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ENTREPRENEURSHIP
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ECONOMIC GROWTH

MODELING
ECONOMIC
GROWTH IN
CONTEMPORARY
GREECE

Modeling Economic Growth in Contemporary Greece

Entrepreneurship and Global Economic Growth

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Modeling Economic Growth in Contemporary Greece

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Table of Contents

List of Figures	ix
List of Tables	xiii
List of Contributors	xvii
Foreword <i>Apostolos Serletis</i>	xix
Chapter 1 Determinants of and Obstacles to Economic Growth in Contemporary Greece <i>Vasileios Vlachos, Aristidis Bitzenis and Bruno S. Sergi</i>	1
Part 1 Dynamics of the Greek Economy	
Chapter 2 Competitive Position and Dynamics of the Greek Economy <i>Vasileios Vlachos and Aristidis Bitzenis</i>	13
Chapter 3 An Odyssey with a Happy End? Growth Challenges, Successes and Failures of Greece during COVID-19 Era <i>Konstantinos J. Hazakis</i>	29
Chapter 4 Forecasting Greek Real GDP Based on ARIMA Modeling <i>Chaido Dritsaki and Melina Dritsaki</i>	45
Chapter 5 Nominal or Real Convergence with the EMU Criteria: The Case of Greece <i>Aristidis Bitzenis and Pyrros Papadimitriou</i>	61

Part 2 Policies, Institutions, and Markets

- Chapter 6 The Interactions between Governance Quality and Economic Development** 105
Chara Vavoura, Dimitris Manolopoulos and Ioannis Vavouras
- Chapter 7 Social Policy in Dribs and Drabs for the Greek Crisis** 119
Dimitris Venieris
- Chapter 8 The Greek Labor Market during the Crisis: New Evidence on the Evolution of Wages, Employment, and Unemployment** 131
Evangelia Papapetrou and Pinelopi Tsalaporta
- Chapter 9 SME Productivity in Greece: The Role of Human Capital, ICT Adoption, and Innovation** 155
Ioannis Giotopoulos, Pelagia Kontaxaki and Helen Louri
- Chapter 10 The Impact of Competition Law on the Greek Economy** 169
Mark Clough QC and Efthymios Bourtzalas

Part 3 Characteristics and Performance of Selected Industries

- Chapter 11 Greek Banking System during the Crisis and Beyond** 191
Fotios Pasiouras and Minas-Polyvios Tsagkarakis
- Chapter 12 The Agri-food Sector in Greece: Prospects and Possibilities** 221
Stathis Klonaris
- Chapter 13 Energy Resources, Local Content Policies and Economic Growth: The Case of Hydrocarbons Exploration in Greece** 245
Stella Tsani
- Chapter 14 The Importance of Tourism for the Greek Economy: Traits and Development** 263
Jordanis Katemliadis and Andreas Papatheodorou

Chapter 15 The Greek ICT Sector and Its Contribution to Innovation and Economic Growth	281
<i>Aggelos Tsakanikas, Petros Dimas and Dimitrios Stamopoulos</i>	
Chapter 16 Issues, Policies, and Contribution of the Greek Transport Industry to Economic Growth	301
<i>Tania Pantazi and Vasileios Vlachos</i>	
 Index	 315

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List of Figures

Figure 1.1.	Greece: GDP, 1995–2019.	3
Figure 1.2.	Greece: Changes in GDP per Capita and Labor Productivity, 1995–2019.	4
Figure 1.3.	Greece: Gross Value Added by 10 Industries, 2001–2019.	5
Figure 2.1.	Macroeconomic Indicators: Greece and Euro Area, 1999–2019.	14
Figure 4.1.	Correlogram of Real GDP Series (First Differences).	53
Figure 4.2.	Diagnostic Residuals' Autocorrelation Test of ARIMA (1,1,1) Model.	55
Figure 4.3.	ARCH(q) Test.	56
Figure 4.4.	Static and Dynamic Forecast of DGDP.	58
Figure 8.1.	Hourly Wages in Selected Industries, Structure of Earnings Survey, 2010–2014.	137
Figure 9.1.	Productivity Distribution (In Logs) of Greek SMEs, 2012.	159
Figure 9.2.	Driving Forces of SME Productivity per Quantile in Greece.	165
Figure 11.1.	The Chronology of the Greek Crisis.	194

