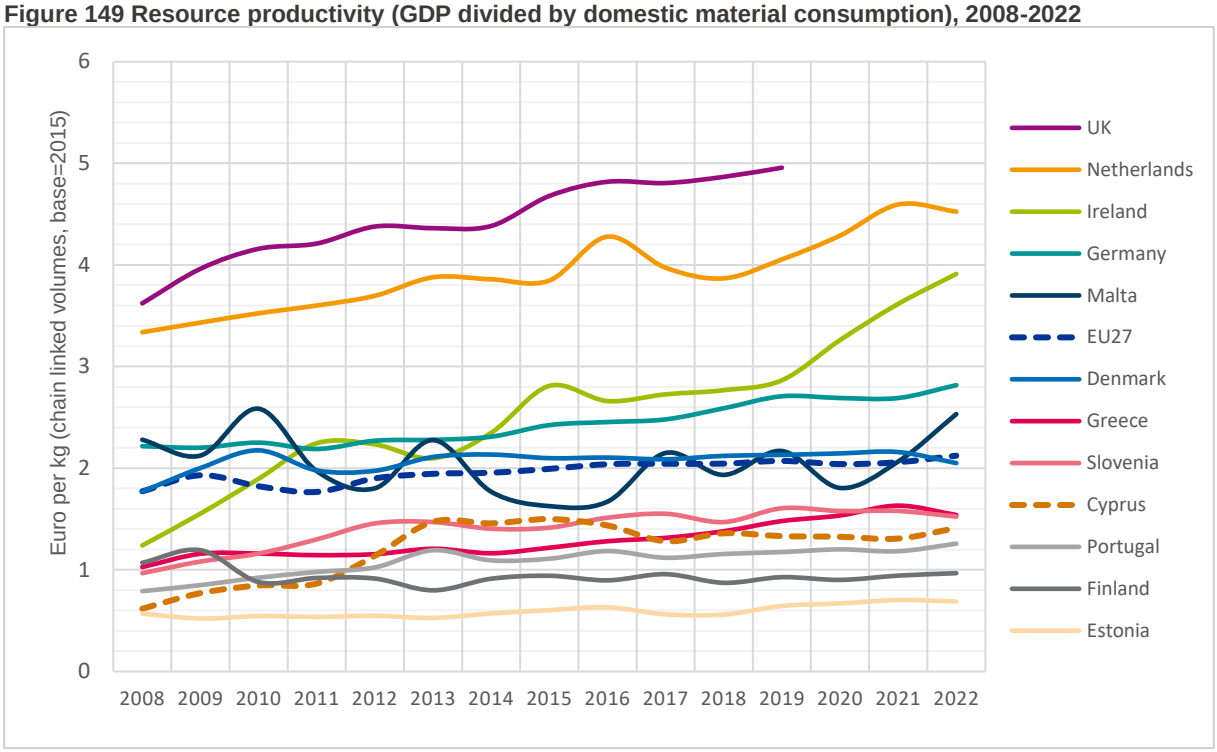
Resource productivity

Resource productivity is a measure of how efficiently an economy uses its resources. It measures the value of output produced by an economy per unit of material resources used. Cyprus is near the bottom of the group, substantially below the EU average (Figure 149). Perhaps more worryingly, there is no indication of improvement. There was an increasing trend until 2013 but the measure has been flat ever since. In fact, and despite an uptick in the last year of data, it is slightly lower in 2022 than it was in 2013.

Definition: Resource productivity

Resource productivity is measured as gross domestic product (GDP) divided by domestic material consumption (DMC). DMC measures the total amount of materials directly used by an economy and covers the quantity of raw materials extracted from the domestic territory, plus all physical imports minus all physical exports. The term 'consumption', as used in DMC denotes apparent consumption and not final consumption.

Figure 149 Resource productivity (GDP divided by domestic material consumption), 2008-2022



Notes: No data for Israel.
Source: Eurostat: Resource productivity and domestic material consumption [sdg_12_20].

Waste management: Landfill

Waste management refers to the treatment of the waste produced by economic activity. Preservation of the environment requires maximizing the treatment of waste and limiting the volume of waste going to landfill sites.

Figure 150 shows the proportion of waste going to landfill sites in each country. For Cyprus the figure stood at 52 percent in 2020, much higher than the EU27 average. On the positive side, this is an improvement from the 70 percent in 2016. It may be that the 2020 figure is a result of much lower tourism activity in that year due to the pandemic. On the other hand, the positive trend started prior to that, even though tourism was booming until 2019. Overall, it is evident that Cyprus has much work to do in this area.

Definition: Landfill rate of waste

The Landfill rate of waste indicator is defined as the volume of waste landfilled (directly or indirectly) in a country per year divided by the volume of the waste treated in the same year. The data excludes waste that is imported from non-EU countries. The measurement of waste excludes mineral waste from construction and demolition, other mineral wastes, soils and dredging spoils. The indicator covers landfilling of hazardous and non-hazardous waste from all sectors and from households, including waste from waste treatment but excluding most mineral waste, and waste going into pre-treatment activities (like sorting, drying).

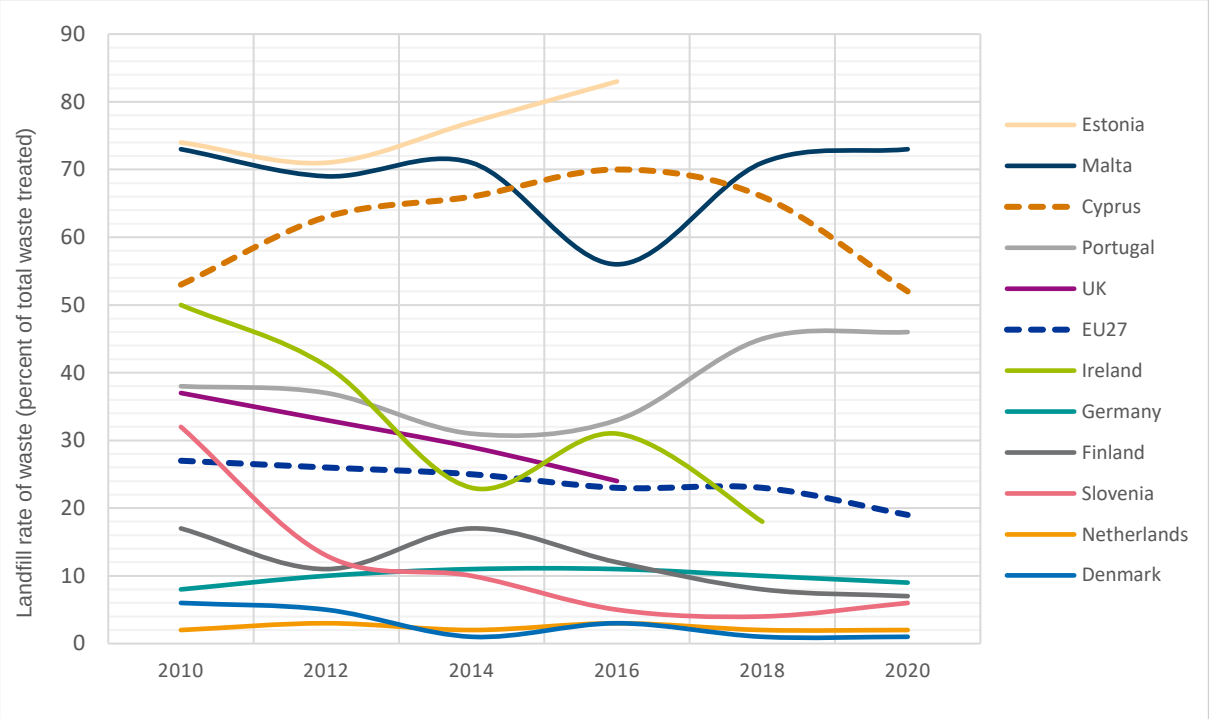
Waste management: Recycling rate

Cyprus' recycling rate is low as shown from Figure 151, placing it below all benchmark countries, except Malta. This indicator also displays a lack of progress. It was improving until 2015 but then plateaued and is actually lower in 2022 than it was in 2015.

Definition: Recycling rate of municipal waste

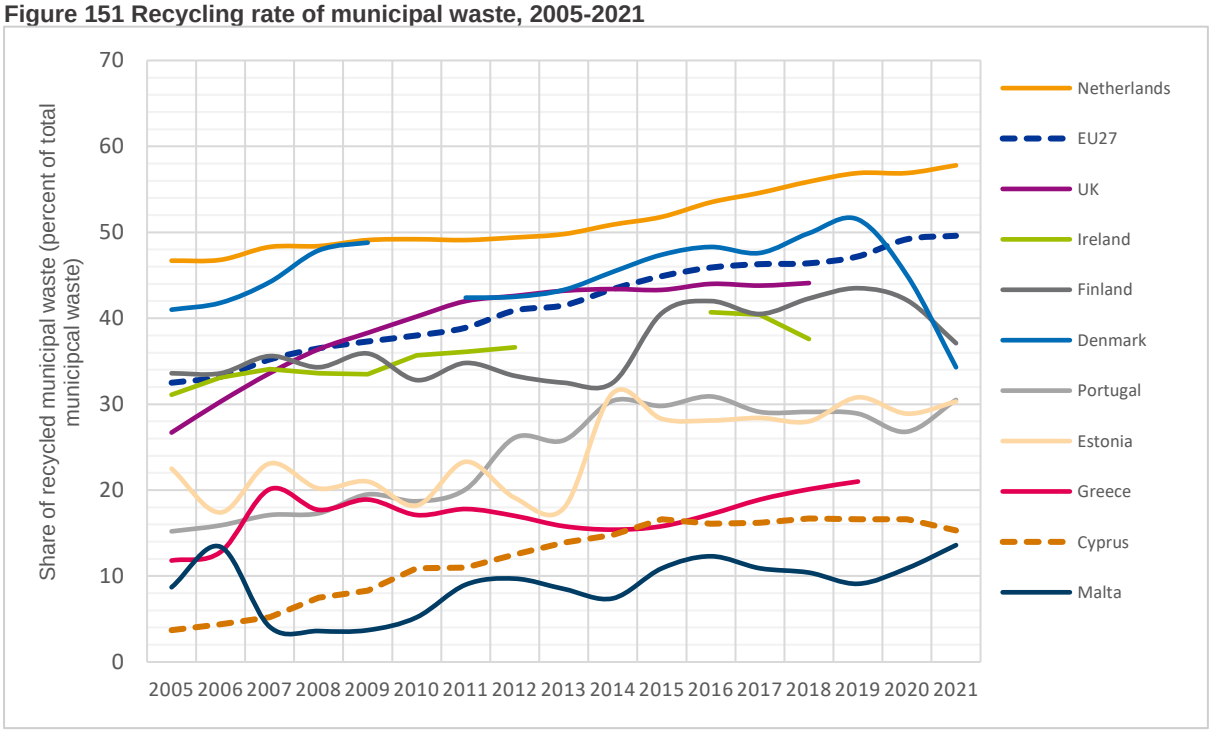
The Recycling rate of municipal waste indicator measures the tonnage recycled from municipal waste divided by total municipal waste. Recycling includes material recycling, composting, and anaerobic digestion. Municipal waste consists mostly of waste generated by households but may also include waste generated by small businesses and public institutions and collected by the municipality. For areas not covered by a municipal collection, the amount of waste is estimated.

