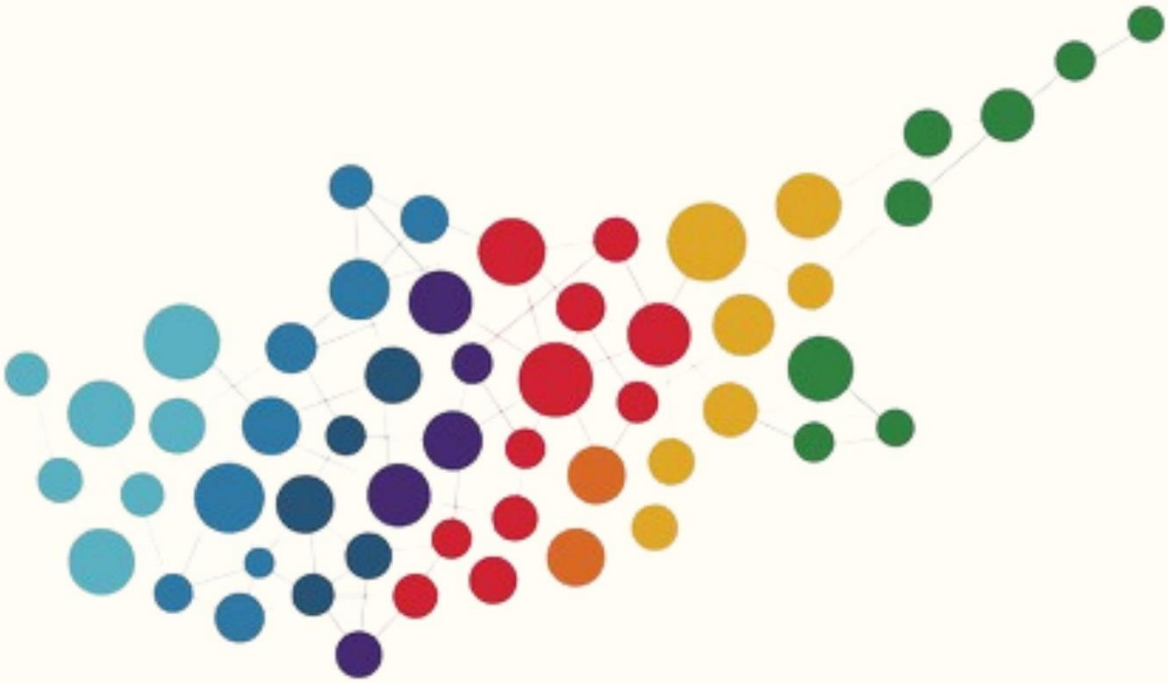
Republic of Cyprus

CYPRUS ECONOMY AND COMPETITIVENESS COUNCIL



2021 Cyprus Competitiveness Report

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Preface

The 2021 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 European Programmes, Coordination and Development (DG EPCD) 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. The final report was authored by Sofronis Clerides, Georgios Karakannas 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 Marina Jensen, Eliza Petridou, Loukia Bakalouris (DG EPCD) 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

Improving the economy's competitiveness through the implementation of a new growth model is one of the top priorities of the government. Our ultimate aim is to achieve sustainable and inclusive long-term growth, with a competitive, diversified and resilient economy based on strong institutions. In the pre-covid period, the government adopted a prudent fiscal policy and embarked on a series of institutional and structural reforms, which resulted in five years of continuous high economic growth with decreased unemployment, a significant decrease in non-performing loans and a decline in the high private and public sector debts.

The Covid-19 reality brought unexpected challenges and changes to everyday life but also to public policies. The Government did respond timely, in order to mitigate the direct negative impact of the pandemic on the economy and the health system and bring robust social progress. As a result, the economy has returned to high growth rates as of this year, covering the lost ground. The past year has shown among others that we need to diversify economic activity even more and remain focused on building a knowledge-based economy with emphasis on digitalization, flexibility, sustainability and diversification. The opportunities that have arisen from the pandemic must not be missed.

Monitoring and benchmarking Cyprus' competitiveness performance is necessary for targeted actions towards the achievement of high and sustainable growth rates in the long-term and strengthening the economy's robustness and resilience.

In this context, I very much welcome the publication of the second Competitiveness Report by the Cyprus Economy and Competitiveness Council, which provides an assessment of Cyprus' competitiveness in the context of a broad definition of the term - encompassing also social and environmental elements - and its determinants, identifies key issues and provides recommendations in areas where policy actions are required to address the remaining challenges.

I would like to congratulate and thank the Chairman and members of the Economy and Competitiveness Council for overseeing the preparation of the second Competitiveness Report for Cyprus. I am certain that this Report will be a very useful instrument in the hands of the Council for providing independent policy analysis and recommendations to the government, but also a very informative tool for policy makers and analysts, as well as for the wider spectrum of actors and potential readers in our economy.

Constantinos Petrides
Minister of Finance

Foreword by the Chairman of the Economy and Competitiveness Council

The Cyprus Economy and Competitiveness Council, established in 2018, aspires to continue during its second term its efforts to effectively contribute to the enhancement of the economy's competitiveness and the achievement of sustainable long-term growth. Through the systematic monitoring of the competitiveness of the economy, the Council focuses on identifying the prevailing institutional, structural, policy and other weaknesses of the economy and on proposing policy reforms aiming at strengthening the economy's fundamental framework conditions and competitiveness, with the ultimate goal of achieving sustainable long-term growth and prosperity for citizens.

To this end, the biennial Competitiveness Reports issued by the Council constitute our major analytical tool for comprehensively identifying, assessing and monitoring the drivers of the country's competitiveness. The main objective of the Reports is to provide concrete inputs for evidence-based policy making, by facilitating the debate and decisions in relation to the actions needed in order to improve Cyprus' competitiveness.

The current, second, Competitiveness Report builds on and extends the findings of the first report that was published two years ago. It retains the methodology and broad definition of competitiveness and in addition deals with the consequences of the coronavirus pandemic that hit the globe in the spring of 2020, resulting in a major health and socioeconomic shock. The Report includes more than 150 indicators and benchmarks against 12 countries as well as the European Union or the euro area average.

Taking into account that the implementation of the new Long-Term Strategy for Sustainable Economic Growth, (expected to be completed by the end of this year), is one of the Council's major priorities in the next period, Key Performance Indicators proposed in the context of the Strategy have now been incorporated in the Competitiveness Report. This will enable the Report to also reflect the progress and results of the implementation of the Strategy, which aims to improve the economy's foundations and widen its potential for enhanced sustainable growth, securing social and environmental sustainability and resilience.

Cyprus is successfully emerging from the crisis caused by a series of negative shocks, including the coronavirus pandemic. The Report underlines the importance of the support provided by the EU Recovery and Resilience Facility for the recovery and the green and digital transitions and indicates that the preparation of the Recovery and Resilience Plan in line with the new Long-Term Strategy for Sustainable Economic Growth, will provide significant funding for the implementation of actions proposed by the Strategy.

The Report finds that Cyprus performs reasonably well in leading international competitiveness rankings, without however being a top performer. Productivity performance was negatively affected by the recent crises, but Cyprus remains comparable to other Mediterranean economies. Furthermore, Cyprus has strong service exports but relatively weak FDI performance. The broad regulatory, institutional and market conditions are in line with those throughout the EU. Many policies are in place or under consideration to address competitiveness related weaknesses. However, several areas where competitiveness could be improved are identified. The Report provides an overview of the progress achieved in relation to the challenges identified in the 2019 Competitiveness Report and its recommendations and discusses some new challenges that Cyprus needs to address. It points out that the pandemic has sped up the adoption of digital technologies in several areas and recommends policies to keep this momentum. It also recognizes progress in the banking sector and the issue of NPLs, but points out that further progress is needed

in the areas such as access to alternative forms of finance. The need to promote entrepreneurship and strengthen business linkages and interaction, to better utilize the country's human capital by promoting the skills that correspond better to the needs of the labour market, as well as to enhance external connectivity, remain Cyprus' major challenges towards which we need to focus our efforts. The Report further suggests that attracting foreign direct investments through the implementation of the new strategy already announced by the Government, could further address the competitiveness weaknesses, whereas the development of new economic sectors would further enhance diversification.

I would like to extend my sincere thanks and appreciation to the University of Cyprus and specifically to Professor Sofronis Clerides and his team for preparing the second Competitiveness Report and for revisiting the set of indicators covered, including, inter alia, the extension of its scope to cover the indicators reflecting the implementation of the Long-Term Strategy.

We look forward to utilizing the second Competitiveness Report as an analytical tool for our ongoing dialogue with stakeholders and the government, and we are confident it will contribute to the formulation of evidence-based policies that will support long-term sustainable and inclusive growth and ultimately lead to the further strengthening of the growth potential and the resilience of the economy of Cyprus.

Takis Klerides
Chairman, Cyprus Economy and Competitiveness Council

Executive Summary

A brave new world. It has only been two years since the first Cyprus Competitiveness Report was published, but the world is a much different place. The coronavirus pandemic caused a deep global recession in 2020. Most economies are recovering in 2021, and 2022 looks like it could be a "normal" year. But the new normal may be quite different from the old. The pandemic has accelerated the adoption of digital technologies and brought changes in the way we work, travel, and learn. Many of these changes may be here to stay. The recovery has been frustrated by supply chain problems and rising oil prices, and the spectre of inflation has returned. Climate change has come to the forefront of public policy as the urgency of drastic action is now widely accepted by all. Assessing a country's competitiveness position during this turmoil is a challenge, but still needs to be done.

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. Rather, 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.

Cyprus performs reasonably well in leading international competitiveness rankings without being a top-performing country. Cyprus ranks reasonably – without being a top performer – in the three best-known international rankings: the World Economic Forum Global Competitiveness Report, the IMD World Competitiveness ranking, and the World Bank Doing Business index. Over the years, Cyprus' position has fluctuated considerably. It deteriorated during the 2010's, especially after the 2012-13 fiscal and banking crisis. It has partially recovered since, but the pandemic has increased uncertainty and it remains to be seen how Cyprus will be emerge from it.

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 but remains comparable to other Mediterranean economies. Labour productivity in Cyprus is below the EU average and lags behind Northern European economies but is comparable with or exceeds labour productivity in other Mediterranean economies. Total factor productivity in Cyprus has stabilised in recent years, after an initial decline that was greater in Cyprus than in any other benchmarked country except Greece.

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 above the EU average, with an emphasis on service exports. Cyprus is one of the few countries with a 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 but recovered almost fully, with the employment rate exceeding 75 percent before the pandemic hit.

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 into 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 strengthen **external connectivity**, formulating an international transportation and connectivity strategy and assessing options to incentivise international connectivity to business partner locations.
- To improve **sustainability** by better enforcement of environmental policies, reducing emissions, and working towards a circular economy.

A long-term vision is required. Cyprus has proven to be very versatile and quick to adopt, 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 project that is currently in the final stages of development 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. This is an opportunity not to be missed.

Acronyms and Abbreviations

AROPE	At Risk of Poverty or Social Exclusion
CARG	Compound Annual Rate of Growth
CCR	Cyprus Competitiveness Report
CEPEJ	Council of Europe European Commission for the Efficiency of Justice
CIP	Cyprus Investment Program
CITEA	Cyprus Information Technology Enterprises Association
CYSTAT	Statistical Service of Cyprus
CYTA	Cyprus Telecommunication Authority
DESI	Digital Economy and Society Index
DMC	Domestic Material Consumption
ECC	Economy and Competitiveness Council
EDGI	E-Government Development Index
EIB	European Investment Bank
EPI	E-Participation Index
EPO	European Patent Office
EU	European Union
FATS	Foreign Affiliates Statistics
FDI	Foreign Direct Investment
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GEDI	Global Entrepreneurship Development Index
GII	Global Innovation Index
GVA	Gross Value-Added
HICP	Harmonised Index of Consumer Prices
ICT	Information and Communications Technology
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
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
RRF	Recovery and Resilience Facility
RRP	Recovery and Resilience Plan
SILC	Statistics on Income and Living Conditions
SME	Small-and Medium-Sized Enterprise
SPE	Special-Purpose Entity
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
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 the need for a new growth model for Cyprus. The report was meant to be 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, the report offered a comprehensive and detailed assessment of relevant indicators, the policy context and other factors that shape the development of Cyprus' national competitiveness.

The current document follows up on the 2019 CCR. It was commissioned by the ECC in accordance with its mandate to continuously monitor developments in the Cyprus economy. The report updates all the indicators from the first CCR for which new data were available and introduces a number of new indicators. It discusses the evolution of these indicators, identifying continuing trends as well as important changes in the two eventful years that have passed since the first report. The coronavirus pandemic that hit the globe in the spring of 2020 created an unprecedented policy challenge and is expected to have a lasting impact on the structure of the world's economies. A new chapter documents the Cypriot economy's response to the pandemic and discusses how debates about the economy's future direction should be informed by the lessons we learned from this unprecedented calamity. Specific policy recommendations deriving from the analysis are presented in the last chapter.

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. It is the third smallest economy in the European Union, with an annual GDP of €21.5 billion in 2020, lower than Estonia (€26.8 billion) and about 64% larger than Malta (€13.1 billion). Cyprus has the third smallest population in the EU, at 896 thousand, ahead of Malta (516 thousand) and Luxembourg (635 thousand), and behind Estonia (1.33 million).[1]

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. Cyprus 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 pleasant climate, varied scenery and diverse cultural heritage. These are important assets for the tourism sector and contribute to a pleasant environment for those who chose 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

[1] Eurostat data as 28/10/2021; Cyprus data are provisional.

contribution to GDP and employment. Tourism has traditionally been a strong service export sector and remains significant today (though it has been badly hurt by the pandemic). 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 along with other professional and administrative services have been growing in importance. Most recently, Cyprus has also seen an expansion in its tertiary education and health sectors.

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 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 through 2019.

The positive trajectory was interrupted by the pandemic, an exogenous shock that affected the whole world. As a small and open economy, Cyprus was bound to be hit hard by the unprecedented decline in economic activity. Indeed, the tourism sector was almost completely shut down in 2020. Yet the decline in GDP was manageable, as other sectors were able to limit losses and kept the economy going. As the world looks forward to putting the pandemic behind it in 2022, Cyprus seems set to return to its previous growth path. The question is, is this satisfactory? Does Cyprus want to go back to business as usual?

The series of crises of the last 20 years have revealed institutional and structural weaknesses in the economy. These weaknesses need to be addressed in order to make the economy more sustainable and resilient, and to allow it to adopt to the new challenges presented by climate change and technological transformation.

1.2 Towards 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 had 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 is expected to deliver its final output towards the end of 2021.

The coronavirus pandemic that hit the globe in the spring of 2020 produced an entirely new set of challenges. Economic activity was severely depressed due to lockdowns aimed at controlling the spread of the virus. Governments provided massive support to workers and businesses in order to contain economic hardship and to preserve the productive capacity of their economies. The European Union set up the €672.5 billion Recovery and Resilience Facility (RRF) to support reforms and investments undertaken by its Member States.[2] 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) that requested the amount of 1.2 billion euros in the form of grants (1 billion) and loans (227 million).[3] The proposal was approved by the EU in July 2021. Following the criteria set by the European Commission, the Cypriot RRP promises to undertake 58 reforms and 76 investments to address successfully all the challenges. The suggested reforms and investments that are directed to green and digital transformations aim at enhancing the EU integration by safeguarding that its growth targets will not be left behind and will be protected against future uncertainties. The RRP promises to contribute 41% and 23% 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 in terms of the contribution and future performance of Cyprus in terms of 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

[2] See https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en.

[3] The full RRP can be found at http://www.cyprus-tomorrow.gov.cy.

are communicating vessels and are fully aligned.

The 2021 CCR was prepared in parallel with the LTES and the RRP. It should be seen as a tool that helps monitor the implementation and progress of the strategy. To facilitate this process, the 2021 CCR incorporates all the Key Performance Indicators (KPIs) identified in the strategy.

1.3 Recent economic developments

Implementation of the Economic Adjustment Program under the watchful eye of the Troika was successful in delivering fiscal consolidation and restoring financial stability after the 2013 debt crisis. Economic performance surpassed expectations, with four years of robust growth averaging almost 5 percent annually in 2016-2019. The recovery was broad-based and contributed to the increase of employment in almost all sectors and to the reduction of unemployment from 16 percent in 2014 to 7 percent in 2019.

Private consumption was a key driver of the economic recovery. Cyprus recorded negative savings rates, meaning that households drew from their savings in order to maintain their consumption levels. As the economy grew, consumption was further supported by higher incomes that were driven by higher employment rather than wage inflation. Private consumption was also supported by the flourishing tourism sector with positive spillover effects to other sectors of the economy.

Investment demand also contributed to the new growth phase. It was driven mostly by investment in real estate, which soared in response to government incentives (such as relaxation of building restrictions), as well as the Cyprus Investment Program (CIP) that was introduced by the government in an effort to attract foreign investment.

The positive trends were reversed in 2020 because of the coronavirus pandemic. There was a sharp decline in economic activity in 2020 (-5.1%) and a relatively small increase in unemployment to 7.6%, up from 7.1% in 2019. Unemployment increased further to 8.4% in mid-2021, the same level as in 2018 and close to the euro area average. The employment rate decreased in 2020 for the first time since 2013, by 0.8 percentage points to 74.9%. The deterioration of the labour market was only temporary. In the summer of 2021, the unemployment rate dropped below 5% for the first time since the late 2000s boom.

The impressive improvement in the management of public finances after the crisis produced budget surpluses in three of the four years between 2016 and 2019 and lowered public debt from a peak of 109% of GDP in 2014 to 94% in 2019. The improved performance was recognized by credit rating agencies. S&P, Fitch and DBRS all upgraded Cyprus to investment grade in 2018, for the first time since 2011. Moody’s also upgraded Cyprus, though not all the way to investment grade.

This improvement meant that Cyprus was in a relatively good fiscal position when the pandemic hit in 2020. The government was able to take decisive steps to support the economy. It provided financial aid (i.e., direct income transfers and increases in liquidity buffers) in order to relieve households’ income losses and unemployment and firms’ inability to meet their obligations due to liquidity restrictions. The measures taken by the government contributed to limiting the economy’s contraction in 2020 to -5.1%, smaller than the EU average. Projections at the time of writing (Draft Budgetary Plan 2022) put the recovery in 2021 at 5.5%, followed by 4.0% in 2022 and 3.3% in 2023.

The pandemic dealt a large blow to public finances. Cyprus went from a 1.5% budget surplus in 2019 to a 5.7% deficit in 2020. This was smaller than the euro area average deficit of 7.2%. Government debt jumped to

119.1% of GDP as the government pre-emptively borrowed 4.2 billion euros in the spring of 2020 in order to build a buffer that would ensure sufficient liquidity to support the economy as needed. Some of the buffer was not spent and will be used to retire some of the debt obligations coming due, thus helping reduce the debt burden relatively quickly.

Beyond the pandemic, there were two other significant economic developments in the last couple of years. One was the demise of the CIP, which offered Cypriot citizenship to foreign nationals in exchange for investment. The program was very successful in terms of the interest it attracted, and it generated tremendous investment in real estate. However, there is little evidence that it attracted productive investments in other sectors of the economy. The program was shut down in October 2020 because of allegations of corruption. This can be considered a positive development in that it forced the government and other stakeholders to redirect their efforts into attracting productive investments, especially in high technology sectors.

The second important development was the conclusion of the Brexit saga. The result of the June 2016 referendum introduced a period of high uncertainty and acrimony between the UK and the EU. After a long period of tense negotiations, the UK officially withdrew from the European Union on 31st January 2020, with a transition period ending on 31st December 2020. The end of this period signalled the withdrawal of the UK from the Customs Union and the common EU market. This is a negative development for Cyprus as the UK is one of its most important trading partners. The UK's departure from the common market will undoubtedly have an impact on the Cyprus economy. An assessment of the immediate, short-term effects of Brexit would be highly speculative as these were likely overwhelmed by the onset of the pandemic. It remains to be seen what the long-term impact of Brexit might be on economic relations between Cyprus and the UK.

1.4 Cyprus' competitiveness challenges

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

- **external economic conditions**, including the course of the coronavirus pandemic, the increase in energy prices, the recurrence of inflation, and the approaching end of low interest rate regimes;
- **technological developments,** notably increasing digitalisation, offers 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. Shifting alliances in the region must be navigated with care. Similarly, economic developments in Russia are important to 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 inaugural 2019 CCR. As such, it retains both the structure of the original report and the 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 and an effort has been made to keep the language as similar as possible, although naturally every writer has their own style. The original discussion was retained in many instances where the data did not call for an update. Chapter 1 has been thoroughly updated to reflect recent developments, while Chapter 9 on the pandemic is completely new and it replace the previous chapter 9 that was an in-depth analysis of the ICT sector.

Chapter 10, which provides a summary and recommendations, was the most challenging one to write. It was a long chapter in the 2019 CCR, with quite detailed discussions and recommendations on each topic. In this report, we decided to provide a summary of the 2019 report's analysis and recommendations, along with a discussion of the progress made. (Readers who want full details of the 2019 report's analysis and recommendations can refer to that document.) In addition, we added some further recommendations that have emerged from the analysis or from recent developments.

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** offers an overview of the impact of the pandemic on the Cyprus economy and discusses its possible long-term impact on productivity and competitiveness.
- **Chapter 10** identifies the key competitiveness issues that arise from the indicators and discusses their policy implications. It provides a summary of the recommendations made in the 2019 CCR and discusses the progress made since then. It also adds some new recommendations that arise from recent developments.
- 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.[4] 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.

[4] 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. Instead, the report 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-sections:

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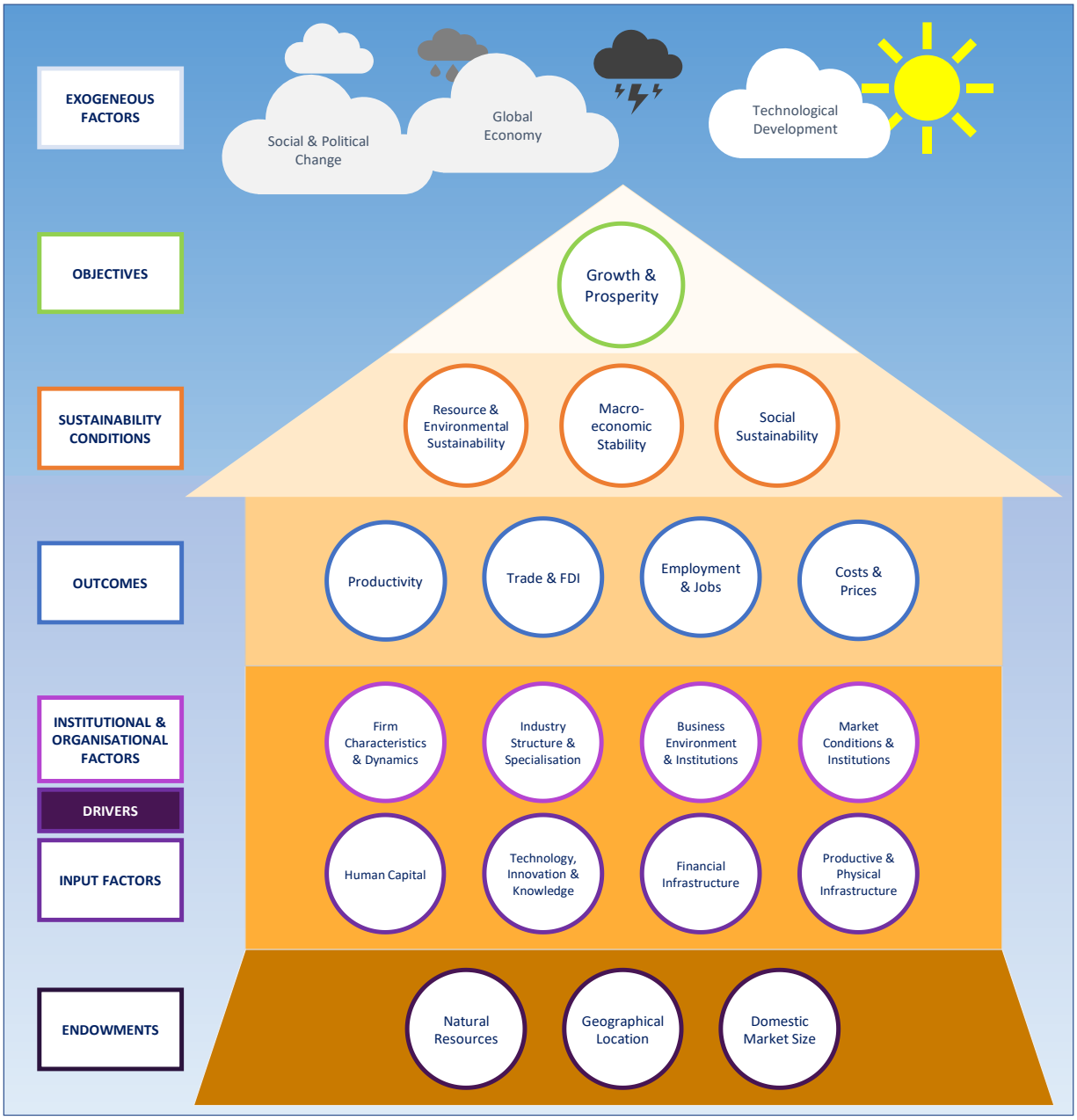
Figure 1 Competitiveness framework



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 & job' 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.[5] 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 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

[5] 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*'.

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. In relative terms, Cyprus weathered the global crisis well, as its banks had no toxic assets and did not depend on interbank funding. It suffered a relatively 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, but came to a halt in 2020 as a result of the coronavirus pandemic. Cyprus contracted by 5.1% in 2020 but is projected to bounce back with 5.5% growth in 2021, followed by 4.0% in 2022, 3.4% in 2023 and 3.0% in 2024.

3.1 Economic structure

Structure and growth by economic sector

Cyprus has a services-based economy. In 2020, market service sectors accounted for about 60 percent of gross value-added (GVA) creation, and non-market services added another 22 percent.6 Similarly, 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 (11.1%) and employment (16.2%) is Wholesale & retail distribution. Real Estate activities is the second largest sector in terms of GVA (11.0%) but only employs 0.7% of the workforce. The next two largest sectors are Public administration and Finance & Insurance, which represent around 9.2 and 8.1 percent of GVA and 7.6 and 4.5 percent of employment respectively. Agriculture, Mining, Construction and Manufacturing together represent around 14.6 percent of GVA and 20 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 (after Wholesale & retail distribution) is another service sector, Accommodation & food service, with 10.7% of employment. Education and Health & Social services jointly account for about 12 percent of employment. At the other end, services sectors such as Financial & insurance services, Information & communication, and Professional services, 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.

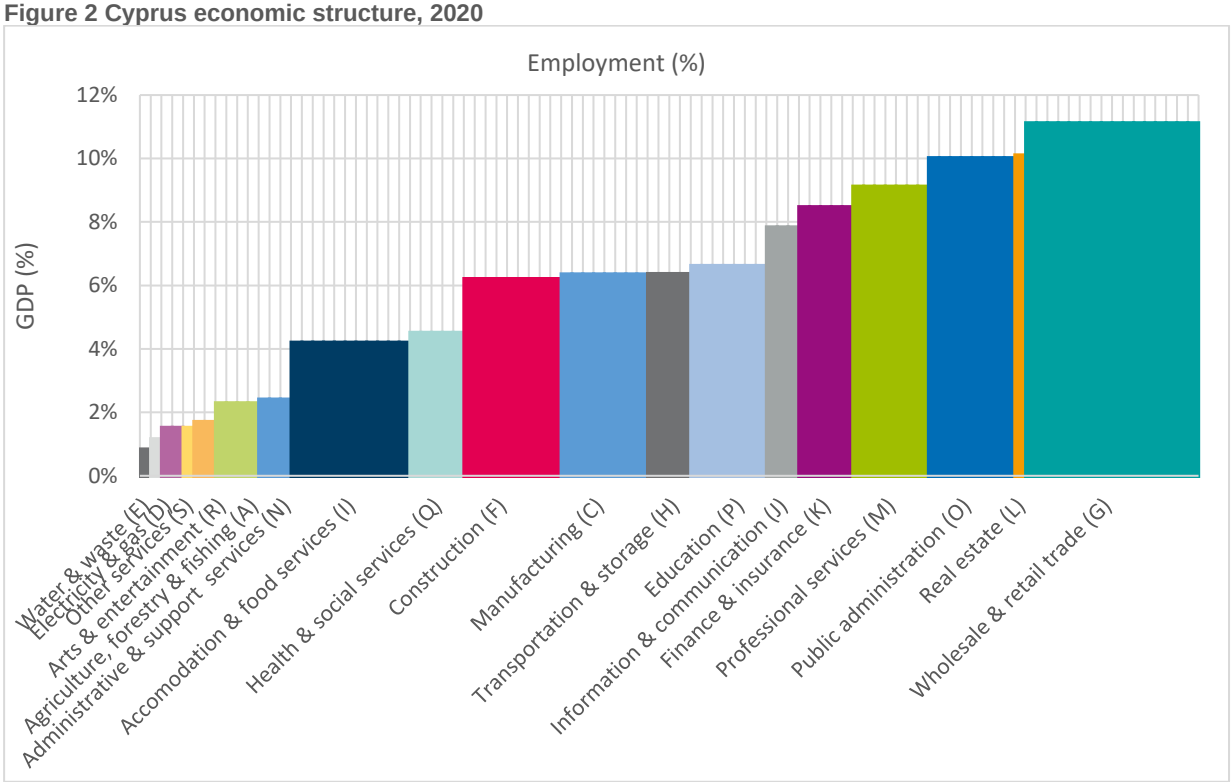
The development of the economy over the past decade has tended to reinforce the preeminent position of services in the economy. Two of the main non-services sectors, Construction and Manufacturing, contracted sharply following the 2008 global financial crisis and the 2012-13 banking and fiscal crisis (Figure 3 and Figure 4). They recovered in terms of both value-added and employment levels during the 2016-2019 period, although the construction sector never returned to the 2008 level. The outbreak of Covid-19 in 2020 led to a minor

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

contraction, but employment actually increased slightly during the pandemic year. Sectors with a strong dependence on consumer spending, such as Wholesale and retail trade and Other services, followed a similar if less pronounced pattern over the past decade. But in 2020 the reduction in Other services is three and a half times that of wholesale and retail trade. Some parts of the latter sector, such as supermarkets, did very well during the pandemic because consumers went out less and consumed more food at home. Financial and insurance services accounted for 8.1 percent of GVA and 5 percent of employment in 2020. The 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 banking crisis led to a contraction of the sector in both GVA and employment terms.

The gap created by the contraction of the financial sector was partially filled by the expansion of other business and professional services such as Information & communication services, Professional, services and Administrative & support services. Thus the services-orientated nature of the Cypriot economy remains intact. Education and Health & social services are also service sectors that are becoming increasingly important. A sharp reduction in tourism in 2020 has led to an equivalent reduction in value added and employment in accommodation and food services.

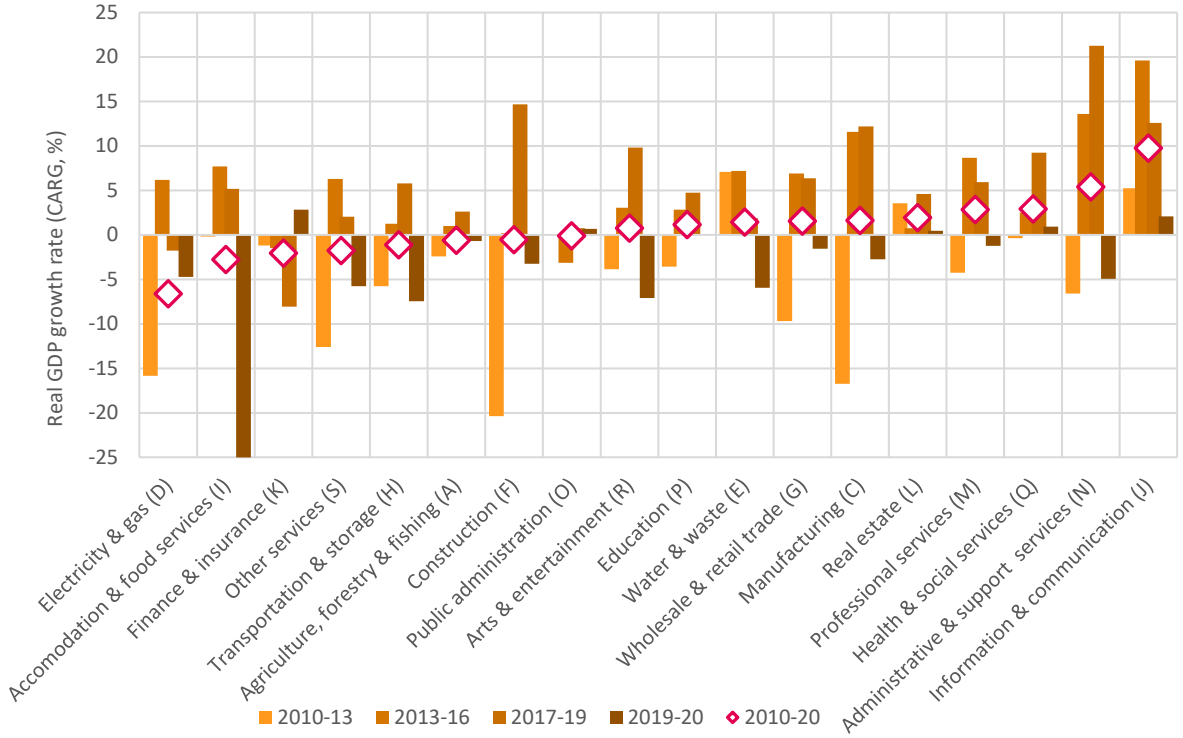
Figure 2 Cyprus economic structure, 2020



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 sector is not included as its value added for 2017 was 0.12 percent of GDP.

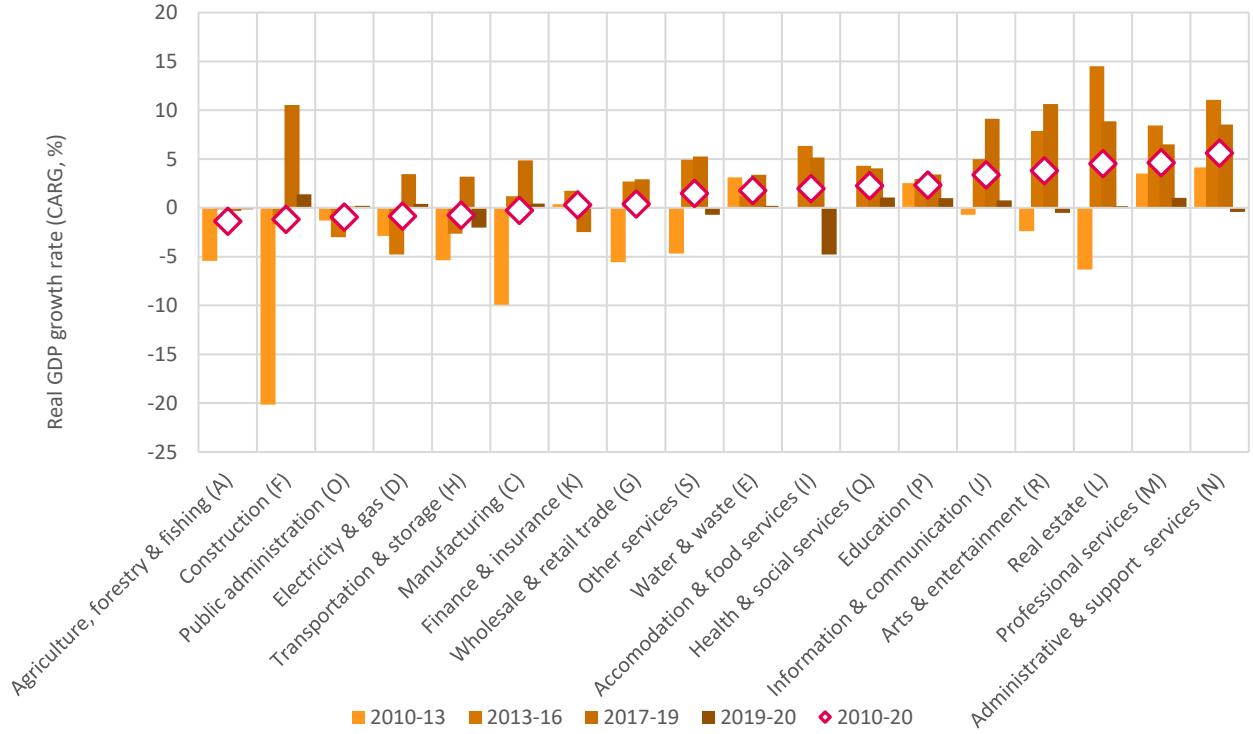
Source: CYSTAT, National Accounts.

Figure 3 Development of real GDP by economic activity: selected sectors, 2010-2020



Notes: Compound annual rate of growth (CARG). Letters in parenthesis are NACE Rev. 2 section codes. Excludes 'Mining and quarrying (B)' and 'Activities of households as employers (T)'.
Source: CYSTAT, National Accounts: Gross Domestic Product at constant market prices 2010 (chain linking method).

Figure 4 Development of employment by economic activity: selected sectors, 2010-2020



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

Diversification

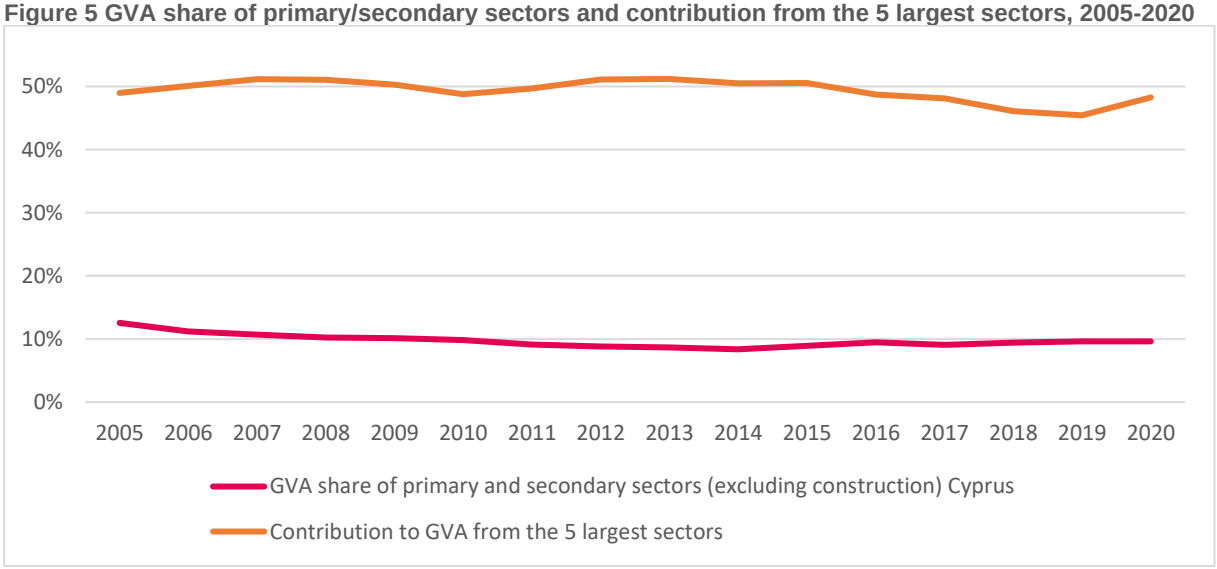
A lack of diversification is often cited as one of the main weaknesses of the Cypriot economy. When economic growth relies on a small number of sectors, the country is vulnerable to shocks in those areas. This is especially true when the sectors in question-like tourism and real estate-are dependent 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 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) has been decreasing since 2013, from a high of over 51.1% to a current 45.8%. This is a positive trend, though it is likely not the result of a structural improvement in the economy, but rather a reflection of the financial crisis and the pandemic.

The second line in Figure 5 shows the share of the primary and secondary sectors, excluding construction. This figure is below 10%, reflecting again the economy's dependence on services.

Figure 5 GVA share of primary/secondary sectors and contribution from the 5 largest sectors, 2005-2020

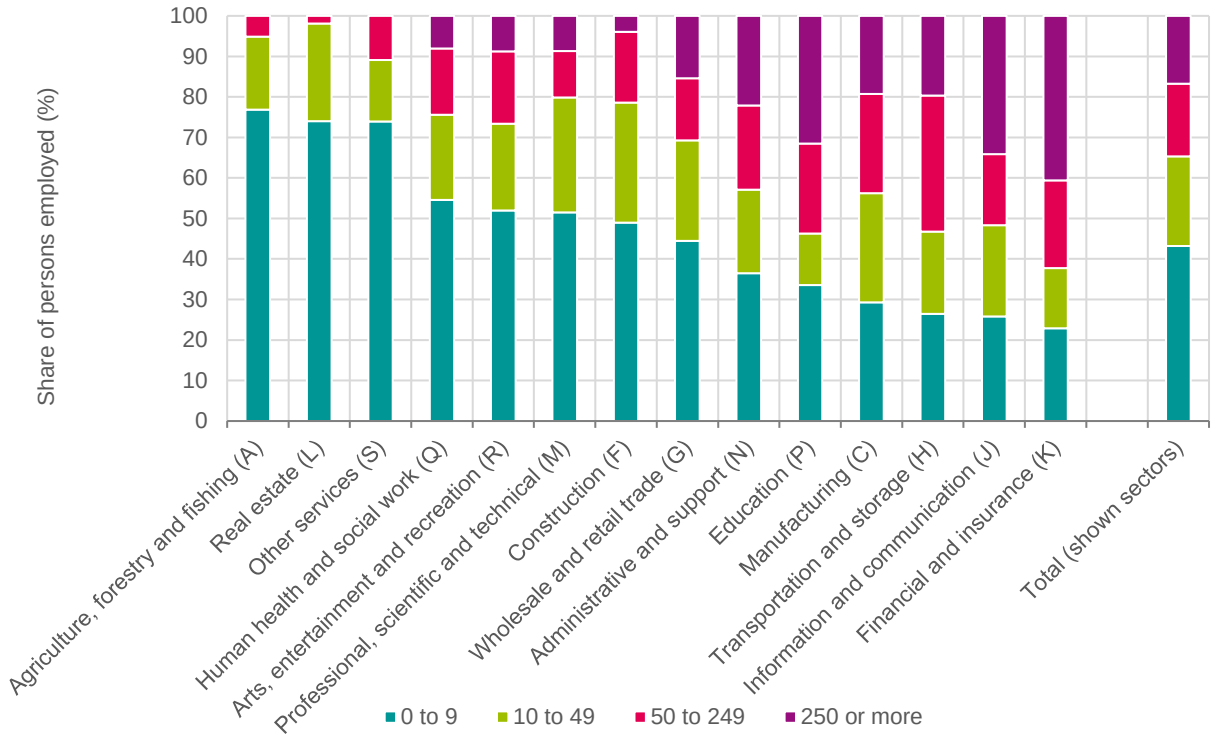


Source: Eurostat, National accounts aggregates by industry (up to NACE A*64) [nama_10_a64]

Structure by firm size

Of the 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 administrations, education and health, there are only 100 enterprises in Cyprus with 250 or more employees, with half of them in accommodation and food service activities (28) and wholesale and retail trade (22). Small and medium-sized enterprises (SMEs), defined as enterprises with less than 250 employees, account for nearly 85 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%) in business sectors such as financial and insurance activities, information and communication technology, and education. In manufacturing large enterprises account for 15 percent of employment and in construction just 4%.

Figure 6 Employment by economic activity and enterprise size (employees) for selected sectors, 2019



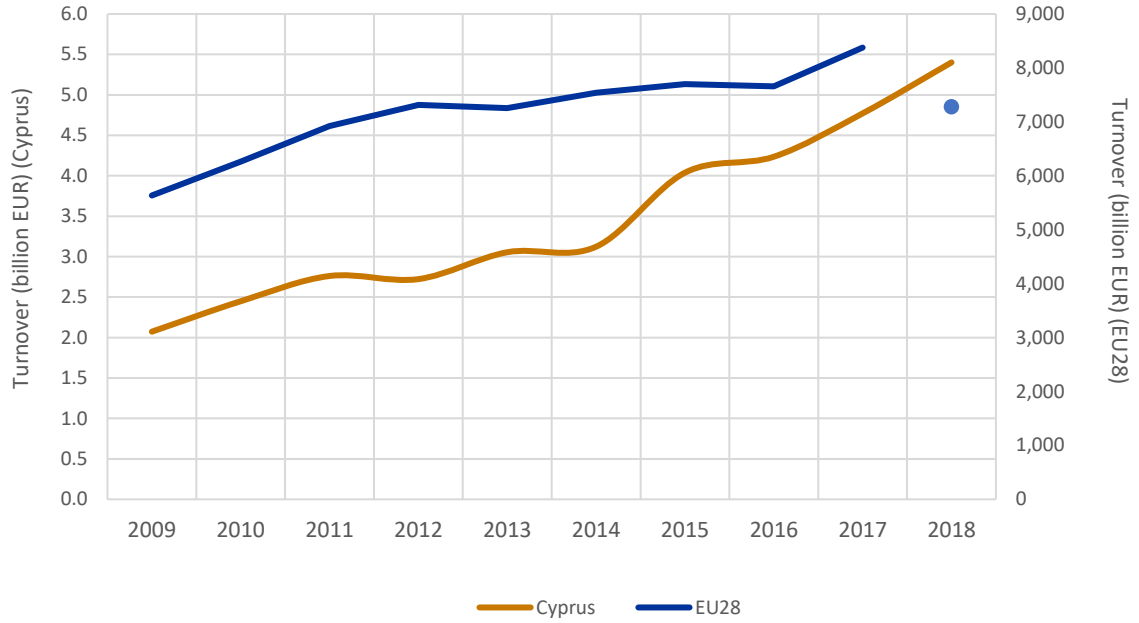
Source: CYSTAT, Business Register: Employment of enterprises by economic activity (NACE Rev. 2) and size group.

Foreign controlled enterprises

Eurostat data indicate that 300 enterprises are foreign-controlled in Cyprus, although these data do not cover some key sectors—e.g. water supply, financial activities and real estate—likely to be attractive for foreign enterprises. The turnover of foreign-controlled enterprises has increased since 2009 Figure 7 shows that during 2013-2016 Cyprus experienced a slowdown in growth but no contraction, suggesting a degree of resilience among the foreign controlled enterprises that remained in Cyprus.

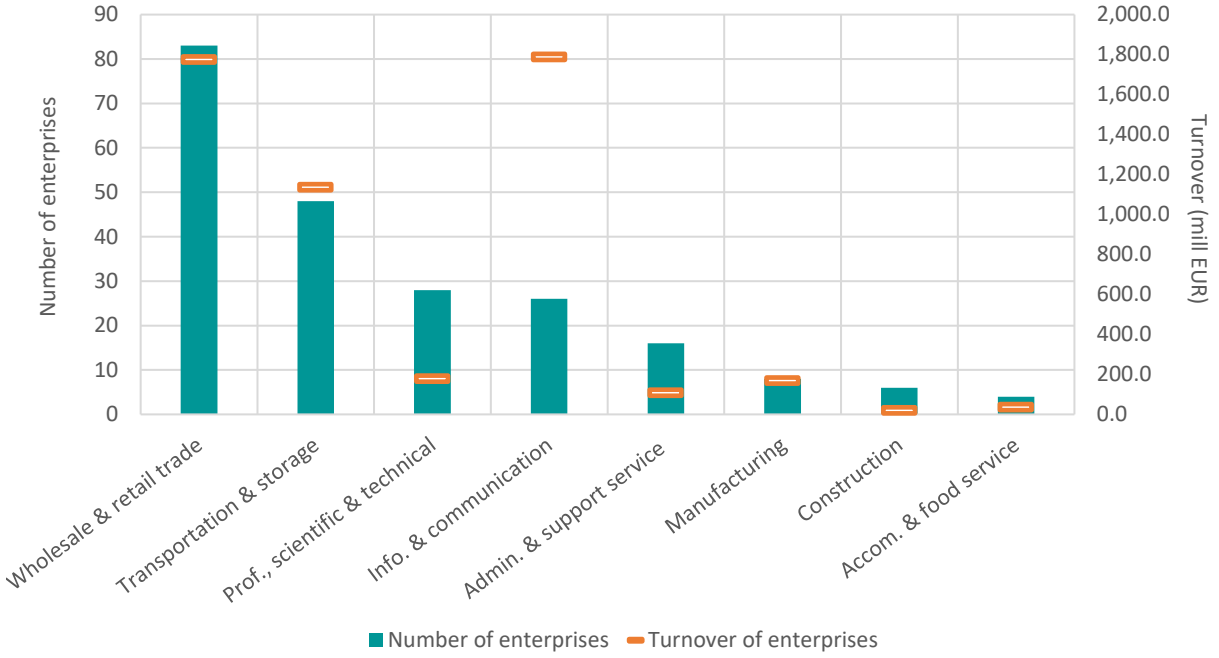
In terms of the sectoral distribution, as shown in Figure 8, foreign controlled enterprises are most prominent in Wholesale & retail trade (91), Transportation & storage and Professional (56) and Scientific and technical services (56). The Information and Communication sector has fewer foreign controlled firms but very high turnover, reflecting the presence of a small number of large and globally significant firms in the sector.

Figure 7 Turnover of foreign-controlled enterprises, 2009-2018



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, 2018



Notes: Eurostat information missing for the NACE sectors Water Supply, Financial Activities, and Real Estate. Data on number of enterprises and turnover in the Construction category are for 2012. Data on number of enterprises and turnover in the Accommodation and Food Service category are for 2013.

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% of GDP was lost during 2011-2014. The recovery began timidly in 2015 and picked up over the next 2-3 years on the back of 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 employment rate rose to the level of the Eurozone average and unemployment has fallen consistently over the past three years to reach 7.1 percent at the end of 2019.

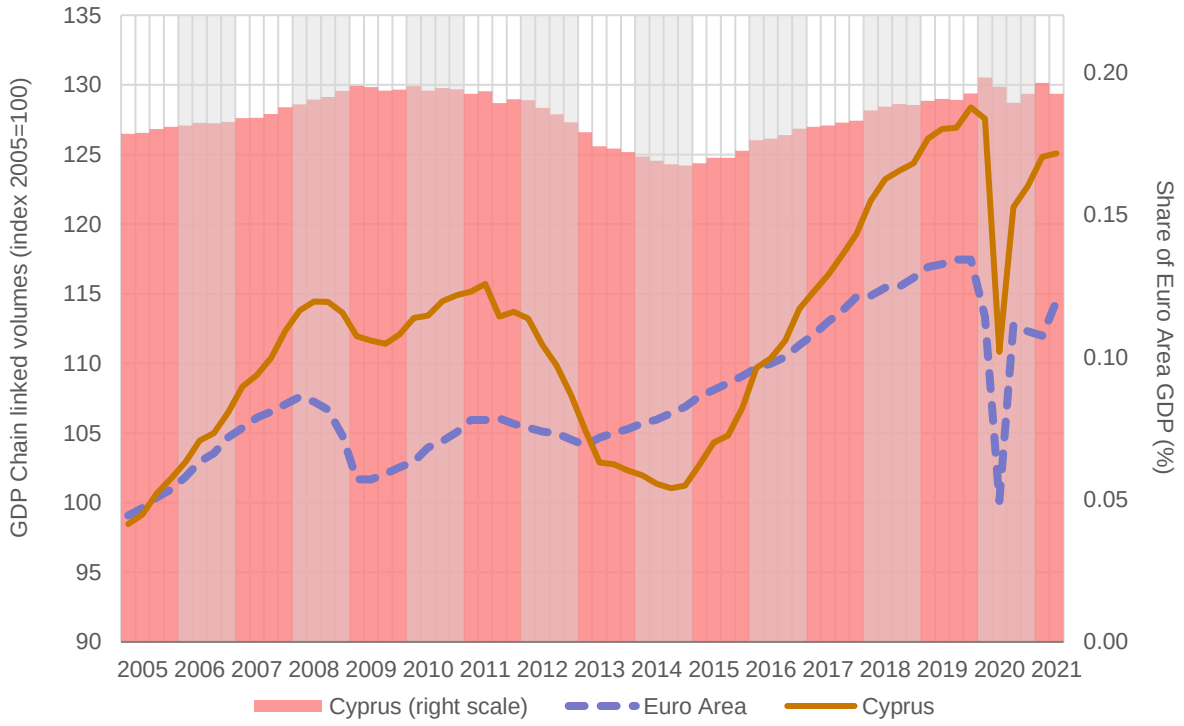
The expansion came to a sudden halt in 2020 on account of the coronavirus pandemic. GDP contracted by 5.1% in 2020, less than the EU27 average of 6% (euro area average was 6.4%).

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 euro area average (Figure 9 and Figure 10). As a result, Cyprus' share of overall euro area 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 euro area's GDP dropped to 0.169% in 2015.

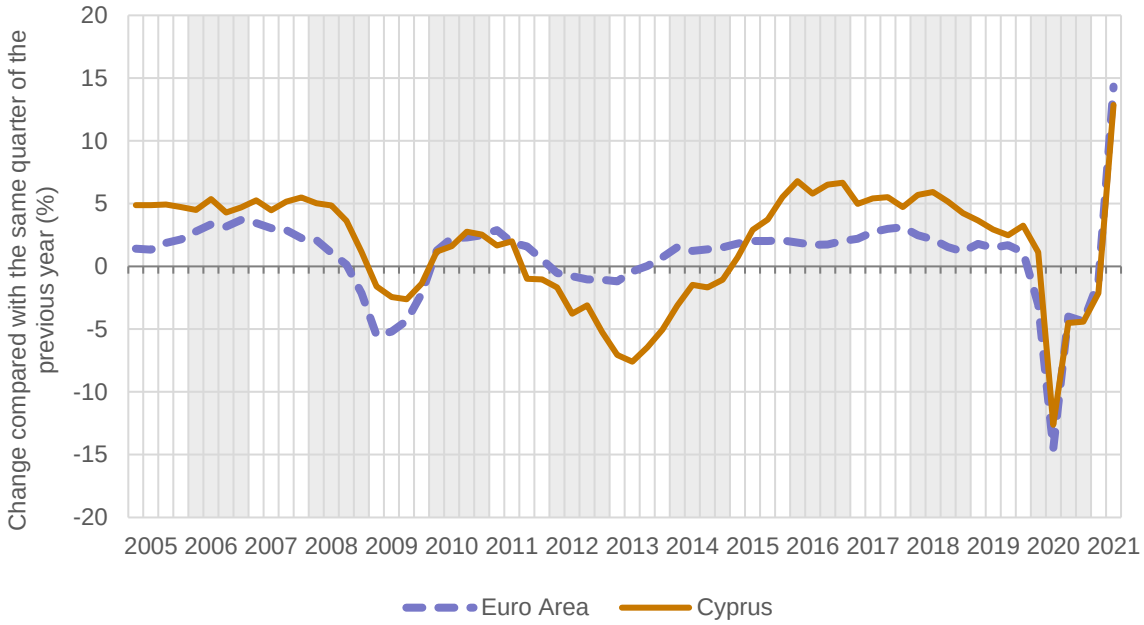
Cyprus' economy recovered quickly and robustly from the banking crisis, returning to growth in 2015 and outstripping growth for the whole euro area thereafter. It achieved growth rates of 6.4 and 5.2 percent in 2016 and 2017 respectively and 5.2 percent in 2018, enabling real GDP to recover to near pre-crisis 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. Cyprus' share of euro area GDP has returned to pre-crisis levels and was at 0.183% in mid-2020.

Figure 9 Real gross domestic product and Cyprus' share of euro area gross domestic product, 2005-2020



Notes: Quarterly data up to 2021Q2.
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, 2005-2020



Notes: Data up to 2021Q2.
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 collapsed finally 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 year 2020, when it was the only component (other than inventories) contributing positively to growth.

Figure 12 shows a decomposition of growth into the contributions of different factors of production—labour and capital inputs—and total factor productivity (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 Total Factor Productivity (TFP) growth (see box for an explanation of TFP). 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 COVID-19 pandemic but the Conference Board predicts that it will turn positive in 2021 reaching 2.3%.

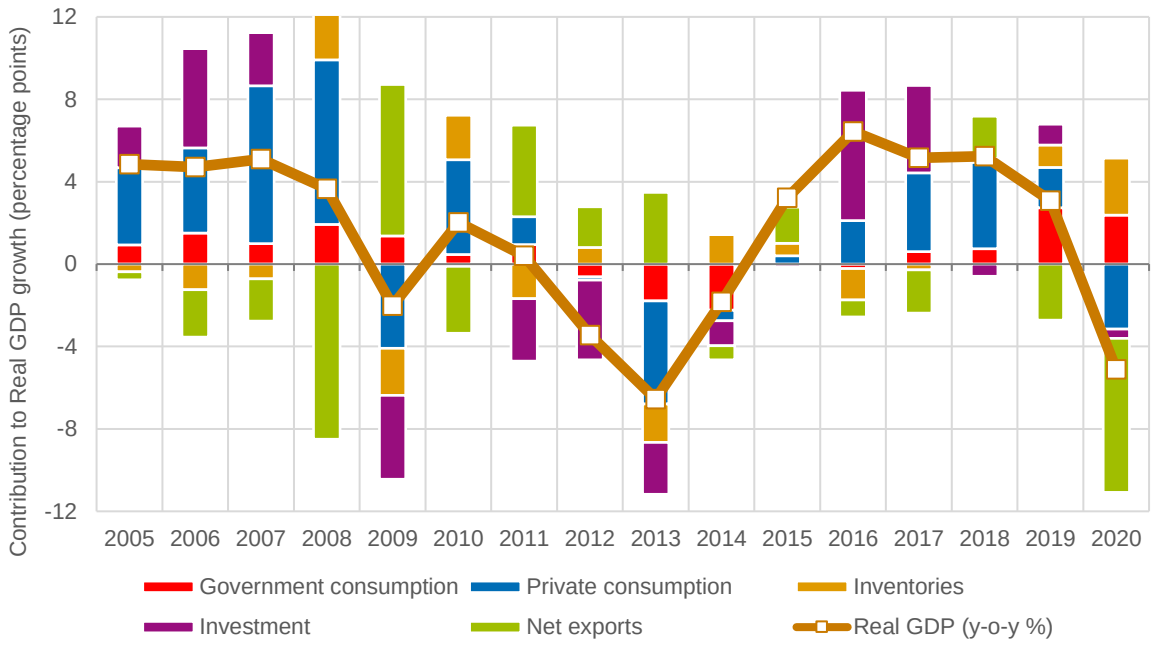
Although the data suggest some recent stabilisation of total factor productivity following a long decline, current investment patterns do not appear favourable for future productivity gains. Figure 20 shows that increases in fixed investment have been driven by the construction of dwellings, while increases in machinery and equipment investments are partially attributable to ship registrations – which were particularly important in 2016 and 2017- that are equally unlikely to feed through to improved productivity.

Meanwhile, despite some signs of recent improvement (see Figure 21) investments in ICT and other machinery and equipment remain well below their pre-crisis levels. It worth noting that ICT investment increased slightly in 2020, whereas in the euro area there was a reduction.

Definition: Total Factor Productivity

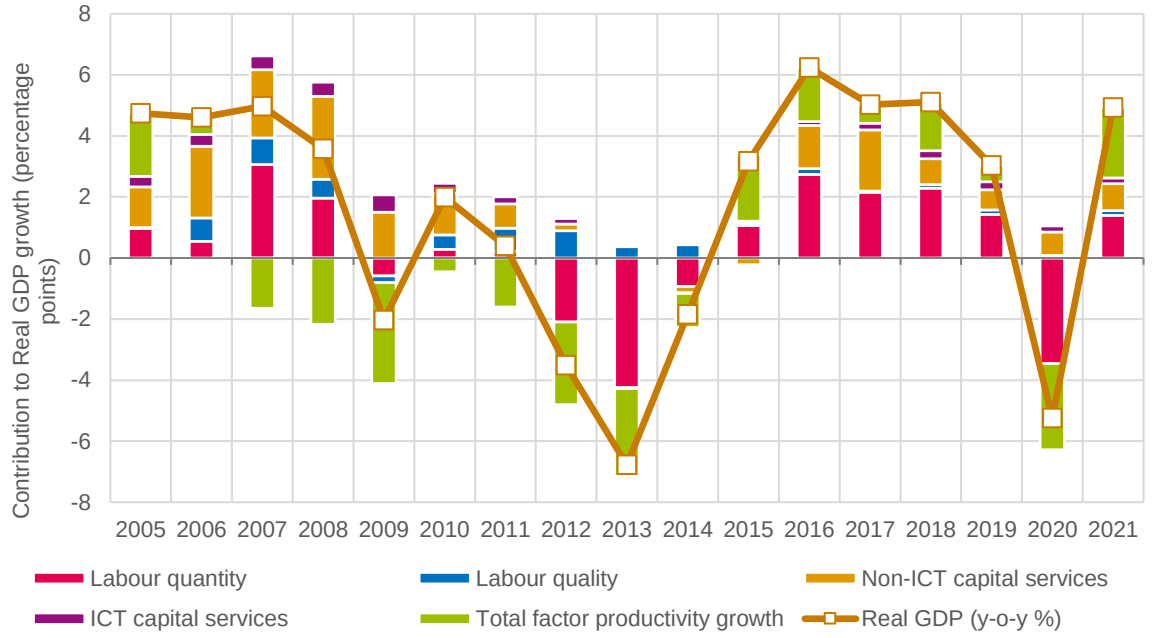
Total Factor Productivity (TFP), alternatively referred to as Multifactor Productivity, is the residual change in output not directly due to labour and capital inputs. TFP is often interpreted as the effect of technological change, efficiency improvements, innovation, and other non-measured contributions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

Figure 11 Contribution to growth of real gross domestic product, 2005-2020



Source: CYSTAT, National Accounts.

Figure 12 Decomposition of GDP growth, 2005-2021



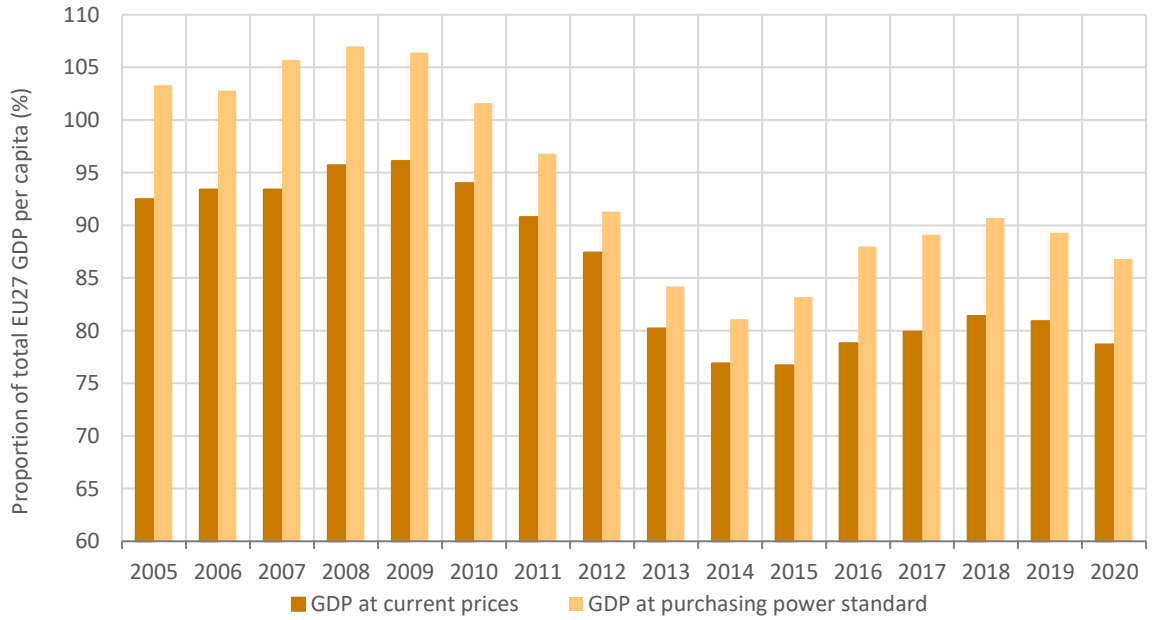
Notes: Data for 2020 are estimates, while 2021 data are forecasts from The Conference Board.
Source: Conference Board, Growth of Total Factor Productivity.

GDP per capita

Figure 13 shows the GDP per capita of Cyprus as a fraction of EU average throughout the years. It seems that it has increased from 92.5 percent to 96.1 percent of the EU average between 2005 and 2009, but then slidden 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.

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 percent in 2014. It reversed course, rising to 91 percent in 2018, but has dropped again in the last two years, falling to 87 percent in 2020.