Figure 12.1.	Agricultural Entrepreneurial and Factor Income per AWU (in Real Values) in Greece and EU.	224
Figure 12.2.	Evolution of Agricultural Incomes.	226
Figure 12.3.	Evolution of Trade Balance for Agri-food Products for the Period 2010–2020.	228
Figure 12.4.	Trade Balance in Terms of Volume and Terms of Trade.	229
Figure 12.5.	Relationship between Trade of Balance (in Terms of Volume) and Terms of Trade.	229
Figure 12.6.	Derivation of the Lorenz Curve and Gini Coefficient for Direct Payments in Greece and EU in 2015.	232
Figure 12.7.	Gross Value Added, Agriculture and Agri-food Sector in Greece (2000–2019).	234
Figure 12.8.	Evolution of Agri-food Sector in Greece (2008–2017).	235
Figure 14.1.	Performance Overview of the Travel and Tourism Sector for 2019.	267
Figure 14.2.	Monthly Distribution of Nights Spent in Tourist Accommodation Establishments (Countries with High Seasonality) 2019 (%).	269
Figure 14.3.	The Evolution of the Hotel Occupancy 2016–2019.	272
Figure 15.1.	Share of ICT Infrastructure (ICT Equipment and Computer Software and Databases) to Total Fixed Assets (Stock) for the Major Sectors in the Greek Economy (2009–2017).	288

Figure 15.2.	Direct, Indirect and Induced Effects of the ICT Sector in Terms of GDP (at Producer Prices) for 2015.	292
Figure 15.3.	Backward and Forward Indices of Variability per Sector of the Economy Including the ICT Sector for 2015.	295

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List of Tables

Table 3.1.	Selected Indicators for Greece: Restoring Fiscal Sustainability, 2010–2021.	36
Table 3.2.	Selected Indicators for Greece: Safeguarding Financial Stability Administration, 2010–2021.	38
Table 3.3.	Selected Indicators for Greece: Growth, Competitiveness and Investment, 2010–2021.	38
Table 3.4.	Selected Indicators for Greece: Social Inequalities, 2010–2021.	39
Table 4.1.	GDP Descriptive Statistics in Levels and First Differences.	51
Table 4.2.	ADF and Phillip-Perron’s Test.	51
Table 4.3.	Comparison of Models within the Range of Exploration Using AIC, SIC, and HQ.	52
Table 4.4.	Comparison of Models within the Range of Exploration Using AIC, SIC, and HQ.	53
Table 4.5.	Estimation Model ARIMA (1,1,1).	54
Table 4.6.	ARCH(1) Model Estimation.	56
Table 4.7.	Estimation of ARIMA(1,1,1)-ARCH(1) Model.	57
Table 5.1.	Real GDP Growth Rate, 2009–2020.	74
Table 5.2.	Monthly Minimum Wages in Europe (Bi-annual Data), 2016–2020.	81
Table 5.3.	Human Development Index (HDI) Ranking 2019.	84
Table 5.4.	Total Unemployment Rate [TPS00203], Annual, 2008–2019, from 15 to 74 Years, Percentage of Active Population.	89
Table 5.5.	GDP per Capita in PPS [TEC00114], 2009–2019.	92
Table 6.1.	Regression Estimates of the Effects of the Specified Independent Variables on the Level of Real GDP per Capita at the World Level.	114