Figure 150 Landfill rate of waste (excluding major mineral wastes), 2010-2020



Notes: No data for Israel and Greece.
Source: Eurostat: Landfill rate of waste excluding major mineral wastes [ten00138].

Figure 151 Recycling rate of municipal waste, 2005-2021



Notes: No data for Israel.
Source: Eurostat: Recycling rate of municipal waste [sdg_11_60].

Sustainable Development Goals

The UN's Sustainable Development Goals (SDGs) have been the focal point of sustainability efforts since they were introduced in 2015. An annual assessment exercise tracks every country's progress on each of the 17 SDGs and compiles an overall country score. Figure 152 shows how this score has evolved over the period 2008-2021 for the European benchmark countries. There are significant disparities in the achievement of SDGs across various regions, countries, and specific goals.

The average score across for EU countries was 72 out of 100, while Cyprus has by far the lowest score of 61. Northern European nations such as Finland and Denmark exhibit the best performance, with scores of 82 and 79 respectively.

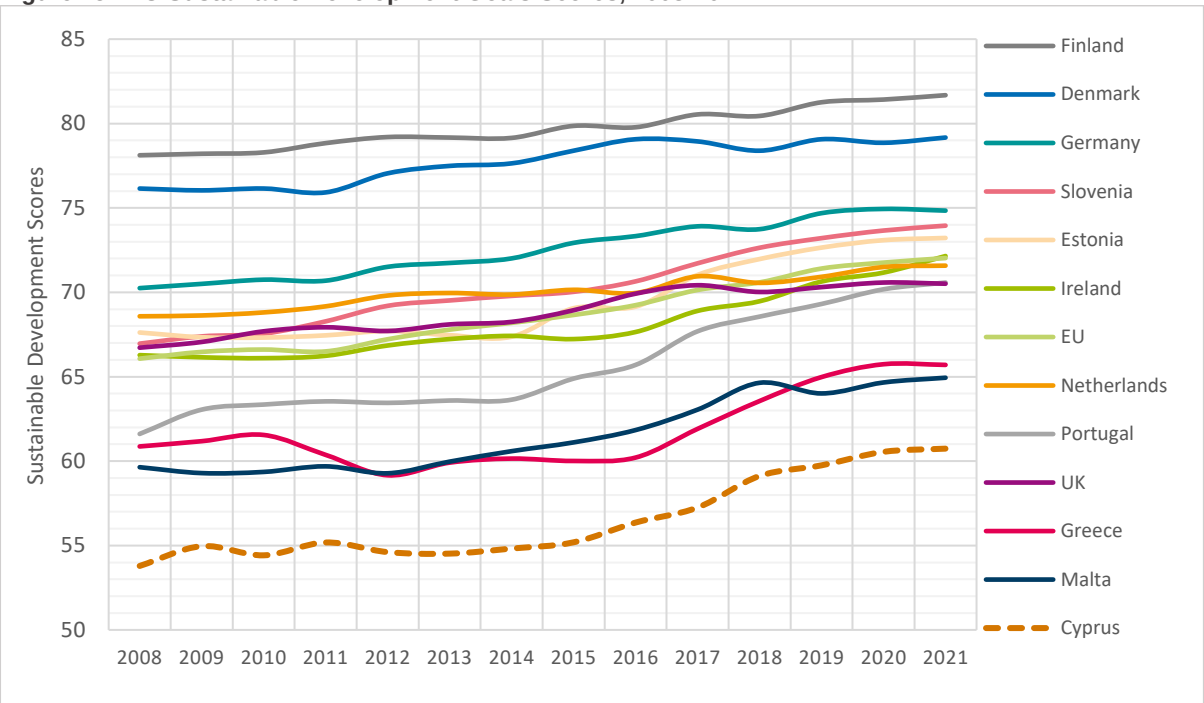
The 2022 EU Sustainable Development Report classifies Cyprus as facing major challenges in eight out of the 17 SDGs and significant challenges in another six. Only three SDGs are on track to be achieved by the target date of 2030. Figure 153 shows Cyprus' score on each of the 17 SDGs in 2016 and 2021. It has shown little or no improvement towards the goals: Zero Hunger; Gender Equality; Sustainable Cities and Communities; and Partnerships. Cyprus does relatively better in Reduced Inequalities; Good Health and Well-Being; Peace, Justice, and Strong Institutions. Despite this progress, it is worth noting that certain challenges persist in these three goals.

Definition: EU Sustainable Development Goals

The Sustainable Development Goals (SDGs) were established in 2015 by the international community as part of the UN 2030 Agenda for Sustainable Development through which countries of the world collectively pledged to eradicate poverty, find sustainable and inclusive development solutions, ensure everyone's human rights, and generally make sure that no one is left behind by 2030.

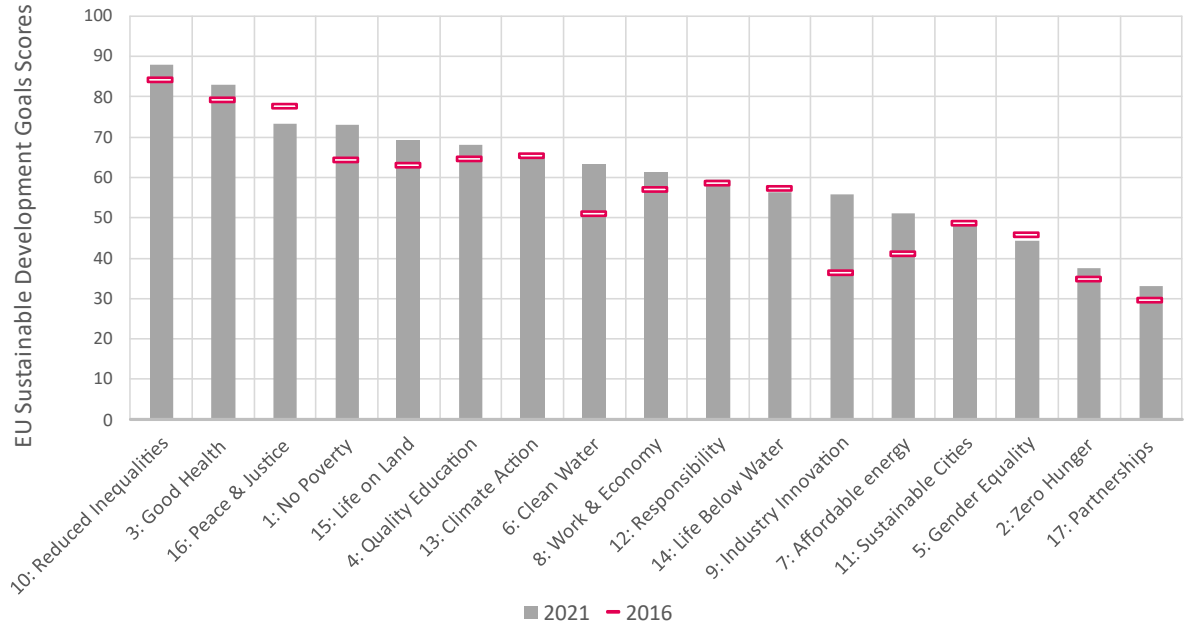
There are 17 SDGs, also known as the Global Goals, which aim to end poverty, hunger and inequality, act on climate change and the environment, improve access to health and education, build strong institutions and partnerships, and more. The scores are measured on a scale of 0 to 100, where higher scores signify a country's progress in successfully achieving a particular SDG or maintaining alignment with its targets.

Figure 152 EU Sustainable Development Goals Scores, 2008-2021



Notes: No data for Israel.
Source: European Commission, Europe Sustainable Development Report.

Figure 153 EU Sustainable Development Goals scores for Cyprus, 2021 and 2016



Source: European Commission, Europe Sustainable Development Report.

9 Attracting talent: the recent labour influx and its implications

The attraction of FDI has long been a major policy objective for countries around the world. While this remains important, many countries are now shifting their attention to the attraction of talent. Talented individuals bring knowledge and expertise that can boost the local entrepreneurial culture and benefit society in many ways. Cyprus has realized the importance of attracting talent and has introduced a strategy to that end. It was very successful in attracting businesses and individuals in recent years, to the extent that there are now concerns about the country's capacity to absorb the newcomers. This chapter aims to quantify the influx of companies and workers, discuss the challenges it creates, and propose ways to manage them successfully.

Inflow of companies and foreign workers

In October 2021 the Council of Ministers approved the "Strategy for Attracting Businesses and Talent" ("the Strategy" in the rest of this chapter). It was a pivotal initiative aimed at attracting international investments and talent to Cyprus. It amounted to a comprehensive overhaul of investment policy, resulting in a more extensive and simplified framework that encompasses various actions and reforms across multiple domains, aiming to enhance Cyprus' position as an international high-growth business centre.

The Strategy comprised four key policies:

1. The creation of a *Business Facilitation Unit (BFU)* that would be the single point of contact for Foreign Interest Companies (FICs).[18] Its purpose is the fast and efficient processing of requests received from foreign companies for the establishment of a company in Cyprus or the expansion of activities of existing companies.
2. Easing of requirements and expedited processing of residence permit applications for staff of FICs. New rules include the right for family reunification of third-country nationals working for companies joining the BFU.
3. Establishment of a Digital Nomad Visa.
4. Various tax incentives.

The BFU went into operation on January 1, 2022. It maintains a registry of all FICs that locate in Cyprus using the provisions of the Strategy. FICs are classified by field of business and registration criterion. Table 5 presents the number of registrations by field of business in 2022 and in the first ten months of 2023. An impressive 1,640 FICs were registered in 2022. The number dropped significantly to 232 FICs in 2023 (up to October 31, on pace for 278 for the year). It seems clear that the astonishing number of FICs registered in 2022 was a one-off that was due to pending demand and external events like the war in Ukraine. The much lower number for 2023 seems more reasonable as a gauge for the longer term. But even though 2023 registrations are lower than 2022, they are still quite large, indicating that the Strategy is successful in attracting FICs to Cyprus.

Companies could become eligible for participating in the scheme by meeting one of several criteria specified in the Strategy. Table 5 shows the eligibility criteria, along with the number of companies registered in 2022 and 2023 under each criterion. The large majority of FICs (about 86 percent) were registered on the basis of being more than 50 percent owned by third-country

[18] This was an upgrade of the existing Fast-Track Business Activation Mechanism.

nationals. Companies registered as "Economic" and "Hi-Tech" made up 6.5 percent and 4 percent of the total, respectively. In 2023 the distribution is similar but a bit less skewed, with more companies registering under criteria other than majority ownership by foreign nationals. There is a notable increase in the fraction of FICs registering as "Public Companies".

Table 5 Number of businesses by registration criterion, 2022 and 2023 (up to October 31)

Registration criterion	2022		2023*	
50percent + Third Country National	1,417	86.40	170	73.28
50percent - Third Country National + 200 k	12	0.73	6	2.59
Bio-Tech	1	0.06		
Hi-Tech	68	4.15	12	5.17
Shipping	6	0.37	7	3.02
Economic	107	6.52	24	10.34
Pharmaceutical	1	0.06		
Public Company	28	1.71	13	5.60
Total	**1,640**	**100.00**	**232**	**100.00**

Note: Data for 2023 are until the month of October. Data in the second columns of each year represent the share of businesses out of the total, expressed in percentage (%).

Source: Business Facilitation Unit (BFU), Ministry of Commerce & Industry.