Figure 13 GDP per capita as fraction of EU average, 2005-2020

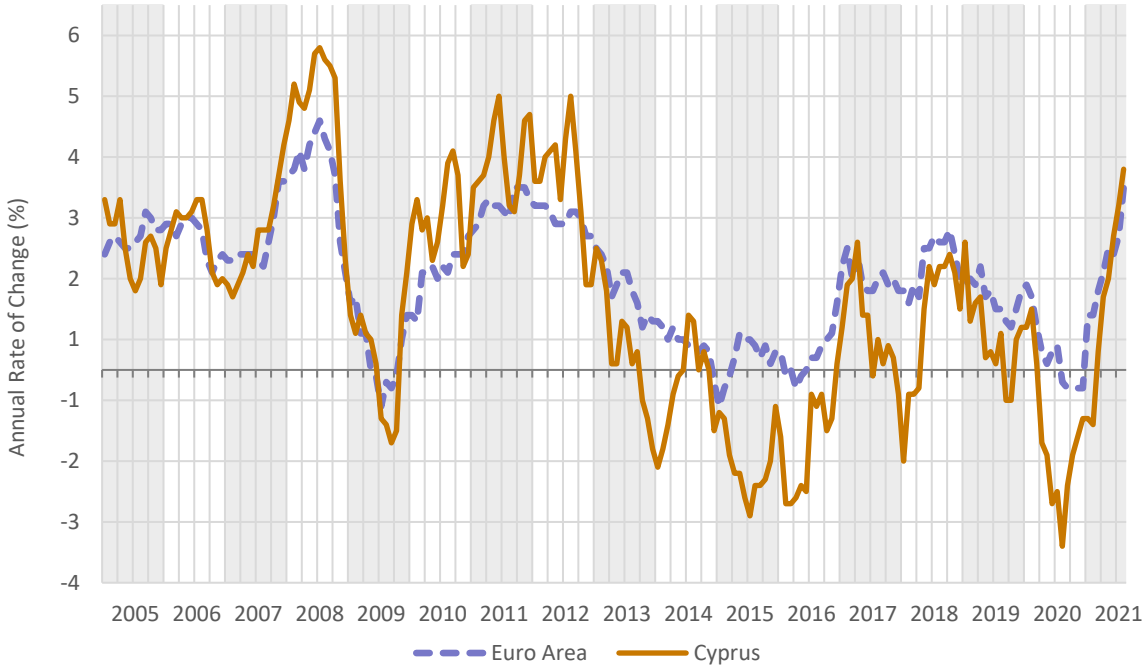


Source: Eurostat, Annual National Accounts: Gross domestic product at market prices. [nama_10_pc]

Inflation

As is it shown in Figure 14, inflation in Cyprus (as measured by the harmonised index of consumer prices, HICP), followed the evolution of the euro area average up until 2012. Since then, the inflation rate in Cyprus has been lower than the Euro area average, and at times substantially so. It was negative throughout 2015 and 2016, in large part due to declining energy prices. Inflation increased in the first half of 2017, driven by increases in energy prices and transport costs, but was only around 0.7 percent for the year, less than half the rate of the euro area. After another short deflationary episode in late 2017 and early 2018, it moved into positive territory until the pandemic caused another round of deflation, with the rate going down to almost -3% 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%, compared to 0.3% for the euro area. Prices picked up in 2021 because of the recovering economy, increasing energy prices, and global supply chain problems. As a result, inflation rates in September 2021 climbed to 3.6% in Cyprus and 3.4% in the euro area.

Figure 14 Inflation (HICP), 2005-2021



Notes: Data up to 2021:M08.
Source: Eurostat, HICP: Monthly data (annual rate of change), index 2015 = 100 [prc_hicp_manr].

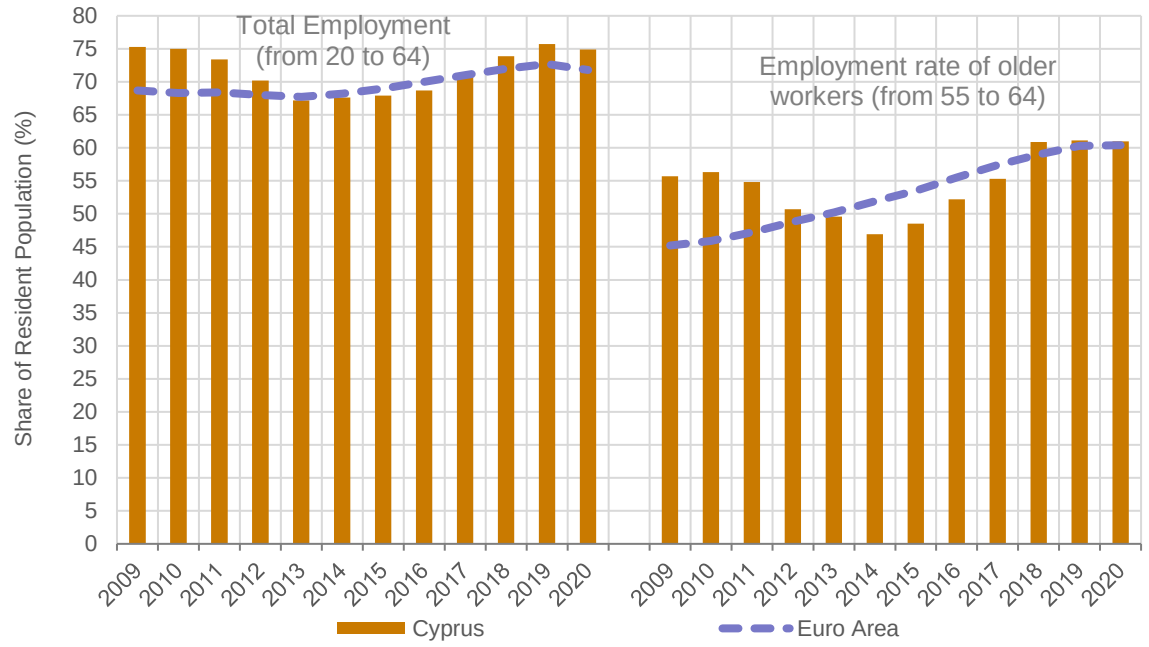
Employment and unemployment

The employment rate in Cyprus, as depicted in Figure 15 dropped form a high of 76.8 in 2007 to a low of 67.2 in 2013, a decline of almost ten percentage points. It started recovering in 2014 and reached 75.7 percent in 2019, close to pre-crisis levels and three percentage points above the euro area average. The rising trend was reversed in 2020 due to the coronavirus pandemic.

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. The rate in the euro area was slightly higher at 7.8.

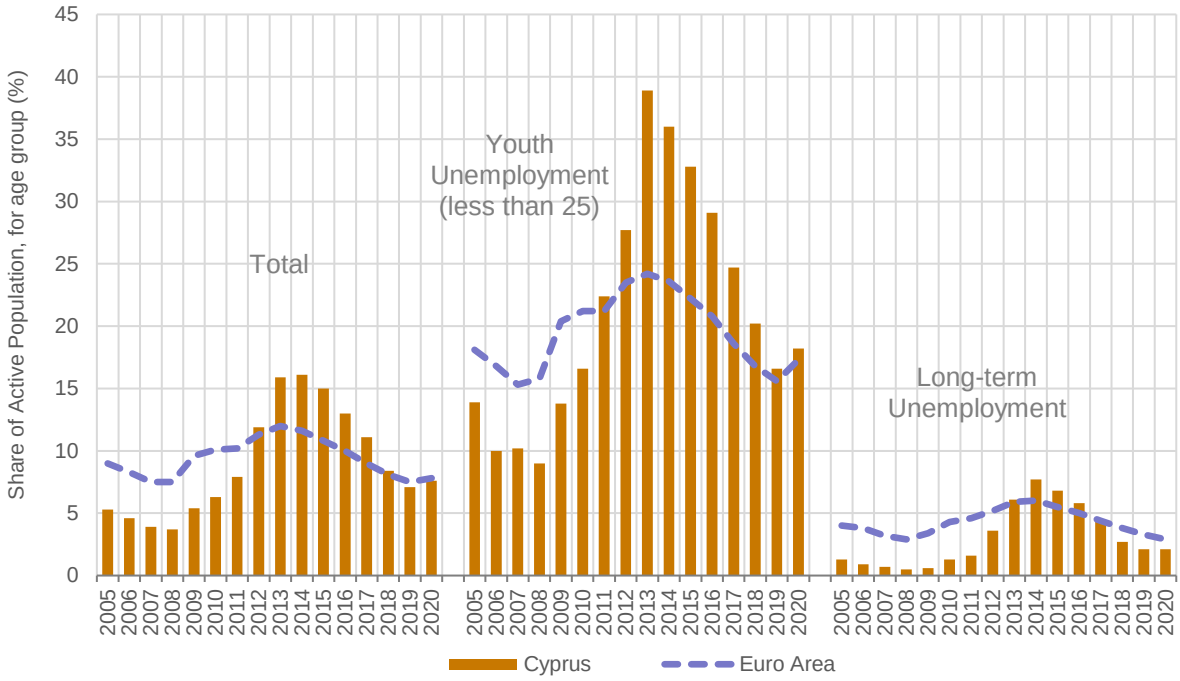
Youth unemployment rose dramatically during the crisis period, from 9 percent in 2008 to nearly 40 percent in 2013, before falling to 17 percent) in 2019. It increased slightly to 18 percent in 2020, which is close to the euro area level of 17%. The long –term unemployment rate has also fallen significantly since 2014 to just 2 percent, roughly one percentage point lower than the euro area average.

Figure 15 Employment rate, 2009-2020



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

Figure 16 Unemployment rate, 2005-2020



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

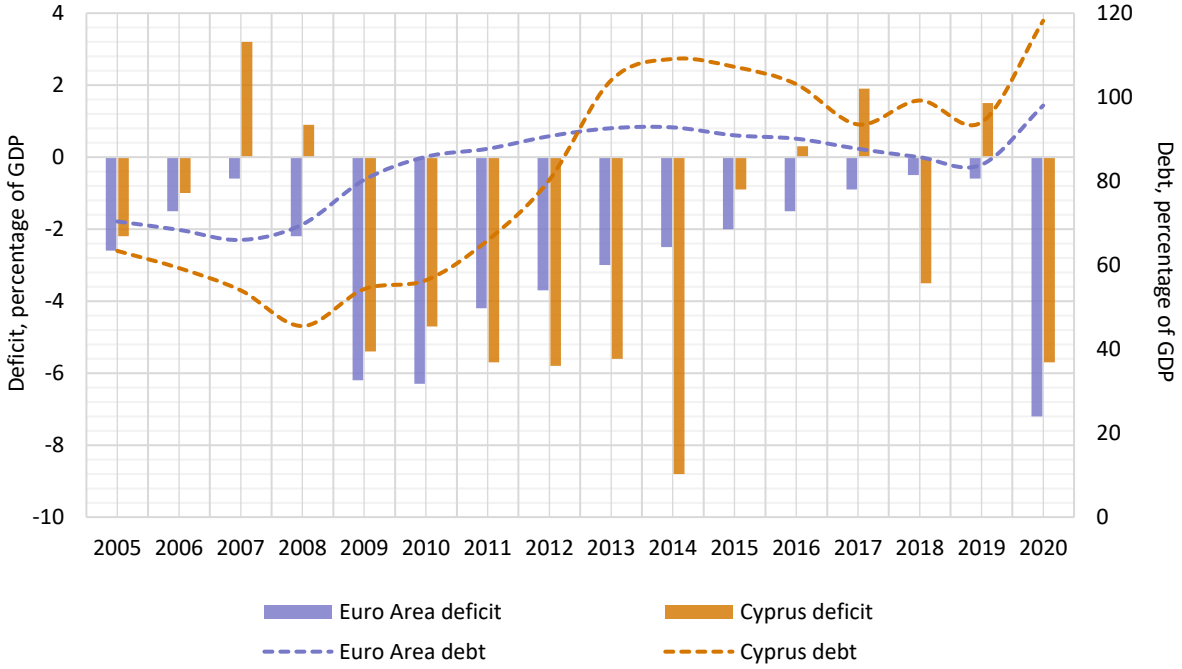
Public finances

Figure 17 shows the evolution of the Cypriot government balance and debt from 2008 to 2020. Between that time of period, Cyprus went from budget surpluses in 2007 and 2008 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 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% deficit because it picked up the tab for the final resolution of the Cooperative Cyprus Bank. In pandemic year 2020 the provision of massive government support to the economy resulted in a 5.7% deficit, which was smaller than the EU and euro area averages (6.9% and 7.2% respectively).

The level of public debt in Cyprus was significantly below the EU and euro area averages before the fiscal and banking crisis, reaching a low of 45.5% of GDP in 2008. It ballooned as a result of the crisis, reaching 109.1% of GDP in 2014. It gradually declined from that peak, reaching 94% in 2019, but shot up to 118.2% in 2020 because of pandemic borrowing. Public debt in Cyprus has been higher than the EU average since 2013.

Figure 17 Government balance and debt, 2008-2020

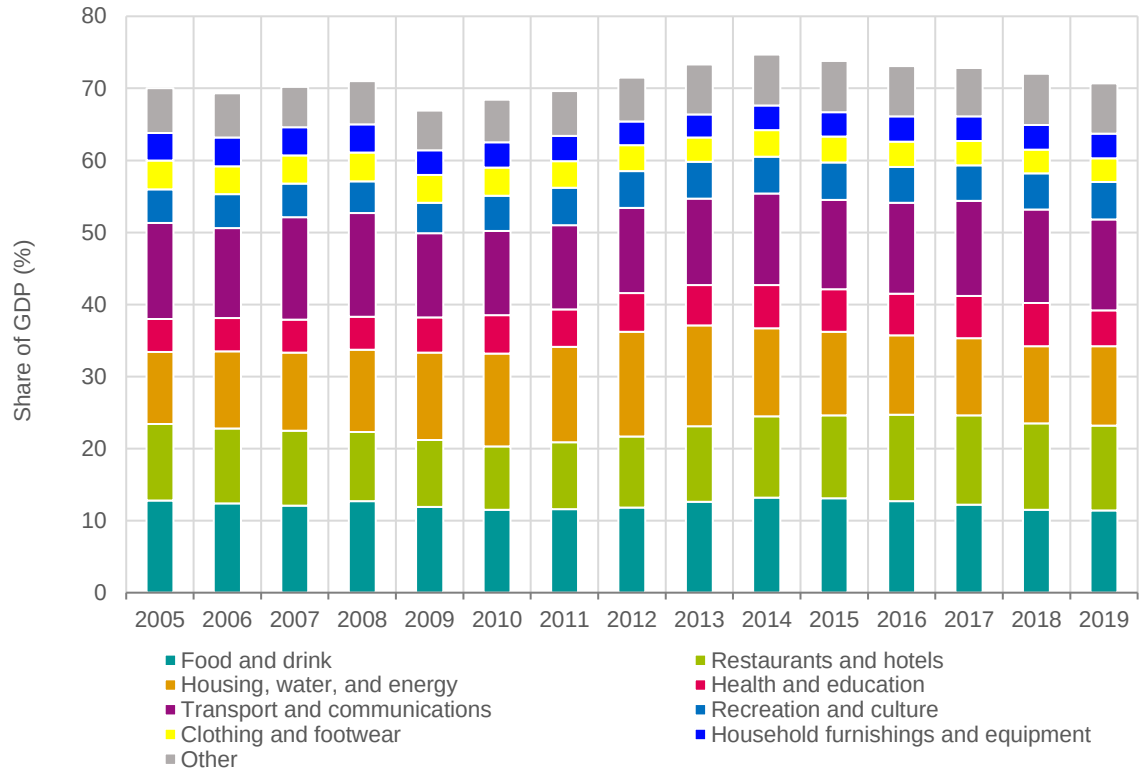


Source: Eurostat, Government deficit/surplus, debt and associated data [gov_10dd_edpt1].

Private consumption

Cyprus along with Greece and Croatia are characterized by the highest ratios of household expenditure to GDP among EU Member States the last five years. In 2019 Cyprus' private consumption was 70.7 percent of GDP, compared to EU27 average of 52.5. The ratio of household expenditure tototal GDP as shown in Figure 18 increased between 2009 and 2014, while it was gradually reduced but not at levels below 70 percent the next years. The key drivers of private expenditure since 2019 are spending on food and drink, hotels and restaurants, housing and utilities, and transport and communication.

Figure 18 Final consumption expenditure of households by consumption purpose, 2005-2019



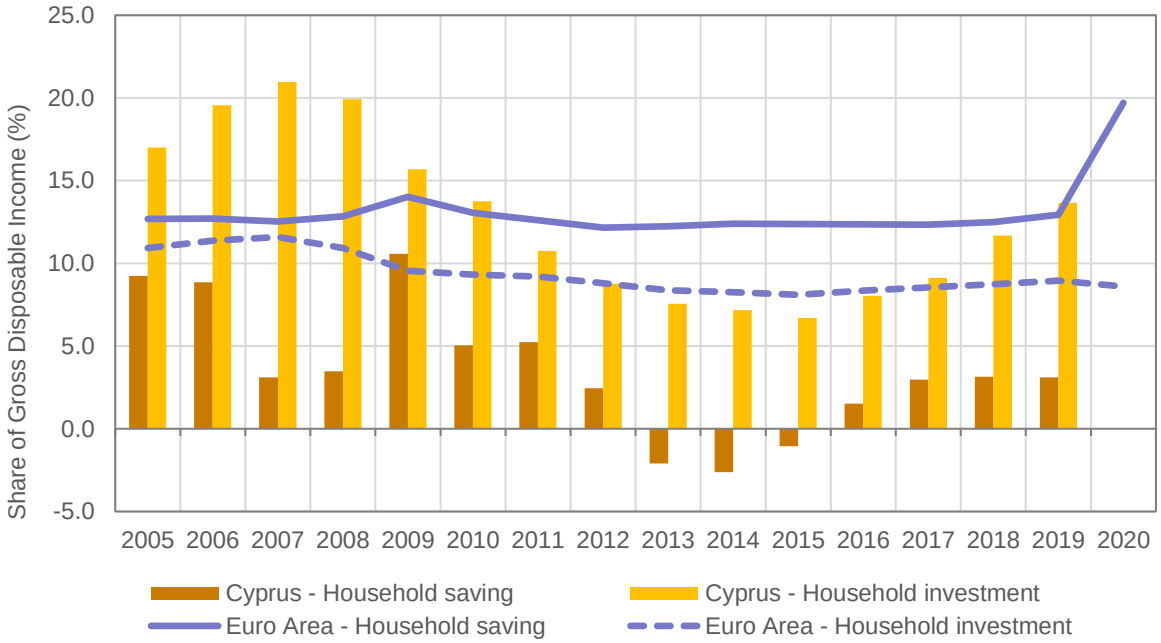
Source: Eurostat, National Accounts: Final consumption expenditure of households by consumption purpose [nama_10_co3_p3].

Household saving and investment

Figure 19 shows the household savings and investment rates. Pre-pandemic growth in private consumption has been 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 turned positive in 2016 but remained low, hovering around 3 percent, which is similar to the pre-crisis level (2007: 3.1) but lower compared to the period during the crisis (2009-2011) and much lower than the euro area average. 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% in 2007, compared to a euro area average of about 12%. It dropped during the crisis as low as 6.7% in 2015 (below the euro area average of 8.1%) but then started rising again, reaching 13.7% in 2019 (euro area average 9%). It is noteworthy that Cypriot household investment rates are higher than saving rates throughout the 2005-2019 period, while the euro area 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, 2005-2020



Notes: Gross disposable income adjusted for the change in the net equity of households in pension funds reserves. Value of Cyprus - Household investment for 2019 is provisional at the time of publication.
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% of GDP. As shown in Figure 20 about half of that went into construction of dwellings, while investment in non-transport equipment ranged between 5.1-5.4 percent. Investment in equipment is more likely to lead to productivity growth than residential investment.

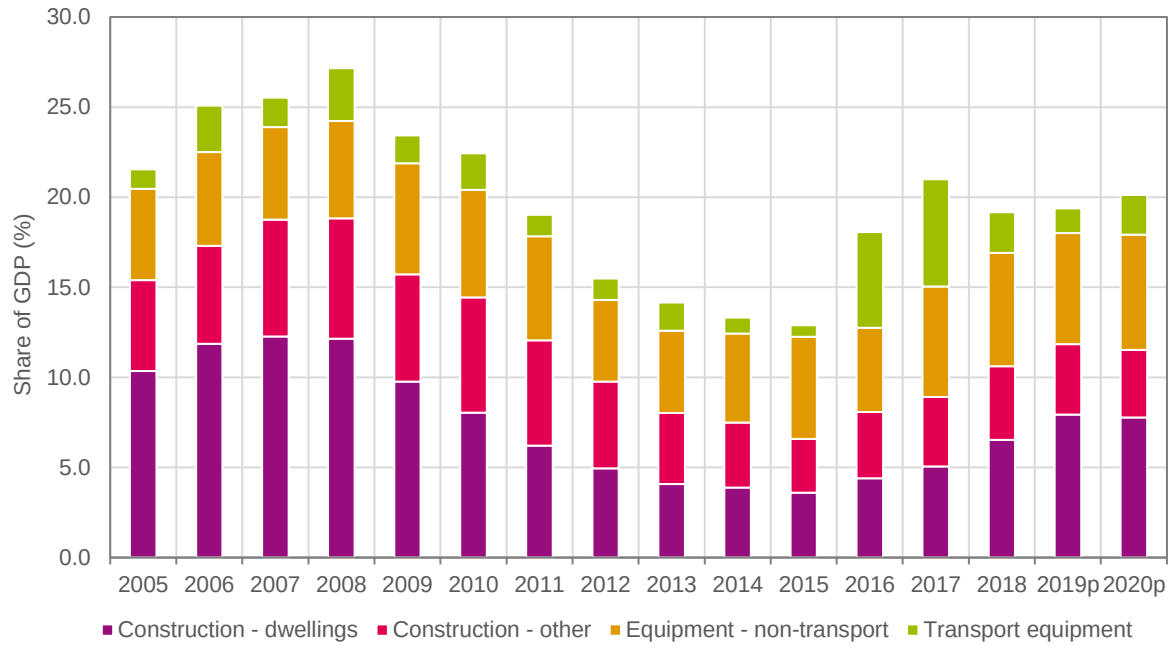
Overall investment started declining in 2009 and reached a low of 12.9 percent of GDP in 2015. It has since recovered and stood at 20.3 percent of GDP in provisional 2020 figures. Although still below its peak of 2007-08, construction investment has been boosted by tourism-related demand combined with 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 increase in investment since 2015. In 2016 and 2017 there was also a notable surge in investment in transport equipment, which is likely due to activities by shipping firms and has little impact on the domestic economy.

Figure 21 shows a breakdown of equipment investment between investment in ICT equipment and investment in 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. It stands at 80% of 2010 levels. Investment in ICT equipment has remained low, at about 60% of the 2010 level. This compares with steady growth in ICT investment for the euro area, which in 2020 is nearly 22.5 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.

The achievement of increases in ICT and other equipment investments in 2020, a year that is considered the beginning of a general economic crisis, in conjunction with the need to take up a number of reforms related to ICT in accordance with the RRP, raise the possibility these two factors to gain more active role in expanding productivity growth in the near future.

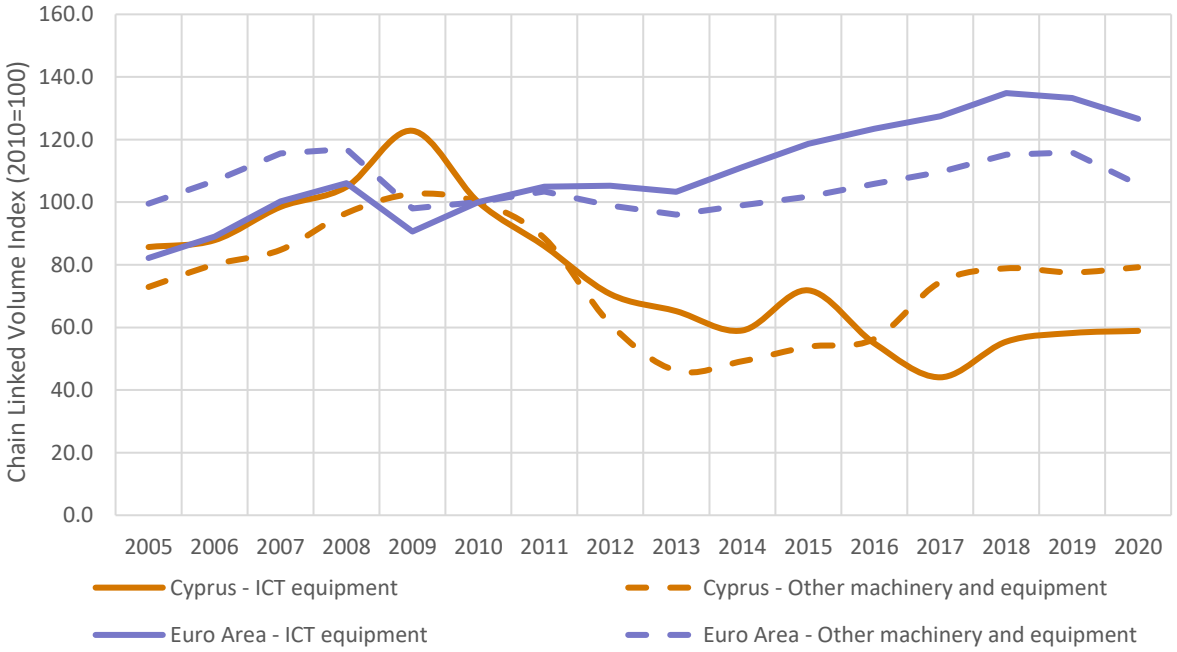
Note: Recorded fixed investments include acquisitions by Special Purpose Entities (SPEs). The majority of SPEs in Cyprus are holding companies, but they also include non-financial companies, which are mainly used by shipping companies to register ships. Separate data for fixed investments made by SPEs 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, 2005-2020



Notes: 'Equipment – non-transport' covers the category 'Machinery and equipment and intangible fixed assets'.
Source: CYSTAT, National Accounts.

Figure 21 Equipment investment (gross fixed capital formation) by type, 2005-2020



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].

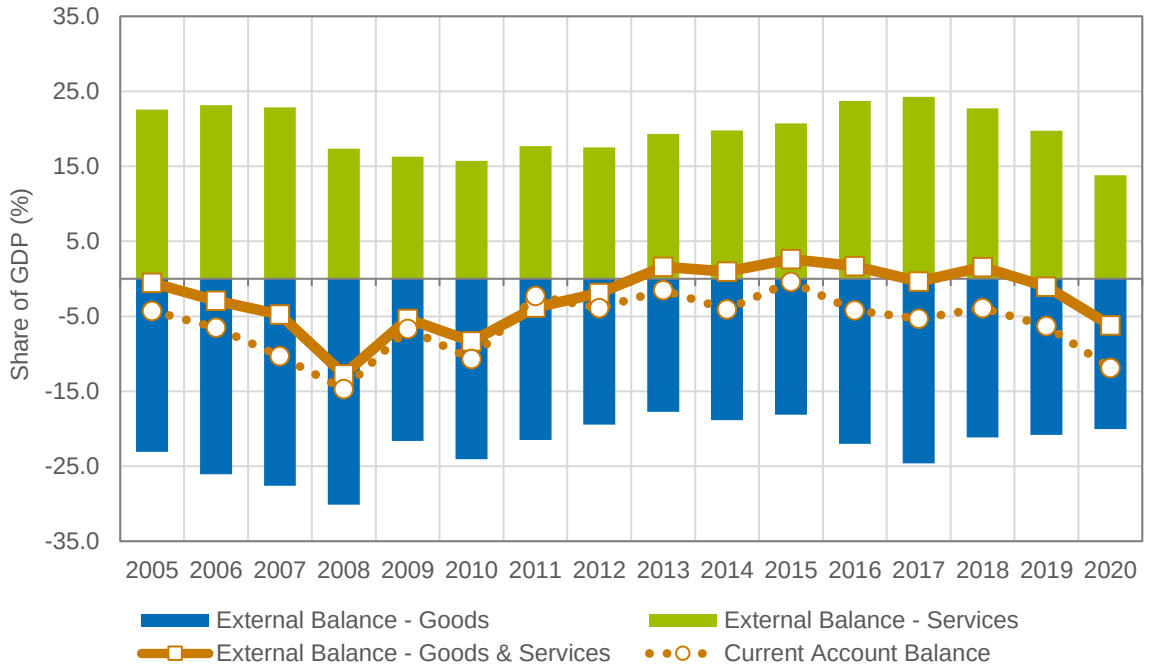
Balance of Payments

Cyprus consistently runs a deficit in the trade of goods which, to a large extent, is 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 increased from 42 percent of GDP in 2007 to almost 60 percent in 2017. They have since declined somewhat, and stood at 53 percent in 2020. Exports of goods to GDP are below 20% of GDP.

A depicted in Figure 22 the ratio of the net balance of trade in goods and services to GDP had been deteriorating up to 2008, reaching a peak of 12.8%. This negative balance shrank when demand for imports contracted with the global financial and economic crisis and the subsequent domestic banking crisis. The net balance was positive from 2013 to 2016 before turning negative again in 2017 as the economic recovery drew in more imports. It reached -8.8% in 2020. With the inclusion of net investment incomes and transfers—which is consistently negative throughout the period—the overall current balance has followed a similar evolution.

Note: There is a break in the series of external statistics for Cyprus in 2008 that, for the sake of consistency, should be considered. As from 2008, 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). All publications and data releases prior to 2008 are, therefore, not comparable as they are based on the previous manual methodology. The most important change between the two periods is the treatment of SPEs. The published data prior to 2008 treated SPEs as non-residents while from 2008 onwards SPEs are treated as residents. Concerning ship-owning, prior to 2008, current account statistics did not include transfer of ships whereas they were included in GDP (i.e. leasing fees charged by SPEs). Since 2008, SPEs are included in the current account. 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 has published data on the impact of SPEs on Cyprus Balance of Payments. These data are described Section 3.3.

Figure 22 External balance (current account), 2005-2020



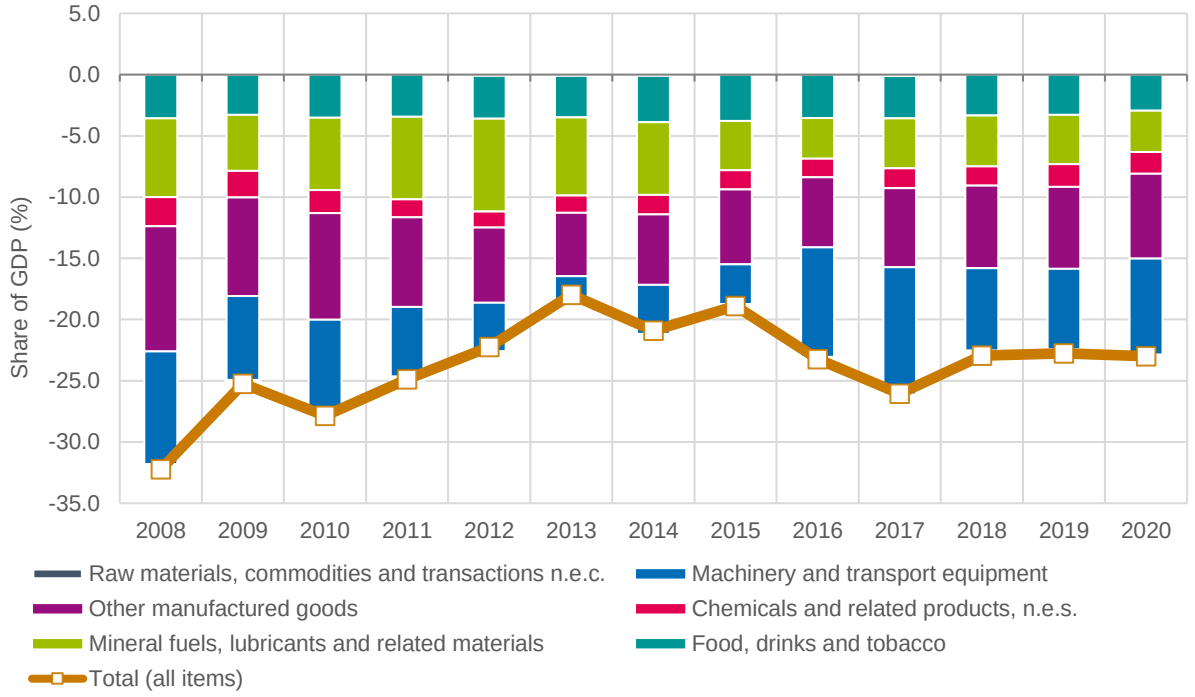
Source: Eurostat, GDP and main components [nama_10_gdp] and Balance of Payments [bop_gdp6_q]; Central Bank of Cyprus, Balance of Payments.

Goods trade balance

In Figure 23 is shown the balance of trade in goods and Cyprus consistently has a negative trade balance for all the main product groupings of trade in goods The deficit contracted between 2008 and 2013, falling below 20 percent. This was particularly driven 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, and from paper and board to metals. For the same period, *Food, drinks and tobacco* has a negative trade balance of about 4%.

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 last five years (2016-20), the deficit has been stable at about 23%, except for 2017 when it was 26%.

Figure 23 Balance of trade in goods, 2008-2020



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

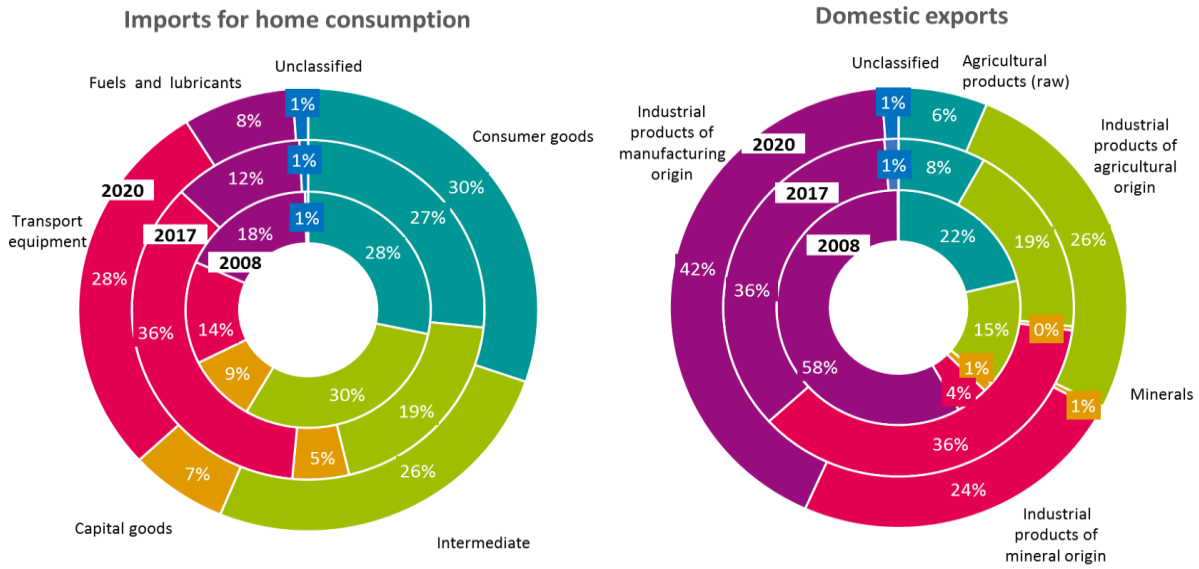
Composition of goods trade

Figure 24 provides a breakdown of imports and exports of goods by general category for the years 2008, 2017, 2020. The import side is dominated by three categories: consumer goods, transport equipment and intermediate inputs (30%, 28% and 26% in 2020). In comparison to 2017, 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 42% in 2020 is *Industrial products of manufacturing origin*. They are followed by *Industrial products of agricultural origins* (26%) and *Industrial products of mineral origins* (24%). The latter 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—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), 2008, 2017 and 2020



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 about the levels of diversification of Cyprus trade in goods by product and in terms of exports destinations. The Herfindahl-Hirschman index is a measure of concentration, which is the opposite of diversification: a decrease in the index means an increase in diversification.

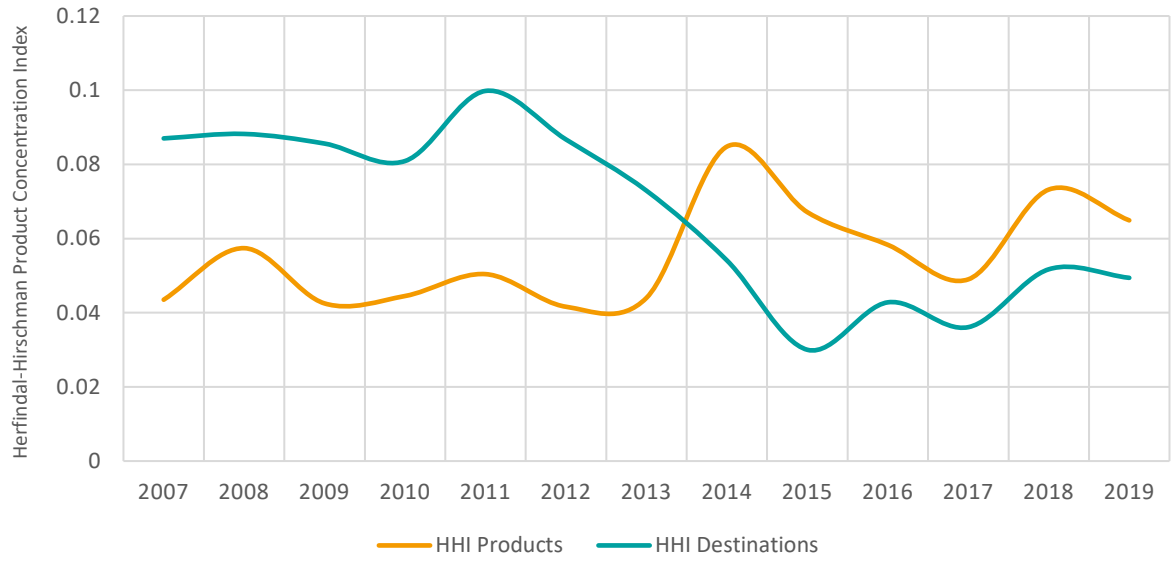
The level of diversification of Cyprus' trade in goods by product decreased in 2014, likely related to the crisis. It recovered somewhat, but not fully, suggesting an inability for Cyprus to diversify its export product mix towards new, non-traditional products.

In terms of export destinations, diversification seems to have increased after the crisis (reflected in a decline in the concentration index), suggesting that Cypriot exporters have sought out new markets for their products over recent years. However, this trend was reversed somewhat in 2018 and 2019. It remains to be seen how the pandemic has affected Cyprus' export diversification.

Definition: Herfindahl-Hirschman Product Concentration Index

The Herfindahl-Hirschman Product Concentration Index is a measure of the dispersion of trade value across an exporter's products. 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 concentration index, 2007-2019

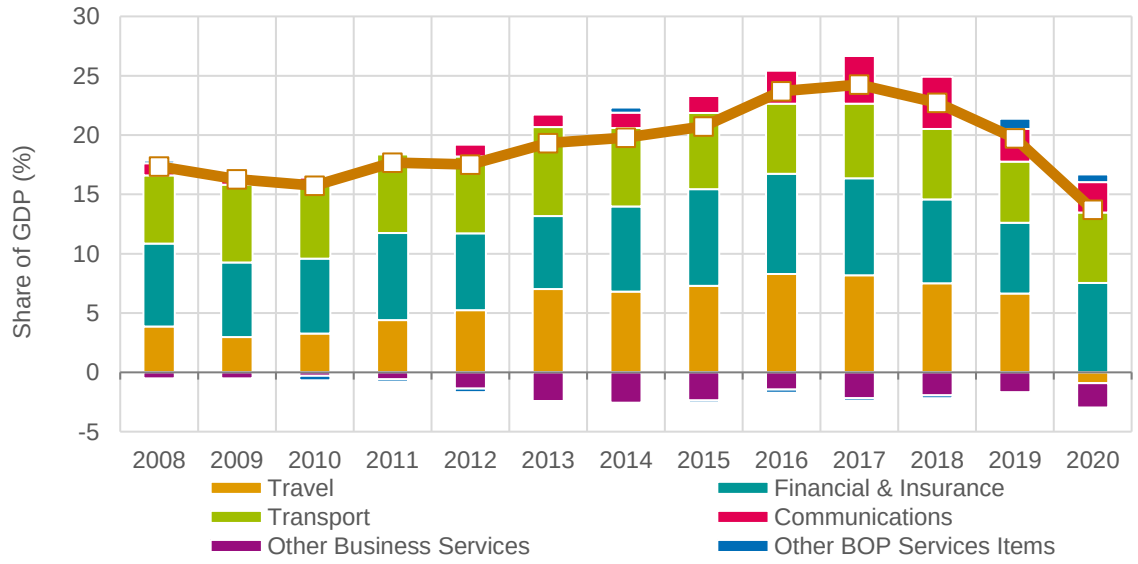


Source: World Bank, World Integrated Trade Solutions: Herfindahl-Hirschman Product Concentration Index (Export diversification).

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, as it depicted in Figure 26, alongside a strong performance from the tourism sector, Cyprus has seen a rapid expansion in exports of communication services, overwhelmingly coming from exports of computer services. The net surplus for communication services increased from 1.0% of GDP in 2012 to 4.4% of GDP in 2018. 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 in 2020, which was partially compensated by an in increase in exports in the finance and insurance sector. Overall, the services trade surplus declined from 24.2% of GDP in 2017 to 13.7% in 2020.

Figure 26 Balance of trade in services, 2008-2020

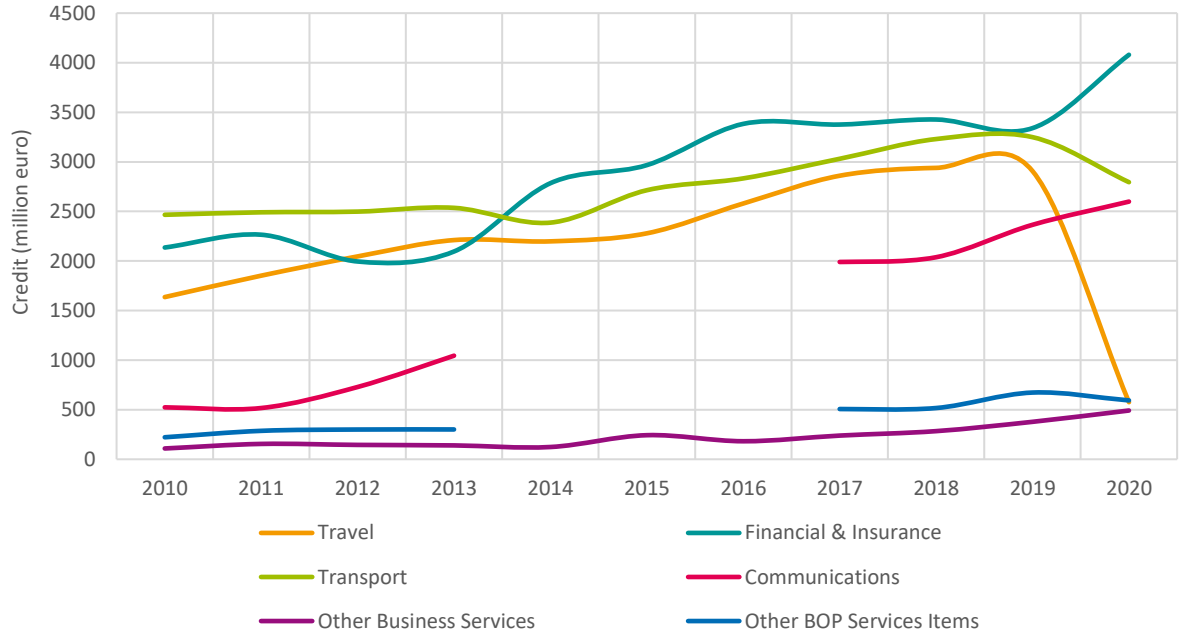


Source: Central Bank of Cyprus, Balance of Payments.

Composition of service exports

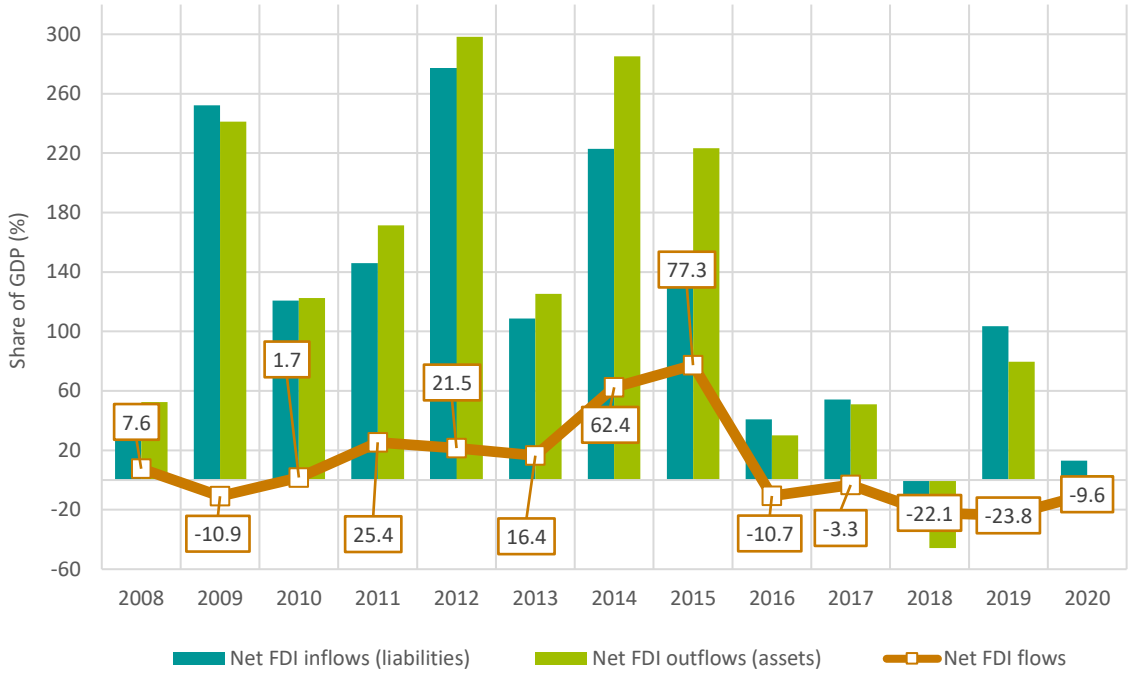
In Figure 27 it is shown that service sector exports are substantial, with a particular focus on transport, travel, financial services, and communications (ICT) services Tourism ('travel') exports have expanded significantly since 2010, reaching a peak in 2017. They declined somewhat in 2018 and 2019, and then collapsed in 2020 as travel came to a standstill. Conversely, exports of financial services contracted slightly during the banking crisis but quickly recovered and have been on an upward path ever since. Exports of telecommunication, computer and information services quintupled between 2010 and 2020, continuing to grow even during the pandemic. This is 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 legally, but not necessarily physically, residing in Cyprus. As these transactions are between residents they are not recorded as export.

Figure 27 Exports of services by main economic activity, 2008-2020



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 Foreign direct investment balance of transactions, 2008-2020



Notes: Value of net FDI inflows (liabilities) for 2012 unavailable from Eurostat, shown estimate calculated as difference of net FDI flow and net FDI outflow (assets) data.
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 important influence on the external statistics of Cyprus. To better understand this phenomenon, the Central Bank of Cyprus has published data that looks to separate SPE and non-SPE related flows and investment positions, treating SPEs as non-residents. Analysis using these data is presented below.

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.

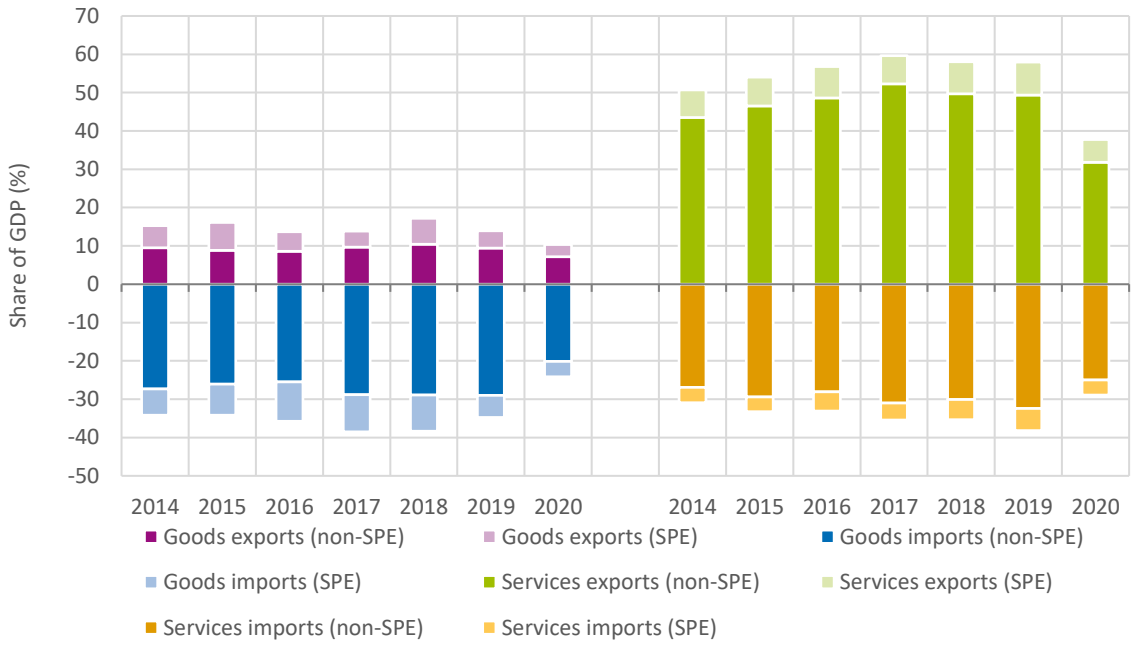
International groups use SPEs in Cyprus to channel funds between related non-resident entities, by ship-owning companies whose economic owner is a CY resident, that register (and deregister) ships and, also, for worldwide invoicing on behalf of parent companies. These enterprises usually have minimal 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; darker colours are for non-SPEs and lighter colours for SPEs. Between 2014 and 2020, SPEs accounted for between 30 and 45 percent of goods exports and between 16 and 29 percent of goods imports. Trade in goods, and hence the current account of the economy, is affected by the registration and deregistration of ships (and aircraft) every year, which is usually relatively large when compared with the size of the Cypriot economy.

SPE's share of trade in services is less significant, accounting for 7.2 to 8.6 percent of total service exports and between 4 to 5.8 percent of total service imports during the period 2014-2019. In 2020, the value of services imports by SPEs was equivalent to around 4 percent of GDP, while exports were equivalent to 6 percent of GDP.

Figure 29 Goods and services trade for SPEs and non-SPEs, 2014-2020



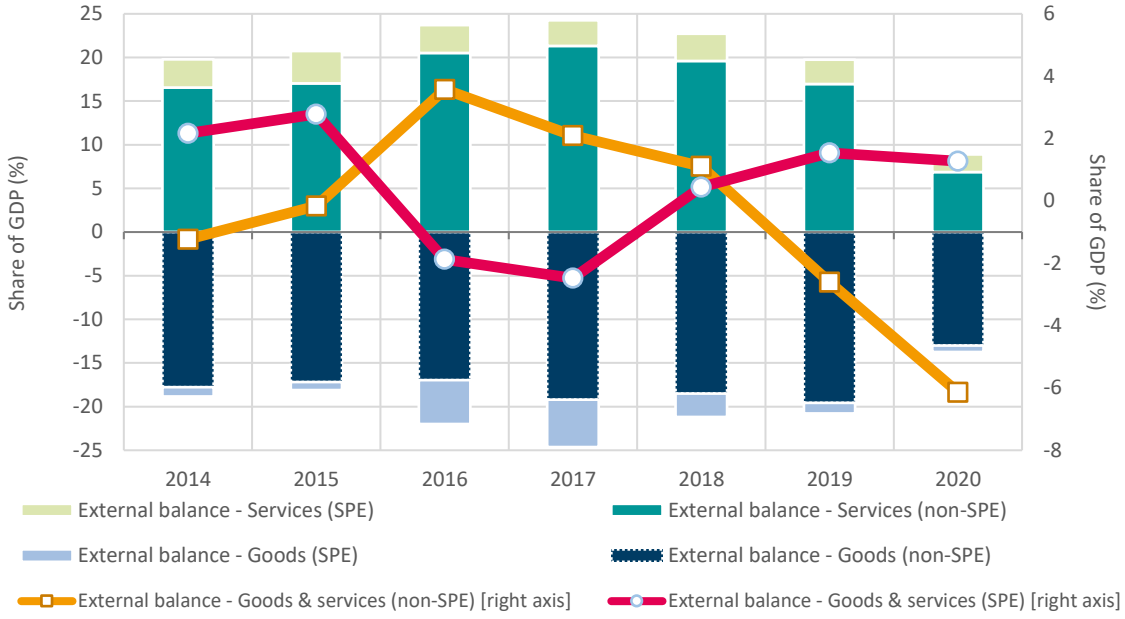
Source: Cyprus Central Bank: Core economic indicators with supplementary information on the impact of SPEs.

Balance of trade

Figure 30 shows the trade balance for SPEs and non-SPEs. In 2014, SPEs accounted for a small deficit for trade in goods. When the goods trade balance for SPEs has been in deficit, it added to the negative goods trade balance for the rest of the economy. The net goods trade balance for SPEs recorded a deficit of 5.4 percent in 2017, but it has since shrunk to 0.8 percent in 2020. In comparison, there is a small surplus in SPE trade in services, which was at 2.0% of GDP in 2020. Trade patterns were significantly different in 2020, the COVID-19 year. Both the goods deficit and the services surplus were reduced, but the latter shrank quite a bit more, leading to an overall deficit of 6.1% for non-SPEs. SPEs maintained a surplus of 1.3%.

Overall, the net combined trade (external) balance for goods and services attributable to SPE has moved from being in surplus in 2014 and 2015 to a deficit in 2016 and 2017 and back to a surplus since 2018. Conversely, excluding SPEs, the overall balance of trade for goods and services of the rest of the economy has moved from surpluses that were reached for the period 2016-2018 to deficits in the following years.

Figure 30 Trade balance for SPEs and non-SPEs, 2014-2020

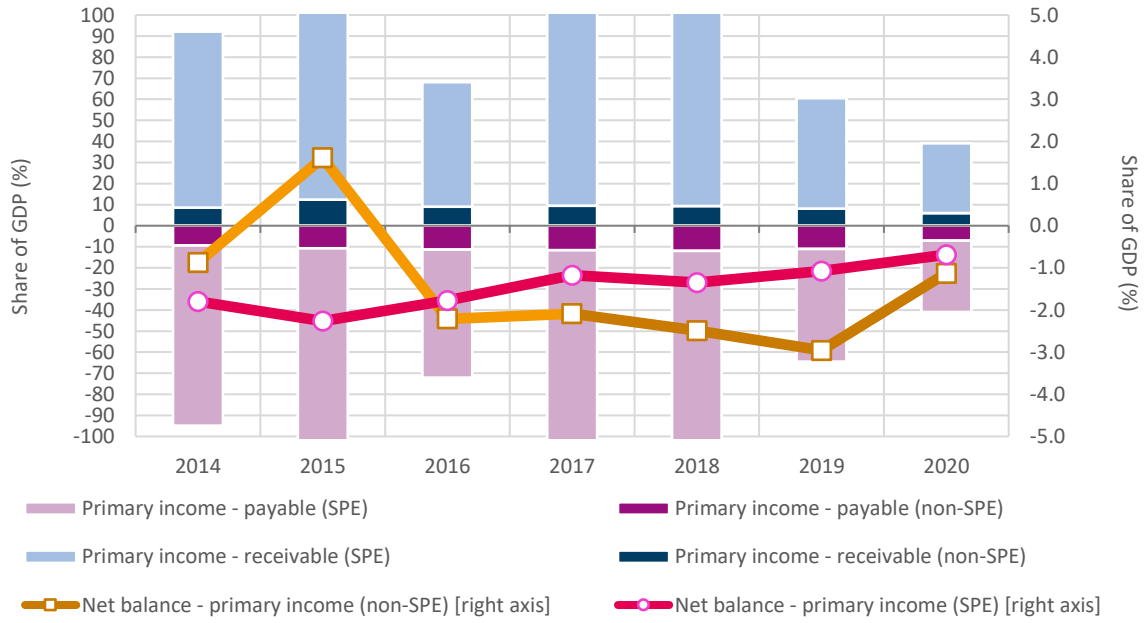


Source: Cyprus Central Bank: Core economic indicators with supplementary information on the impact of SPEs.

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. As shown in Figure 31, between 2014 and 2019, SPEs accounted for 87 to 91 percent for inward (receivable) and 83 to 90 per-cent for outward (payable) primary account flows. This reflects the nature of SPEs and the channelling of large funds by these companies, which strongly increase gross figures for primary income flows. SPEs have consistently maintained a negative net balance throughout the period 2014-2020. But the balance has been shrinking for several years, going from -2.3 in 2015 to -0.7 in 2020.

Figure 31 Primary account for SPEs and non-SPEs, 2014 -2020



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

Net international investment position (NIIP)

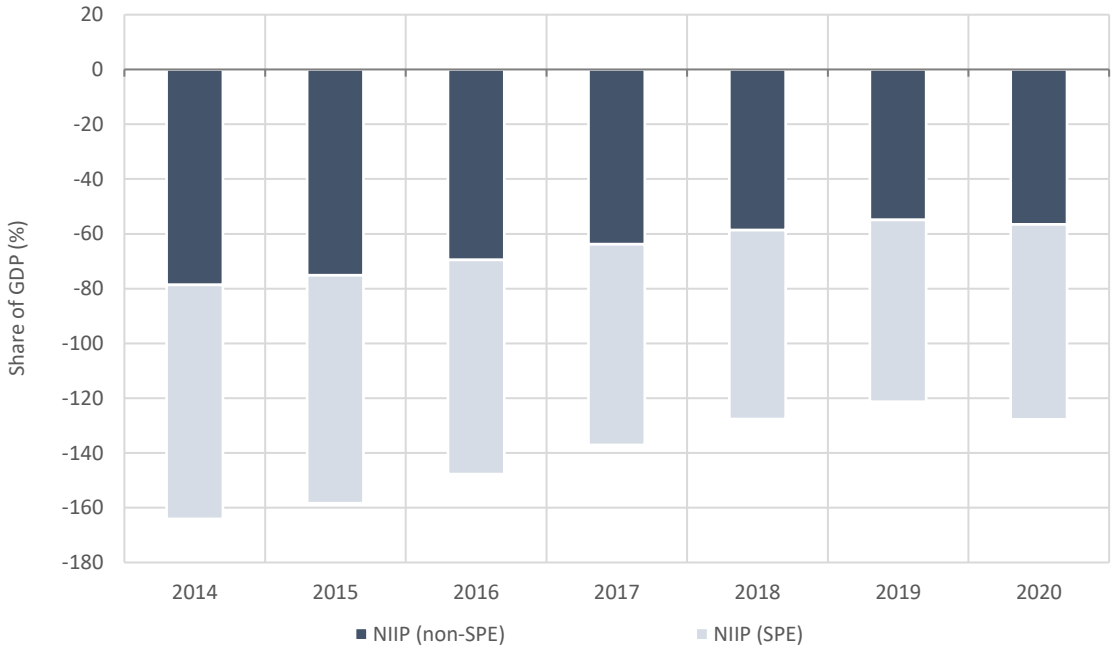
The Net International Investment Position measures at a specific point in time, the gap between the amount of claims and liabilities of residents vis-à-vis non-residents, including gold re-serves and foreign currency reserves of the country. Based on the sign (positive or negative), it characterises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

Figure 32 shows the net international investment position for SPEs and non-SPEs. The share of SPEs in the NIIP is significant and has been relatively stable, rising from 52 percent in 2014 to 55 percent in 2019 (the increase is mostly due to a contraction in the NIIP position of non-SPE entities). In 2020Q3, the stock of financial liabilities of SPEs exceeded their assets by €17.9 billion, equivalent to around 86% of Cyprus' GDP. 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, 2014-2020



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

4 Introduction to benchmarking Cyprus' competitiveness

There are two widely followed assessments of national competitiveness: the Global Competitiveness Index (GCI) by the World Economic Forum (WEF) and the World Competitiveness Ranking by the World Competitiveness Center at IMD Business School. Both are constructed using a combination of hard data and responses from surveys of business executives. Another highly visible ranking is the World Bank's Doing Business index, which aims to quantify the ease (or lack thereof) of doing business in a country.[7] Cyprus' position in these rankings has fluctuated considerably over the years and took a particularly pronounced dip during the 2012-13 banking crisis and its aftermath. It has since recovered partially and is currently ranked 44th out of 141 countries in the WEF ranking, 33rd out of 64 countries in the IMD ranking, and 54th out of 190 countries in the WB ranking. That puts Cyprus at about the 30th percentile (top 30%) in the WEF and WB rankings and at the 50th percentile in the IMD ranking. The difference is to be expected because the IMD ranking includes a smaller and selected set of countries.

Cyprus' competitive performance is benchmarked against 12 comparable countries in the current Report. The choice of benchmark countries is based on multiple criteria, including similarities to Cyprus in terms of economic size, geographical proximity, or island or peripheral EU location. These countries are Denmark, Estonia, Finland, Germany, Greece, Ireland, Malta, the Netherlands, Portugal, Slovenia, the UK, and Israel (as the only non-EU country). The choice of these mostly highly competitive countries also reflects the ambition of the Cyprus government to compete with the best-performing countries.

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.

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

[7] In September 2021, The World Bank Group announced that it would discontinue the *Doing Business* reports after the release of an investigation that found evidence of data manipulation in the compilation of the 2018 report. The findings of the investigation do not appear to affect Cyprus in any way.

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

Among the most prominent international competitiveness rankings is the Global Competitiveness Index (GCI) from the World Economic Forum (WEF), which has been produced annually since 1979. It has broad coverage, with 141 countries included in its latest version. 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.

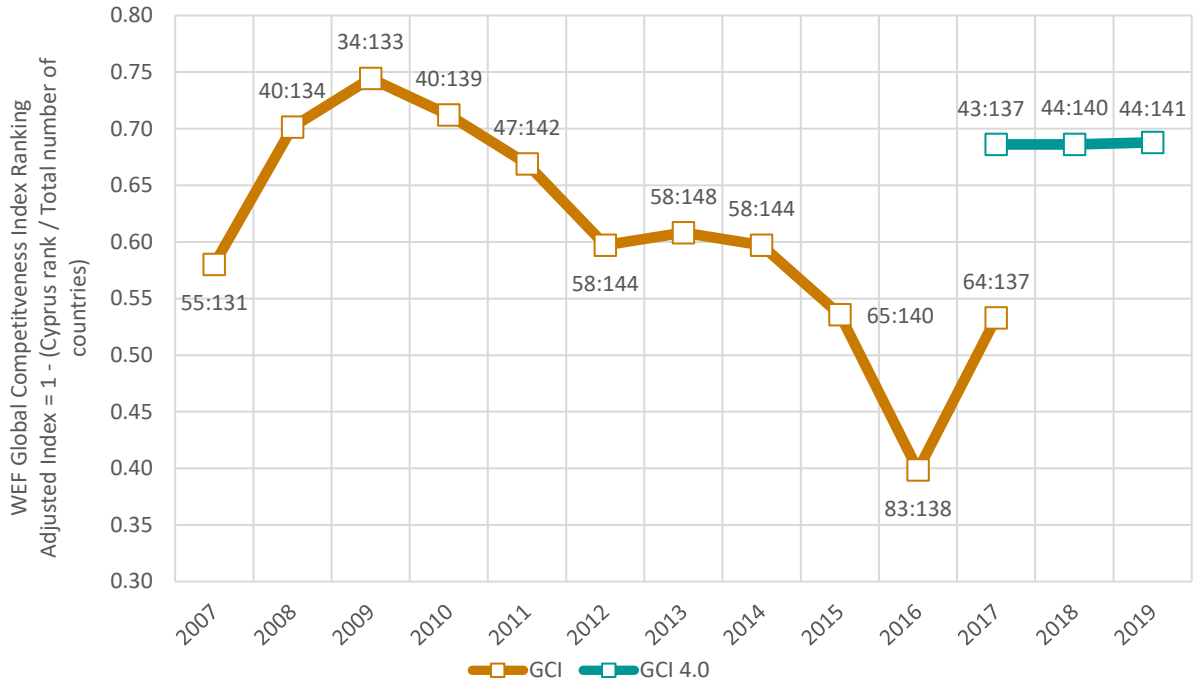
In 2018 the WEF implemented a significant methodological revision named GCI 4.0. Out of the 98 indicators used up to that point, only 34 were retained; the other 64 were replaced with alternative measures. The 12 pillars were also drastically reorganized.

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. Finally, in 2020 the WEF decided not to update its rankings due to missing data from various international organizations (as a result of the coronavirus pandemic), as well as "the need for new thinking regarding the economic recovery after the COVID-19 shock".

Figure 33 displays Cyprus' overall ranking using both methodologies. Having risen to the 34th position in 2009, Cyprus slid down 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 has since remained stable, ending up at 44 in 2019.

Turning to the new GCI 4.0 index in Figure 34, the overall picture for Cyprus remains similar to earlier versions of the methodology. In 2019 Cyprus showed improvement relative to 2018 in the *Financial System*, *Macroeconomic Stability* and *Health* pillars, but regressed in *Infrastructure* and *ICT adoption*.