Table 6.2.	Regression Estimates of the Effects of the Specified Independent Variables on the Level of Real GDP per Capita for Greece.	115
Table 8.1.	Mean Wages by Industry, Structure of Earnings Survey, 2010–2014.	134
Table 8.2.	Industry Wage Differentials along the Distribution, Structure of Earnings Survey, 2010–2014.	139
Table 9.1.	Summary Statistics: Productivity of Greek SMEs.	159
Table 9.2.	Description of Variables and Frequency Distributions: Human Capital, ICT Adoption and Innovation of Greek SMEs.	161
Table 9.3.	Correlation Matrix: Human Capital, ICT Adoption and Innovation of Greek SMEs.	163
Table 9.4.	Determinants of SME Productivity in Greece: OLS and Quantile Regression Estimation Results.	164
Table 11.1.	Evolution of Greek Loans and Non-performing Loans.	199
Table 11.2.	Net Credit Flows to Greek Public and Private Sectors by Domestic MFIs.	203
Table 11.3.	Credit to the Greek Economy by Domestic MFIs.	204
Table 11.4.	Foreign Direct Investment in Greece by Country of Origin.	206
Table 11.5.	Foreign Direct Investment in Greece by Sector of Economic Activity.	209
Table 11.6.	Key Financial Data of the Greek Banking Sector.	211
Table 12.1.	Greek versus EU-27 Agriculture’s Fundamentals.	223
Table 13.1.	Hydrocarbons Exploration and Production Agreements Ratified by the Greek Parliament between 2014 and 2019.	248
Table 13.2.	Royalty Percentage by R Factor as Stipulated in the Lease Agreements Ratified by the Greek Parliament between 2014 and 2019.	249
Table 13.3.	Surface Fees as Stipulated in the Lease Agreements Ratified by the Greek Parliament between 2014 and 2019.	250
Table 13.4.	Economic Terms of Lease Agreements Signed in Greece between 2014 and 2019.	251

Table 14.1.	International Tourism Arrivals in Greece 2014–2019.	270
Table 14.2.	Increase of Arrival versus Increase in Revenues between 2015 and 2021.	271
Table 14.3.	Scenarios on the Impact of COVID-19 on Greece’s GDP for 2020.	274
Table 15.1.	Basic Indicators for the ICT Sector (2011, 2015, and 2018).	284
Table 15.2.	The Economic Footprint of the Greek ICT Sector.	291
Table 15.3.	Impact of Greek ICT Sector by Affected Economic Sector and Economic Aspect of Interest, for Total Effects and Excluding Internal ICT Consumption for 2015.	293
Table 16.1.	Transportation and Storage Industry GVA, Employment and Fixed Assets in Greece and EU (Percent of Total).	303

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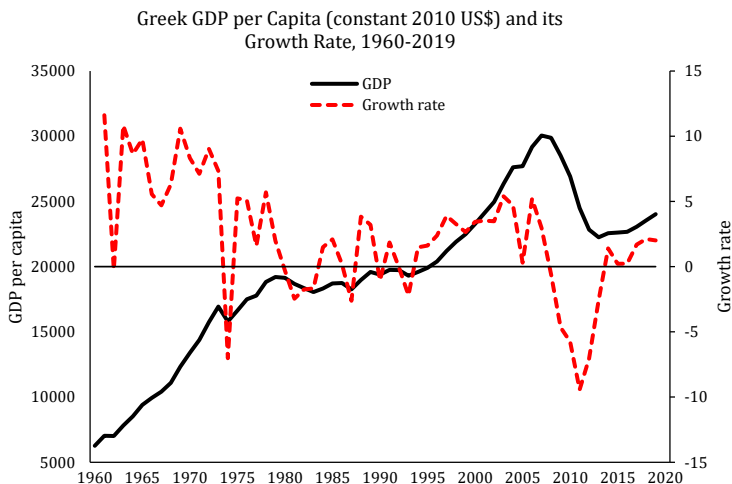
Foreword

Apostolos Serletis
University of Calgary

As Alogoskoufis (2021) puts it in his Abstract, during the past two centuries (from the war for independence in 1821 to the present day), Greece and its economy “have been radically transformed. Compared to the first Greek state, Greece managed to almost triple its national territory, to increase its population by almost 15 times and to increase its real GDP per capita by another 15 times. From the margins of south-eastern Europe, it has moved to the core of today’s European Union.” Today, Greece is the 16th largest economy in the European Union and the 51st largest economy in the world.

