

McKinsey&Company, Athens Office

# Greece 10 Years Ahead

Defining Greece's new growth model and strategy

Executive summary

September 2011



# Table of Contents

<b>Introduction</b>	<b>5</b>
<b>1. Overview</b>	<b>7</b>
<b>2. Greece's unsustainable economic model to date</b>	<b>11</b>
2.1. Persistent productivity and labor participation deficits	13
2.2. The underlying problems of the Greek economy	16
<b>3. A new National Growth Model</b>	<b>23</b>
<b>4. Laying the foundations in key economic sectors</b>	<b>31</b>
4.1. Major sectors	33
4.1.1. Tourism	33
4.1.2. Energy	36
4.1.3. Manufacturing - Food processing	39
4.1.4. Agriculture - Crops agriculture	44
4.1.5. Retail and wholesale	47
4.2. Rising Stars	51
4.2.1. Manufacturing of generic pharmaceuticals	52
4.2.2. Aquaculture	54
4.2.3. Medical tourism	56
4.2.4. Elderly care	58
4.2.5. Regional cargo hub development	59
4.2.6. Waste management	60
4.2.7. Secondary rising stars	61



## Introduction

**Greece 10 Years Ahead** is a study that aims to define a new growth model and strategy for economic development in Greece in the next 5 to 10 years, founded on the principles of **competitiveness, productivity, extroversion, investment stimulation, and employment opportunities**.

To fulfill this purpose, **Greece 10 Years Ahead** analyzes the structure and development prospects of key economic sectors, and studies fundamental cross-sector macroeconomic drivers, challenges, and opportunities of the Greek economy. Thereafter, the study focuses on the five largest (in terms of gross value added) 'production' sectors ('major sectors') and eight smaller but high potential areas of the economy ('rising stars') that have significant potential to fuel the country's economic growth in the coming years, clearly recognizing that there might be additional growth opportunities in other sectors or sub-sectors that have not been covered by the scope of **Greece 10 Years Ahead**.

**Greece 10 Years Ahead** proposes a new **National Growth Model** for Greece for the next decade and outlines a 'blueprint' to reignite growth that contains more than 100 specific proposals on possible priorities and measures for the Greek state and market participants to consider within and across sectors.

The **Greece 10 Years Ahead** study was conducted by the Athens Office of McKinsey & Company. It took place between December 2010 and September 2011 and was jointly sponsored by the Hellenic Federation of Enterprises (SEV), the Hellenic Bank Association (HBA) and McKinsey & Company. The outcome is an independent report that solely reflects the results of analyses conducted and insights gathered and substantiated by McKinsey & Company.

This document is the Executive Summary of the **Greece 10 Years Ahead** study and contains an overview of the major conclusions.

The Executive Summary has been issued in this original English version and has also been translated to Greek (the document in English supersedes the one in Greek). Both documents can be found on McKinsey & Company, Athens Office website ([www.mckinsey.gr](http://www.mckinsey.gr)).



## 1. Overview



## 1. Overview

Greece entered a deep recession three years ago from which it is struggling to emerge. Investment by both the private and public sectors has ground to a halt. Public sector debt has increased substantially as the state had to rely on official support loans to fund social payments, payroll expenses and the fiscal deficit. In addition to a fiscal and debt crisis, the country is facing competitiveness and employment challenges. It has lagged its European peers in key measures such as foreign direct investment (FDI), labor productivity and workforce participation, and it suffers from low labor mobility and flexibility. At the same time, the recession is rapidly morphing into a jobs crisis, with the official unemployment rate edging towards 17%.

A combination of economic, political and social factors has contributed to Greece's poor competitiveness, foreign investment, productivity and employment record. The Greek economy has grown on an unsustainable demand structure, chronically suffering from unfavorable conditions for business. There are substantial hurdles in investment planning with adverse effects on operational cost. It is one of the most regulated economies in Europe, creating 'red tape' that affects businesses, from the development of land to the competitive intensity of several regulated professions. A complex administrative and tax system creates legal, bureaucratic and procedural disincentives to set up and expand businesses and fails to collect an estimated €15-20 billion in annual tax revenue, which would be sufficient to almost close the fiscal deficit.

As a result, Greece attracts insufficient investment capital to build job-creating businesses. Foreign inward investment relative to GDP in Greece is just a fraction of the amount flowing to Spain and Italy, two of the country's Mediterranean economic rivals. This offers some explanation as to why Greece cannot create or sustain jobs in production sectors of the economy, such as manufacturing, and must rely instead on imports for many of its needs, contributing to a €19 billion trade deficit in 2010.

Productivity is also far behind the rest of Europe across economic sectors. One of the main reasons productivity is so low is that the country lacks large-scale enterprises, which maximize worker output through economies of scale and scope (e.g., through specialization, focused investment and innovation). For example just 27% of manufacturing firms have more than 250 employees, compared with 34% in the Netherlands and 54% in Germany.

Investments did not follow the sharp rise in private and public consumption, each rising by approximately four percentage points of GDP between 2000 and 2008. Consumption accounted for 97% of cumulative GDP generation for the period, compared with countries like Austria, France, Germany and the Netherlands, where the respective figure was 71%, and was accompanied by much higher levels of investment.

The recent debt crisis has led to the adoption by Greece of several harsh, multi-billion euro austerity packages, to urgently tackle its fiscal imbalances as part of the fiscal stabilization program. The Greek government has already legislated important reforms geared towards social security rationalization and employment flexibility and has launched measures to liberalize markets and reduce expenditure levels in the public sector. For Greece, however, to achieve lasting economic recovery, the implementation of the fiscal stabilization program needs to be complemented by the design and implementation of a robust and sustainable new **National Growth Model** and strategy.

**Greece 10 Years Ahead** aims to address this need. It proposes a new **National Growth Model**, which could lead within 10 years to the creation of 520,000 new jobs and €49 billion in new Gross





Value Added<sup>1</sup> (€55 billion in GDP terms) in five major (the five largest production sectors of the economy) and eight emerging, 'rising star' sectors, alone. This means that even if the rest of the economy would grow at a moderate long-term annual rate of 1.5% over the next decade, this upside could double annual growth to 3%.

This new **National Growth Model** puts forward several broad economy-wide priorities and sets out strategic growth measures that can be taken in the selected established and major sectors of the economy. To achieve these results, the Greek state, the private sector enterprises, and investors would have to act decisively.

**Greece 10 Years Ahead** proposes that the Greek state embark immediately on a systematic, economy-wide effort to remove competitiveness and productivity barriers in the economy and promote growth and investment, with emphasis on stimulating export income. This could involve reforms such as adopting the successful, fast-track approach used for the Athens 2004 Olympic Games to encourage investment and remove bureaucracy. In addition, it could formulate plans for the deregulation of product and labor markets and remove the current congestion from the judicial system to expedite clearance of stalled investments. Examples of other priorities include introducing private sector management talent to the public sector, creating tangible opportunities for women and young employees to join the workforce, and fighting corruption and tax evasion with advanced detection, audit and collection tools. An Economic Development and Reform Unit (EDRU) could be established as an institution under the Prime Minister to support the design, facilitate the execution and monitor the progress of growth-relevant reforms, benefiting also from input from business and academia.

Businesses need to develop scale through consolidation, build healthier and more productive operating models, and be more proactive in promoting Greek-branded products and services in core export markets. Examples of the possible priorities outlined include making a strategic shift in tourism towards larger, untapped and emerging markets (while defending the core ones), attracting higher-income visitors, and encouraging investments in large integrated resorts, high-end vacation homes, marinas and cruise embarkation points. Agriculture and food manufacturing can be re-oriented towards export markets, where specific food products such as olive oil and selected fresh and processed fruits and vegetables could reach international markets at scale. Energy can be used more efficiently, with a focus on domestic conservation. That could have a beneficial spillover effect in the construction, real estate, and financial services sectors and create substantial export capacity and FDI flows. In emerging sectors (e.g., aquaculture, generic pharmaceuticals), a gradual and growth-oriented deregulation of the industry could be implemented in areas where there is substantial unique advantages in either know-how or resources that can be scaled up. Collectively, this strategic re-orientation can create healthier demand in the economy benefiting the primary sector, stimulating investment and creating jobs in manufacturing and the heavy industry, where the alleviation of undue complications and the establishment of a steady and predictable business environment is the most important requirement for companies to thrive and contribute to growth and job creation.

This Executive Summary outlines the obstacles that Greece needs to overcome to establish the new **National Growth Model**. It then outlines the new model in macroeconomic terms and lays out the possible priorities and measures to be considered in each of the sectors examined to increase growth and fuel employment. We consider these measures crucial in the process of moving Greece out of austerity and onto a sustainable economic development path.

---

<sup>1</sup> GVA = GDP - Taxes + Subsidies



## 2. Greece's unsustainable economic model to date

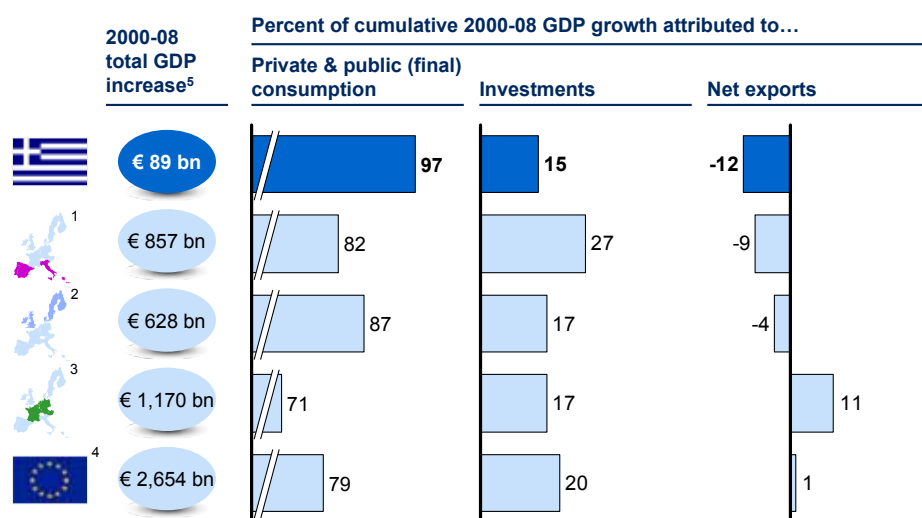
## 2. Greece's unsustainable economic model to date

Until the recent economic crisis, Greece was actually a growth champion. In fact, it outgrew most other European nations and even the US, especially after Greece joined the single European currency in 2002. But it turned out that almost all of that growth was the result of government and consumer spending fuelled by low cost credit. In 2009, Greece's economy suffered a crash landing when it became clear that the fiscal deficit was more than 15% of GDP. Between 2008 and 2010, Greece lost 1.5% of its output per year, which, combined with persistent fiscal deficits and emergency loans from the EU, the ECB and the IMF, caused the public debt pile to shoot up to approximately 150% of GDP in 2011.

It became clear from the debt crisis that Greece had a flawed economic model. Chronic overconsumption in the public sector spilled over into the private sector, revealing major structural gaps in competitiveness and productivity. Greece's burgeoning private and public spending between 2000 and 2008 created a deteriorating trade balance, as demand could not be met by foreign and domestic investment. In contrast, most of Greece's EU peers managed a much more favorable trade balance and invested around 20% of their GDP in their economies (Exhibit 1).

Exhibit 1

### Overreliance on consumption and underinvestment versus European peers



1 Southern Europe: Greece, Italy, Portugal, Spain; 2 Northern Europe: Denmark, Finland, Ireland, Sweden, UK;  
 3 Continental Europe: Austria, Germany, Belgium, France, Netherlands, Luxembourg; 4 EU-15; 5 Cumulative growth, delta 2000-08, amounts in PPP standards  
 SOURCE: Eurostat



Despite having joined the European Economic Community already in 1981, Greece never managed to increase its external orientation and fully reap sustainable economic benefits from membership in such an international community. Exports fell far short of paying for imports. Most of the relatively small investments made were financed through Greek public and private debt. Only about 5%-6% of total capital formation was driven by foreign direct investment. This figure is only a fourth of the European average.

Private consumption in Greece was very high – almost 20 percentage points of GDP higher than in most European countries – and demand predominantly domestic. Even export-oriented sectors of the economy such as tourism were heavily skewed towards demand generated by Greek consumers (Exhibit 2). Simply put, the Greek growth engine was fuelled by few domestic investments and high domestic demand, artificially inflated by ample credit and an overleveraged public sector.

Government spending had to increase by 3 pp of GDP per year to keep up with accruing expenses, mainly mandated increases in public employees' salaries and pensions. At the same time, government income declined by 3 pp of GDP, because the bulk of new revenue was due from sales taxes (e.g., VAT), which were vulnerable to evasion and difficult to audit. As a result, the government had no choice but to borrow money on the international markets and later from official emergency facilities, creating one of the most indebted public sectors globally.

This flawed model and the unexploited opportunity to restructure Greek economy are also evident in the breakdown of the Greek economy. Tradable sectors contribute 3-4 pp of GDP (6-7 pp of GDP excluding direct shipping contribution) less than they do in other European countries. In core tradable sectors such as manufacturing and business services, the gap is even wider. Meanwhile, specific non-tradable sectors are far larger, with retail and wholesale for example accounting for 18% of Greek GDP, compared to 11% in south Europe (Exhibit 3).

Exhibit 2

### Domestic consumption driving growth even in tradable sectors like Tourism

TOURISM EXAMPLE

€ billion; nominal

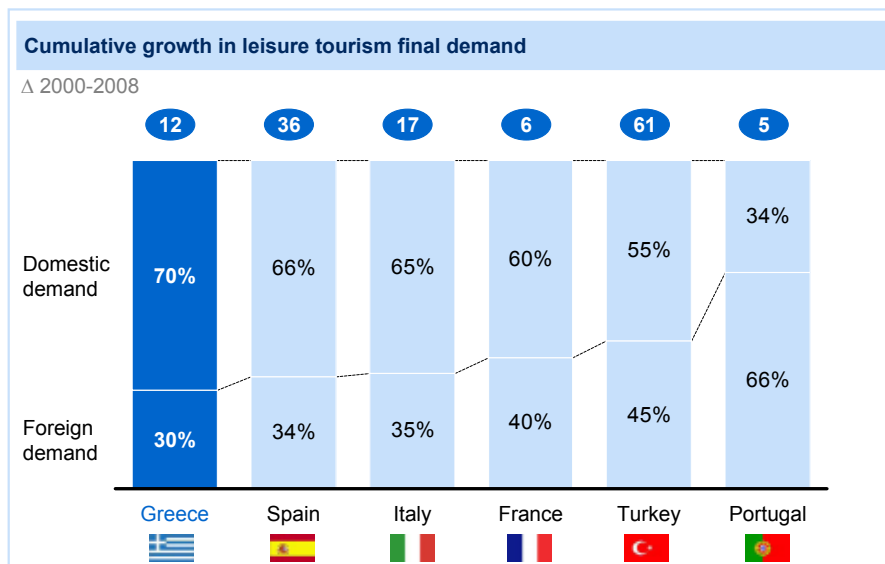
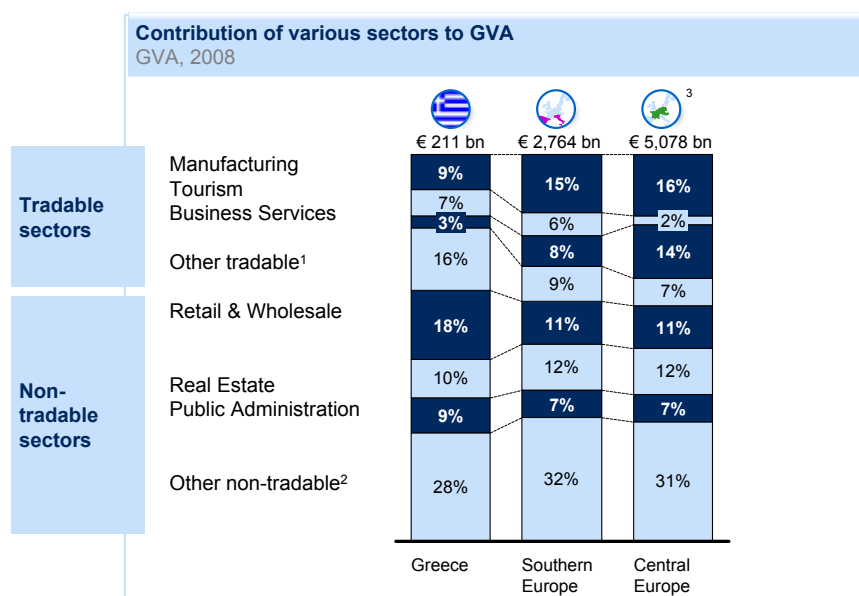


Exhibit 3

**Debt-fuelled consumption creating imbalances between tradable and non-tradable sectors**

ESTIMATES



McKinsey & Company

**2.1. Persistent productivity and labor participation deficits**

Not only was Greece growing its debt stock leading up to the crisis, but it also continued to lag behind in terms of economic wealth generation, despite having been a growth champion in the past. Even before the crisis in 2007, for example, Greece's GDP per capita was lagging behind the EU-15 and the US by 15% and 35% respectively<sup>2</sup> (11% and 33% in 2009). This 'wealth gap' is primarily due to lower productivity and secondarily labor participation rates than in other European countries (Exhibit 4).

Despite substantial output-driven improvements in the previous decade, Greece's productivity was a major problem. It lagged the US by 40% and the EU-15 by 29% in 2009 (Exhibit 5). Greece's productivity at \$35 per hour worked (measured by purchasing power parity) compares with \$49 in EU-15, \$42 in South Europe and \$55 in central Europe.

When comparing Greece and the different European regions (in terms of their GDP per capita gap) with the US, we see that Greece's productivity gap is in fact larger than the GDP per capita gap itself. The remaining of the gap can be explained by the low participation rate which is more than fully offset by Greece's longer hours per employee (Exhibit 6).

Importantly, the productivity deficit is not due to an unfavorable mix of sectors in total output, but is primarily due to productivity shortcomings across sectors, affecting the entire economy. Less than 15% of the shortfall (compared to the US) and only 25% of the recent productivity growth in Greece is due to the sector mix (Exhibit 7).

<sup>2</sup> Source: The Conference Board; IMF

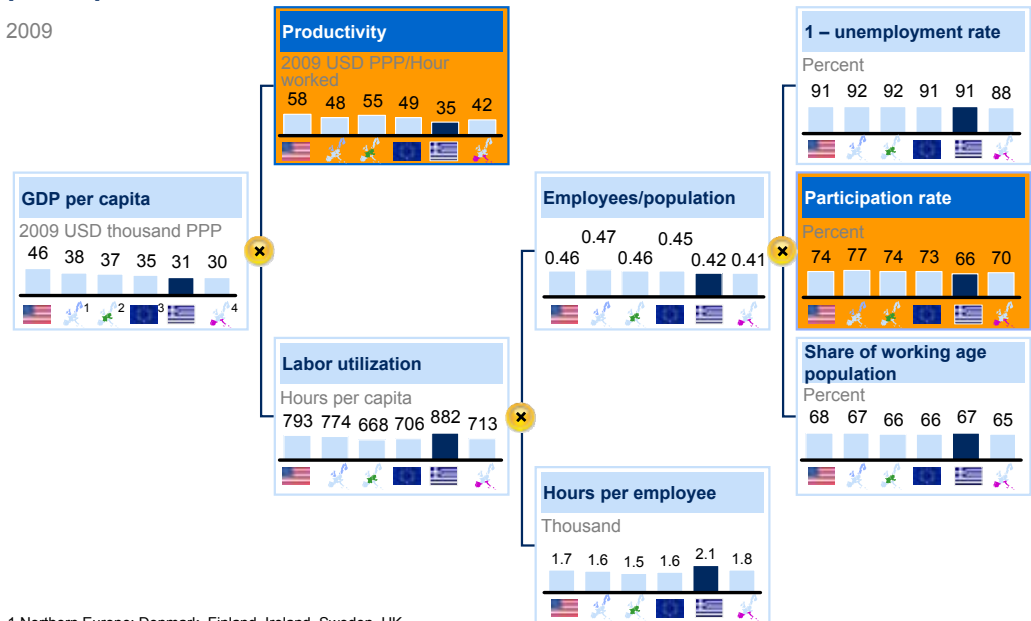
On top of this productivity deficit, Greece has Europe's lowest workforce participation rate – the number of employed and unemployed as a percentage of the entire workforce – at just 66% of the employable population. That compares with 73% in EU-15 as a whole, and 70% in Southern Europe. In Greece, the labor participation deficit is most prominent among youth and women. While both youth and female unemployment was similar to other countries in 2009, non-participation was (and remains) very high, reaching 69% for youth and 38% for women.

The combination of low labor force participation (i.e., a narrow employment base) with higher implicit hours worked per employee leads to one inescapable conclusion about Greece's employment challenge: a relatively smaller percentage of Greeks works longer and harder than their European peers to support a generally unproductive system.