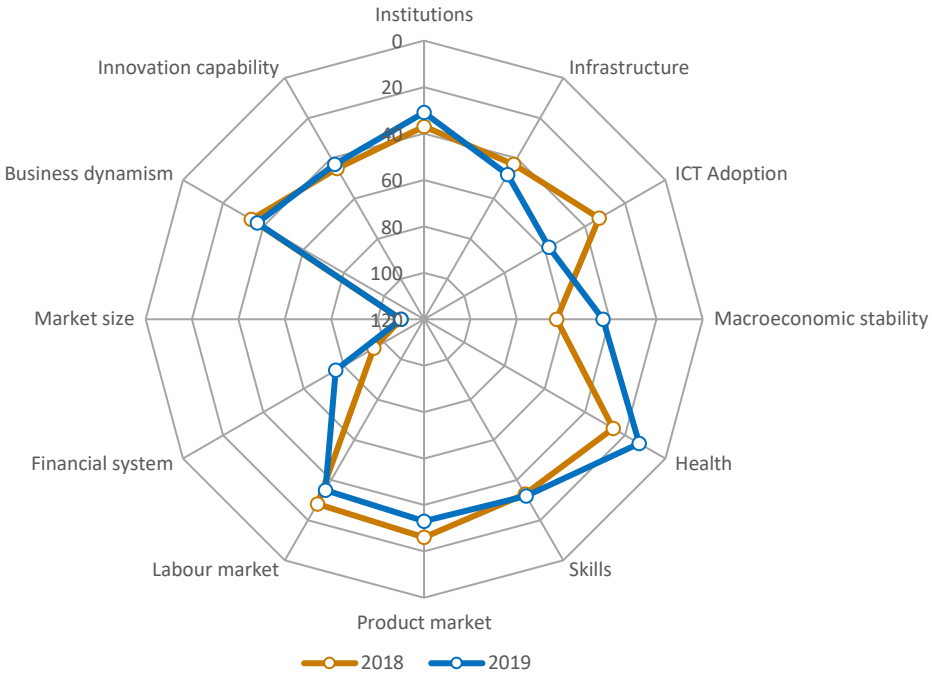
Figure 33 WEF Global Competitiveness Index Ranking of Cyprus, 2007-2019



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.

Figure 34 WEF GCI4.0 ranking of Cyprus by competitiveness pillar, 2018 and 2019



Source: World Economic Forum (2018 and 2019).

IMD World Competitiveness Rankings

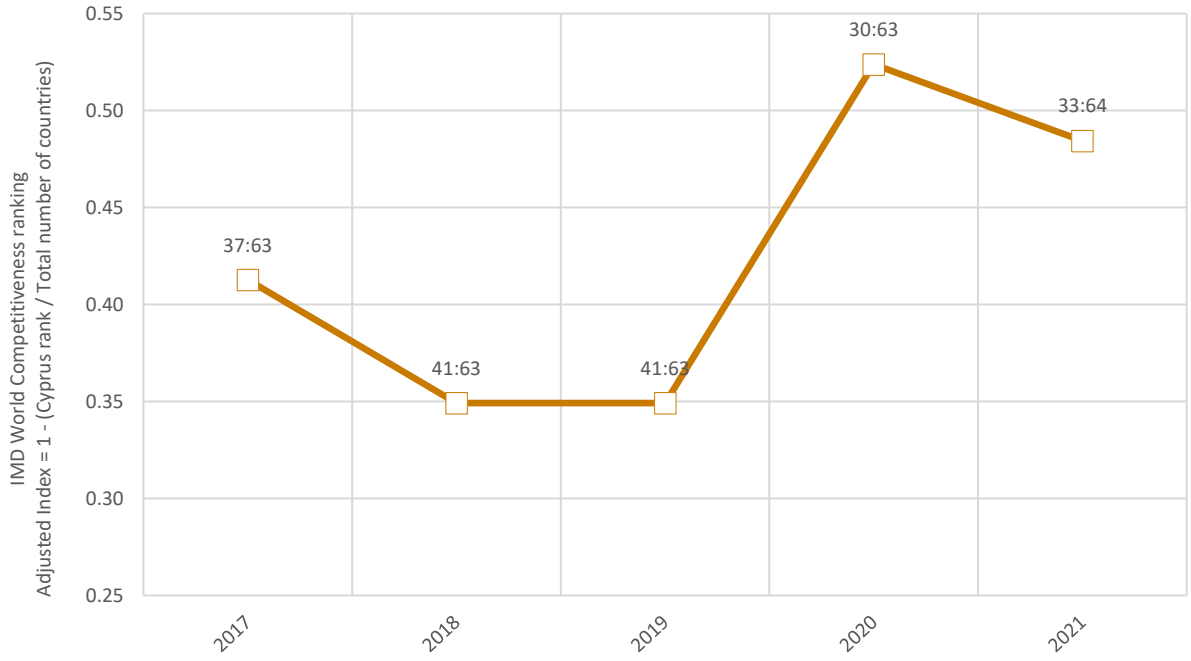
Cyprus was first included in the IMD's World Competitiveness Yearbook in 2017. Unlike WEF, IMD continued to publish rankings during the pandemic. The 2021 Yearbook covers 64 mostly developed countries and relies on a mix of statistical indicators and findings from a perceptions survey. The main methodological difference with the WEF is that IMD puts greater weight on statistical indicators and less weight on survey responses.

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 ranking is calculated based on the 255 ranked criteria included in the Yearbook (163 Hard and 92 Survey data).

In 2021, as shown in Figure 35, IMD ranked Cyprus 33rd among 64 countries for its overall competitiveness performance, down from 30th in 2020. This headline figure masks considerable difference in performance across areas.

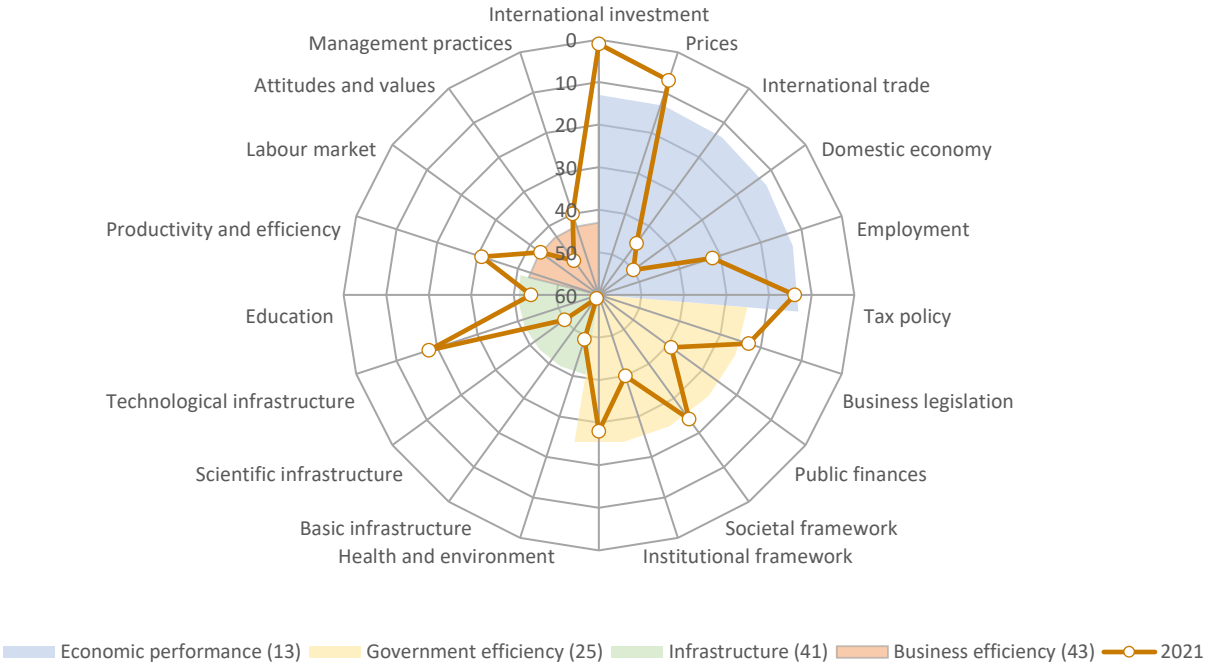
Figure 36 shows the IMD ranking competitiveness ranking of Cyprus by pillars. For general economic performance, Cyprus' position improved steadily from 28th in 2017 to 13th on 2021. It was ranked 1st in *International investments* and 7th in *Prices*, but much lower in *Domestic Economy* (50th) and *International Trade* (45th). The IMD analysis finds that Cyprus performs relatively weakly in Business efficiency in all categories, ranking 50th *for Management practices* and 44th for *Productivity and efficiency*. Cyprus also performs weakly in *Technological infrastructure* (50th) and *Scientific infrastructure* (59th).

Figure 35 IMD World Competitiveness ranking of Cyprus, 2017-2021



Source: IMD World Competitiveness Yearbook 2017 to 2021 editions.

Figure 36 IMD World Competitiveness ranking of Cyprus by competitiveness pillar, 2021



Source: IMD World Competitiveness Yearbook 2021

World Bank Doing Business

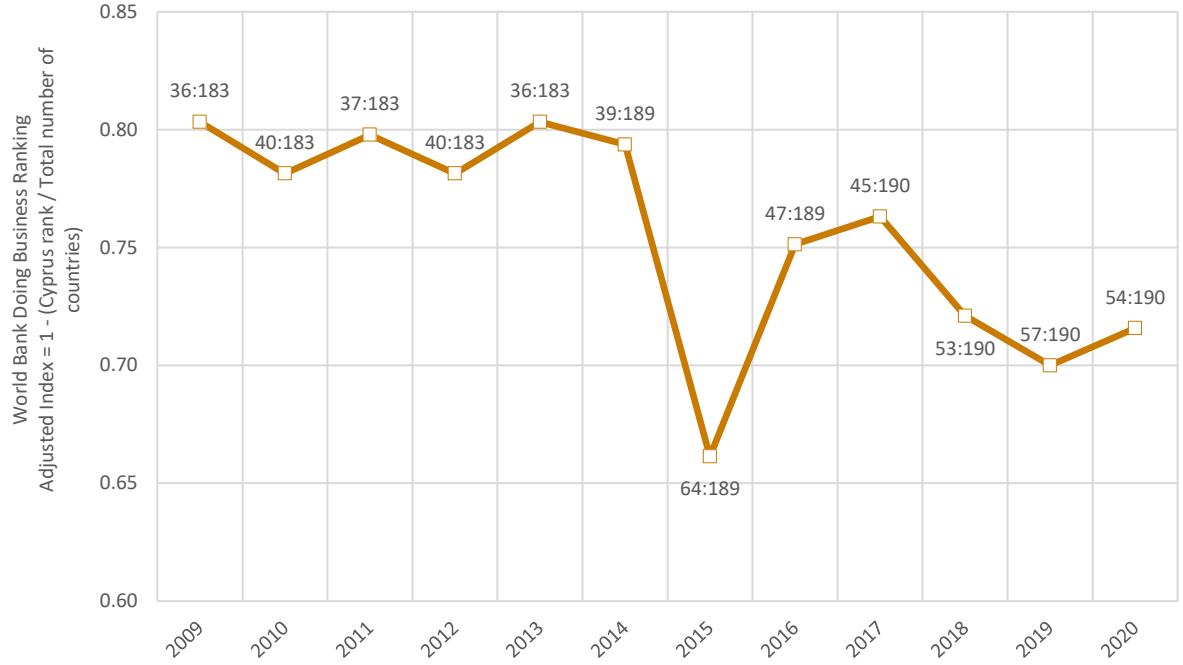
While the WEF and IMD reports and rankings offer comprehensive coverage of multiple competitiveness themes, the World Bank's Doing Business Report focuses more narrowly on the business environment, analysing regulation that encourages efficiency and supports freedom to do business. The ranking is based 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. Cyprus was first included in the 2010 Report, which provides estimates for 2009.

Figure 37 shows the evolution of Cyprus' overall ranking during 2009-2020. It ranked consistently 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, but then slipped again, dropping to 57th in 2019. In the latest 2020 ranking it recovered somewhat to 54th Some caution is necessary when tracking changes over time, as the method used to construct the ranking have 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 top.

Nonetheless, the data shown in Figure 38, suggest that 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.

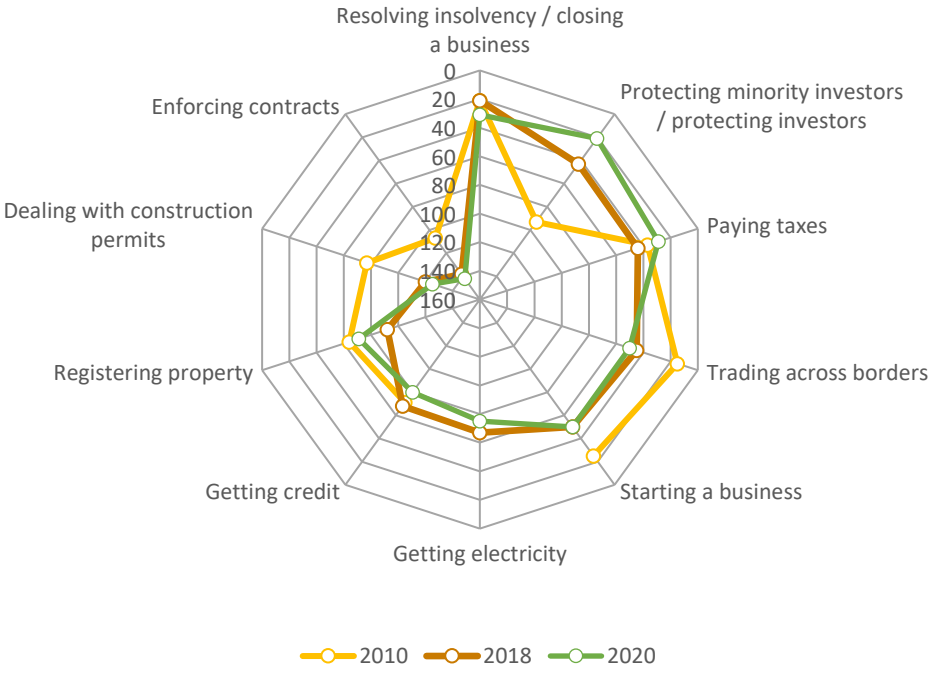
Smaller changes over time should not be over-interpreted. However, the large improvement in *Getting electricity* is noteworthy, with Cyprus having improved from 160th position in 2015 to 70th position in 2019 decreasing to 75th position in 2020.

Figure 37 World Bank Doing Business ranking of Cyprus, 2009-2020



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

Figure 38 World Bank Doing Business ranking of Cyprus by Competitiveness Pillar, various years



Notes: The topic 'Getting Electricity' was not included in the 2010 Doing Business Report.
Source: World Bank, Doing Business Reports 2010 to 2020.

There are some similarities in the assessment of Cyprus' competitive performance that arise from the three international benchmarking sources described above. Notably, Cyprus is penalised in both the WEF and IMD competitiveness rankings because of the small size of the country and its economy. This aside, the revisions to the WEF methodology have clearly impacted the evaluation of Cyprus' position for individual indicators. For example, Cyprus performs relatively well under the new GCI 4.0 pillar *Business dynamism* despite having slipped

down in 2019 report. By comparison, IMD places Cyprus close to the bottom of its rankings for *Business efficiency* measures, which include *Management practices*, *Productivity and efficiency* and *Attitudes and values,* but with an increase of 10 places in 2021 over 2020. Both reports also point to weaknesses in the institutional environment, with IMD giving a low rank for Cyprus' *Institutional framework* and WEF-GCI showing a deteriorating performance for its *Institutions* pillar.

Cyprus' ranking improved noticeably in the Taxes area. It was placed 29th (among 190 countries) for *Paying taxes* in the World Bank's Doing Business rankings, and 14th (among 64 countries) in the IMD ranking for *Tax policy*. The improvement is likely due to a tax system reform that made paying taxes easier by implementing an online system for filing and paying mandatory labour contributions.

Overall, the World Bank's Doing Business indicators related to business legislation and administrative conditions show a mixed picture, with a strong position for *Protecting minority investors* and *Resolving insolvency* but a weak showing for *Enforcing contracts*. The closest equivalent in the IMD ranking, *Business legislation*, ranks Cyprus in 23rd position.

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 are not always available because it is not an EU country).

Key characteristics, growth and economic structure

Table 1 presents some data on population and GNI for Cyprus and the benchmark countries. On an income per capita basis, based on Purchasing Power Parity (PPP), Cyprus ranks in 10th position.

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.

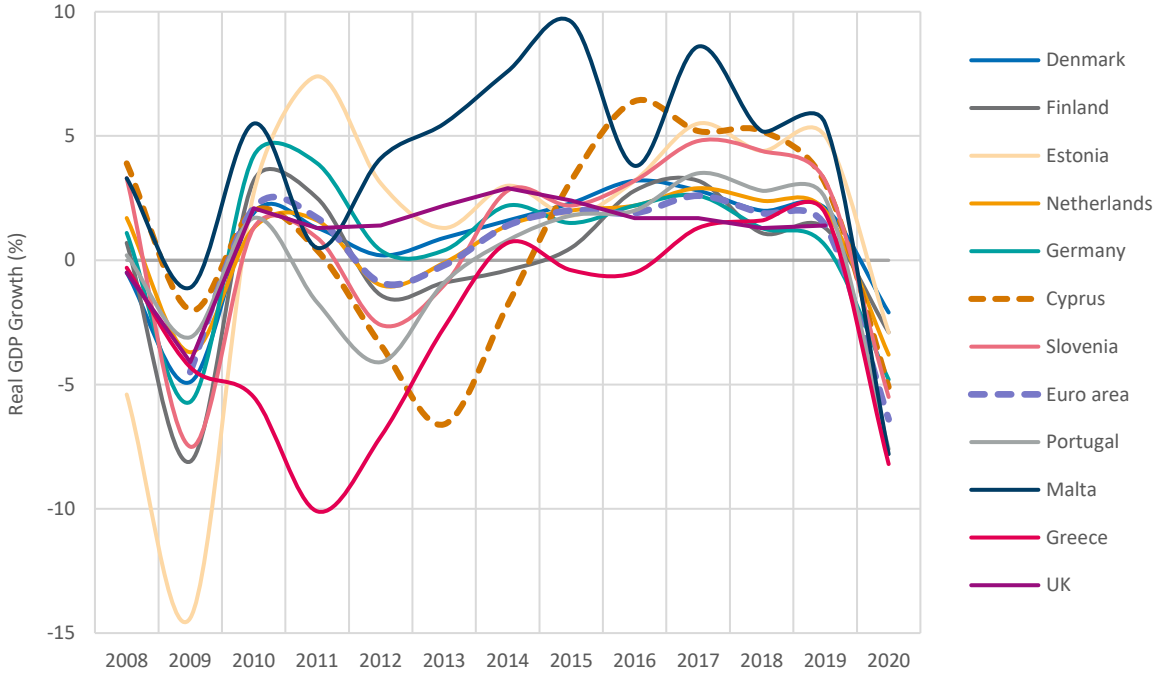
It culminated in the collapse of the banking sector in 2013, and a consequent steep recession. Cyprus returned to GDP growth in 2015, with the growth rate reaching 6.4 percent in 2016. Cyprus maintained the same high growth for 2017 and 2018 placing it alongside the fastest growing economies among the benchmark countries. Growth slowed down somewhat in 2019, reaching 3.1 percent, and was reversed because of the COVID-19 pandemic. The Cypriot economy contracted 5.1 percent in 2020, which is close to the average of the benchmark countries (4.2%) but smaller than the EU average (6%).

Table 1 Population and Gross National Income, 2019

	Population millions (rank)	GNI Euro billions (rank)	GNI per capita Euro thousand (rank)	GNI per capita at PPP Euro thousand (rank)
Cyprus	1.1 (12)	21 (12)	24.7 (9)	35.5 (10)
Denmark	5.8 (7)	321 (5)	57.1 (2)	57.1 (2)
Estonia	1.3 (11)	27 (11)	20.7 (11)	34.8 (11)
Finland	5.5 (8)	241 (7)	44.6 (4)	47.6 (5)
Germany	83.0 (1)	3541 (1)	43.3 (5)	52.7 (4)
Greece	10.7 (4)	181 (9)	17.6 (13)	28.1 (13)
Ireland	4.9 (9)	275 (6)	57.2 (1)	63.6 (1)
Israel	9.0 (6)	350 (4)	38.4 (6)	38.1 (8)
Malta	0.5 (13)	12 (13)	24.9 (8)	39.1 (7)
Netherlands	17.3 (3)	813 (3)	47.3 (3)	54.8 (3)
Portugal	10.2 (5)	208 (8)	20.6 (12)	33.0 (12)
Slovenia	2.0 (10)	47 (10)	23.1 (10)	37.2 (9)
UK	66.8 (2)	2481 (2)	37.6 (7)	43.7(6)

Notes: GNI = Gross National Income; PPP = Purchasing Power Parity; Converted from $US, €1 = $1.12.
Source: World Bank, World Development Indicators (WDI).

Figure 39 Real GDP growth, 2008-2020



Notes: Ireland (not shown) achieved GDP growth of 25.2 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].

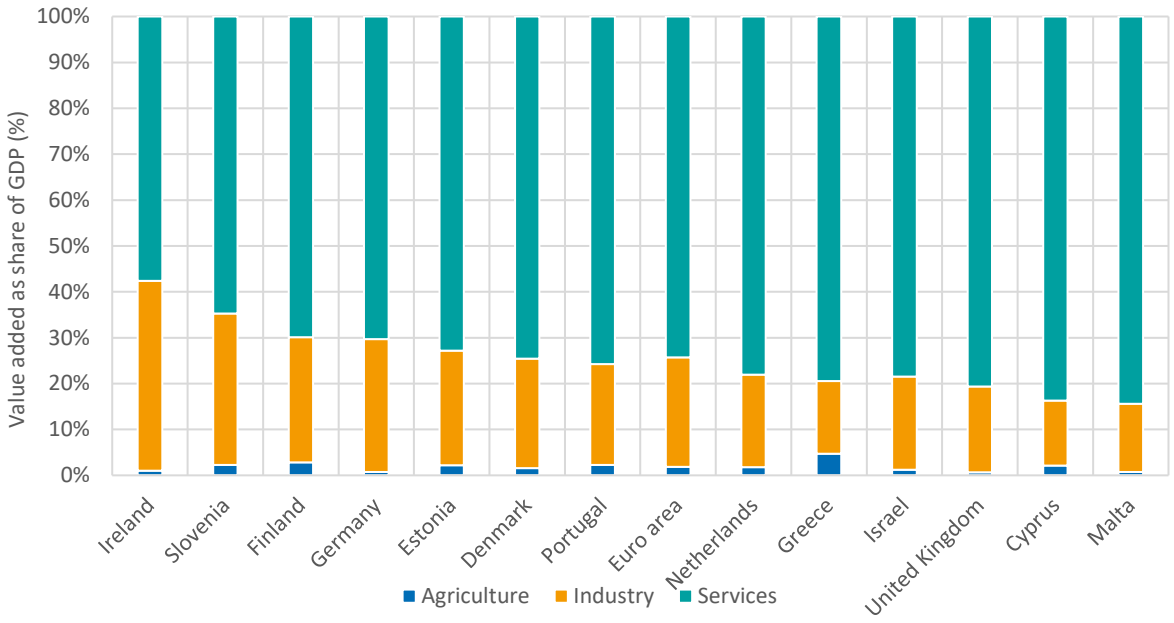
Figure 40 shows the breakdown of economic activity among the primary, secondary, and tertiary sectors. Cyprus has the highest share of GDP in service industries and the lowest share of GDP in industry (the secondary sector, which includes manufacturing, mining, energy and utilities). The economy of Cyprus 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.

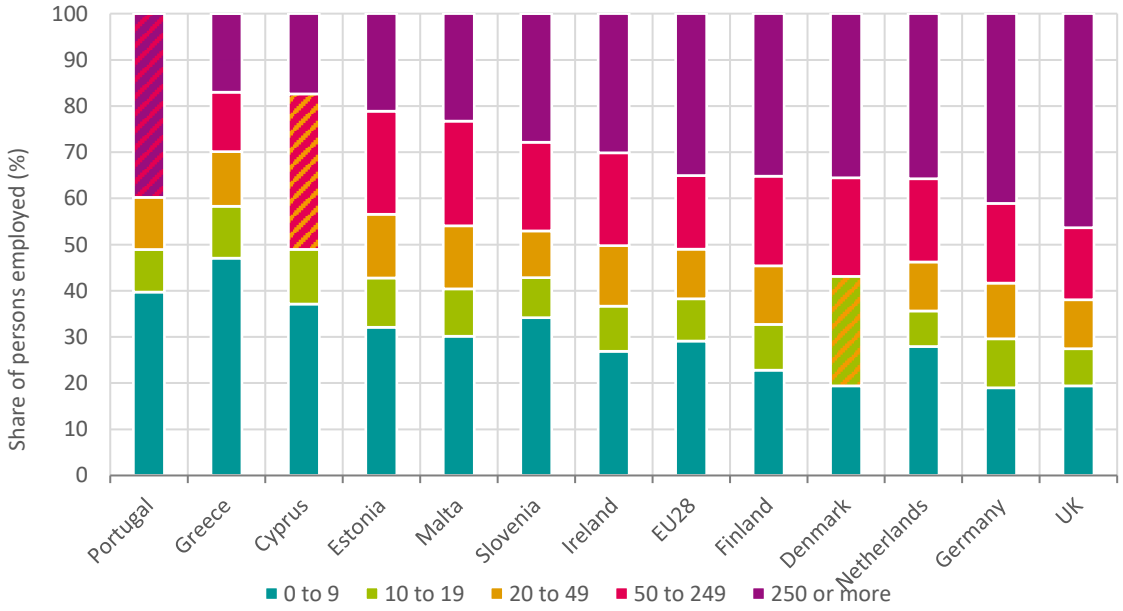
Given the role that larger enterprises can play in shaping a country's pattern of economic specialisation and export potential, as well as serving as anchors for value chain integration, as shown in Figure 41, the absence of larger enterprises is a potential concern.

Figure 40 Economic structure, 2020



Source: World Bank, WDI: Structure of output [T4.2].

Figure 41 Employment in the non-financial business economy by enterprise size (employees), 2018



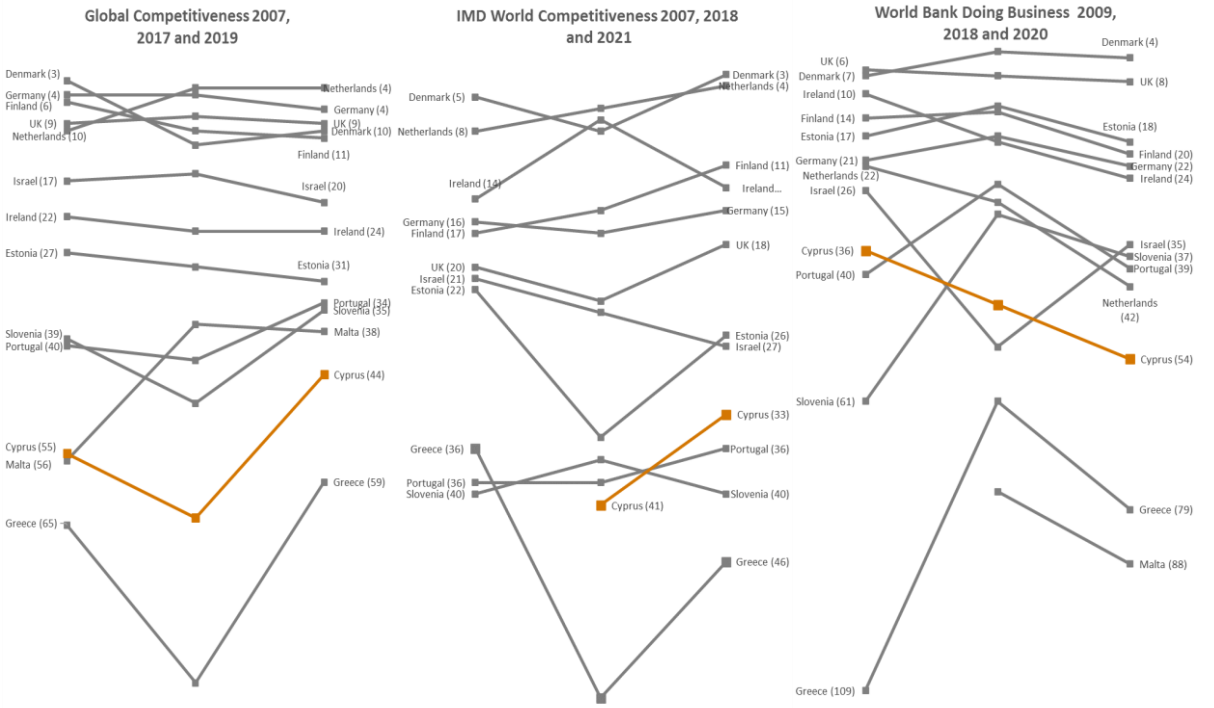
Notes: The non-financial business economy includes the sectors of industry, construction and distributive trades and services. It refers to economic activities covered by Sections B to J and L to N including S95 of NACE Rev. 2.
For Portugal, Cyprus and Denmark the size categories '50 to 249' and '250 or more', '20 to 49' and '50 to 249' and '10 to 19' and '20 to 49' respectively are combined.
For Estonia data for 2017 were used.

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 rankings

Figure 42 provides a summary of the performance of Cyprus and the benchmark countries in the three international assessment exercises. As noted earlier, the methodology of the WEF GCI has changed in 2018, meaning that it is not possible to make direct comparisons between the latest rankings and those from earlier years. In any case, with both the old and new methodology, WEF ranks Cyprus behind all benchmark countries except Greece. Comparing 2017 with 2019, Greece saw the largest rise in its ranking, going up 28 spots, followed by Cyprus and Slovenia that rose 20 and 13 places respectively (Figure 41, left). In the IMD competitiveness ranking, Cyprus ranks above Greece, Slovenia, and Portugal. Cyprus rose sharply from 41st to 30th place between 2018 and 2020 but slipped back into the bottom half of the ranking at 33rd in 2021 (Figure 42, middle). Similarly, the World Bank's Doing Business Report ranks Cyprus above Greece and Malta, but it has slipped behind Slovenia and Portugal, while the gap between Cyprus and Greece has narrowed noticeably. Over the last years for Cyprus rank fell from 36th to 54th place (Figure 42, right).

Figure 42 International Competitiveness Ranking, 2007, 2018 and 2021



Notes: The Global Competitiveness ranking had 141countries in 2019, 137 countries in 2017 and 125 countries in 2007.
The World Competitiveness ranking had 64 countries in 2021, 63 countries in 2018 and 55 countries in 2007. Cyprus was added in 2017, Malta is not included.
The Doing Business ranking had 190 countries in 2020, 190 countries in 2018 and 183 countries in 2009. Cyprus was added in 2009.

Source: IMD, WEF and World Bank.

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 all factors of production, 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' outcomes 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, indicators consistently show that Cyprus achieves relatively low productivity levels and growth rates compared to the benchmark countries.

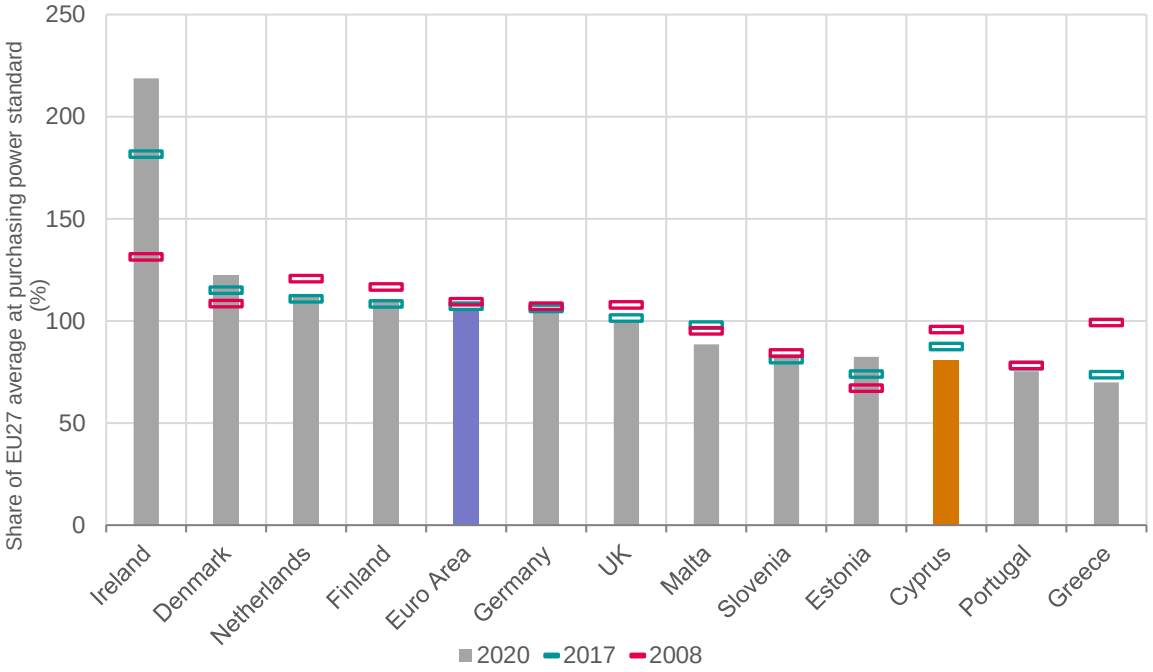
Labour productivity

As Figure 43 shows, labour productivity, measured as the quantity of output produced by a unit of labour, lags most benchmark countries Labour productivity in Cyprus is below the EU average and lags behind Northern European economies, such as the Netherlands and Finland. At the other end are Greece and Portugal, which have lower labour productivity than Cyprus.

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.

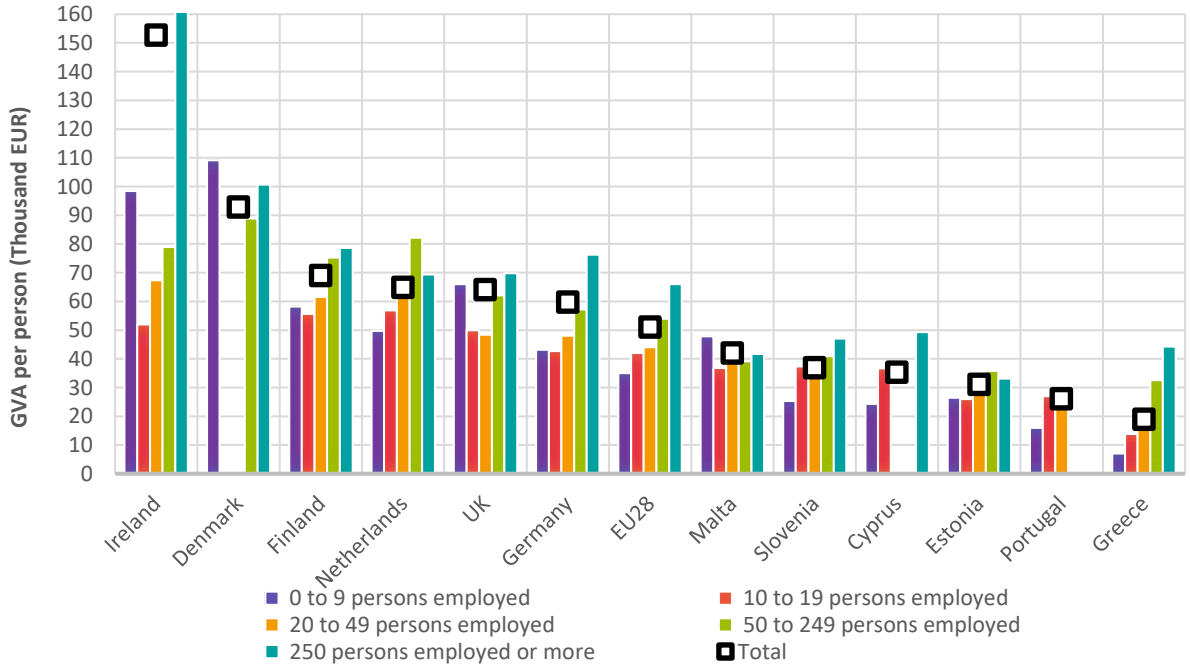
Figure 43 Labour productivity at PPS, 2007, 2016 and 2020



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].

Availability of data on labour productivity by enterprise size is inconsistent. In Figure 44, in most countries, including Cyprus, productivity is lower in smaller enterprises. 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.

Figure 44 Apparent labour productivity (GVA per person employed) by enterprise size, 2018

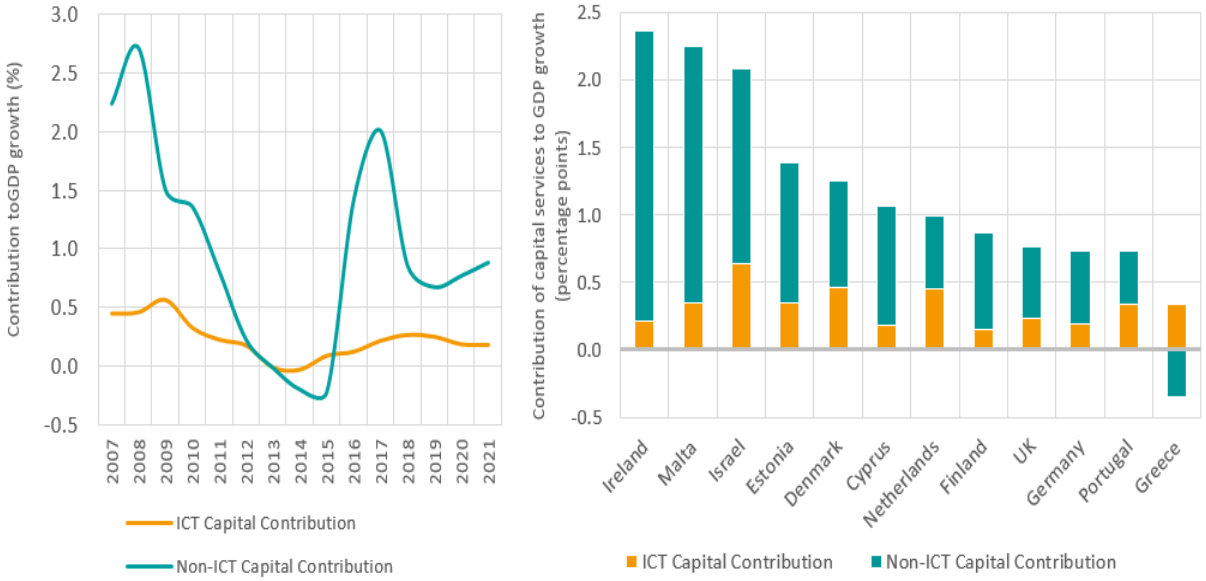


Notes: Data missing for Enterprise Classes for three benchmarking countries; EU28 values from 2016; Estonia values for enterprise sizes 10-19 and 20-40 from 2017.
Source: Eurostat, Annual enterprise statistics by size class for special aggregates of activities [sbs_sc_sca_r2].

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. However, this contribution is derived mainly from non-ICT assets, with ICT assets making almost no contribution to GDP growth as Figure 45 depicts.

Figure 45 Capital service contribution to GDP (Cyprus and benchmark countries), 2007-2021



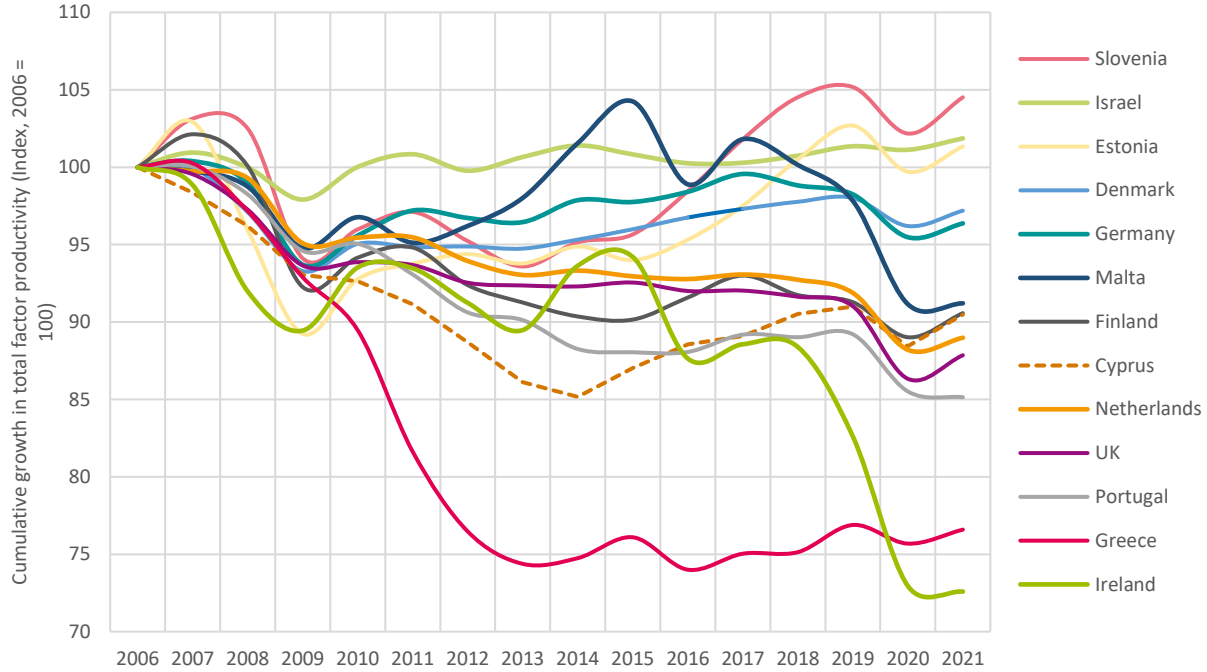
Notes: Graph showing the contribution of capital services provided by assets to GDP growth, differentiated between ICT assets and non-ICT assets; Data for 2020 are estimates, while 2021 data are forecasts from The Conference Board.
Source: Conference Board, Contribution of Total Capital Services to GDP growth, 2021

Total factor productivity

Figure 46 shows the total factor productivity growth. More specifically, from 2010 to 2014, total factor productivity growth in Cyprus was consistently low compared to almost all benchmark countries. Consequently, total factor productivity in Cyprus has fallen since 2006, more so than in any other benchmark country except Greece. Although most countries faced similar declines, and the situation in Cyprus appears to have stabilised since 2014, the depth and persistence of the decline has been greater in Cyprus, except for Greece.

As shown earlier in this report, labour and capital are the main drivers of GDP growth in Cyprus, with total factor productivity often making a negative contribution (see Figure 12 on page 39. The causes of low total factor productivity growth cannot be directly identified, but typically, low growth is associated with lower rates of enterprise innovation and lower adoption rates of digital and other efficiency-gaining technologies. Partly, low total factor productivity may 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 (see Figure 21 on page 46), which may be attributed to constraints on access to credit due to cautious lending by domestic credit institutions that still hold significant portfolios of non-performing loans, and because of stricter leverage regulations for new investment credit lines.

Figure 46 Total factor productivity growth, 2006-2021



Notes: Data for 2020 are estimates, while 2021 data are forecasts from The Conference Board.
Source: Conference Board, Growth of Total Factor Productivity, 2021.

5.2 Trade and foreign direct investment

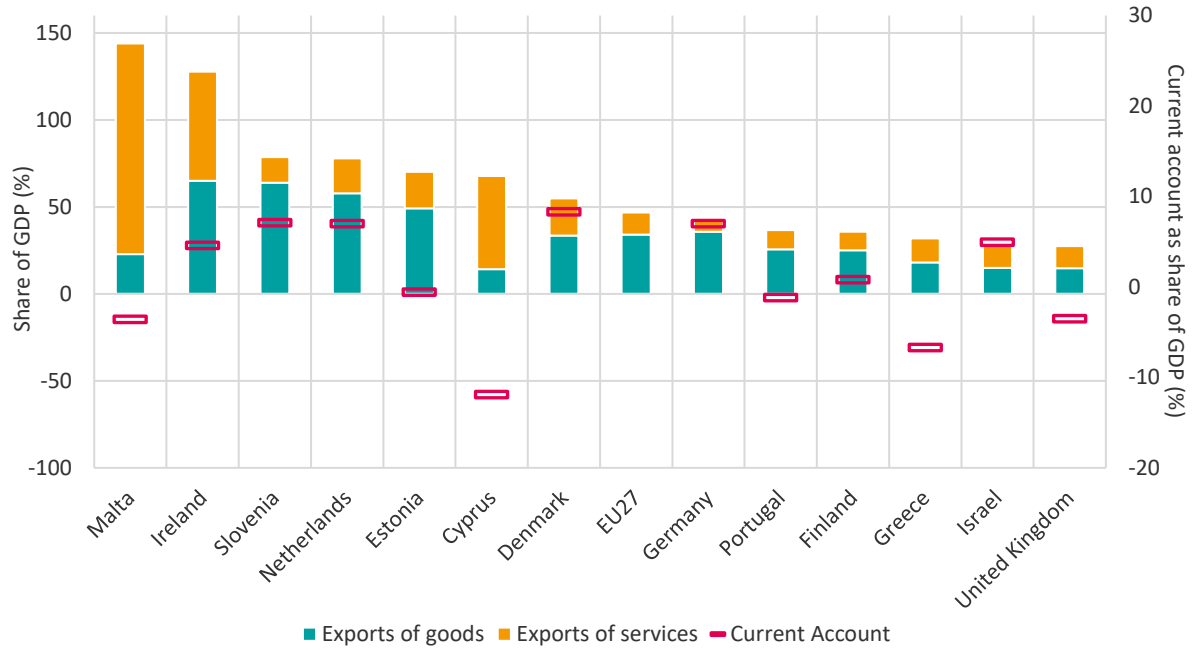
The ability to export goods and services, to enter new foreign markets and to gain and retain market share are, important outcome indicators of competitiveness. As is the ability to attract and retain foreign direct investment. However, the economic structure and business model of Cyprus, with its strong 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 47, 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, Estonia 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% in 2019 to 11.9% in 2020. Part of this was of course due to the COVID-19 pandemic and particularly the severe hit on the tourism sector. Most other countries also have negative current account balances, but Cyprus' deficit is the largest relative to GDP.

Figure 47 Exports and current account, 2020



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].

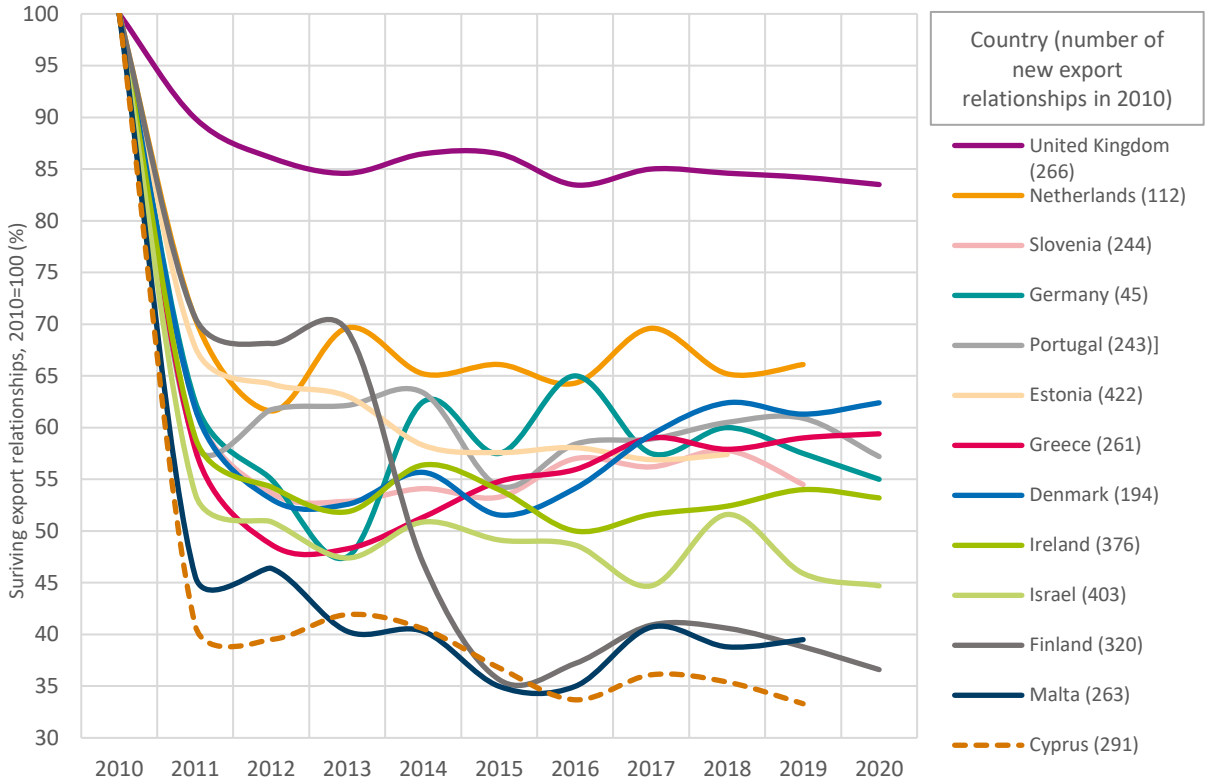
Export market survival

Figure 48 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 it surviving for a year was only 41 percent, lower than for all other benchmark countries. After ten years, the likelihood of this export relationship still existing is even lower at only 33 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 48 Export survival, 2010 to 2020

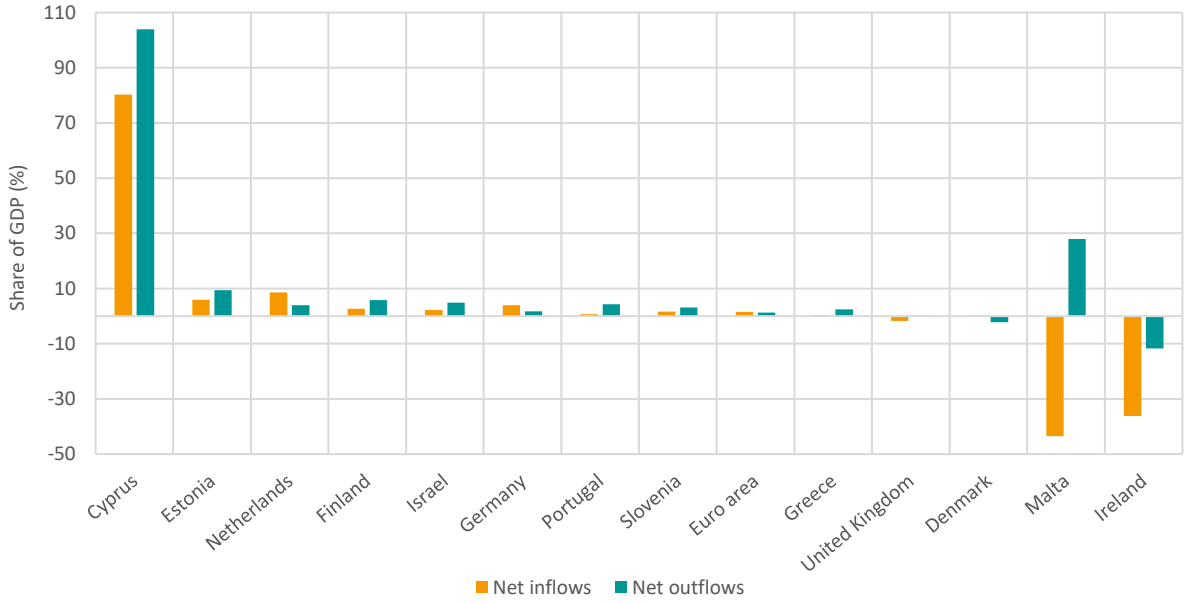


Source: World Bank, World Integrated Trade Solutions: *Export Survival - Export Duration.*

Foreign direct investment

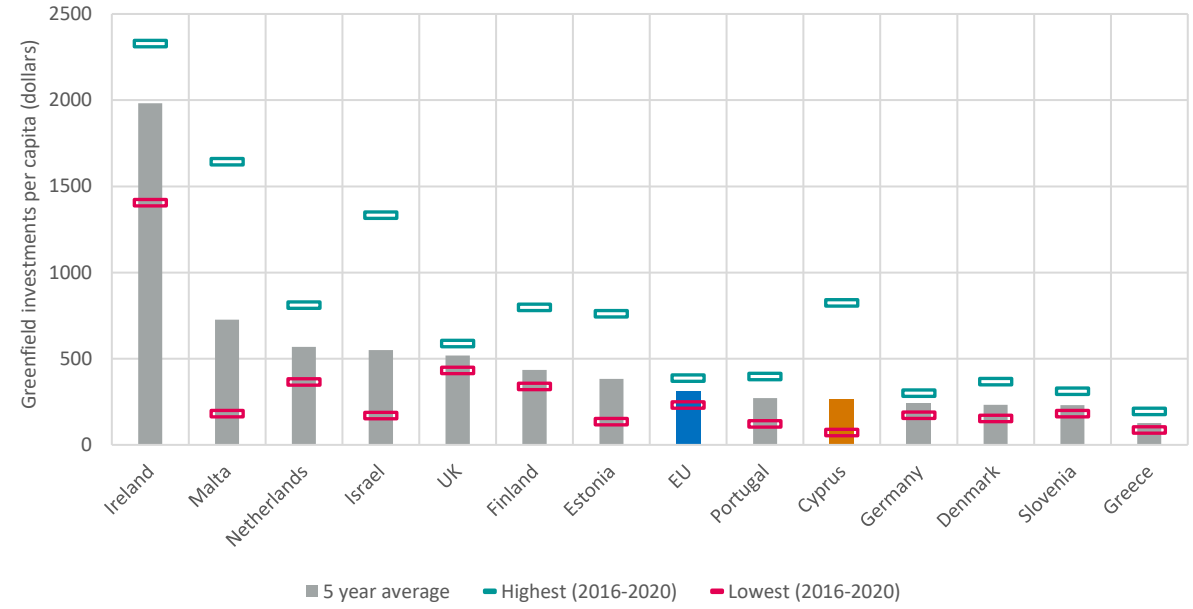
Cyprus is first in FDI flows by a very wide margin. As it is shown in Figure 49, in 2019 inflows and outflows reached 80% and 104% of GDP respectively, while for most other countries these figures were below 10%. However, and as described in Section 3.3, these headline FDI data should be viewed with caution. 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 50. The value of such projects in Cyprus is relatively modest compared to most benchmark countries. This measure is also highly variable, as indicated by the large differences for several countries, including Cyprus, between the minimum and maximum over the 2016-2020 period. Hence this measure should also be interpreted with caution.

Figure 49 FDI inflows and outflows, 2019



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 (% of GDP) [BM.KLT.DINV.WD.GD.ZS] and Foreign direct investment, net inflows (% of GDP) [BX.KLT.DINV.WD.GD.ZS].

Figure 50 Greenfield investments, 5-year average between 2016 and 2020

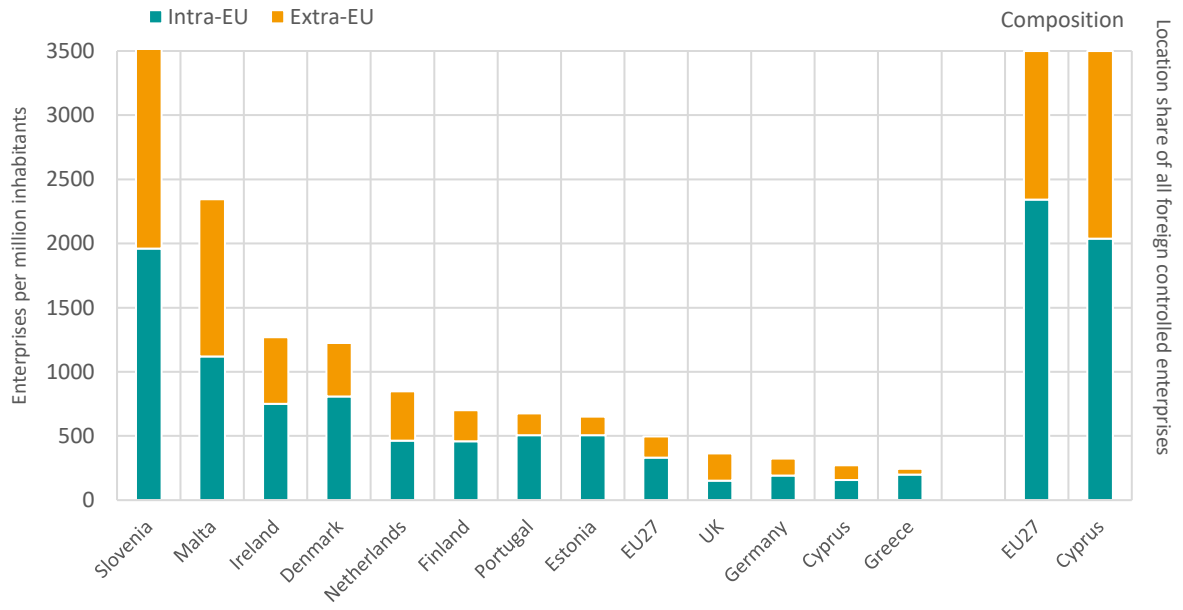


Notes: Own calculations, based on Greenfield Investments and converted to per capita value.
Data are based on press releases, media reports and data from business associations and investment agencies; these sources are unlikely to be complete and may contain information on announced FDI projects that do not materialise.
Source: UNCTAD (based on Financial Times Ltd, fDi Markets): Value of announced greenfield FDI projects.

Foreign controlled enterprises

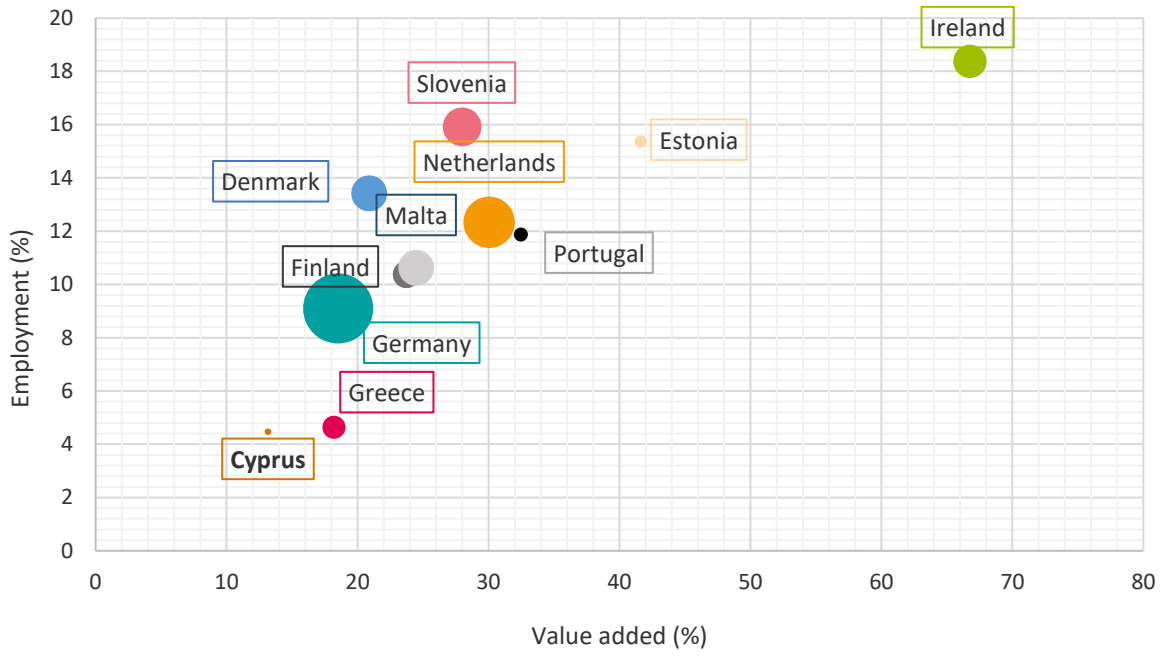
Foreign affiliate trade statistics (FATS) provide information on key economic indicators of foreign-controlled enterprises and exclude those SPEs that have no employees and no turnover. The number of foreign controlled enterprises in Cyprus is relatively low. As shown in Figure 51, in 2018 the number 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 51 Location of foreign controlled enterprises, 2018



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 52 Foreign controlled enterprises, 2018



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

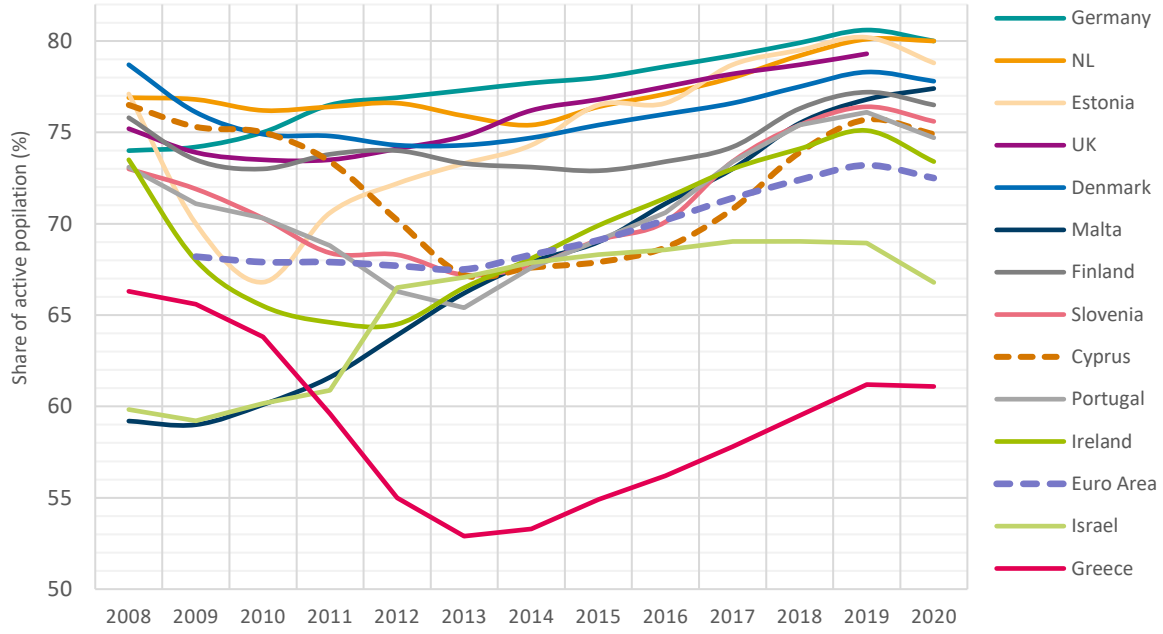
Employment

Figure 53 shows the employment levels for 2008-2020. In 2020, the employment rate (the proportion of the working age population that is employed) of Cyprus stood at 74.9%, lower than it was in 2008. It took a big dip between 2008 and 2013, falling by 9.3 percent. It gradually rebounded and reached 75.7% in 2019, only to drop again in 2020

because of COVID-19 (74.9%). In Figure 54, Cyprus is ranked 9th among the benchmark countries in 2020. 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)

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 remained above it.

Figure 53 Employment levels, 2008- 2020



Source: Eurostat, Labour Force Survey [lfsi_emp_a]: Employment level and growth.

Figure 54 Youth not in education, employment or training (NEET), 2008, 2017 and 2020

Source: Eurostat, Young people neither in employment nor in education and training by sex, age and labour status (NEET rates) [edat_lfse_20].

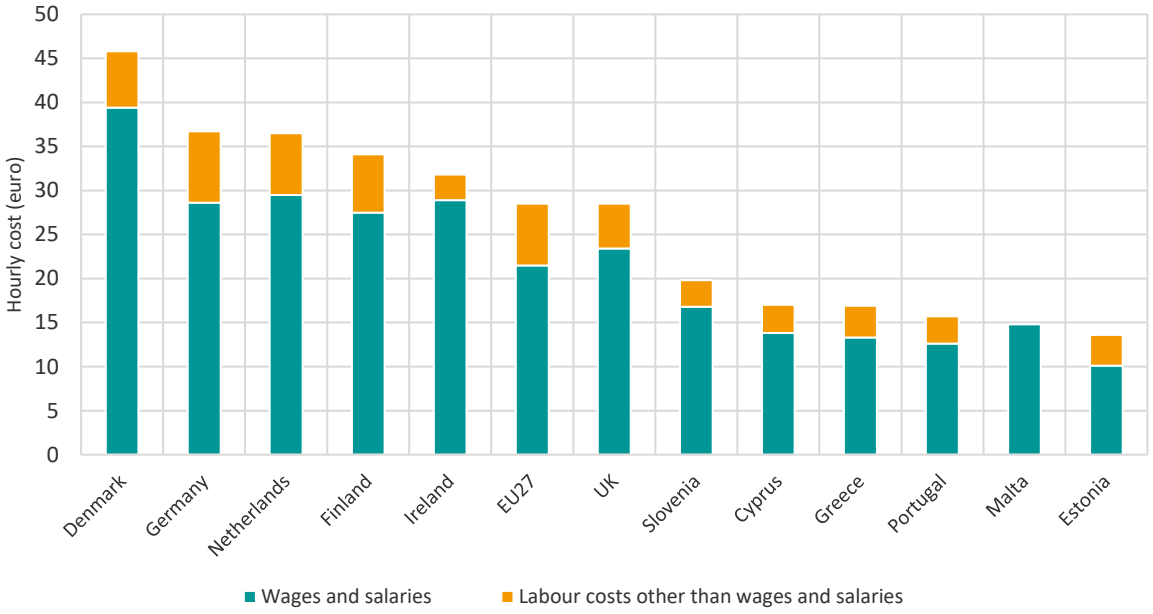
5.4 Costs and prices

Cost of labour

The cost of labour in Cyprus is relatively low. As shown in Figure 55, net earnings are among the lowest of all benchmark countries and are significantly lower than the EU average. This is due not only to low wages and salaries, but also low non-wage costs.