Table 6 shows a breakdown of the registered companies across the two available periods, classified according to their respective fields of business activity. In 2022, approximately 37 percent of newly registered FICs engaged in Software and Video Games Development, 17 percent in Investment Holding and Financing, and 13 percent in Business Advisory and Legal Consultation. Two additional categories, *Trading and E-commerce* and *Marketing, Advertising, and Public Relations*, make up approximately 8 and 7 percent respectively. Other categories such as *Real Estate*, *Manufacturing*, and various services constitute a relatively smaller share, each amounting to 3 percent or less. In 2023 there is a drop in the prominence of software and video games and a noticeable increase in the *Investment Holding and Financing* category, which now represents approximately 24 percent of the total.

The influx of FICs was accompanied by an increase in the number of foreign nationals moving to Cyprus for work. A total of 22,090 residence permits were issued in 2022 to individuals associated with FICs (12,161 for employees and 9,929 for their family members). For the first five months of 2023, the number of permits was 12,708 (5,817 and 6,891). Interestingly, the number of permits in 2023 is more than half of 2022, even though the number of FICs is only one twentieth. This suggests that some very large FICs were registered in 2023. The overall number of almost 35 thousand residence permits in less than two years is nothing short of astounding for a country with a population under a million.

The Strategy's Digital Nomad visa scheme allowed individuals from non-EU and non-EEA countries who can work remotely to temporarily reside in Cyprus and work for an employer registered abroad or perform work through telecommunications technology for companies or clients located abroad. The aim is to position Cyprus as a hub for electronic services, attracting digital nomads to bolster the business ecosystem and contribute to the country's economic development. Just 100 Digital Nomad visas were offered initially. These were quickly taken up and the number was raised to 500 in March 2022. The additional visas were also exhausted within a

few months but there has been no further increase to accommodate further interest. According to information received from the Ministry of Interior, a significant proportion of applicants arrived with their families, thus the total number of new residents from this scheme is likely somewhere between one to two thousand.

Further information obtained from the Tax Department reveals that the number of individuals claiming the personal income tax deduction offered to people moving to Cyprus for the first time was 896 in 2019 and 1,231 in 2020. A substantial majority of these individuals were employed in the private sector. There is no information for more recent years. It should be noted that the tax incentives were in place before the Strategy was implemented in 2022.

Table 6 Number of businesses by field of activity, 2022 and 2023 (up to October 31)

Fields of business activities	2022	2023*
Software development	514	46
Video Games development	86	7
Investment holding & financing	282	56
Business advisors & legal consultants	205	19
Marketing & Advertising	114	15
Trading & e-commerce	137	15
Real Estate	47	21
Hotels & Restaurants	33	8
Manufacture & Construction	52	9
Logistics & Transport	22	1
Recreational Services	13	0
Rentals	11	2
Maritime Services	13	8
Health Services	34	3
Education & Sports	12	6
Aviation Services	6	1
Natural Resources	10	3
Other services	49	12
Total	**1,640**	**232**

Note: Data for 2023 are until the month of October.
Source: Business Facilitation Unit (BFU), Ministry of Commerce & Industry.

Growth in the ICT sector

The inaugural CCR in 2019 dedicated a special chapter to the ICT sector, highlighting its potential as a growth driver for the Cypriot economy. The sector has since delivered on its promise in an impressive way. Cyprus has emerged as a thriving technology hub, attracting numerous ICT companies to establish their regional headquarters or utilize the country as a base for various tech-related services like software development, R&D, and others. This influx has been supported by Cyprus' robust local talent pool and its access to both the EU and global workforce, resulting in a noticeable rise in the number of ICT professionals (CIPA, 2021).[19]

As noted previously in Chapter 3, as of 2022, this sector has significantly contributed to Cyprus' economic growth, representing around 9 percent of the Gross Value Added (GVA). Its share of overall employment stands at a much lower 3.5 percent,

[19] Cyprus Investment Promotion Agency (CIPA)- Cyprus: A Growing Tech Hub within the EU, 2021.

indicating a high value-added per employee (Figure 2). In 2022, the sector played a pivotal role in driving real GDP, accounting for 14 percent of its growth (Figure 3). Similarly, it contributed to employment expansion, representing 6 percent of the overall employment growth in the same year (Figure 4).

The impact of the ICT sector on new business formations has been striking, as highlighted in prior findings of this chapter. In 2022, 37 percent of newly registered FICs belonged to the ICT sector, primarily focusing on software development, and to a lesser extent, video game development. While there was a significant decrease recorded in 2023, the overall numbers remained substantial, reflecting the sector's continued significance and attractiveness to new businesses.

The impressive growth of the ICT sector can be attributed to several factors. CIPA had made the sector a priority since at least 2019. The suspension of the Citizenship Investment Program (CIP) in 2020 forced matters by switching attention from attracting wealthy individuals to attracting talent and companies. Schemes and incentives were devised with that purpose in mind. The war in Ukraine likely helped as many companies as possible from both Ukraine and Russia relocated to Cyprus to avoid the conflict. Recent troubles in the Middle East might also prove to be a boon for Cyprus, as long as they do not escalate into a bigger conflict.

IMD World Talent Rankings

Table 7 presents the IMD World Talent Ranking (WTR), which assesses the status and the development of competencies necessary for enterprises and the economy to achieve long term value creation. This is achieved by using a set of indicators which measure the development, retention and attraction of a domestic and international highly skilled workforce. The methodology of the WTR defines Talent Competitiveness based on three main factors: Investment and Development, Appeal and Readiness, encompassing various criteria. The colour scheme – with darker colours indicating a stronger performance – makes it easy to identify pillars where Cyprus is strong and those where it falls behind, and also to track changes over time.

Since its debut in IMD reports in 2017, Cyprus has witnessed a gradual decline in all three pillars (and overall). Initially positioned at 17th out of 63 countries, it presently stands at 29th out of 64 countries. Notably, Cyprus faces challenges, particularly within the Appeal pillar (40th of 64 in 2023), which measures the extent to which a country taps into the overseas talent pool. This lower ranking is notably attributed to two critical factors identified through company surveys: a lack of emphasis on attracting and retaining talent within Cyprus-based companies and notably low worker motivation, both of which received considerably poor scores in the surveys. Furthermore, Cyprus exhibits a modest ranking in Readiness (34th of 64 in 2023), which assesses the availability of skills within the talent pool, a ranking that has deteriorated since 2017. This decline is linked to a lower percentage of graduates specializing in crucial disciplines such as ICT, Engineering, Mathematics, and Natural Sciences.

On a positive end, the nation fares better in terms of Investment and Development, securing a global rank of 24 out of 64 in 2023. This success can be attributed to several factors, notably a high ratio of students to teaching staff in secondary education and a relatively higher percentage of females participating in the labour force compared to other countries in the report.

Table 7 IMD World Talent Rankings of Cyprus, by pillar, 2017-2023

Pillar Name	2017	2018	2019	2020	2021	2022	2023
Overall Rank	17	15	21	17	24	22	29
Investment & Development	8	5	8	14	15	17	24
Appeal	21	27	33	24	28	29	40
Readiness	25	26	32	14	30	23	34

Source: IMD World Talent Yearbook 2017 to 2023 editions.

Sales and prices of real estate

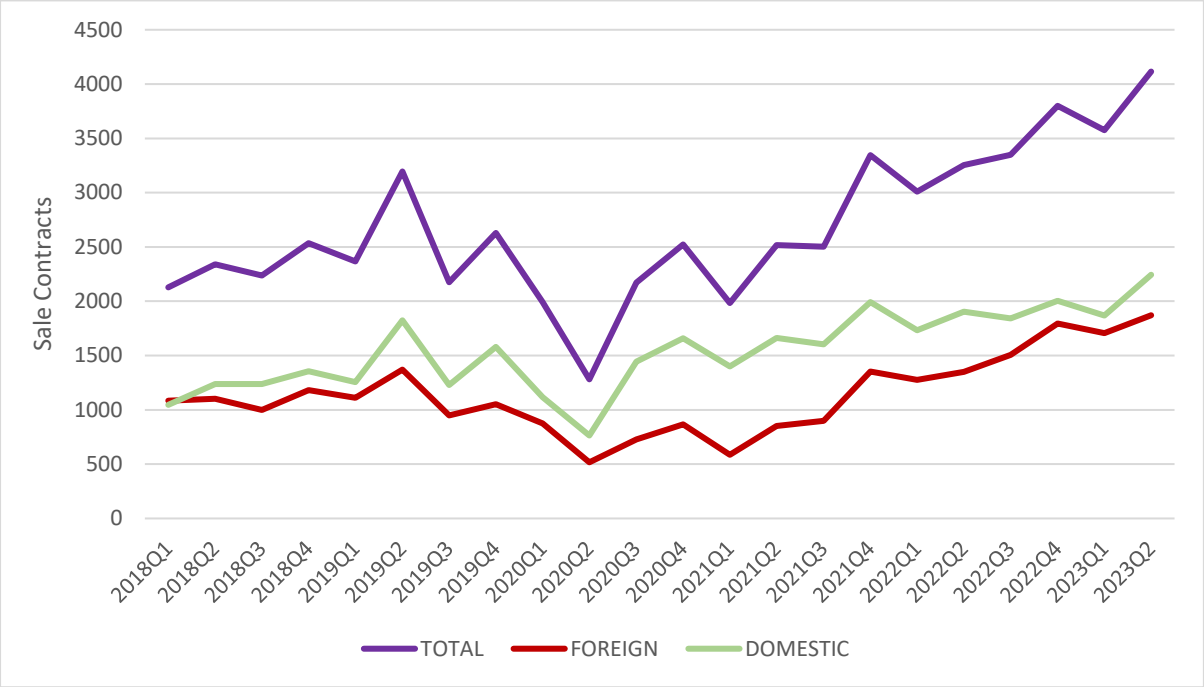
The influx of tens of thousands of high-income individuals in Cyprus has caused an increase in the price of real estate in Cyprus, especially in Limassol, where the inflow tends to concentrate. Figure 154 provides the number of sales submitted to the Department of Lands and Surveys (DLS) from 2018 to 2023. The data are on a quarterly basis, and they record separately transactions involving local (Cypriot) and foreign buyers. There was a decline in sales in 2020, clearly due to the pandemic; only 1,281 total sales were recorded in the second quarter. There has been a remarkable resurgence in sales activity, especially in 2023. Sales contracts increase 26.5 percent in the second quarter of 2023 compared to the same quarter in 2022 (4,115 contracts compared to 3,254). This surge underscores a heightened demand for real estate in Cyprus.

This increase in demand is predominantly driven by foreign demand: sales to foreign buyers were up 38.5 percent in 2023Q2 on an annual basis (1,871 versus 1,351). By comparison, sales to local buyers have increased by 17.9 percent annually (2,244 versus 1,903). Almost half of sales are to foreign buyers.

The increase in foreign purchases of real estate is quite plausibly related to the Strategy, which has attracted foreign professionals from countries like Russia, Israel, Ukraine, the United Kingdom, Lebanon, and Belarus. On the other hand, the surge in domestic buyers can be mainly attributed to investments for rental purposes (buy-to-let) (Central Bank of Cyprus, 2023).[20]

[20] CBC Residential Property Price Index Reports – 2023Q1-Q2.

Figure 154 Numbers of Sales Contracts, Cyprus, 2018Q1-2023Q2



Note: The graph starts from 2018 because the definition of foreigner changed at that time, and the DLS suggests avoiding comparisons with data before and after 2018.