There is an important distinction, however, between the 'deficits' in productivity and labor participation. While low productivity is a primary, structural barrier to wealth creation and growth, that can and should be directly acted upon, the labor participation issue is a symptom of a rigid workforce and the result of long-standing distortions that prevent mobility and employee turnover, especially in the broader public sector. In the absence of labor supply constraints, the participation issue cannot be addressed before an adequate amount of new jobs is created in the economy. This underlines first and foremost the need for a massive productivity boost. This boost can no longer come from debt- and consumption-driven output growth in non-tradable sectors, but rather from investments and a substantial shift of output and employment towards tradable sectors. In other words, to avoid a so-called 'jobless recovery', the economy needs to generate jobs primarily in tradable private sectors **at least as fast as** the contraction in public and private consumption reduces output and jobs in consumption-heavy non-tradable sectors.

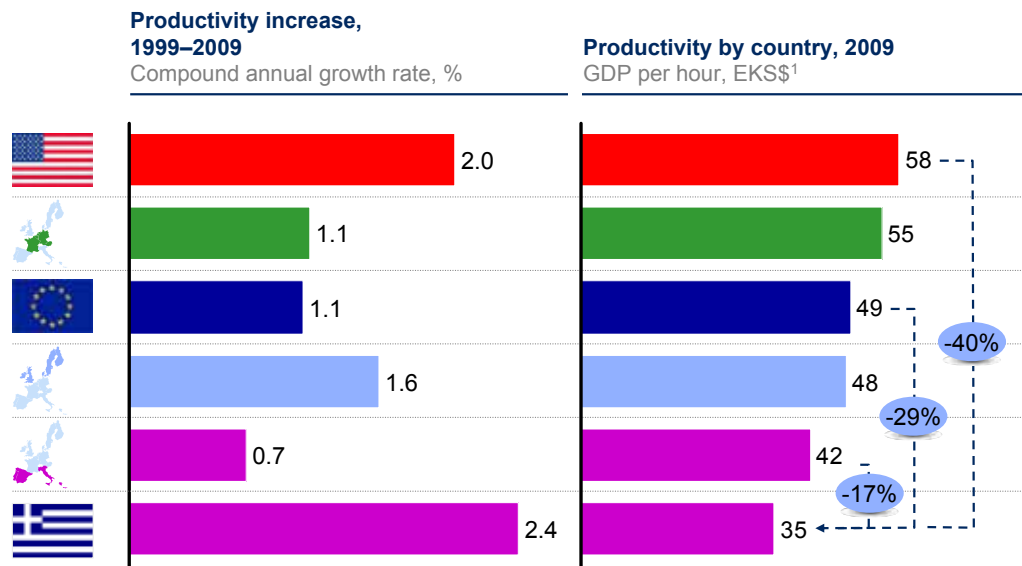
Exhibit 4

### Greece's GDP per capita gap driven by productivity and labor participation deficits



1 Northern Europe: Denmark, Finland, Ireland, Sweden, UK  
 2 Continental Europe: Austria, Germany, Belgium, France, Netherlands, Luxembourg  
 3 EU-15  
 4 Southern Europe: Greece, Italy, Portugal, Spain  
 SOURCE: IMF; Global Insights; Eurostat; The Conference Board Total Economy Database

Exhibit 5 **Persistent productivity gaps even after years of strong growth**



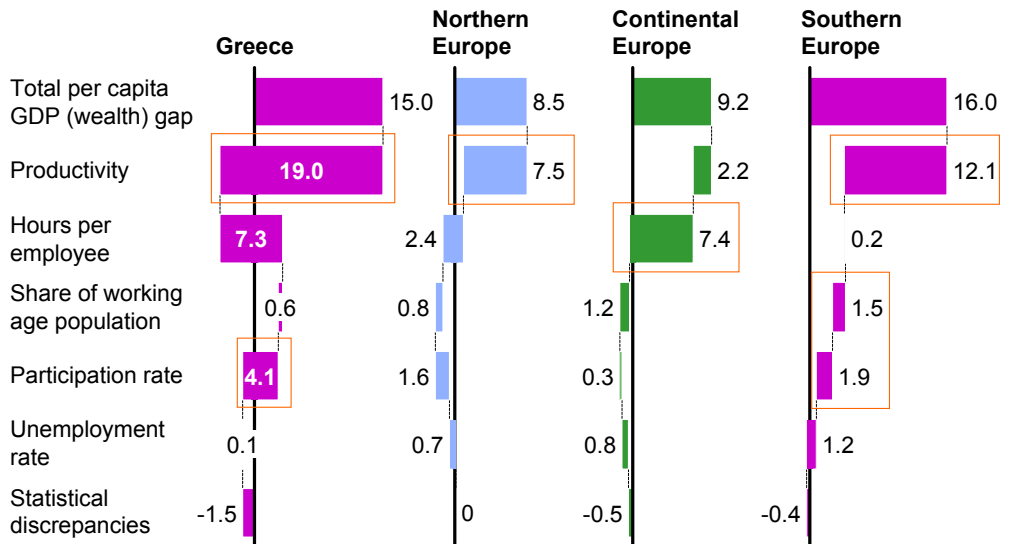
<sup>1</sup> Elteto-Koves-Szulc method to derive transitive multilateral purchasing power parities  
 SOURCE: The Conference Board; International Monetary Fund; McKinsey Global Institute

McKinsey & Company

Exhibit 6

**Low productivity accounting for (more than) the entire wealth gap** ESTIMATES

Contribution to per capita GDP gap vs. United States by key drivers  
 2009 PPP, \$ thousand



SOURCE: The Conference Board; International Monetary Fund; Eurostat; Global Insight; OECD; McKinsey Global Institute

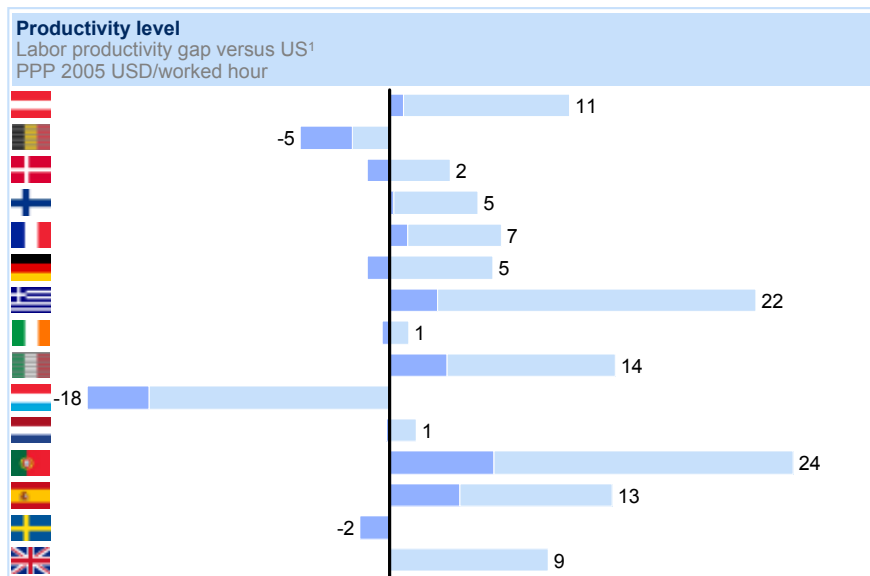
McKinsey & Company



## Low productivity within sectors rather than sector mix driving Greece's productivity gap

ESTIMATES

■ Sector mix effect    ■ Low sector productivity contribution effect



<sup>1</sup> Excluding mining, real estate, education, health and other public goods  
SOURCE: EU KLEMS; McKinsey Global Institute

McKinsey &amp; Company

## 2.2. The underlying problems of the Greek economy

The gaps in productivity and competitiveness have five principal causes; (a) the structure of the economy discourages investment and economies of scale; (b) the broader public sector is large and inefficient; (c) labor force utilization stifles flexibility and job mobility; (d) the legal/judicial system is cumbersome and deters investment; and (e) informality is widespread (Exhibit 8).

### a. Investment and scale discouraged

As in many Mediterranean countries, where family-owned businesses are still predominant, the backbone of the Greek economy is mostly small and very small enterprises. For example, around 30% of the manufacturing employment in the country is in firms with nine or fewer employees. In contrast, Italy has just 15% of employees in this segment and Germany has only 5%. These small firms typically operate at less than 40% (based on EU-27 average figures) of the productivity of larger companies with 250 or more employees (Exhibit 9).

In addition to family ownership, a number of scale disincentives have resulted in the lack of large businesses. These include several overregulated areas of economic activity (where prices, competitive conduct, number and required 'credentials' of market participants are regulated), a frustrating bureaucracy that must approve investments, tax laws and administration practices that hinder scale (e.g., different requirements for tax-related documentation), and labor restrictions on larger enterprises. In terms of regulation, for example, Greece exhibits one of the highest degrees of product markets regulation among OECD countries, an index that has proven to have a strong inverse correlation with productivity (Exhibit 10).

Exhibit 8

### Productivity and growth barriers in the Greek economy

SUMMARY

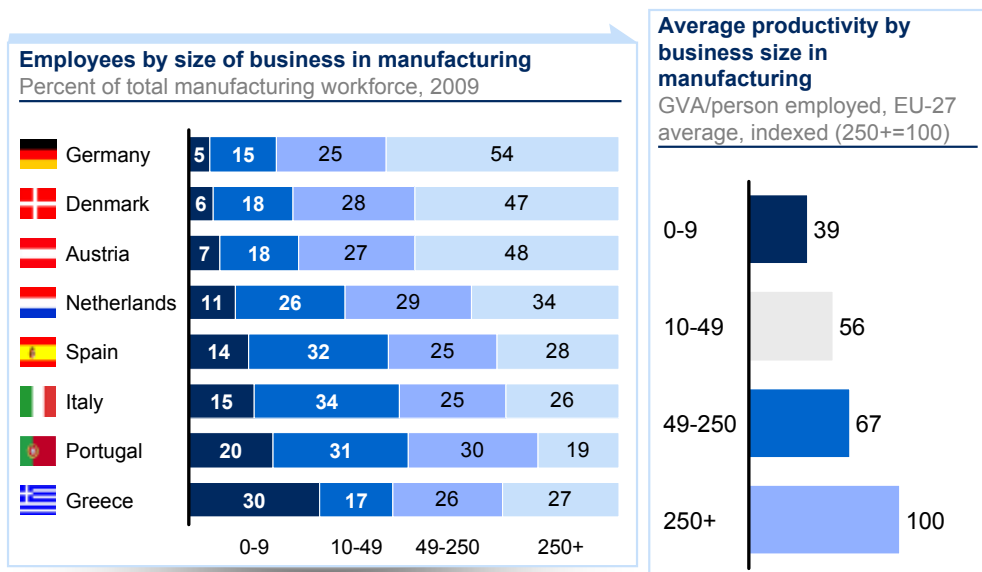
<b>A</b> <i>Investment and scale discouraged</i>	1	Fragmentation and small scale of businesses across sectors
	2	Over-regulation of markets and professions
	3	Complex and restrictive licensing and operating processes
	4	Lack of integrated and systematic zoning and real estate planning
	5	Highly complex and volatile tax framework creating scale disincentives
<b>B</b> <i>Large, inefficient public sector</i>	6	Large, expensive public sector with low quality outputs
	7	Very low efficiency driven by highly fragmented and overlapping tasks
	8	Lack of mechanism to inject market sourced management talent
	9	Low performance transparency and accountability; limited use of double entry system
<b>C</b> <i>Rigid and 'narrow' use of human resources</i>	10	Low employment participation of youth and female
	11	Limited flexibility (e.g., part-time, mobility) and employment turnover
	12	Binding and inflexible collective agreement framework
<b>D</b> <i>Cumbersome legal and judicial system</i>	13	Disconnect between market and education; lack of innovation support
	14	Over-abundance of laws; sometimes conflicting and with unclear applicability
	15	Heavy administrative burden in courts resulting to long lead times
<b>E</b> <i>Widespread informality</i>	16	Extensive tax-evasion; detection and collection reforms still emerging
	17	Substantial wealth creation and transaction outside formal economy

McKinsey & Company

Exhibit 9

### Fragmentation and small scale impacting productivity

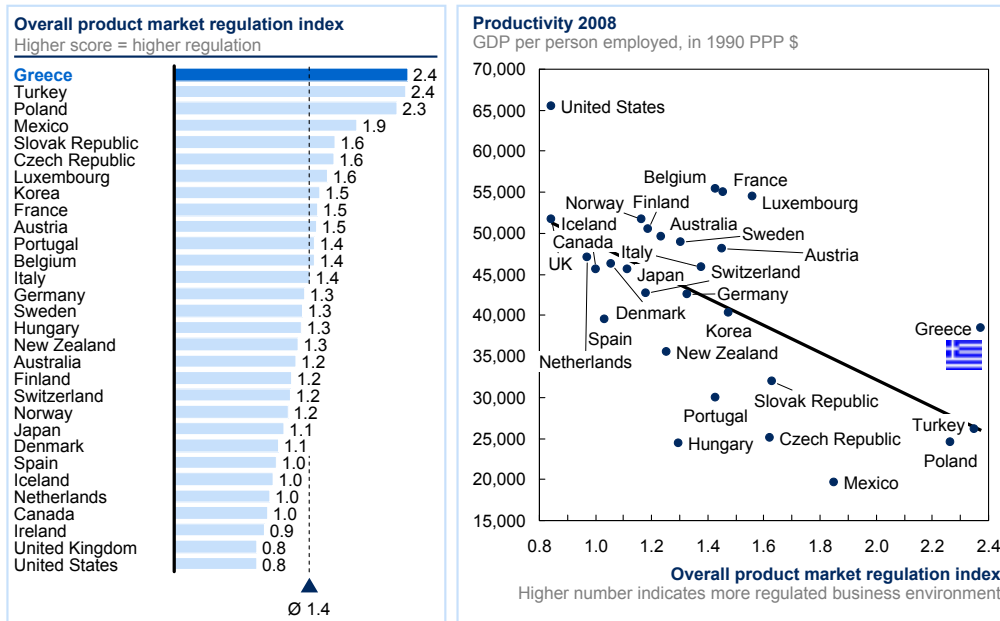
EXAMPLE: MANUFACTURING



SOURCE: Eurostat Structural Business Indicators; EL STAT

McKinsey & Company

## Overregulation impacting productivity



SOURCE: OECD; IFC; ILO; World Bank; McKinsey Global Institute

McKinsey & Company

### b. Large and inefficient public sector

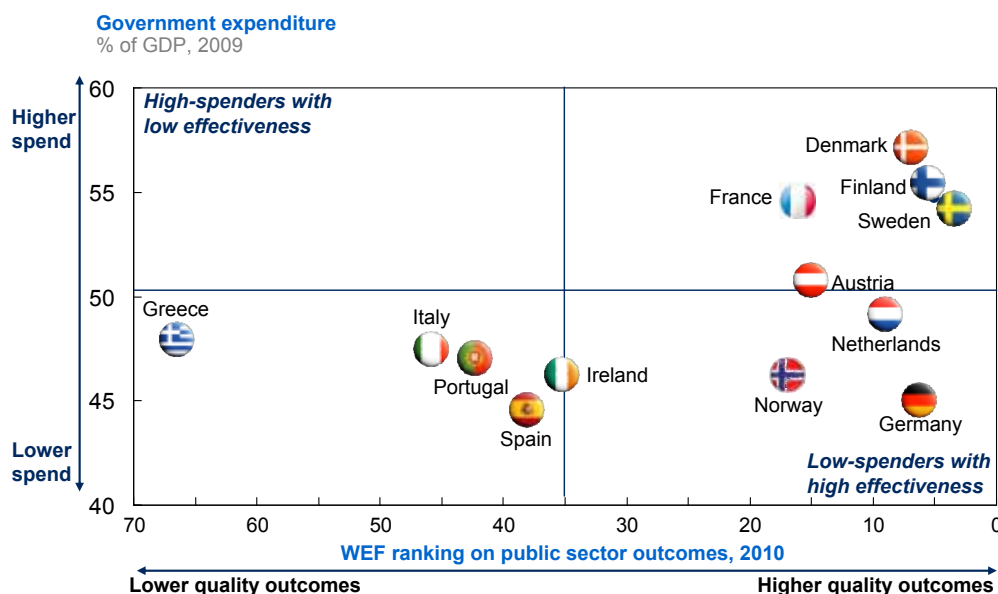
Greece's public sector, relative to the size of the country and its economy, is clearly large, and ranks at the upper end of European benchmarks. It is eclipsed only by Northern European countries, where, however, social service delivery and overall quality of output is recognized as clearly superior. In fact, the World Economic Forum ranked Greece extremely low in public sector outcomes. Combined with high government expenditure, this demonstrates the underperformance of the Greek public sector (Exhibit 11).

At the same time, Greek public sector suffers from significant fragmentation and overlap of responsibilities, between the various Ministries and multiple other authorities, creating additional burden and delays to business operations and allowing for informality to flourish.

On top of the 'core' public sector, there is a multitude of large and mid-sized corporations across sectors that are directly or indirectly controlled by the state (even if formally recorded in the private sector), exhibiting very similar structural inefficiencies in resource utilization. Moreover, the lack of performance transparency and accountability on public spending (e.g., lack of double-entry system) and procurement practices has created substantial competitive distortions in the pure private sector, with many enterprises being strongly dependent on financial transactions with the public sector. This underscores a vital need for the Greek economy to both reduce its reliance on the public sector and to step-improve its efficiency.

Exhibit 11

### An expensive and ineffective public sector



Note: Excluding interest; including government expenditure on final goods and services, social benefits, capital transfers, etc;  
 SOURCE: OECD; WEF Global Competitiveness Report 2010-2011  
 McKinsey & Company

#### c. Rigid and 'narrow' use of human resources

Greece has not capitalized on its human resources and labor force potential. Although recent reforms have taken important steps towards proven European models and practices, employers are still hesitant to hire more workers because of inflexible legal requirements, the cumulative effect and inflexibility frequently associated with collective labor agreements and the skewed functioning of arbitration. There is also poor placement of young university graduates in the workforce, a problem reflecting the largely severed link between universities and the business world.

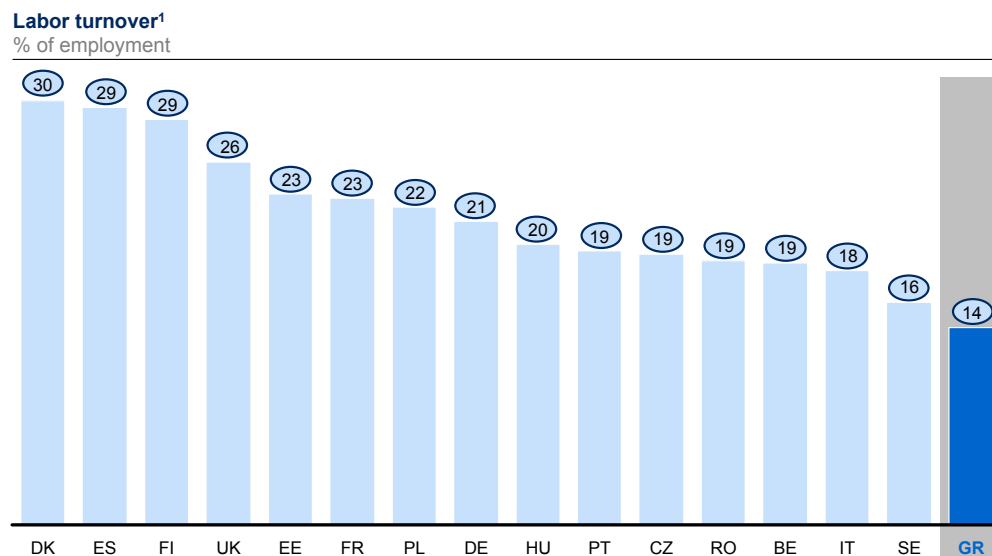
As a result of such distortions, Greece has the lowest employment turnover rate in Europe and the highest average tenure in the current job among OECD countries (Exhibit 12). Labor force mobility is a crucial indicator of 'health' for the Greek economy, the lack of which is also clearly reflected in the low observed levels of labor participation.

#### d. Cumbersome legal and judicial system deterring investment

Business in Greece is impeded by a cumbersome legal system, which comprises a large number of laws, sometimes ambiguous, obsolete or contradictory (e.g., in environmental legislation), with multiple overlaps and frequently revised (e.g., in the case of tax legislation). The resulting complexity creates a rigid and inefficient administration, responsible for delays, confusion and frequent friction with businesses and citizens.

Largely as a result of this, the Greek judicial system is overburdened with cases waiting to be tried. It lacks processes and specialized resources to deal with this high inflow. Indicatively, the Council of State –the country's supreme administrative court– appears to receive 8,000-9,000 new cases

## Greece has the lowest employment turnover in Europe



<sup>1</sup> Labor turnover = (Hirings+Separations)/total employment  
 Note: Annual averages across 2002-07, 2002-04 for Sweden  
 SOURCE: "Employment in Europe 2009"; DG EMPL calculations using EU LFS data

McKinsey & Company

per year, and only decides on 3,000 of them, creating an ever-increasing backlog and lengthening decision lead-times, now ranging from 2-6 years. At the same time, there is a lack of clear criteria for case prioritization and administrative resources to execute time-consuming bureaucratic tasks. The increasing backlog is also evident in lower levels of administrative courts that occasionally suffer from an inadequate capacity of judges.