This is reflected in a very low tax wedge on labour, which is significantly below all benchmark countries (see Figure 76 on page 90). 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 55 Labour costs and earnings, 2020

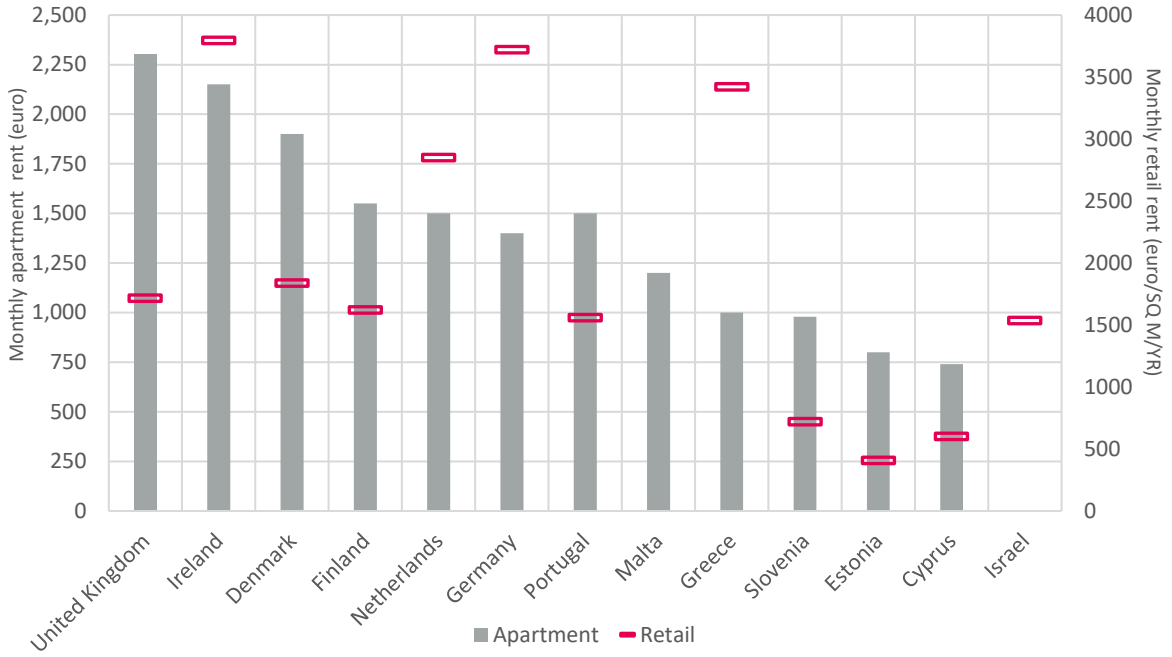


Notes: For United Kingdom data for 2019 were used.
Source: Eurostat: Labour cost levels by NACE Rev. 2 activity [lc_lci_lev].

Real estate costs

The cost of real estate in Cyprus is also low, as shown in (Figure 56). 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. On the downside, the World Bank Doing Business index gives Cyprus a low score for Dealing with construction permits (125/190) and Registering property (71/190).

Figure 56 Rental prices for apartments and retail spaces, 2020 and 2019



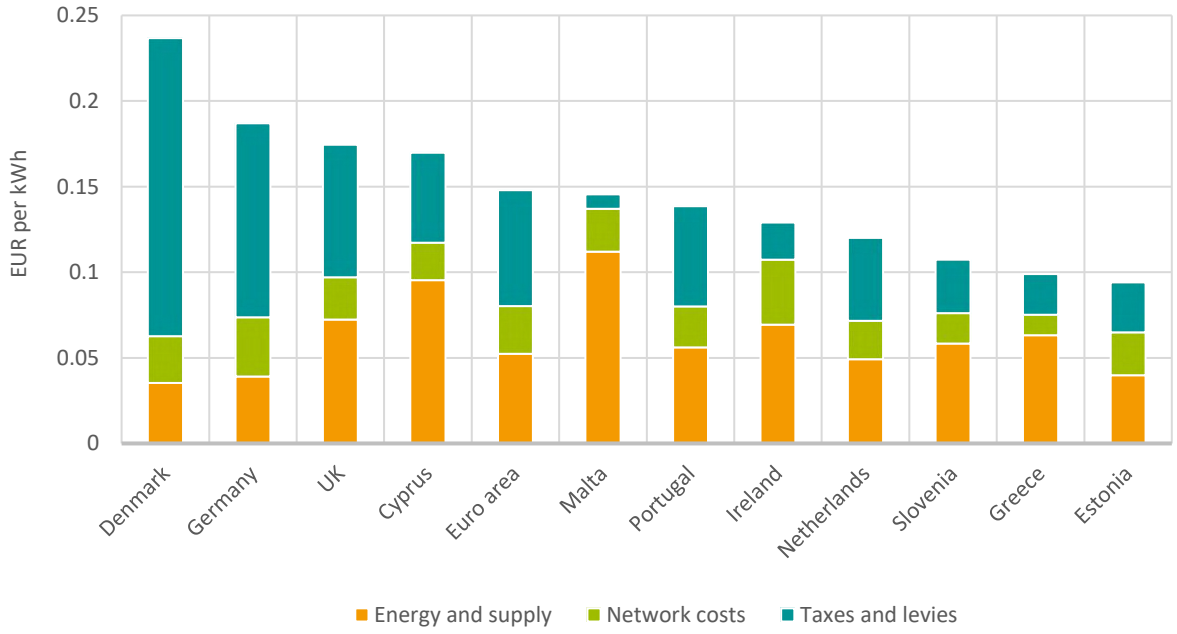
Source: Eurostat, Estate Agency Rent Surveys (2020): Rent for 2-bedroom flat (http://ec.europa.eu/eurostat/web/civil-servants-remuneration/estate-agency-rent-surveys); Cushman & Wakefield (2019).

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.

It is noteworthy that, as Figure 52 shows, Cyprus is the second worst after Malta even if the taxes and levies, which are themselves indicative of energy policies, are not taken into account.

Figure 57 Electricity price components, 2020

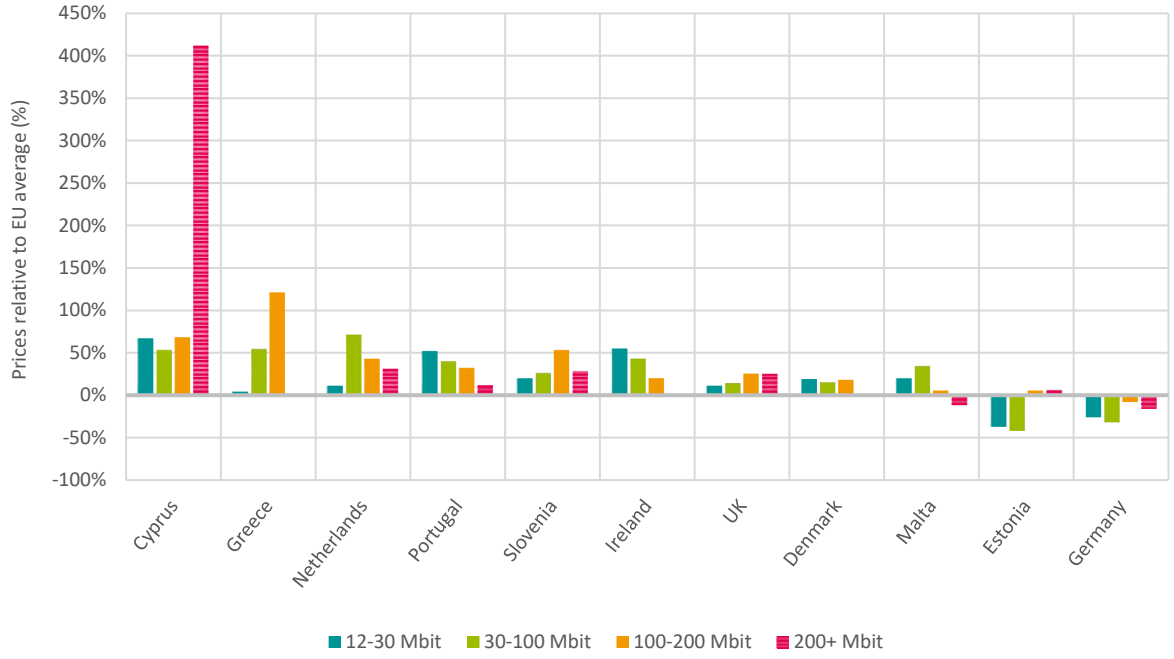


Notes: For United Kingdom data for 2019 were used.
Source: Eurostat: Electricity prices components for non-household consumers [nrg_pc_205_c].

Broadband costs

Figure 58 shows the fixed broadband prices among the benchmark countries. Broadband prices are higher in Cyprus than in most benchmark countries, particularly for speeds above 200 Mbit per second. The price premium for triple play offers in the 30 to 100 Mbit range is 13% above the EU average (European Commission, 2019). 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 (European Commission, 2017b).

Figure 58 Fixed broadband prices, 2019



Source: European Commission (2019), Fixed Broadband Prices in Europe 2019. *prices compared with EU average (single play).*

6 Benchmark of institutional & organisational competitiveness drivers

Institutional and organisational competitiveness drivers are those 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; and the sophistication of businesses and management quality.

6.1 Market conditions & institutions

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.

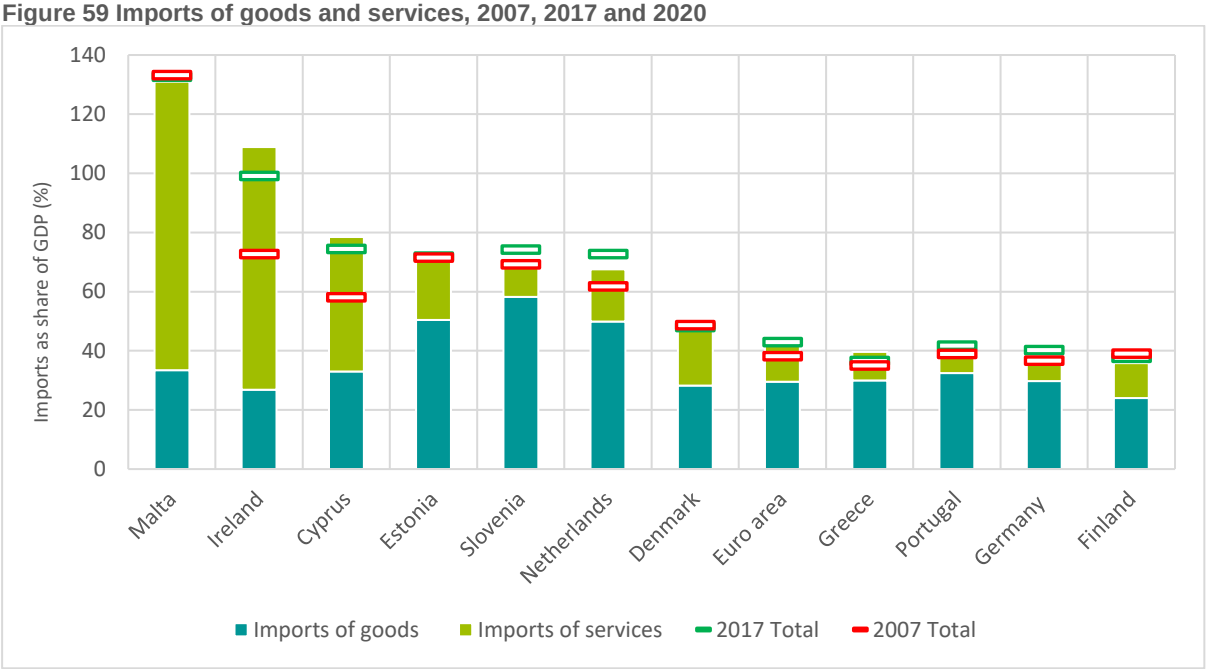
Although a good range of indicators on market conditions and institutions is available for Cyprus, it is unfortunate that a number of useful OECD indices are unavailable: these include the OECD Service Trade Restrictiveness index, which covers barriers to trade in services, the OECD Product Market Regulation 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.

Trade openness

Cyprus displays a high degree of trade openness as measured by imports of goods and services as a share of GDP. As shown in Figure 59, in 2020, Cyprus' imports of goods and services were equivalent to 73.9 percent of GDP, the same as it was in 2017. This is slightly above the corresponding levels for Estonia and Slovenia (70.7 and 68.7), but some way below Ireland and especially Malta, where imports correspond to nearly 109 and 131 percent of total GDP respectively[8]. Generally, smaller countries tend to be more open. This relation is indicated in Figure 60, which plots import levels against GDP. Figure 61 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.

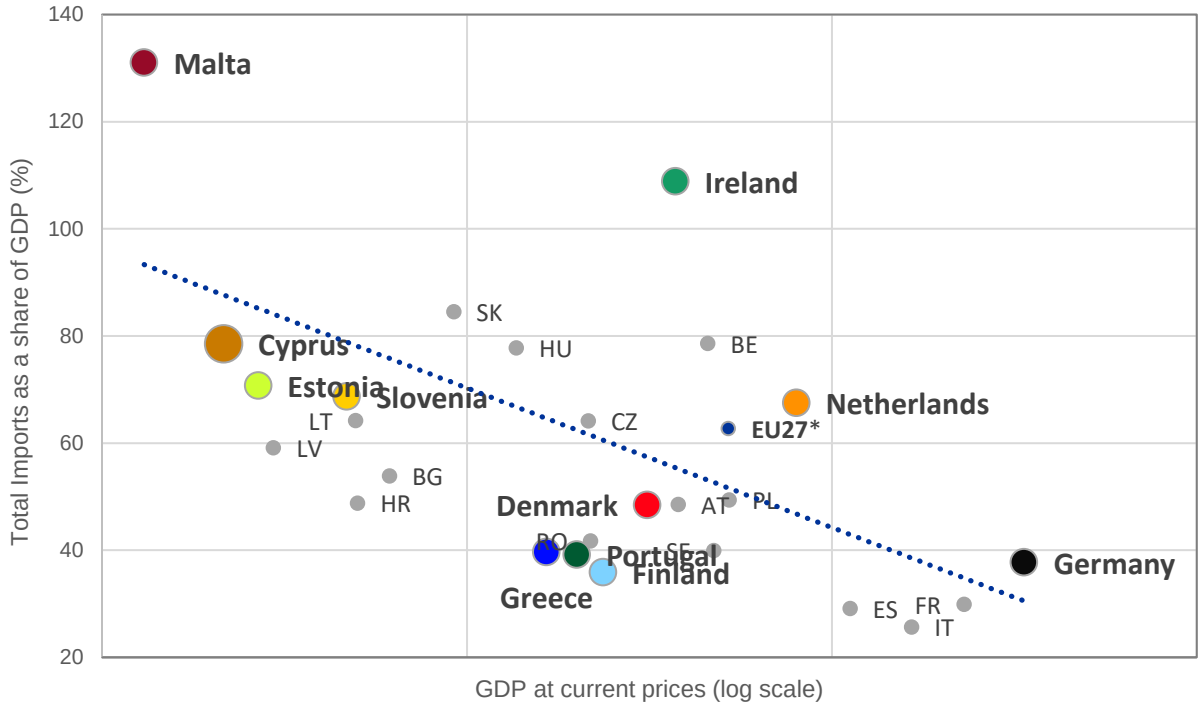
[8] Imports and exports close to or above 100 percent of total GDP can be explained by re-exports, with goods passing through the ports and airports of a country, from one third country to another third country.

Figure 59 Imports of goods and services, 2007, 2017 and 2020



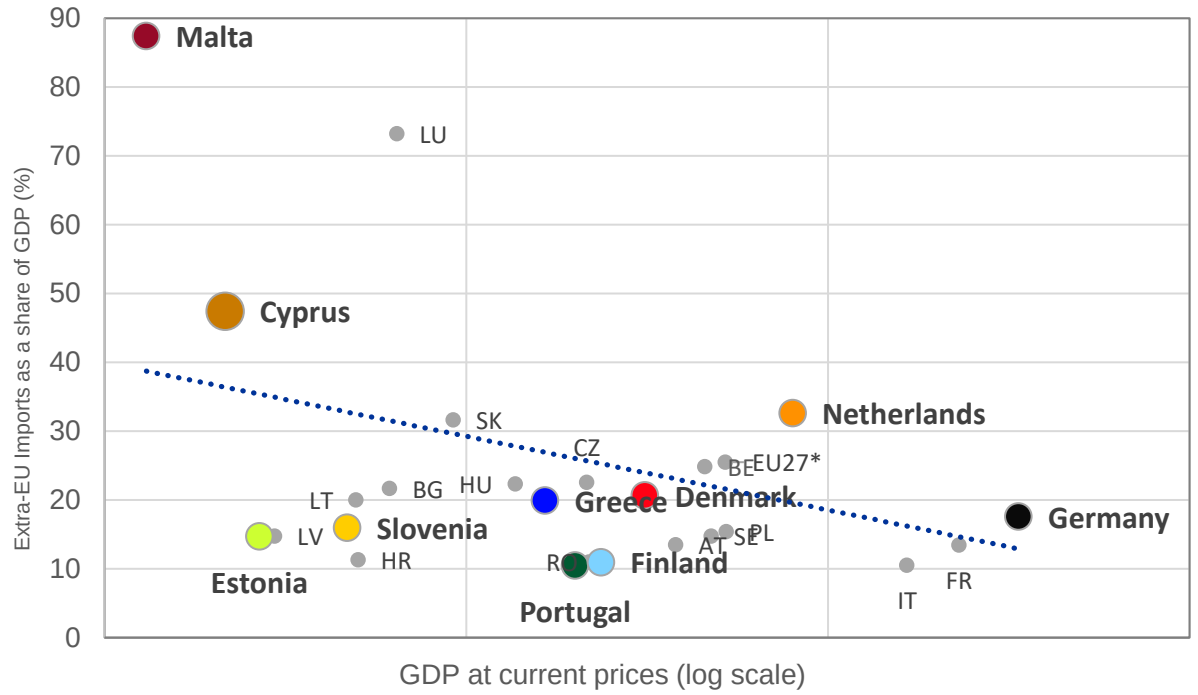
Notes: No data available for UK for 2020.
Source: Eurostat, GDP and main components (output, expenditure and income) [nama_10_gdp].

Figure 60 Trade Openness: Total imports of goods and services compared to level of GDP, 2020



Notes: 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. Ireland, Spain, Croatia, Luxemburg, Poland, Sweden and Switzerland are not shown.
Source: Eurostat, National Accounts (nama_10_gdp and nama_10_exi).

Figure 61 Trade Openness: Extra-EU imports of goods and services compared to level of GDP, 2020



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. Ireland, Spain, Croatia, Poland, Sweden and Switzerland
Source: Eurostat, National Accounts (nama_10_gdp and nama_10_exi).

Ease of trade

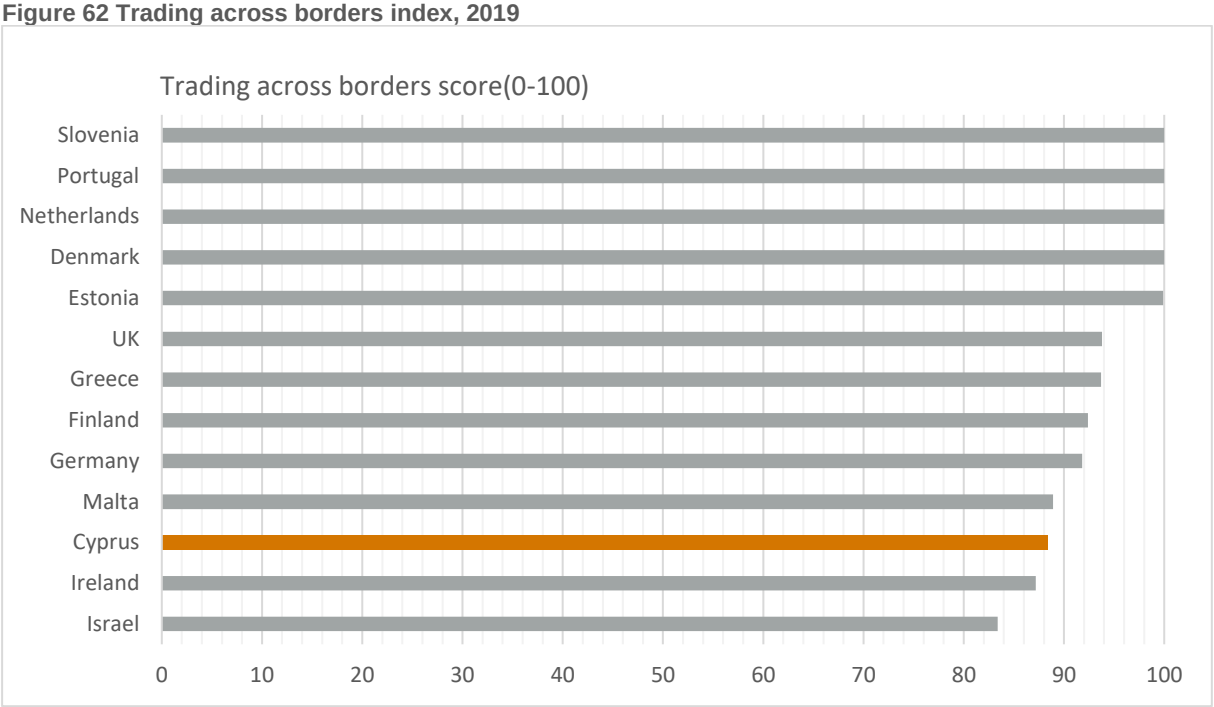
Given Cyprus' openness to trade, particularly for extra-EU imports of goods and services, its weak performance in relation to certain trade facilitation indicators may be a cause for concern. In terms of the time and cost (excluding tariffs) associated with exporting or importing a shipment of goods, the World Bank Trading Across Borders index (part of the broader Doing Business ranking), as depicted in Figure 62, places Cyprus below the average for high-income countries and behind most of the benchmark countries considered in this report, except Ireland and Israel. The WEF's 2018 Executive Opinion Survey gave a similar ranking to Cyprus in its assessment of customs efficiency[9].

The above findings suggest that there may be room for Cyprus to improve trade-related procedures. At the same time, the available indicators are primarily concerned with trade in goods and do not capture the situation for services in trade, which is potentially of greater relevance given the orientation of Cyprus' economy towards the services sector.

Description: Trading across borders index
The Trading Across Borders index estimates the time and cost (excluding tariffs) associated with three sets of trade procedures—documentary compliance, border compliance and domestic transport—within the overall process of exporting or importing a standardised shipment of goods. The Index is scaled from 0 to 100, where '0' represents the lowest performance and '100' corresponds to the best, or 'frontier', performance. The Trading across borders index is a sub-index of the World Bank Doing Business ranking.

[9] This indicator is no longer provided by the WEF, so we do not include the graph here. The graph for 2018 is in the 2019 CCR.

Figure 62 Trading across borders index, 2019

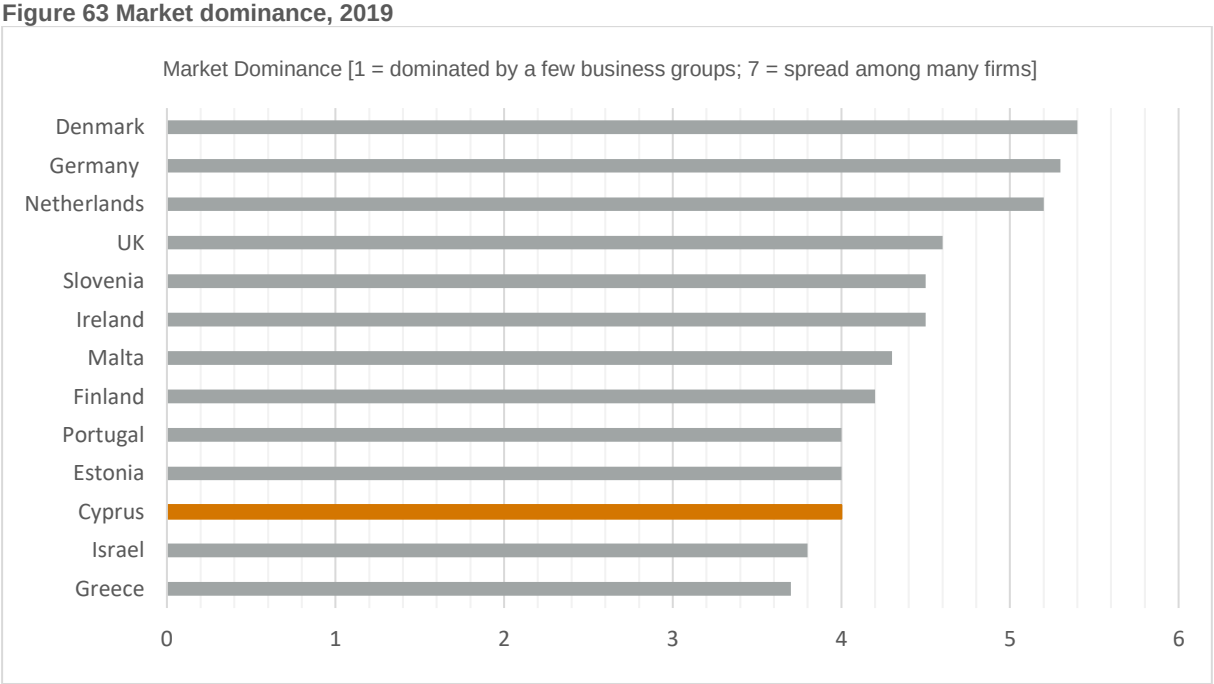


Source: World Bank, Doing Business: *Trading Across Borders, 2020.*

Product market competition

Indicators related to domestic market competition from the WEF Executive Opinion Survey suggest that general market competition conditions in Cyprus are broadly comparable to those in the other small benchmark countries. Cyprus is rated in the middle of the distribution of perceptions of the intensity of market competition, for which there is relatively limited variation across the benchmark countries (see Product market in Figure 34 on page 58). Similarly, as shown in Figure 63, among benchmark countries, although Cyprus only scores better than Greece and Israel, when compared to other smaller benchmarking countries, there does not seem to be any evidence to suggest that markets in Cyprus suffer from high level of dominance by a few business groups.

Figure 63 Market dominance, 2019



Source: World Economic Forum, *The Global Competitiveness Report,* 2019.

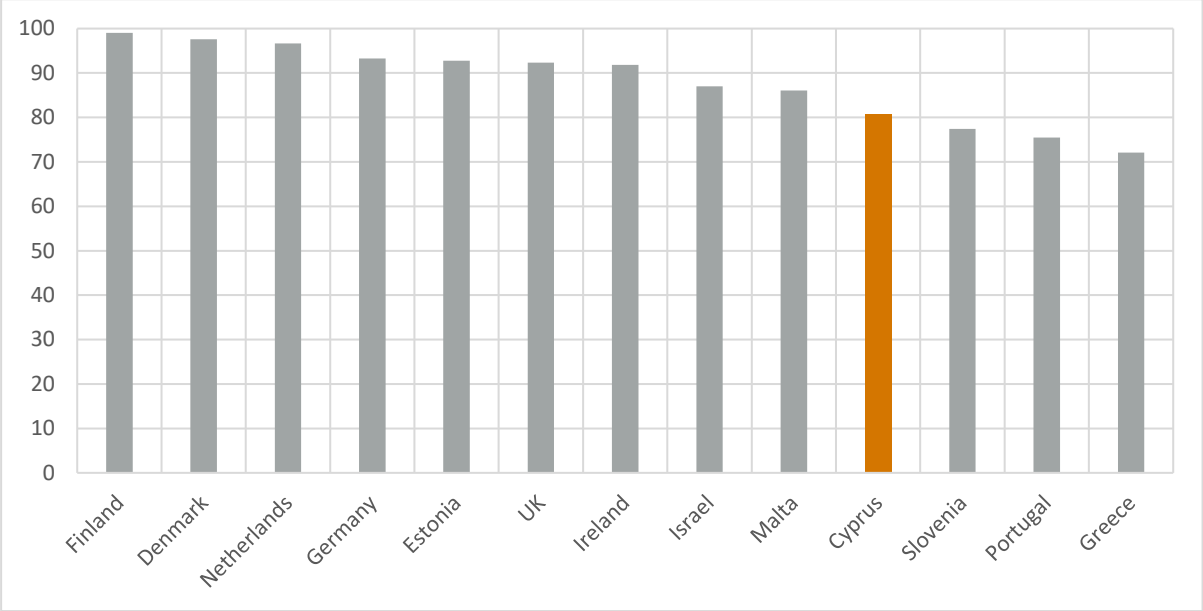
Regulatory Quality

Figure 64 shows the regulatory quality ranking in 2020. As it seems, regulatory quality is high for most of the countries. The highest governance performance in rankings, occurs in Finland (99) whereas the worst one is in Greece (72). Although Cyprus is 10th between the baseline countries, the governance performance is ranked with approximately 80. Considering that the range of the regulatory quality ranking of the countries used in this analysis range between 72 and 99 percentiles, we conclude that Cyprus does not seem doing very well, always relative to the baseline counties.

Description: Regulatory Quality

The Regulatory Quality indicator reflects 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 64 Regulatory Quality, Percentile Ranking, 2020



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).

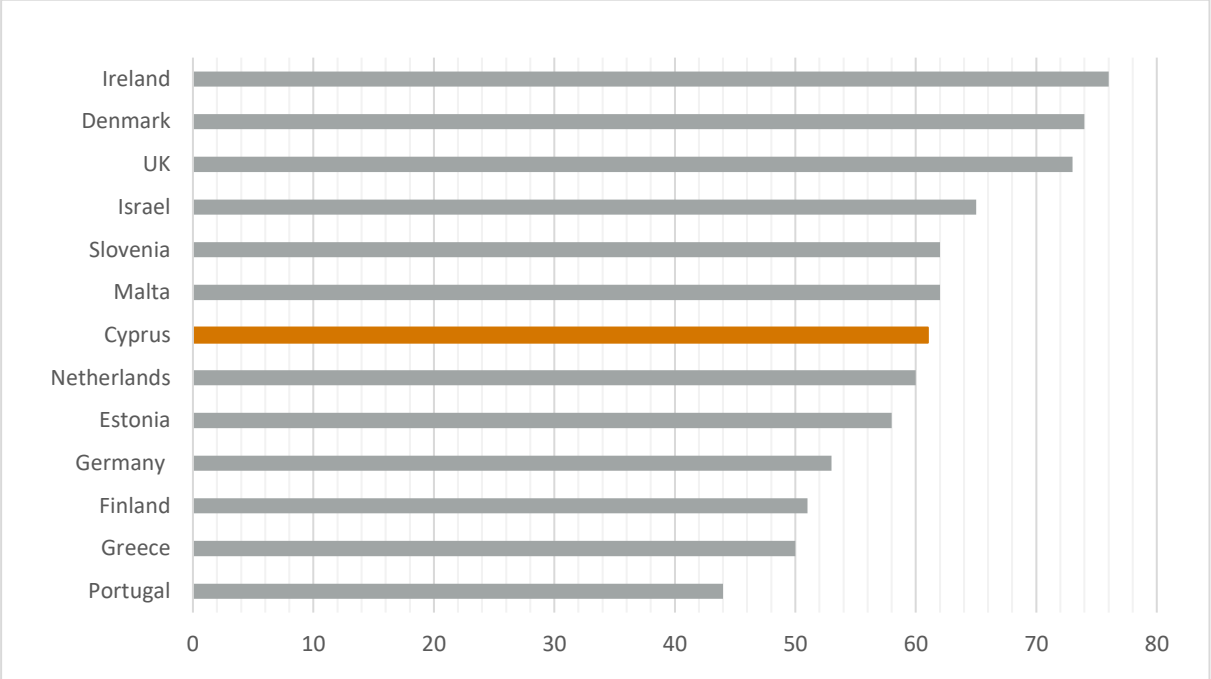
Labour market flexibility

Figure 65 shows the Labour Freedom index by the Heritage Foundation. The index ranks Cyprus just below the middle of all benchmark countries. A larger value of the index indicates more labour flexibility (less labour market regulation). Interpretation of the index is not straightforward, 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. In this sense, the position of Cyprus may indicate a healthy balance between protecting workers and serving the interests of firms. Or, as noted by the Heritage Foundation, "relatively flexible labour regulations facilitate employment and productivity growth, (but) union power is quite strong.

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 65 Labour Freedom Index (0-100), 2021



Source: The Heritage Foundation, Labour Freedom Index, 2021

6.2 Business environment & institutions

Business environment and institutions refers to the legal, administrative and regulatory environment for businesses[10]. 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 of fundamental rights. 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.

It is a challenge to quantitatively measure the business environment, given the complexity of institutions and regulations. The World Bank Doing Business project aims to do with a set of indicators that measure performance in very specific and standardized tasks, such as time to obtain permits. Specificity and standardization are important because they allow comparisons across countries. As a result, these indicators are widely followed and often set as policy targets. At the same time, specificity is a weakness because only selected aspects of the business environment are captured. It is therefore wise to complement the Doing Business indicators with other indicators, as is done here.

[10] 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.

Ease of Doing Business

In Figure 66, the 2019 World Bank Doing Business Index ranks Cyprus 54th out of 190 countries, below all benchmark countries except Greece and Malta.

However, as shown in Figure 67, there is considerable variation within the Doing Business indicator, with Cyprus performing well in starting a business, paying taxes and trading across borders. Cyprus performs less well in enforcing contracts dealing with construction permits and getting credit. This variation suggests that Cyprus does not suffer from systematic weakness across all areas. Rather, the variation suggests that there are specific areas that call for focussed attention.

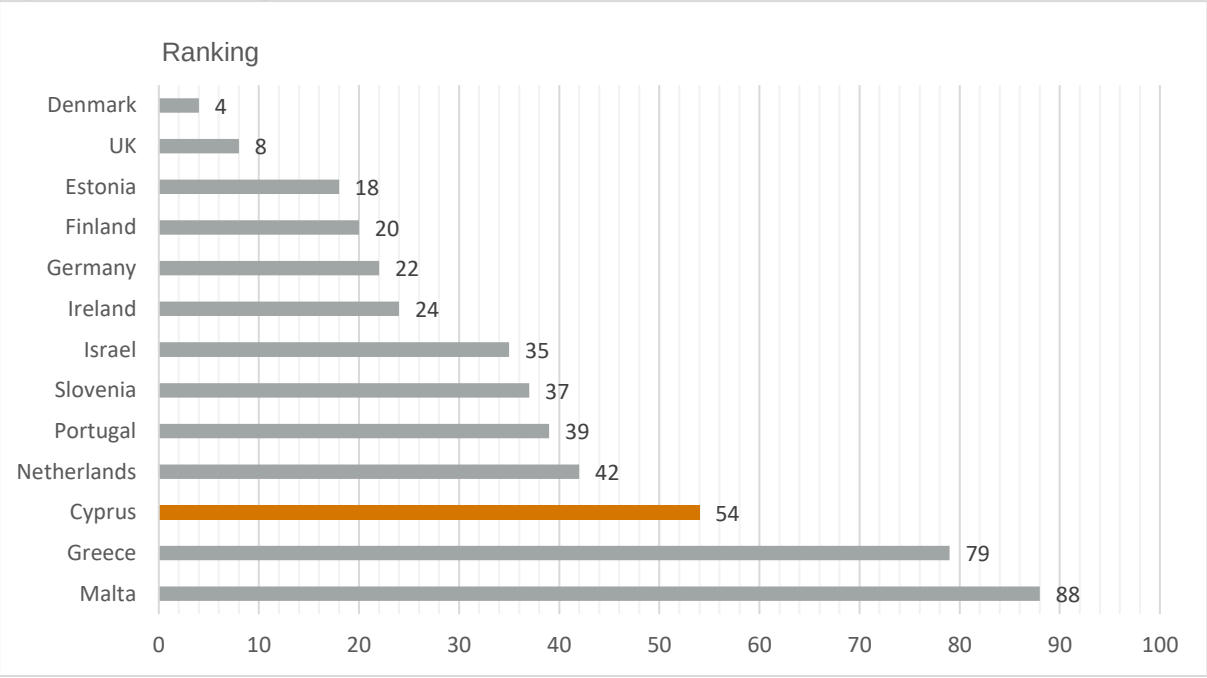
Although Cyprus is found to have a reasonably effective government, there are certain challenges for the regulatory and administrative regime. The Cyprus government is actively and systematically addressing challenges to the ease of doing business in the country, initially specifically within the context of the Action Plan for Growth. This has, for example, brought significant improvements to the insolvency framework.

Remaining issues relate mainly to insolvency services as well as the efficiency of the judiciary system, but even these are being addressed (see below in the sub-section 'Justice') as a national priority but also in the context of addressing the Country Specific Recommendations in the framework of the European Semester.

Description: Ease of Doing Business sub-indicator score

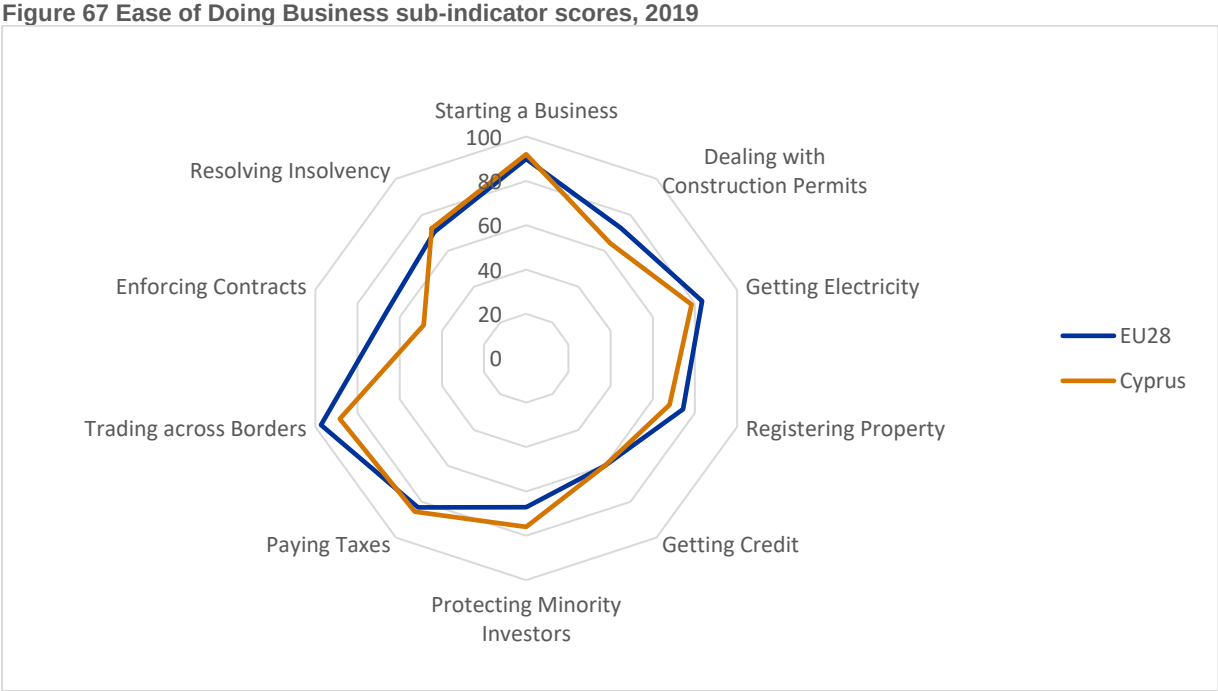
The Ease of Doing Business Score indicates the performance for a sub-indicator using a scale from 0 to 100, where 0 represents the lowest performance and 100 the best regulatory practice across all economies and across time. Higher scores show absolute better ease of doing business (the best score is set at 100).

Figure 66 Ease of Doing Business, 2019



Notes: The Doing Business Report of 2020 covers 190 economies.
Source: World Bank, Doing Business Report 2020.

Figure 67 Ease of Doing Business sub-indicator scores, 2019



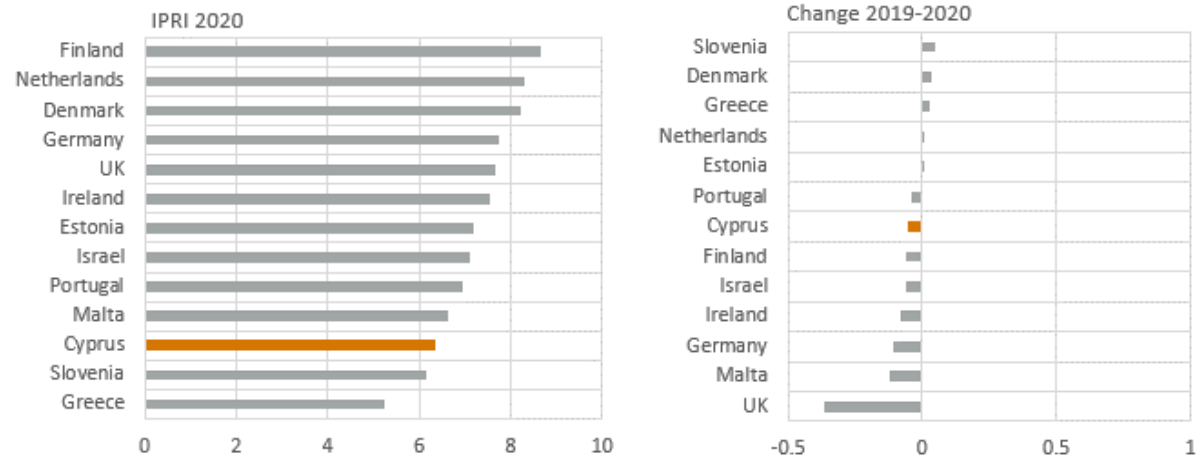
Source: World Bank, Doing Business Report 2020.

Property and other legal rights

The International Property Rights Index ranks Cyprus below most benchmark countries (Figure 68 and Figure 69). Cyprus scores relatively weakly in all three components of the index, namely intellectual property rights, patent protection, and copyright protection.

Significant efforts are underway to improve property rights protection in Cyprus. The current Cypriot legislation on intellectual property rights and copyrights, which is fully harmonised with all relevant and applicable EU Directives and Regulations, provides a high level of protection. Additionally, Cyprus is in the process of modernising the legislation on trademarks with the aim of harmonising with the latest Trademarks Directive. These changes are necessary if Cyprus' performance with respect to the protection of Intellectual Property Rights Index is to improve.

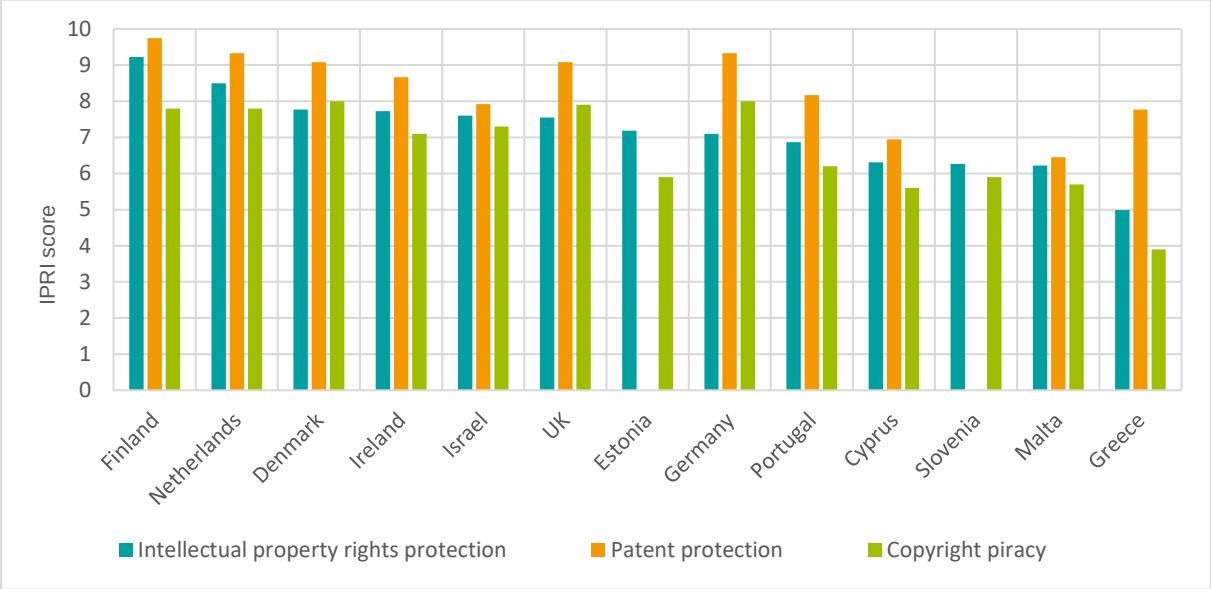
Figure 68 International property rights index, 2020



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.

Source: Property Rights Alliance, International Property Rights Report 2020 and International Property Rights Report 2019.

Figure 69 Property rights components, 2020



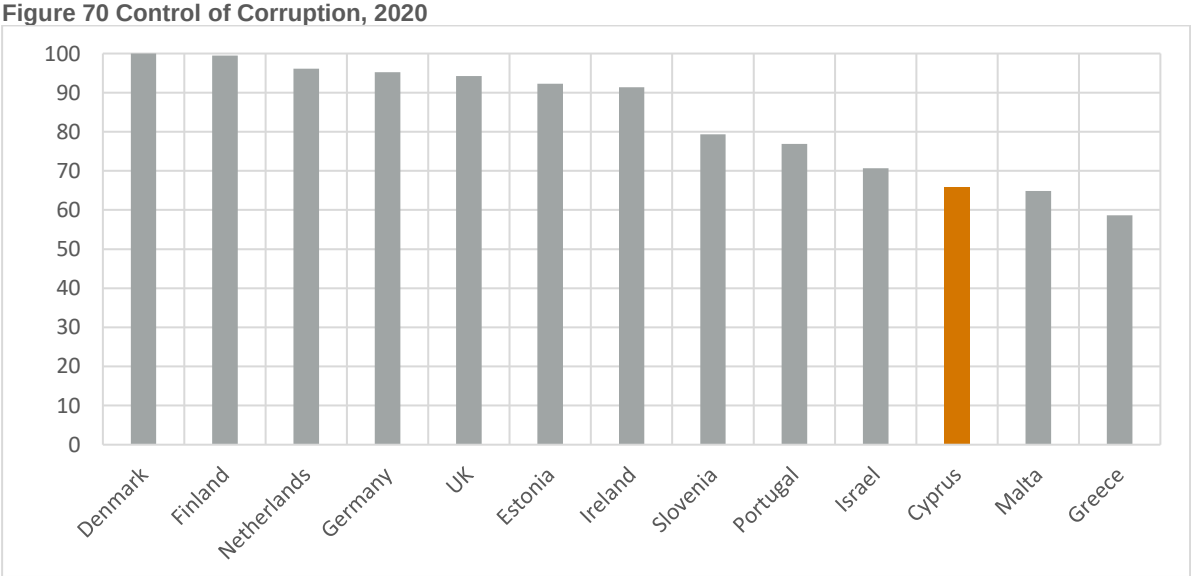
Source: Property Rights Alliance, International Property Rights Report 2020.

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 66, as compared to the Denmark and Finland score of 100 (Figure 70). Cyprus ranks similarly in Transparency International's widely followed Corruption Perceptions Index.[11]

Transparency International also produces the Global Corruption Barometer, which is based on citizen surveys. In the 2021 EU Barometer, 65% 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.[12]

Figure 70 Control of Corruption, 2020



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.

[11] Not shown here; it can be found at https://www.transparency.org/en/cpi.

[12] https://www.transparency.org/en/gcb/eu/european-union-2021/results/cyp.

Performance of public institutions

The smooth and efficient operation of public institutions in a key determinant of a country's economic performance. The World Bank's World Governance Indicators try to measure the quality of governance of public institutions. Figure 71 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 72 shows the Voice and Accountability Index, which captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Cyprus is ranked relatively low and took a significant negative turn in 2020, possibly because of the passport scandal.

The public sector wage bill is an indication of the size of the public sector and the salaries paid to civil servants. Figure 73 shows the size of the wage bill as a fraction of GDP. Cyprus' wage bill is relatively high, at similar levels as Scandinavian countries. For a fair comparison, this indicator 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 74 shows Cyprus' performance in e-Government development, which has improved tremendously since 2018. At that time, Cyprus was near the bottom of the rankings along both dimensions examined by the index (e-Government and e-Participation). In 2020 it ranks in the middle of the pack e-Government and is near the top performers in e-Participation.

Description: Government Effectiveness

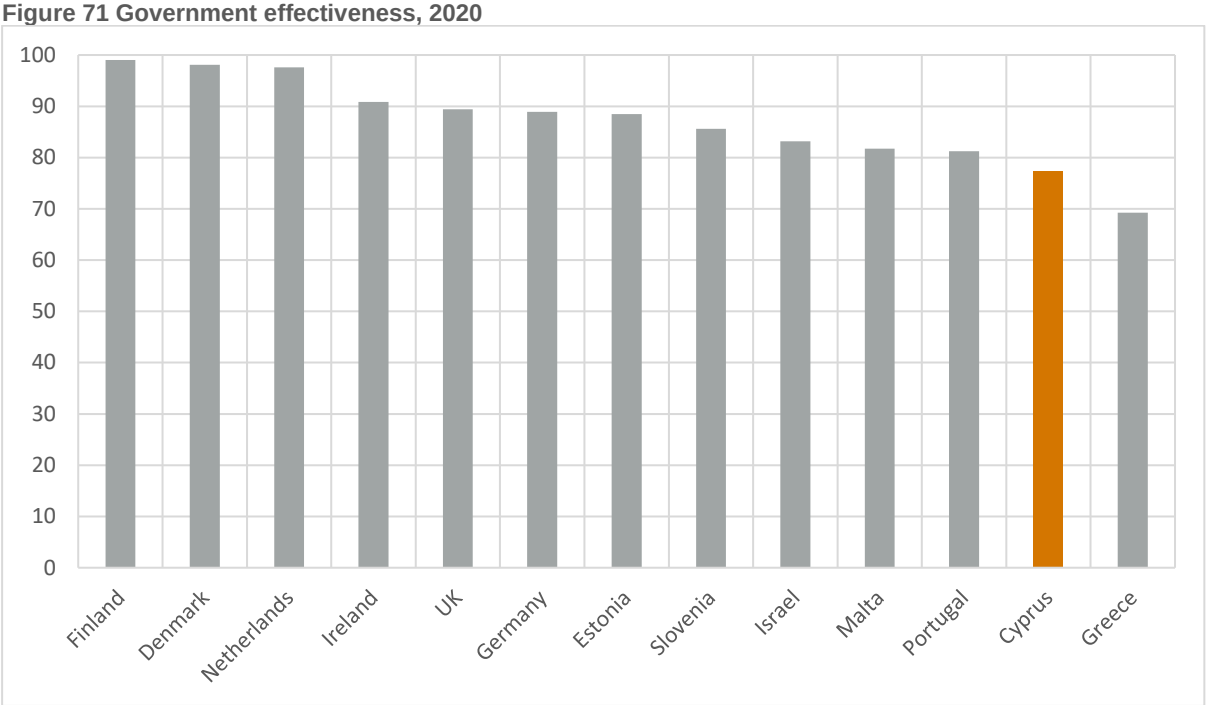
Government effectiveness measures the quality of public services; the quality of the civil service and its independence; the quality of policy formulation and implementation; and the credibility of the government's commitment to such policies. It is based on a variety of existing indicators.

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) rates citizens' informative and participatory services and facilities (with a possible value between zero and one).

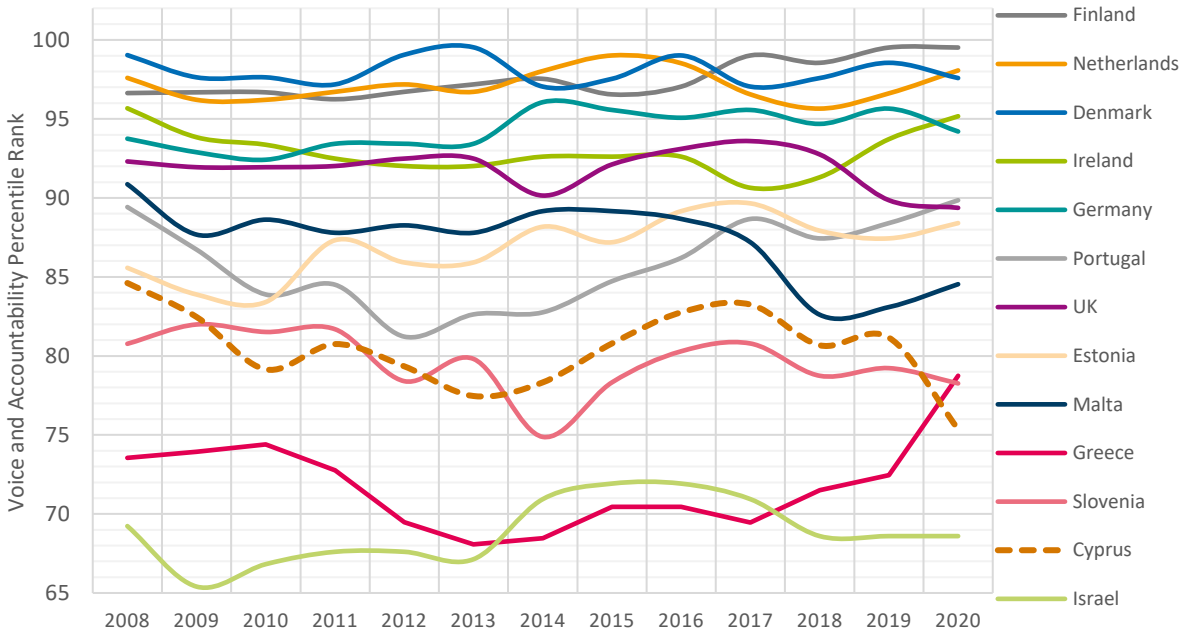
Figure 71 Government effectiveness, 2020



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.

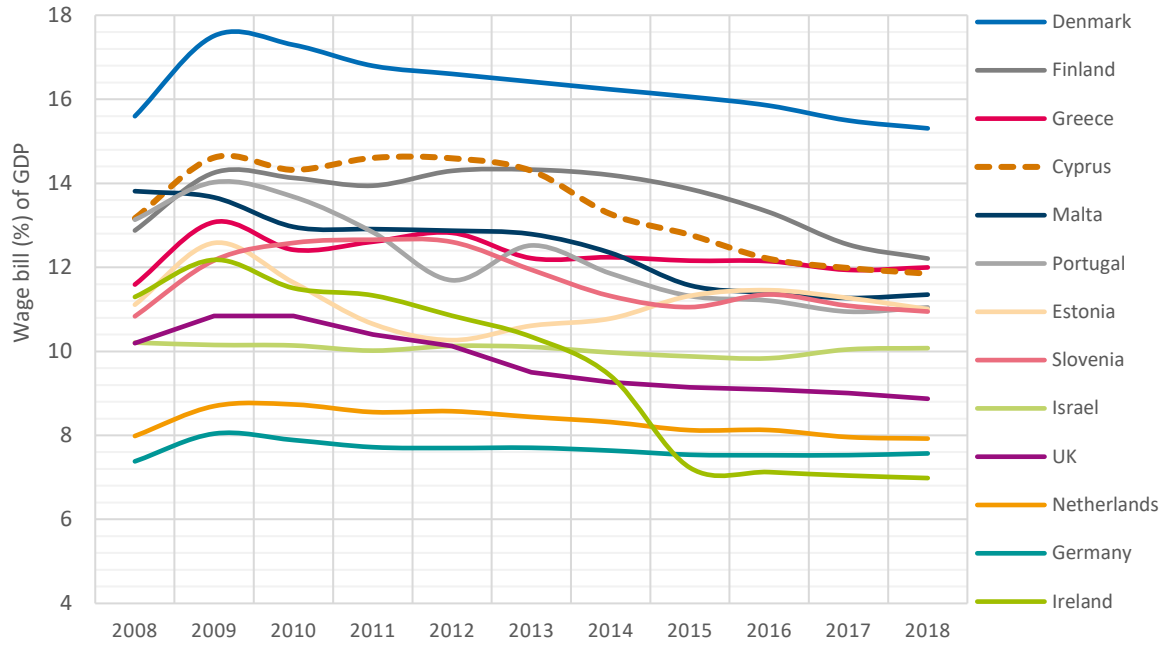
Source: World Bank, WGI: Government Effectiveness.

Figure 72 Voice and Accountability, 2008-2020



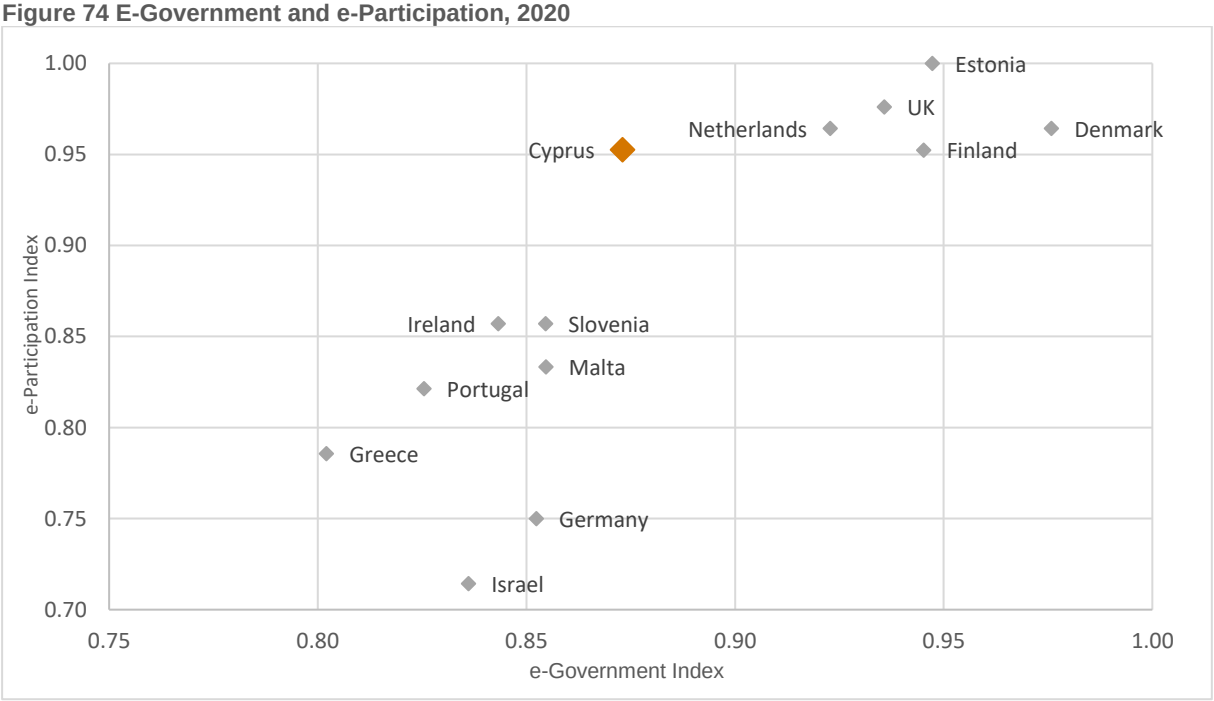
Source: World Bank, WGI: Voice and Accountability.

Figure 73 Renumeration of civil servants, 2008-2018



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

Figure 74 E-Government and e-Participation, 2020

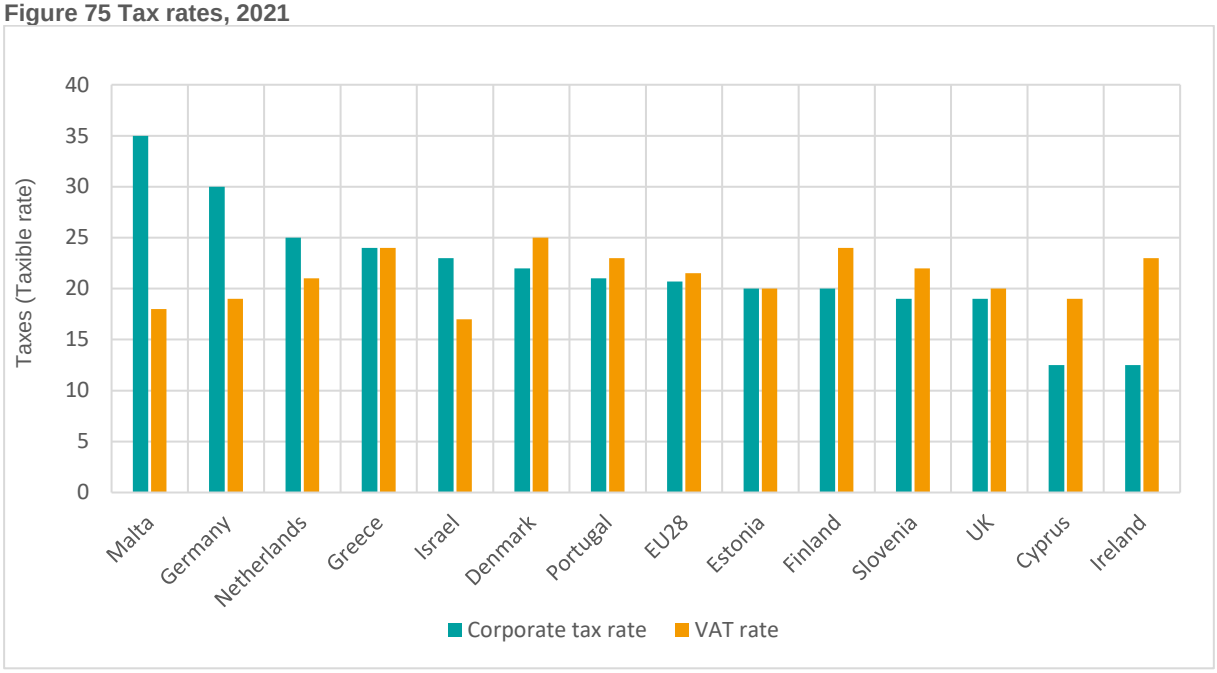


Source: United Nations, e-Government Survey 2020. EDGI and EPI.

Taxation

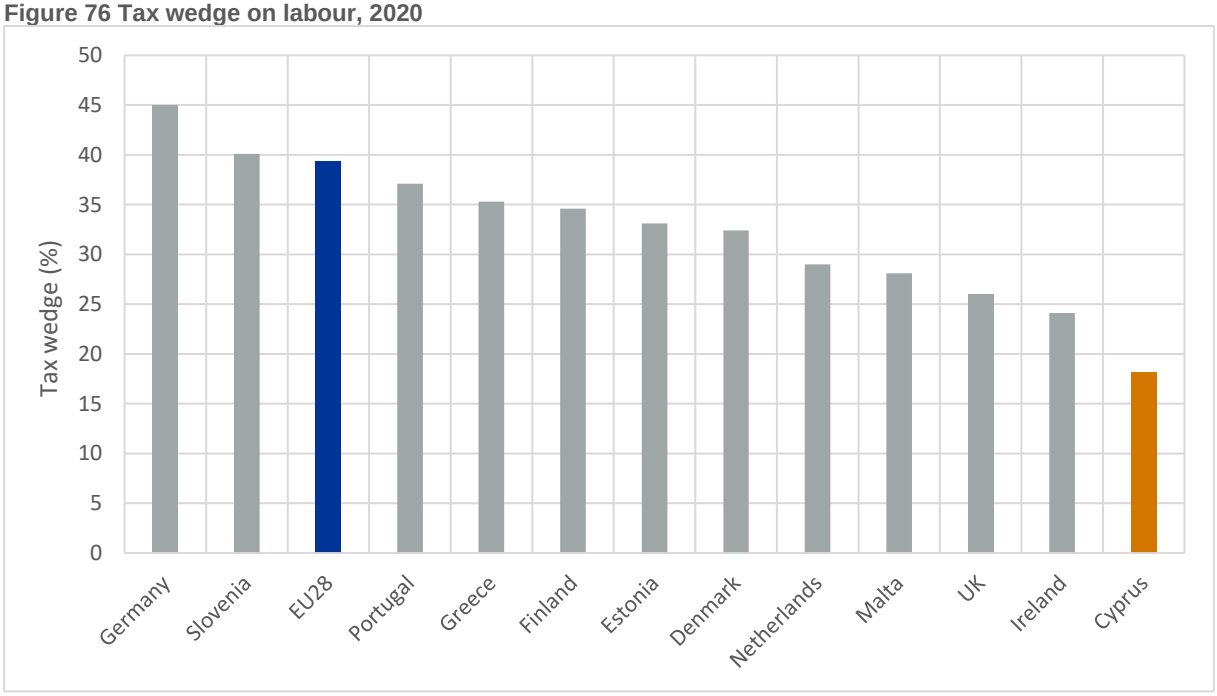
The tax environment in Cyprus is generally attractive. As shown in Figure 75, Cyprus and Ireland have significantly lower corporate tax rates than the other benchmark countries. The Cypriot value-added tax (VAT) rate is also relatively low at 19%, though differences with benchmark countries are small. Figure 76 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 (Figure 55 on page 75), contributes to reducing the cost burden on businesses and enhances the attractiveness of Cyprus as an FDI destination.