Alogoskoufis argues that the evolution of Greece and its economy during the past 200 years can be analyzed in the context of three major historical cycles. The first cycle is that of “state and nation building,” and covers the period from the declaration of the war of Greek independence in 1821 to the establishment of the International Financial Audit Commission in 1898. The second cycle covers the period from 1898 to the end of the civil war in 1949 and is characterized by “national expansion and consolidation.” This cycle is also characterized by persistent instability due to continuous wars and internal conflicts. The third cycle, from 1950 to the present, is the cycle of “economic and social development.”

The figure below shows the evolution of Greek GDP per capita (in constant 2010 US\$) and its growth rate, from 1960 to 2019, using data from the World Bank (see <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD?locations=GR>). As can be seen, per capita GDP increased (by more than a factor of five) from \$6,259 in 1960 to \$30,054 in the beginning of the global economic recession in 2007. However, per capita GDP increased unevenly during this period, with the average annual percentage growth rate being 9% from 1960 to 1973, 4% from 1974 to 2007, and –4% from 2008 to 2016. During this period, Greece experienced an economic growth miracle from the end of the civil war in 1950–1973, a long economic slowdown from 1979 to 1993, the restoration of democracy in 1974, full participation in the European Union in 1981, a major external debt crisis in 2010 and the “great depression” of 2008–2016, and the most recent COVID-19 crisis.



There is no need to go into more detail in this brief *Foreword* about the determinants of the economic and social transformations of modern Greece. In what follows, the editors, Vasileios Vlachos, Aristidis Bitzenis, and Bruno Sergi, present a collection of papers related to the forces that shaped the Greek state and its economy during the third historical cycle of economic and social development. Whether you are an academic economist or simply interested in understanding the forces shaping economic growth around the world, you will find *Modeling Economic Growth in Contemporary Greece* timely and relevant.

Reference

Alogoskoufis, G. (2021). *Historical cycles of the economy of modern Greece: From 1821 to the present*. Hellenic Observatory Papers on Greece and Southeast Europe, GreeSE Paper No. 158.

Chapter 1

Determinants of and Obstacles to Economic Growth in Contemporary Greece

Vasileios Vlachos, Aristidis Bitzenis and Bruno S. Sergi

This new book aims to foster an in-depth understanding of critical factors to Greece's economic growth. It will be a valuable guide to both those willing to identify the key factors to be considered for (modeling) sustainable economic growth and those interested in exploring the Greek economy's dynamics and performance. The objectives are to reveal these factors and discuss their importance in the current play: Greece's economic development after the great economic crisis and the COVID-19 crisis.

The list of factors affecting economic growth in empirical research is extensive. Macroeconomic and external environment factors, governance and institutions indices, geographic indicators, and fixed factors (such as participation in conflicts) expand the list of traditional determinants of the augmented Solow model (Moral-Benito, 2012). The list may develop further by considering, for example, the findings of the literature linking entrepreneurship with economic growth, regarding the importance of both formal and informal institutional factors in shaping entrepreneurial activity and affecting through it the level of economic growth (Urbano, Aparicio, & Audretsch, 2019). Another example is social policy's role in enhancing social cohesion, which encourages capital accumulation and technological progress and can contribute to productive development (Chang, 2004).

The empirical literature on the factors contributing to Greece's economic growth reveals several key determinants. For instance:

- physical and human capital (Asteriou & Agiomirgianakis, 2001; Tsamadias & Prontzas, 2012);
- the degree of openness/foreign direct investment/international trade flows (Dritsakis & Adamopoulos, 2004; Tsitouras, 2016);
- energy consumption (Dergiades, Martinopoulos, & Tsoulfidis, 2013; Hondroyiannis, Lolos, & Papapetrou, 2002; Polemis & Dagoumas, 2013);
- financial market performance (Dritsakis & Adamopoulos, 2004; Dritsaki & Dritsaki-Bargiota, 2005; Hondroyiannis, Lolos, & Papapetrou, 2005);

- government expenditure (Rovolis & Spence, 2002; Rodríguez-Pose et al., 2012), in general, or defense spending (Dritsakis, 2004a, 2004b; Dunne, Nikolaidou, & Vougas, 2001; Manamperi, 2016) in particular;
- demographic changes (Hondroyannis & Papapetrou, 2001).