### e. Widespread informality

According to reports from the Bank of Greece and other institutions, the informal sector in Greece accounts for approximately 30% of total economic activity. This translates to a very significant gap in tax receipts: in 2009, it was estimated that between €15-20 billion of personal, corporate and sales taxes was lost, with more than half of this foregone revenue attributed to VAT evasion. That is equivalent to 7%-9% of the country's GDP and 60%-80% of 2010 fiscal deficit.


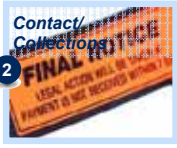

The traditional inability to effectively collect taxes is to a large extent driven by the lack of sophisticated processes and practices in the registration, evasion detection, case segmentation, evader contact strategy and collection approaches. Ongoing reforms and attempts to professionalize the process are clearly in the right direction. However, there is still a substantial gap versus international practices across the tax value chain. Most notable are deficiencies in the automated detection of potential tax offense perpetrators (based on advanced statistical tools), the ability to efficiently and effectively audit large amounts of cases and the tactical orchestration and escalation of intervention methods to maximize collection of tax revenue (Exhibit 13).

Beyond outright tax evasion, there is also a substantial informal labor market (especially among the self-employed and micro businesses) where income taxes and social contributions are not collected and other untaxed areas such as illegal imports and unreported gaming.

Exhibit 13

### Tax evasion counter measures emerging; still major gaps with international best practices

PRELIMINARY

	Indicative best practices (non-exhaustive)	Current status		
<b>1</b>  <b>Detection</b>	<ul style="list-style-type: none"> <li>▪ <b>Pro-active deterrence</b> – targeted and relevant outreach/awareness programs as well as pre-filing certification to pro-actively assist taxpayers to comply</li> <li>▪ <b>Sophisticated detection</b> – definition of the probability of 'hit' and likely 'yield/audit outcome/payout' based on selected key taxpayers parameters</li> <li>▪ <b>Prioritization and segmentation</b> – use of the above as well as other parameters (e.g., likelihood/ability to pay) to segment taxpayers and prioritize segments and cases</li> <li>▪ <b>Continuous calibration</b> – detection, segmentation, prioritization parameters calibrated with continuous inflow of contact and audit results and data</li> </ul>	<ul style="list-style-type: none"> <li>✗</li> <li>✓</li> <li>✓</li> <li>✗</li> </ul>		
	<b>2</b>  <b>Contact/ Collections</b>	<ul style="list-style-type: none"> <li>▪ <b>Contact strategies</b> – definition of the most suitable contact and audit strategy based on segment/cases characteristics and available audit resources; use of variable approaches (e.g., letter, call centre, audits of variable 'intensity')</li> <li>▪ <b>Auditors deployment/'rostering'</b> – complexity and fraud prevention based case allocation</li> <li>▪ <b>Audit guidance and monitoring</b> – on-line audit direction, workflow audit recording</li> <li>▪ <b>Debt settling strategies</b> – flexible payment arrangements where applicable</li> <li>▪ <b>Demand management</b> – dynamic pay-as-you-earn system and pre-due date contact</li> <li>▪ <b>Tight performance management</b> – 'closed files' reviews and frequent tax audit controls</li> </ul>	<ul style="list-style-type: none"> <li>✗</li> <li>✓</li> <li>✗</li> <li>✓</li> <li>✗</li> <li>✗</li> </ul>	
		<b>3</b>  <b>Taxpayer service</b>	<ul style="list-style-type: none"> <li>▪ <b>High e-filing rates</b> – reduction of processing costs, clear taxpayers benefits</li> <li>▪ <b>Efficient processing of paper returns</b> – digital technology as productivity driver</li> <li>▪ <b>Claims/liabilities clearance</b> – robust offsetting mechanism for open positions</li> <li>▪ <b>Query resolution</b> – efficient/effective delivery using demand/triaging expertise</li> <li>▪ <b>Channel management</b> – increased use of self services; targeted in-person channels</li> <li>▪ <b>Taxpayer education/assistance</b> – targeted education/assistance campaigns</li> <li>▪ <b>Tax auditors capabilities and training</b> – robust selection/termination, rotation, training</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✗</li> <li>✗</li> <li>✗</li> <li>✗</li> <li>✗</li> <li>✗</li> </ul>

SOURCE: Tax administrations; Interviews



### 3. A new National Growth Model



### 3. A new National Growth Model

It has become obvious that the flawed economic and growth model of the past needs to be replaced by a drastically different pattern of development and sense of purpose. Consumption-driven growth in Greece has come to an end as credit becomes scarce and expensive. Thus, Greece needs to adopt a new **National Growth Model**, involving radical changes:

- The economic model should become much more **outward**, focused on foreign markets both for producing export goods and services and importing foreign capital. Tradable sectors like tourism, manufacturing and business services should get a large share of resources and investments, allowing them to build scale, expertise and competitiveness at an international level.
- Funding of the economy needs to transition from public debt to private sector equity and debt. This requires higher levels of foreign and domestic **investment**. Greece needs to construct a business-friendly environment that will attract local and foreign investment, to generate new jobs and the economic growth required to gradually reduce the country's reliance on debt.
- The **productivity and efficiency** of the public and private sector needs to be improved. This could be accomplished by eliminating redundant or obsolete public sector entities that do not contribute to the public good and step-improving the operating efficiency of the public sector. The private sector should be activated to pursue business and investment opportunities that would enhance the country's extroversion and international competitiveness and build larger, more efficient organizations that better utilize human resources, investment capital and technology. Labor market reforms would also contribute to higher productivity.
- Greece needs to create a culture of **tax compliance**. Tax evasion should be effectively addressed and loopholes that allow or even incentivize it removed. Official corruption should also be rooted out, by minimizing transactions and interfaces between the private sector and state agencies, both in tax administration and other areas relevant for business and investment activity.
- The country also requires a new **employment culture**. Employees, including women and young people, should be encouraged to join private sector business enterprises. There should be meritocracy, particularly in the public sector, with individual effort and skill adequately rewarded. Part-time work needs to be incentivized to broaden the employment base and increase flexibility. Changing jobs is a sign of a robust economy that creates new opportunities for employees and should not be discouraged.

The new **National Growth Model** could achieve a number of **performance improvements**, including much lower private and public consumption as a percentage of GDP, increasing exports and generating substantially higher levels of investment. Productivity could significantly increase while, in addition, the **National Growth Model** could also reach a set of important **economic 'health'** milestones, such as closing the tax gap and increasing employee turnover. Achieving such milestones means reaching average EU levels on most indicators, though in certain aspects—for instance in FDI inflow or the increase in tradable sectors' output—Greece would need to outperform European peers in the coming years, to bring the economy back on track in the longer term (Exhibit 14).

How will this be accomplished? The recession and the ongoing government efforts for fiscal stabilization have already set in motion some of the necessary macro developments. Private consumption is already declining as a result of the downturn in the economy and the deleveraging by consumers. Eventually total private and public consumption needs to decline from its current level by 15-20pp of GDP, to reach sustainable levels observed in the rest of Europe.

The private sector needs to drastically alter the orientation of the economy away from domestic consumption towards export markets. This has already started to happen because of the crushing effect the recession has had on domestic demand, and it creates the opportunity for lasting changes.

Greece also needs to vastly increase the amount of investment flowing into the country to levels above the EU average. The privatization program can help accomplish this by attracting international investors for acquisition of key assets, strategic partnerships with Greek enterprises and consequent sustained investment activity. Even if valuations of Greek assets are currently depressed as a result of the crisis, each transaction should be viewed against mid- to long-term benefits including the elimination of incurred losses and subsidy outflows for the state, as well as the important benefit of bringing in long-term local and foreign investors and opening up state-controlled business to competition, that will also eventually create investment and employment opportunities while stimulating competitiveness.

## Exhibit 14

### The new 'National Growth Model' based on competitiveness and extroversion

INDICATIVE ASPIRATIONS

	From (2010)	To (2021)	References	
<b>Performance</b>	<b>GDP per capita</b> (USD thousand PPP) <sup>1</sup>	31	41	<ul style="list-style-type: none"> <li>Average GDP growth of ~3% p.a; realizing the €49 billion growth upside in the sectors studied while rest of economy growing at 1.5% p.a</li> <li>GDP growth as above</li> <li>Average employment growth of 1.0-1.3% p.a.</li> <li>Consumption adjustment to sustainable levels and increased extroversion in the economy</li> <li>Trade balance improvement validated from 'bottom-up' analysis of selected sectors' trade balance evolution</li> <li>Matching Southern European peers' performance (Italy ~20% and Spain ~23%)</li> <li>Matching international benchmarks; typical impact from intensive counter tax-evasion programs</li> <li>Converging to average European practices</li> </ul>
	<b>Productivity</b> (USD PPP/hour worked) <sup>1</sup>	35	41-43	
	<b>Private and public (final) consumption over GDP</b>	94%	75-80%	
	<b>Net Exports over GDP</b>	-8.5%	0-2%	
	<b>Investments over GDP</b>	14.5%	20-23%	
<b>Health</b>	<b>Tax gap</b>	30%	15-20%	
	<b>Employment turnover<sup>2</sup></b>	14%	20-25%	

<sup>1</sup> In 2009 terms

<sup>2</sup> Hirings plus separations over total employment

Detailed analysis of five major sectors and eight 'rising stars' in Greece demonstrates that there is potential for raising annual GVA levels by €49 billion (€55 billion in GDP terms) by 2021 through measures taken in these sectors alone<sup>3</sup> coupled with the implementation of several important cross-sector growth measures and reforms. That would create an estimated 520,000 new jobs. The largest increase is likely to originate from the tourism industry, which could add €18 billion in GVA per year, followed by the energy sector, which could add another €9 billion, food processing and agriculture, increasing their value added by €6 and €5 billion respectively. Retail is projected to eventually add €4 billion in GVA (following a relative decline in the short to medium term as a result of the crisis and the consumer deleveraging), and 'rising stars' of the economy, such as fish farming (aquaculture), medical tourism and generic pharmaceuticals may generate as much as €7 billion in new output (Exhibit 15).

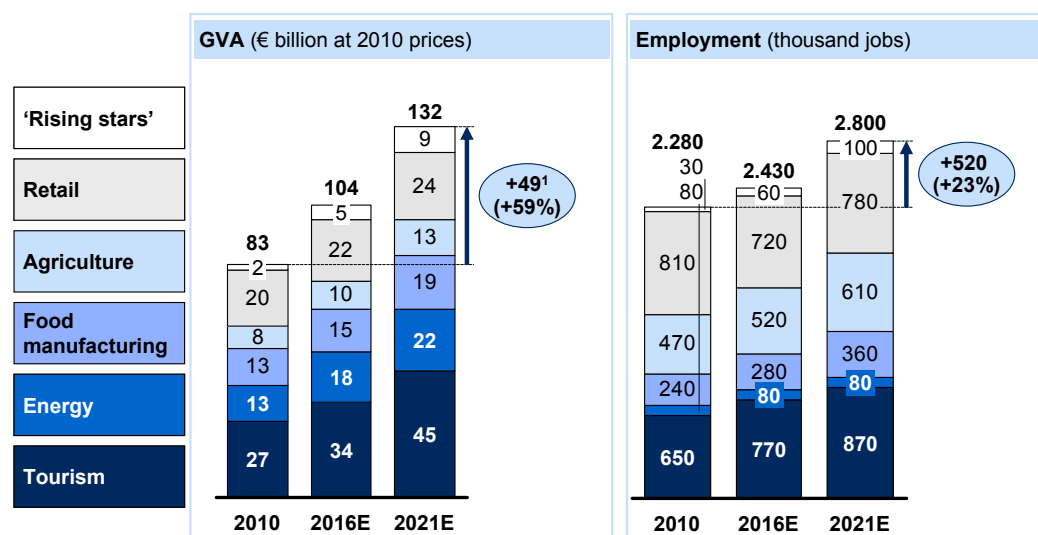
Assuming an underlying long-term annual growth trajectory of 1.5%, this would mean that the growth rate for the entire Greek economy could double to 3% per year on average over the next decade. This positive impact reflects only the cumulative effect of actions taken in the sectors examined in this report, with other sectors assumed growing at the baseline rate of 1.5%. Even if that baseline assumption were to be proven optimistic, e.g., due to externalities negatively affecting global demand, the estimated impact in GVA and employment would only take longer to materialize rather than being jeopardized in absolute terms. This would also mean a substantial boost to productivity – an important pillar of the new **National Growth Model** – by almost 20% (Exhibit 16).

The new **National Growth Model** could also have a significant impact on the country's fiscal and trade balances. Greece could have a positive impact on the fiscal balance in excess of €7 billion and on the trade balance of €16.5 billion in these sectors by 2021, going a long way towards curbing the large deficits currently crippling the economy (Exhibit 17).

<sup>3</sup> Includes both direct (recorded within each sector) and indirect (recorded in other sectors) GVA impact, netting out potential overlaps among sectors

Exhibit 15

**Potential for €49 billion new economic output and 520 thousand new jobs in the next decade** *ESTIMATES*

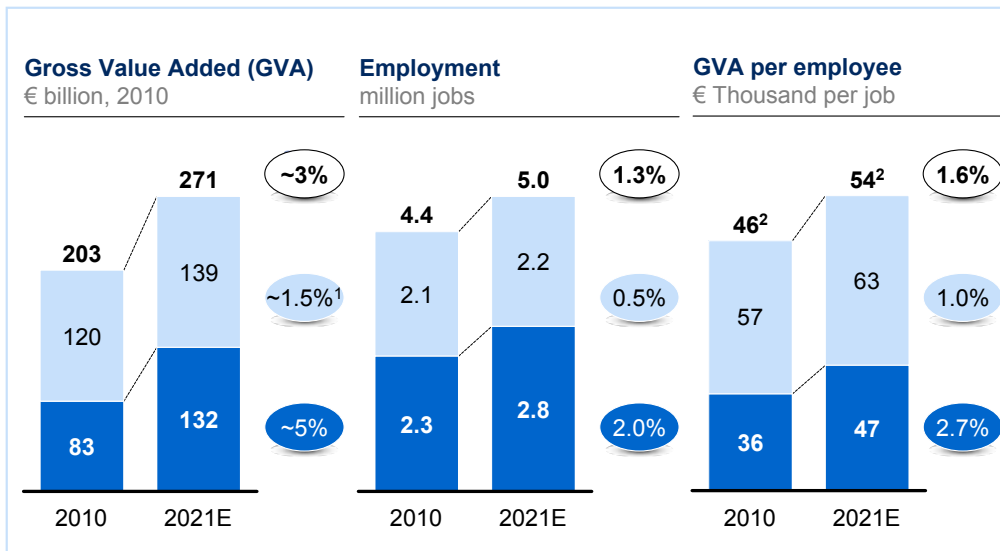


Note: Tourism and Retail are depicted in 2009 figures instead of 2010  
 1 Approximately € 55 billion in GDP terms

### Potential to double growth and increase productivity by almost 20%

ESTIMATES

■ 'Greece 10 Years Ahead' focus sectors ■ Rest of economy ○ 10 year CAGR



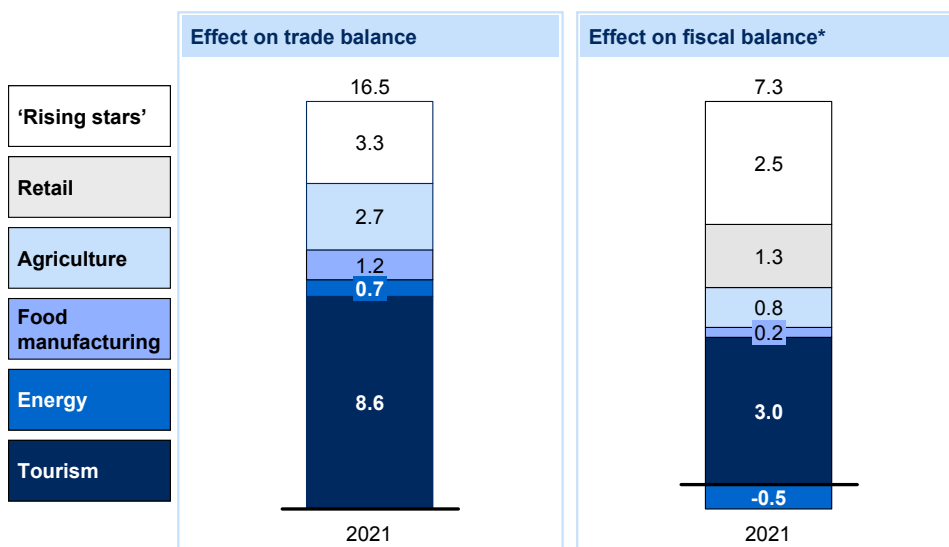
1 Assuming 'base line' growth for the Greek economy was at an average annual rate of 1.5%  
 2 Weighted average

McKinsey & Company

### Potential impact in closing the twin deficit gaps

ESTIMATES

€ billion, 2010 prices



\* Effect on fiscal balance includes corporate tax, personal tax, and VAT revenues (with exception of Retail where personal tax revenues were not included); not taking into account social security contributions effect on state-controlled pension and health insurance funds, import/export duties, or other similar revenues

McKinsey & Company

**Greece 10 Years Ahead** details more than 100 possible growth priorities and measures both across and within sectors.

Indicative examples among possible reform priorities at the cross-sector macro level include:

- Simplifying and accelerating investment approval and licensing, improving the fast-track approach and leveraging successful practices employed when preparing for the Athens 2004 Olympics. Investments with high growth multipliers and local employment potential should take priority and public investment redirected to infrastructure projects with relevance for growth and high local GVA (e.g., land and sea infrastructure).
- Revising the environment and zoning framework, adjusting specifications for land usage and adapting development standards to real market context and growth imperatives, while preserving Greece's environmental legacy.
- Developing an effective and transparent mechanism to attract and recruit local and international market talent for contract based deployment into pivotal technical and management positions in the public sector.
- Optimizing tax evasion counter-measures by applying international best practices in detection and collection, and reducing the informal economy by focusing on high impact areas (e.g., undeclared labor, illegal imports, unreported gaming). Also, consolidating all public sector auditing functions (e.g., tax, licensing) into a Central State Auditing Unit.
- Upgrading the capacity of the court system, starting with the Council of State, where a dedicated 7<sup>th</sup> department dealing with strategic investments and growth reforms could be created. Also setting priorities to get casework through the court system in a more efficient manner and selectively adding judges at first and second degree level of administrative courts to address the current backlog and decrease resolution time by better prioritizing cases at the lower court level.
- Improving the relationship between Greece's universities and business to also promote innovation and research. The country needs dedicated undergraduate and graduate university degrees, in the areas of Tourism and Agriculture. Introducing obligatory internships in the third year of studies to ease the transition of students into the job market. Universities and industry need to cooperate to stimulate innovation and ensure that young graduates can find opportunities in their chosen field.
- Establishing an independent Economic Development and Reform Unit (EDRU) as an institution directly reporting to the Prime Minister benefiting from input also provided by the private sector and academia. The EDRU, which, as a concept, has been effectively adopted in various cases internationally (e.g., UK, Singapore), could support the Greek government in coordinating, facilitating, and monitoring the implementation of growth reforms.

Exhibits 18-19 provide an overview of 20 possible cross-sector macroeconomic priorities, measures and reforms to be considered by the Greek state in effectively removing growth, productivity and competitiveness barriers and unleashing the country's growth potential. These priorities include both new initiatives, as well as initiatives underway, which, however, could benefit from acceleration and/or revision.