Figure 75 Tax rates, 2021



Source: KPMG, Tax Tools 2021; European Commission DG Taxation and Customs Union, Taxation Trends in the European Union Report 2021; and Israel Ministry of Finance Tax Authority (retrieved from Trading Economics, 2021).

Figure 76 Tax wedge on labour, 2020

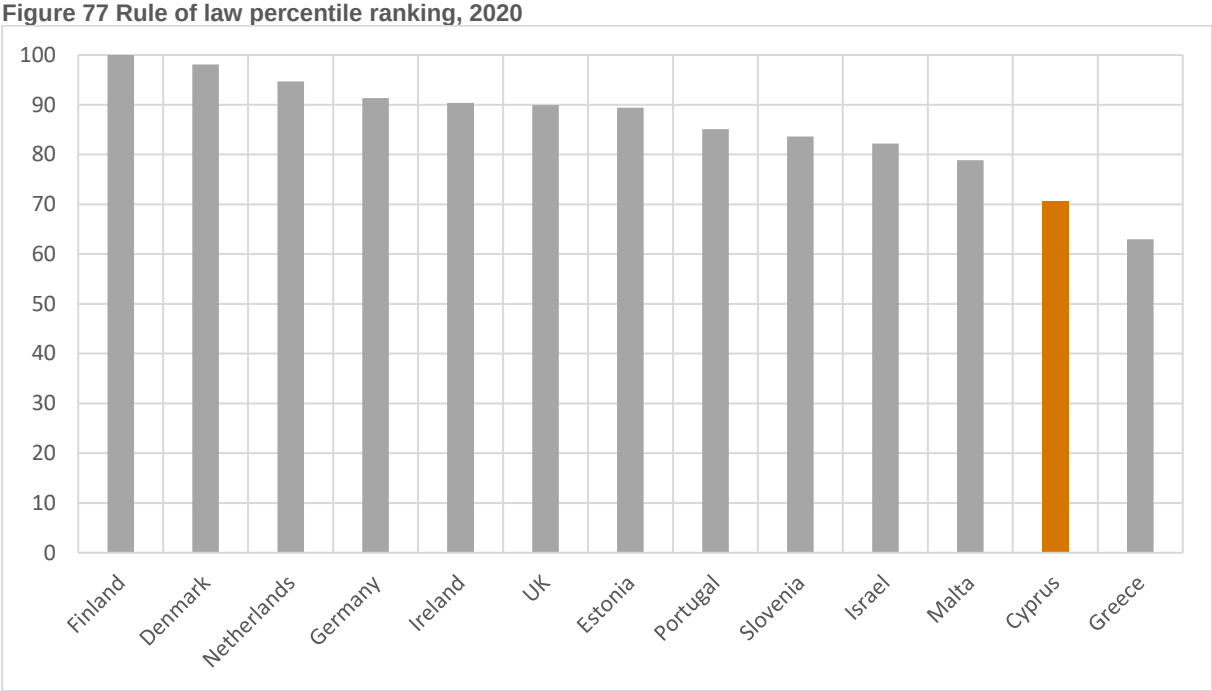


Notes: The tax wedge is defined as the percentage difference between the amount of taxes paid by an average worker (single, without children) and the total labour cost for the employer.
Source: Eurostat, Tax wedge on labour costs [earn_nt_taxwedge] and IMF (2020).

Justice

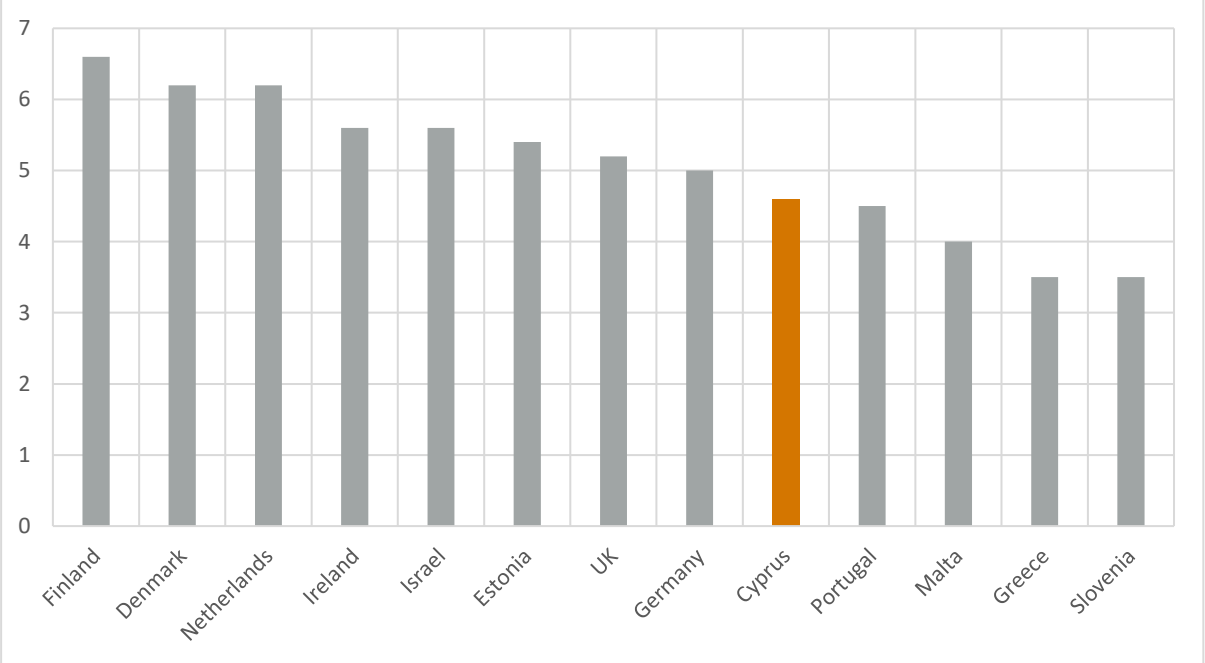
The efficiency, quality and independence of the justice system is an important contributor to the business environment. Several indicators suggest that Cyprus has significant room for improvement in this area. Figure 77 shows the percentile ranking of the benchmark countries in the “rule of law”, a perceptions-based indicator encompassing several aspects of justice and the legal system. Cyprus ranks very low, only doing better than Greece. It ranks somewhat better in terms of judicial independence (Figure 78), though it is still in the bottom half of the benchmark countries.

Figure 77 Rule of law percentile ranking, 2020



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 78 Judicial Independence, 2019



Notes: Response to the survey question "In your country, how independent is the judicial system from influences of the government, individuals, or companies?" [1 = not independent at all; 7 = entirely independent].
Source: World Economic Forum, The Global Competitiveness Report, 2019.

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 79 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, and administrative and other cases and Cyprus ranks last in this regard (Figure 80).

Figure 81 shows that Cyprus spends relatively less on the judicial system (as a share of GDP) and has relatively fewer judges relative to population size. Moreover, the justice system has not adopted ICT in its processes and procedures, marking it out from all other benchmark countries for which data are available (Figure 82). Limited use of technology adversely affects the operations and efficiency of the system.

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.

Justice System Reform in Cyprus

Acknowledging the need to resolve civil cases more efficiently, the Cyprus government has prioritised the reform of the Justice System. The Ministry of Justice and Public Order has proceeded with the adoption of an Action Plan to promote reforms mainly as regards court restructuring, creating specialised courts, enhancing administrative capacity and digitalisation of courts, revision of the Rules of Civil Procedure and addressing the backlog of cases. Implementation of many actions that are included in the Action Plan is ongoing. Progress in promoting efficiency in the delivery of justice includes:

- The operation of the Administrative Court since January 2016, in order to achieve speedy administration of justice in the appellate jurisdiction and simultaneously a rapid adjudication of appeals against the actions of the Administration.
- Enactment of the Courts of Justice (amendment) Law in July 2017, providing for the filtering of the right to file an appeal in civil cases as regards to interlocutory decisions during the proceedings.
- Enactment of the Law for the Establishment and Operation of the Administrative Court of International Protection in July 2018. The new court will enable the Administrative Court to have more time to deal with all other administrative cases.
- The operation of the Administrative Court of International Protection, which undertook from June 2019 the adjudication of any appeal by applicants for international protection, with jurisdiction over the substance.
- Introduction of new detailed and transparent criteria for the recruitment and for the promotion of judges in 2019 by the Supreme Court.
- The implementation and extension of the stenography system for the immediate recording of court proceedings.
- The introduction of an e-justice system and digital audio recording during trials is under way; in the meantime, an intermediate system is being used as of July 2021.
- The delimitation of the right to appeal against decisions in temporary applications.
- A bill amending the Law on Civil Procedure to strengthen the execution of decisions, has been submitted to Parliament.
- A task force of judges has been set up to deal with the backlog of cases. An Action Plan has been prepared to eliminate the backlog of cases and appeals with specific annual targets.
- A new project is underway for the establishment of a new Court Service, to undertake all aspects of management, administration and support of courts, 15 new

judges were appointed in July 2020 and 6 new judges in July 2021.

The successful implementation of these reforms will not only result in improved administration of justice in Cyprus but also contribute to strengthening its competitiveness and attracting foreign investment.

Description: Clearance rate

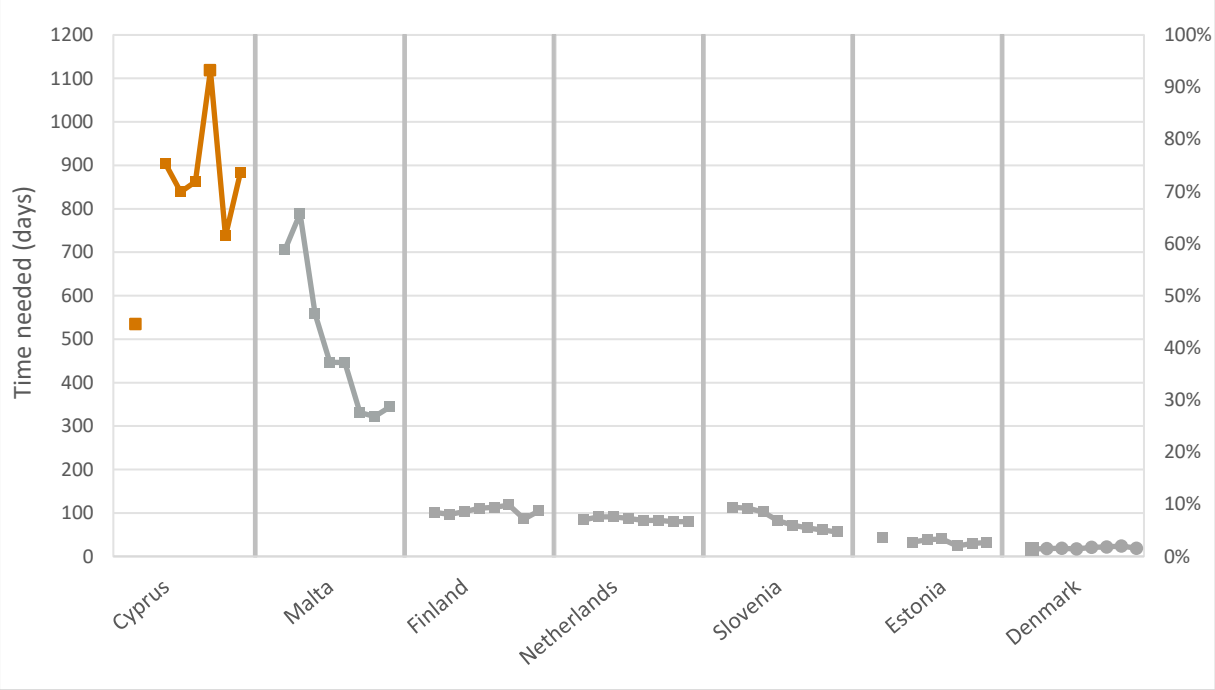
The clearance rate is the ratio of the number of resolved cases over the number of incoming cases. It measures whether a court is keeping up with its incoming caseload. When the clearance rate is about 100 percent or higher, it means the judicial system can resolve at least as many cases as new cases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

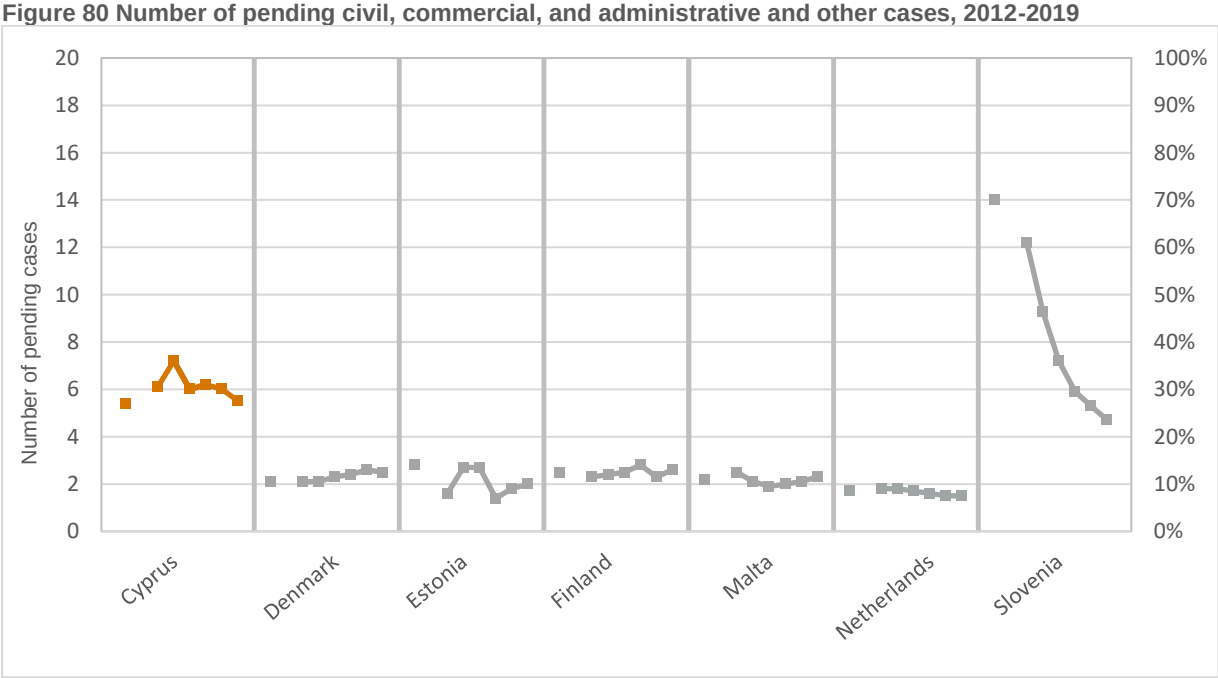
Source: 2021 EU Justice Scoreboard.

Figure 79 Time needed to resolve civil, commercial, administrative and other cases, 2012-2019



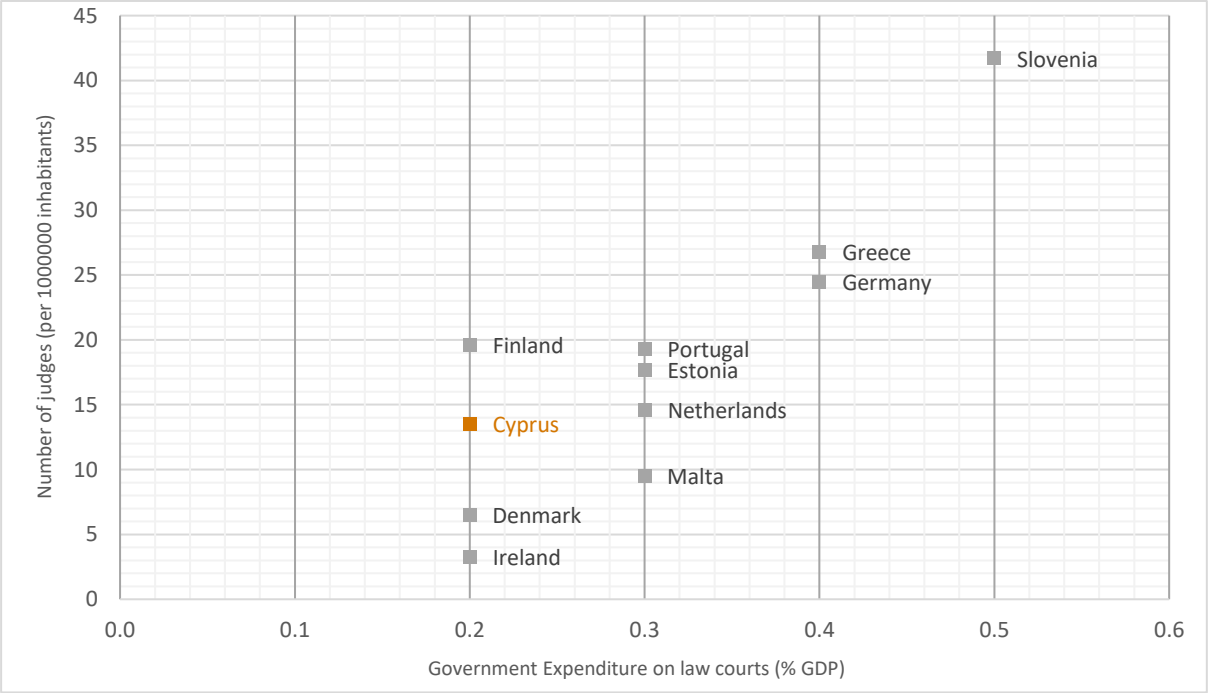
Notes: No data available for Ireland, Israel, UK, Portugal, Greece and Germany.
Source: European Commission for the Efficiency of Justice (CEPEJ) (2021).

Figure 80 Number of pending civil, commercial, and administrative and other cases, 2012-2019



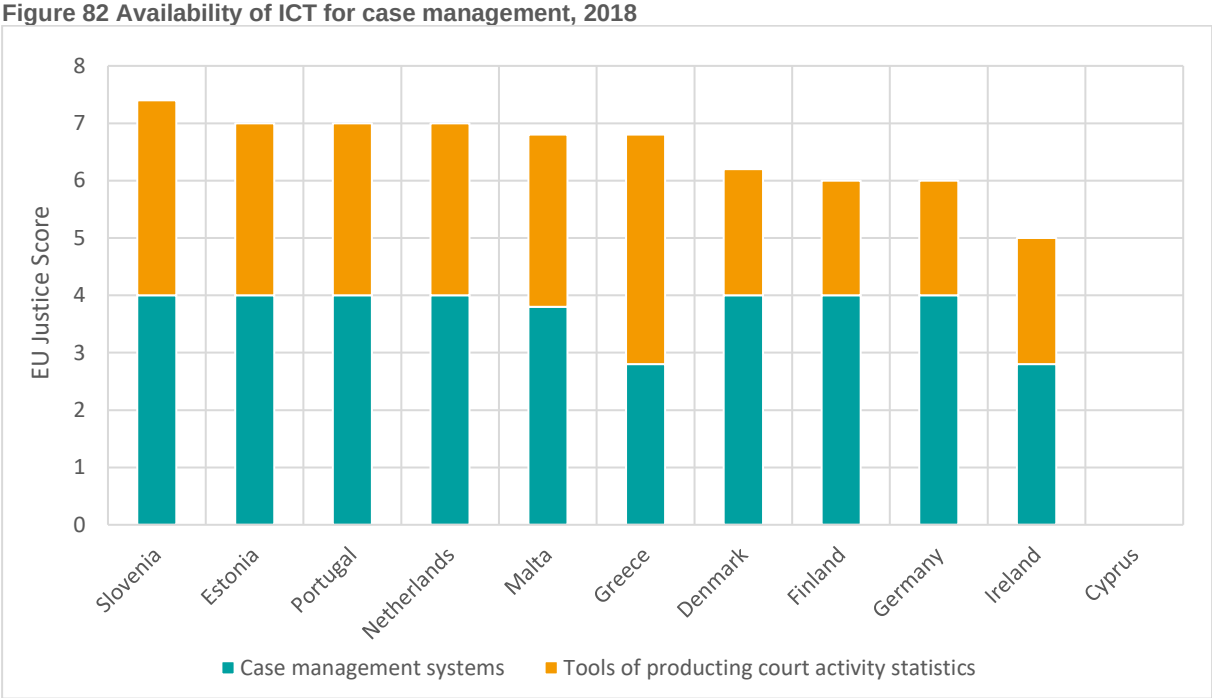
Notes: Number given is per 100 inhabitants. No data available for UK, Portugal, Israel, Ireland, Greece and Germany.
Source: European Commission for the Efficiency of Justice (CEPEJ) (2021).

Figure 81 Expenditure on law courts and number of judges, 2018



Source: Eurostat, General government expenditure by function [gov_10a_exp]; and European Commission for the Efficiency of Justice (CEPEJ) (2021).

Figure 82 Availability of ICT for case management, 2018



Notes: Cyprus scores 0 on the EU Justice Score, indicating that no ICT tools are used in case management.
Source: European Commission for the Efficiency of Justice (CEPEJ) (2018).

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.

Cost and time of starting a business

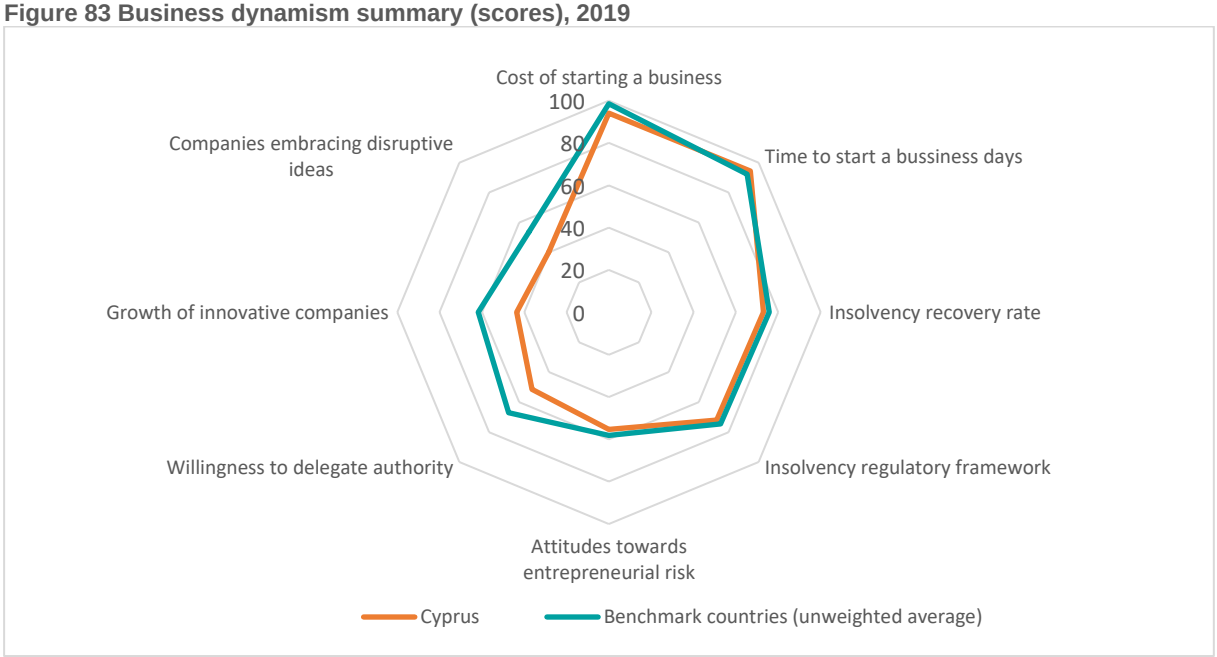
Figure 83 shows summarises the Business Dynamism. Cyprus is doing better regarding the cost of starting and the time to start a business which is comparable to the average of the benchmark countries. With respect to the Insolvency recovery rate and insolvency regulatory framework and comparably with the rest benchmark countries, Cyprus is scoring around 80. On the other hand, it seems that concerning the Companies embracing disruptive ideas, the growth of innovative companies and the willingness to delegate authority, Cyprus falls behind the rest of the benchmark countries with scores 40, 44 and 51 respectively.

Where Cyprus excels, given the small size of the economy, is the presence and connectivity of global service firms. Figure 84 shows a rating of cities based on their connectivity through accounting, advertising, banking/finance and law. Cyprus performs better, in terms of the number of the cities, than Malta, Estonia, Greece, Slovenia, Finland, Ireland and Israel, which makes up half of the benchmark countries. It also compares favourably to Malta, Slovenia and Portugal. This provides evidence of the considerable strength in Cyprus' specific niche of financial and professional services.

Description: Global Cities

The Globalization and World Cities Research Network at Loughborough University classifies cities according to their importance in economic networks. The classification is based on a network model and a data set that covers the presence of service firms such as KPMG, Saatchi and Saatchi, Credit Suisse or Baker & McKenzie. Cities are scored from alpha++ cities, that only include London and New York, down to cities with sufficient services. Nicosia is rated as a Beta city and Limassol as a High sufficiency city.

Figure 83 Business dynamism summary (scores), 2019



Notes: Scores are on a 0 to 100 scale, where 100 represents the optimal situation or 'frontier'
Source: World Economic Forum, Global Competitiveness Report 2019: 11th Pillar: Business Dynamism.

Figure 84 Global Cities, 2020

Notes: Cities are categorised based on their connectivity through four advanced producer services: accountancy, advertising, banking/finance, and law.
Source: Globalization and World Cities Research Network, The World According to GaWC, 2020.

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[13]), 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 less than 10 employees. The share of employment for these micro enterprises account for 83 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 more readily develop new technologies through more formalised innovation activities.

Entrepreneurship

Figure 85 shows the Global Entrepreneurship Index. For this Index, Cyprus performs reasonably well for selected indicators, its position in the overall Global Entrepreneurship Index ranking is relatively weak compared to the benchmark countries. This suggests that the issues are not individual attitudes, activities, or aspirations, but rather the institutional support network, ranging from soft factors such as societal

[13] 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.

perceptions of entrepreneurship to hard factors such as access to finance

From Figure 86 it appears that only a very low proportion of employees engage in entrepreneurial activities, such as developing new products or setting up new business units within their own firms. This contrasts with a high percentage compared to most benchmark countries that report an intention to start a new business within the next three years. This suggests that constraints on entrepreneurship within firms exist but, conversely, individuals have a considerable appetite to engage in entrepreneurial activities.

Other factors that have been identified by the European Commission as affecting entrepreneurship in Cyprus include a lack of media attention, limited entrepreneurship education at primary school and post-secondary levels, the relatively high cost of resolving insolvency, and a high fear of failure (European Commission, 2017a).

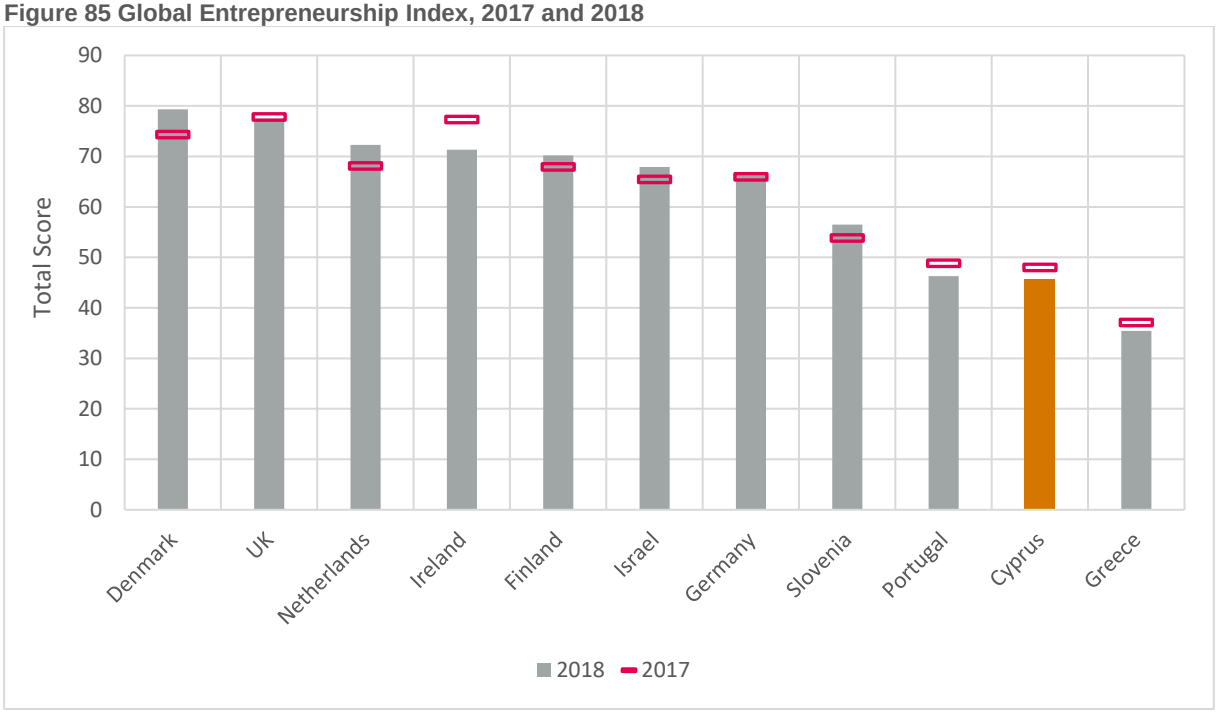
Description: Global Entrepreneurship Development Index

The Global Entrepreneurship Development Index (GEDI) is an annual index that measures the health of the entrepreneurship ecosystems in 137 countries. GEDI includes three sub-indices and 14 'pillars', as follows:

- Attitudes includes the pillars Opportunity Reception, Start-up Skills, Risk Acceptance, Networking and Cultural Support;
- Abilities includes the pillars Opportunity Start-up, Technology Absorption, Human Capital and Competition;
- Aspiration includes the pillars Product Innovation, Process Innovation, High Growth, Internalization and Risk Capital.

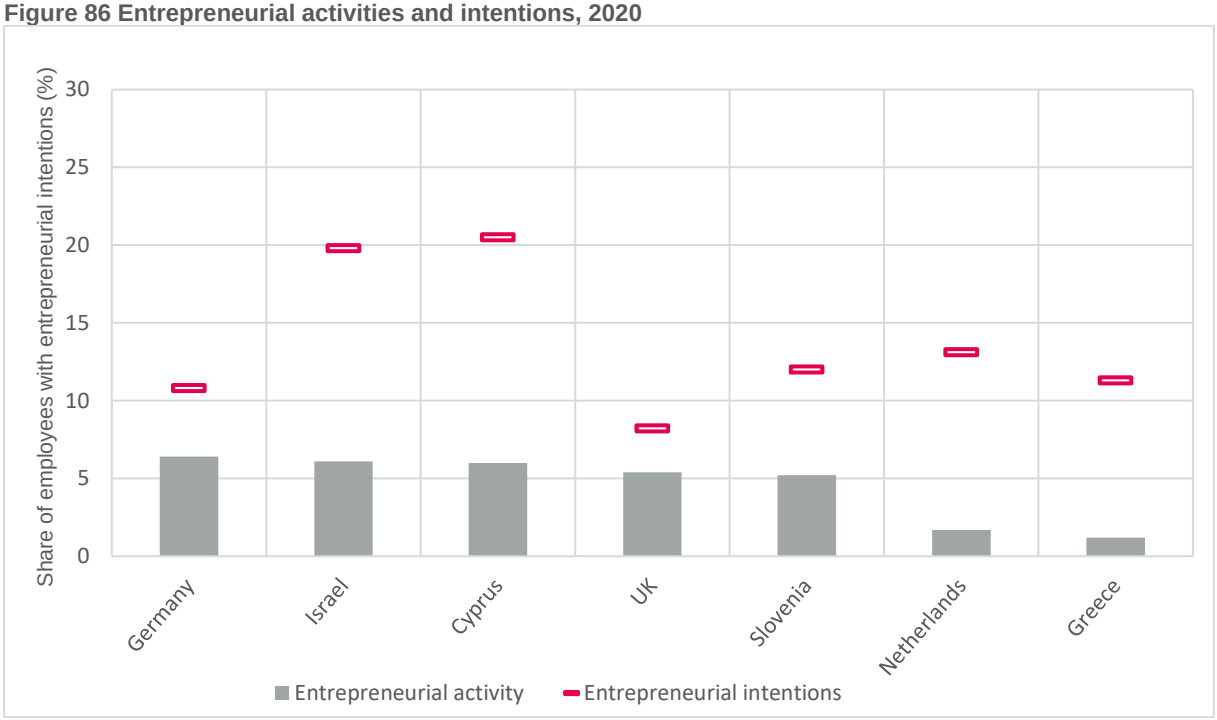
GEDI distinguishes between institutional and individual factors, with the former including factors such as property rights, education or the depth of capital markets. The latter includes factors such as perceptions on skills or risk, or the perceived presence of strong competitors. The index is scaled between zero and one, with one indicating the healthiest entrepreneurship ecosystem.

Figure 85 Global Entrepreneurship Index, 2017 and 2018



Notes: 137 countries are assessed by the index. No data available for Malta.
Source: Global Entrepreneurship Development Institute, Global Entrepreneurship Index Report 2019.

Figure 86 Entrepreneurial activities and intentions, 2020



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.

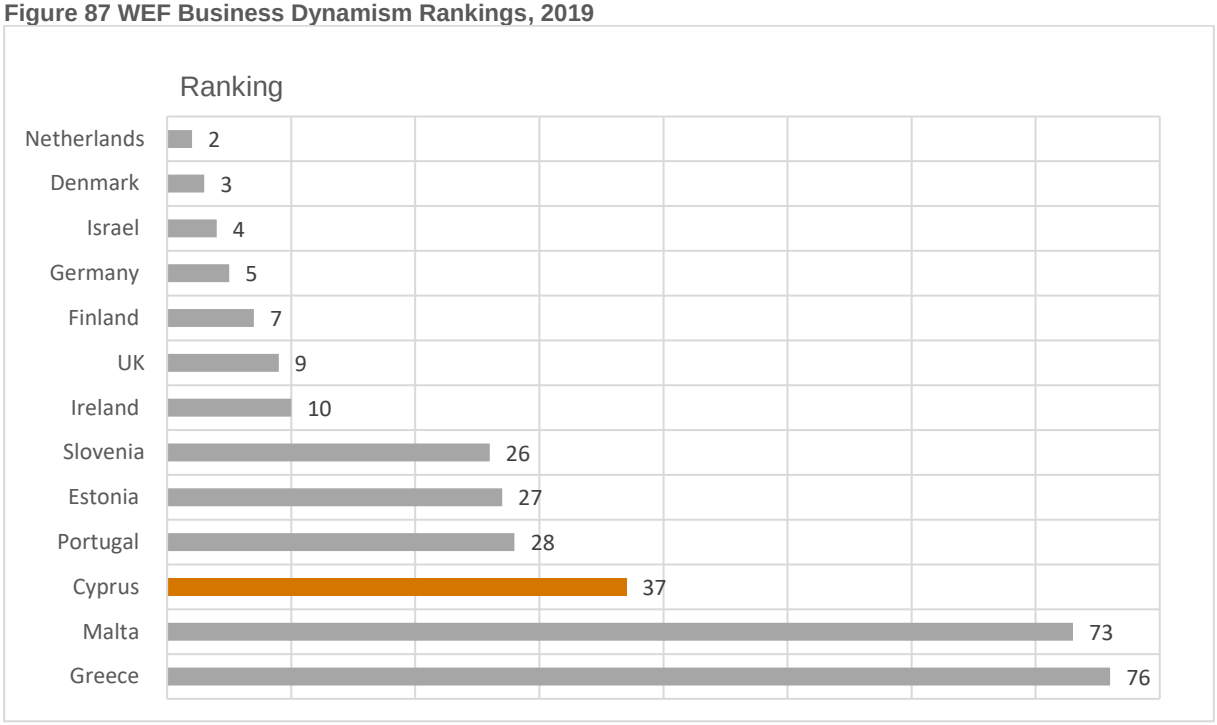
Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor Global Report 2020/2021.

Business dynamism and business sophistication

Both the World Economic Forum and the Global Innovation Index show that business dynamism in Cyprus is relatively low. It ranks 37th out of the 141 economies covered in the World Economic Forum. Most of the benchmark countries are ranked much higher, with seven of them found in the top 10 (Figure 87). Cyprus only does better than Malta and Greece, which are far behind at 73 and 76 respectively.

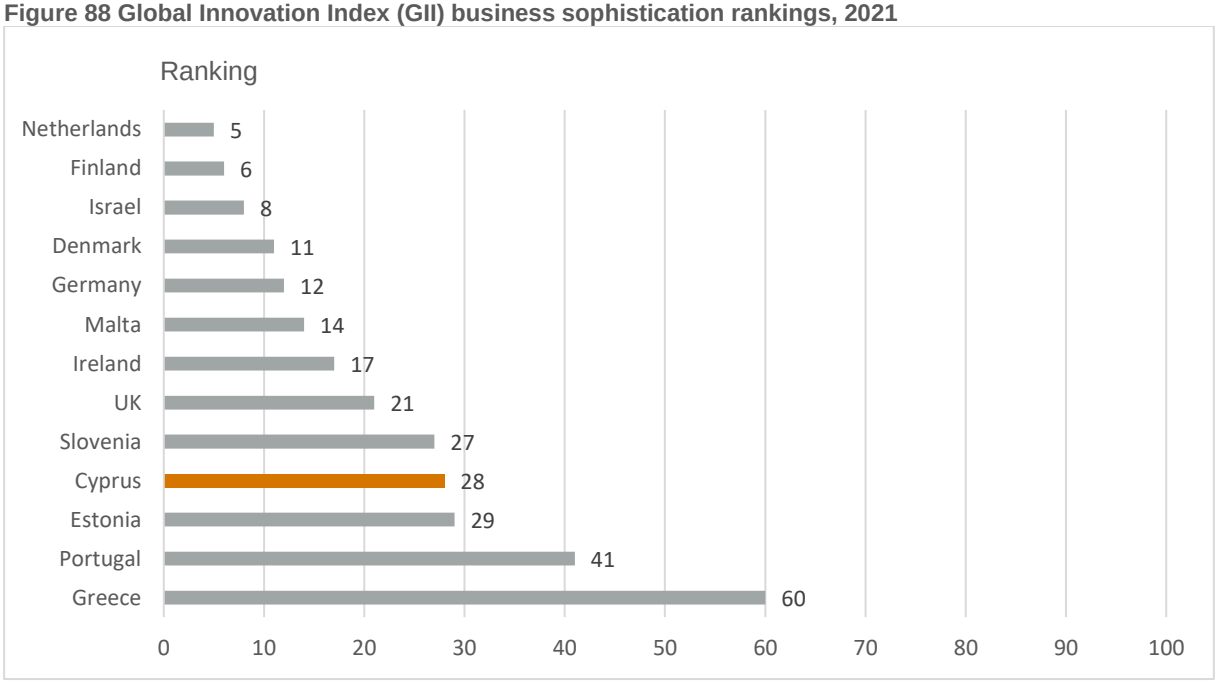
On the positive side, Cyprus has shown some improvement since 2017 in the Global Innovation Index business dynamism rankings (Figure 88). It has improved its score from 31 to 28, and now does better than Estonia, Portugal and Greece.

Figure 87 WEF Business Dynamism Rankings, 2019



Notes: The 2019 WEF covers 141 economies
Source: World Economic Forum, Global Competitiveness Report 2019, 11th Pillar: Business Dynamism

Figure 88 Global Innovation Index (GII) business sophistication rankings, 2021



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

Intangible assets

Figure 89 shows the share of investment in different asset types. As a proportion of total business investment, investment in intangible assets in Cyprus is broadly comparable to the EU average and the benchmark countries. Moreover, as depicted in Figure 90, investment intensity (total investment per employee) has improved significantly since 2017, when Cyprus was at the bottom of the group. The increase in investment since then has pushed Cyprus above four countries, and closer to the EU average.

Nonetheless, the overall level of investments in Cyprus is below that of most benchmark countries. Even more worryingly, Cyprus seems to direct a large fraction of its investment in land and buildings. It invests less than other countries in machinery and equipment and R&D, which are investments that can raise productivity and long-run growth potential. Overall, Cyprus needs to invest more, particularly in productivity-enhancing activities.

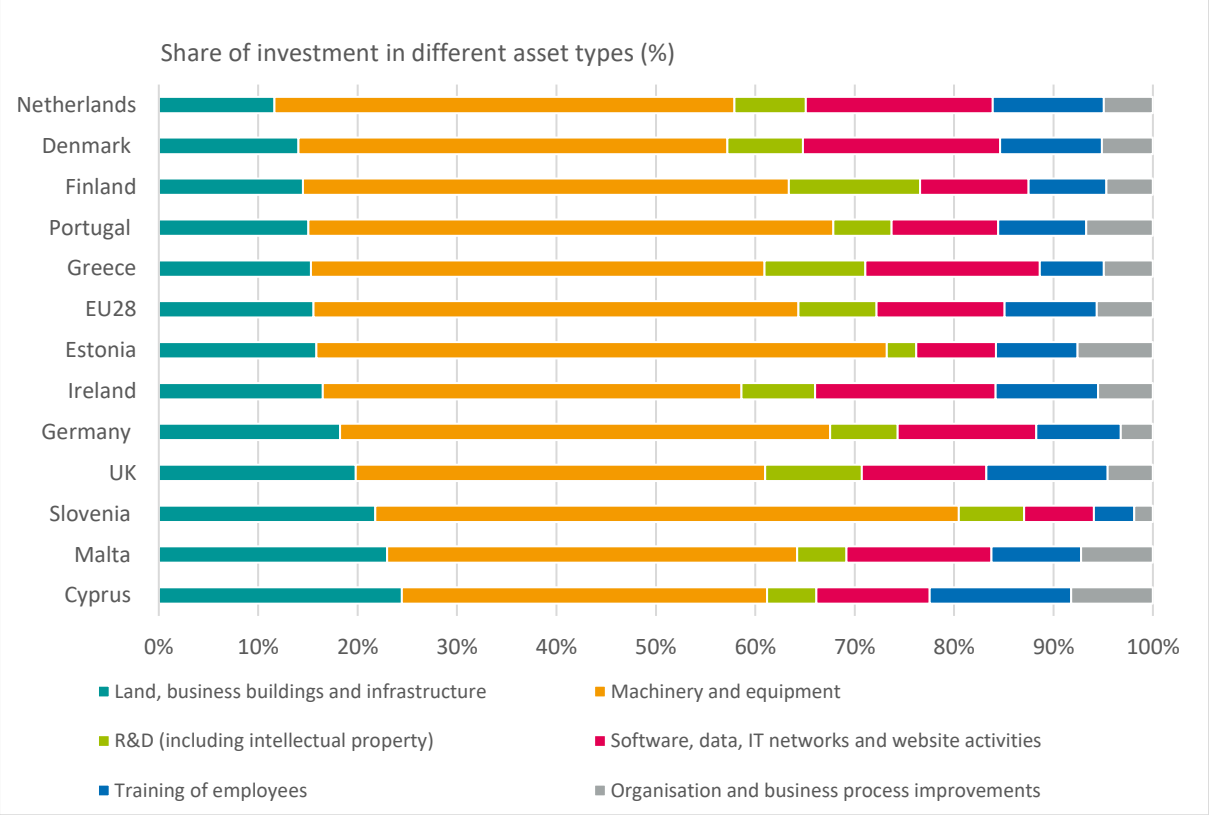
Description: Intangible assets

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.

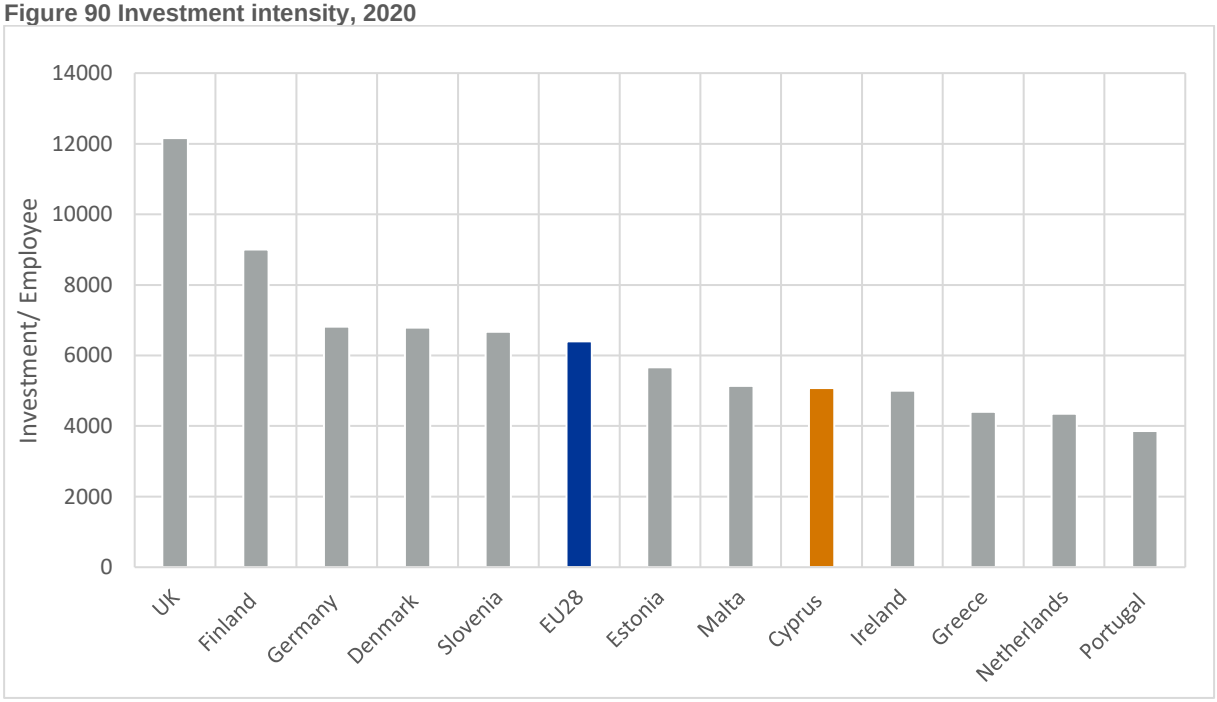
Source: Thum-Thysen et al. (2017).

Figure 89 Investment by asset type, 2020



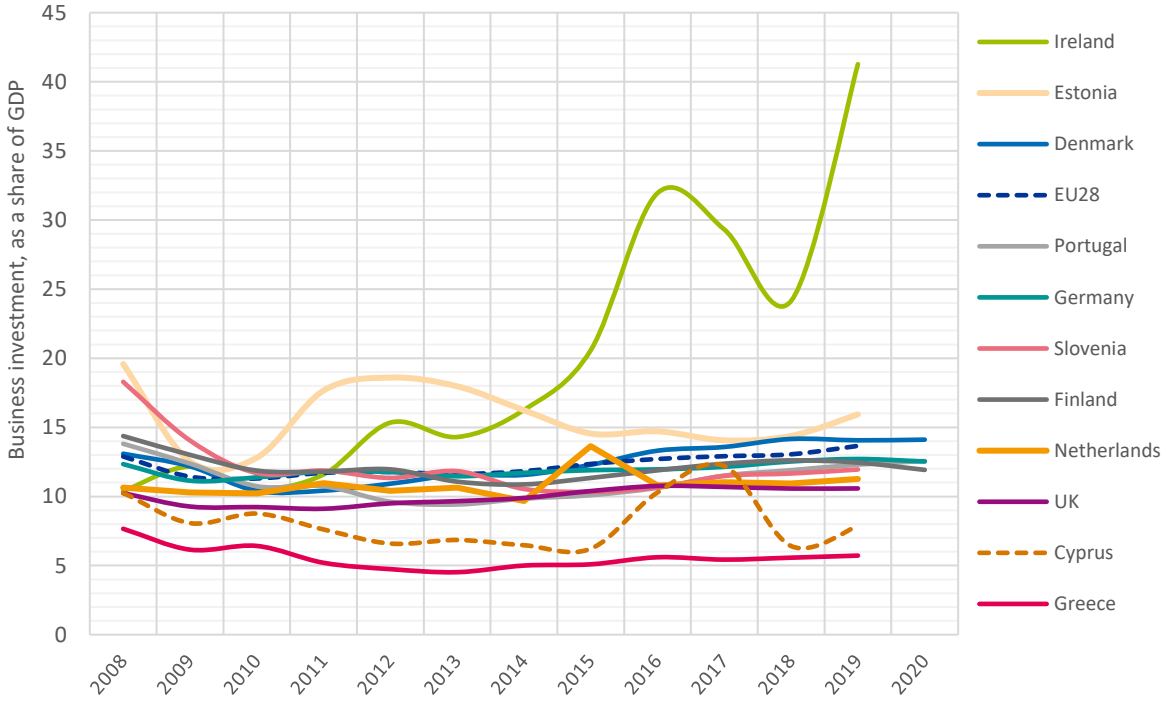
Note: No data available for Israel
Source: EIB Investment Survey, Investment Activity: Average share of investment in different asset types, 2020.

Figure 90 Investment intensity, 2020



Source: EIB Investment Survey, Investment intensity: Total investment per employee, 2020

Figure 91 Business investment, 2008–2020



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

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 telecommunication infrastructure.

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.

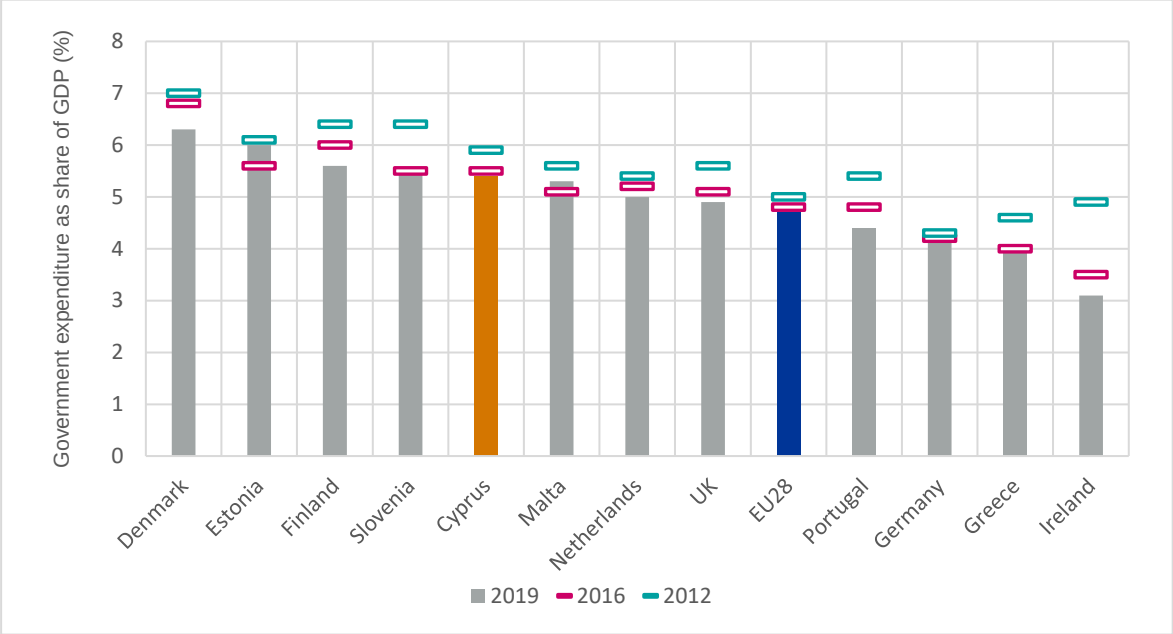
Education system

Figure 92 shows the government expenditures in education. As it seems, Cyprus spends quite a bit on education. Government spending in 2019 was 5.4 percent of GDP, slightly above the median benchmark country and higher than the 4.7 percent EU28 average. Furthermore, Figure 93 shows the private spending on education and it seems that Cyprus has by far the highest level, with 2.1 percent of GDP The next highest countries are Greece at 1.6 and the UK at 1.5, and the EU28 average is just 0.6 percent. Cyprus ranks first in total (public and private) spending on education, at 7.5 percent.

As shown in Figure 94, Cyprus also has one of the highest proportions of the population that has completed tertiary-level education, 40.2 percent. A further 38.8 percent have completed secondary education. This compares to a Euro area average of 29.9 percent of the population having tertiary education, and 42.8 percent with secondary education. Moreover, Cyprus currently has the second highest share of 25- to 34-year-olds with tertiary education of all benchmark countries, as shown in Figure 96, with 57.8 percent compared to a Euro area average of 41.1 percent.

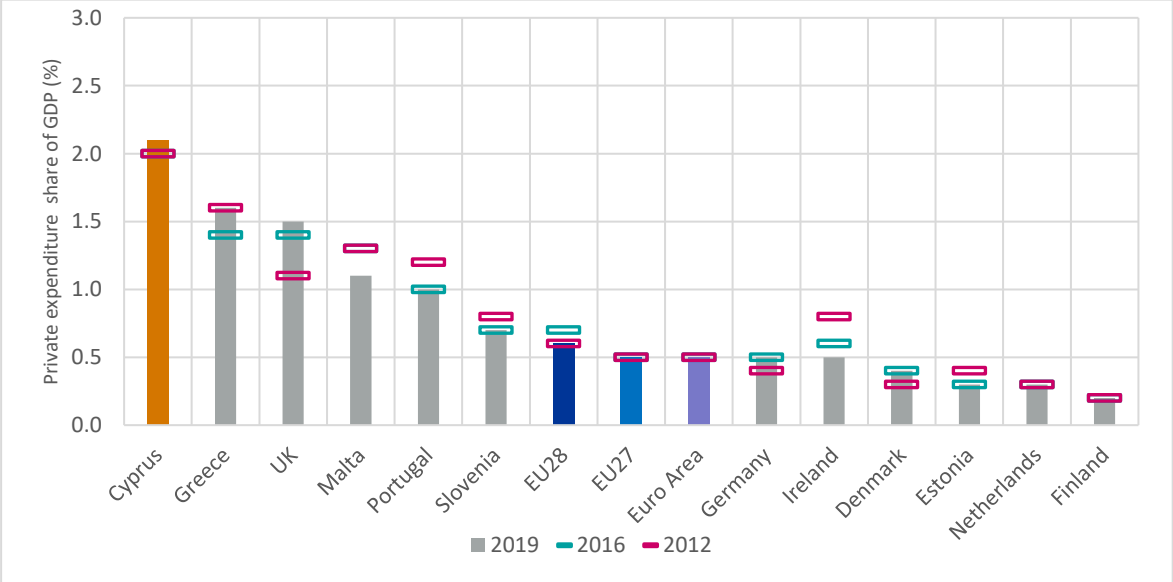
While overall tertiary educational levels are impressive, as shown in Figure 97, Cyprus has a comparatively low share of pupils enrolled in vocational secondary education (the lowest among benchmark countries), with only 17 percent compared to the EU28 average value of 48 percent. The low level of vocational 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 92 Government expenditure in education, 2012, 2016 and 2019



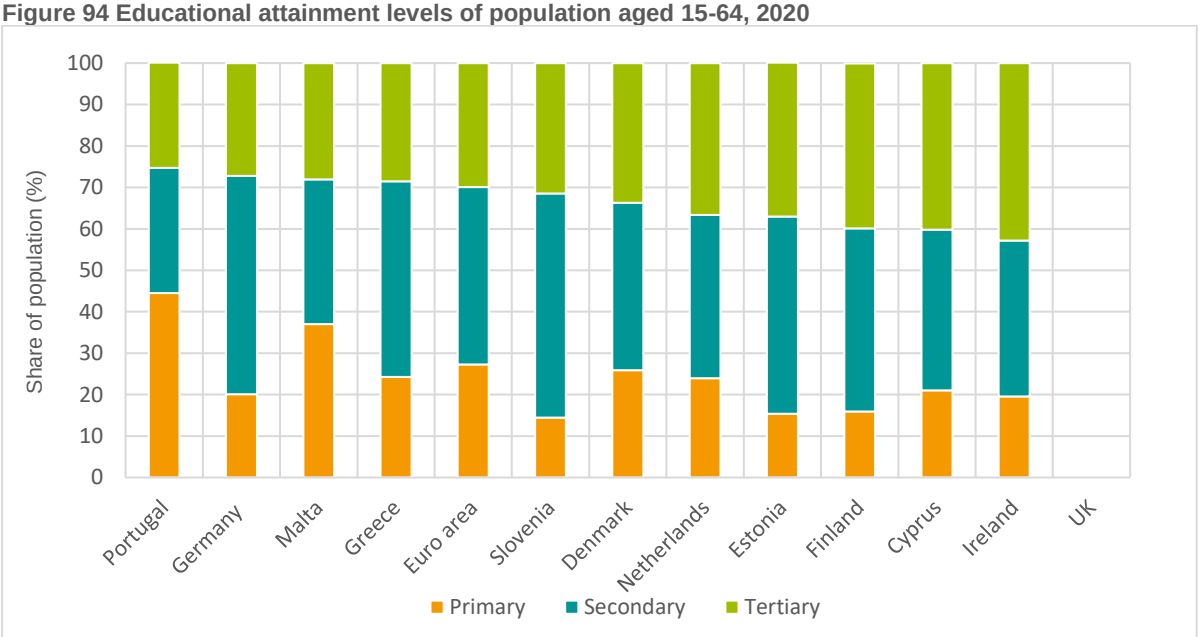
Notes: No data for Israel
Source: Eurostat, General government expenditures by function [gov_10a_exp].

Figure 93 Private expenditure in education, 2012, 2016 and 2019



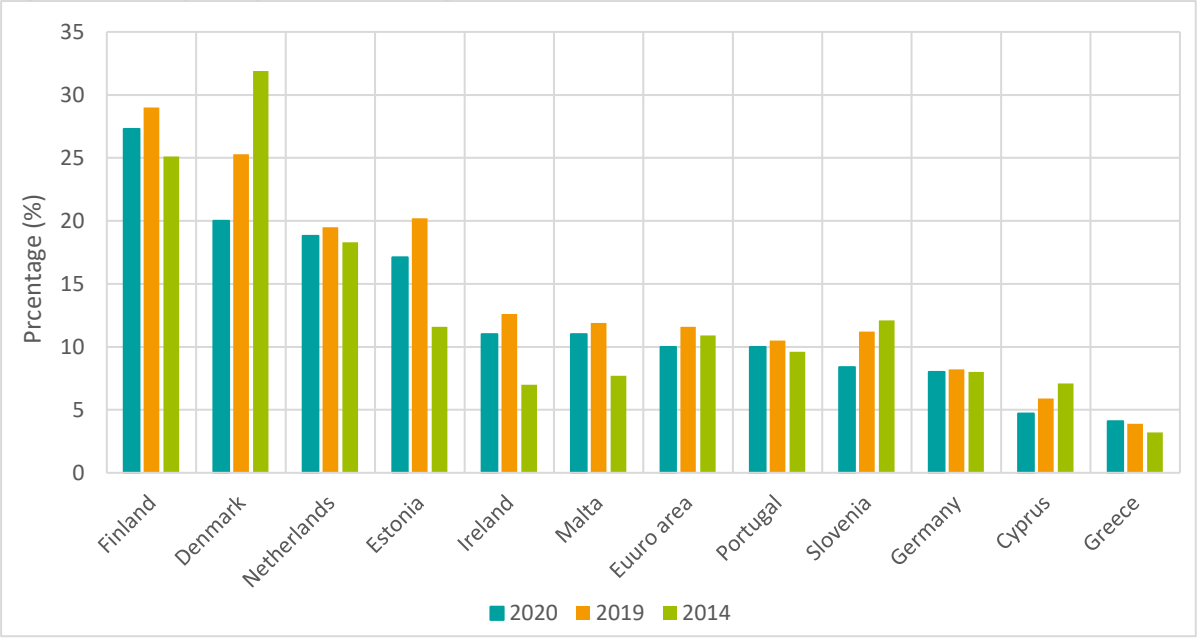
Notes: No data for Israel
Source: Eurostat, Final consumption expenditure of households by consumption purpose (COICOP 3 digit) [nama_10_co3_p3]

Figure 94 Educational attainment levels of population aged 15-64, 2020



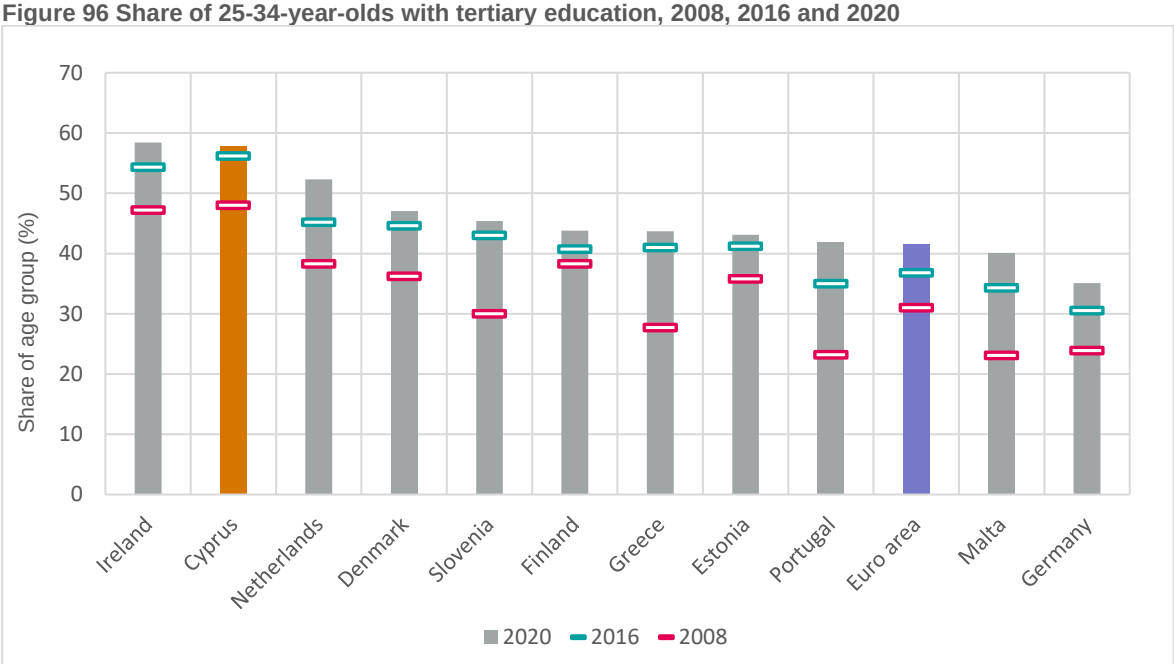
Notes: No available data for UK and Israel.
Source: Eurostat, Population by educational attainment level [edat_lfse_03].

Figure 95 Adult participation in learning, 2014, 2019 and 2020



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

Figure 96 Share of 25-34-year-olds with tertiary education, 2008, 2016 and 2020

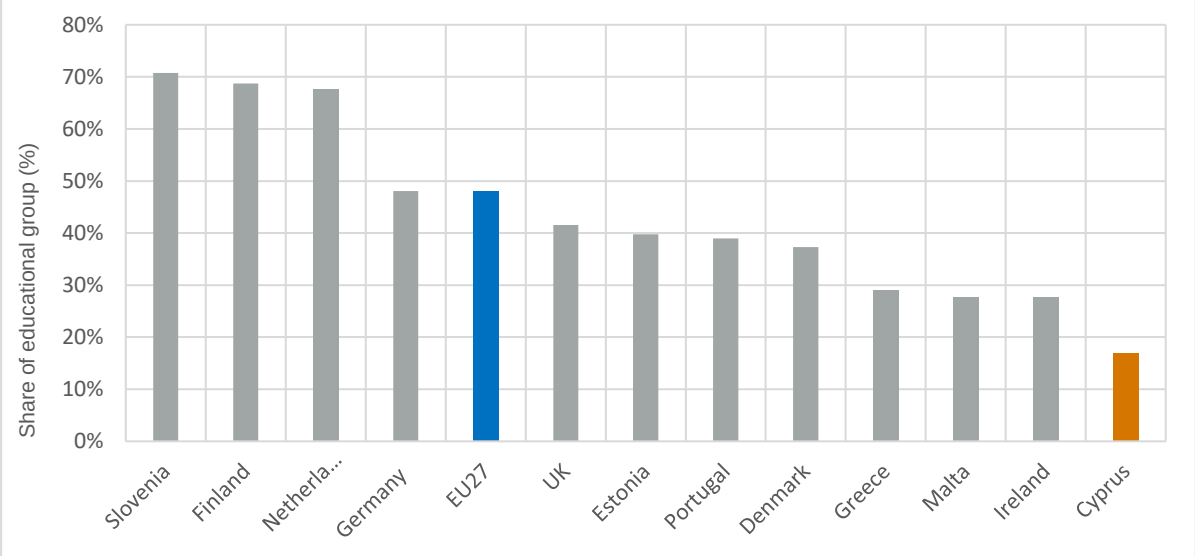


Notes: No data available for UK.
Source: Eurostat, Population by educational attainment level aged 25-34 [edat_lfse_03].