Source: Department of Lands and Surveys (DLS), Central Bank of Cyprus estimates.

The Residential Property Price Index (RPPI) in Cyprus, showcased in Figure 155 for the period 2010-2023, reflects a compelling narrative of market dynamics. From 2010 until about 2016, there was a pronounced decline in prices, totalling about 26 percent for houses and almost 30 percent for flats. The downturn, notably stemming from the 2013 banking crisis, exerted considerable pressure on property values. Prices started recovering in 2017, much faster for flats than for houses.

In the last quarter of data, 2023Q2, the price index for flat exceeded the level reached in 2010. The price index for houses remains more than 15 percent below the level of 2010.

Focusing on the most recent data available, we analysed the change in RPPI compared to pre-pandemic levels, as depicted in Figure 156. Specifically, comparing the second quarter of 2023 with the corresponding period in 2019, we see an overall RPPI increase of approximately 15 percent. Notably, flats experienced a more significant surge with an increase of 26 percent, while houses showed a comparatively lower rise of 9.7 percent.

District-wise, a variation in property price increases is evident. Limassol, Larnaca, and Paphos stand out as districts experiencing more pronounced increases, while Nicosia and Famagusta demonstrate comparatively modest changes. Notably, Limassol emerges as the leading district, with flats witnessing an impressive surge of 34 percent in their prices, while houses experienced a substantial increase of 22 percent. Conversely, Nicosia reflects the lowest increases across the districts. The price of flats in Nicosia increased by 13 percent, while houses saw a more modest rise of 5.6 percent. This disparity in growth rates not only underscores the uneven distribution of price increases among districts but also highlights the accelerated pace of increase in flat prices relative to houses.

The overall price increases appear to be governed mainly by increased demand, as previously highlighted. The relatively high rate of increase that has been registered in

the districts of Limassol, Larnaca and Paphos might be related to the demand from foreigners due to the headquartering policy mentioned above.

The RICS Cyprus Property Index is an alternative price index that tracks property and rental prices across all districts and main property types in Cyprus. The index is based on a methodology developed by the University of Reading in the UK. The methodology is very different from that used for the Central Bank's RPPI and thus provides a useful complementary assessment.[21]

Definition: Residential Property Price Index (RPPI)

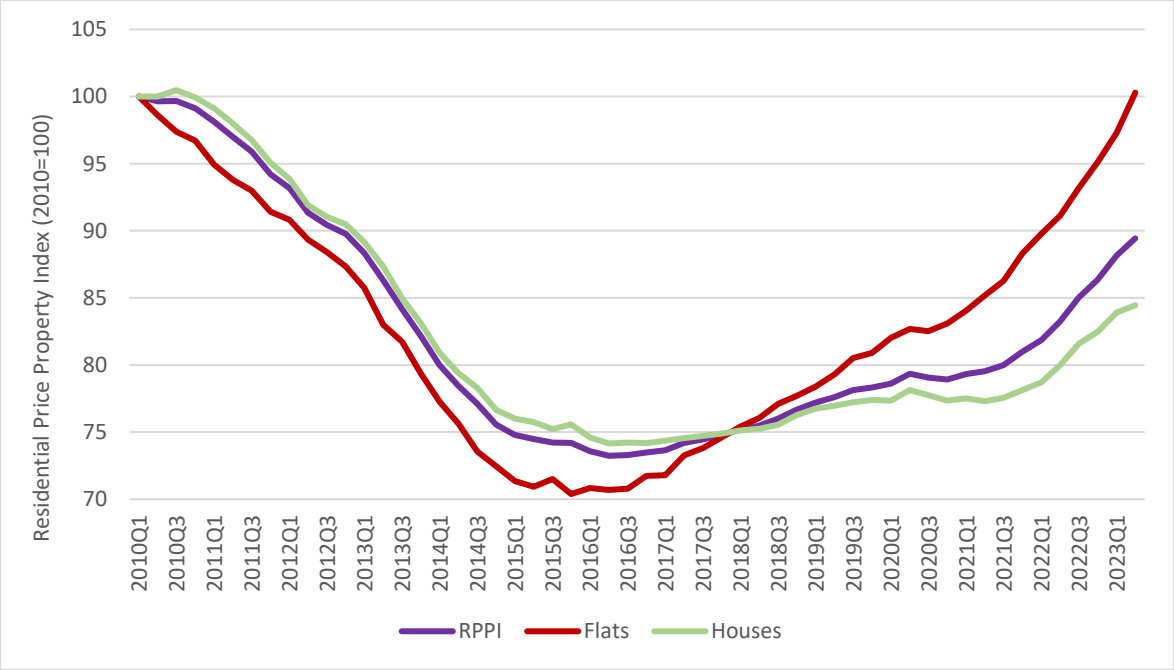
The residential property price indices for Cyprus are constructed by the Central Bank of Cyprus's Real Estate Unit (REU).

The indices are based on property valuation data collected by the contracted banks, which receive the relevant information from independent property surveyors in connection with mortgage transactions, such as housing loans, mortgage refinancing and mortgage collateral. The data, which are representative of the Cyprus property market, cover all the areas under the effective control of the Republic of Cyprus and refer to residential properties (houses and apartments).

The RPPI captures the average change in the prices of a basket of representative residential properties in a specific geographical area. The base period for all the indices is the first quarter of 2010 (i.e., 2010Q1=100).

Since it relies on property valuations from banks, the RRPI does not include information on properties that are purchased without the need for bank financing. This category likely includes the large majority of properties purchased for the purpose of obtaining citizenship in the period up to 2020, but also possibly many other purchases by foreign individuals and entities. Therefore, the index underestimates the true price level during that period.

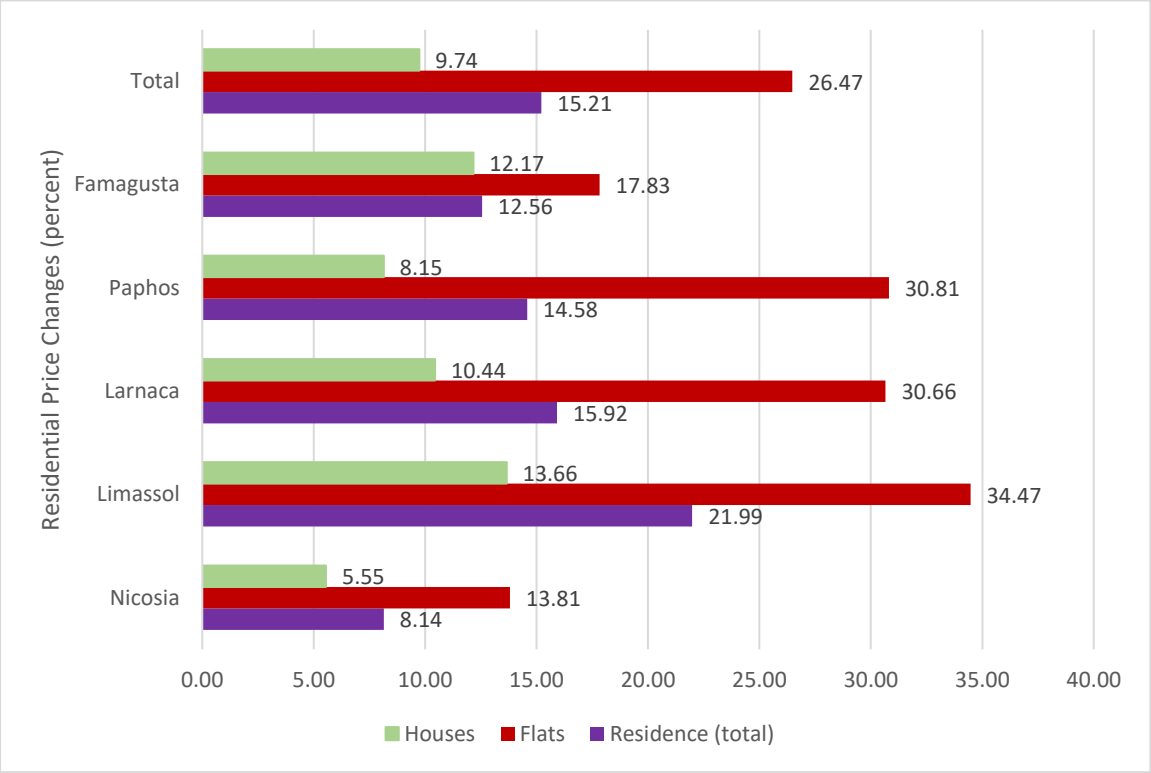
Figure 155 Residential Property Price Index, by type of residence, Cyprus, 2010Q1-2023Q2



Source: Central Bank of Cyprus.

[21] Specifically, the index is based on experts' valuations of standardized (but fictional) properties.

Figure 156 Residential Price Changes, by district and by type, 2019Q2 vs 2023Q2



Source: Central Bank of Cyprus

The RICS index shows an increase in the prices of residential properties in the second quarter of 2023, with apartments leading slightly ahead of houses. This increase builds upon a modest rise observed in the first quarter of the same year. Offices and warehouses also recorded marginal gains whilst retail prices continued to be relatively stagnant. On a year-to-year comparison between the second quarters of 2022 and 2023, data show that apartment prices have increased by about 12 percent, houses and offices around 9 percent and warehouse around 7 percent. Retail properties exhibited the smallest rise, hovering around 2 percent.

Rental values showed increases in all asset categories, the highest being in holiday apartments, followed closely by the residential sector properties (apartments, then houses). Retail and warehouse asset classes are at the lower end of the scale, with marginal differences between them.

Overall, the Residential Property Price Index (RPPI) and the RICS Cyprus Property Index offer distinct yet complementary insights into Cyprus's real estate landscape. Both indexes indicate an overall upward trend in residential property prices, with apartments consistently showcasing higher price increases than houses, either on a quarterly or yearly basis. The RPPI reveals a notable disparity in price increases among districts, emphasizing the accelerated surge in apartment prices compared to houses, predominantly being driven by heightened demand, particularly from foreign buyers in districts like Limassol, Larnaca, and Paphos.

The RICS index has a broader scope and encompasses residential and rental prices across all districts and main property types, assessing a wider range of assets. Similar to the RPPI, it shows a continued surge in residential property prices, notably led by apartments, while other asset types like offices, warehouses, and rentals experienced varying degrees of growth, contrasting with relatively stagnant retail prices. Collectively, these two indexes reflect both the local and the international influences on Cyprus's property sector.

Challenges of a successful policy

Tens of thousands of high-income individuals have relocated to Cyprus in the last 2-3 years. This is beneficial to the Cypriot economy in many ways. Newcomers and the companies they work for expand the country's productive capacity, they bring knowledge and expertise, and they have significant spending power to buy products and services that support the local economy.

However, the arrival of such large numbers of newcomers also poses some challenges. The most pressing one is the pressure on the real estate sector. The increased demand for real estate has led to rapidly increasing prices, as documented above. This in turn has provoked reactions from local Cypriots who find themselves priced out of the real estate market. The phenomenon is particularly acute in Limassol, where most of the foreign businesses and nationals choose to locate.