### Possible cross-sector priorities and measures to unleash growth (1/2)

■ High priority

	Possible cross-sector priorities and measures	Priorities/measures to accelerate and/or revisit
<b>A</b> Igniting and sustaining growth	<b>1</b> Introduce the <b>Economic Development &amp; Reform Unit</b> (EDRU) as an institution under the Prime Minister to support the government in coordinating, facilitating and monitoring the implementation of growth reforms	<b>5</b> Revise the <b>environmental and zoning framework</b> to better balance growth and environmental priorities <ul style="list-style-type: none"> <li>– <i>Adjust specifications for land usage and zoning</i> for specific business activities (e.g., tourism, industrial, commercial)</li> <li>– <i>Adapt development standards</i> (for each land use) to real market context and growth imperatives</li> </ul>
	<b>2</b> Launch a phased <b>'Lean Processes'</b> program to <b>simplify licensing processes</b> and reduce lead times	<b>6</b> Revisit the <b>'Fast Track'</b> framework for investments using proven <i>Athens 2004 Olympics</i> practices – i.e., <ul style="list-style-type: none"> <li>– Introduce dedicated legal pre-clearance team</li> <li>– Replace the "deadline induced approval" principle with legislated simplified process (first phase of <i>'Lean processes'</i> program (see #2))</li> </ul>
	<b>3</b> <b>Incentivize investment and facilitate scale</b> <ul style="list-style-type: none"> <li>– Introduce sector and output based <i>incentives</i> for investments and extroversion (e.g., manufacturing capacity locally and abroad, technology, R&amp;D)</li> <li>– Remove <i>counter-incentives and barriers</i> to scale (e.g., legal and labor restrictions, SME taxation)</li> </ul>	<b>7</b> Re-prioritize <b>public investments</b> and rapidly launch growth relevant, high domestic GVA <b>infrastructure</b> projects (e.g., land/sea) leveraging PPS and EU funds
	<b>4</b> Establish the <b>'Greece 10 Years Ahead' Investment Fund</b> (private or PPP) to pursue growth relevant investments	<b>8</b> Re-design the <b>University-Business R&amp;D and patenting framework</b> to promote innovation and entrepreneurship
<b>B</b> Reforming the Public Sector and limiting its size	<b>9</b> Develop an effective and transparent <b>mechanism</b> to <b>recruit</b> local and international market-sourced <b>talent</b> for <b>contract based deployment</b> into <b>pivotal</b> technical and/or management <b>positions</b> in the <b>public sector</b> ; pre-define allowance/limits for state entities	<b>11</b> Expand <b>IPSAS / IFRS double-entry standards</b> across all state entities; establish a financial reporting consolidation system to monitor and manage performance centrally
	<b>10</b> Consolidate all state entities' IT architecture design and strategic management into a <b>central IT unit</b>	<b>12</b> <b>Broaden scope and role</b> of the <b>State Assets Management Fund</b> to maximize the impact of the privatization program and Greek State TRS (Total Return to Shareholders)

McKinsey & Company

### Possible cross-sector priorities and measures to unleash growth (2/2)

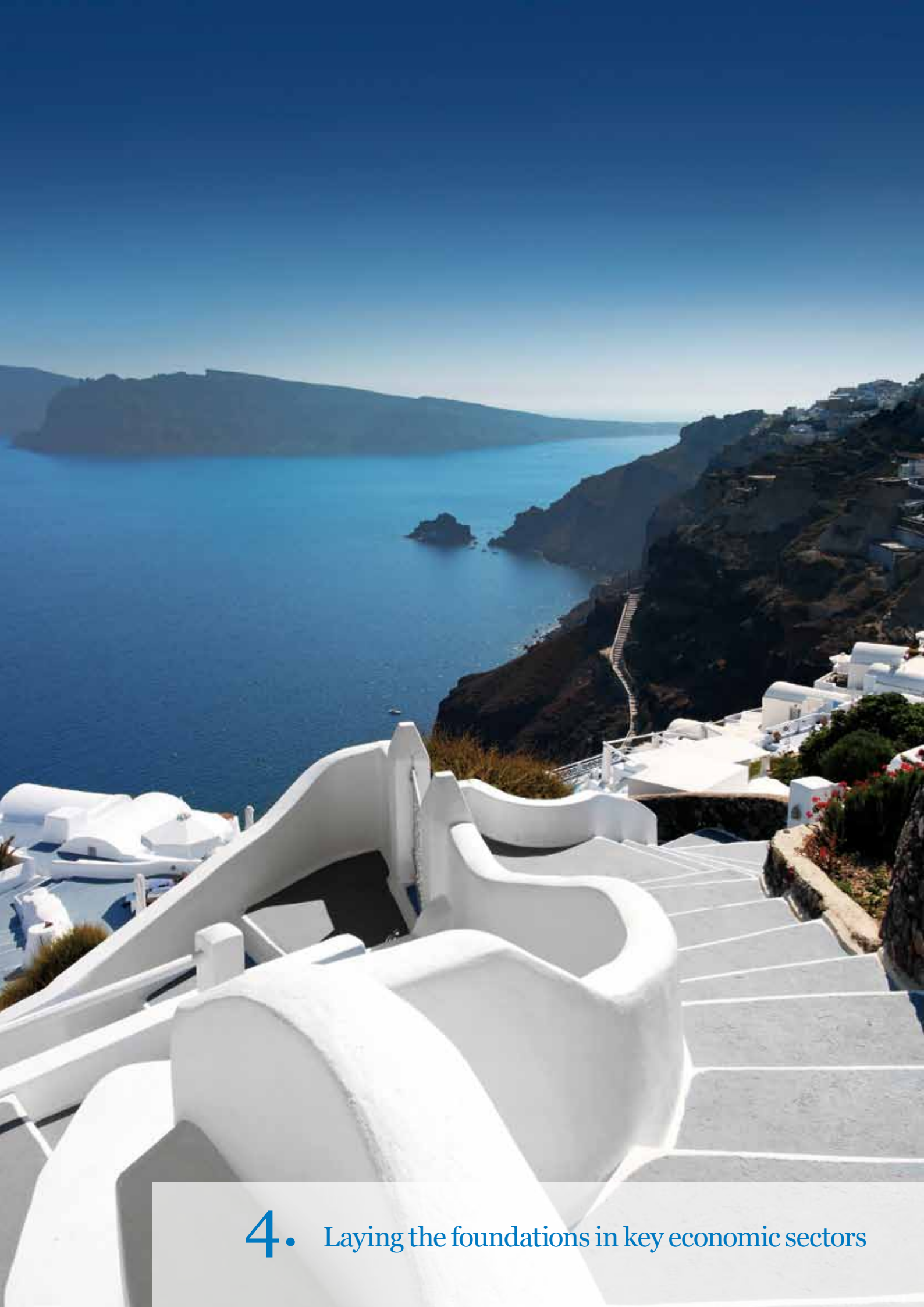
■ High priority

	Possible cross-sector priorities and measures	Priorities/measures to accelerate and/or revisit
<b>C</b> Stimulating participation and employment	<b>13</b> Introduce <b>additional labor flexibility and mobility</b> measures <ul style="list-style-type: none"> <li>– <i>Broaden part-time employment</i> (public/private sector)</li> <li>– Create central <i>public sector employment coordination function</i> to manage supply/demand and facilitate mobility</li> <li>– <i>Shift from tenure to tenure/performance based advancement</i> in the public sector</li> </ul>	<b>15</b> Complete <b>efficiency-related labor</b> reforms: <ul style="list-style-type: none"> <li>– <i>Unified compensation</i> scheme across the entire public sector</li> <li>– <i>'Cap' in employment discontinuation reimbursement</i> for fixed-term contracts</li> </ul>
	<b>14</b> Launch <b>'Ellada &amp; Ergasia'</b> as a cross-ministerial program <ul style="list-style-type: none"> <li>– <i>Incentivize and facilitate youth and female participation</i> (e.g., social security, support for working mothers) (MoL)</li> <li>– <i>Consolidate employment databases and develop a national employment portal</i> (MoL)</li> <li>– Launch a labor <i>re-skilling/specialization</i> program (MoE)</li> <li>– Introduce <i>obligatory internships</i> in the 3<sup>rd</sup> year (MoE)</li> </ul>	
<b>D</b> Improving the effectiveness of judicial operations	<b>16</b> <b>Accelerate decision making</b> in <b>Council of State (CoS)</b> and <b>earlier degree courts</b> <ul style="list-style-type: none"> <li>– Introduce a 7<sup>th</sup> <i>CoS department</i> dedicated to strategic investments and economic reforms while establishing a <i>funneling and prioritization approach</i></li> <li>– Selectively <i>add capacity</i> (e.g., judges in earlier degrees, support staff in CoS)</li> </ul>	
<b>E</b> Enforcing compliance and limiting informality	<b>17</b> Consolidate all <b>internal auditing functions</b> of core public sector (e.g., tax, licensing, HC authorities) into a <b>Central State Auditing Unit</b>	<b>19</b> Further optimize <b>tax evasion counter measures</b> leveraging international practices in detection, segmentation, and contact/collection
	<b>18</b> Launch <b>dedicated projects</b> to investigate possible informalities in different fields of economic activity (e.g., undeclared labor, illegal imports, unreported gaming)	<b>20</b> Establish a <b>Central Procurement Unit</b> to define procurement strategy, procure selected categories and monitor procurement practices across state entities

McKinsey & Company







## 4. Laying the foundations in key economic sectors

## 4. Laying the foundations in key economic sectors

The cross-sector macroeconomic reforms outlined in the previous section are critical to lift the barriers mentioned earlier and to develop the necessary conditions for the country's economic sectors to grow. A top-to-bottom examination of the Greek economy shows that the best opportunities for growth would occur in sectors where output can be enhanced by measures to maximize competitiveness and productivity.

The study identifies these as 'production' sectors (Exhibit 20). They collectively generate €125 billion in GVA (approximately 60% of total GVA in the Greek economy) and employ more than 3 million people (approximately 70% of total employment). The five largest sectors among those – tourism, retail, energy, manufacturing and agriculture – which have been studied in detail account for 42% of economic output. They are collectively the largest employers (51% of total employment) and 'tax payers' in the country, while they stand to benefit the most from investment spillover effects between sectors. Manufacturing, for instance, accounts for 8% of direct output and 11% of employment and can grow strongly on the back of demand generated in several 'production' sectors. Indicatively, out of €18 billion in identified new output originating in tourism, almost €3 billion would be formally recorded as direct GVA in manufacturing and heavy industry sub-sectors.

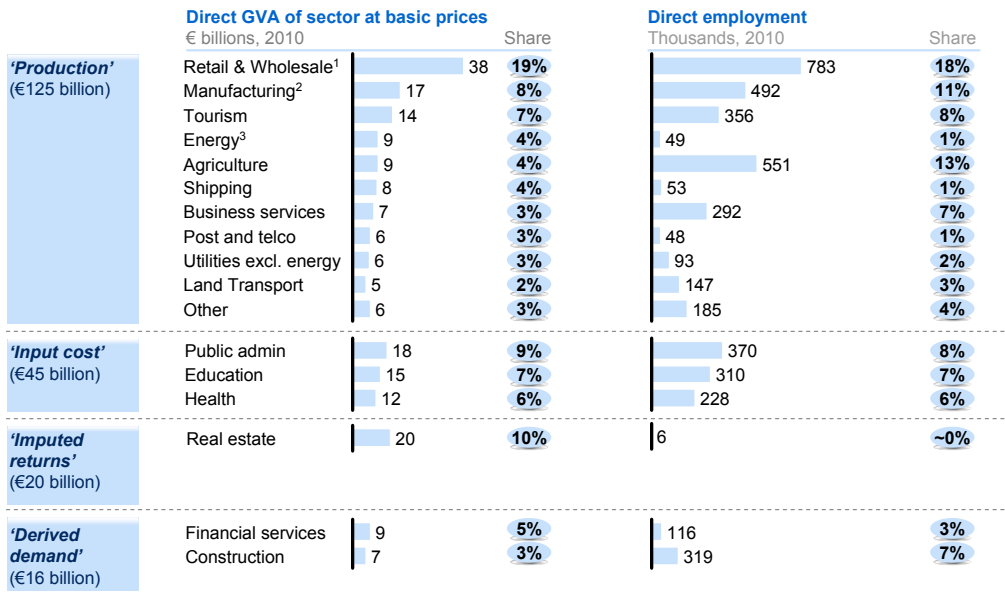
**Greece 10 Years Ahead** also identifies eight 'rising stars' in the economy (six primary and two secondary ones), which, though they are not yet sizeable, nonetheless offer the possibility of significant future growth. These 'rising stars' include **manufacturing of generic pharmaceuticals, aquaculture, medical tourism, elderly care, regional cargo hub development, waste management, specialized food categories, and development of targeted classical education programs**. They were selected among a long-list of more than 20 candidate subsectors, based on the relative intrinsic capabilities of Greece (e.g., in terms of primary resources, know-how, infrastructure, proximity to key markets) and the dynamics of supply and demand internationally (e.g., in terms of size and growth, labor versus knowledge intensity, local versus regional versus global reach) (Exhibit 21).

The estimates of 520,000 new jobs and €49 billion in additional annual GVA (€55 billion in GDP terms) in this growth model are based on the detailed sector analysis conducted and reflect the application of well-established international practices to the Greek business landscape, taking into account the local economy's particular needs.

The remainder of this Executive Summary outlines the major conclusions and growth priorities for the five major sectors and eight rising stars within the scope of the **Greece 10 Years Ahead** study.

### Mapping the economic sectors of Greece in terms of GVA and employment

ESTIMATES



1 Excluding fuel retail; 2 Excluding pharma manufacturing and ship building  
3 Extraction, processing and retail of fuels; electricity  
SOURCE: WIS Global Insight; EU KLEMS 2009; Eurostat

McKinsey & Company

### 'Rising Star' growth opportunities prioritized and relevant selection criteria

#### Prioritization criteria for 'Rising Stars'

- Greece's intrinsic assets and capabilities**
  - Availability of 'endogenous' resource inputs and/or raw materials
  - Specific know-how availability
  - Existing infrastructure that could be leveraged and/or scaled-up
  - Geographical proximity to destination markets
- Market profile and success conditions**
  - Market size and growth
  - Nature and scope of competition
    - Labor vs. knowledge vs. capital intensive
    - Local vs. regional vs. global reach
  - Understanding of success parameters in each value chain step

- 'Rising Stars' prioritized**
  - 1 Manufacturing of generics pharmaceuticals
  - 2 Aquaculture
  - 3 Medical Tourism (mainly outpatient)
  - 4 Elderly care
  - 5 Regional cargo hub
  - 6 Waste Management
  - 7 Specialized food categories
  - 8 Graduate/ postgraduate Classics education hub
- 'Rising Stars' analyzed; not prioritized (non-exhaustive)**
  - Regional HQ hub
  - Pharmaceuticals/medical research/ clinical trials
  - Mobile health diagnostics
  - Outsourcing hub (e.g., software, engineering)

McKinsey & Company

## 4.1. Major sectors

### 4.1.1. Tourism

Tourism accounts for approximately 15% of the Greek economy when both direct (7%) and indirect (8%) GVA contribution is measured. The sector has been growing for a decade, but 70% of that growth has been fuelled by domestic demand. A traditional 'sun and beach' holiday destination, Greece competes with Italy, Spain, France and – recently – Turkey for tourist revenue. It gets most of its foreign visitors from Germany and the UK, with market shares around 3%-4%.

Greece faces a deteriorating competitive position in its traditional markets and has had limited success in attracting visitors from emerging markets such as China and Russia (Exhibit 22). The tourist season is too concentrated in the summer months (52% of arrivals in Q3) and tourists spend relatively less money in Greece than tourists visiting competing destinations (€146/day versus 200 in Italy and 162 in Turkey).

These challenges result from a number of underlying issues. In terms of its **commercial strategy** Greece offers a 'sun and beach' product with broad mass-market appeal, yet with low average quality, very limited differentiation in 'themes' and doubtful economic viability in the absence of large-scale accommodation and high value added infrastructure. In terms of **real estate planning, infrastructure and investment framework** several restrictions prevent developments that would cater more effectively to modern demand patterns and growing market segments (e.g., integrated resorts, vacation homes, cruise embarkation ports, marinas), while cumbersome licensing processes and a volatile tax framework discourage investments. **Connectivity** to emerging and long-haul markets is limited, while specific entry points (especially Athens) are very costly for air carriers. In terms of **capabilities**, Greece is under-performing in talent quantity, quality and status of academic institutions, while it lacks an effective market-driven organization for managing and promoting its tourism 'product'.

**Greece 10 Years Ahead** synthesizes 13 possible priorities for tourism grouped into four strategic themes (Exhibit 23):

- **Re-defining and re-focusing Greece's commercial strategy.** Greek tourism needs to focus its source market targeting, aiming to maintain market share in core European markets (Top Tier: Germany, UK, Scandinavia; Tier 1: Italy, France, Netherlands), while achieving a meaningful penetration in emerging (Russia and China) and long-haul (USA) markets. The commercial strategy should also aspire to shift the mix of visitors towards higher-income segments (from 62/38 to approximately 55/45 mass/affluent mix) through a quality upgrade of the core 'sun and beach' product with specific 'extensions' – in developing cruises and nautical tourism, developing a network of large integrated resorts (15-20) and vacation homes (approximately 50,000), and establishing Athens and Thessaloniki as attractive 'City Break' destinations (Exhibit 24).
- **Developing quality infrastructure while accelerating investments.** This involves investments in 2-3 larger-scale conference centers in Athens and Thessaloniki, as well as the development of the necessary infrastructure to support nautical tourism, especially marinas (to reach 60-65 from 32 today) and 3-4 cruise ship-friendly embarkation ports (Exhibit 25). Policy priorities should revolve around the selective lifting of restrictions and bureaucracy in vacation home and integrated resort development, as well as enable the productive utilization of dormant tourism assets.
- **Facilitating access and transportation.** Greece needs to actively promote better connectivity with emerging and long-haul markets by attracting more direct flights from these source markets, as well as lowering entry barriers (facilitating Schengen Visa processes) and airport charges.

- Revamping Greece's Tourism capabilities and know-how.** Greece needs a distinctive Tourism University degree with strong international links. Moreover, it is critical to set up eight functions (i.e., tourism strategic planning, source market and product management, marketing execution, channel/sales support, accreditation, fast-track for large investments, tourism operation facilitation / local tourism KEPs). Leveraging and revamping existing capabilities (e.g., within the Ministry and Greek National Tourism Organization – GNTO) while injecting additional talent and setting up a PPP to further develop some of the functions such as source market/product management and marketing execution.

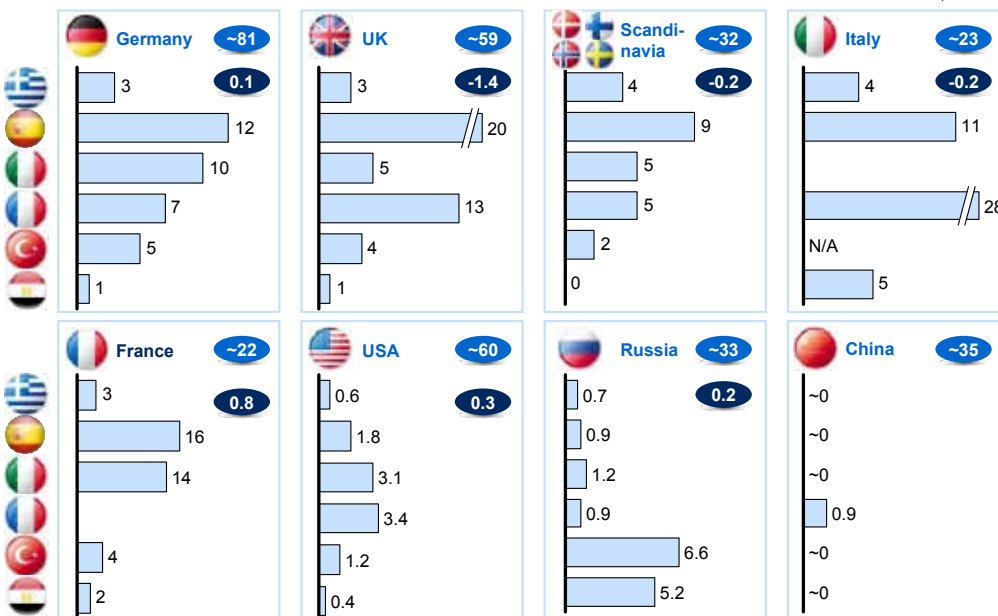
By 2021, the annual GVA could increase (vs. 2010) by approximately €18 billion and employment could increase by approximately 220,000 jobs. The positive impact on Greece's trade and fiscal balance could reach approximately €9 and approximately €3 billion respectively.