Alongside a low rate of vocational education, among the benchmark countries, as depicted in Figure 98, Cyprus also has the lowest proportion of Science, Technology, Engineering and Mathematics (STEM) graduates among 20-29-year-olds. The country with the highest number, Ireland, has 36.9 STEM graduates per thousand individuals aged 20-29, over three times the number in Cyprus.

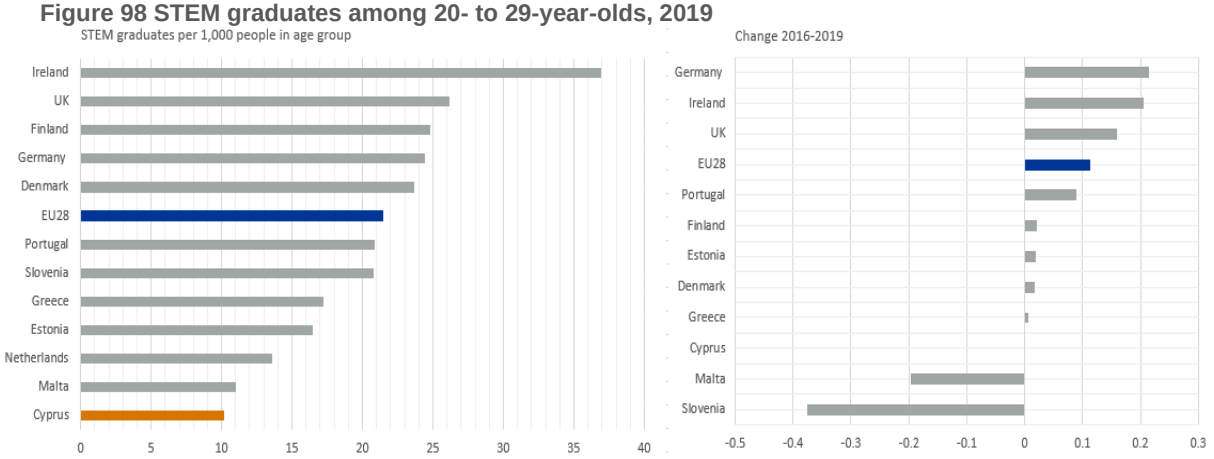
Figure 99 shows the fraction of early school leavers, i.e. students who fail to obtain upper-secondary qualification or equivalent). This proportion is 11.5 percent in Cyprus, 1.3 percentage points higher than the Euro area average. Greece performs best with a rate of 3.8 percent while Malta has the worst outcome at 16.7 percent. In most of the benchmark countries, the fraction of early leavers is declining, but in Cyprus the early school leaving rate actually rose in the last two years.

Figure 97 Vocational enrolment as share of secondary education enrolment, 2019



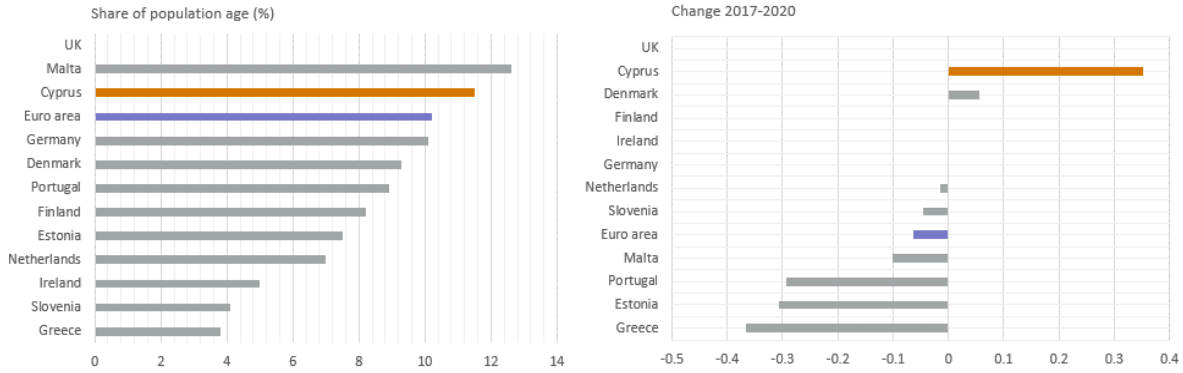
Notes: No data available for Israel.
Source: Eurostat, Pupils enrolled in upper secondary education by programme orientation, [educ_uoe_enrs04].

Figure 98 STEM graduates among 20- to 29-year-olds, 2019



Source: Eurostat, Graduates in tertiary education, in science, math., computing, engineering, manufacturing, construction per 1000 of population aged 20-29 [educ_uoe_grad04].

Figure 99 Early school leavers in the young population, 2020



Source: Eurostat, Early leavers from education and training as percent of population aged 18-24, 2020. For Israel, European Training Foundation.

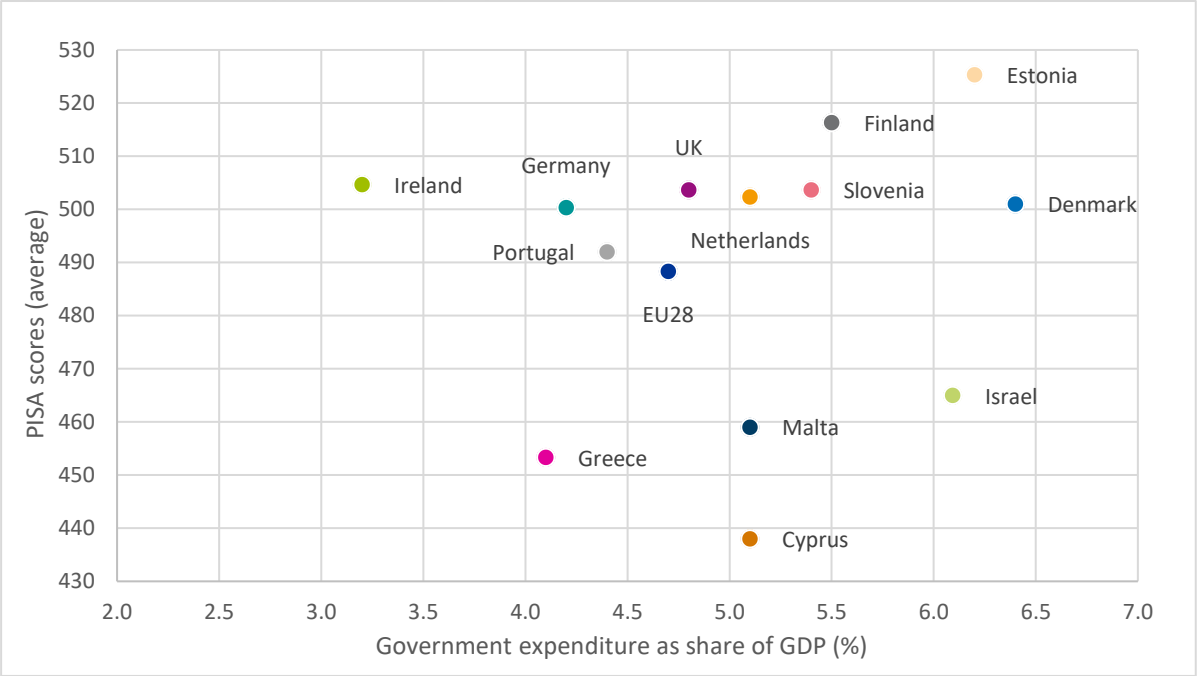
Educational performance and skills

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 100 shows that Cyprus has the lowest PISA results for science, mathematics and reading among the benchmark countries and is behind the EU average. Although standardised test scores can be criticised 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. More broadly, as shown in Figure 101, digital skill levels in the population are low. Among the benchmark countries, Cyprus's share of 16–74-year-olds reporting they have basic or above basic digital skills, is 25 percent, compared to an EU average of 33 percent. At the same time, 31 percent of firms in Cyprus report that they provide ICT training, which is above the EU average and comparable to most benchmark countries.

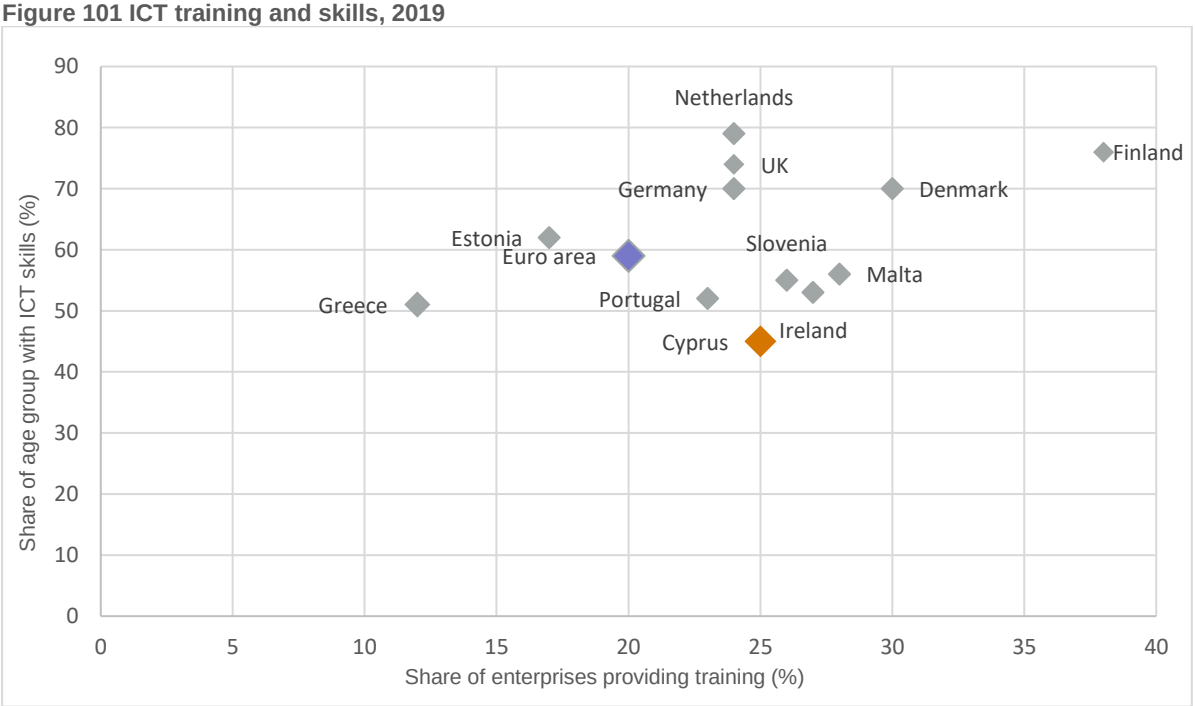
The comparatively low level of science and digital skills can be viewed in the context of various indicators that point to low levels of adoption of digital technologies in the private sector (Figure 112). Even if current demand for STEM or digital skills is modest, the increasing importance of digital 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 new and emerging trends.

Figure 100 Educational performance by expenditure, 2018



Notes: Unweighted average of PISA scores for Mathematics, Science and Reading, own calculation.
Source: PISA, Mean scores, 2018; Eurostat, General government expenditures by function.

Figure 101 ICT training and skills, 2019



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.
Source: Eurostat, Individuals' level of digital skills, [isoc_sk_dskl_i], and Enterprises that provided training to develop/upgrade ICT skills of their personnel [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 does seem 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 on page 40) and a comparatively high proportion of young persons who are not in employment, education, or training (Figure 54 on page 74). 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 education and the labour market are also apparent from estimates of skills mismatch (Figure 102) displays the level of skills mismatch by industry for all the benchmark countries. Based on the proportion of tertiary education graduates currently employed in low-skilled jobs, Cyprus has one of the highest levels of over-qualification in the workforce among the benchmark countries, particularly in manufacturing, construction, professional services, wholesale and retail distribution, and public administration.

Similarly, a mismatch of horizontal skills Figure 103) suggests 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 obviously 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.

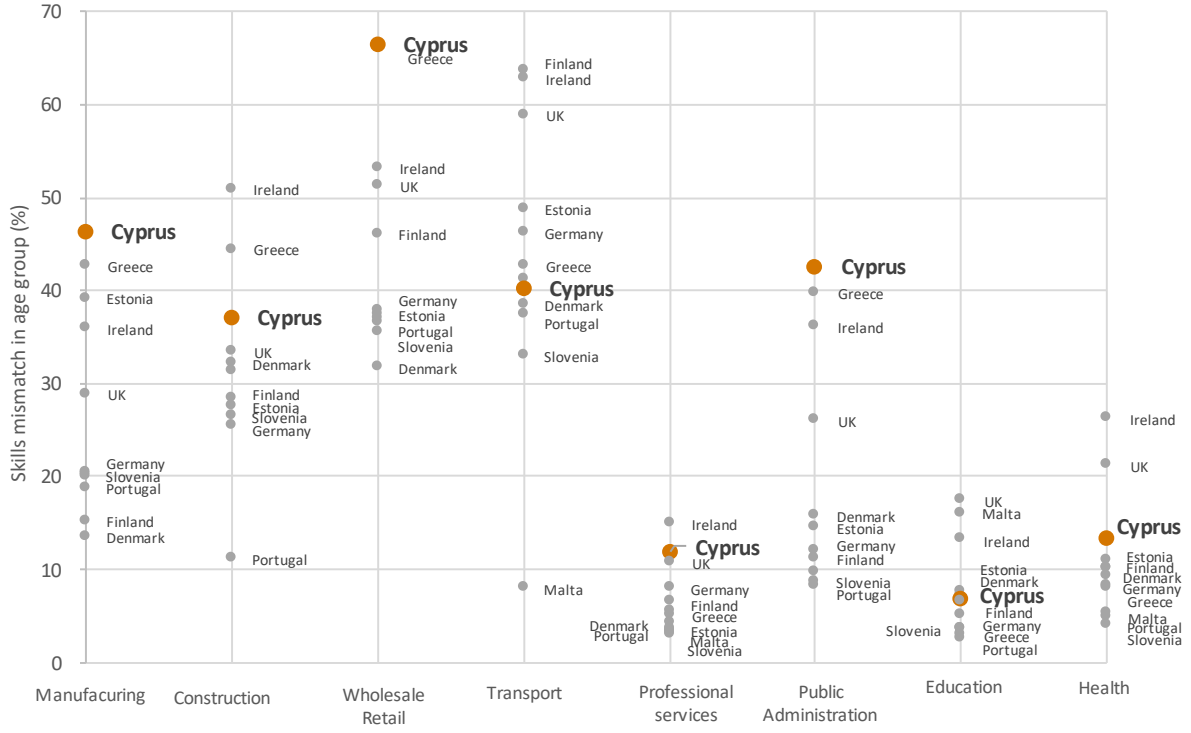
Description: Skills mismatch

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.

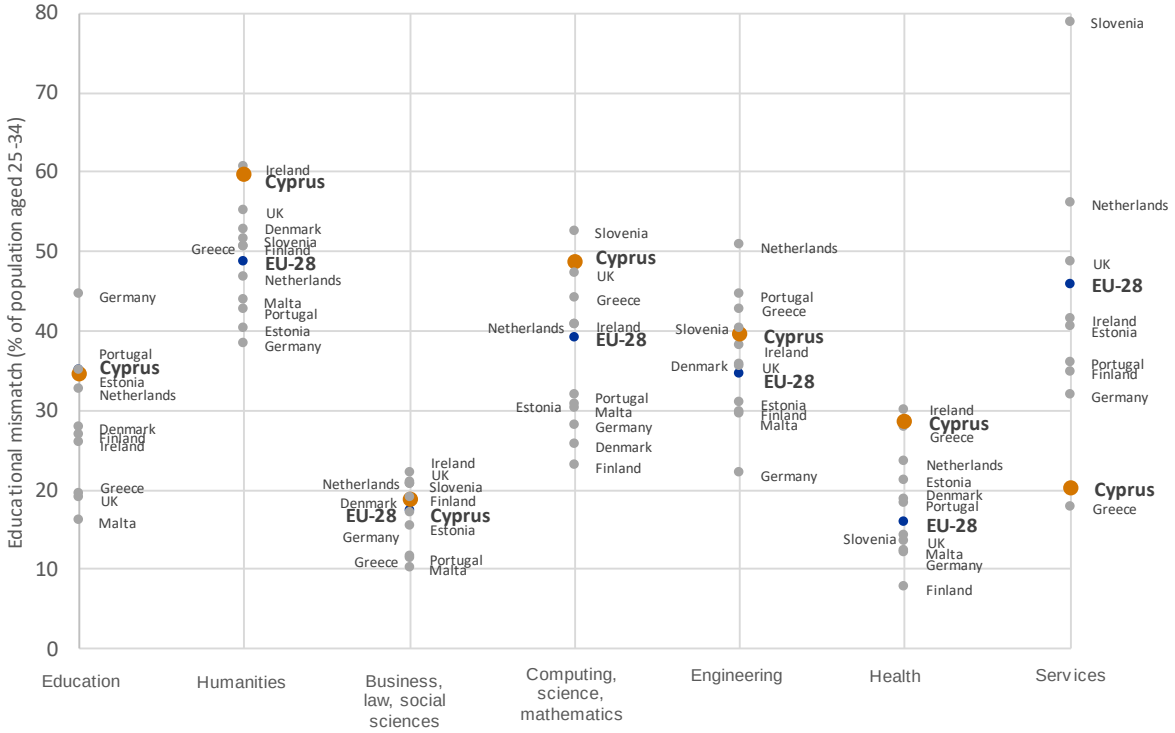
Source: https://ec.europa.eu/eurostat/web/skills/background/experimental-statistics

Figure 102 Vertical skills mismatch per industry, 2019



Source: Eurostat, Vertical skills mismatch: over-qualification rate, 2019.

Figure 103 Horizontal skills mismatch per subject area, 2019



Source: Eurostat, Horizontal skills mismatch: field of education, 2019.

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 organisational methods, new business practices, and new ways of organising 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 ranks below the EU average (Figure 104). It lags particularly behind Northern European countries but is comparable to other small and Mediterranean countries. The good news is that Cyprus' performance has been rising since 2017, narrowing the gap between it and the leading countries.

Most the countries increased their score in EIS 2021 (perhaps because of the pandemic). Specifically, 27 showed an improvement in performance whereas only 11 witnessed a fall. Cyprus and Estonia indicated the greatest improvement in the Summary of Innovation Index of EIS. Cyprus is currently classified as a Moderate Innovator. The significant improvement of Cyprus is due to very strong increases in several indicators, including product innovators, innovative SMEs collaborating with others, venture capital and broadband penetration.

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 outflows (Figure 105). For the sub-index creative outputs (Figure 106), the Global Innovation Index ranks Cyprus poorly compared to benchmark countries, especially in the creation of intangible assets or creative goods[14]. Similarly, Cyprus does weakly when compared to most benchmark countries in terms of per capita patent applications to the European Patent Office.

Description: European Innovation Scoreboard[15]

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, distinguish 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 2021 includes new indicators on digitalisation and environmental sustainability, bringing the scoreboard more in line with the EU political priorities.

[14] According to the EIB investment survey, Cyprus is broadly comparable to the EU average in the share of intangible assets in total investments. But the definitions of intangible assets are not comparable, with the EIB including all intangible assets, whereas the Global Innovation Index focuses on new business and organisational models, trademarks and industrial designs.

[15] Developed by the European Commission.

Description: Global Innovation Index[16] (sub-indices)

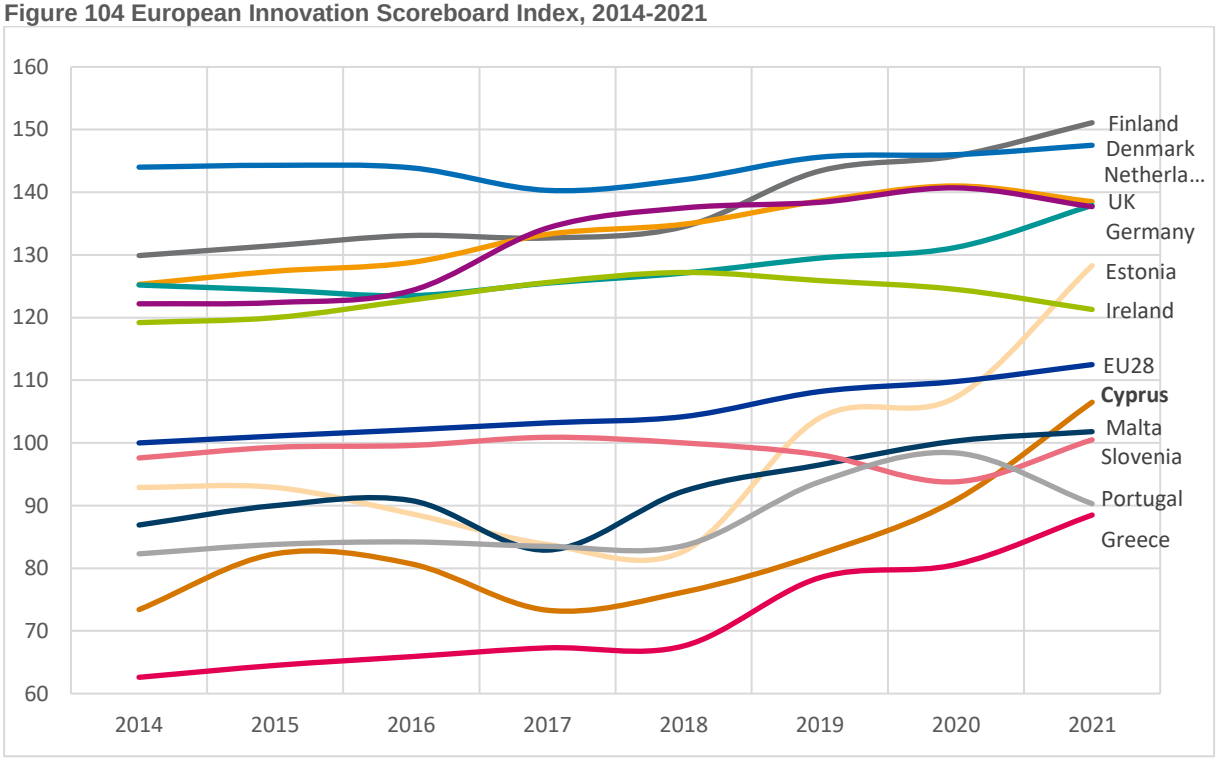
Knowledge and Technology Outputs Index

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.

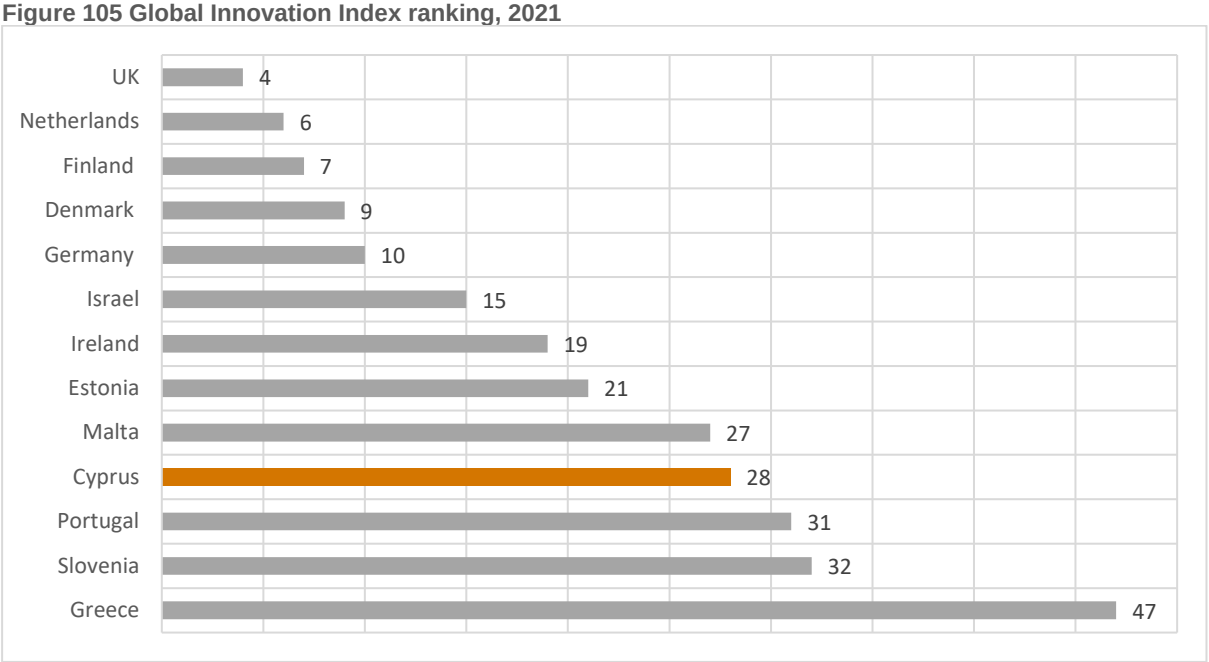
Figure 104 European Innovation Scoreboard Index, 2014-2021



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

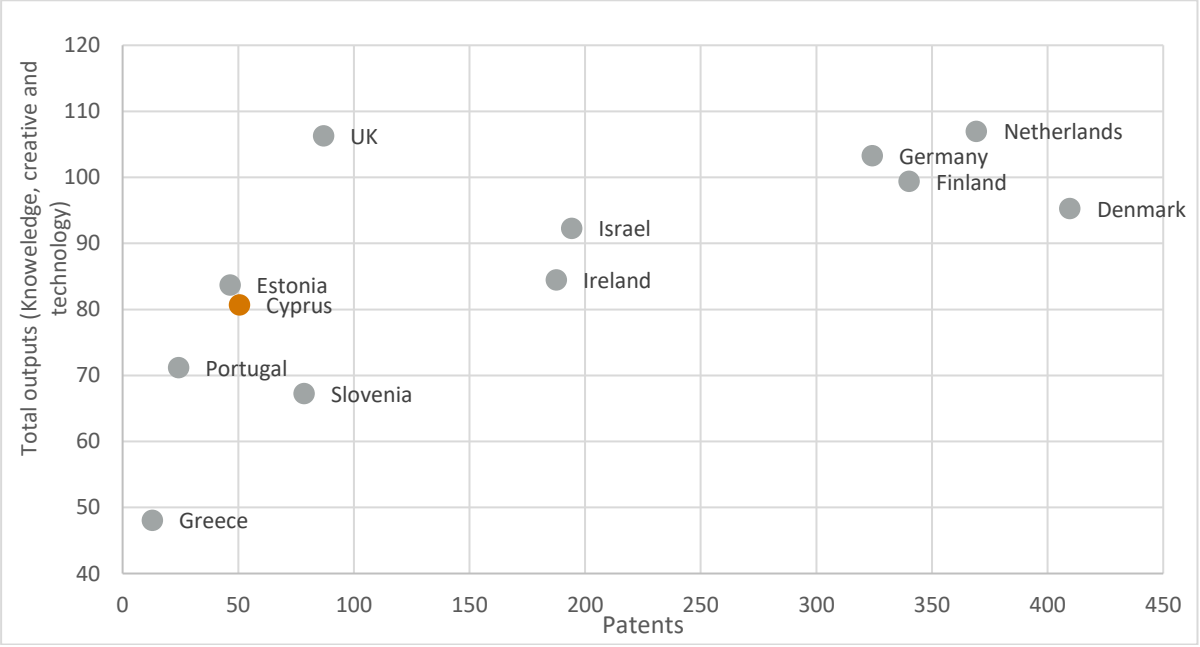
[16] Co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.

Figure 105 Global Innovation Index ranking, 2021



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

Figure 106 Patent and total outputs, 2021

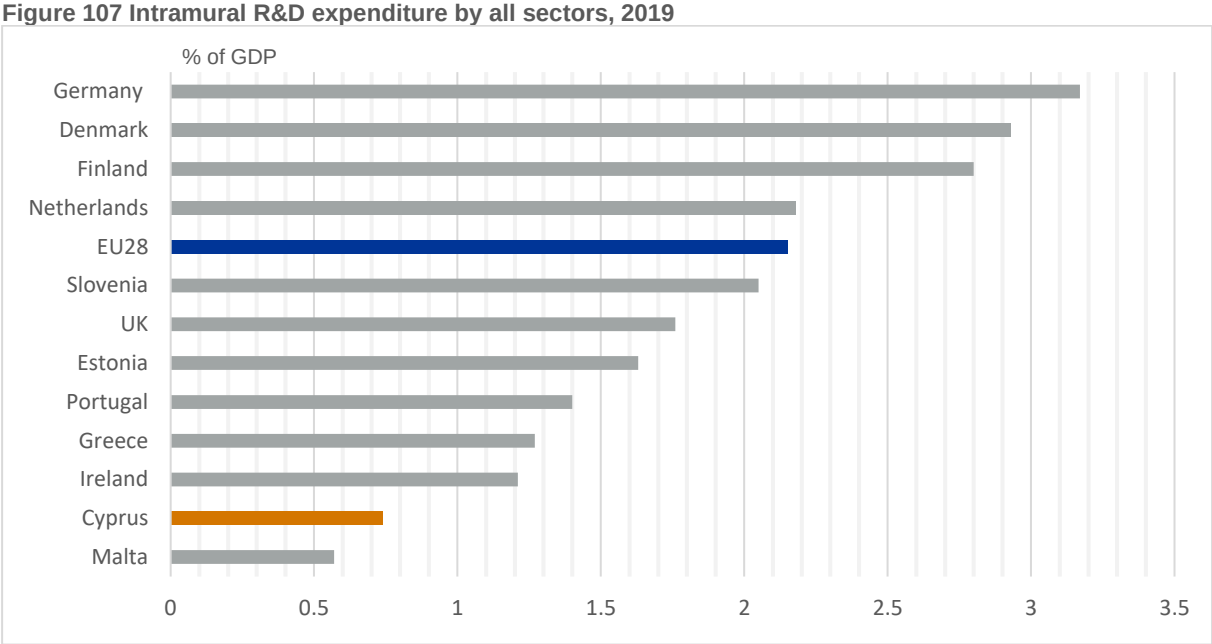


Source: Cornell University, INSEAD, and WIPO (2021), The Global Innovation Index 2020: Knowledge and Technology Outputs and European Patent Office (EPO) statistics: European patent applications per country of residence of the first named applicant 2020.

Research and development expenditures

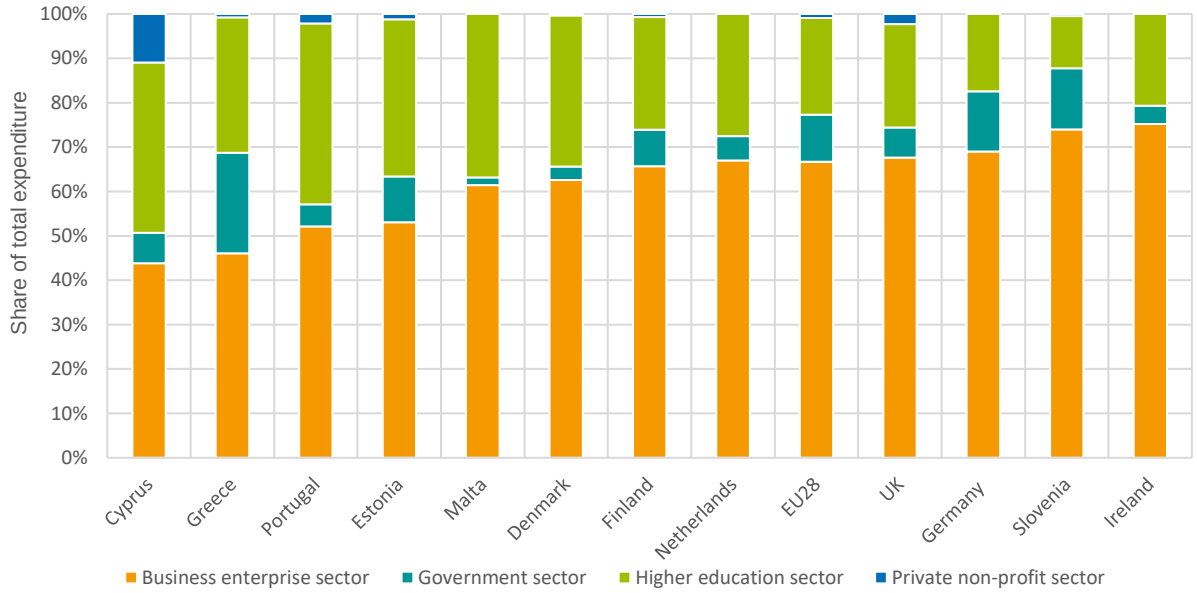
Overall investment in research and development in Cyprus is low. As depicted in Figure 107, Cyprus ranks behind all benchmark countries in R&D expenditure as a share of GDP, except for Malta. Countries such as Germany, Denmark or Finland have shares that are more than five times higher than Cyprus. About 48 percent of R&D expenditures in Cyprus comes from the public sector (i.e., public administrations and universities - Figure 108). This means that, public R&D expenditure is at around the same 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 0.26% of GDP (Figure 109).

Figure 107 Intramural R&D expenditure by all sectors, 2019



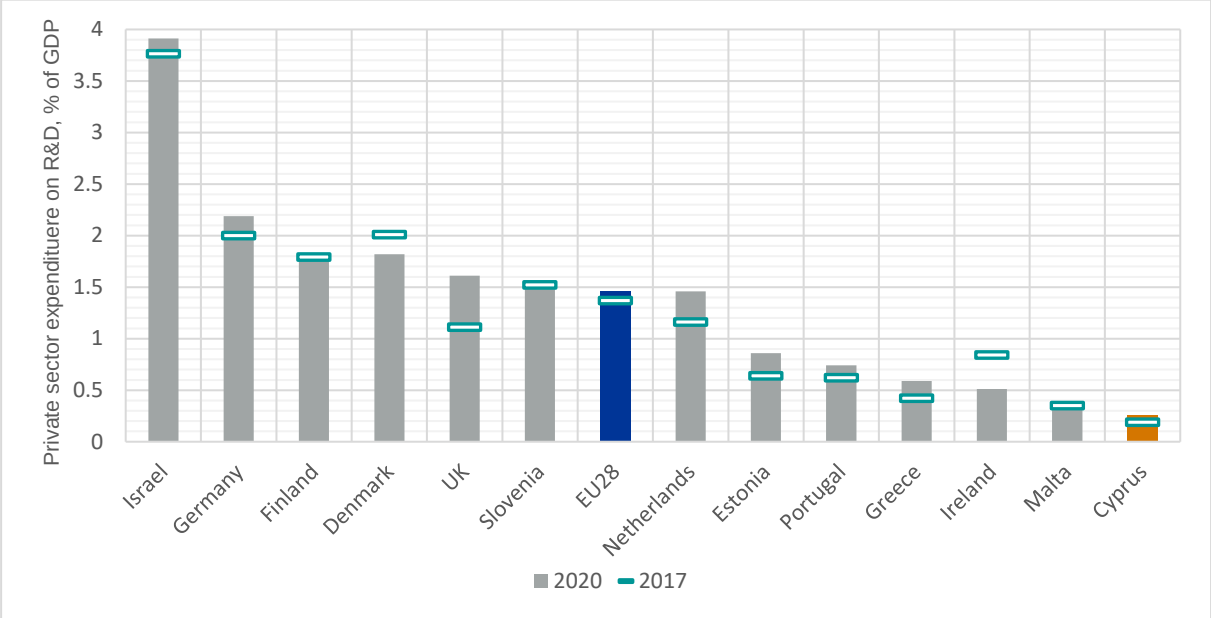
Source: Eurostat, Intramural R&D expenditure (Gross domestic expenditure on R&D – GERD) by sectors of performance and source of funds, [rd_e_gerdfund].

Figure 108 Intramural R&D expenditure by sector of performance, 2019



Source: Eurostat, Intramural R&D expenditure (GERD) by sectors of performance and source of funds [rd_e_gerdfund].

Figure 109 Private sector expenditure on R&D, 2017 and 2020



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

Knowledge institutions

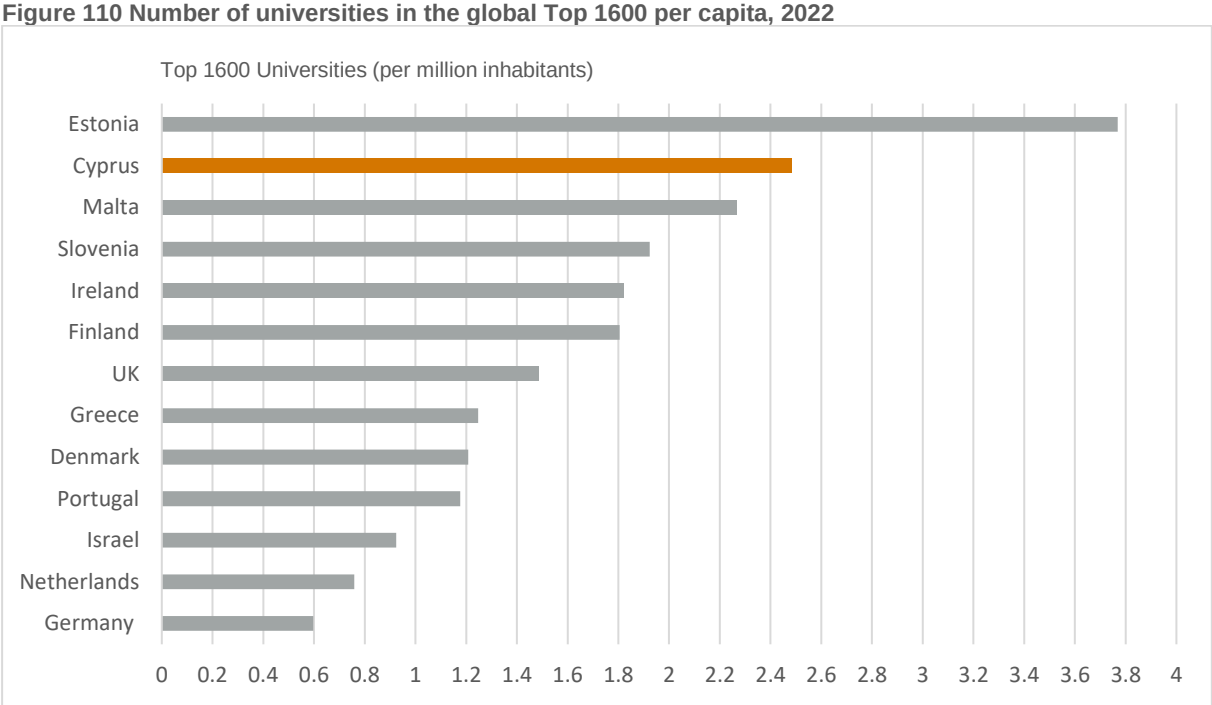
Cyprus has a total of eight universities, three public and five privates. Two of the three public universities feature in the Times Higher Education World University Rankings lists of the global top 1,600 research-intensive universities: The Cyprus University of Technology (ranked between 501-600) and the University of Cyprus (ranked between 401-500). Both universities also feature in the 2021 Times Young University Rankings (those established in the last 50 years), coming in at 54th (Cyprus University of Technology) and 108th (University of Cyprus). 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 ranks among the best of the benchmark countries (Figure 110).

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.

Description: Times Higher Education World University Rankings

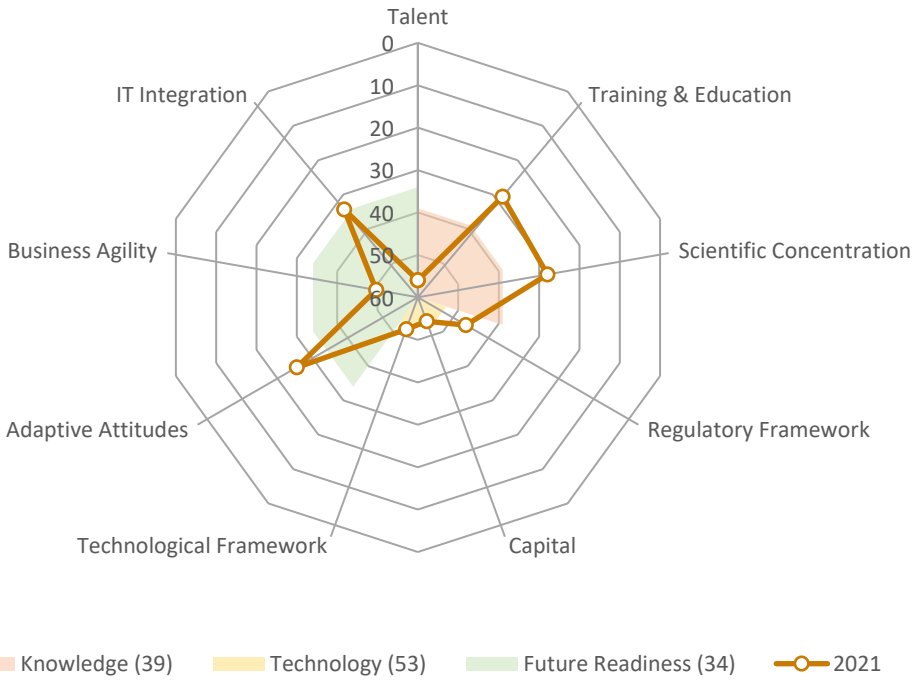
The Times Higher Education World University Rankings lists the top 1,600 research-intensive universities in the world. The ranking is based on 13 performance indicators, covering four areas: teaching, research, knowledge transfer and international outlook.

Figure 110 Number of universities in the global Top 1600 per capita, 2022



Notes: Own calculations, dividing the number of Top 1600 Universities per country by the number of inhabitants. Missing data for Malta and Netherlands.
Source: Times Higher Education, World University Ranking 2022.

Figure 111 IMD World Digital Competitiveness Rankings, 2021



Source: IMD world digital competitiveness ranking 2021

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 112). These findings are consistent with the low levels of business dynamism highlighted earlier in the report (Figure 83, Figure 87, Figure 88).

The dominance of service sectors and the lack of large firms may contribute to the observed low technology adoption and innovation activity in Cyprus. 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.

Some encouraging findings come from the most recent European Innovation Scoreboard, where Cyprus tops the table on the innovation performance of SMEs (Figure 113). This is a significant improvement over previous years' performance and a very welcome sign that Cyprus may finally be turning the corner on technology adoption and innovation.

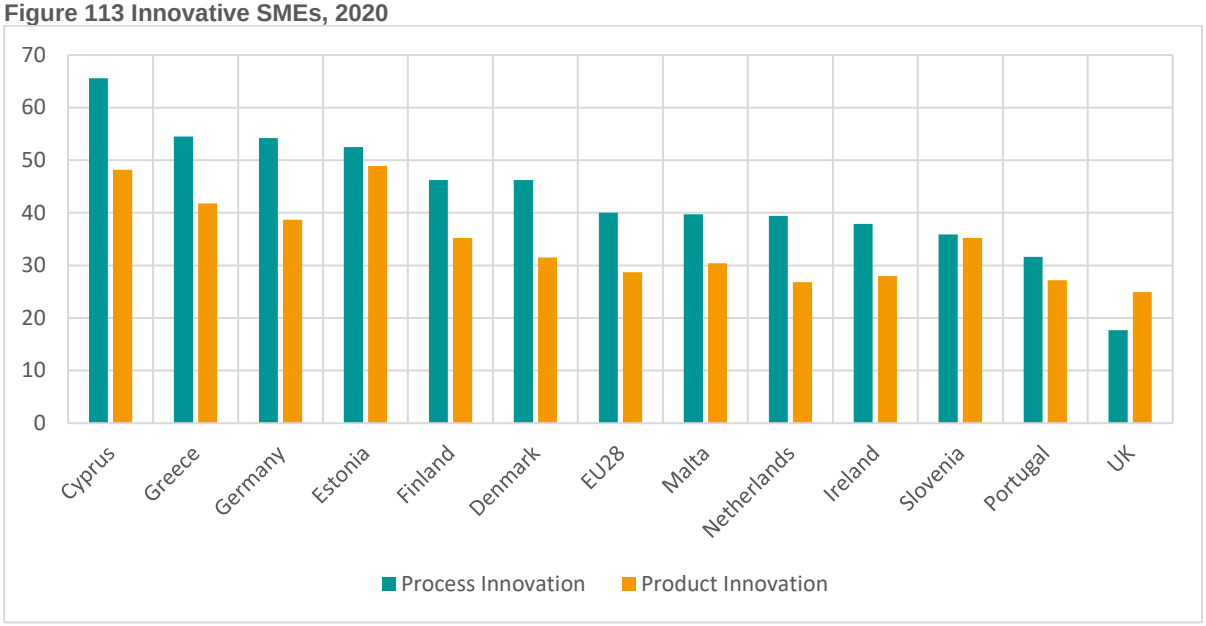
Figure 112 Enterprise technology adoption, 2019

country	Enterprises selling online	Employees using computers	Enterprises using Resource Planning (ERP) software	Enterprises using electronic invoicing	Enterprises using big data analysis
Cyprus	13%	48%	33%	11%	3%
Greece	9%	42%	38%	7%	15%
United Kingdom	25%	64%	24%	na	10%
Estonia	18%	50%	26%	23%	14%
Germany	18%	na	29%	na	19%
Malta	23%	na	32%	17%	20%
EU28	18%	57%	34%	na	11%
Portugal	16%	45%	42%	na	22%
Ireland	36%	58%	28%	na	13%
Slovenia	18%	57%	33%	62%	13%
Netherlands	22%	73%	48%	na	24%
Finland	23%	78%	43%	77%	12%
Denmark	34%	100%	50%	54%	5%

Notes: No information available for Germany and Malta for enterprises with employees using computers. For the last 2 columns for 2019, 2018 was used

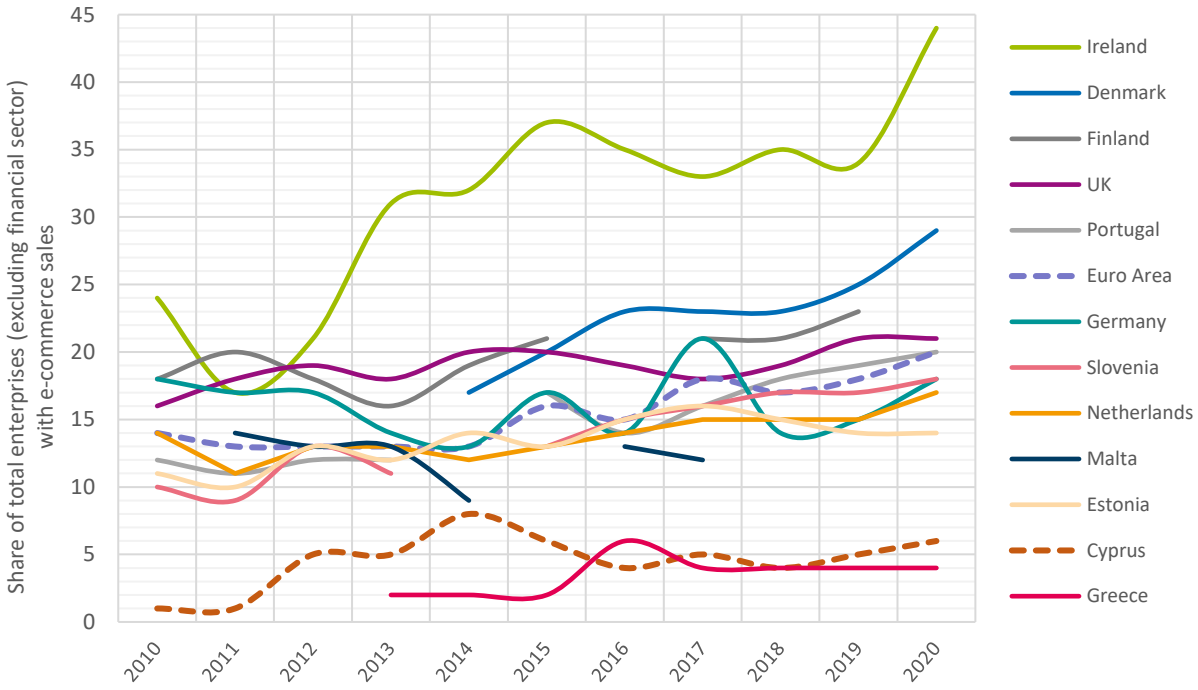
Source: Eurostat, Enterprises selling online with at least 1 percent turnover [tin00111], Use of computers and the internet by employees [isoc_ci_cm_pn2], Enterprises who have ERP software package to share information between different functional areas [isoc_eb_iip], Enterprises sending e-invoices, suitable for automated processing [isoc_eb_ic], Big data analysis [isoc_eb_bd].

Figure 113 Innovative SMEs, 2020



Source: European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs, European Innovation Scoreboard 2020, Percentage of SMEs introducing product and process innovation

Figure 114 Share of total enterprises (excluding financial sector) with e-commerce sales, 2010–2020



Source: Eurostat, Value of e-commerce sales [isoc_ec_evaln2].

7.3 Financial infrastructure

Financial infrastructure covers 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.

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 document the profound impact of the domestic banking crisis on perceptions of Cyprus' financial infrastructure. In 2011 and

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.

In 2018, the first year using the new GCI 4.0 methodology, the Financial Market Development Pillar was replaced by the Financial System Pillar. This Pillar, depicted in Figure 115, includes nine indicators, two of which remained the same as before while the other seven are new. In 2018 Cyprus was ranked 76th position out of 141 countries for its financial system (Figure 115). This is considerably worse than Cyprus' ranking in all other competitiveness pillars except Market size (110).

One important contributing factor is the high ratio of domestic credit to GDP in Cyprus compared to the benchmark countries. Although the ratio has declined from almost 200 of GDP to 110 percent, it remains one of the highest of the benchmark countries (Figure 117). A similar picture emerges with respect to non-performing loans. At 15% of total credit, Cyprus is second only to Greece; no other country has more than 5%. This is a very high level of bad loans, but it is a long way from the level of nearly 50% that was the case in 2015.

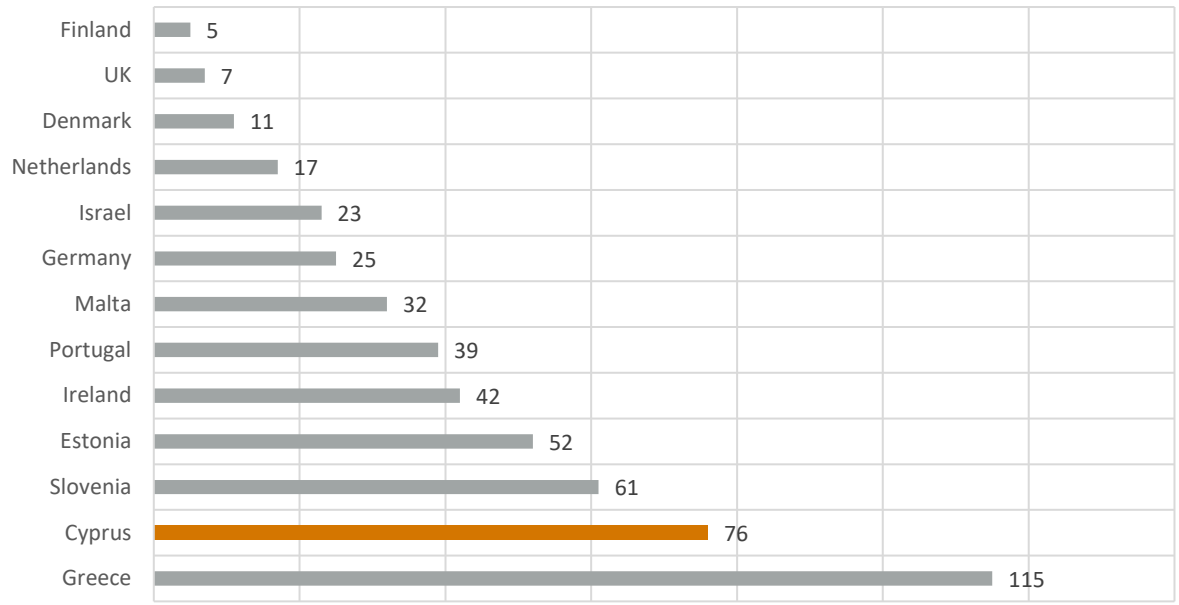
The road to normalization of the Cypriot financial system was long and arduous, but significant progress has been made. The pandemic hit the globe before the Cypriot banking sector has fully recovered. This was cause for concern, but so far the evidence suggests that there will be no reversal. This is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

Definition: Financial System Index (WEF)

The World Economic Forum (WEF) Executive Opinion Survey asks respondents to rate aspects of financial services and infrastructure using a scale from 1 (lowest) to 7 (highest). The individual survey questions are:

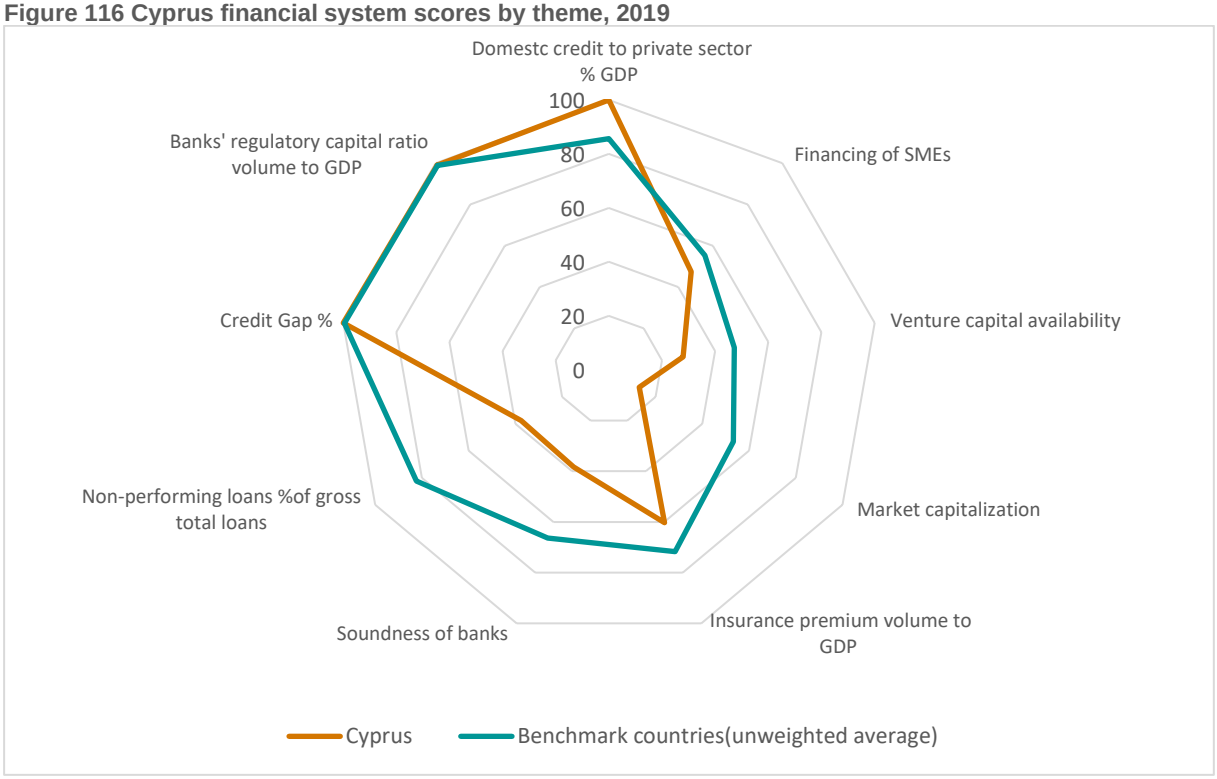
- **Domestic credit to private sector:** The total value of financial resources provided to the private sector, expressed as a percentage of GDP.
- **Financing of SMEs:** In your country, to what extent can small- and medium-sized enterprises (SMEs) access finance they need for their business operations through the financial sector?
- **Venture capital availability**: In your country, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding?
- **Market capitalization:** The total value of listed domestic companies, expressed as a percentage of GDP.
- **Insurance premiums**: Life and non-life insurance premium volumes, expressed as a percentage of GDP.
- **Soundness of banks:** In your country, how do you assess the soundness of banks?
- **Non-performing loans:** The ratio of the value of nonperforming loans divided by the total value of the loan portfolio of all banks operating in a country
- **Credit gap:** Measures the difference between the credit-to-GDP ratio and its long-term trend.
- **Banks' regulatory capital ratio:** Banks' regulatory capital ratio.

Figure 115 Cyprus financial system rankings, 2019



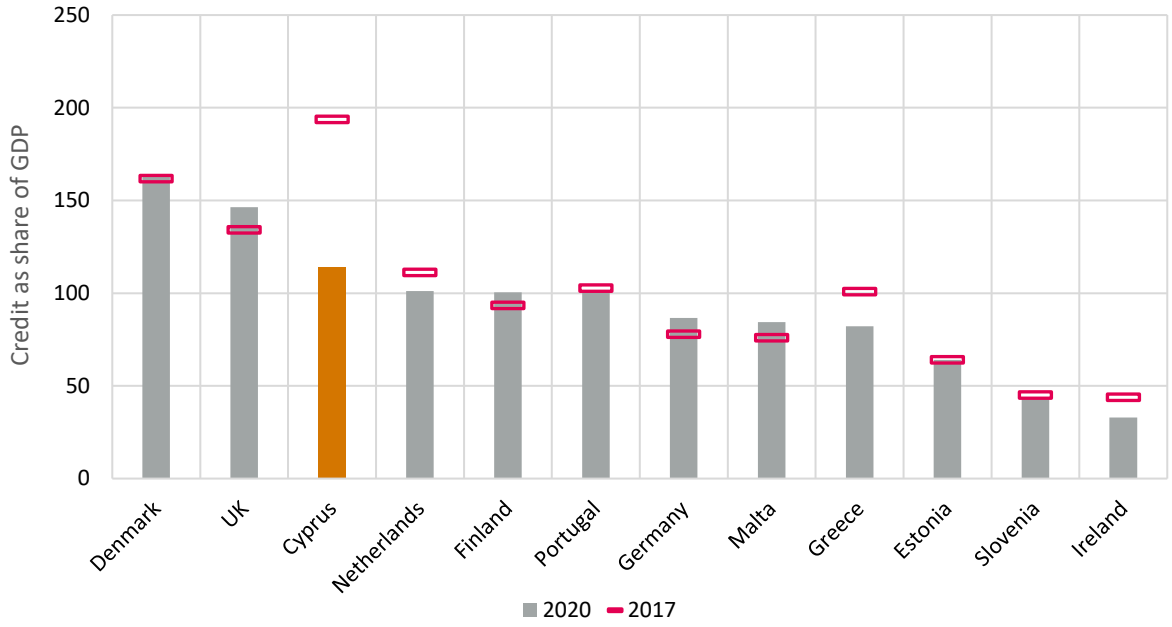
Notes: The WEF 2019 covers 141 economies.
Source: World Economic Forum, Executive Opinion Survey: 9th Pillar Financial System.

Figure 116 Cyprus financial system scores by theme, 2019



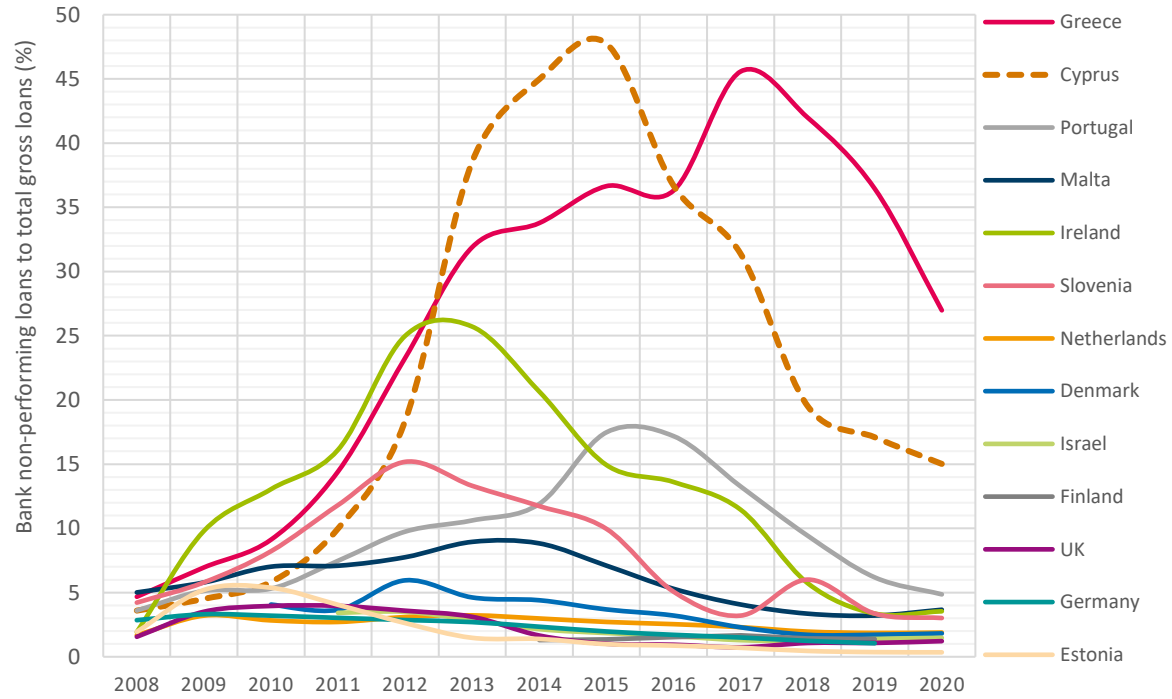
Source: World Economic Forum, Executive Opinion Survey: 9th Pillar Financial System.

Figure 117 Domestic credit to private sector, 2017 and 2020



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

Figure 118 Bank non-performing loans to total gross loans, 2008-2020



Source: World Bank, WDI: Bank non-performing loans to total gross loans (%), [FB.AST.NPER.ZS].

Access to Finance

It was documented above that Cyprus has a large financial sector, and credit is relatively easily available. However, as depicted in Figure 119, credit is not cheap, especially for non-financial corporations. The benchmark countries are roughly split into two groups, one with low interest rates and one with substantially higher (roughly double) rates. Cyprus belongs to the latter group, along with Malta, Greece, Estonia, and Ireland. These

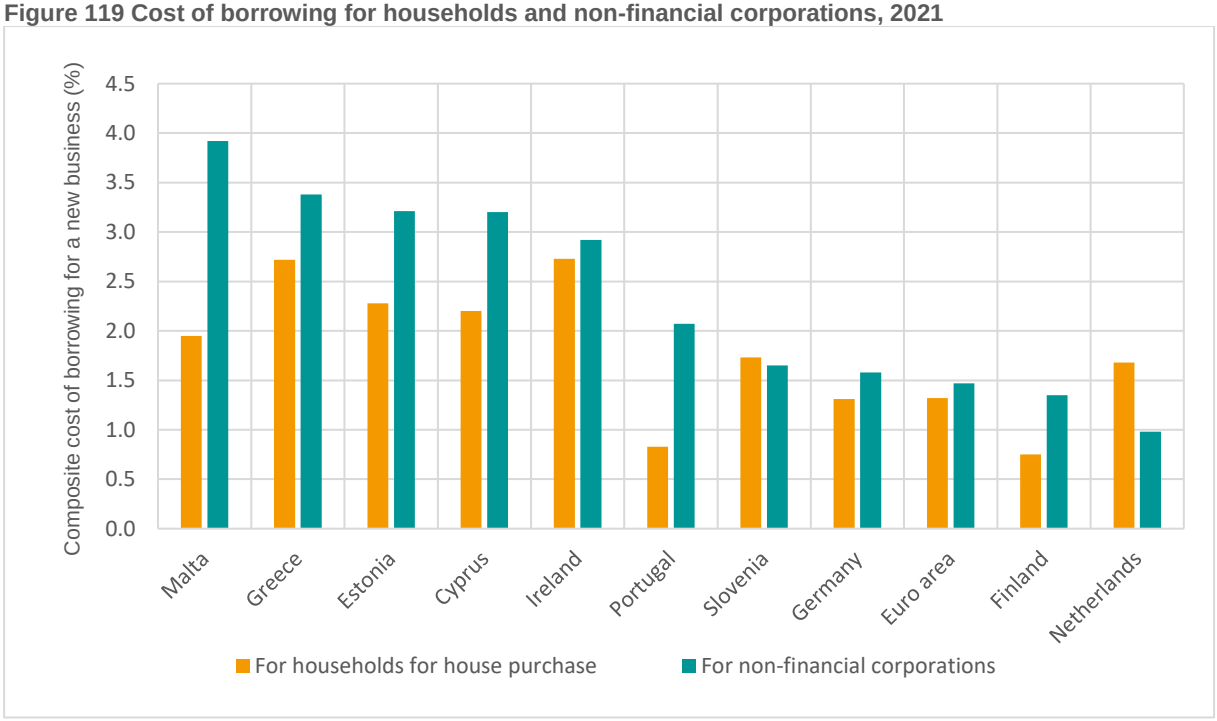
high borrowing costs could potentially place a burden on firms, especially smaller ones. Interest rates on loans to households are also higher than average, though by less than business loan rates, and they are near the middle of the benchmark countries.