Special attention is also given to the contribution of specific industries' value added to the country's gross domestic product (GDP), such as tourism (Dritsakis, 2004a, 2004b; Eeckels, Filis, & Leon, 2012). In addition, empirical analyses of the factors inhibiting economic growth indicate the negative effect of factors such as bureaucracy and corruption (Papaconstantinou, Tsagkanos, & Siriopoulos, 2013), the size of the public sector (Dalamagas, 2000), and socio-political instability (Asteriou & Siriopoulos, 2000). The effect of factors inhibiting economic growth is usually investigated indirectly by looking at factors inhibiting the size of traditional economic growth determinants, such as direct investment (for example, through the effect of the regulatory environment on entrepreneurship).¹ But is this list of determinants of and obstacles to Greece's economic growth exhaustive?

The selection of explanatory variables in modeling economic growth is critical. Since growth models are compatible with each other, omitted variables may well be the source of endogeneity. Panel data approaches address omitted variables as country-specific effects, which in turn explain cross-country differences in economic growth (Moral-Benito, 2016). Not taking into account the presence of country-specific effects alters the list of robust economic growth determinants (Moral-Benito, 2012). By considering the role of omitted variables and country-specific effects in modeling economic growth, the above question becomes: What are Greece's specific effects, or what are the effects of the variables omitted by the empirical literature on the factors contributing to Greece's economic growth?

This book neither repeats the theoretical underpinnings of economic growth nor provides another empirical investigation of determinants. One objective is to assess the conditions shaping the Greek economy's restart in 2017, following the economic depression suffered for almost a decade. "Contemporary Greece" in the book's title refers to transforming the Greek economy following the great economic crisis. Another objective is to highlight the factors which are critical for achieving sustainable economic growth.

The intrinsic properties of the Greek economic and business environment imply that there are "country-specific"² factors responsible for the performance of the Greek economy, which is differentiated from European counterparts. Greece has been a member of the European Union (EU) since 1981 and one of the 12 first countries who adopted the euro. Despite being a member of the EU-15, Greece has not converged in crucial macroeconomic indicators with the early (11) euro area Member States.

Figs. 1.1–1.3 are a glimpse of the Greek economy. Figs. 1.1 and 1.2 give an idea of chronological turning points: before, during, and after the great economic crisis. Fig. 1.3 presents economic activity in Greece with reference to these turning points. Greece suffered a loss of more than one-fourth of its GDP between 2008 and 2016. Fig. 1.1 indicates that the Greek economy contracted in 2008 due to the

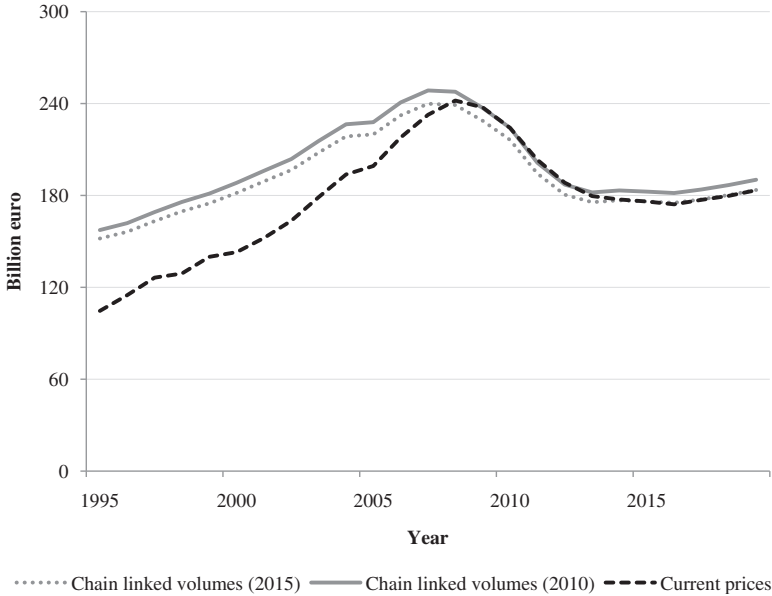


Fig. 1.1. Greece: GDP, 1995–2019. Source: Eurostat.