Exhibit 22

### A challenging competitive position for Greek tourism

Market share, %, 2009

● Millions of departures  
● Δ percentage points market share, 2004-09



Source: Euromonitor

McKinsey & Company

Exhibit 23

### Possible priorities and measures to further develop Tourism

■ High priority

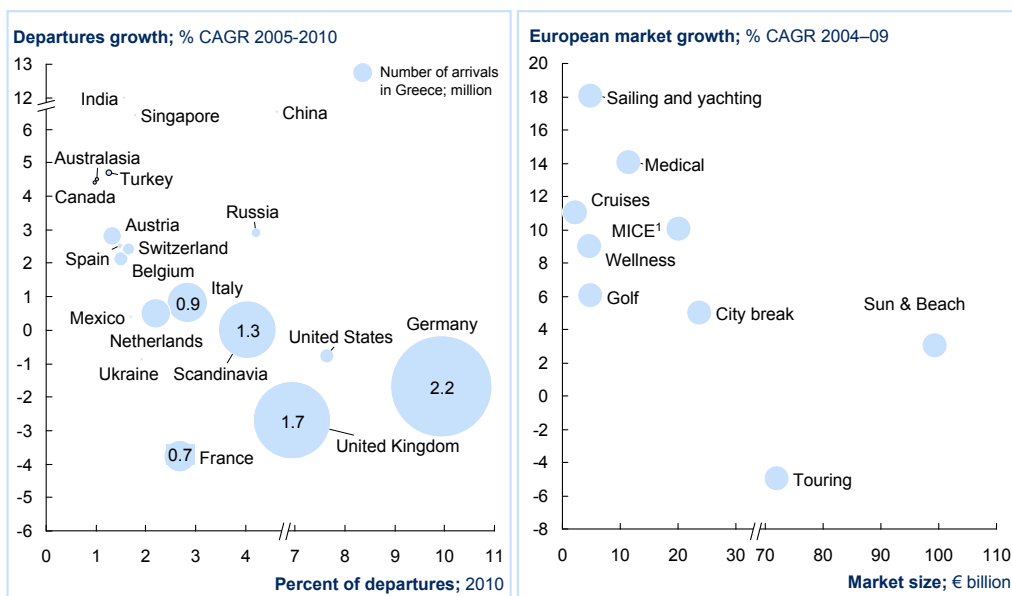
Possible priorities and measures	
<b>A</b> Re-defining and re-focusing the commercial strategy	<b>1</b> <b>Systematically target core mature and emerging markets</b> while improving the <b>mass-affluent mix</b> – Defend and reinforce share (>3.5-4%) in mature markets: Top Tier - UK, Germany, Scandinavia, Tier 1 - France, Italy, Netherlands – Aggressively penetrate and gain share in North America (>1%), Russia (>1%), and China (>0.5%)
	<b>2</b> <b>Upgrade and selectively expand the product portfolio</b> – Upgrade 'Sun & Beach' to increase value for money and establish a 'healthier' mass/affluent mix (~55/45) – Develop 'City Break' themes in Athens/Thessaloniki with global events, MICE <sup>1</sup> , culture and leisure offers – Aggressively build 'Cruises' and 'Sailing/Yachting' themes for European leadership (>25% embarkation share) – Develop a systematically planned network of LIRs <sup>2</sup> and Tourist Homes (15-20 LIRs, ~50K homes)
	<b>3</b> Refresh Greece's <b>brand and positioning</b> while upgrading <b>destination marketing sophistication</b> <b>4</b> Introduce <b>multi-channel platforms</b> for a distinctive <b>pre-visit experience</b> (e.g., 'Visit Greece' portal)
	<b>5</b> Revamp Tourism <b>zoning and planning legislation</b> and lift excessive restrictions aiming to: – Facilitate the development of quality accommodation, including LIRs and vacation homes – Enable the productive utilization of existing dormant tourism assets
<b>B</b> Developing quality infrastructure while accelerating investments	<b>6</b> Pursue <b>growth-relevant public infrastructure investments</b> : upgrading 3-4 ports (for cruise embarkations), building 30-35 new marinas (to reach 60-65); investigate regional airport expansions
	<b>7</b> <b>Upgrade cultural sites' infrastructure</b> (prioritized by cultural importance and traffic) while developing 3-4 new major <b>conference facilities</b> to reinforce 'City-Break' and MICE value proposition
<b>C</b> Facilitating access and transportation	<b>8</b> Leverage the <b>'fast-track' framework</b> (including the introduction of leaner licensing processes and the introduction of a legal pre-clearance team) to accelerate tourism investments
	<b>9</b> Increase <b>flight connectivity</b> with US, Russia and China; <b>facilitate Schengen procedures</b>
<b>D</b> Developing capabilities and know how	<b>10</b> <b>Re-plan and re-schedule</b> capacity, connectivity and quality/cost offering for <b>island transportation</b> ; consider the development of 2-3 local hubs (e.g., in Cyclades, Dodecanese, Ionian islands)
	<b>11</b> Review <b>pricing at access points</b> (ports and airports) against demand elasticity
	<b>12</b> Build Greece's <b>University Department for Tourism Studies</b> (undergraduate and graduate); upgrade existing curriculum for technical education; introduce extensive international exchange programs <b>13</b> <b>Step-improve central sector planning and management capabilities</b> ; establish <b>eight critical functions</b> (e.g., strategic planning, product/customer management, marketing execution, channel/sales support); <b>inject talent</b> into the <b>Ministry</b> and <b>GNT0</b> ; <b>create a market driven PPP</b> for selected critical functions

1 Meetings, Incentives, Conferences, Exhibitions 2 Large Integrated Resorts

McKinsey & Company

Exhibit 24

### Greece's source market and product focus driven by present and future fundamentals

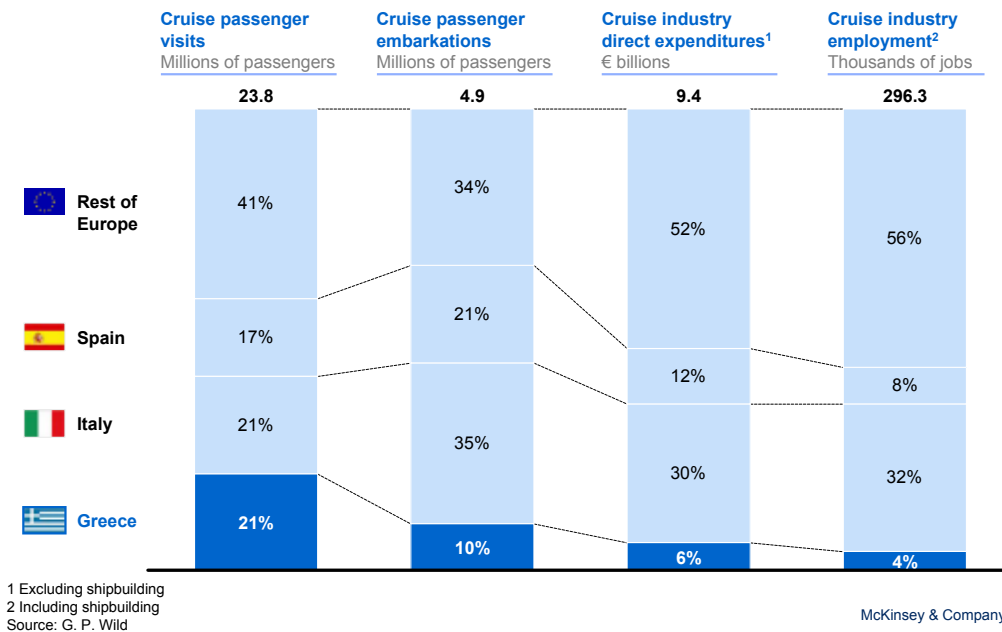


1 Meetings, Incentives, Conferences, Exhibition  
Source: Euromonitor; WTCC

McKinsey & Company

## Opportunity for boosting revenues and employment in the cruise industry by capturing a 'fair leadership share' in embarkations ESTIMATES

2009



### 4.1.2. Energy

Energy accounts directly for 4% of Greece's GVA and plays a key role in the competitiveness of domestic industrial players. The sector in Greece has a higher contribution to the GVA of the economy compared to other countries, for example in S. Europe and Germany. The GVA of the Greek energy sector was growing between 2000 and 2008, contrary to other economies where the sector's GVA was declining throughout most of the past decade. Both the higher contribution and the recent growth are largely driven by sector inefficiencies.

High energy consumption (Exhibit 26), low fuel efficiency, low labor and capital productivity and an expensive energy mix characterize the Greek energy sector. Compared to other S. European markets and Germany, electricity consumption in the residential and commercial segments is 10%-40% higher and fuel consumption for transportation is 5%-10% higher. The current energy mix is highly dependent on petroleum products vs. lower cost gas compared to other economies and targets for the future mix include an increased share of renewables that may increase costs. These inefficiencies are partially offset by regulated low electricity tariffs and good energy efficiency in the industrial sector, which keep the cost of energy low compared to European peers. Acting on these efficiency challenges could further reduce the cost of energy for Greece.

In addition, the sector is characterized by limited 'extroversion', as there is relatively limited activity of Greek energy players abroad, and narrow activity across the value chain, with practically no oil and gas upstream activity – despite the potential domestic reserves – and small participation in the manufacturing of infrastructure for the sector. Both the limited extroversion and the narrow scope in the



sector's value chain limit currently the potential for growth of the Greek energy sector in the next 10 years.

To tap the opportunities for productivity and growth, **Greece 10 Years Ahead** outlines 14 possible priorities across four areas that sector players and the Greek state could consider (Exhibit 27):

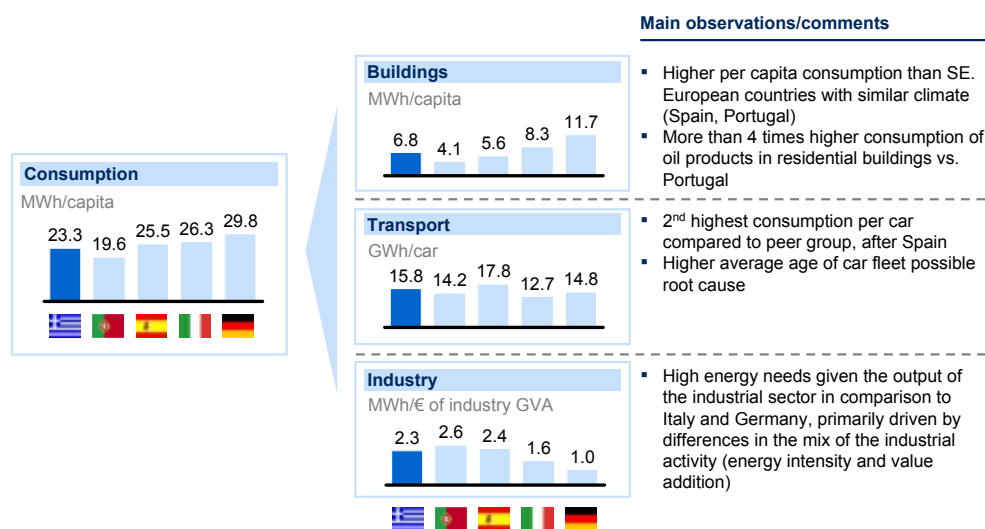
- **Improving energy efficiency.** Involves initiatives to streamline energy consumption mainly in buildings (Exhibit 28) and transportation. A number of technical levers are available in this direction, several of which require upfront investment and effective incentive schemes to accelerate implementation. Pursuing an effective building energy efficiency program would require the adjustment and increased specificity of relevant standards and could result to a substantial increase in the output of the manufacturing and construction sectors (estimated GVA upside of approximately €1.5 billion per year until 2021).
- **Boosting productivity.** We estimate that in electricity, efficiency and productivity improvements could help reduce unit costs by at least 10%-15%. Similarly in the petroleum sector, unit costs could be improved by at least 5%-10% (estimate of 6%). Actions include availability, operating efficiency (fuel, labor and third party costs) and capital productivity improvements, reducing power transmission and distribution losses, e.g., by installing smart meters, and minimizing informality in petroleum retail.
- **Optimizing the energy mix** by assessing fuel and technology substitution alternatives in terms of security of supply, financial impact and environmental implications. A comprehensive energy strategy for the country would be needed, in the context of which the plan towards the EC 2020 targets should be revisited, and a viable plan for the interconnection of the islands developed.

Exhibit 26

### Comparative per capita energy consumption levels

ESTIMATES

2008, Energy consumption by segment



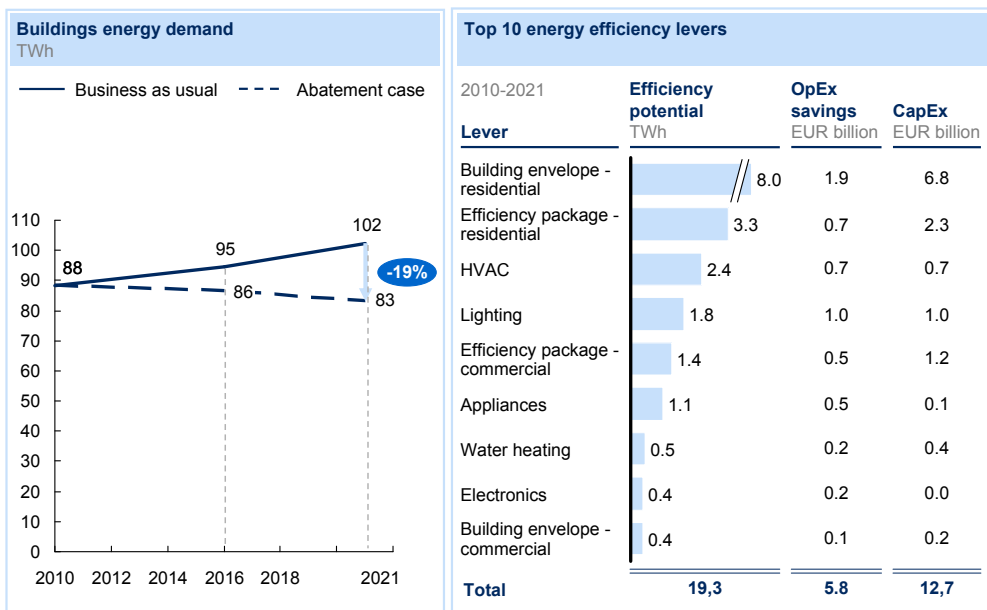
### Possible priorities and measures to further develop the Energy sector

■ High priority

	Possible priorities and measures	Priorities and measures to accelerate and/or revisit
<b>A</b> Improving energy efficiency	<ol style="list-style-type: none"> <li>1 Introduce <b>parametric and progressive electricity pricing</b> to incentivize energy conservation</li> <li>2 Launch awareness <b>campaigns</b> on energy efficiency benefits, levers, costs for buildings and transportation</li> </ol>	<ol style="list-style-type: none"> <li>3 Increase <b>specificity of energy policies for buildings</b> (new-builds, retrofits)                             <ul style="list-style-type: none"> <li>- Higher threshold for minimum efficiency specs</li> <li>- Strict auditing procedure and penalties</li> </ul> </li> <li>4 Revisit <b>incentives for retrofits</b> (e.g., tax rebates instead of subsidies); ensure 'critical mass' of buildings eligibility</li> </ol>
<b>B</b> Boosting productivity and efficiency	<ol style="list-style-type: none"> <li>5 Introduce <b>smart metering</b> (short term) to reduce T&amp;D losses (to EU levels), enable accurate billing and support energy efficiency</li> <li>6 Revisit the regulatory framework in electric power and consider introducing a '<b>price and cap</b>' system to ensure fair returns across the value chain that provide appropriate incentives for investments</li> </ol>	<ol style="list-style-type: none"> <li>7 Accelerate <b>critical productivity improvements</b> <ul style="list-style-type: none"> <li>- Improve lignite plants <i>fuel efficiency and availability/uptime</i></li> <li>- Intensify labor productivity and non-labor cost improvement programs in power and petroleum</li> <li>- Implement capex management best practices (<i>mainly lignite and hydro</i>)</li> <li>- Speed-up petroleum retail <i>network consolidation</i></li> </ul> </li> </ol>
<b>C</b> Optimizing the energy mix	<ol style="list-style-type: none"> <li>8 Carefully <b>review the options and trade offs for meeting the 2020 environmental targets</b> and the share of renewables in power and other sectors, considering system costs, required capex, EU renewable compliance and system security/stability</li> </ol>	<ol style="list-style-type: none"> <li>9 Complete a comprehensive and robust <b>national energy strategy plan</b></li> <li>10 Accelerate the implementation of financially viable <b>island interconnections</b> (i.e., Cyclades, Dodecanese, Crete) to reduce costs and emissions</li> </ol>
<b>D</b> Increasing extroversion and sector impact	<ol style="list-style-type: none"> <li>11 Investigate the feasibility/viability to <b>locally manufacture renewable energy parts and equipment</b> (e.g., bilateral agreements with OEMs for wind towers); explore potential for emerging technologies (e.g., solar CSP)</li> </ol>	<ol style="list-style-type: none"> <li>12 Make Greece a <b>gas hub</b> and participate in other <b>regional infrastructure projects</b> (e.g., power plants); expand the regional presence of Greek players</li> <li>13 Intensify <b>tactical exports</b> of oil products and power</li> <li>14 Accelerate the <b>National Hydrocarbons entity</b>; accelerate efforts for the exploration of domestic oil &amp; gas reserves (expected lead time of 7-10 years)</li> </ol>

McKinsey & Company

### Almost 20% energy efficiency opportunity in buildings



SOURCE: McKinsey Greenhouse gas abatement cost curve for Greece

- **Increasing 'extroversion' and participation in the sector's value chain.** Priorities include leveraging the geographical position of Greece to create a hub for gas, increasing the participation of Greek players in gas infrastructure and power generation projects in the region, promoting exports of energy products mainly in the next five years, leveraging the upstream potential in oil and natural gas.

The potential growth upside by 2021 from the energy sector could be an incremental (versus 2021) GVA of approximately €9 billion (direct and indirect GVA) and measures in the sector could lead to a trade balance improvement of approximately €1 billion.

### 4.1.3. Manufacturing – Food processing

During the last 20 years both Greece and the EU-15 have been 'de-industrialized' with the GVA contribution of manufacturing diminishing from 21% to 15% in the EU-15 and from 13% to 8% in Greece. Although since 2000 manufacturing GVA has declined in real terms the sector remains the second largest GVA contributor and the third largest employer among Greece's 'production' sectors. Moreover, it remains the largest contributor in the Greek economy in terms of contribution to tax revenues and social security contributions.

Among sectors, manufacturing is the sector that includes the highest number of larger (>100 employees) companies in the economy (Exhibit 29). It also includes numerous large scale modern internationally competitive companies with significant export activity. For the sector overall and for the large

Exhibit 29

### 30% of the larger companies (>100 employees) are in Manufacturing sector

	# of companies, 100+ employees	Share of total companies 100+ Percent	Share of sector's total companies Percent
<b>Manufacturing</b>	<b>513</b>	<b>29.8</b>	<b>0.6</b>
Retail & Wholesale	376	21.9	0.1
Tourism	199	11.6	0.2
Business services	179	10.4	0.1
Post & Telco	108	6.3	0.6
Construction	105	6.1	0.1
Transport	88	5.1	0.2
Financial services	41	2.4	1.0
Health	37	2.2	1.0
Other	23	1.3	~0
Education	23	1.3	0.3
Agriculture	20	1.2	0.1
Real Estate	5	0.3	0.1
Energy	3	0.2	0.3

Note: Tourism includes hotels & restaurants and entertainment; Post& telco includes media; Manufacturing includes mining; Public admin and utilities not included  
SOURCE: EL.STAT, latest relevant report, 2006

extrovert companies in particular the removal of cross-sector macroeconomic barriers and the development of a business friendly environment will be critical in their effort to further enhance their local and international competitiveness.

The manufacturing sector comprises four broad sub-sectors: (a) **food processing**, accounting for approximately 30% of manufacturing GVA and approximately 20% of employment, (b) **heavy industry**, accounting for 26% of manufacturing GVA and 33% of employment, (c) **beverages**, accounting for 10% of manufacturing GVA; and (d) a set of **smaller size subsectors** with a diverse set of activities that represent the remaining GVA of the manufacturing sector (Exhibit 30).

Food processing is the largest sub-sector and continues to grow both in Greece and the EU driven by the demand shift to packaged foods and the more regional nature of the sector. It is examined in detail as part of the **Greece 10 Years Ahead** study, not only because of its size, but also because it lends itself to the application of both the cross-sector recommendations as well as to specific recommendations at the micro sector level. Heavy industry includes a smaller number of 'mature' players in fields such as metals, cement and mining, with established international presence. Key actions for supporting the competitiveness of these players include the reforms and measures identified at the cross-sector macroeconomic level, as well as measures relevant to the reduction of energy costs covered in the analysis of the energy sector. Similarly, beverages primarily include large multinational and some local players who could also benefit significantly from the cross-sector reforms. The rest of the manufacturing sector ranges from publishing to communication equipment and is highly diverse and fragmented. As such, recommendations on growth priorities and measures for the individual sub-sectors – beyond the cross-sector ones – would only have limited applicability and have not been explored.

In food processing, due to the availability of high quality raw materials and produce, specialized know-how and reasonable cost levels, Greece has significant potential to increase its output, boost exports and contain imports, especially in four major high-growth categories, namely **oils & fats, fruits & vegetables, dairy, and bakery products**.

Exploiting these opportunities would require Greece to address a number of issues related to the lack of large scale modern and productive capacity, product innovation and international market access. As an example, Greece is the 3rd largest olive oil producer worldwide and exports 60% of its output to Italy in bulk, yet in doing so allows Italy to capture an extra 50% premium on the price of the final packaged product (Exhibit 31). The fact that Greece holds only a 28% share of the global 'Greek Feta' cheese market and 30% of the US 'Greek Style' yogurt markets, further reinforces a clear commercial opportunity for Greece.

**Greece 10 Years Ahead** outlines 12 possible priorities for market players and the Greek state to consider, grouped in four major strategic directions (Exhibits 32-33):

- **Prioritizing target export markets.** This would first involve the clustering of foreign markets based on common retailer presence and commercial synergies and a subsequent prioritization based on their size, growth potential and receptiveness to Greek products (proxied by Greek diaspora and tourist origination). Top priority markets include North America, UK, Germany, Austria, and the Balkans. Priority markets include Italy, France, Belgium, Scandinavia, Russia, and Australia selected CEE countries (Exhibit 34).

- **Step-improving product value proposition and innovation.** Initiatives include the introduction of a globally recognizable certification mechanism for original Greek products and product-specific actions, such as packaging and branding olive oil and substituting imports of other oils (i.e., sunflower, palm) –mainly for wholesale use–, further driving product innovation and advertising of place of origin for Greek flagship dairy products (strained yoghurt and feta cheese), and selectively marketing high-potential, non-feta cheese categories.
- **Increasing Greece's processing capacity and efficiency.** Examples of important initiatives here would be the development of 4-6 modern large scale processing and packaging units (for priority products such as olive oil, olives, tomatoes and potatoes) strategically located close to raw material supply.
- **Securing strong access in priority target markets.** An important action would be to establish the 'Greek Foods Company' (private company or Public-Private Partnership - PPP), to provide competitive Greek products and manufacturers extensive access to priority target markets by building up and managing wholesaler and retailer networks, coordinating marketing and trade marketing campaigns and developing and managing a limited retail 'Greek Products Corner' store network in high traffic locations in top priority markets.