In addition to locals, FICs also complain that they have a difficult time finding housing for their staff. These pressures are a natural consequence of the large inflow of foreign nationals. It is a difficult situation that needs to be managed. This has been widely acknowledged in the public debate and the government has recently taken some steps towards ameliorating the problem for local residents. ETEK, the professional body of engineers, has put forth a number of well-thought-out proposals that aim to increase supply. The ECC has put its weight behind these ideas. The proposals use a carrot-and-stick approach to bring into the market unused building capacity. The government would do well to consider those proposals to help deal with the problem.

The large influx of foreign nationals is stretching infrastructure in other ways, beyond real estate. For example, families have a difficult time finding places for their children in international schools. Difficulties with bureaucracy are also reported. Cyprus needs to respond to these problems quickly to avoid frustrating newcomers and tarnishing its image as a welcoming destination for families.

10 Key competitiveness issues and policy recommendations

This chapter provides a summary of Cyprus' competitiveness performance and identifies strengths and weaknesses. It highlights a number of key horizontal areas where there are competitiveness issues, and points to potential areas for policy development. It also considers issues for the development of a broader forward-looking policy framework, to identify and exploit emerging opportunities for future growth.

10.1 Cyprus' competitiveness performance

The economy of Cyprus has gone through a series of transformations in the last 50 years. The Turkish invasion of 1974 was a watershed event involving the loss of significant territory and economic resources, including human capital as many Cypriots migrated. The country rebounded quickly by building up its tourist infrastructure and developing light manufacturing. At the same time, it started its efforts to establish itself as an offshore business centre. Tourism became a mainstay of the economy and continues to be a major export sector to this day. Manufacturing diminished over time, as did agriculture.

The offshore sector, with a low tax regime as the major attraction, grew substantially in the 1990s. Adjustments had to be made in the early 2000s as part of the process of EU accession, but also to distance the country from the stigma that had come to be associated with offshore tax havens. Cyprus adopted stricter controls and a somewhat higher but still low corporate tax rate. The influx of foreign capital in the 2000s fed a huge credit boom that peaked in 2008.

The period since 2008 has been a tumultuous one. The global financial crisis popped the credit bubble, but the initial fallout was limited to a relatively mild recession in 2009. Problems in the banking sector – mostly related to exposures in the Greek economy – sunk the economy back into recession in 2011Q3. The crisis lasted 3.5 years, with a trough in 2013Q2, when the annual growth rate hit -7.6 percent. The economy rebounded strongly between 2015 and 2017.

This impressive recovery can be attributed to the correction of macroeconomic imbalances following the fiscal and banking crisis; the major policy overhaul that took place as part of the economic adjustment program and the Action Plan for Growth; and the resilience and adaptability of individuals and businesses. The reforms for fiscal consolidation and financial stability were complemented by efforts to create a more balanced, sustainable, and resilient growth model. These positive developments led to multiple upgrades of the sovereign credit rating, allowing Cyprus to again access international capital markets. The hugely successful CIP also contributed to the quick recovery, although lax oversight and insufficient controls caused severe reputational damage and the program had to be shut down in October 2020.

The coronavirus pandemic caused a deep contraction in 2020 but again the economy recovered quickly, returning to trend in 2021. The Russian invasion of Ukraine in February 2022 was another major disruption that raised energy and food prices and created a serious threat to Cyprus' tourism industry. Yet again, the country was able to navigate the stormy waters and replaced most of the lost tourism with visitors from other countries. It may have even emerged as a beneficiary of the war

thanks to the relocation of Russian and Ukrainian businesses to Cyprus.

Underneath its headline growth performance, Cyprus is generally positioned below the EU average for competitiveness outcome indicators, often at a similar level to eastern and southern EU benchmark countries (i.e., Estonia, Slovenia, Portugal, Malta, and Greece):

- **Productivity** (Section 5.1). Labour productivity in Cyprus, while below the EA average and most benchmark countries except Portugal and Greece, has shown signs of recovery post-2020. This upward trend follows a period of decline, partly due to the service-oriented nature of the Cypriot economy. Sectors like tourism, real estate, and construction, which are the mainstay, often struggle with productivity improvements, a phenomenon known as Baumol's disease. In contrast, technology-based services such as ICT, though historically underinvested and contributing minimally to GDP, demonstrate potential for productivity enhancement. This is evident in the 'Information and Communication' sector, where notable increases in labour productivity and total factor productivity (TFP) have been observed. However, overall TFP growth remains limited, indicating a need for increased investment in technology, infrastructure, and other sectors that can drive long-term productivity gains. The efficiency and competitiveness seen in the 'Information & Communication' sector, driven by technological advancements and productivity improvements, point to a promising direction for Cyprus's future economic growth.

- **Trade and Foreign Direct Investment** (Section 5.2). Cyprus' trade and FDI situation is influenced by the activities of Special Purpose Entities, implying that headline measures do not present a clear and easily comparable picture of the country's underlying performance in these areas.[22] Reflecting the small size of its primary and manufacturing sectors, Cyprus' exports of goods are limited and concentrated in only a few product areas. This is offset by a strong export performance in services, notably for travel (tourism), financial services, transport and communications. While FDI is significant, foreign investments in productive projects and activities are modest, with Cyprus having low shares of employment and value-added in foreign-controlled enterprises.

- **Employment and Jobs** (Section 5.3). The employment situation has improved significantly since the 2013 crisis but had not returned to what would be considered full employment levels when the pandemic hit in 2020. The pandemic caused a deterioration of the labour market, but the negative impact was relatively small thanks to the strong support provided by the government to support employment. The unemployment rate dropped significantly in July and August 2021, to levels not seen since before the crisis. Issues remain for employing younger people and the youth unemployment rate remains above the EU average. Perhaps most worryingly, the Cypriot labour market is characterised by high levels of both vertical and horizontal skills mismatches, meaning that the country's human capital is not fully utilized.

- **Costs and Prices** (Section 5.4). In general, business-related costs are low. Labour costs in Cyprus are below the EU average. Cyprus also has amongst the lowest rental costs for private and retail accommodation. Conversely, non-residential electricity costs and costs for high-speed broadband internet access in

[22] Cyprus' attractiveness for Special Purpose Entities is not limited to a conducive legal framework but also reflects its strengths in maritime shipping services and specialised professional services that support the activities of these entities.

Cyprus are among the highest of the benchmark countries. These higher costs seem to reflect structural factors, such as the reliance on imported fuel supplies and small market size.

Taken together, Cyprus' competitiveness outcomes present a mixed picture, summarised in Table 8 below.

Table 8 Overview of competitiveness strengths and weaknesses of Cyprus

Strengths	Weaknesses
Market conditions & institutions: Open, competitive, and well-functioning markets overall, with some room for improvement	
• Trade openness above the EU average and most benchmark countries after allowing for geographical location and country size (Figure 63, Figure 64) • High trade freedom score (Figure 65). • High labour market flexibility, although there are concerns on worker protection, income inequality and labour rights (Figure 67).	• Low regulatory quality (Figure 66).
Business environment & institutions: Some strengths such as low taxes but many challenges to be addressed	
• Low tax rates (Figure 76) and tax wedge on labour (Figure 77).	• Below average performance in several governance indicators such as in protection of property rights (Figure 69, Figure 70), control of corruption (Figure 71), government effectiveness (Figure 72), (voice and accountability (Figure 73). • Low business freedom scores (Figure 68). • High levels of public wage bill (Figure 74). • Inefficient justice system (Figure 78 to Figure 84).
Industry structure, specialisation & organisation: *Strong professional services, tourism, and shipping clusters, but weak cluster activity in most other sectors*	
• Strong professional business services, tourism, and shipping sectors (Section 3.2).	• Economic complexity falls slightly below expectations due to low export diversification despite the income level (Figure 85).
Firm characteristics, dynamism & sophistication: *Strong entrepreneurial spirit, but a lack of entrepreneurial activities and support for entrepreneurship*	
• Strong entrepreneurial aspirations (Figure 87), with entrepreneurial performance having improved since 2018, in line with the EU average. • Firm resilience and adaptability after the financial crisis, the pandemic, and the war in Ukraine (Section 1.1 and Section 1.3). • Adequate investment in intangible assets (Figure 91).	• Very few large firms (Figure 6). • Business dynamism and sophistication are low, although showing some improvement (Figure 38, Figure 86, Figure 87). • Low rank in business efficiency (Table 1). • Low overall investment (Figure 90 and Figure 92). • Inadequate entrepreneurial framework: Limited financing and educational support hampering entrepreneurial growth, despite moderate infrastructure performance (Figure 86).

Strengths	Weaknesses
Human capital: ***A well-educated work force, but lacking in science and technology-related skills, vocational training, life-long learning, skills mismatch***	
• High levels of government and private expenditure in education (Figure 95, Figure 96). • Well educated work force, with high levels of tertiary education (Figure 97, Figure 99). • Modest talent rank, although low, facing challenges in attracting talent and readiness while showing strength in investment and development (Table 7).	• Low levels of adult participation in education (Figure 98). • Low levels of vocational education enrolment (Figure 100). • Low levels of graduates with science and technology qualifications (Figure 101). • High levels of early school leavers in young population (Figure 102). • Lowest average PISA scores among benchmark countries (Figure 103). • Low levels of digital skills (Figure 104). • High levels of skills mismatches and overqualified workers (Figure 105, Figure 106).
Technology, innovation, and knowledge: ***Academic excellence does not translate into business innovation or technology adoption***	
• High levels of tertiary education (Figure 99). • Strong tertiary-level academic capacities (Figure 99). • Above EU average SME product and process innovation (Figure 115).	• Moderately improved innovation system performance, showing progress above the EU27 average since 2021, yet with room for further improvement (Figure 108). • Low levels of total (knowledge, technology and creative) outputs (Figure 109). • Low levels of national R&D expenditure and weak private sector R&D activity (Figure 110 to Figure 112). • Low ranking in Digital Competitiveness, with declines in technological aspects and future readiness, and notable setbacks in adaptive attitudes and business agility (Table 3).
Financial infrastructure: ***Cost and access to finance for businesses remain a problem***	
• The financial sector has stabilised after the fiscal and banking crisis. Bank ratings by credit rating agencies have improved significantly (Section 7.3). • Variety of bank instruments supported by the EU and national funds available to SMEs, including start-ups (Section 10.2). • Domestic credit to private sector has declined (Figure 118). • Substantial decrease in non-performing loans (Figure 119).	• Low finance and support scores (Figure 117). • High borrowing costs for non-financial (Figure 121).
Productive and physical infrastructure: ***Limited external connectivity and weak ICT development are constraints***	
• Good road infrastructure (Figure 125). • Low apartment and retail rents cost (Figure 59).	• Low shipping and air connectivity (Figure 126, Figure 127). • Low performance of logistics services (Figure 128). • High cost of electricity (Figure 60).

Strengths	Weaknesses
	• Modest ICT infrastructure and digital economy development (Figure 131). • Low average download and upload speeds, low digital skills, and integration of digital technologies (Figure 130, Figure 131).
Environmental performance: ***Environmental awareness is still a problem***	
• Strong Environmental Performance Index on a global scale (Section 8.2).	• Low ecosystem vitality and environmental health across benchmark countries, although improving (Figure 145). • Low levels of renewable energy (Figure 148) • High proportion of landfill waste (Figure 150). • Low recycling rate (Figure 151). • High greenhouse gas emissions (Figure 146), substantially below the EU average in resource productivity with no signs of improvement.
Social performance: ***Good employment picture and overall health situation, but several risks must be addressed***	
• Improved gender inequality index (Figure 142). • High total employment rate (Figure 15) and low long-term unemployment (Figure 16) relatively to EA average. • Sharp reduction in out-of-pocket health expenditure thanks to GESY (Figure 136). • High share of people with good or very good self-perceived health (Figure 137).	• Moderate life satisfaction in comparison to benchmark countries, although higher than the EU27 average (Table 4). • High unemployment rate among benchmark countries, and worryingly high unemployment rates in youth (Figure 16) • High share of people at risk of poverty and material deprivation (Figure 133, Figure 134). • High childhood overweight rate (Figure 138). • High frequency of tobacco use (Figure 139). • High gender employment gap (Figure 141). • Low levels of interpersonal trust (Figure 144).