great economic crisis and suffered a loss of approximately 27% of its GDP until 2016 (chain linked volumes 2010 and 2015).³ The economy grew for three consecutive years after the depression until 2019, by approximately 4.8% (chain linked volumes 2010 and 2015). Fig. 1.2 indicates that GDP per capita decreased during 2008–2016 by roughly 25.1% while labor productivity decreased by approximately 21.6% (chain linked volumes 2010 and 2015). The recovery of GDP per capita during 2017–2019 was approximately 5.3%, while labor productivity increased by 2.6% (chain linked volumes 2010 and 2015).

Fig. 1.3 presents Greece’s economic activity during the twenty-first century in terms of the gross value added by 10 industries (percentage of total). By dividing economic activity into three time periods (2001–2008, 2009–2016, and 2017–2019), it is noticeable that the gross value added of construction follows a declining trend, and the gross value-added of real estate increased significantly concerning its pre-crisis percentage. Fig. 1.3 also reveals that Greece’s economic activity is differentiated from the EU and the euro area. Regarding the gross value added in 2019, the Greek economy is more active than its European counterparts in agriculture, wholesale and retail trade, real estate and financial and insurance activities, and less active in industry (in general), manufacturing, construction, information and communication and professional, scientific, and technical activities.

The key reasons for low average growth rates (less than 2%) during 2017–2019 have been both, the slow recovery and the size of private investment to GDP ratio, which are also responsible for the unemployment of human resources (employment rates in Greece were among the EU lowest before the COVID-19 crisis).

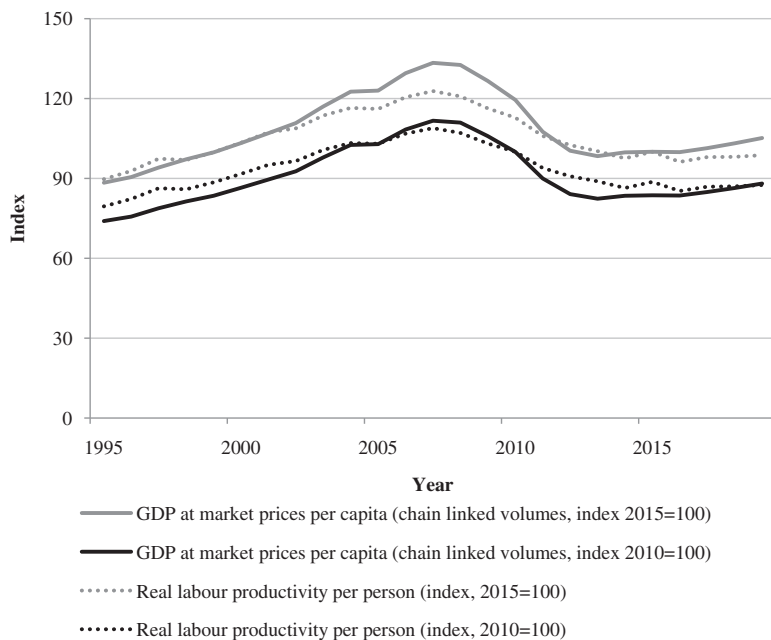


Fig. 1.2. Greece: Changes in GDP per Capita and Labor Productivity, 1995–2019. *Source:* Eurostat.

Other critical issues not presented by these Figures are the high level of public debt (most of which is owned by public institutions in the EU) and net external debt, the current account deficits, and the low level of institutional quality.