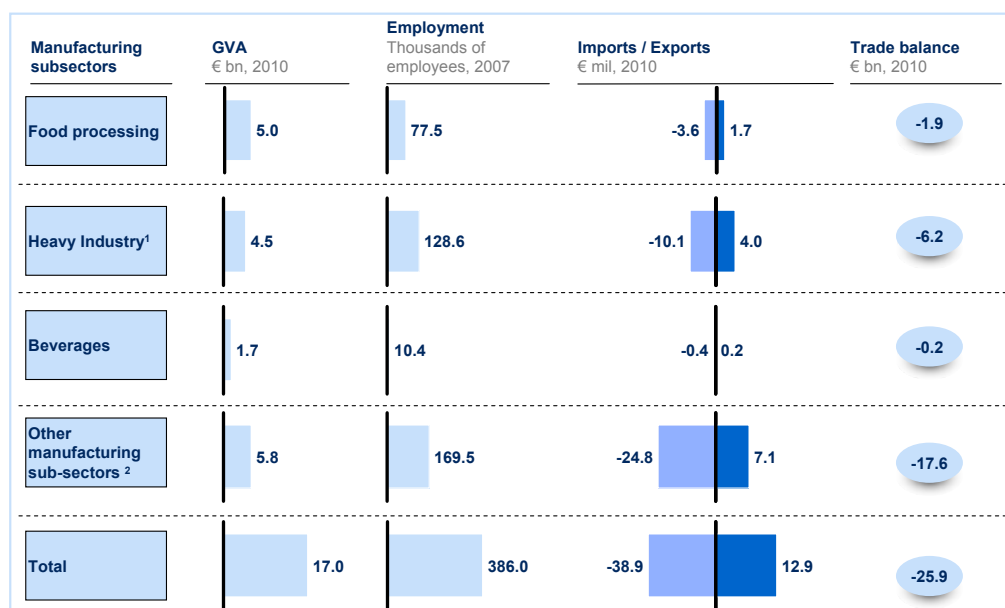
By 2021, the annual incremental (versus 2010) direct and indirect GVA could be approximately €6 billion, approximately 120,000 jobs could be added and the trade balance could improve by approximately €1.2 billion.

Exhibit 30

### Manufacturing sector includes food processing, heavy industry, beverages and other smaller subsectors

ESTIMATES

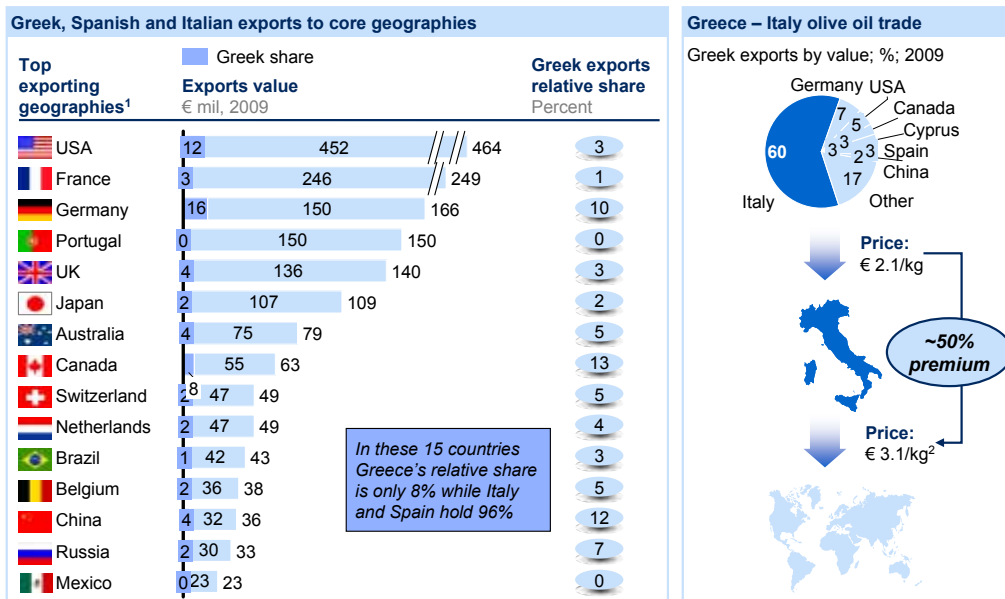
Imports  
Exports



<sup>1</sup> Fabricated metal products, mineral based products, manufacturing of basic metals, rubber and plastic products, machinery equipment, chemicals and fertilizers  
<sup>2</sup> Printing and publishing, furniture, jewelry, specialty chemicals, drugs, wearing apparel, electrical machinery, paper and pulp, transport equipment, textiles, tobacco products, motor vehicles, wood products, communication equipment, leather goods and medical equipment

Source: Global Insights for real GVA and import/ export figures; Eurostat for employment figures

### Greece does not capture its 'fair share' in olive oil exports and foregoes significant opportunities, especially with regards to Italy



1 Excluding Italy which is considered peer country  
2 Average price per kilo for total Italian exports  
SOURCE: UN Comtrade

McKinsey & Company

### Possible priorities to further develop food processing (1/2)

High priority

- A** Targeting high potential export markets
- B** Improving product strategy and value proposition of Greek products

#### Possible priorities and measures

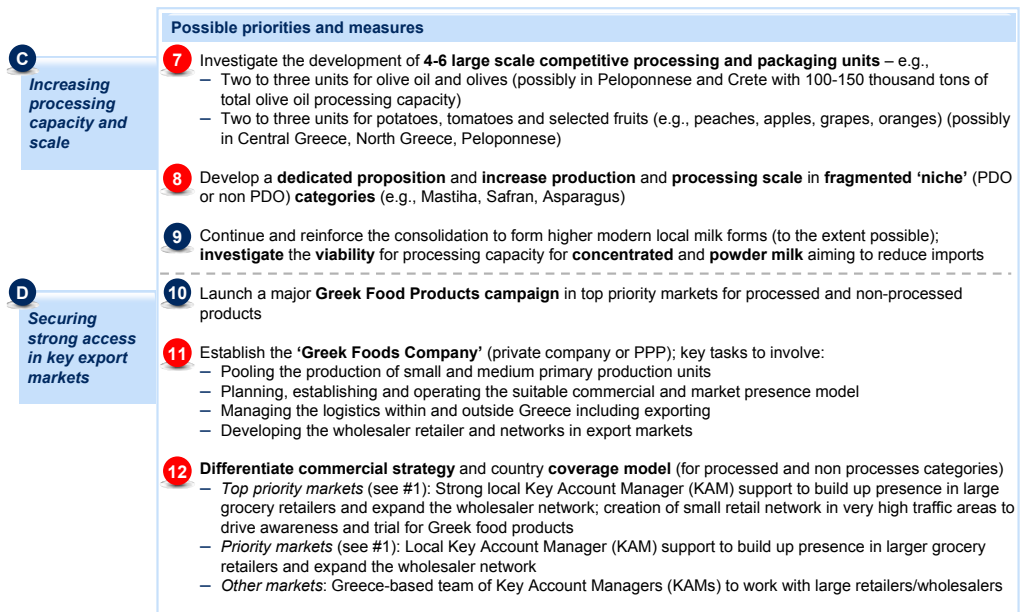
- 1 Cluster export markets** based on common retailers presence and **prioritize** based on sales and growth potential:
  - **Top priority:** North America, UK, Germany and Austria, Balkans
  - **Priority:** Italy, France and Belgium, Australia, Scandinavia, Russia, selected CEE countries
- 2 Convert exports of bulk olive oil to branded packaged and substitute imports of other oils**
  - Aggressively campaign in core markets to build brand awareness and equity of Greek olive oil versus Italian and Spanish; create the necessary processing/packaging capacity category (see #7)
  - Substitute - to the extent possible - palm and sunflower oil imports with local olive oil and competitively priced corn oil in the local HO.RE.CA and retail markets
- 3 Add value to the Fruits & Vegetables offer while reinforcing presence in priority markets**
  - Produce higher value added variations and packaging (e.g., ready-to-cook, ready-to-eat, convenience and or premium packaging) focusing both on local champions (e.g., tomatoes, olives, peaches) and specialty/ gourmet product categories (e.g., saffron, asparagus)
  - Communicate clearly associated health benefits (in the context of the campaign proposed in #10)
- 4 Extending the dairy products portfolio, emphasizing origin**
  - Continue growing and capture increasingly larger share of Greek feta and yogurt by introducing greater product innovation (e.g., in packaging, variations) and communicating the Greek origin;
  - Create a compelling (high value) Greek PDO offer locally and internationally promoting other high quality and popular cheeses (e.g., graviera, kaseri etc.); include in broader promotion campaigning
  - Introduce new variations of yellow cheeses to compete against low-cost imports
- 5 Reposition bakery through deeper geographic coverage and product innovation**
  - Leverage know-how, products and establish partnerships in growing developing markets (e.g., ME, Africa)
  - Introduce new product variations also emphasizing the Greek heritage and Mediterranean identity; innovate in packaging to address needs for ease of use and convenience
- 6 Install an internationally visible certification mechanism for Greek products origin;** complement with clustered markets dedicated **awareness campaigns** and **diligent protection of existing PDO products**

McKinsey & Company

Exhibit 33

**Possible priorities to further develop food manufacturing (2/2)**

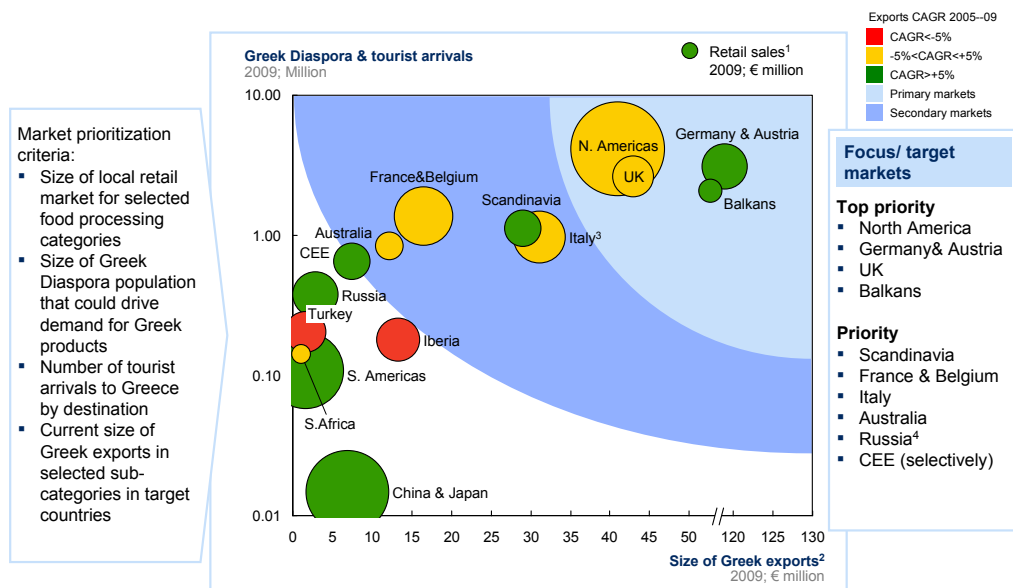
■ High priority



McKinsey & Company

Exhibit 34

**Markets for Greece to target its food processing exporting strategy**



1 Local retail sales for dairy, oils and fats and bakery  
2 Greek exports on dairy, oils and fats and bakery  
3 Excluding exports of oils and fats which represent 83% of selected category exports  
4 Due to the fast increasing number of tourist arrivals and Russian market relevance for agricultural products exports  
SOURCE: UN Comtrade; Euromonitor; websearch

McKinsey & Company



#### 4.1.4. Agriculture – Crops Agriculture

Agriculture has been historically important to Greece, accounting for approximately 13% of employment (approximately 500,000 individuals). Agriculture contributes approximately 4% to Greece's GVA (almost triple that of the EU-15), being the fifth largest contributor to the country's economic output. The sector's importance becomes more evident when considering its additional effects on sustainable rural and environmental development and its impact on other sectors such as food processing.

The overall sector (crops, livestock and fishing) is characterized by low productivity. Pre-crisis GVA per person employed was 44% below EU-15 (€17,200 versus €30,900 for the EU-15 average<sup>4</sup>). Between 2000-2008, labor costs have almost doubled, suggesting a further relative loss of competitiveness; in the same period, the respective increase in Germany, Italy and France was 3%, 23% and 38%.

Crops agriculture is the largest sub-sector accounting for 62% of GVA and 80% of agriculture employment. Pre-crisis, crops agriculture has been seriously challenged; overall production has declined by more than 15% while production costs seem to have increased by approximately 40% and prices by approximately 25%; at the same time the trade balance kept deteriorating with imports growing faster than exports (44% versus 28% respectively).

Greece's penetration of core European markets is low (<2% share versus Italy and Spain at approximately 10% and approximately 13% respectively) and the country lacks a holistic and focused product and export strategy. Labor input and land productivity lags behind most S. European peers (Exhibit 35), while its fragmented production is sub-scale for international competitiveness. Despite these challenges, Greece has categories whose quality and cost fundamentals suggest potential for higher competitiveness, extroversion and import substitution.

To address these issues and further develop the crops agriculture sector, **Greece 10 Years Ahead** has identified nine possible priorities grouped in four strategic directions (Exhibit 36):

- **Differentiating and focusing Greece's product and market strategy.** This involves clustering products into four distinct groups (i.e., 'consumption majors'; 'domestic/processed-focused'; 'emerging traders' 'export engines') and tailoring their production and commercial strategies. (Exhibit 37). In addition, Greece should focus on developing a dedicated proposition and scale in 'niche' (PDO and non-PDO) categories (e.g., mastiha, safran, asparagus), further assessed as secondary rising stars.
- **Improving competitiveness through scale, productivity and quality.** This involves revisiting arable land allocation to products, potentially utilizing publicly-owned land to increase scale and introducing modern methods to boost land productivity while providing relevant incentives. The launch of a new standardization and certification mechanism for agricultural products and methods (including biological farming) would also be critical.
- **Securing international market access and presence.** This involves establishing the 'Greek Foods Company' (private company or PPP) to pool production, coordinate, establish and manage distribution networks abroad (same platform as in the food processing sector), while launching an aggressive Greek agricultural products campaign.

---

<sup>4</sup> Source: Eurostat

- Developing capabilities.** This involves establishing an **Agriculture University degree** focusing on both business and practical agricultural aspects, and creating an **'Agricultural Development Institute'** to disseminate and promote know-how and innovation to agricultural units and cooperatives. Finally, introducing incentives for new farmers focused on scale and exports oriented farming so as to rejuvenate the labor force and create additional employment opportunities.

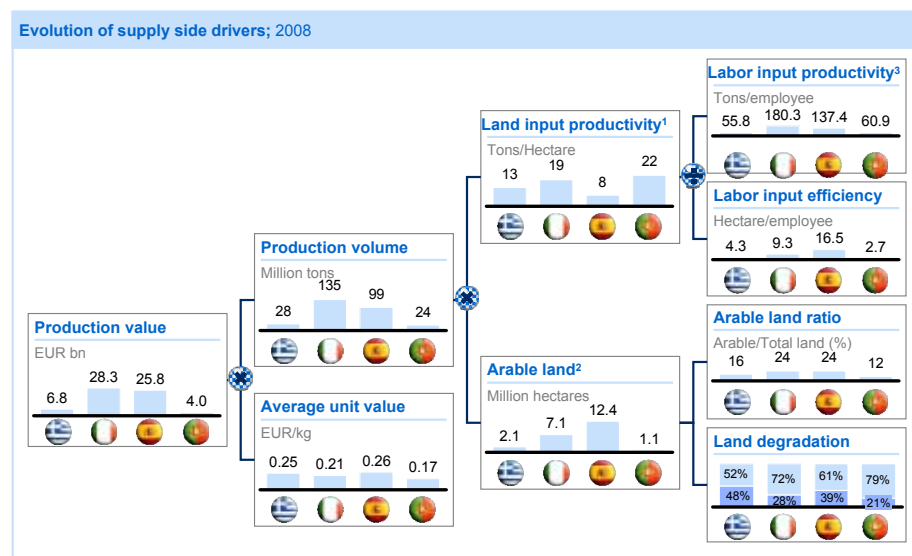
By 2021, the annual incremental (versus 2021) GVA could be €4.5 billion (direct and indirect), employment could increase by approximately 140,000 jobs and the trade balance could improve by approximately €2.7 billion.

Exhibit 35

### Lower land and labor input productivity and lower land quality versus Italy

ESTIMATES

None/ Light/ Moderate Severe/Very Severe



Note: 2008 data are the latest available

1 Not including un-declared labour

2 Arable land is land under temporary agricultural crops;

3 Preliminary estimate given that a split of employment in agriculture by crop and livestock production is not available, calculation is based on total

SOURCE: FAO; Eurostat; Terrastat

### Possible priorities to further develop crops agriculture

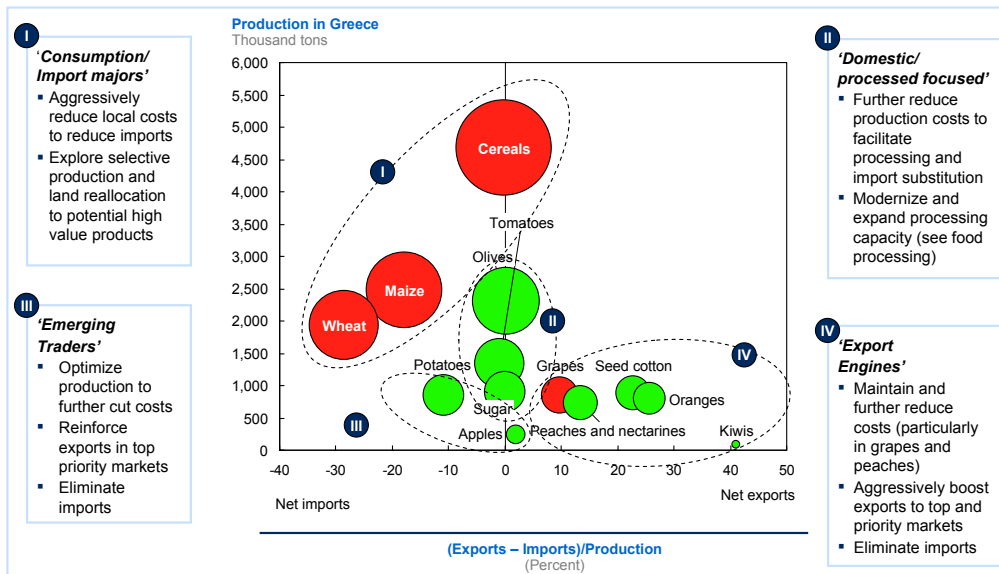
■ High priority

Possible priorities and measures	
<b>A</b> Differentiating and focusing Greece's market and product strategy	<b>1</b> Prioritize <b>target export markets</b> (e.g., US, France, UK, Germany, Russia) <b>2</b> Pursue a <b>differentiated product strategy</b> based on <b>four product clusters</b> <ul style="list-style-type: none"> <li>– 'Export Engines' &amp; 'Emerging Traders': Focus export efforts on products with competitive pricing and superior quality/brand vs. competitors (e.g., oranges, peaches, kiwis, apples, grapes)</li> <li>– 'Domestic-focused processed foods': Reduce costs to facilitate processing and import substitution</li> <li>– 'Consumption and import majors': Aggressively reduce costs to substitute imports while exploring selective arable land reallocation to higher potential – higher value added products</li> </ul>
	<b>3</b> Stimulate <b>scale, extroversion and productivity</b> <ul style="list-style-type: none"> <li>– Revisit <b>land allocation</b> in line with product and market development strategy; explore the <b>use of publicly owned land</b> (with long terms leasing); scale-up production units in suitable geographies</li> <li>– Provide performance <b>incentives</b> (e.g., export rebates) to stimulate production <b>scale</b> and <b>consolidation</b></li> <li>– Incentivize and introduce modern land and agriculture production management methods</li> </ul>
<b>B</b> Improving competitiveness through scale, productivity, quality	<b>4</b> Introduce a new <b>standardization and certification mechanism</b> for agricultural products and methods (including biological farming) at unit- and cooperative-level
	<b>5</b> Launch a <b>Greek Agricultural Products campaign</b> in priority markets (for processed and non-processed)
<b>C</b> Ensuring market access and local presence	<b>6</b> <b>Extending the dairy products portfolio, emphasizing origin</b> <ul style="list-style-type: none"> <li>– Continue growing and capture increasingly larger share of Greek feta and yogurt by introducing greater product innovation (e.g., in packaging, variations) and communicating the Greek origin;</li> <li>– Create a compelling (high value) Greek PDO offer locally and internationally promoting other high quality and popular cheeses (e.g., graviera, kaseri etc.); include in broader promotion campaigning</li> <li>– Introduce new variations of yellow cheeses to compete against low-cost imports</li> <li>– Operate capability building programs for local small and medium production units (TBD)</li> </ul>
	<b>7</b> Build a dedicated <b>Agricultural (and Aquaculture) University Degree</b> (undergraduate and graduate) while upgrading and aligning existing curricula in other relative courses and degrees (e.g., Botanical University)
<b>D</b> Developing capabilities and supporting mechanisms	<b>8</b> Establish the ' <b>Agricultural Development Institute</b> ' to engage in the central know-how dissemination and promotion of productivity and innovation improvements to small and medium Agricultural units and cooperatives while leading and operating the standardization and quality certification mechanism (see # 4)
	<b>9</b> Introduce <b>incentives for new farmers</b> to rejuvenate workforce and labor input productivity

McKinsey & Company

### Specific priorities and strategies that could apply for different categories of products

■ Lower costs vs. import prices  
 ■ Higher costs vs. import prices  
 ○ Size of domestic consumption



1 Using 2008 figures due to unavailability of more recent data

#### 4.1.5. Retail and wholesale

Retail and wholesale account for 19% of total GVA and 18% of employment. It has been one of the most dynamic sectors, growing at more than double the rate of the economy as a whole. The study has examined the grocery, apparel, and electronic appliance subsectors, which jointly account for more than 50% of retail sales.