10.2 Cyprus' competitiveness issues and policy responses

The 2019 CCR identified six broad areas where Cyprus faces competitiveness challenges: (1) entrepreneurship and firm dynamism; (2) business linkages and interaction; (3) adoption of digital technologies; (4) access to finance; (5) human capital; and (6) external connectivity. The report discussed the nature of the challenges and made specific recommendations for addressing these shortcomings.

Many of the challenges identified in 2019 continue to be relevant in 2021. The current chapter provides an overview and update of the 2019 report and its recommendations. Perhaps most importantly, the chapter also discusses some new challenges that Cyprus must address and offers recommendations to address them.

An important point made in the previous report is worth repeating. Many of the weaknesses discussed here have been identified before, both in the 2019 CCR and in

other reports and by many economists and analysts. They are well recognised by Cypriot policy makers, businesses, and wider society. In many cases policy initiatives have already been enacted or are under consideration to address weaknesses or reinforce strengths. The problem is that implementation is lacking, and progress is often very slow. It could be said that the pressing issue for public policy is not so much the need for new policy recommendations, but rather the challenge of improved implementation of existing ones through decisive action, coordination, and a certain amount of political brinkmanship and conviction.

1. Entrepreneurship and firm dynamism

Cyprus does not have a strong innovation culture. This is widely recognized by policymakers and stakeholders, and it has also been documented in the CCRs. There has been a lot of action on this front in recent years. Many public and private initiatives have been undertaken to stimulate and support entrepreneurship with policies targeting start-ups and innovative firms with high-growth potential. Examples such as *Startup Cyprus*, *IDEA Innovation Center, Cyprus Seeds* were discussed in CCR 2021.

These initiatives are beginning to bear fruit and have contributed to a small improvement in Cyprus' performance in some indicators such as the Global Innovation Index and the European Innovation Scoreboard (see Section 7.2). Nonetheless, there is still much work to be done. Entrepreneurship is a culture and as such it evolves slowly. Some possible actions to provide the process with some steams indicated in the box below.

Recommendations:

- Encourage and facilitate investment in high value-added and innovative activities and sectors.
- Ensure continued oversight, monitoring and evaluation of entrepreneurship performance and actions.
- Cultivate an entrepreneurial culture. Revise school curricula to encourage entrepreneurship and (calculated) risk-taking.
- Provide social safety net to reduce cost of failure. Social Security and the General Health System are important components of this safety net.
- Reduce start-up costs. Provide subsidies and tax breaks for R&D costs, training, etc.
- Identify and celebrate success stories.
- Increase funding for basic research. Most funding through the RIF currently targets applied research.

Perhaps the most pressing need is to implement changes in the education system that will encourage entrepreneurship and risk-taking. Improved financial literacy is an important component of this strategy. The concepts of risk and uncertainty could be cultivated in schools. The adoption of a National Strategy for the Promotion of Financial Literacy and Education in 2022 is therefore a significant step forward. Such efforts will take time to bear fruit but, when they do, the impact could be significant.

In the meantime, momentum is important. Inspiring success stories of firms and entrepreneurs engaging in new, non-traditional sectors and activities can strongly contribute to shifting attitudes. The case of Point Nine, a Cypriot fintech company that was acquired by the largest Japanese bank, is a prominent example.

2. Business linkages and interaction

The indicator analysis suggests weak development of business linkages in Cyprus, both within the country and across borders.

The recommendations in the box below are quite ambitious as they require long-term planning and coordination. The ongoing re-organization of global supply chains and renewed interest in supply security makes this endeavour even more complicated. On the other hand, the increased presence of international companies in Cyprus makes the task more feasible.

Recommendations:

- Support the integration of Cypriot firms in the supplier networks of large international companies.
- Such support would have to help businesses in both establishing and sustaining linkages.
- Enhance connectedness and collaboration between the business community and tertiary level education and research.
- Enhance coordination and exploitation of synergies of actions promoting business linkages and interaction.
- Revise legislation for university spin-offs to make them appealing to investors.

In the specific area of linkages between businesses and academia, some progress has been made through the work of *Cyprus Seeds* (described above) and other initiatives. The revision of the 2018 legislation facilitating university spin-offs has yet to be completed, even though the project was included in the RRP. On a positive note, another RRP project – the creation of a Central Knowledge Transfer Office within the Research and Innovation Foundation – has been implemented and the office was launched in October 2022.

3. Adoption of digital technologies

There is wide recognition of the fact that Cyprus is lagging in the adoption of digital technologies. This is also borne out in the indicators on the use of digital technologies (Figure 114) and reflected in the very limited contribution of ICT assets to GDP growth (Figure 46). It also goes together with apparent low levels of digital skills (Figure 101).

Recommendations:

- Provide digitalisation incentives for key sectors of the economy.
- Strengthen education and training (all levels) for digital skills.
- More broadly, incentivise productivity enhancing investments.

The pandemic changed the digital landscape significantly and sped up the adoption of technology in several areas. Education was one of the key beneficiaries, as the switch to online instruction meant that both schools and students had to upgrade their digital skills. Many businesses also made the switch to online meetings and work from home using technologies that mostly already existed but were never really used; credit card usage increased substantially; the implementation of the fully digitalized General Health System came at the right time. The public sector, the banks, and other large organizations are leading the way in pushing citizens and customers to use more online services.

4. Access to finance

This is a chronic problem of the Cyprus economy that was especially severe in the aftermath of the crisis. Some positive steps have been taken since then. Efforts to rid the banking system of non-performing exposures (NPEs) have been bearing fruit and Cyprus has brought the percentage of NPEs to single digits for the first time in almost a decade. This has been achieved primarily through the sale of large loan packages to international investors. Banks have ample liquidity, and the constraint seems to be the lack of bankable projects rather than the lack of funding.

On the downside, the much-improved insolvency framework put in place after the crisis is still being tinkered with by the legislature and runs the risk of becoming ineffective. The court system continues to be a major hindrance in the administration of justice, especially when it comes to foreclosures.

An important development is the official launch in November 2023 of the Cyprus Equity Fund. This was an initiative of the ECC that was successfully completed with the support of the European Investment Fund.

Recommendations:

- Improve access to, and availability of, alternative sources of finance.

- Explore the feasibility of a national venture capital fund.

5. *Human capital*

The need to improve its human capital remains one of Cyprus' major challenges. This is a bit of a paradox, as Cyprus has a highly educated population. The problem is a major mismatch between the skills the economy needs and those acquired by young people. Vocational training is limited, leading to a lack of technicians. Too few young people go into the STEM fields. The country is developing an ICT sector by attracting large international companies to relocate in Cyprus, but produces relatively few graduates in computer science, engineering, and data science to take advantage of the excellent job opportunities in the sector. These issues are reflected by indicators of skills mismatches, both in terms of apparent over-qualification of workers and the correspondence between area of education and sector of employment. Finally, the population has low digital skills, which is surprising given the high education level overall.

Recommendations:

- Continue with the forecasting of employment needs by the Human Resource Development Authority of Cyprus.
- Raise the number of graduates with technical and natural science qualifications.
- Strengthen education and training (all levels) for digital skills.
- Strengthen education and training (all levels) to support entrepreneurship.
- Improve alignment of education and training outputs to sector skill requirements and improve educational efficiency and enhance monitoring of trends in sector skill requirements and strengthen anticipation of future skill needs.
- Press ahead with greater urgency with the digitization of public services. Adoption of new technologies is a chicken-and-egg problem. Availability of more electronic services will speed up adoption. This should be done in parallel with the citizen training mentioned above.
- Improve digital skills of teachers. Many teachers from the older generation have very basic digital skills. This needs to be addressed with training and early retirement schemes.

These are clearly long-term objectives, and one should not expect things to change overnight. However, this is a rather pressing matter, and one would hope to see action being taken as soon as possible. Efforts for a major overhaul of Cyprus' education system need to be stepped up in order to prepare Cypriot youth for a rapidly changing world and the emergence of artificial intelligence.

6. *Attracting foreign direct investment*

Investment is a key driver of economic growth. One of the primary tasks of government is to create an economic environment that is conducive to investment. Many of the indicators analysed in this report (political and economic stability, rule of law, enforcement of contracts, etc.) are important exactly for that reason. Investment can come from both domestic and foreign entities. Many countries around the world – especially small and less developed countries – compete to attract Foreign Direct Investment (FDI). The reason is that FDI is thought to bring many benefits, over and above those associated with domestic investment. First, FDI brings in foreign capital that can finance investments that cannot be funded by local capital sources. Second, foreign investors bring with them technology and knowhow, knowledge of international markets, managerial expertise, and other benefits that spill over into the recipient country, pushing the technological frontier and increasing productivity.

For many years, Cyprus' focus was on attracting wealthy individuals rather than productive investments. Fortunately, attitudes have changed in recent years. Since 2019, the Cyprus Investment Promotion Agency (CIPA) has made "headquartering" a priority. Headquartering refers to a strategy aiming to convince successful international companies to relocate their global or regional headquarters to Cyprus. In 2020, the ECC published recommendations for attracting foreign quality and productive investments.

In 2021 the government unveiled its new strategy for attracting investment. As described in Chapter 9, this strategy has been very successful and led to the establishment in Cyprus of thousands of foreign interest companies and the relocations of tens of thousands of highly skilled individuals. Cyprus should continue along this path, taking special care to screen the incomers in order to avoid opening the door to high-risk activities that would damage the country's reputation.

Unfortunately, the publication of leaked documents from Cypriot service providers (an investigation dubbed known as *Cyprus Confidential*) painted Cyprus in a negative light. This was a big setback in Cyprus' efforts to brand itself as a clean place to do business. Cyprus must do more to eliminate activities that could damage the country's reputation and marginalize the people who engage in them.

Recommendations:

- Sharpen the focus on the need to attract investments that increase productivity and create high quality jobs. Residency and citizenship programs should target entrepreneurial talent rather than wealthy individuals.
- Enhance Cyprus' image as a reputable place to conduct business. Strengthen regulatory oversight of institutions and activities that can (and have in the past) damaged the country's reputation. If some activities are too hard to regulate, they should not be allowed at all. Prosecute companies and individuals that break the rules.
- Improve the provision of services and amenities that enhance the quality of life in Cyprus. In addition to accounting and legal services, foreign investors want good schools, hospitals, and restaurants, clean air, a beautiful natural environment.
- Reduce red tape and corruption and improve the legal system. The Business in Cyprus portal is a step forward.