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 (European Commission, 2017b).

Cyprus is characterised by a lack of diversity of external funding sources used by firms. In contrast to other benchmark countries, almost all external finance in Cyprus comes in the form of bank loans or other forms of bank finance. Most lending is collateralized. The IMF (2020) indicates that two thirds of loans are collateralized against real estate. Almost no external finance comes from, for example, issuance of bonds or equity or loans from family/friends/business partner (Figure 120). 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.

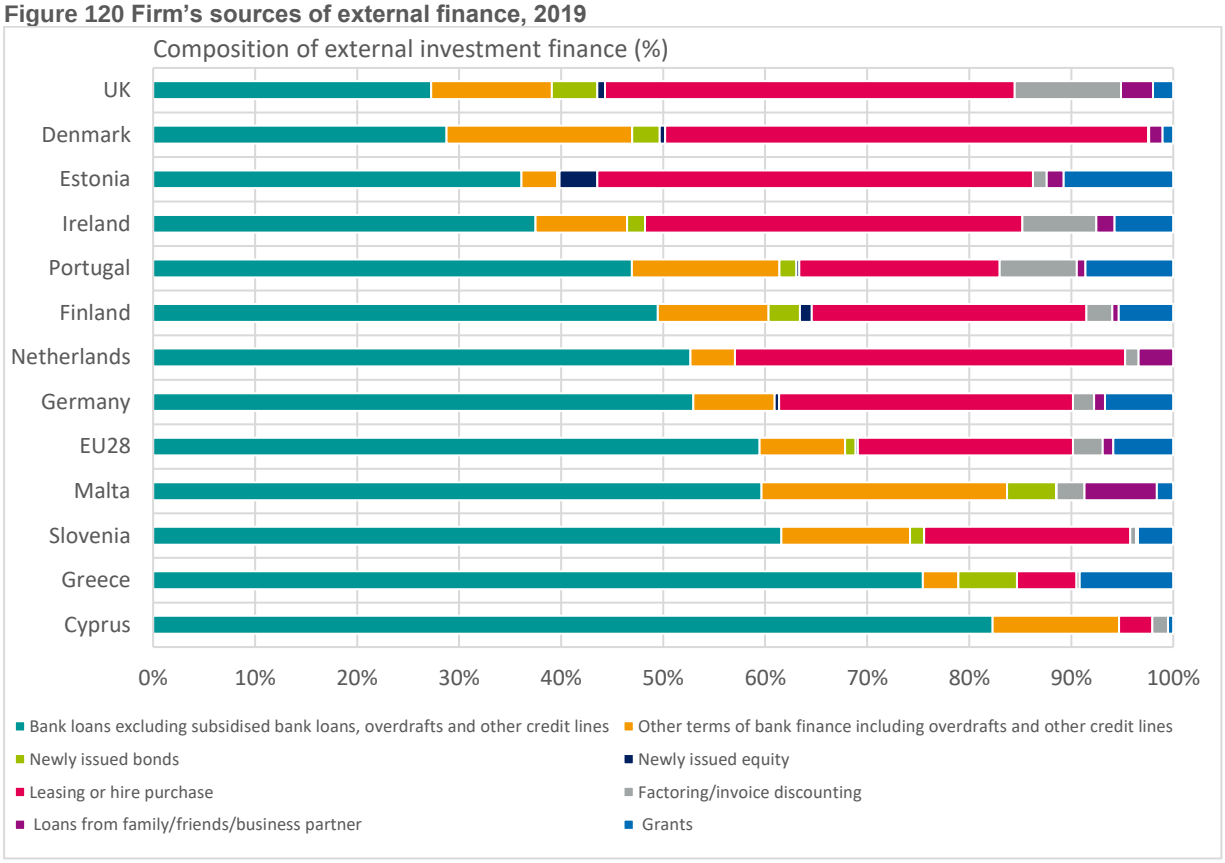
Potential explanations for the reliance on bank financing include the dominance of SMEs or the small size of the Cypriot market. It is not clear, however, whether the lack of diversity results from a lack of alternative funding offers, or because firms are not willing or capable to access alternative 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.

Figure 119 Cost of borrowing for households and non-financial corporations, 2021



Notes: No data for Denmark, Israel or the UK.
Source: European Central Bank: Composite cost of borrowing indicator, July 2021.

Figure 120 Firm's sources of external finance, 2019



Source: European Investment Bank, Investment Survey: Composition of external investment finance, by source.

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 include 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.

Both the WEF and the IMF include infrastructure as one of their main pillars. The scores of the benchmark countries are shown in Figure 121, and Cyprus rates last in both rankings. To better understand why, the rest of this section provides a more detailed analysis of infrastructure in key areas: transport, electricity, and ICT.

Transport

Measured by kilometres of road per capita, the road infrastructure in Cyprus is relatively extensive compared to most benchmark countries and is perceived to be of good quality according to the WEF Executive Opinion Survey (Figure 122). 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.

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 123). Furthermore, while many countries have improved substantially since 2008, Cyprus has only improved marginally and therefore fell further behind. Figure 124 combines the connectivity index with a measure of the efficiency of seaport services. Cyprus ranks last in this measure.

In common with Slovenia, Malta, and Estonia, Cyprus has a low score in terms of the Airport Council International—Europe's Airport Industry Connectivity Index (Figure 125). This measure is, furthermore, affected by seasonal factors, as it is based on flight data for the third week of June which is high tourist season in Cyprus. Country size is an important explanation for connectivity, with larger countries such as the UK or Germany better connected than smaller countries such as Cyprus. In fact, on a per capita basis and relative to GDP, Cyprus is better connected than most benchmark countries. But while this explains low scores for air connectivity, it is the absolute level of connectivity that matters for travellers, and thus overall competitiveness. Importantly, these structural factors imply that it may be hard for policy makers and airport authorities to address weak connectivity.

Despite Cyprus' low air connectivity score, over the last five years, Larnaca airport was among the European leaders in terms of connectivity improvements between 2017 and 2018. There are a large number of direct flights, many serving the tourism industry. Conversely, indirect connectivity, through connecting flights via third-country hubs is relatively weak compared to the benchmark countries (Airports Council International, 2018). Regarding the efficiency of air services, in Figure 125, the WEF perceptions survey places Cyprus ahead of Slovenia, Estonia and Malta, but below the other benchmark countries. Finally, Cyprus ranks towards the bottom in the World Bank Logistics Performance Index, only ahead of Malta (Figure 126).

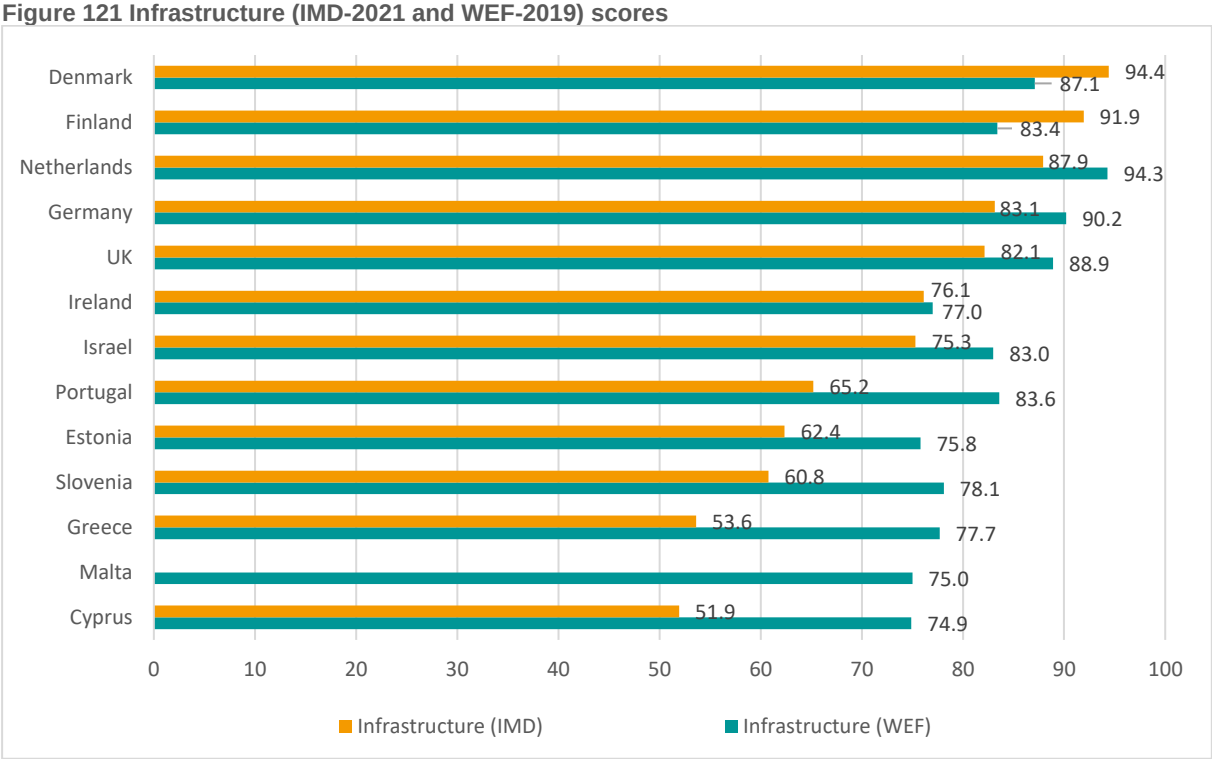
Underlying information behind this indicator identify weak spots in the ease of arranging competitively priced shipments, the competence and quality of logistics services, and the ability to track and trace consignments. This suggest that soft infrastructure may matter as much as the physical infrastructure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

Definition: International Logistics Performance Index (World Bank)

The World Bank Logistics Performance Index (LPI) benchmarks countries' performance on trade logistics across 160 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:

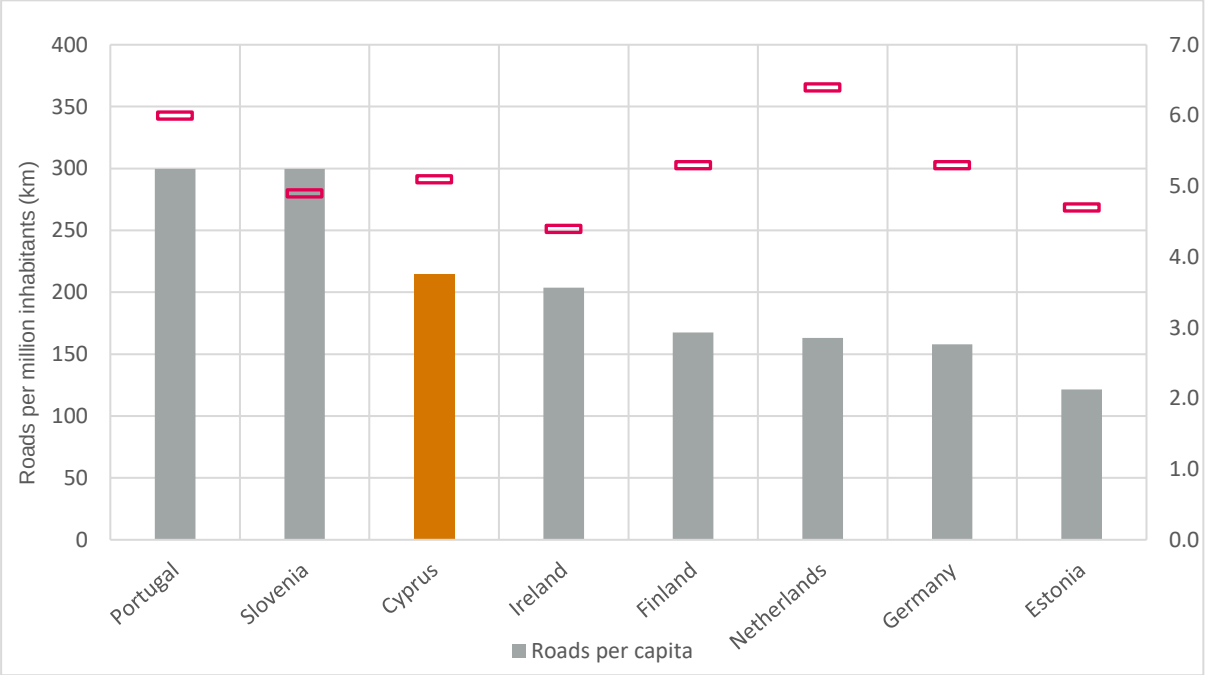
- **Customs:** The efficiency of customs and border management clearance;
- **Infrastructure:** The quality of trade and transport infrastructure;
- **Ease of arranging shipments:** The ease of arranging competitively priced shipments;
- **Quality of logistics services:** The competence and quality of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

Figure 121 Infrastructure (IMD-2021 and WEF-2019) scores



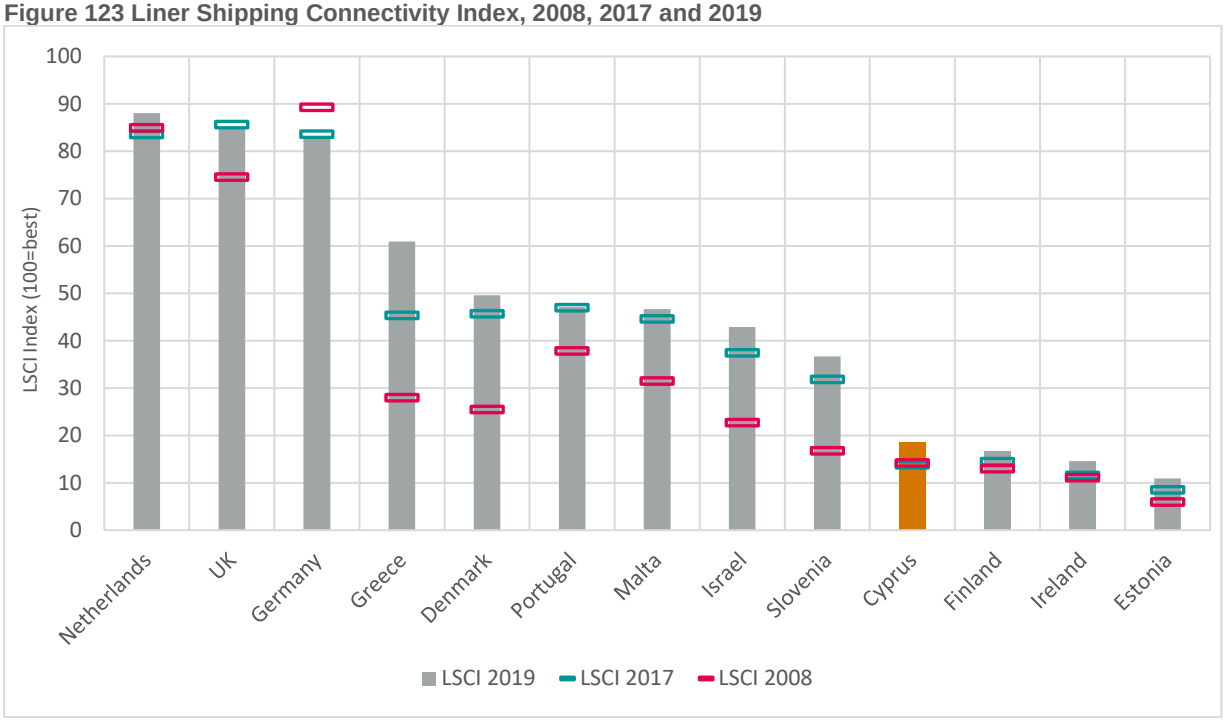
Source: IMD World Competitiveness Yearbook 2021, WEF Global Competitiveness Reports.

Figure 122 Road density and quality, 2019



Notes: Data for kilometres of road not available for Greece, Malta, Denmark and UK.
Source: Eurostat, Length of motorways and e-roads [road_if_motorwa], 2019; World Economic Forum, Executive Opinion Survey, Global Competitiveness Report, 2019.

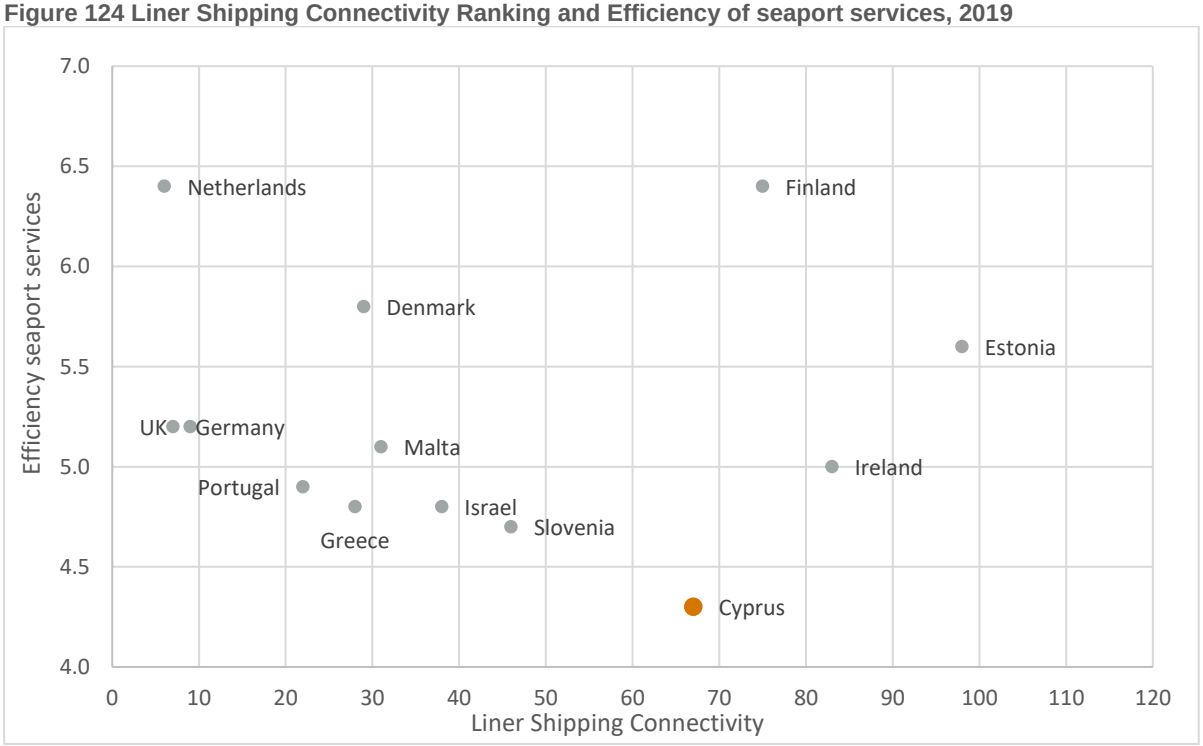
Figure 123 Liner Shipping Connectivity Index, 2008, 2017 and 2019



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.

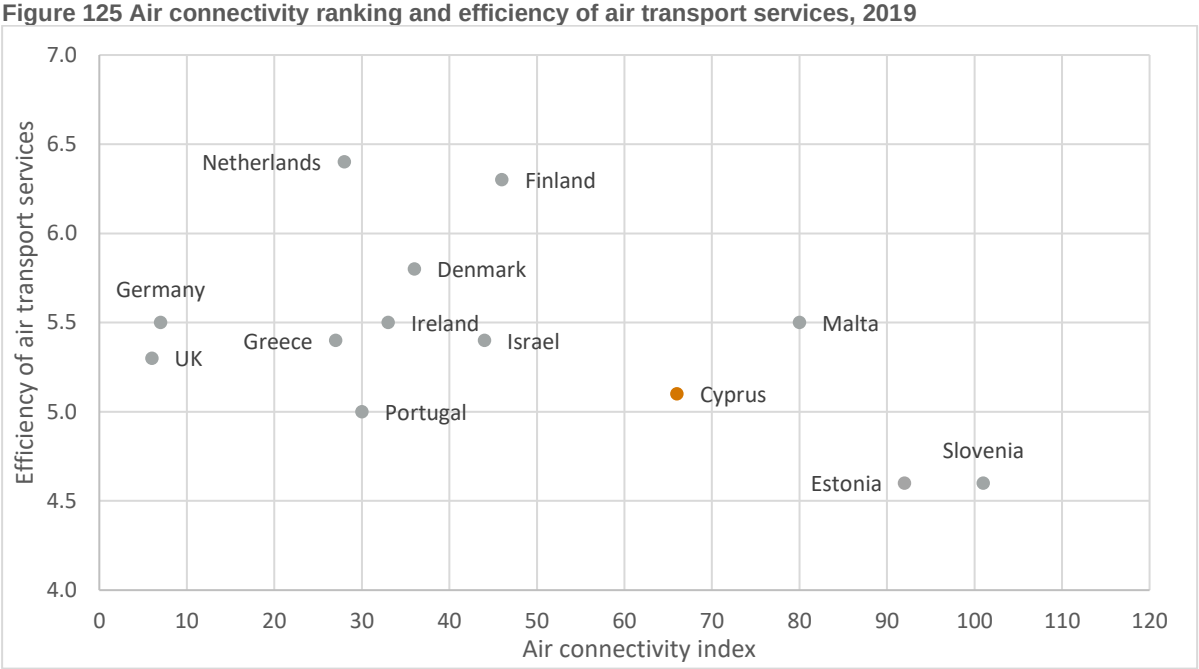
Source: United Nations Conference on Trade and Development (UNCTAD), Liner Shipping Connectivity Index.

Figure 124 Liner Shipping Connectivity Ranking and Efficiency of seaport services, 2019



Source: World Economic Forum, Executive Opinion Survey, Global Competitiveness Report 2019, 2.07 (Liner shipping connectivity index) and 2.08 (Efficiency of seaport services)

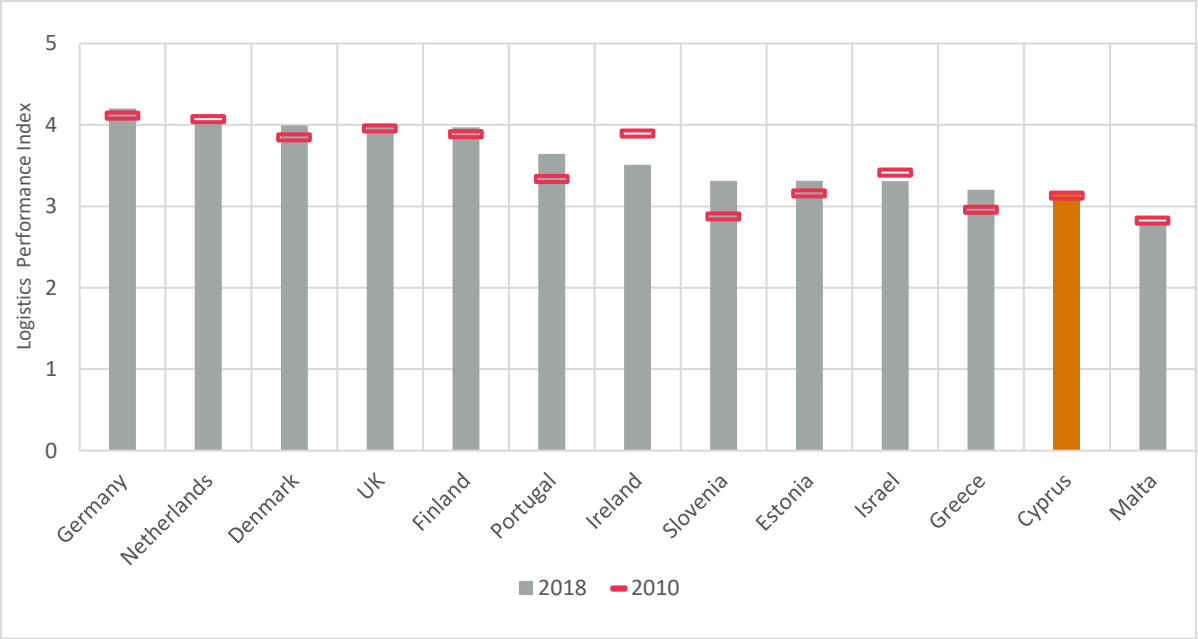
Figure 125 Air connectivity ranking and efficiency of air transport services, 2019



Notes: The Airport Industry Connectivity Index (AICI) measures the overall level to which an airport is connected to the rest of the World, either by direct flights or indirect connections via other airports. The index is a composite of the number of destinations, the frequency of services and the quality of connections (i.e. whether services are direct or via hubs).

Source: Airports Council International - Europe, Airport Industry Connectivity Index, 2019; World Economic Forum, Executive Opinion Survey, Global Competitiveness Report, 2019, 2.06 (Efficiency of air transport services)

Figure 126 International Logistics Performance Index, 2010 and 2018

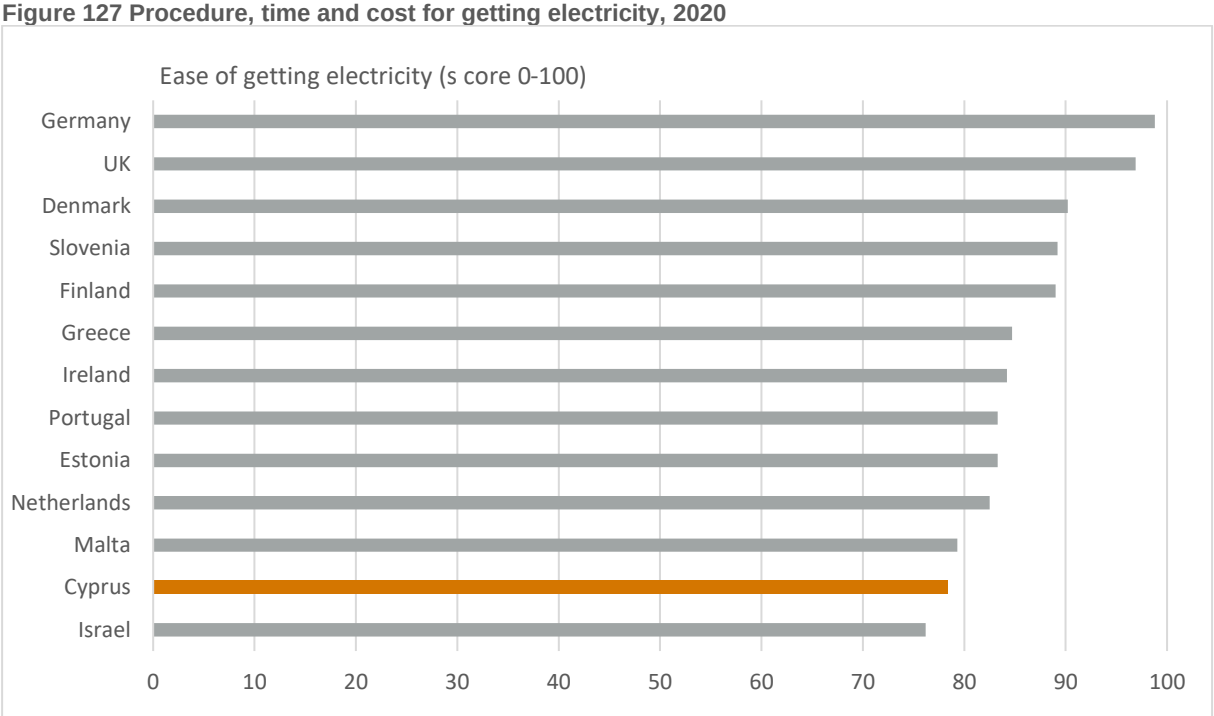


Source: World Bank, Logistics Performance Index, 2018.

Electricity

The ease of getting electricity is an indicator from the Doing Business report. Figure 127 shows the score for each of the benchmark countries. In Cyprus it takes 137 days, which is worse than all benchmark countries except Israel. Perhaps more concerning are the high costs of electricity. As noted in Section 5.4 on page 76), electricity prices in Cyprus are among the highest of the benchmark countries, mostly because the country relies heavily on oil for electricity generation.

Figure 127 Procedure, time and cost for getting electricity, 2020



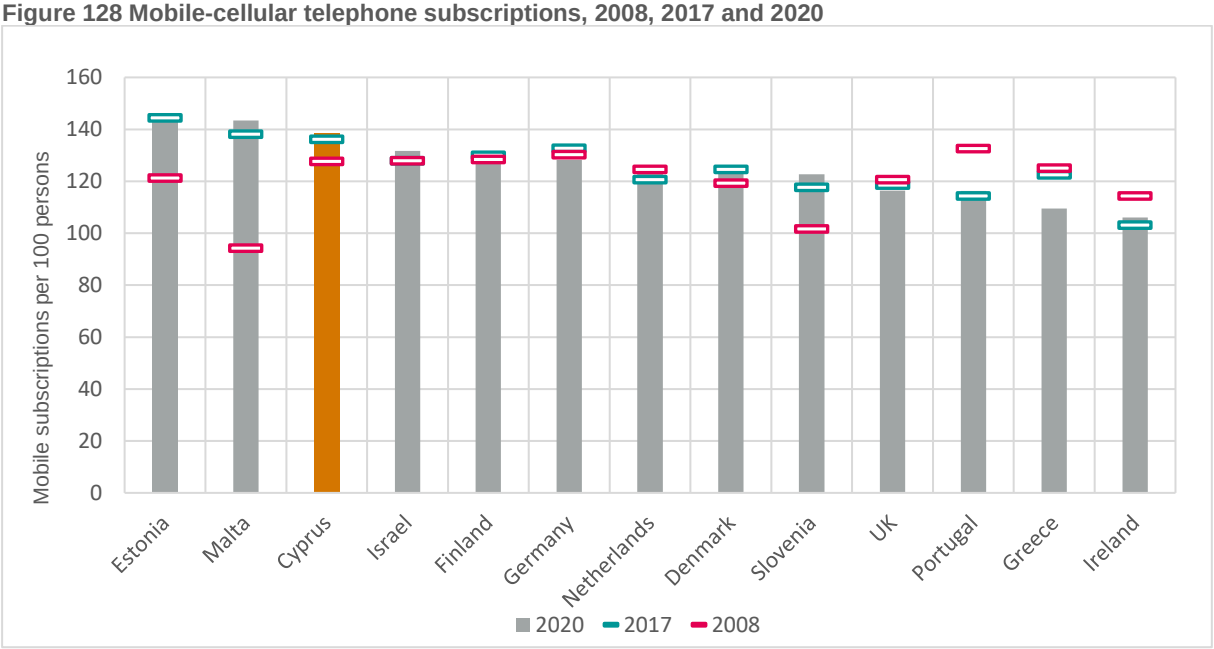
Notes: Score of regulatory practice from 0 (worst) to 100 (best). The score captures the gap between an economy's current performance and a measure of best regulatory practice set in the 2015 Doing Business report.
Source: World Bank, Doing Business: Getting electricity, 2020.

ICT infrastructure

With fixed and mobile phone subscriptions in line with benchmark countries (Figure 128), and high levels of educational attainment, sources of weakness in Cyprus' performance are linked to internet and computer access and usage. Average internet speed seems to be a one problem area, with European Data Journalism placing Cyprus well below all benchmark countries in downloading and uploading speed (Figure 129). The small market size or peripheral location do not seem to explain this outcome, as countries such as Denmark or Malta provide significantly higher speeds.

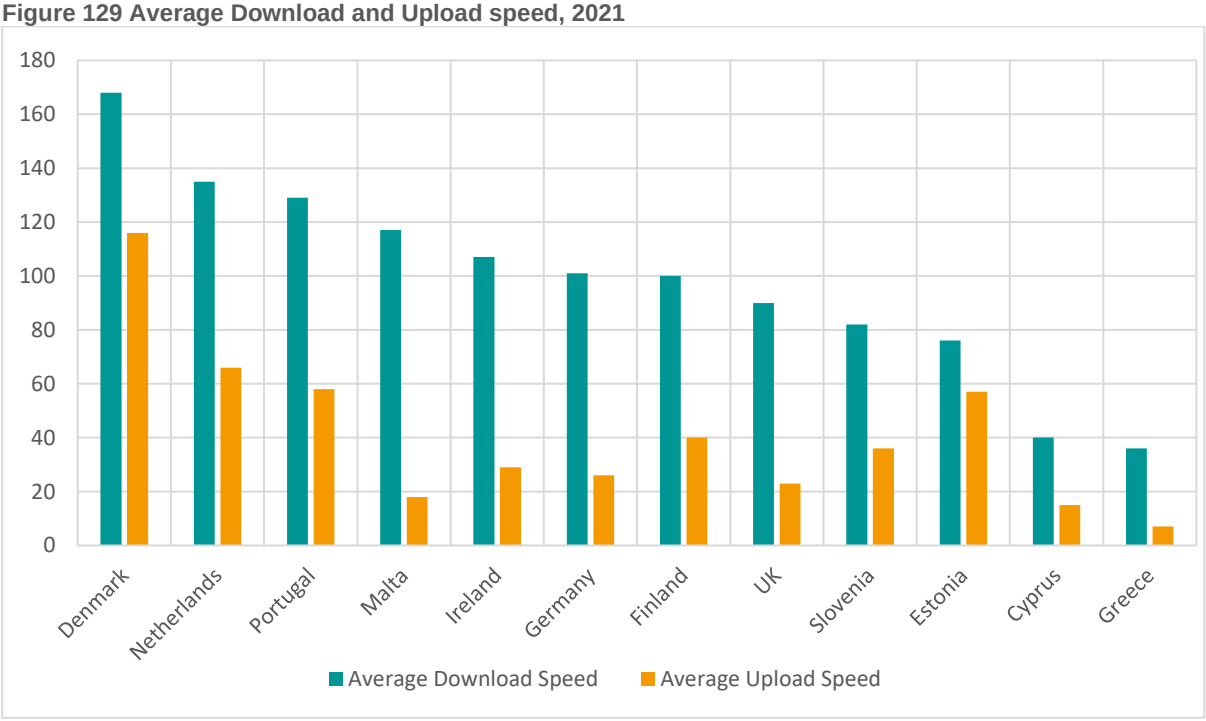
The European Commission's Digital Economy and Society Index also finds that connectivity is a weak spot for Cyprus, along with human capital (i.e., digital skills), which are both below the EU average (Figure 130). Potentially, this creates the possibility of a negative cycle, whereby low internet speeds, low broadband penetration and high prices create a barrier to digital adoption and acquisition of digital skills and, conversely, low digital adoption and acquisition of digital skills constrain demand for broadband internet and hence restrict incentives for suppliers to roll-out infrastructure investments and service.

Figure 128 Mobile-cellular telephone subscriptions, 2008, 2017 and 2020



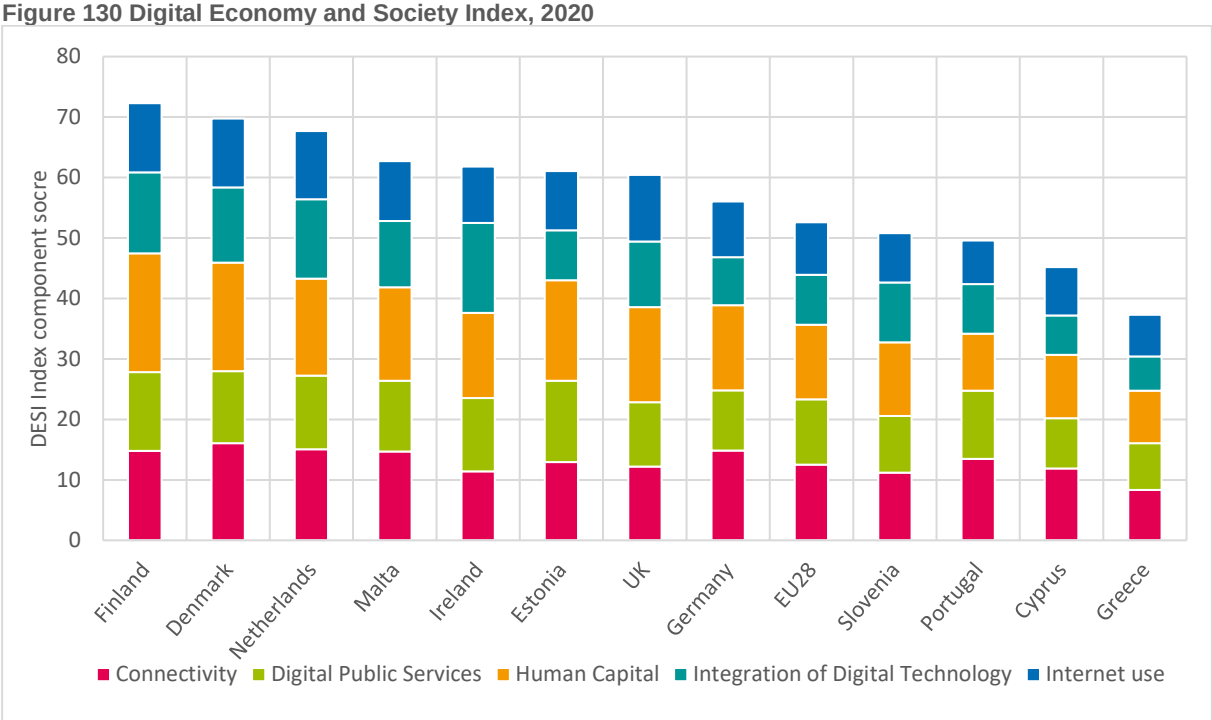
Source: World Bank, Development Indicators: Mobile cellular subscriptions (per 100 people) [IT.CEL.SETS.P2].

Figure 129 Average Download and Upload speed, 2021



Source: European Data Journalism, 2021

Figure 130 Digital Economy and Society Index, 2020



Notes: The Digital Economy and Society Index (DESI) is based on about 30 indicators, in five dimensions: connectivity, human capital, use of internet services, integration of digital technology, and digital public services.
Source: European Commission, Digital Scoreboard, Digital Economy and Society Index (DESI).

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 as a result of the 2012-13 banking crisis, with high rates of unemployment, risk of poverty, loss of income and wealth, and increasing inequality. The country weathered these challenges reasonably well but was still in the recovery phase when the 2020 pandemic hit the globe, presenting a new set of unique and unforeseen challenges.

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. Cyprus is not in a position to affect global environmental issues such as climate change or marine depletion. At the same time, those areas that public policy in Cyprus can strongly affect are equally concerning: the use of renewable energy is low, the production of waste is high while the recycling rate and the share of waste not going to landfill deposits are low.

8.1 Social performance

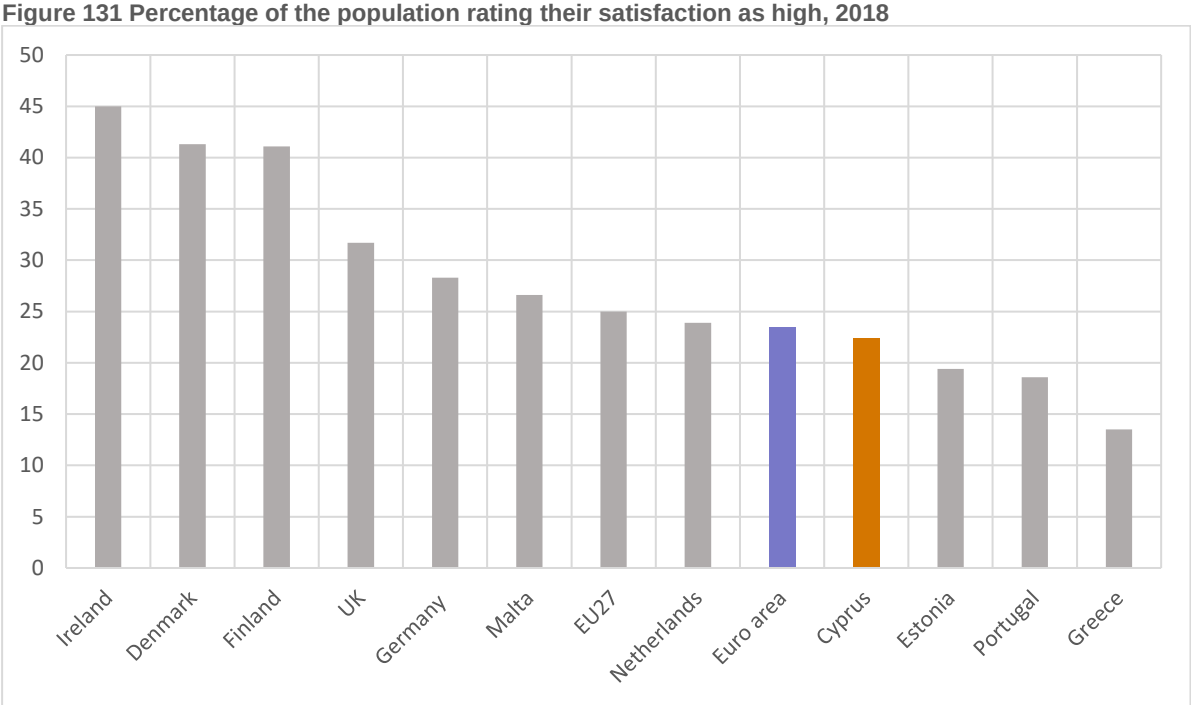
Indicators of social performance presented a mixed picture for Cyprus compared to the benchmark countries and compared over time. In general, the global financial and economic crisis and the domestic banking crisis had a negative impact on indicators of social performance for Cyprus. The economic recovery led to an improvement in several dimensions, but the pandemic halted or even reversed the positive trend.

Figure 131 presents a measure of overall life satisfaction by residents of the benchmark countries. Cyprus ranks relatively low, although not much lower than the euro area average. It only does better than three peripheral countries (Estonia, Portugal, and Greece). Three northern countries (Ireland, Denmark and Finland are in a league of their own in terms of their residents being satisfied with their lives. This is a common finding in happiness studies.

Unemployment

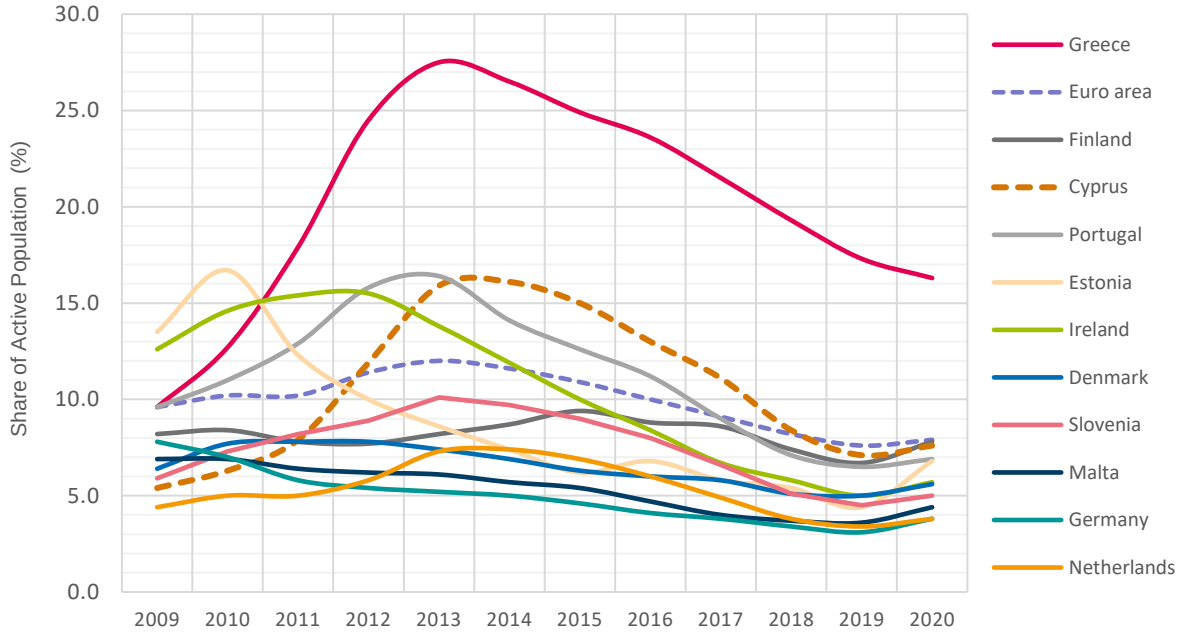
Figure 132 shows the unemployment rate throughout the years. Unemployment has significantly improved in recent years, though in 2020 it was still higher than most of the benchmark countries except Greece and Finland. As described in Section 3.2, unemployment in Cyprus had been falling since 2014 (up until the pandemic hit), as both the local and European economies strengthened. The unemployment rate in Cyprus is now lower than the Euro area average.

Figure 131 Percentage of the population rating their satisfaction as high, 2018



Source: Eurostat, Percentage of the population rating their satisfaction as high, medium or low by domain, sex, age and educational attainment level [ilc_pw05].

Figure 132 Unemployment rate, 2009- 2020



Notes: Israel and UK are not depicted in this figure.
Source: Eurostat, Labour Force Survey: Unemployment [une_rt_a].

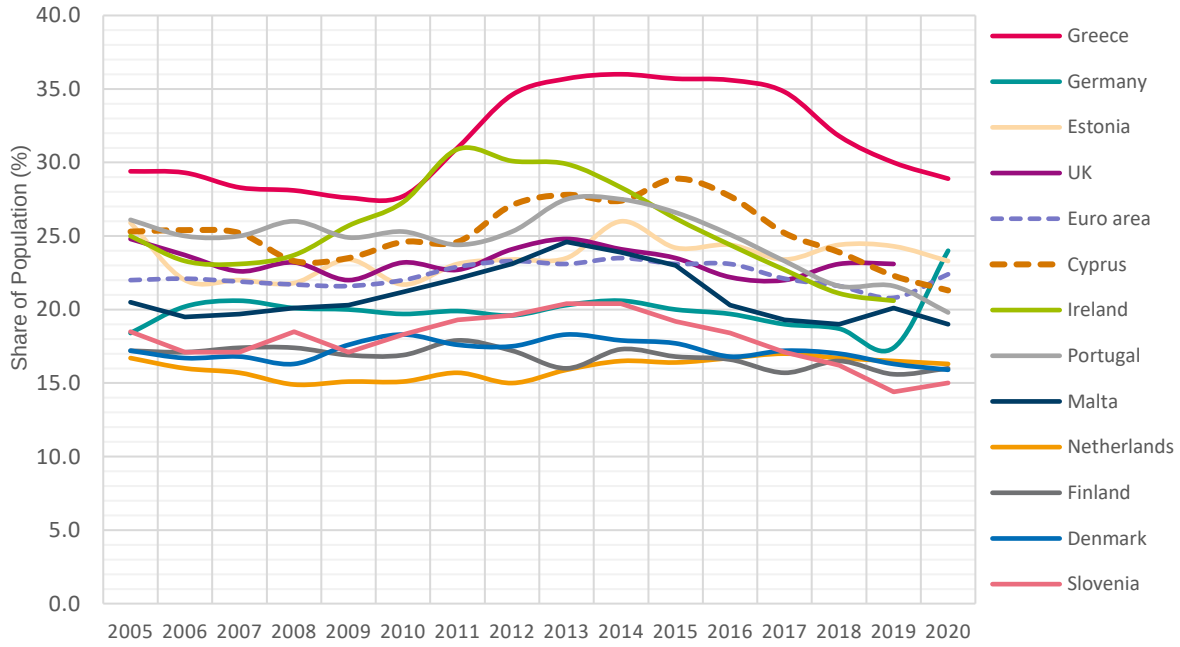
Risk of poverty and social exclusion

The share of Cyprus' population deemed to be at risk of poverty or social exclusion was the third highest among the benchmark countries in 2019, behind Greece and Estonia (Figure 133). This is an improvement over 2016, when it was the second highest behind only Greece. This indicator was slightly above the Euro area average even in the boom year 2008. It worsened until 2015, at which point the trend turned positive in line with Cyprus' robust economic growth. A similar picture is shown in Figure 134, which displays an indicator of material deprivation.

Definition: at risk of poverty or social exclusion

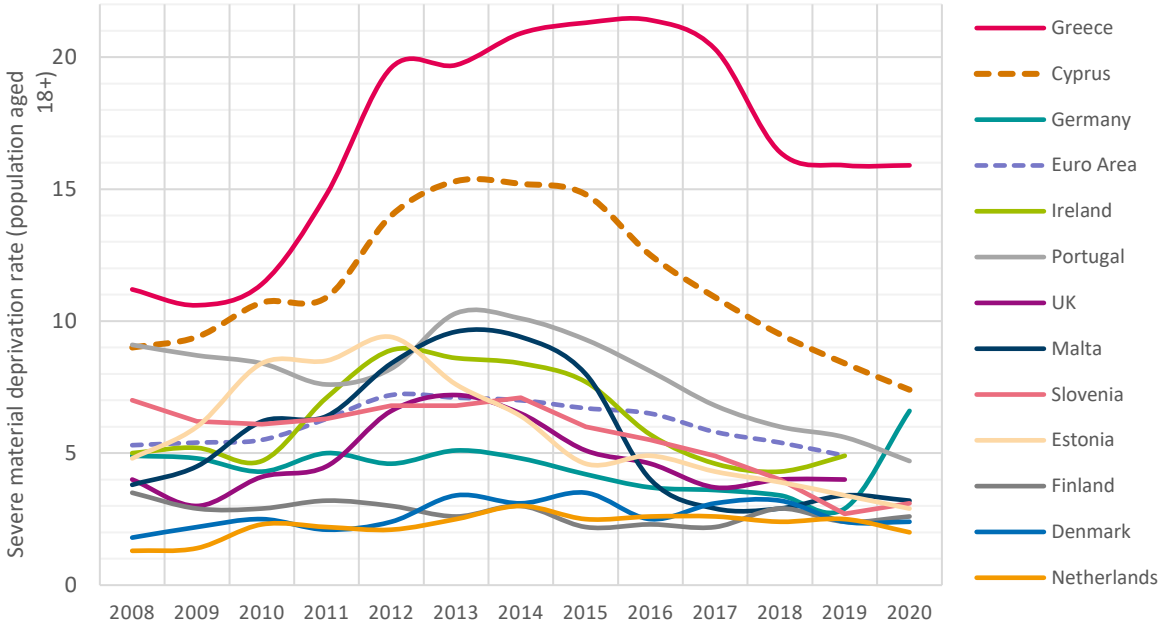
At risk of poverty or social exclusion, abbreviated as CARG, refers to the situation of people either at risk of poverty, or severely materially deprived, or living in a household with a very low work intensity. The AROPE rate measures the share of the total population that is at risk of poverty or social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

Figure 133 People at risk of poverty or social exclusion, 2005-2020



Notes: Israel is not depicted in this figure.
Source: Eurostat, People at risk of poverty or social exclusion by age and sex [ilc_peps01].

Figure 134 Severe material deprivation rate by most frequent activity status, 2008-2020



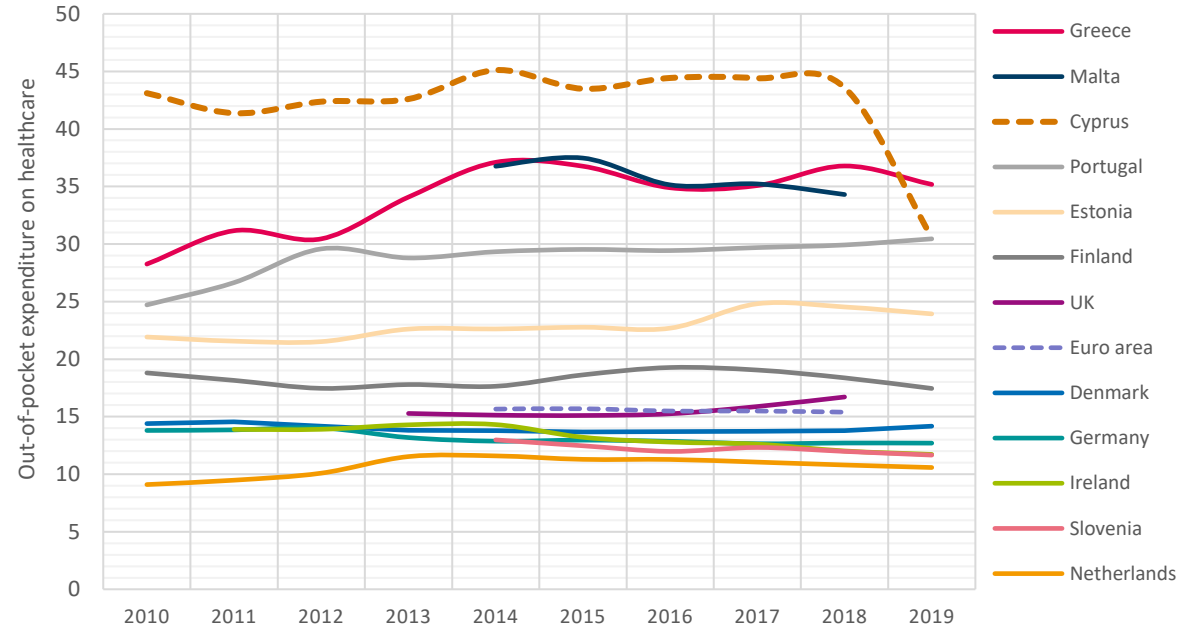
Source: Eurostat, Severe material deprivation rate by most frequent activity status (population aged 18 and over) [ilc_mddd12].

Health

The 2019 CCR did not include any health statistics. This was an omission, as the health of a country's residents is an important source of competitiveness. This section provides four indicators related to health. Figure 135 shows out-of-pocket expenditures on healthcare. Cyprus stood out with the highest such expenditures by far until 2018. This reflects the lack of a national health system. There is a substantial drop in 2019, the year that the General Healthcare System was put in operation.

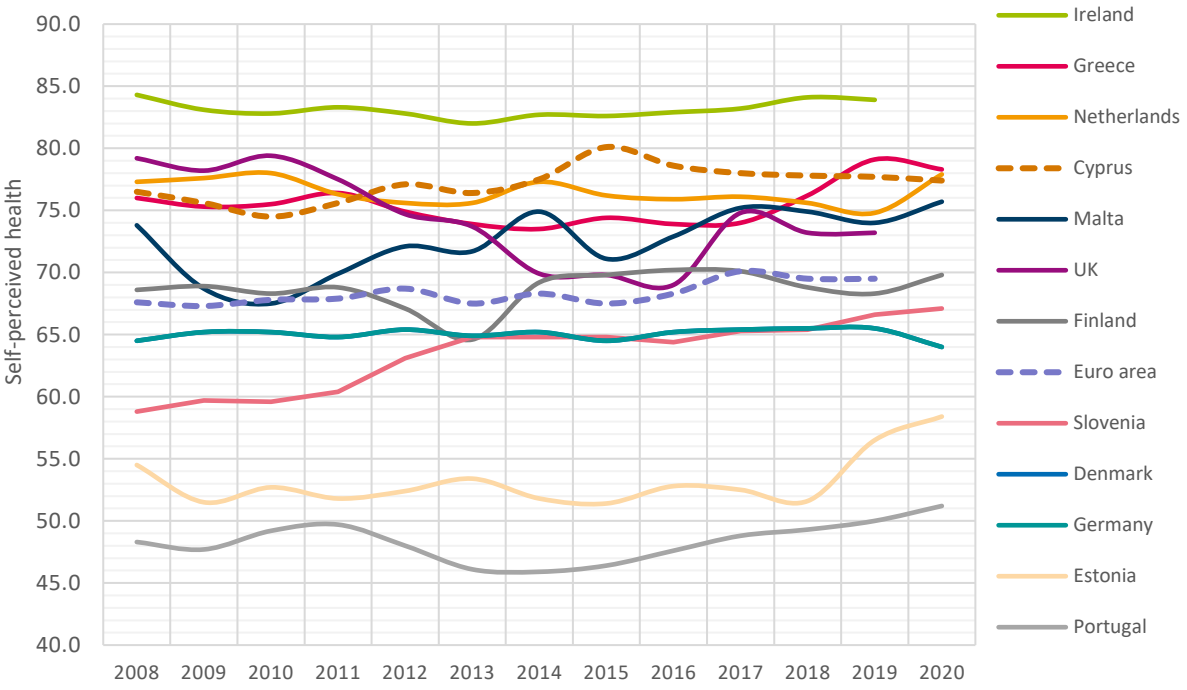
Figure 136 shows peoples' self-perceived health. The percentage of people rating their own health as good is among the highest in Cyprus, ranking third among the benchmark countries. This is a positive outcome, but it comes in some contrast with the next two indicators. Figure 137 shows Cyprus having the highest percentage of overweight children among countries for which data are available. Figure 138 shows Cyprus having the second highest frequency of tobacco use, behind Greece. There is a positive trend in that tobacco use has been declining over time, but this has been true in all countries, so Cyprus' ranking has not changed.

Figure 135 Out of pocket expenditure on healthcare, 2010-2019



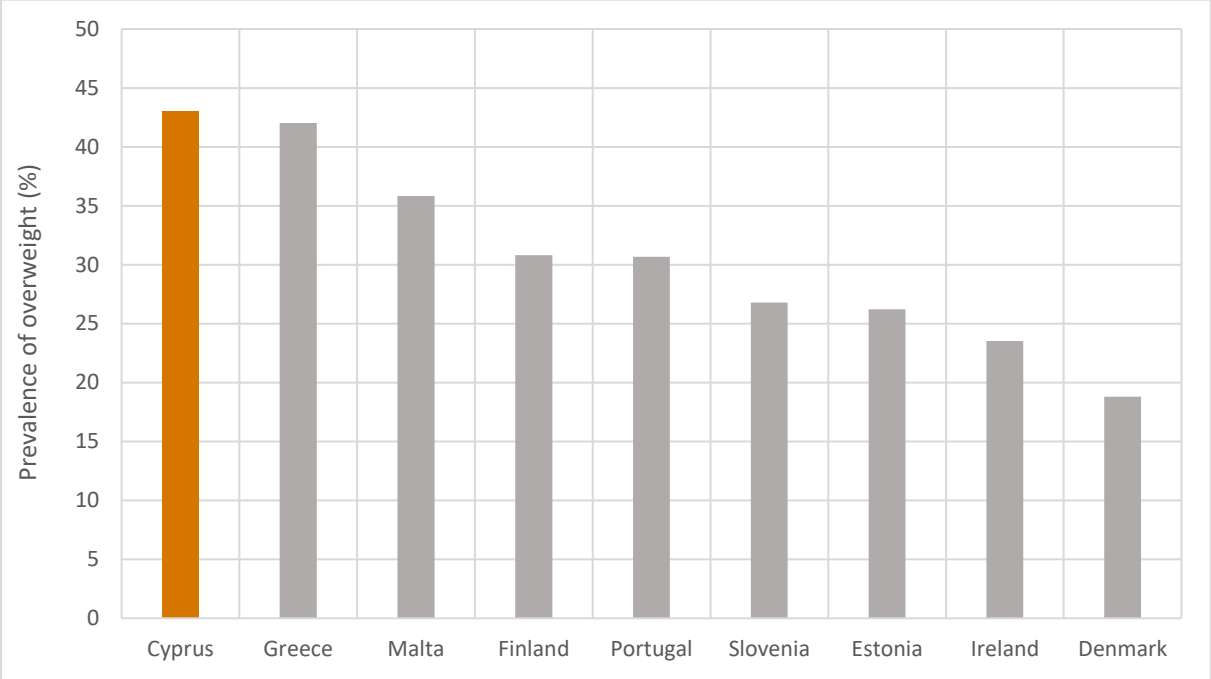
Notes: Israel is not depicted in this figure.
Source: Eurostat, Out-of-pocket expenditure on healthcare [tepsr_sp310]

Figure 136 Self-perceived health, 2008-2020



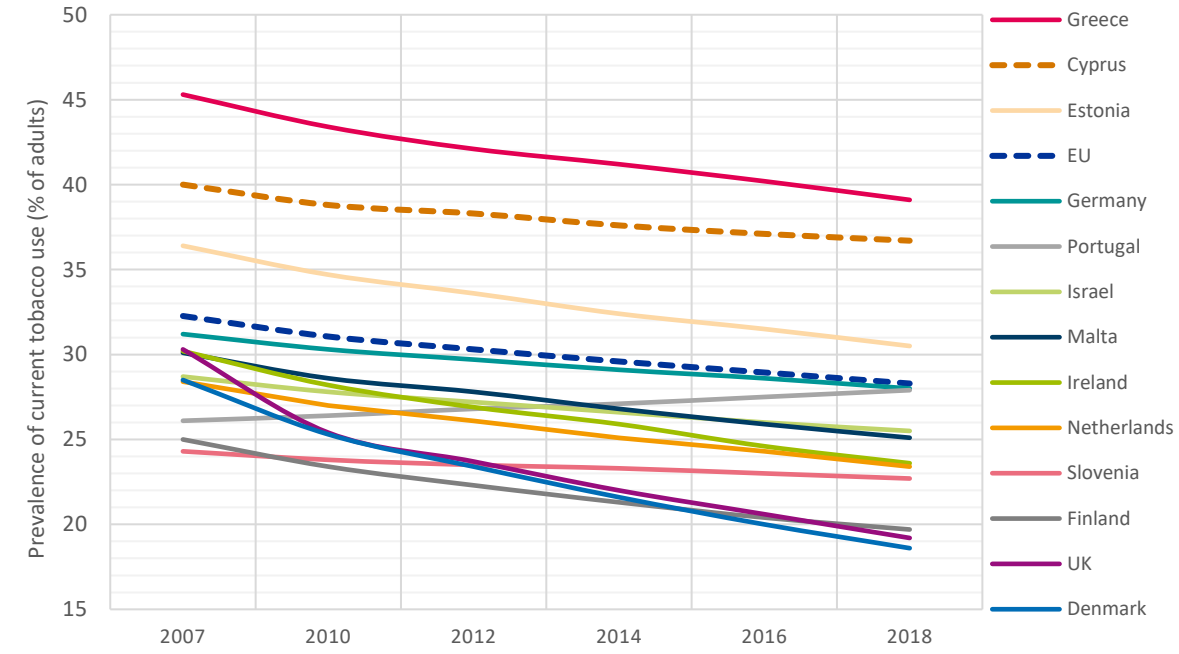
Notes: Israel is not depicted in this figure. Self-perceived health, % of population at good or very good
Source: Eurostat, Self-perceived health by sex, age and labour status [hlth_silc_01]

Figure 137 Childhood overweight rates, 2015-2017



Notes: Germany, Netherlands, UK and Israel are not depicted in this figure. Country-specific prevalence of overweight (including obesity) according to WHO definition among boys and girls, by age (%)
Source: WHO European Childhood Obesity Surveillance Initiative (COSI) Report on the fourth round of data collection, 2015–2017 (2021)

Figure 138 Prevalence of current tobacco use, 2007-2018



Notes: Israel is not depicted in this figure.
Source: World Bank, World Development Indicators, Prevalence of current tobacco use (% of adults)

Income inequality

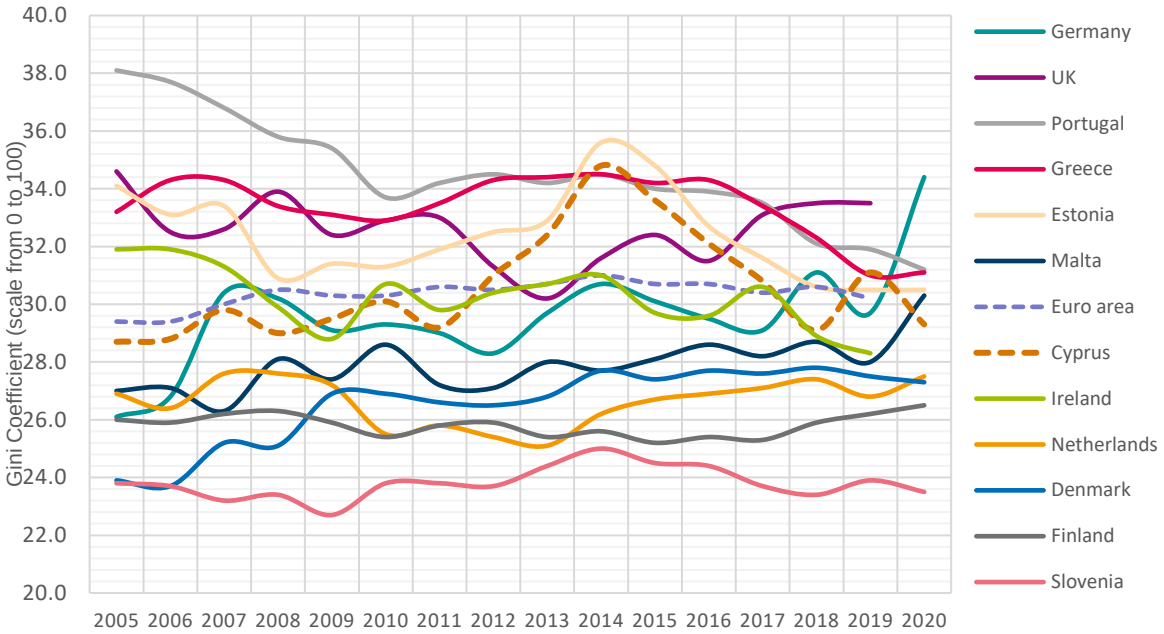
The picture on income inequality is similar to the indicator of persons at risk of poverty or social exclusion. Figure 139 shows the evolution of the Gini coefficient in Cyprus and the benchmark countries. The Gini coefficient ranges between 0 and 100, with a higher number meaning higher inequality. Cyprus was in the middle of the pack in 2008 but rose

to second place behind Estonia in 2014. Conditions improved until 2018 but took a negative turn in 2019, for reasons that are not immediately obvious. Cyprus had the second highest level of inequality in 2019, behind Portugal and just above improving Greece. Interestingly, inequality declined in the pandemic year 2020, unlike several other countries where it increased.