The restart of the Greek economy after the COVID-19 crisis must take place sustainably. For example, institutional quality and performance should improve.

Considering the size of the Greek shadow economy, transferring a part of it to the formal economy would be critical to achieving sustainable growth (Bitzenis, Vlachos, & Schneider 2016).⁴ Apart from the quality of governance and institutions, all other factors responsible for its competitiveness need to improve. Improving competitiveness is critical to attracting FDI, which can increase private investment in the short term.⁵ Improving competitiveness is also critical to increase outward FDI, which can increase the rate of economic recovery through its positive externalities (Bitzenis & Vlachos, 2013a) and restore Greece's capability to play a key role as an investor in South-East Europe and the Balkans (Bitzenis & Vlachos, 2013b).

In order to identify the determinants of and obstacles to sustainable economic growth, the book is divided into three parts. The first part discusses the macroeconomic and external environment through four chapters that focus on the Greek economy's dynamics. Unprecedented external conditions, such as the idea of a multi-speed Europe with differentiated integration developed in the aftermath

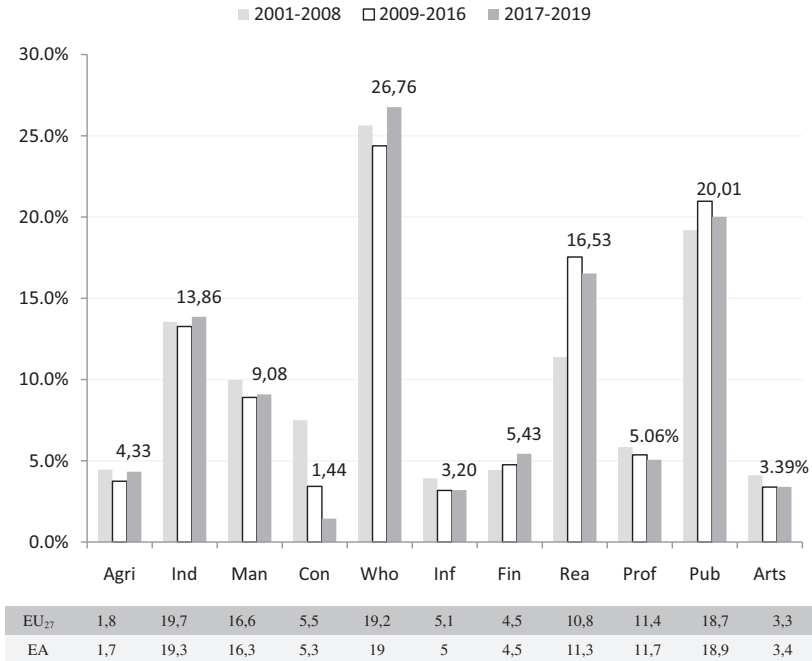


Fig. 1.3. Greece: Gross Value Added by 10 Industries, 2001–2019.

Notes: (i) Gross value added by 10 industries (percentage of total). (ii) Percentages in figure for 2017–2019. (iii) EU₂₇ and euro area data for 2019. (iv) Abbreviations: agriculture, forestry, and fishing (Agri); industry except construction (Ind); manufacturing (Man); construction (Con); wholesale and retail trade, transport, accommodation and food service activities (Who); information and communication (Inf); financial and insurance activities (Fin); real estate activities (Rea); professional, scientific and technical activities; administrative and support service activities (Prof); public administration, defense, education, human health and social work activities (Pub); arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies (Arts).

Source: Eurostat.

of the EU response to the great economic crisis (see [Leruth, Ganzle, & Trondal, 2019](#); [Vlachos & Bitzenis, 2019](#)), or the impact of COVID-19 pandemic on economic activity and EU’s “unprecedented exercise in solidarity,”⁶ have impacted on the performance of the Greek economy and will have an important role in future developments.