There is significant room for improvement in the productivity of the Greek retail sector, which lags by 30% to 40% compared to EU-15 averages; moreover, productivity gaps are evident across sub-sectors (Exhibits 38-39). To understand the drivers of performance we examined four core dimensions (Exhibit 40):

- **Format mix.** International experience indicates that, especially in grocery, larger formats are generally more productive. However, the Greek market, especially in grocery and apparel, has almost double the number of stores per capita compared to Europe and hence a relatively lower share of large formats. This format mix is driven by consumer preferences, regulatory costs and restrictions, and sector informality. Online retailing penetration is also low in Greece compared to peers (Exhibit 41).
- **Operating model.** Greek retailers are challenged by the limited usage of innovative IT and supply chain management solutions, high transportation costs to remote areas, lower transportation productivity, and lower labor flexibility compared to peers.
- **Upstream value chain.** Wholesalers in Greece appear to be less productive than in other countries due to lower scale, driven by heavy category specialization and lower levels of sophistication in terms of inventory management, customer service levels and warehouse management.
- **Market competition.** While retailers concentration is similar to, or below that of other EU countries, supplier concentration, specifically for selected categories within grocery, is higher. This is partly driven by the lower penetration of private label products (12% versus an average of 24% for selected European countries) and the lower penetration of discounters (6% versus average of 13% for some other European countries).

We have identified 10 possible priorities to be considered by the Greek state and market participants, grouped in two major strategic directions (Exhibit 42):

- **Further reinforcing competition, investment and regulatory compliance.** This involves proactively defining commercial zones in urban and suburban areas to facilitate commerce investments, lifting constraints for retailers to sell currently restricted product categories (e.g., OTC drugs, baby food) and further improving price transparency (e.g., by increasing the awareness of existing tools such as the Price Observatory, and creating platforms for comparing price/performance such as Germany's Stiftung Warentest). Increasing the capacity of the Competition Committee and extending informality controls on unlicensed traders would also improve competition and regulatory compliance.

- Boosting retailer and wholesaler productivity.** This involves expanding the scale of existing players through further consolidation and partnerships (e.g., purchasing clusters) among small & medium enterprises, while pursuing targeted investments in IT, logistics and e-commerce to step-change value chain efficiency. It is also important to eliminate remaining retail-specific labor rigidities (e.g., employee mobility across stores, split daily shifts), accelerate the full liberalization of public road transport and simplify unnecessary reporting requirements.

In terms of upside, by 2021, productivity could increase by approximately 22% and incremental retail sales by approximately €1.5 billion. At total economy level, the incremental (versus 2010) GVA uplift could reach approximately €4 billion (€2.5 billion direct and €1.5 billion indirect), while tax revenues could increase by approximately €0.6 billion.

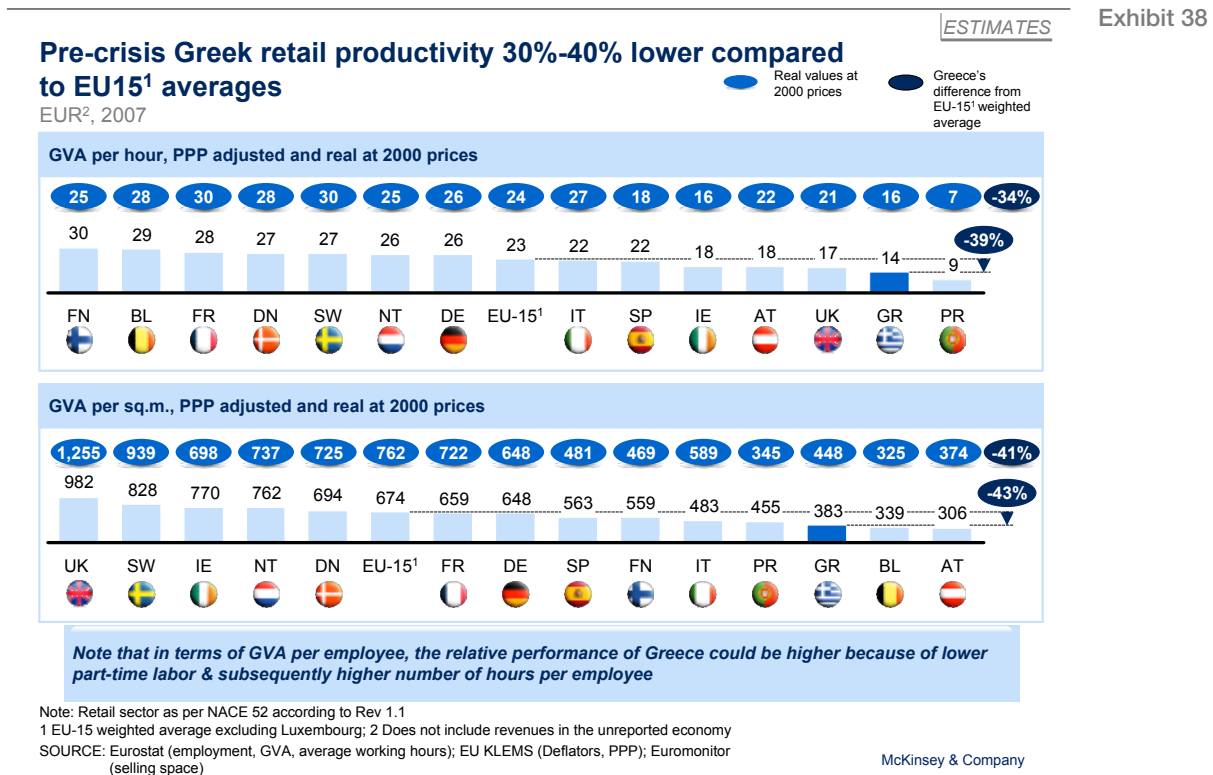
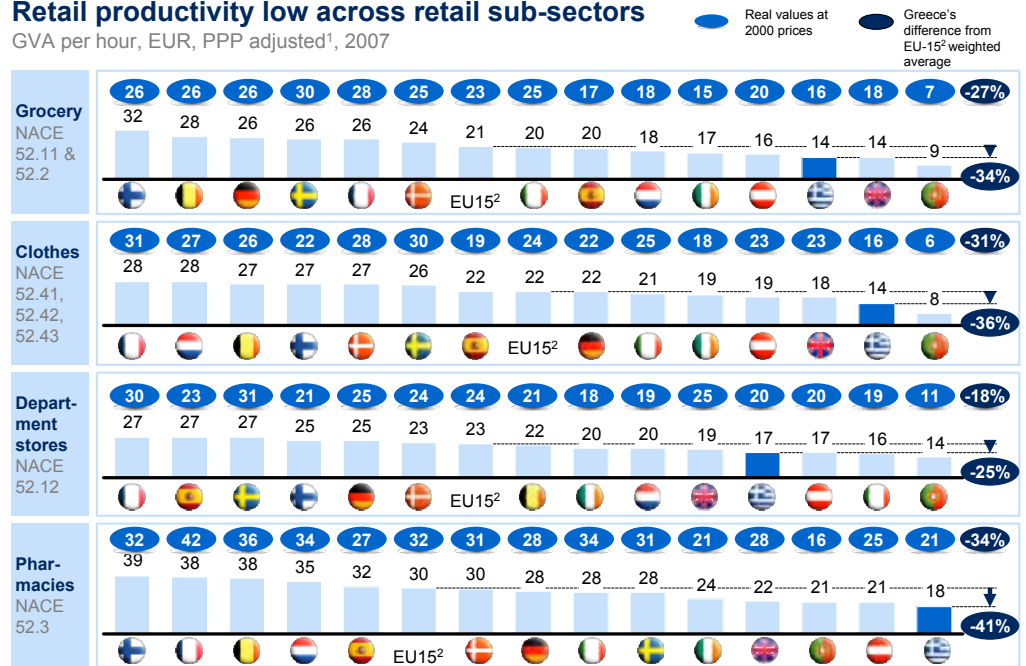


Exhibit 39

### Retail productivity low across retail sub-sectors

GVA per hour, EUR, PPP adjusted<sup>1</sup>, 2007

ESTIMATES



<sup>1</sup> 2000 prices; <sup>2</sup> EU-15 weighted average excluding Luxembourg

SOURCE: Eurostat (employment, GVA, average working hours); EU KLEMS (Deflators, PPP)

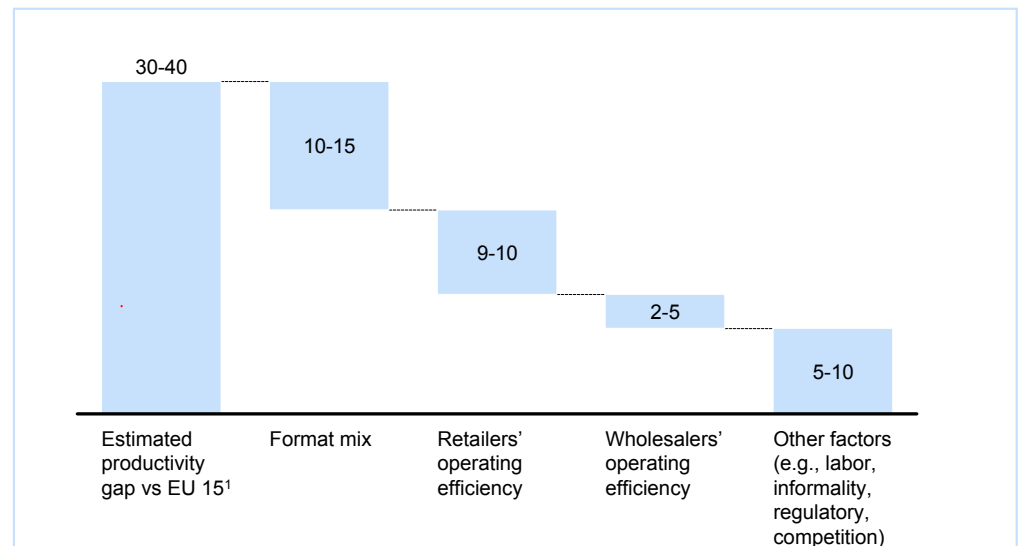
McKinsey & Company

Exhibit 40

### Drivers of the productivity mix

Productivity indexed based on average productivity of EU 15<sup>1</sup> countries

ESTIMATES

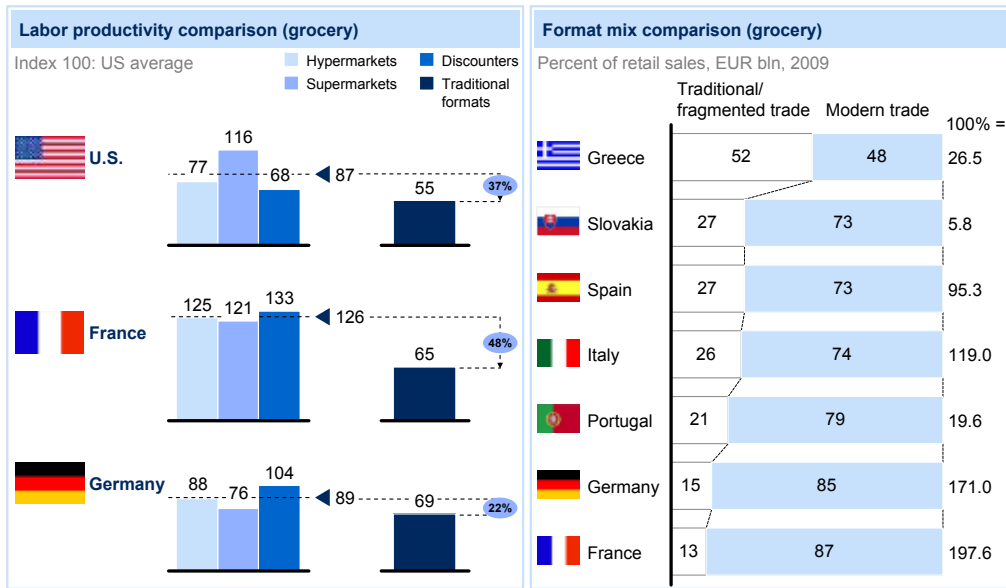


<sup>1</sup> EU-15 weighted average excluding Luxembourg

McKinsey & Company

### International productivity and format mix references

ESTIMATES



SOURCE: Euromonitor; Eurostat; Global Insight (WMM),

McKinsey & Company

### Possible priorities and measures to increase the competitiveness of the retail sector

High Priority

	Possible priorities and measures	Priorities/measures to accelerate and/or revisit
<b>A</b> Further reinforcing competition, investments and regulatory compliance	<ol style="list-style-type: none"> <li>Proactively <b>define commercial zones</b> in urban and suburban areas to facilitate and speed up retail investments</li> </ol>	<ol style="list-style-type: none"> <li><b>Lift constraints on the sale of currently restricted product categories</b> by grocery retailers (e.g., bake-off bread, press, OTC drugs, baby food)</li> <li><b>Further increase price transparency:</b> <ul style="list-style-type: none"> <li>Launch campaigns to increase awareness of existing price benchmarking tools (e.g., the price observatory)</li> <li>Launch platform comparing product – price performance (e.g., Stiftung's Wahrentest)</li> </ul> </li> <li><b>Extend informality controls</b> to limit unlicensed trading</li> <li><b>Improve the Competition Committee's ability to secure fair competition</b> <ul style="list-style-type: none"> <li>Increase talent capacity for cases review</li> <li>Allow for greater prioritization of cases based on case importance for the public interest</li> </ul> </li> </ol>
<b>B</b> Boosting retailers and wholesalers' productivity	<ol style="list-style-type: none"> <li><b>Expand scale of current retailer operations</b> <ul style="list-style-type: none"> <li>Consolidation/M&amp;A</li> <li>Operational clusters/partnerships to capture synergies (e.g., procurement, distribution)</li> </ul> </li> <li><b>Pursue targeted investments in IT, logistics and e-commerce</b> to step-change value chain efficiency</li> <li><b>Eliminate remaining retail related labor rigidities</b> (e.g., continuous daily shift)</li> </ol>	<ol style="list-style-type: none"> <li><b>Accelerate the full liberalization of the public trucks transportation market</b></li> <li><b>Simplify unnecessary retailer-specific reporting and regulatory compliance requirements</b> (e.g., end of year stock reporting, paper copies of delivery notes)</li> </ol>

McKinsey & Company



## 4.2. Rising Stars

**Greece 10 Years Ahead** identifies eight 'rising stars' in specific niche areas of growing economic activity, where Greece possesses a relative competitive advantage. Although most of these areas are currently relatively small in size, they could not only contribute meaningfully to the GVA and employment growth of the Greek economy, but also assume a symbolic 'visionary' role of entrepreneurialism in the country's new **National Growth Model**. They are grouped as **primary or secondary**, depending on the size and timing of their expected contribution to GVA.

The six primary 'rising stars' that could contribute to the Greek economy's growth in a 5-10 year horizon include **manufacturing of pharmaceutical generic drugs, aquaculture, medical tourism, elderly care, regional cargo hub development and waste management**, while the two secondary ones, which are expected to assume a more symbolic role in Greece's new growth model include **specialized food categories and development of targeted classical post-graduate education programs**. Collectively, the identified 'rising stars' could contribute approximately €7 billion of incremental GVA and more than 70,000 new jobs in a 10-year horizon.

As also mentioned in the introduction of this document these 'rising stars' are indicative of the overall possible growth opportunities available in Greece. Clearly there could be other emerging sub-sectors with growth potential that have not been studied within the scope of **Greece 10 Years Ahead**.

Exhibits 43-44 provide a very brief outline of the opportunity rationale and of the possible growth priorities for each one of these primary 'rising stars'.

Exhibit 43

### Primary rising stars - Opportunity rationale and possible priorities (1/2)

BRIEF SUMMARY

Sector	Opportunity indicators	Outline of possible growth priorities
<b>Generics manufacturing</b>	<ul style="list-style-type: none"> <li>▪ Significant <b>market growth</b> expected both in Greece and internationally (5-9% p.a.), supported by government actions</li> <li>▪ Sizeable <b>established industry</b> already in place (~€ 1.3 bn sales in 2010, dominated by Greek players)</li> <li>▪ Successful yet sporadic <b>exporting activities</b> of some domestic players</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Selected consolidation and scale-up</b>; radical <b>optimization of operations</b> to maintain margins in a lower price context</li> <li>▪ Targeted <b>expansion</b> in new geographies</li> <li>▪ Gradual reduction of floor price in <b>synch with domestic competitiveness improvement</b></li> <li>▪ Major <b>awareness campaign</b> targeting doctors, pharmacists, patients as well as opinion leaders and medical organizations</li> <li>▪ <b>Remove delays</b> in licensing, pricing and reimbursement</li> </ul>
<b>Aquaculture</b>	<ul style="list-style-type: none"> <li>▪ Steady <b>production growth</b>, with high share of exports (~80% of total) and relevant overall share in Europe (2.8%)</li> <li>▪ <b>Cost competitiveness</b> vs. most competitors (4-18% lower cost)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Enforcement of a <b>nation-wide zoning plan and a national capacity plan</b> and allocation mechanism among players</li> <li>▪ Establishment of a <b>national observatory</b> for supply/demand and prices in Greece and key markets</li> <li>▪ Establishment of <b>effective international representation</b> and State sponsorship for entry in new markets</li> <li>▪ Acceleration of <b>current consolidation trend</b> following a focused product strategy</li> </ul>
<b>Medical tourism</b>	<ul style="list-style-type: none"> <li>▪ High <b>number of specialized doctors</b> (e.g., ~3 times more dentists compared to Hungary - a popular destination for dental procedures)</li> <li>▪ <b>Lower cost</b> compared to high-end destinations (e.g., ~20% lower cost vs. UK in dental procedures and ~10% in laser eye surgery)</li> <li>▪ Good offering of <b>supporting tourism infrastructure</b></li> <li>▪ Favorable <b>regulatory regime</b> for some treatment types (e.g., medically assisted reproduction)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Development of <b>national strategy</b> to position country in 'middle-market' segment with specific product/market focus</li> <li>▪ Adoption of <b>international accreditations</b> (e.g., JCI) and partnerships with global institutions</li> <li>▪ Establishment of <b>strict quality assurance</b> and control process</li> <li>▪ <b>Revision of requirements</b> for surgery eligibility (e.g., scale of unit, same day surgery centers)</li> </ul>

## Primary rising stars - Opportunity rationale and possible priorities (2/2)

BRIEF SUMMARY

Sector	Opportunity indicators	Outline of possible growth priorities
Elderly care	<ul style="list-style-type: none"> <li>Fast ageing of Greek population (32% expected share of 65+ population in 2050 in Greece compared to 19% in 2010) implying also <b>higher prevalence</b> of Long Term Conditions</li> <li><b>Stressed macro situation</b> in Greece demanding preventive policies to lower healthcare costs</li> </ul>	<ul style="list-style-type: none"> <li>Create a <b>patients registry</b>, a care <b>quality accreditation</b> and <b>performance management</b> system for out-of-hospital services</li> <li><b>Development</b> of nascent local industry (providing services like case management, telemedicine)</li> <li><b>Build awareness</b> and <b>incentivize patient participation</b></li> <li><b>Facilitate funding release</b> and public contribution</li> </ul>
Regional cargo hub	<ul style="list-style-type: none"> <li>Greek ports are <b>positioned along</b> one of the two <b>major shipping trade</b> routes worldwide (~19 million TEU – Twenty Foot container equivalent units – going through East Med region in 2009 with a 9% annual growth in trade between 2004 and 2008)</li> <li><b>Existing infrastructure</b> and <b>deals with international operators</b> (i.e. Cosco) provide a good starting point and critical mass for further expansion</li> </ul>	<ul style="list-style-type: none"> <li><b>Optimization of administrative requirements</b> (e.g., custom clearance) and <b>decrease of port handling time</b> to lower indirect cost to international operators</li> <li>Review of relevant legislation to <b>ensure a smooth and continuous operation</b> of the ports</li> <li>Improvement of the <b>infrastructure to further develop connectivity</b> with the main ports (e.g., cargo train lines)</li> </ul>
Waste management	<ul style="list-style-type: none"> <li>Greece still uses <b>landfilling instead of more value-adding options</b>, e.g., incineration and recycling, for 80% of its municipal solid waste vs. 40% of EU-27 average and less than 10% for several W.European countries</li> <li><b>EU Directives</b> push for moving away from landfilling</li> </ul>	<ul style="list-style-type: none"> <li>Development of <b>'advanced' waste management facilities</b> of a viable scale, e.g., incineration and recycling facilities for municipal waste, consolidated facilities for industrial waste</li> <li>Leverage of <b>energy recovery</b> opportunity from waste, e.g., convert waste in RDF and use as alternative fuel in cement plants, incinerate waste in gasification plants</li> </ul>

McKinsey &amp; Company

### 4.2.1. Manufacturing of Generics Pharmaceuticals

The distressed current state of the Greek economy and the commitment of the state to increase the currently low penetration of generic drugs (only 32% of unprotected pharmaceutical sales, compared with over 60% in Germany, Italy and the UK) (Exhibit 45) suggest a potentially promising future for the local generic drugs (Gx) market, which could grow their domestic and export sales up to €2.2 billion by 2021 from approximately €1.2 billion in 2010. This creates an important window of opportunity for the domestic industry to leverage this wave of growth (also in adjacent export markets) and move towards the development of scale generic manufacturing companies that will generate significant value-added and employment in the sector.