7. Diversification

Resilience is a buzzword of the post-pandemic era. The European Union named its pandemic response program Recovery and Resilience Facility for a reason. There is widespread recognition that it is important to have resilient economies that can withstand shocks. This is not an easy task, especially for small, open economies like Cyprus. Open economies are vulnerable to external shocks that are beyond their control. One way to reduce this vulnerability is to become less open, but this comes with many disadvantages. An alternative route is to aim for a diversified economy that has a broad economic base and is not dependent on a small number of large sectors. This is also not easy for small economies, because it is easy for one successful sector to overshadow others, and because having multiple sectors does not allow the country to achieve economies of scale.

The need for diversification has been recognized by the ECC and the team preparing the LTES. They have adopted a simple but useful indicator of the degree of concentration of economic activity: the total contribution to gross value-added of the five largest sectors of the economy. This number currently stands at 49 percent (see Section 3.1).

Diversification is important not only across sectors, but also within sectors. For example, a sector that exports to many markets is more resilient than a sector that exports in only one or two markets. This is important for tourism,

for example. In the 2021 CCR, it was noted that Cyprus relies heavily on tourists from Britain and Russia, making it vulnerable to negative developments in those countries. The negative development came a few months later, as a result of Russia's invasion of Ukraine.

Cyprus found itself in a tough corner as it lost a major tourism market and the financial sector had to deal with sanctions and lost business. Fortunately, both were able to recover through a combination of intense, coordinated efforts and some good luck as new business made up for much of the loss. In this case the damage was limited, yet it is better to make the country less vulnerable to such shocks to begin with. Another example of a vulnerable sector is higher education, which is heavily reliant on students from Greece. A possible change in Greece that would allow private universities there could have a very adverse effect on Cypriot private higher education institutions.

Recommendations:

- Cyprus needs to develop new sectors that are going to complement its existing activities. Health, higher education, specialized light manufacturing and agritech are sectors with the potential to develop into significant sources of income if given sufficient attention.
- Cyprus needs to increase the diversification and resilience of current key sectors in terms of both the quantity and variety of markets and countries that sectors rely on (i.e. tourism), and the quality of those markets (i.e. higher education).

10.3 Concluding remarks

After successfully emerging from the financial crisis, Cyprus was hit by a series of negative shocks: Brexit, the demise of the CIP, the coronavirus pandemic, the war in Ukraine and the inflationary shock. The country managed to navigate those shocks quite well and now finds itself at a promising juncture. The European Union's RRF provides significant funds for investments towards the transition to a greener economy and the digital transformation. It is a golden opportunity for Cyprus to upgrade its infrastructure and work towards improving its natural environment.

It is a fortuitous coincidence that the RRF came into existence as the LTES was being developed. The work that had been done for the LTES was highly influential in the creation of Cyprus' RRP. In essence, the RRP came at the right time to provide funding for actions that were included in the LTES.

All things considered; Cyprus is doing quite well. It is member of the European Union and part of the developed world. By most measures, it is in the top quartile of countries in the world in terms of standard of living. But it faces significant challenges going forward. Its economic model appears to have run its course. It needs to be revamped in order to address issues like inequality, low productivity, and environmental degradation, as well as the spectre of climate change. The LTES and the RRP are Cyprus' opportunity to reshape its future. But it will take a broad consensus among all stakeholders – political parties, the business world, trade unions, civil society – to be able to push the reform agenda through. This is a time for everyone to put politics aside and contribute to this joint effort.

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Annex I: Competitiveness definitions and concepts

This Annex provides a brief introduction to the concept of national competitiveness, taking as its starting point some of the more widely known definitions of national competitiveness and summarising their common elements. It then looks at two of the main conceptual views of national competitiveness: the first based on a broad view of competitiveness that treats it as synonymous with national productivity, the second which take a narrower view that considers national competitiveness in terms of the ability to compete successfully in international markets and in attracting investment into productive activities. The section concludes with an overview of some of the identified key determinants of competitiveness (or productivity).

What is national competitiveness?

Definitions of national competitiveness

Competitiveness is a complex and multidimensional concept that is difficult to define, summarise and measure. However, the questions and issues at the heart of the concept of national competitiveness are basically those that policy makers and economic theorists have been trying to address for hundreds of years: a better understanding of the issues that are central to improving economic well-being and the distribution of wealth between and within nations (Cambridge Econometrics, Ecorys-NEI and Martin, 2003). However, even though improving a country's competitiveness is frequently presented as a central goal of economic policy, arguments abound as to precisely what this means. This is reflected through a multiplicity of definitions of competitiveness, each with their own nuances, and reflecting different understanding and interpretation of competitiveness and its determinants and outcomes; see Box 1 for some examples.

Box 1: Examples of national competitiveness definitions

"A nation's competitiveness is the degree to which it can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens. Competitiveness at the national level is based on superior productivity performance and the economy's ability to shift output to high productivity activities which in turn can generate high levels of real wages. Competitiveness is associated with rising living standards, expanding employment opportunities, and the ability of a nation to maintain its international obligations. It is not just a measure of the nation's ability to sell abroad, and to maintain a trade equilibrium." The Report of the President's Commission on Competitiveness (1984).

"[Competitiveness] may be defined as the degree to which, under open market conditions, a country can produce goods and services that meet the test of foreign competition while simultaneously maintaining and expanding domestic real income" OECD (1992), Programme on Technology and the Economy.

"An economy is competitive if its population can enjoy high and rising standards of living and high employment on a sustainable basis. More precisely, the level of economic activity should not cause an unsustainable external balance of the economy, nor should it compromise the welfare of future generations." European Competitiveness Report (European Commission, 2000).

"[Competitiveness is] the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the country can earn." World Economic Forum (WEF).[23]

"[Competitiveness is] the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people." International Institute for Management Development (IMD).[24]

Looking across the various definitions of national competitiveness illustrated in Box 1, three common elements can be identified that underpinning what may be regarded as the 'consensus view' of national competitiveness:

- **A successful economic performance,** typically judged in terms of rising living standards or real incomes, but which may include wider societal and environmental goals;
- **Open, free, and fair market conditions** for the goods and services produced by the nation in question. Such that there should be effective competition – actual or potential – from non-domestic producers;
- **A sustainable approach** such that short-term 'competitiveness' gains should not create imbalances that compromise a successful economic performance in the longer term. This can be viewed in terms of 'traditional' macroeconomic balances, such as the sustainability of current account deficits, or having supportable levels of public and private debt. Beyond these, sustainability may encompass broader environmental and social perspectives; for example, in terms of use of natural resources or preserving social cohesion.

Leading views of national competitiveness

Underpinning the various definitions of competitiveness, Ketels (2016) identifies two main views on the question of what is (national) competitiveness. These two views are outlined briefly in the following paragraphs. It is worth noting that although these views remain largely unreconciled in the literature, both can ultimately be translated in an understanding of competitiveness that places productivity centre stage.

Equating national competitiveness to national productivity

It is clear from the various definitions of national competitiveness (see Box 1) that productivity occupies a central role of in the concept of 'the consensus view' of national competitiveness. Under a '*productivity-based view*' of national competitiveness, competitiveness is synonymous with national productivity, as reflected in the statement by Michael Porter that:

"The only meaningful concept of competitiveness at the national level is productivity." Porter (1990)

This assertion reflects an understanding that the level of productivity achieved by an economy is the primary determinant of prosperity and, if the judgement on national competitiveness is based on national prosperity (e.g. living standards, real incomes), the notion of national competitiveness is linked inextricably to productivity. High productivity – i.e. a high addition of value per unit of labour, capital and natural resources employed in production – supports high wages, attractive returns on capital, and a strong currency, and with them a high standard of living.[25] So a

[23] See: WEF Global Competitiveness Report.
[24] See: IMD Global Competitiveness Report.
[25] See Porter *et al.* (2008), Ketels (2016).

competitive economy is one that can achieve high levels of productivity; where productivity depends both on the value of nation's products and services and the efficiency with which they are produced.

Linking the somewhat-amorphous concept of competitiveness with the more clearly defined concept of productivity, allows for analysis of the factors that affect national competitiveness to draw from the wealth of theoretical and empirical literature analysis of the determinants of productivity and productivity growth. The question of "what factors determine competitiveness?" becomes a question of "what factors determines productivity?". This reformulation ties into those definitions of competitiveness – e.g. as used by the leading international competitiveness rankings of IMD and WEF– that equate national competitiveness with the environment a country provides for value creation (by its enterprises), which essentially concerns the institutions, policies, and other factors that influence productivity.

Equating national competitiveness to international trade (and investment) performance

One problem with focussing on national-level productivity is that it drives a wedge between the concept of competitiveness and its international dimensions of trade and foreign investment. Growth in national productivity – and hence, under a productivity-based view, improved national competitiveness – can result from productivity improvements in non-traded sectors, without necessarily inferring anything about the ability of the country to produce and sell products and services in international markets, or to attract foreign investors.[26] Thus, at alternative view of national competitiveness – often motivated by concerns over macroeconomic balances, particularly the 'external' current account balance – is to emphasise its international dimension of competitiveness, by equating competitiveness with the ability of a country's enterprises to compete successfully in international (global) markets. And, by extension, for a country to successful compete in attracting investment into productive activities.

The view of national competitiveness as an extension of the performance of its enterprises in international markets – labelled by Ketels (2016) as the '*the cost-based*' or '*the market-share-based*' view of competitiveness – has been criticised on several accounts. Partly, because it is rooted in concepts of firm rivalry that equate competitiveness to competition in a 'zero-sum game', which does not recognise that prosperity in one country brings benefits for others whether through trade or other relations. Partly, also, because it tends to be associated with an emphasis on unit cost levels as a determinant of international competitiveness, which can motivate the pursuit of policies that drive down costs to stimulate exports but in so doing lower prosperity.

Both companies and policy makers have valid reasons to ask what determines the ability of enterprises to compete in international markets, and undoubtedly costs are an important factor. However, the real issue is what is the amount of domestic value-added embedded in exports of products and services. Such a view is taken by Robert Atkinson who states that:

> *"[National] competitiveness is the ability of a region [country] to export more in value added terms than it imports." Atkinson (2013)*

[26] To the extent that productivity increases in non-traded sectors reduce the costs of (non-traded) inputs used by firms in traded sector then this would have a spillover effect on their productivity and competitive position in international markets.

Once again, however, by focussing on value added the discussion is drawn back to the relationship between competitiveness and productivity, since productivity is a measure of the addition of value generated by each input factor (e.g., labour, capital, technology) used in production. The essential difference from the '*productivity-based view*' described previously is that what counts here is achieving high productivity levels in traded goods and services sectors, rather than the level of productivity across all sectors of the economy. Such a viewpoint is reflected in the definition of national competitiveness used by Ireland's National Competitiveness Council:

> *"Competitiveness refers to the ability of firms to compete in markets. Ireland's national competitiveness refers to the ability of the enterprise base in Ireland to compete in international markets" Irish National Competitiveness Council*[27].

Setting the objective of national competitiveness

One conclusion that can be drawn from the preceding discussion is that arriving at a 'correct' definition of national competitiveness cannot be separated from the overall objective(s) ascribed to competitiveness in terms of desired outcomes. If the objective of competitiveness is defined widely, in terms of raising living standards of the population as a whole, then competitiveness can be equated with the level and growth of overall national productivity. Alternatively, if the objective of competitiveness is defined more narrowly, in terms of improving the ability of a country – or rather the enterprises based in a country – to compete in international markets, then national competitiveness can be equated with productivity in those sectors for which international markets for their products and services exist. Of course, gains in productivity in sectors subject to international competition – under open and fair conditions – will affect the overall national productivity and, hence, national competitiveness under its wider definition.