Vasileios Vlachos and Aristidis Bitzenis discuss in Chapter 2 the competitive position and dynamics of the Greek economy. The chapter investigates the factors shaping Greece’s competitive position and discusses the potential to achieve a

V-shaped recovery after the COVID-19 crisis. Konstantinos Hazakis discusses in Chapter 3 the disastrous impact of the COVID-19 pandemic on the Greek economy and highlights the key growth challenges for future economic growth. In Chapter 4, Chaido Dritsaki and Melina Dritsaki use quarterly time-series data to make static and dynamic forecasts of Greek real GDP. In Chapter 5, Aristidis Bitzenis and Pyrros Papadimitriou discuss the progress of the Greek economy's nominal and real convergence with European counterparts.

The second part of the book focuses through five chapters on i) internal conditions shaped by country-specific characteristics affecting labor and product markets' efficiency and ii) the performance of institutions and production factors. Chara Vavoura, Dimitris Manolopoulos, and Ioannis Vavouras analyze in Chapter 6 how the institutions through which state authority is exercised influence the level of economic development in Greece. In Chapter 7, Dimitris Venieris explores the fragmented social policy choices imposed in Greece during 2010–2020 and the consequent socioeconomic devaluation. In Chapter 8, Evangelia Papapetrou and Pinelopi Tsalaporta examine the evolution of wages in Greece over 2010–2014 and focus on the effects of deep recession and labor market reforms on wage adjustment and wage premia. Ioannis Giotopoulos, Pelagia Kontaxaki, and Helen Louri explore in Chapter 9 whether and how the productivity of small and medium-sized enterprises in Greece is affected by qualified human capital, digital capabilities, and innovation activities. Mark Clough QC and Efthymios Bourtzalas discuss in Chapter 10 how the enforcement of the Greek and the EU competition law provisions have contributed to the modernization, development, and growth of the Greek economy.

The third part of the book looks through six chapters into the performance of selected industries. In Chapter 11, Fotios Pasiouras and Minas-Polyvios Tsgarakakis discuss the impact of the Greek financial crisis, its aftermath, and the new challenges for domestic banks. In Chapter 12, Stathis Klonaris discusses developments in the Greek Agri-food industry and its performance during the great economic and the COVID-19 crises. In Chapter 13, Stella Tsani discusses local content policies under the prism of hydrocarbons exploration activities in Greece and the sustainability transition put forward by regional and global actions. In Chapter 14, Iordanis Katemliadis and Andreas Papatheodorou discuss the importance of tourism to Greece's economic growth, its characteristics, and its post-COVID-19 crisis potential. In Chapter 15, Aggelos Tsakanikas, Petros Dimas, and Dimitrios Stamopoulos discuss the Greek information and communications technologies industry's characteristics and explore its impact on the Greek economy. In Chapter 16, Tania Pantazi and Vasileios Vlachos discuss the Greek transport industry's features and contribution to the Greek economy's growth and focus on specific policy issues for each transport mode.

Notes

1. For example, studies investigating determinants of and obstacles to inward FDI (Bitzenis et al., 2007, 2009) and entrepreneurial activity (Williams & Vorley, 2015).
2. Not in the econometric sense discussed earlier.

3. For the triple Greek crisis (banking, sovereign debt, and economic crisis), see Bitzenis, Papadopoulos, and Vlachos (2013). The term great economic crisis is preferred here in order to emphasize on the lengthy period of recession.
4. The shadow economy is a threat to public revenue, it considerably pressures legitimate businesses, it decreases employees' well-being and social protection, and limits the formal economy's potential growth (Bitzenis, Vlachos, & Skiadas, 2016). Improving the level of institutional quality and performance in Greece is the key to improve the level of tax morale, which will set the basis for transferring part of the shadow to the formal economy (Bitzenis & Vlachos, 2018).
5. Inward FDI has been considered as a means to speed up the recovery of gross fixed capital formation (Bitzenis & Vlachos, 2016; Vlachos & Bitzenis, 2018).
6. See <https://www.eesc.europa.eu/en/news-media/press-releases/next-generation-eu-recovery-plan-unprecedented-exercise-solidarity> (accessed on March 16, 2021).

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