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 139 Gini coefficient of equivalised disposable income, 2005-2020



Notes: Israel is not depicted in this figure.
Source: Eurostat, Gini coefficient of equivalised disposable income (EU-SILC survey) [ilc_di12].

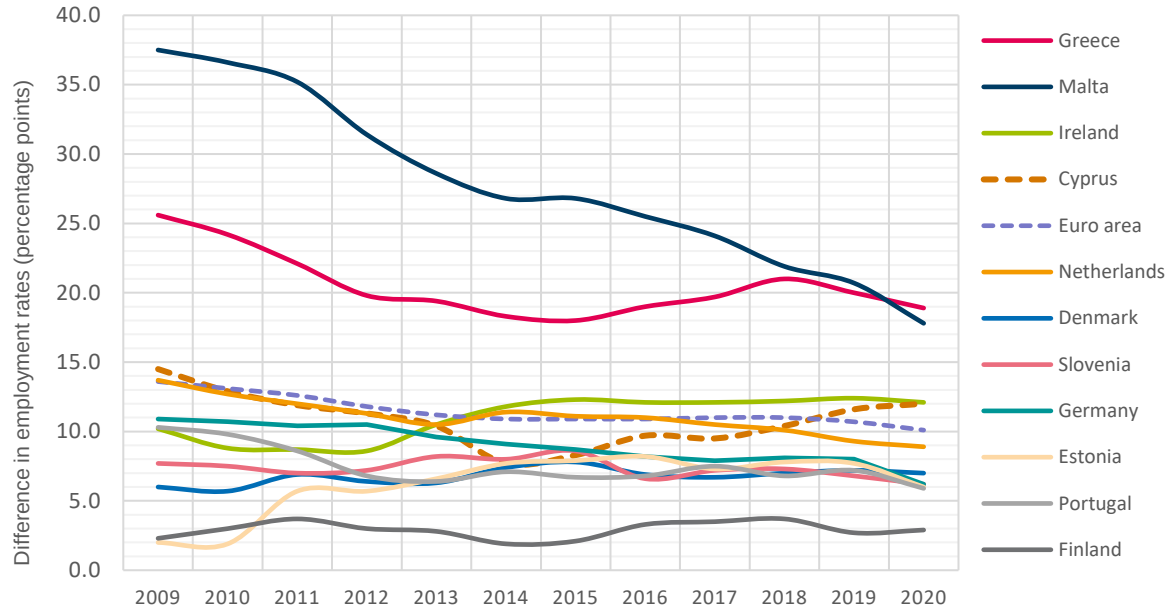
Gender employment gap

Figure 140 shows the gender employment gap, the difference between the employment rates of men and women. The gap for Cyprus was on an improving path until 2014, at which point it was one of the lowest among the benchmark countries at 7.7 percentage points. But it has been increasing ever since, and in 2020 it stands at 12 percentage points and is the fourth largest in the group and higher than the European Union 27 average with 11.1 percentage points.

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 140 Gender employment gap, 2009-2020



Notes: Israel and UK are not depicted in this figure.
Source: Eurostat, Labour Force Survey: Gender employment gap [tesem060].

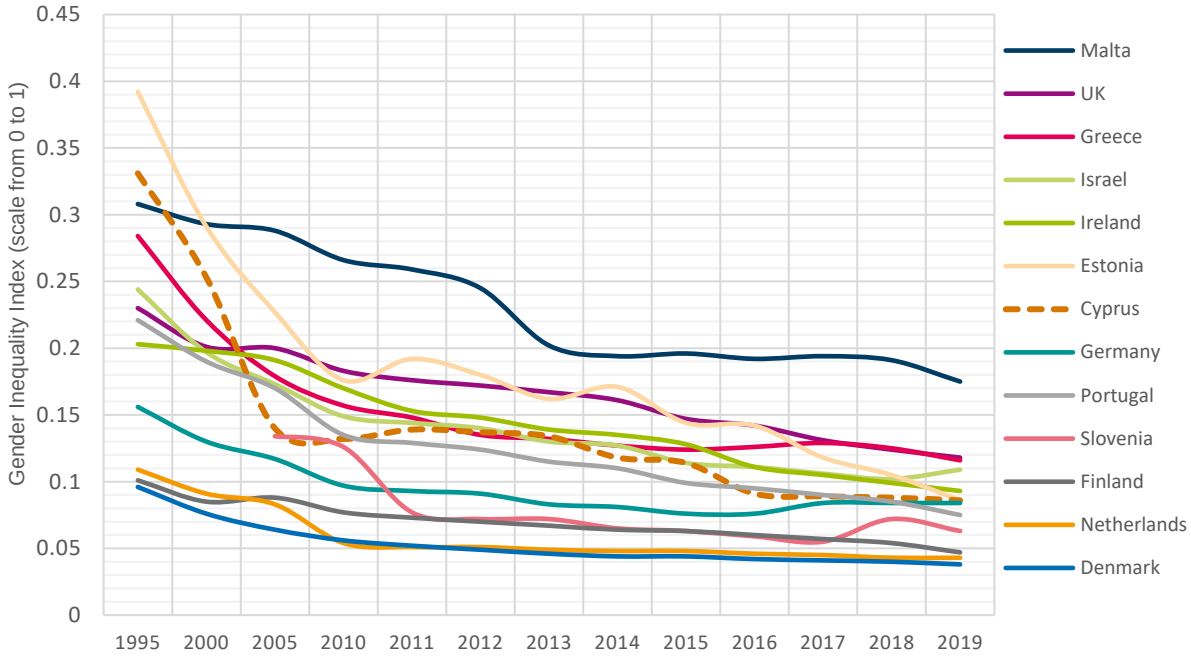
Gender inequality index

Figure 141 shows the UNDP's Gender Inequality index over time, which is a broader composite index of gender equality and Cyprus performs reasonably well. Cyprus is in the middle of the pack, outperforming Malta, UK, Greece, Israel, Ireland and Estonia, but placing behind several of the northern European benchmark countries. Cyprus improved considerably between 1995 and 2005. The index then remained flat for a few years and started gradually improving again after 2012. It is now at the same levels as countries like Germany and Estonia.

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 141 Gender Inequality Index, 2005-2019



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

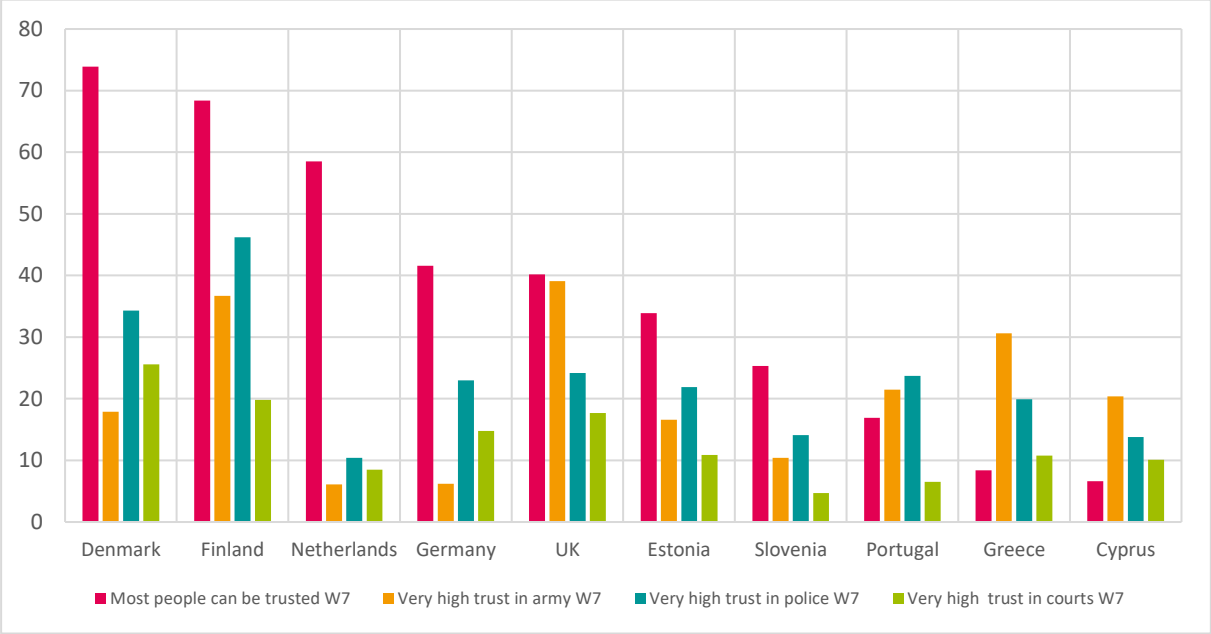
Social capital and trust

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 World Values Survey includes measures of trust that are available for Cyprus and most benchmark countries. Survey respondents are asked to respond to the following questions: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" In addition, individuals are asked to state how much confidence they have in several institutions.

The results for four of these questions are in Figure 142. Cyprus has the lowest fraction of people responding that "most people can be trusted", just 6.6%. Differences across countries are quite striking, with this fraction reaching around 70% in Denmark and Finland. Confidence in institutions like the police and the courts is also quite low in Cyprus, although it is not at the bottom of the list. For example, Slovenia and Portugal have lower rates of confidence in the courts, the Netherlands and Germany have lower confidence in the army, and the Netherlands have lower confidence in the police. Overall, the results are cause for concern, as the lack of trust in both institutions and in each other undermine social cohesion and progress.

Figure 142 Trust, 2017-2020



Source: World Values Survey, Wave 2017-2020.

8.2 Resource use and environmental performance

Overall environmental performance

Figure 143 shows the Environmental Performance Index, which is a broad composite measure of environmental health and ecosystem vitality developed at Yale University. Cyprus ranks 31st of 180 countries. This marks a drop of seven and six position respectively compared to the 2017 ranking. Cyprus has a global rank of 26 for the environmental health sub-index (10th among benchmark countries) and 49 for the ecosystem vitality sub-index (worst among benchmark countries).

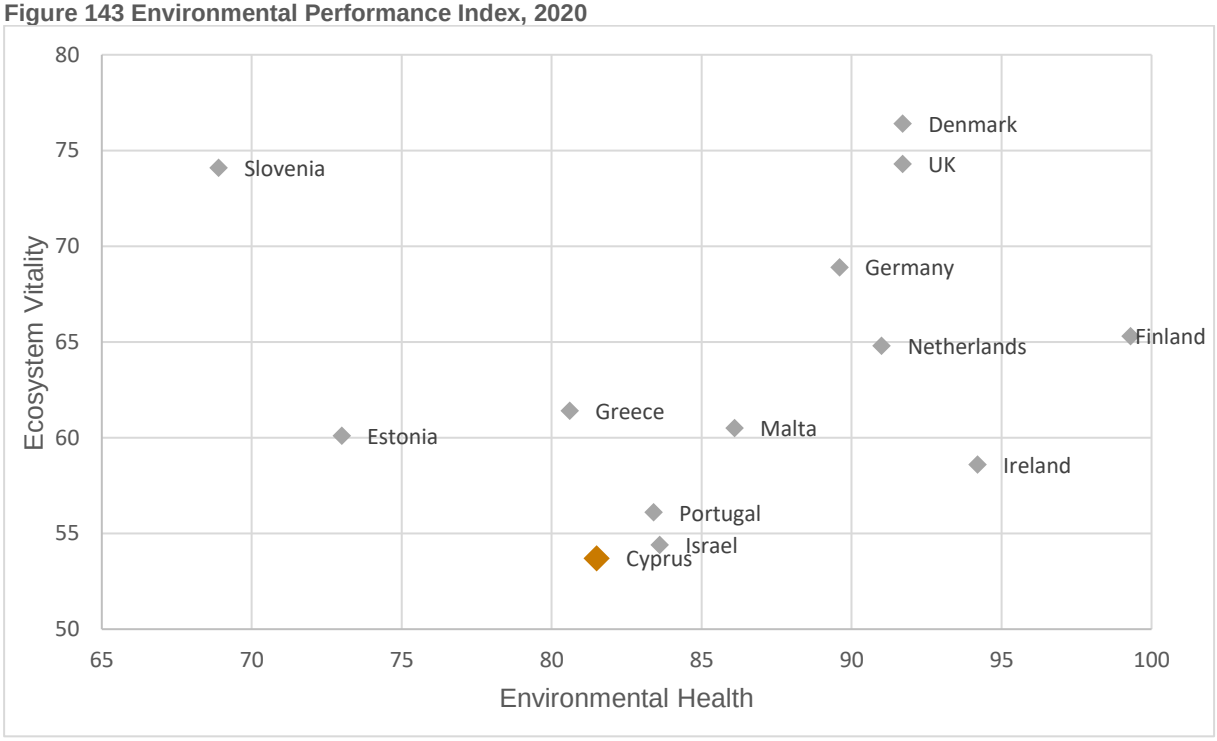
Overall, Cyprus performs well in global terms but is poorly positioned at the European level and in comparison to benchmark countries.

Cyprus' low and deteriorating position for ecosystem vitality is concerning given potential implications for the attractiveness of Cyprus as a tourism destination, and the need 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 143 Environmental Performance Index, 2020



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 144 shows the tonnes of Greenhouse gas emissions over time. Cyprus had made progress in reducing man-made greenhouse gas emissions per capita up until 2013. After 2014 greenhouse gas emissions per capita increased, bringing Cyprus up to third place after Ireland and Estonia. Cyprus is placed in the top half of the benchmark countries, and above the EU27, in terms of energy intensity relative to GDP, as depicted in Figure 146. Cyprus does better in terms of the fraction of the population who is exposed to pollution, grime or other environmental problems (Figure 145).

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 80 per cent from 1.6 to 2.9 million tonnes of oil equivalent between 1990 and 2019 (Eurostat, complete energy balances)[17].

Definition: Greenhouse gas emissions

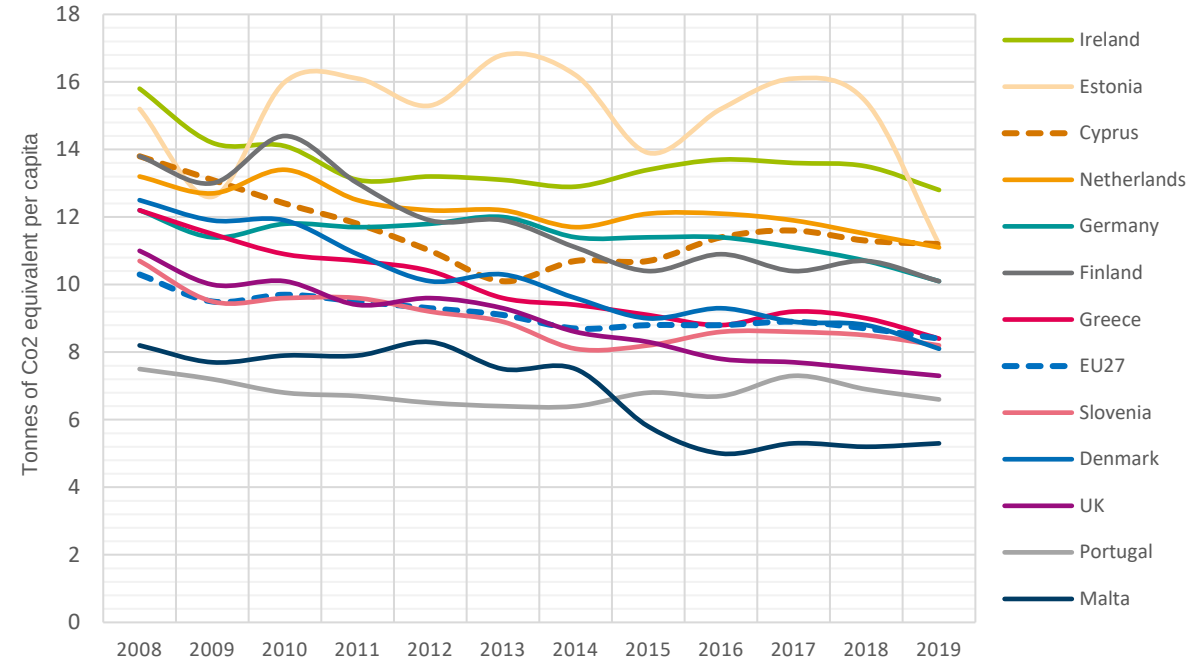
The Greenhouse gas emissions indicator shows man-made emissions of the 'Kyoto basket' of greenhouse gases that includes carbon dioxide, methane, nitrous oxide, and the so-called F-gases These gases are aggregated into a single unit using gas-specific global warming potential factors and expressed in 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.

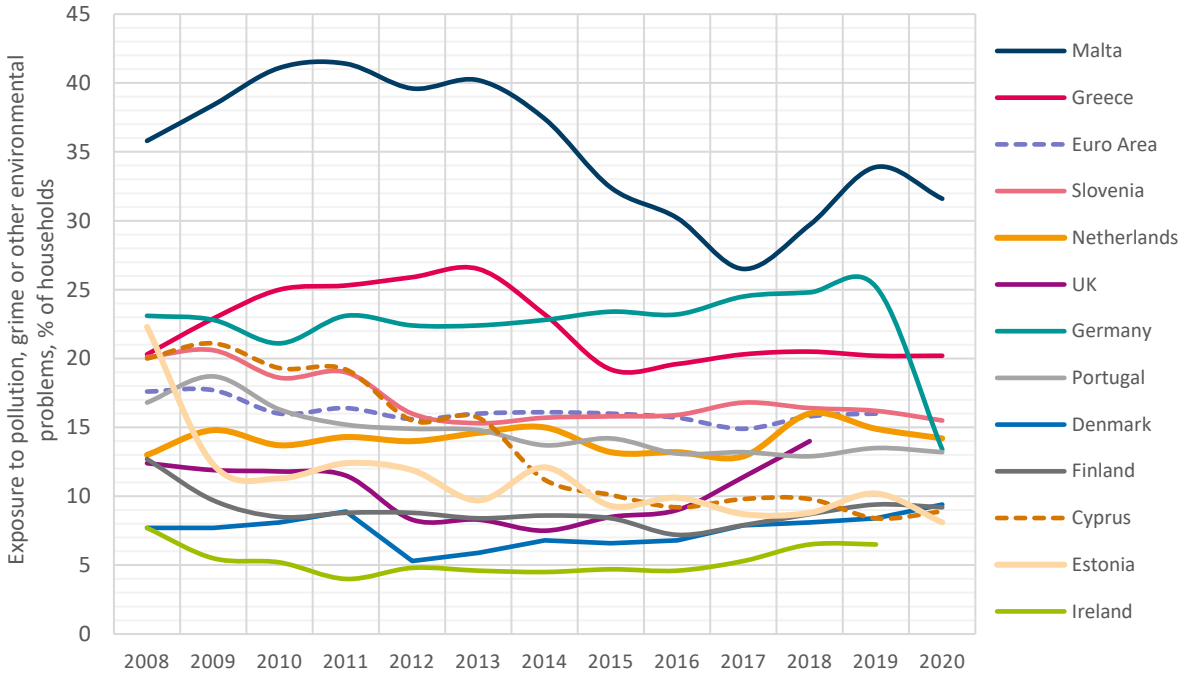
[17] Source: https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do.

Figure 144 Greenhouse gas emissions, 2008-2019



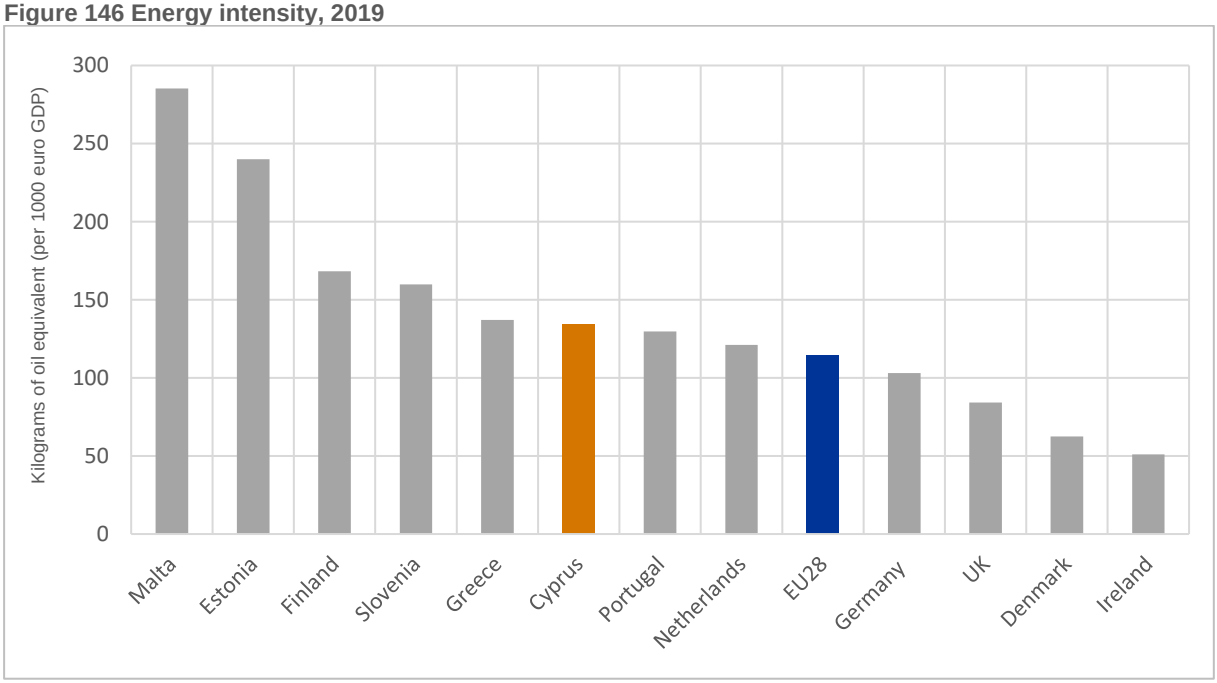
Notes: Israel is not depicted in this figure.
Source: Eurostat: Greenhouse gas emissions per capita [t2020_rd300].

Figure 145 Exposure to pollution, grime or other environmental problems, 2008-2020



Notes: Israel is not depicted in this figure.
Source: Eurostat, Pollution, grime or other environmental problems - EU-SILC survey [ilc_mddw02].

Figure 146 Energy intensity, 2019



Source: Eurostat, **Energy intensity** [nrg_ind_ei]

Renewable energy

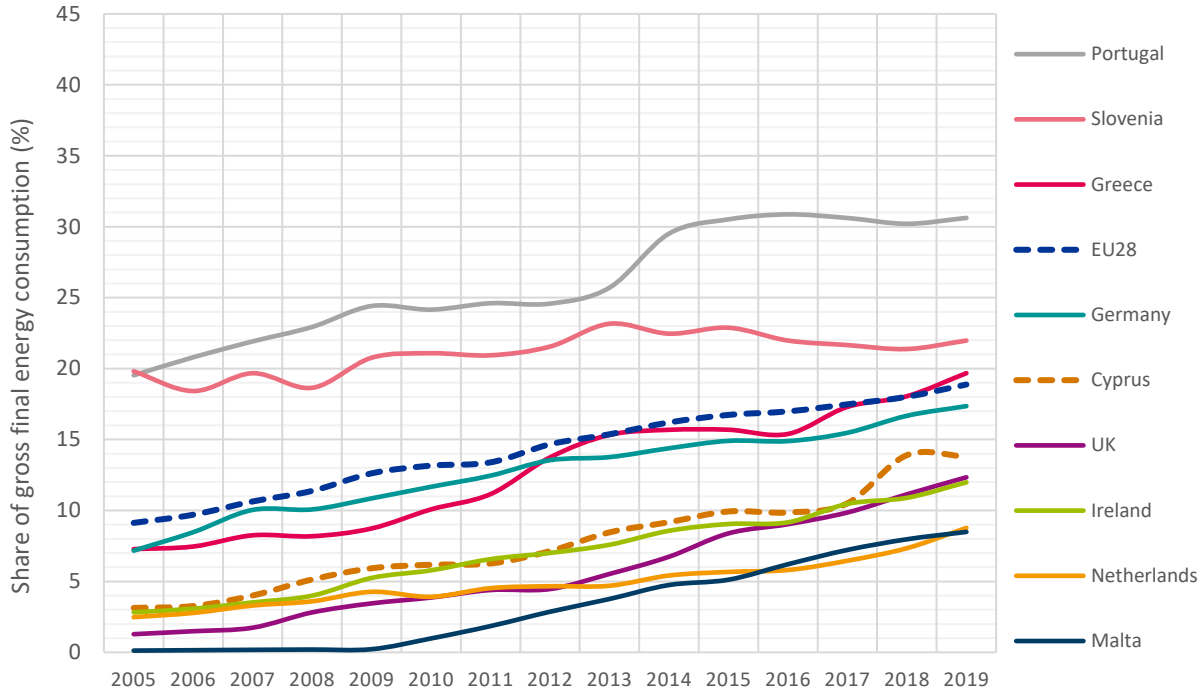
Cyprus' dependency on fossil fuels for energy is the highest in the EU (European Commission, 2019)[18]. As shown in Figure 147, Cyprus' renewable energy share was 13.8 percent in 2019, placing it in the 5th lowest position among the benchmark countries, ahead of Ireland, the UK, the Netherlands and Malta, but some distance behind Germany, Greece and the EU Cyprus reached the target of 13 percent of gross final energy consumption by 2020 two years ahead of schedule in 2018, but backpedalled somewhat in 2019. 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.

[18] Source: https://ec.europa.eu/energy/sites/default/files/documents/cyprus_draftnecp.pdf

Figure 147 Renewable energy in gross final energy consumption for selected countries, 2005-2019



Notes: Israel is not depicted in this figure.
Source: Eurostat: Share of renewable energy in gross final energy consumption [t2020_rd330].

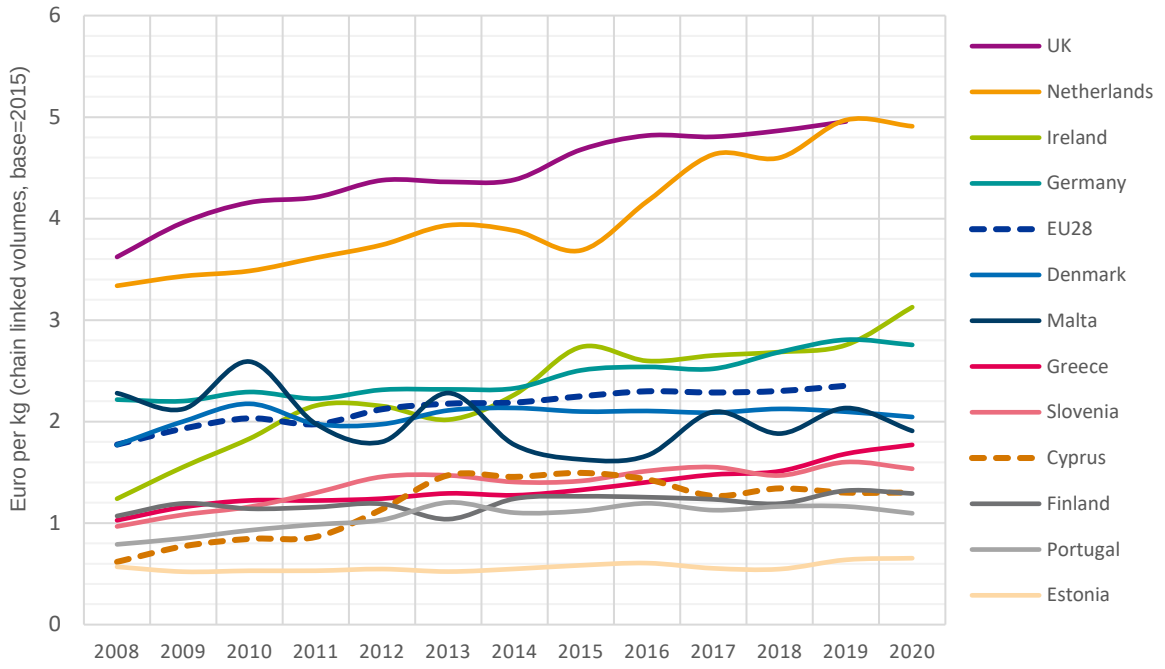
Resource productivity

Cyprus is way below the EU average in terms of resource productivity, measured as domestic material consumption (DMC) per euro of (real) GDP Even more worryingly, the trend is not positive (Figure 148). Cyprus' resource productivity was improving until 2013 but has been more or less flat ever since; in fact, it is slightly lower in 2020 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 148 Resource productivity (GDP divided by domestic material consumption), 2008-2020



Notes: Israel is not depicted in this figure.
Source: Eurostat: Resource productivity and domestic material consumption [sdg_12_20].

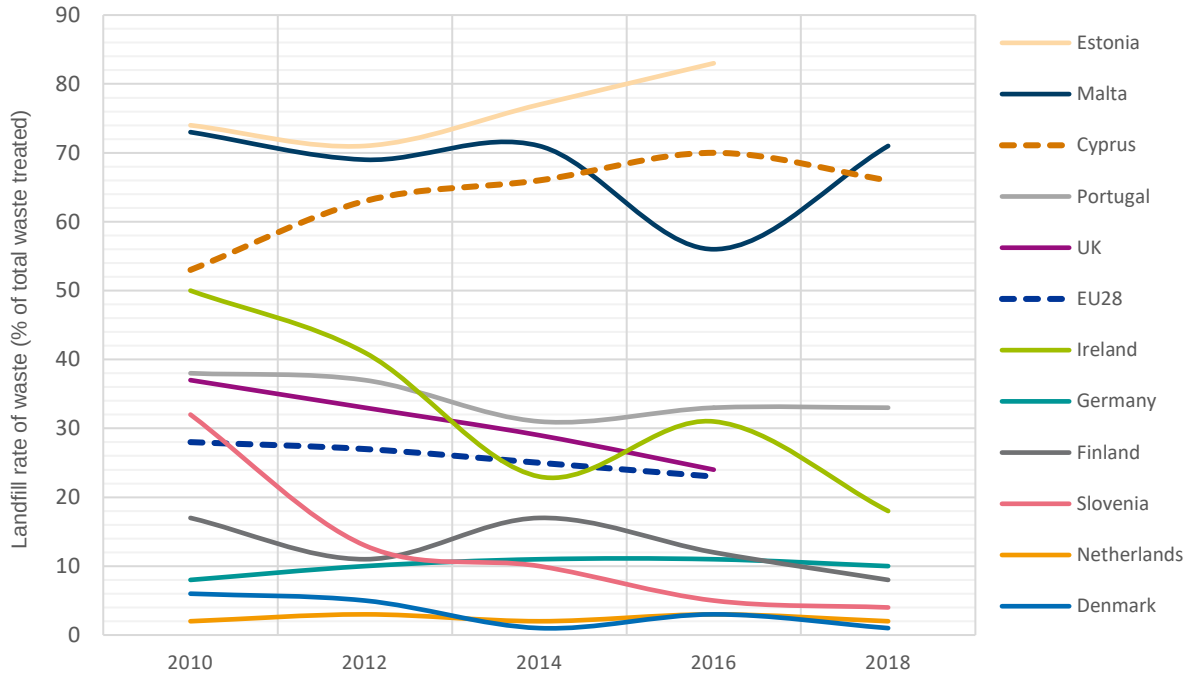
Waste management: Landfill

A high proportion of waste in Cyprus goes to landfill. As indicated in Figure 149, nearly 66 percent of non-mineral waste went to landfill in 2018. The situation has been exacerbated by rising tourism in recent years, which has increased pressure on waste disposal systems on the island.

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).

Figure 149 Landfill rate of waste (excluding major mineral wastes), 2010-2018



Notes: Israel and Greece are not depicted in this figure.
Source: Eurostat: Landfill rate of waste excluding major mineral wastes [t2020_rt110].

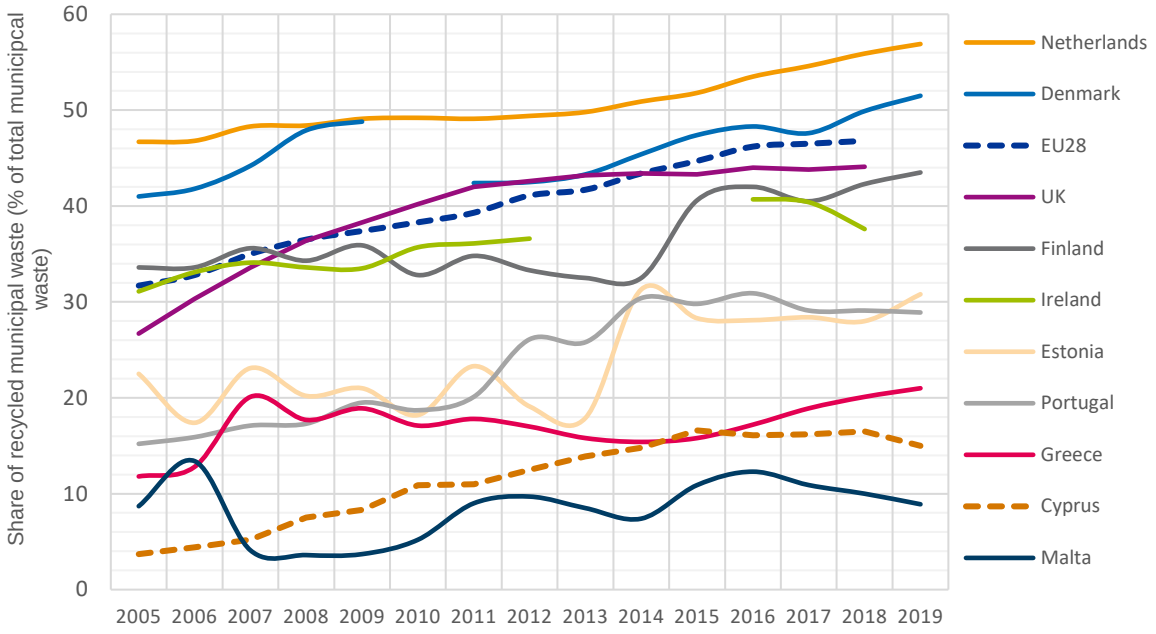
Waste management: Recycling rate

Cyprus' recycling rate is low as shown from Figure 150, 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 2019 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 wastes 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 Recycling rate of municipal waste, 2005-2019



Notes: Israel is not depicted in this figure.
Source: Eurostat: Recycling rate of municipal waste [sdg_11_60].

9 The impact of the pandemic

The coronavirus pandemic caused unprecedented economic challenges to individuals, businesses, and governments. It led to massive disruptions in economic activity, causing entire sectors of the economy in many countries to almost completely shut down. Governments had to spend large amounts of money to support struggling businesses and workers in an effort to minimize layoffs and maintain work arrangements. The rationale was that sustaining the productive capacity of the economy would allow for a quick return to normal economic activity once the pandemic was over.

Cyprus found itself facing this historic crisis before it had fully recovered from the previous one. The employment situation had improved significantly since 2013 but had not yet returned to pre-crisis levels; banks were still struggling to offload non-performing exposures; and both public and private debt remained high. On the other hand, the overall macroeconomic and fiscal conditions were stable, the government could borrow at historically low interest rates, investment had rebounded, and the economic outlook was generally positive.

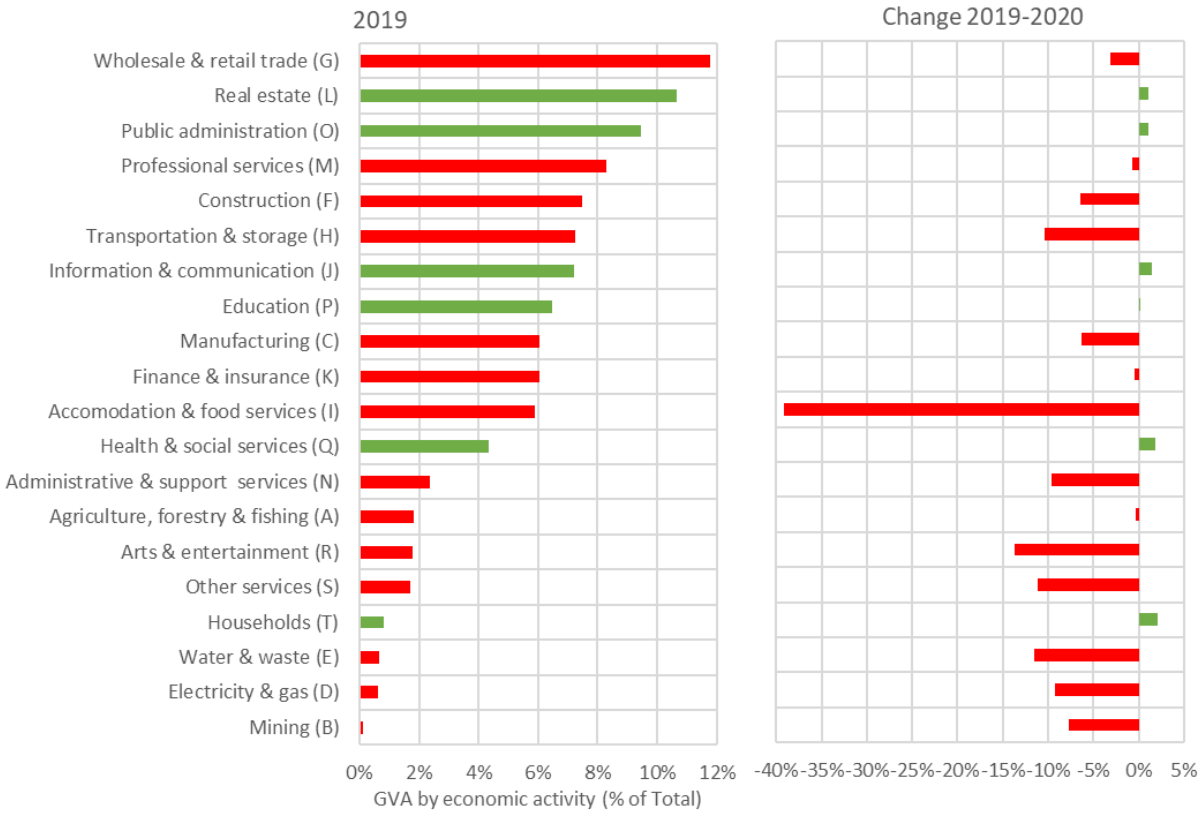
9.1 Short-term economic impact

Economic activity. The impact of the pandemic on economic activity was quite significant and put the economy in recession for four quarters. In 2020Q2 real GDP dropped by 12.0% year-on-year, the largest single-quarter GDP decline on record (since 1995). It dropped 5.3% and 4.4% in the third and fourth quarters of 2020, and 2.1% in the first quarter of 2021. In the second quarter of 2021 it recorded a large increase of 13.3% over the previous year, which essentially wipes out the decline of the same quarter in 2020. At the end of 2021Q2, real GDP stood about 2.8% below the peak of 2019Q4, and the overall decline in 2020 was 5.1%. The latest Ministry of Finance projections are for a growth rate of 5.5% in 2021 and 4.0% in 2022. This means that GDP will recover fully to its pre-pandemic levels in 2021.

Figure 151 shows how the different sectors of the economy were affected. The chart on the left lists the sectors in descending order of size, and the one on the right shows the percentage change in the sector's GVA between 2019 and 2020. Accommodation and food services was the worst hit sector, with a 39.1% decline in output. Among the larger sectors, significant declines were also recorded for Transportation & Storage (-10.4%), Construction (-6.4%), and Manufacturing (-6.3%). The overall decline in GDP was mitigated by some large sectors that managed to actually grow in this period, notably Real estate, Public administration, Information & Communication, and Education.

Unemployment. Despite the large decline in GDP, the massive support measures implemented by the government were successful in keeping the inevitable increase in unemployment and decrease in employment very much in check. The unemployment rate rose from 7.1% at the end of 2019 to 7.6% at the end of 2020, while the employment rate decreased over the same period from 75.7% to 74.9%. The labour market stabilized in 2021 and is projected to average 7.5% over the year.

Figure 151 The pandemic's impact on economic activity by sector



Source: CYSTAT, National Accounts: Persons employed.

Public finances. As might be expected, there was a large deterioration in public finances. The government went from a 1.5% budget surplus in 2019 to a 5.7% deficit in 2020. Deficits are expected to continue through 2022, with the MoF projecting 4.7% for 2021 and 0.9% for 2022. A return to surpluses is expected in 2023. The large deficits have led to an increase in public debt, which jumped from 94.0% of GDP in 2019 to 118.2% in 2021. The increase is larger than might be expected given the budget deficits. This is because the government pre-emptively borrowed large amounts in order to ensure that it will have liquidity at hand to support the economy as needed. Not all this liquidity was used, and as a result the government now has a large buffer that can be used to retire maturing debt. This implies a lower need for borrowing in the near term, and therefore a quick return to debt levels below 100%. The MoF projects that to happen in 2023.

Inflation. Cyprus had three years of declining prices in 2014-2016, as the economy was struggling to emerge from the financial crisis. Even after the inflation rate turned positive in 2017, it remained lower than the average euro area inflation rate, in contrast to what had been the case prior to 2012. The pandemic caused prices to decline again, starting in April 2020. The price decline was much bigger than the euro area; it lasted for twelve months, and the inflation rate reached -2.9% in August 2020. By contrast, inflation in the euro area was negative for just five months and only hit -0.3%. Prices in Cyprus started rising again (year-on-year) in March 2021 and the inflation rate hit 3.3% in August 2021, compared to 3.0 in the euro area.

Tourism. Tourism was hit hard. Tourist arrivals in 2020 were down 84% compared to 2019, and tourism revenue was down by 85%. The first six months of 2021 followed the same trends. It was not until July that tourist arrivals began to pick up, giving hope for a better second half of 2021, and a return to (near) normality in 2022. All this is, of course, dependent on the health situation in both

Cyprus and the countries where tourists come from.

Table 2 Impact of pandemic on key economic data

Cyprus	2019	2020	2019 Q4	2020 Q4	2021 Q1	2021 Q2
1) Real GDP (2005=100)	127.07	120.59	128.38	122.74	124.82	125.09
2) **GDP growth rate**	3.1	-5.1	3.23	-4.4	-2.15	12.86
3) **Public debt (€ million)**	20,754	24,631	20,756	24,632	25,814	24,646
4) **Public debt (% of GDP)**	94.0	119.1	94.0	119.1	125.7	-
5) **Budget balance (€ million)**	326	-1,193	-	-	-	-
6) **Budget balance (% of GDP)**	1.5	-5.7	-	-	-	-
7) **Employment rate**	81.4	81.1	81.1	81.2	80.0	-
8) **Unemployment rate**	7.1	7.6	6.5	8.2	7.9	-
9) **Consumer price index**	100.78	99.67	100.68	99.59	98.93	101.34
10) **Inflation rate (period average)**	0.5	-1.1	-0.5	-0.1	0.2	0.7
11) **CA balance (% of GDP)**	-6.32	-11.97	-3.59	-6.51	-7.39	-
12) **Balance of payments**	-10.09	-17.72	-3.72	-6.00	-6.34	-5.01
13) **Tourism arrivals**	3,976,777	631,609	716,231	119,425	17,747	323,237
14) **Tourism revenue (€ million)**	2,683	392	449	93.1	14.5	244.2

Notes: All growth rates are in comparison to same period in the previous year. Debt is amount outstanding at end of period.
Sources: 1, 2, 4, 5-12 are from Eurostat; 3 is from the Cyprus Public Debt Management Office; 13 and 14 are from the Cyprus Statistical Service.

9.2 Social impact

Beyond its impact on economic activity, the pandemic has affected lives in many other ways. Work from home, online meetings, distance learning, social distancing and mobility restrictions have amounted to a drastic disruption of everyday life and human interaction. The effects of these changes on the human condition will likely be studied for a long time to come. Some early evidence was recently published by the Economics Research Centre of the University of Cyprus.[19] The analysis is based on the SHARE Corona Survey that is carried out in several European countries and provides information on the impact of the COVID-19 pandemic in the areas of health, labour market and the economy. There were two waves of the survey, one in 2020 and one in 2021. The survey includes questions about physical and mental health, employment status, and financial situation.

About one in ten (10.6%) Cypriots stated that their health had worsened since the outbreak of the pandemic and only 1.4% stated that it had improved. 11.1% said that they had medical appointments postponed due to the coronavirus (the average for all countries in the survey was 18.5%). 9% of the respondents had to forego medical care because they feared a possible coronavirus infection (average 9.9%), while 2.7% requested an appointment for medical care and received a negative answer. A positive statistic is that 95.9% of the correspondents who were treated in a hospital were very satisfied with the treatment they received.

Mental health issues were prevalent. Among respondents who experienced depression, 73% associated this feeling with the outbreak of the pandemic (average 61.7%). Among respondents who experienced loneliness,

[19] See Theodoropoulos and Voucharas (2021).

48.4% connected this feeling with the outbreak of the pandemic (average 39.2%).

Cyprus ranks third (after France with 37.6% and Greece with 36.3%) with 33.1% of citizens who became unemployed, laid off or had to shut down their business due to the coronavirus crisis. 5.7% of the respondents worked longer hours than before the pandemic, while 15% saw a reduction in their working hours. 54.4% of the respondents stated that their household meets its financial obligations with great or with some difficulty. Despite this high rate, the percentage of respondents who received additional financial support due to the pandemic either from their employer, the government, relatives, friends and/or others was 5.7%, which is half the average European rate (12.3%).

9.3 Long-term competitiveness

The coronavirus pandemic caused unprecedented disruptions in economic activity at a global level. Entire sectors of the economy were almost completely shut down and global supply chains were disrupted. As economic activity returned in 2021, there were shortages of critical inputs such as electronic components, leading to delays in the production of consumer goods like cars and appliances. The sharp increase in shipping costs and the rise in energy prices caused large price increases for many goods, especially construction materials.

Many of these problems are likely temporary. Supply chains will sort themselves out and shortages will be corrected by market forces. But some other changes may have long-term effects that will affect how the worldwide economy develops in the next few years and decades. For example, the pandemic has brought many changes to the way we work and the way we travel. Are these changes here we stay, or will we return to the previous normal once all this is behind us?

One of the biggest changes is the increasingly important role of technology in our lives. It is a combination of two forces: increased adoption of already existing technologies, and technological advancement that made those technologies better and introduced new ones. Video conferencing technology is a prominent example. Software like Teams, Zoom, Webex, and Skype already existed before the pandemic. But their use was vastly expanded during the pandemic. Zoom and Teams are widely used in the education sector, while Webex is more prevalent in the business world. Zoom was little known in February 2020, but zoomed (sic) to the top of the pile when people started for looking for ways to connect. These software packages have improved significantly in the 18 months of pandemic life, adding features like breakout rooms, support for large numbers of users, increased security, and various other functionalities.

Cyprus was no exception to these global trends. Universities and private schools were quick to switch to online instruction once lockdowns began. The transition took longer in public schools because the infrastructure was not up to speed. Large businesses such as banks and accounting firms implemented work-from-home protocols and switched to online meetings. Online shopping saw a large boost. Many retailers expanded their online shopping capabilities, while others made them available for the first time. Partly for this reason, there was an increase in the use of credit cards. Grocery stores and food delivery establishments were the primary beneficiaries of this change.

Transportation is another activity that was heavily hit by the pandemic. The International Air Transport Association (IATA) reported a decline of 60.2% in the number of passengers who flew in 2020 compared to 2019. Early data for 2021 suggest a significant improvement over 2020, though a return to

pre-pandemic levels is not in the cards yet. The latest data from the US show that travel in June 2021 was down 20.3% compared to 2019, but the gap has been closing over time. Will air travel fully recover? Will tourists start roaming the globe again, or will they opt for fewer trips, closer to home? Will businesses stick with online meetings or scrap them and resume face-to-face gatherings? These questions are being debated in both corporate and policy circles. For Cyprus, this is an important topic. As a somewhat remote tourist destination, Cyprus stands to lose if tourists decide to stay closer to home. On the other hand, Cyprus is also trying to establish itself as a place to live and do business. One of its disadvantages in that respect is the fact that it is somewhat distant from large business hubs in Europe. This might turn out to be less of a disadvantage if technology reduces the need for corporate travel. The efforts by many countries—including Cyprus—to lure "digital nomads" point in this direction.

There is already some evidence suggesting that the pandemic-induced technological transformation may be having an impact. Cyprus' position in two key innovation assessments, the Global Innovation Index and the European Innovation Scoreboard, improved significantly in 2021 (see section 7.2). There are some caveats to these improvements. First, Cyprus started from a low position and progress was relatively easy to achieve. Second, these are survey-based indicators that are highly variable for small countries with small numbers of participating firms. Nonetheless, these are steps in the right direction that can be leveraged to help sustain momentum for future progress.

The pandemic has also given us pause for thought on diversification, resilience, and self-sufficiency. Improved logistics have made global value chains extremely efficient, but they have also made them vulnerable to sudden stops. The European Union has made increased resilience a key objective of its recovery strategy. Cyprus is a small, open economy that must think especially hard about the need to diversify and make its economy more resilient. One of its largest export sectors is tourism, a sector that is highly competitive, susceptible to large swings in demand, reliant on a small number of large markets, and a strain on resources and the environment. Security of supply of energy sources and food products must also figure in the discussion.

These concerns have been pivotal in shaping the LTES and in selecting the reforms and investments that have been included in the RRP. Principles such as sustainability, diversification, resilience, and the green economy are key objectives that play a critical role in the LTES. This may yet turn out to be the silver lining of the great calamity that is the coronavirus pandemic.

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. In the early 2000s it had to make some adjustments as part of the process of EU accession, but also to distance itself 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 pricked 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%. The economy rebounded strongly between 2015 and 2017, outstripping all the benchmark countries except Ireland and Malta. This strong performance 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 the economy. 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.

Underneath its headline growth performance, Cyprus is generally positioned below the EU average for competitiveness outcome indicators, often at a similar level or even above eastern and southern EU benchmark countries (i.e., Estonia, Slovenia, Portugal, Malta, and Greece):

- **Productivity** (Section 5.1). Labour productivity in Cyprus is below the euro area average and below all benchmark countries except Portugal and Greece. It is also on a negative trend, having dropped from 95.7% of EU27 average in 2008 to 80.6% in 2020. This can be at least partially attributed to the service-based nature of the Cypriot economy. Productivity growth in services is often hard to achieve (a feature known as

Baumol's disease). This is almost surely true for traditional service sectors like tourism, real estate and construction, which are the mainstay of the Cypriot economy. Productivity growth is easier to achieve in technology-related services like ICT. But investment in such services has historically been low and they have made only a very small contribution to GDP growth. A negative trend was also observed in total factor productivity growth. The trend has reversed since the crisis, but TFP growth remains subdued. This suggests greater investment is required in areas likely to boost productivity over the longer term, such as technology, infrastructure, and other productive investments.

- **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.[20] 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 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 3 below.

[20] 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.

Table 3 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 60, Figure 61). • Low levels of market dominance (• Figure 63). • A good balance between labour rights and labour market flexibility (Figure 75, Figure 76).	• Relatively high costs of trading across borders (Figure 62). • Low regulatory quality (Figure 64).
Business environment & institutions: Some strengths such as low taxes but many challenges to be addressed	
• Strong performance in resolving insolvency, paying taxes, and protecting investor rights are at levels equivalent to or above the EU average (Figure 67). • Low tax rates (Figure 75) and tax wedge on labour (Figure 76). • About average performance in the e-Government index and significantly better than average in the e-Participation index (Figure 74).	• Weaknesses in the overall ease of doing business (Figure 66) and in selected areas, notably enforcing contracts and dealing with construction permits (Figure 38, Figure 67). • Below average performance in protection of property rights (Figure 68, Figure 69), control of corruption (Figure 70), government effectiveness Figure 71). • Relatively high levels of wage bill (Figure 73). • Inefficient justice system (Figure 77 to Figure 82). • Low levels of voice and accountability (Figure 72)
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). • Good performance in terms of cost and time to start a business and insolvency framework (Figure 87).	• Growth of innovative companies, companies embracing disruptive ideas and willingness to delegate authority Figure 87). • Low ranking in entrepreneurship index Figure 85).
Firm characteristics, dynamism & sophistication: *Strong entrepreneurial spirit, but a lack of entrepreneurial activities and support for entrepreneurship*	
• Strong entrepreneurial aspirations Figure 86). • Firm resilience and adaptability after the crisis (Section 1). • Adequate investment in intangible assets (Figure 89).	• Very few large firms (Figure 6). • Limited entrepreneurial infrastructure (Figure 85). • Low levels of business dynamism and sophistication even if somewhat improving (Figure 36, Figure 87 and Figure 88). • Low overall investment (Figure 89, Figure 91).
Human capital: *A well-educated work force, but lacking in science and technology-related skills*	
• High levels of government and private expenditure in education (Figure 92 and Figure 93). • Well-educated work force, with high levels of tertiary education (Figure 94 and Figure 96).	• Low levels of adult participation in education (Figure 95). • Low levels of vocational education enrolment (Figure 97). • Low levels of graduates with science and technology qualifications (Figure 98). • High levels of early school leavers in young population (Figure 99). • Lowest average PISA scores among benchmark countries (Figure 100). • Low levels of digital skills (Figure 101).

Strengths	Weaknesses
	• High levels of skills mismatches and overqualified workers (Figure 102 and Figure 103).
Technology, innovation, and knowledge: ***Academic excellence does not translate into business innovation or technology adoption***	
• High levels of tertiary education (Figure 94). • Strong tertiary-level academic capacities Figure 110). • Above EU average SME product and process innovation Figure 113).	• Weak innovation system performance, despite recent improvement • Figure 104). • Low levels of total outputs (Figure 106). • Low levels of national R&D expenditure and weak private sector R&D activity (Figure 107 to Figure 109). • Relatively low ranking in Digital Competitiveness Ranking (Figure 111)
Financial infrastructure: ***Cost and access to finance for businesses remain a problem***	
• The financial sector has stabilised after the fiscal and banking crisis (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 but remains relatively high (Figure 117).	• Perceived weak financial ranking (Figure 34, Figure 115). • Non-performing loans have been significantly reduced but remain high (Figure 118) • Relatively high borrowing costs for businesses (Figure 119). • Limited availability of non-bank financing, such as equity, bonds and venture capital (Figure 120).
Productive and physical infrastructure: ***Limited external connectivity and weak ICT development are constraints***	
• Good road infrastructure (Figure 122). • Low apartment and retail rents cost (Figure 56).	• Low air and maritime connectivity, but air connectivity is improving (Figure 123 to Figure 125). • Low performance of logistics services (Figure 126). • Delays in obtaining electricity supply and high cost of electricity (Figure 127 and • Figure 57). • Modest ICT infrastructure and digital economy development (Figure 130). • Low average download and upload speeds, low digital skills and integration of digital technologies (Figure 129 and Figure 130).
Environmental performance: ***Environmental awareness is still a problem***	
• Relatively good Environmental Performance Index (Section 8.2). • Low levels of exposure to pollution, grime, and other environmental problems (Figure 145).	• Low ecosystem vitality and environmental health across benchmark countries (Figure 143). • Low levels of renewable energy (**Error! Not a valid result for table.**). • High proportion of landfill waste (Figure 149). • Low recycling rate (Figure 150). • Modest levels of greenhouse gas emissions (Figure 144).
Social performance: ***Good employment picture and overall health situation, but several risks must be addressed***	
• Improved gender inequality index (Figure 141). • High total employment rate (Figure 15) and low long-term unemployment (Figure 16) relatively to euro average.	• Relatively low life satisfaction (Figure 131). • High unemployment rate among benchmark countries (Figure 132).

Strengths	Weaknesses
• High share of people with good or very good self-perceived health (Figure 136).	• High share of people at risk of poverty and material deprivation (Figure 133 and Figure 134). • Significant out-of-pocket expenditure in healthcare, but situation improving (Figure 135) • High childhood overweight rate (Figure 137). • High frequency of tobacco use (Figure 138). • High gender employment gap (Figure 140). • Low levels of social capital (Figure 142).

10.2 Cyprus' competitiveness issues and policy responses

The 2019 CCR identified six broad areas where Cyprus faces competitiveness challenges: entrepreneurship and firm dynamism; business linkages and interaction; adoption of digital technologies; access to finance; human capital; and 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.

Overview of 2019 CCR recommendations

1. Entrepreneurship and firm dynamism

The absence of a culture of innovation in Cyprus is a widely recognized weakness that is also borne out in the analysis in this report. Many initiatives have been undertaken in recent years to stimulate and support entrepreneurship with policies targeting start-ups, high-growth, and innovative firms. The 2019 CCR recognized these initiatives and made the recommendations shown in the box below.

Recommendations from 2019 report:

- Further encourage and facilitate investment in high value-added and innovative activities and sectors.
- Ensure continued oversight, monitoring and evaluation of entrepreneurship performance and actions.

Additional recommendations:

- **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 t**he 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.

It is worth summarizing the key initiatives of the last few years, in addition to some key developments that have taken place since 2019. In December 2015 the government announced a *National Policy Statement for the Strengthening of the Entrepreneurial* Ecosystem, which set out a range of measures to support entrepreneurship, including: providing tax incentives to promote investments in innovate SMEs and start-ups; the *Cyprus Startup Visa programme*, providing visas and support to entrepreneurs from third countries; and an advisory and mentoring facility targeting SMEs that has been set-up, in cooperation with the EBRD.

In October 2018 a new National Research and Innovation (R&I) Governance System was adopted. It established a National Board for Research & Innovation (NBRI) as the competent authority for the design and implementation of the government's R&I policy. It also created the position of Chief Scientist with a mandate to coordinate and supervise the formulation of the national R&I policy and the overall operation of the National R&I Governance System. In May 2019 the NBRI circulated *Innovate Cyprus*, the 2019-23 R&I strategy framework for Cyprus. In March 2020 all this came under the competencies of the newly appointed Deputy Minister for Research, Innovation and Digital Policy.

There are also several private-sector initiatives aiming to support budding entrepreneurs. They provide logistical support, technical knowhow, financing, or some combination of the above. Some indicative examples are presented below, though this is by no means an exhaustive list.

Startup Cyprus was set up in 2016 with the aim to create a start-up ecosystem in Cyprus by giving support through networking, events, and training, and by engaging in policy advocacy. In 2021 a group named t*echisland* was established to represent Cyprus-based technology companies united to work together towards making Cyprus a tech island.

The *IDEA Innovation Center* was founded in 2015 by the Bank of Cyprus and other partners as an incubator-accelerator for startups and an entrepreneurship hub for Cypriot young entrepreneurs. It is a non-profit organization which forms a cluster of private and public partnerships to support startups and innovative SMEs. It hosts start-up companies offering them all the tools to gradually turn their idea into a profitable business. Since its establishment it has received 620 applications from which 74 entered IDEA and 47 of them managed to receive awards at National and International Competitions.

Cyprus Seeds is a non-profit organization in Cyprus which was established in 2018 by private sponsors with the mission to commercialize innovative academic research in Cypriot universities and research institutions. It offers grants but also mentoring, business skills, training and networking that will help the smooth transition of research projects from the laboratory to the marketplace.

It is fair to say that there have been important developments in the two years since the previous CCR, in line with the report's recommendations. Some improvement has already been recorded in some assessments like 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. 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. There is currently substantial interest on this topic and hopefully the discussions will come to fruition soon. The related but broader concepts of risk and uncertainty are also

important to understand and could be cultivated in schools. 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 disruption in global supply chains caused by the pandemic made this endeavour even more difficult. This is an issue that will have to be revisited once the world returns to relative normality.

Recommendations from 2019 report:

- 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.

Additional recommendations:

- **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. However, there is growing recognition that the 2018 legislation facilitating university spin-offs is unworkable and needs to be revised. As much is recognized in the RRP. One of the investments included in the RRP is the creation of a central technology transfer office by the Research and Innovation Foundation. The office is scheduled to be launched in the second quarter of 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 **112**) and reflected in the very limited contribution of ICT assets to GDP growth (Figure 45). It also goes together with apparent low levels of digital skills (Figure 97).

Recommendations from 2019 report:

- 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 2019 recommendations were overtaken by events. 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

The 2019 report found that businesses in Cyprus face a lack of affordable, accessible, and sufficiently targeted sources of finance, both generally and to meet firm specific needs. The recommendations shown in the box below were straightforward.

Recommendations from 2019 report:

- Improve access to, and availability of, alternative sources of finance.
- Explore the feasibility of a national venture capital fund.

This state of affairs was unlikely to change within a couple of years, and certainly not with the disruption brought on by the pandemic. Despite the challenges, there have been some positive developments. Efforts to rid the banking system of non-performing exposures (NPEs) have been bearing fruit and Cyprus is on the verge of bringing 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. At the same time, the increase in NPEs due to the pandemic has been kept in check. 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. Moreover, the court system continues to be a major hindrance in the administration of justice, especially when it comes to foreclosures.

In 2019 the government decided the creation of an equity fund to support SMEs, adopting a proposal by the ECC. The establishment of the equity fund has been included in the RRP. The measure involves a tender procedure to select and appoint an external fund manager for an investment period that is foreseen to be five years.

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 that there is a 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 opening up 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 from 2019 report:

- 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.

Additional recommendations:

- **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 progress within a couple of years, especially in the middle of the pandemic. However, this is a rather pressing matter, and one would hope to see action being taken as soon as possible. In this respect this report diverges somewhat from the 2019 one, which stated that human capital does not present an overly pressing competitiveness issue today. On the contrary, we believe that efforts for a major overhaul of Cyprus' education system could not start too soon.

6. External connectivity

External connectivity is another well-known weakness of the Cyprus economy and the topic of frequent complaints by its business establishment.

Recommendations from 2019 report:

- Formulate an international transportation / connectivity strategy and assess options to incentivise international connectivity to business partner locations.

This item remains on the agenda, though it must now be viewed afresh in the light of the massive disruptions in international travel brought on by the pandemic. On one hand, international travel has become more complicated because of the pandemic and because of concerns about its environmental impact. This exacerbates the problem for a country like Cyprus, for which travel is already an issue. On the other hand, technological advances and changes in attitudes towards online meetings and work from home might reduce the need for international travel and make the connectivity issue less of a problem. These are issues that need to be examined carefully as the return to normality after the pandemic sets in.

In terms of maritime transport, the creation of a Deputy Ministry of Shipping is an important development that could expand the sector and enhance the attraction of Cyprus as a shipping hub. One of the ministry's first initiatives was the establishment of a sea link between Cyprus and Greece. The project was thrown off course because of the pandemic but is now back on track again and should materialize in 2022.

Additional recommendations

1. 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.

Cyprus is one of the many countries that aims to attract FDI. However, for many years it was going about it the wrong way. Instead of

making itself attractive to investors, Cyprus focused on attracting wealthy individuals by offering residency or citizenship in return for investments in real estate. These schemes were successful in boosting the real estate development and construction sectors but there is little evidence that they attracted productive investments or entrepreneurs. The purchase of real estate by foreigners is not FDI.

Fortunately, attitudes seem to 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. The Ministry of Energy, Commerce, and Industry has recently introduced a dedicated portal called Business in Cyprus, which aims to be a one-stop shop for foreigners interested in investing in Cyprus.

The government unveiled its new strategy for attracting investment as this report was being finalized. The strategy is an important step in the right direction. Among others, it creates a Business Facilitation Unit to assist companies interested in locating in Cyprus; makes it easier to employ foreign nationals; introduces a digital nomad visa; offers tax breaks for relocation and for innovative companies.

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.

2. 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 45%, down from 51% because of the pandemic (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. Cyprus relies heavily on tourists from Britain and Russia, making it vulnerable to negative developments in those countries. Similarly, the growing private higher education sector is heavily reliant on students from Greece.

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, and the coronavirus pandemic. Still, the country 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 part of the developed world and a member of the European Union. 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 minor differences 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).[21]

"[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).[22]

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

[21] See: http://reports.weforum.org/global-competitiveness-report-2015-2016/methodology.
[22] See: https://www.imd.org/wcc/world-competitiveness-reflections/the-global-competitiveness-report.

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.[23] So a 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 in to 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.[24] 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:

[23] See Porter *et al.* (2008), Ketels (2016).

[24] 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.

"[National] competitiveness is the ability of a region [country] to export more in value added terms than it imports." Atkinson (2013)

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[25].

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

[25] See: http://www.competitiveness.ie/about-us/our-work

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).

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.[26] 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.[27] 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

[26] OECD (2001).

[27] See for example, Ketels (2016), OECD (2015).

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 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).[28] 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.[29] 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:

[28] See for example, Oulton (2004).
[29] Office of National Statistics (2007).

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.*

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.[30] 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

[30] 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).

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 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	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	-3	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		+1	Transparency International
Economic Freedom Index	41/177	46/178	45/178	48/180	44/180	37/180	33/178	+4	Heritage Foundation
Digital Competitiveness Index			53/63	54/63	54/63	40/63	43/64	-3	IMD
Travel and Tourism Report	36/141		52/136		44/140			+8	WEF
Logistics Performance Index		59/160		45/160				+14	World Bank
Global Innovation Index	34/141	31/128	30/127	29/126	28/129	29/131	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		+3	INSEAD

Note: Cyprus rank/Number of countries: The year refers to the publication date of the report, and not necessarily the date the data was collected.

CYPRUS

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