The importance of the distinction between the wide and narrow definitions of competitiveness is not independent from the size and openness of the economy. For large countries with correspondingly large domestic markets, trade typically accounts for a lower share of overall economic activity than is the case for small countries, and hence differentiating between national competitiveness (i.e. overall national productivity) and the international dimension of competitiveness (i.e. productivity in traded goods and services sectors). However, for smaller economies with small domestic markets, particular those with limited natural resources and where trade typically accounts for a high share of economic activity, the international dimension of competitiveness will play a greater role in determining overall national productivity and accordingly national competitiveness. This is increasingly the case as globalisation opens-up more economic activities to international trade.

What determines national competitiveness?

It may be convenient to define competitiveness with reference to its objectives or desired outcomes (e.g. rising real incomes, living standards, or prosperity). The real question for analysis of competitiveness, remains to identify those factors that explain competitiveness rather than to describe its outcomes. Given the centrality of productivity to the notion of competitiveness, this requires addressing the question of the factors that determine and raise productivity? Before addressing this question, it is perhaps worth cautioning against allowing an undue focus on productivity to obscure the issue of translating productivity gains into higher wages and profits and, in turn, the analysis of institutional arrangements and market structures through which this occurs (Cambridge Econometrics, Ecorys-NEI and Martin, 2003).

[27] See: National Competitiveness and Productivity Council.

As mentioned earlier, productivity measures how efficiently production inputs (e.g. labour and capital) are used to produce a given level of output; as such, productivity is commonly defined as a ratio of a volume measure of output to a volume measure of input use.[28] There are various measures of output but for present purposes, it is convenient – and arguably more relevant – to consider output in terms of value added (rather than gross output or turnover/revenue). Hence, productivity equates to the amount of value added generated for each unit of input used in production.

Determinants of productivity and productivity growth

The basic factors that combine to determine productivity levels – or short-run / static productivity performance – can be categorised as follows:

- **Inputs:** the cost and quality of production factors (e.g. labour, capital, intermediate goods, or technology inputs), together with that of any 'infrastructure' that supports production activities (e.g. physical infrastructure, productive infrastructure (e.g. utilities, logistics) or financial infrastructure (e.g. banking);
- **Processes:** the efficiency of production activities (e.g. production process that transform inputs into outputs), including also the quality of management functions, support services, supply chain organisation etc. and, more broadly, the industrial structures that influence production efficiency (e.g. through economies of scale or scope);
- **Outputs:** the value of production – as determined by the prices that products (and services) command on open markets – which, in turn, depends on aspects such as quality and specialisation, but also on non-tangible aspects (e.g. branding, intellectual property) and on overall market demand and supply conditions.

More difficult to categorise, are the factors that determine productivity growth over time – or long-run / dynamic productivity performance – for which the literature is ever expanding.[29] Essentially, at a national level, there are two ways of increasing aggregate productivity levels:

- **Increase the intensity of production factor use:** increase the utilisation of factors of production; for example, by having a higher level of employment (i.e. higher share of the population in work) or higher hours worked, or by having a higher rate of capital utilisation;
- **Increase the output produced by each production factor:** increase the output produced by each unit of production factors used; in other words, raising the productivity of labour, capital, and other production factors, such that total productivity (i.e. accounting for all production inputs) is increased.

While policy makers are concerned about both, particularly when low employment rates and capacity underutilisation make it important to increase the intensity of factor utilisation, it is the second that constitutes the main focus of attention for improving prosperity or standards of living in the long run.

At a national level, productivity growth occurs not just through aggregate productivity growth. It can also result from a shift from low to high productivity sectors, i.e. higher productivity sectors account for an increasing share of the economy over time. From a policy perspective, this implies that national productivity growth is not just about raising productivity across the board or within sectors. It can also be about enabling resources to move from low productivity sectors into higher

[28] OECD (2001).
[29] See for example, Ketels (2016), OECD (2015).

productivity sectors. In other words, there is a role for a 'structural transformation' element within 'competitiveness' policies aimed at raising national productivity.

To understand which factors determine productivity growth, it is often analysed using growth accounting frameworks that provide a decomposition by production factor inputs (labour, capital, and others).[30] While useful for observing the changing structure of the economy and identifying the factors that change productivity growth, growth accounting does not explain in itself how those factors work.[31] In fact, there is lack of a comprehensive framework that covers the multiplicity of factors that affect productivity and how these factors work. Various authors, including many of the international rankings and national competitiveness reports described in the Cyprus Competitiveness Report are underpinned by efforts to identify and categorise factors that determine productivity growth. As a starting point, the decomposition of productivity growth by production factors, indicates several broad themes: the contribution of human capital points to themes such as education, health or labour market efficiency; the contribution of capital points to themes such as investment behaviour, access to finance (to facilitate capital investment), and physical infrastructure; while the contribution of technology points to themes such as research and development, technology adoption and innovation behaviour. Further, attention to the efficiency of production activities and exploitation of value creation possibilities point to factors such as factor market efficiency, firm sophistication, industry linkages and clusters, business environment and competition conditions.

Through a literature review, Isaksson (2007) identifies human capital (education and health), infrastructure, input availability through imports, institutions, openness, market efficiency, access to finance, geography as prominent factors behind high levels of productivity. In addition, innovation and research & development contribute to productivity growth in industrialized, but not developing countries. Similarly, also through a literature review, Syverson (2011) identifies clusters and firm sophistication (e.g. management practices), competition, both domestically and through trade, regulation, and the efficiency of input markets such as labour markets, as key factors driving higher levels of productivity. Within its productivity framework, the UK government identifies five drivers of long-term productivity performance: investment, innovation, skills, enterprise and competition; see Box 2.

Box 2: UK Government's five drivers of long-term productivity performance

The UK Government's productivity framework identifies five drivers that interact to underlie long-term productivity performance:

Investment *is in physical capital – machinery, equipment and buildings. The more capital workers have at their disposal, generally the better they are able to do their jobs, producing more and better-quality output.*

Innovation *is the successful exploitation of new ideas. New ideas can take the form of new technologies, new products or new corporate structures and ways of working. Such innovations can boost productivity, for example as better equipment works faster and more efficiently, or better organisation increases motivation at work.*

[30] See for example, Oulton (2004).
[31] Office of National Statistics (2007).

Skills *are defined as the quantity and quality of labour of different types available in an economy. Skills complement physical capital, and are needed to take advantage of investment in new technologies and organisational structures.*

Enterprise *is defined as the seizing of new business opportunities by both start-ups and existing firms. New enterprises compete with existing firms, with new ideas and technologies, thereby raising competition. Entrepreneurs are able to combine factors of production and new technologies forcing existing firms to adapt or exit the market.*

Competition *improves productivity by creating incentives to innovate and ensures that resources are allocated to the most efficient firms. It also forces existing firms to organise work more effectively through imitations of organisational structures and technology.*

Source: Office of National Statistics (2007)

Determinants of trade and investment competitiveness

Turning to the factors that determine trade competitiveness (i.e. the ability to create value through exports of products and services) and investment competitiveness (i.e. the ability to attract foreign investments in value creating productive activities), productivity remains of central importance and the productivity-related themes mentioned above remain relevant. Summarising and condensing a rich literature, the World Bank's Trade Competitiveness Toolkit (Reis and Farole, 2012) identifies a range of relevant broad themes – market access, the incentive framework, factor conditions, and trade promotion infrastructure. These are further divided into more narrow themes, as follows. Market access is a stand-alone theme, covering tariff and non-tariff barriers faced by exporters. The incentive framework is concerned with trade and investment policy, and other supporting policies such as competition policy or business regulation. Factor conditions mostly cover productivity-related themes, that is, access to finance, human capital, market efficiency, the presence of clusters, and trade facilitation and logistics. Lastly, trade promotion infrastructure covers export and investment promotion, standards and certification, special customs regimes such as special economic zones, industry coordination and support, and innovation.

There is a rich literature on the determinants of Foreign Direct Investment (FDI), although empirical work is hampered by the fact that FDI has different motivations, and that these motivations are hard to discern from the data.[32] Consequently, only broad themes such as geography, market size and access, and some aspects of the business environment (lack of corruption and the ease of doing business) can be consistently identified as determinant factors of FDI (Blonigen and Piger, 2014; Eicher, Helfman and Lenkoski, 2012). As an alternative approach, the survey-based Global Investment Competitiveness Report (World Bank, 2018) identifies political stability and security, the legal and regulatory environment, market size, macroeconomic stability, human capital, and physical infrastructure as they key factors driving FDI.

Implications for Cyprus

Competitiveness challenges differ across countries. The competitiveness challenges for Cyprus will be different from the challenges faced by larger countries such as the UK or Germany, from

[32] The typical distinction is between resource-, market-and efficiency-seeking FDI. Resource-seeking FDI is mainly driven by the availability of natural resources or cheap labour; market-seeking FDI is driven by market size and access; and efficiency-seeking FDI is driven by factors such as productivity, human capital, innovation or institutions (Dunning and Lundan, 2008).

centrally located countries such as the Netherlands, or from transition economies such as Estonia. As a small and open heavily services-orientated economy, at the periphery of the European Union, but at the crossroads of three continents, Cyprus faces unique challenges. The unique and fundamental characteristics of Cyprus and the challenges it faces have to be taken into account when defining, assessing, and evaluating the country's competitive position and performance.

An analysis of competitiveness focussed on productivity alone would have only limited relevance from a policy perspective, particularly if it failed to recognise the unique characteristics of Cyprus. Given the small size of the domestic market, the fact that Cyprus is an island, and its geographic location, outcomes such as trade and FDI performance deserve a prominent position in any assessment of the country's competitiveness. Moreover, for an economy that is highly orientated to services, a productivity focussed analysis would inevitably be confronted by the inherent difficulty in defining and measuring productivity in service industries. In this context, for the Cyprus Competitiveness Report, a rather generic definition of national competitiveness is used, which does not rely on a strong theoretical underpinning but allows for exploration of a wide scope of potential competitiveness factors or drivers.

Annex II: Competitiveness scorecard

Index	2015	2016	2017	2018	2019	2020	2021	2022	2023	Latest change	Source
Global Competitiveness Report (2019 edition)				43/140	44/140					-1	WEF
Global Competitiveness Report	65/140	83/138	64/137							+19	WEF
World Competitiveness Report			37/63	41/63	41/63	30/63	33/64	40/63	45/64	-5	IMD
Ease of Doing Business	64/189	47/189	45/190	53/190	57/190	54/190				+3	World Bank
Corruption Perceptions Index	61/174	55/168	57/176	59/180	58/180	57/180	52/180	51/180		+1	Transparency International
Economic Freedom Index	41/177	46/178	45/178	48/180	44/180	37/180	33/178	23/177	18/176	+5	Heritage Foundation
Digital Competitiveness Index			53/63	54/63	54/63	40/63	43/64	45/63		-2	IMD
Travel and Tourism Report	36/141		52/136		44/140					+8	WEF
Logistics Performance Index		59/160		45/160					51/139	-6	World Bank
Global Innovation Index	34/141	31/128	30/127	29/126	28/129	29/131	28/132	27/132	28/132	-1	INSEAD, WIPO
Global Entrepreneurship Index	46/130	49/132	49/132	32/137	35/137					-3	GEDI
Global Talent Competitiveness Index		32/109	30/118	37/119	33/125	30/132	30/134	30/133	30/134	0	INSEAD