The key levers that would enable the local industry to capture this growth upside can be grouped in the following four strategic themes:

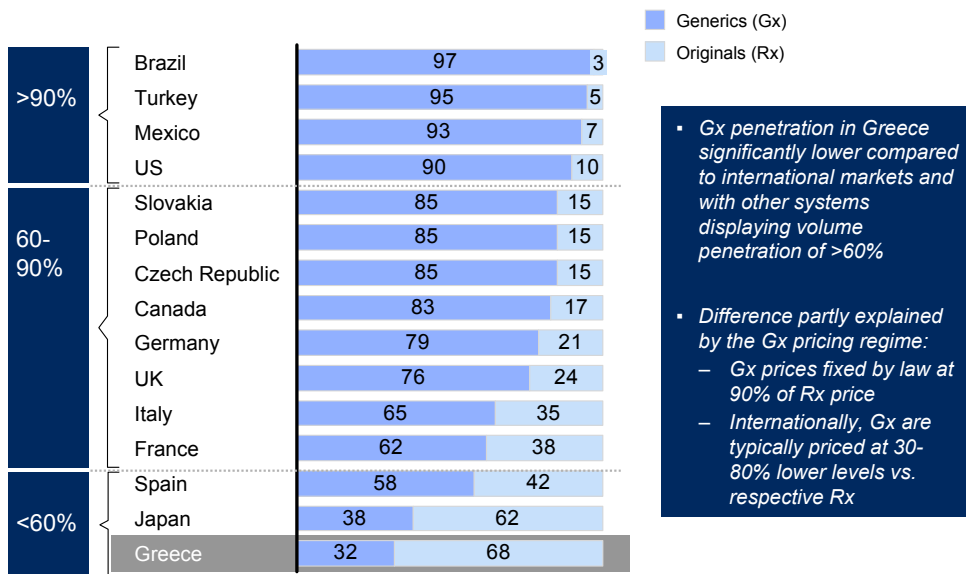
- Promoting generics attractiveness and penetration.** The industry would benefit from a campaign that would provide quality guarantees and stress the positive trade-offs from usage of generics. In parallel, the Greek state should develop a comprehensive generics strategy for growth in cooperation with the industry, including the detailing of specific incentives for key stakeholders, such as physicians, pharmacists, reimbursement funds, but also patients (e.g., the establishment of absolute margin per subscription for pharmacists, and co-payment model of incentives for patients). In addition, the restructuring of the generics companies' sales force would

be an imperative both to reduce their cost base and protect their margins, as well as to better approach new decision makers for drug dispensing and respond to more sophisticated buying processes by hospitals and funds. Moreover, an important state measure would be the definition of a plan of gradual price reductions (not large step-wise reductions) in order to –on the one hand– fuel the growth of the generics market and force the industry to optimize operations and reduce costs, while on the other hand allowing sufficient time for the local industry to adapt and consolidate and be more efficient in dealing with strong international competition. Such industry optimization could also be promoted through the removal of unnecessary regulatory and legal obstacles, such as the approval process for generics and biosimilars to help companies reduce time-to-market and cost, as well as the provision of quality guarantees (e.g., through certifications) for physicians and consumers.

- **Competing through scale, focus and innovation.** The local industry requires extensive consolidation in order to attain the scale and efficiency required in a global context, allowing the operational optimization and implementation of value-chain synergies that would enable cost competitiveness versus international players. In addition, the industry should focus on the right product niches and higher value-add R&D to leverage existing experience and skills, concentrate the relatively few expert resources, and pursue innovation e.g., new formulations, new devices and drastic molecules combinations. The Greek state could facilitate these moves by providing incentives such as tax rebates based on local and foreign capacity development, R&D, and export activity, while also intensifying quality control mechanisms to increase real and perceived quality of the industry's products.
- **Penetrating high potential export markets.** Greek generics companies could further increase their activities abroad, both in neighboring countries and selected mature Western healthcare systems, where niche opportunities exist (e.g., Balkans, UK, Germany, France, Russia). This would help them safeguard and increase their revenue levels and increase scale and capacity utilization, while also adding an element of diversification to their activities. While some of this can be achieved through organic growth, reaching the necessary scale and market access might also require a plan of targeted acquisitions.
- **Securing access to alternative financing sources.** Most of the priorities pertaining to the requirements described above will require significant capital that is currently lacking in the sector, given the difficulty of obtaining bank lending and the current debt levels of government towards pharmaceuticals companies. Greek companies could thus target Private Equity or Venture Capital financing. The Greek state could consider supporting the funding challenges through reviewing the current settlement of pending debts in VAT reimbursement or other repayments to pharmaceutical companies, in order to increase to the extent possible the liquidity available to the industry and decrease its financing cost and working capital.

## Generics: Greece exhibits low levels of generics penetration

Unprotected<sup>1</sup> market segmentation by volume, percent, 2009



<sup>1</sup> Off-patent drugs market  
SOURCE: IMS Health; MIDAS Market Segmentation; MAT Dec 2009

McKinsey & Company

### 4.2.2. Aquaculture

Although still relatively small in size, with GVA of €400 million in 2010, aquaculture is growing at approximately 3% per year, with around 80% of production exported. About 90% of the production is just two products – sea bass and sea bream – for which Greece produces almost half of the global output. Due to the nature of the products (small size of fish) and relative lack of sophisticated processing skills by large players, the Greek products are exported only in bulk or lightly processed form, while the high certification costs and the resulting low adoption of such certification by players have not allowed the effective branding of Greek production in international markets.

At the same time, despite the competitive cost position of Greek players overall – also due to increased vertical integration – the sector is already facing stiff competition from lower labor cost countries such as Turkey. Furthermore, local players have not managed to effectively balance the supply and demand cycles, leading to massive price fluctuations and uncontrolled consolidation.

In addition to the above, an unstable regulatory environment, the lack of clear licensing procedures and the absence of a clear zoning plan for the sector threaten the industry's growth prospects. At the same time, Turkey is ramping up production and threatens to exceed Greek output in the next two years.

In order to strengthen the competitiveness of the Greek fish farming industry and further boost exportation, Greek players and the Greek state should consider focusing on the following key priorities:

- **Pursuing a phased product and market strategy**, in order to: (a) defend leadership position in sea bass and sea bream in core European markets (e.g., Germany, Italy, Spain, France, UK); (b) expand geographic coverage (existing products) in Europe (i.e., Holland, Russia, Ukraine, Poland), US and Japan; and (c) broaden product portfolio into mussels and larger-size, higher-value-added fish categories leveraging current know-how (Exhibit 46). To facilitate entry in new markets, the Greek state could support effective international representation and sponsorship (e.g., road-shows in Russia, US and Japan similar to Norway's case example of promoting salmon for sushi to Asia in the 1980s), as well as the introduction and enforcement of an effective and commonly accepted certification procedure (initiative to be jointly pursued by the state and market participants).
- **Building competitiveness through scale, product focus and labor efficiency**, through acceleration of current consolidation trend following a focused product strategy for the core business and introduction of labor efficiency improvement measures to offset cost disadvantage versus strong competitors such as Turkey. In this area, a nation-wide zoning plan is critical in order to clearly indicate eligible areas for aquaculture activity, while focused incentives (e.g., tax breaks) could be developed to promote targeted R&D and higher export activity.
- **Ensuring systematic planning and regulatory compliance**, in order to avoid excessive oversupply and major price volatility. This requires the development of a robust national capacity plan and allocation mechanism agreed among players and enforced through central auditing mechanisms.

Exhibit 46

### Aquaculture: Phased product and market strategy and priorities for Greece

		Market focus	
		European markets	Non-European/off-shore markets
Core/ existing products	<b>1</b>	<ul style="list-style-type: none"> <li>▪ Maintain <b>leadership position (&gt;60-70% share) in existing core markets</b> (Italy, France, Spain) through current product mix</li> <li>▪ Further <b>penetrate markets of presence</b> (e.g., Germany, UK) and new major European markets (e.g., Russia) to approach levels of core markets (1.5-2% of seabass/ seabream over total fish consumption)</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>2</b> Promote <b>existing product portfolio and simple variations of it to offshore markets in combination with other Greek products</b>:                             <ul style="list-style-type: none"> <li>▪ US: Target top-10 metropolitan areas by population, leveraging Greek diaspora and building on existing/emerging export activity (<i>see Agriculture and Food Manufacturing reports</i>)</li> <li>▪ Japan/China: Focus on mid-market range segment through products in frozen form; target high-end segment (mainly in Japan) with high quality fresh products and guaranteed service levels</li> </ul> </li> </ul>
	<b>3</b>	<ul style="list-style-type: none"> <li>▪ Accelerate <b>introduction of new species</b> to expand product portfolio and facilitate size/processing, leveraging existing product development effort (e.g., puntazzo, pargus) and considering additional products developed in competing markets (e.g., dentex, sargus)</li> <li>▪ Further expand <b>mussel production</b> to further differentiate product portfolio</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>4</b> Further penetrate offshore markets (mainly Asia) through:                             <ul style="list-style-type: none"> <li>▪ Focus on <b>high-value adding products</b> (e.g., bluefin tuna)</li> <li>▪ <b>Fast growing species</b> (for processing) such as yellowtail</li> </ul> </li> </ul>
New products			



### 4.2.3. Medical Tourism

Medical Tourism has been a fast growing sector internationally over the last fifteen years. Among its two segments the out-patient segment (e.g., dental care, certain cosmetic procedures, selected eye surgery) is the largest (3-4 times the value size of the in-patient segment e.g. cardiovascular interventions, orthopedic procedures) (Exhibit 47).

It has created opportunities for very diverse countries in positioning themselves as medical tourism destinations, ranging from the traditional high quality/high-tech destinations (e.g., North America) to developing health markets combining low cost at good quality in niche areas (e.g., plastic surgery, dental treatments, cardiovascular care).

While Greece has potential for competing in the rapidly growing ‘middle market’ of medical tourism, the country lacks a comprehensive national sector growth strategy. Indicatively, it has only one inpatient facility that is accredited by the JCI or Joint Committee International (an international monitoring body), compared with 43 in Turkey, 21 in Italy and 14 in Thailand. At the same time, Greek hospitals lack collaborative agreements with leading international medical institutions, which would raise the country’s profile internationally. In outpatient segments, although the country has available resources, know-how and occasionally a competitive price advantage (e.g., in fields such as reproductive fertility), it still needs to establish a reputation as a quality destination.

In line also with the new strategic direction in tourism, there are five levers that would enable the local industry to capture this upside:

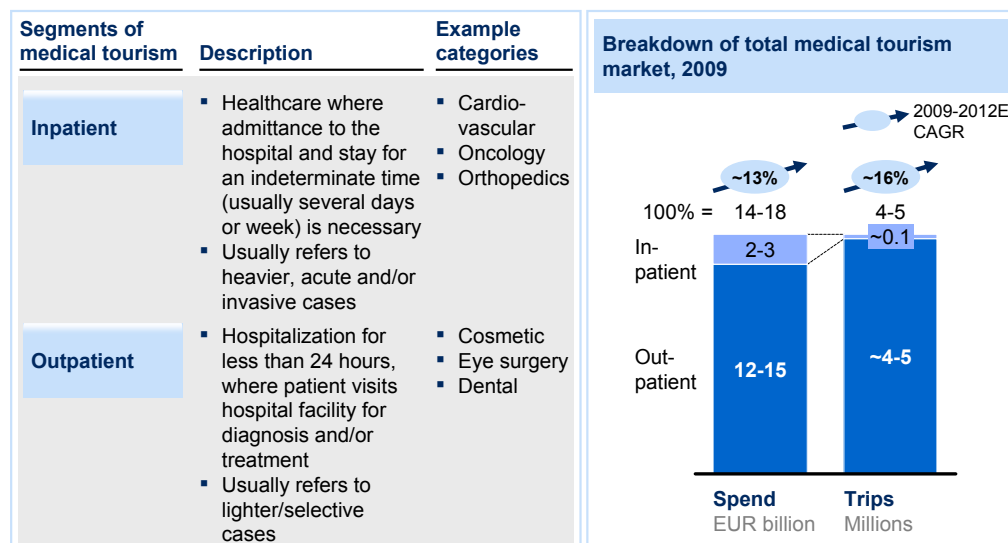
- **Developing a national strategy to position Greece in the ‘middle market’ with specific product/market focus.** This could include a primarily outpatient product focus, (e.g., eye surgery, cosmetics, fertility, obesity, haemodialysis), with only a focused inpatient offer (e.g., cardiovascular surgery, hip replacement), and geographic focus on Russia/CEE, Balkans, Middle East, and selected higher-cost EU countries (e.g., UK, Germany). This should also entail securing international accreditations (e.g., JCI) and partnerships with global medical centers/organizations and leading international medical institutions (such as the Johns Hopkins Hospital, the Cleveland Clinic, Sloan Kettering and the Harvard Medical School, or institutions focusing in E. Mediterranean, such as the Japanese-built Tokuda Hospital in Sofia), to significantly raise the profile of Greek hospital operators abroad. Medical tourism should be promoted in target countries (i.e., Balkans, Russia, M.East, costly EU countries), including the sponsoring by the state and of participation in relevant medical tourism conferences, but also the signing of bilateral agreements with foreign payors (public for non-EU, private for EU and non-EU) to support the new market. Creating a strong brand and reputation for Greece as a medical tourism destination would be key to the success of the new strategy.
- **Establishing modern quality assurance and licensing and control frameworks,** in particular for outpatient services, including a registry to track patients and procedures (e.g., for fertility). Implementing a quality assurance system would satisfy the requirements of EU directives, improve the quality perception of Greek clinics and potentially facilitate the reimbursement of cross-border treatments in Greece. Likewise, the current restrictive regime of licensing facility and surgery eligibility procedures (e.g., allowing surgeries only in hospitals of over 60 beds) could be updated to allow more flexibility (e.g., facilities in islands, same-day surgery centers) and reduce cost for procedures that require up to one day of hospitalization.

- **Pursuing and maintaining 'offer' specialization to reduce costs through scale** in key procedures. There are multiple examples of specialization and focus on efficient delivery of high throughput procedures at good quality and low cost, e.g., Turkey's World Eye Hospital, that handles over 5,500 eye surgeries a month, including over 2,000 international patients.
- **Leveraging networks to attract inbound volumes.** The presence of Greek healthcare providers abroad provides a good basis to promote the Greek healthcare inpatient offering. Other international examples from leading medical centers show that there is an opportunity to attract patients for specialized treatment into the country by enhancing alliances with medical providers and funds in key countries and non medical partners (e.g., specialized tour operators).
- **Complementing the offer with the necessary auxiliary services** for medical tourists, such as multilingual support, logistics support, informatics/online consultations and electronic patient record sharing, and closer links to the travel industry ('wellness' tourism). This could also include the development of integrated 'health resorts', where multiple treatments can be offered to individuals and groups across the spectrum of health and wellbeing services.

Exhibit 47

### Medical tourism: Promising size and growth prospects for the out-patient segment

PRELIMINARY ESTIMATES



SOURCE: Deloitte; McKinsey Quarterly



### 4.2.4. Elderly care

Internationally, LTC (Long Term Conditions) and elderly care costs already comprise a disproportionately large part of healthcare expenses (Exhibit 48), with similar trend expected in Greece in the mid-term, due to the continuously ageing population (65+ year-old share of population is expected to increase from 19% in 2010 to 32% in 2050, while OECD average is expected to be 25%) and the implied higher prevalence of LTCs (in 2006, approximately 80% of 65+ year-olds needed regular medication versus 37% among the total population).

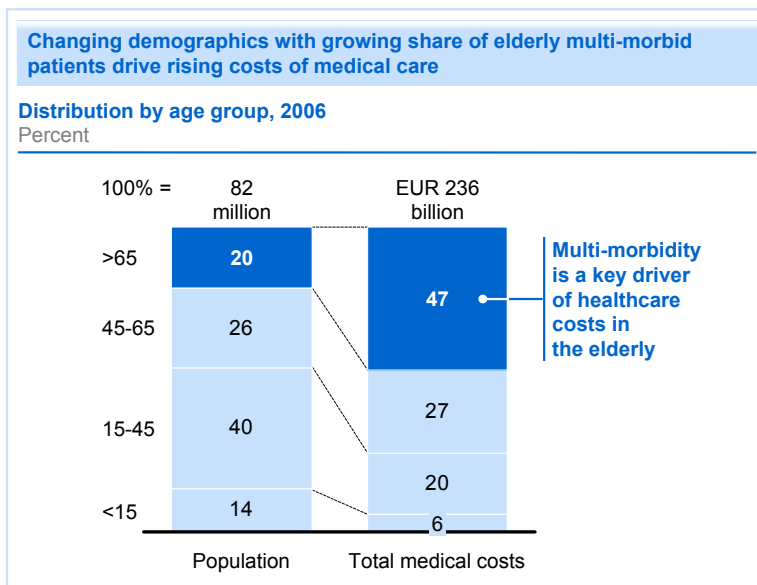
International examples indicate that out-of-hospital programs for the elderly population and patients with LTCs can yield major savings. For example, in a specific case in the UK, an investment of approximately GBP 4 million within 5 years led to approximately GBP 23 million of savings in acute treatment expenses. Distressed macroeconomics and the tight fiscal situation in Greece render the adoption of such programs an imperative.

There is already a nascent domestic industry that would need to scale up and cover the portfolio of relevant services (e.g., LTC case management, care at home, telemedicine, medication adherence programs). Necessary funding could be released through savings from the social security funds, conversion of existing ‘informal’ out-of-pocket spend, high-margin packages for elderly tourists, etc. In order to facilitate such developments, the state would need to create a patients’ registry, install quality accreditation and performance management systems for care programs and medical professionals, and launch pilot programs at the community level, which could then be rolled-out across broader areas.

Exhibit 48

### Ageing population creates a disproportionate cost to healthcare systems

GERMANY EXAMPLE



### 4.2.5. Regional Cargo Hub Development

The East Mediterranean region offers good intrinsic for the development of a cargo port hub as it is located on one of the three largest intercontinental routes worldwide with approximately 19 million TEU (Twenty-foot-container Equivalent Units) going through the region in 2009 and a significant growth in trade of approximately 9% annually between 2004 and 2008 (Exhibit 49).

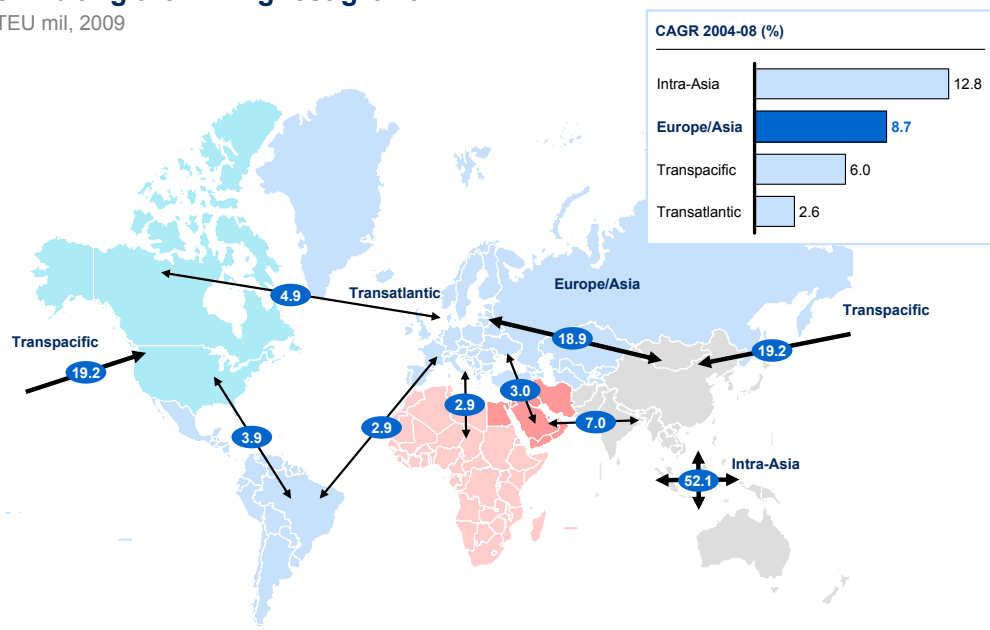
Greece is well positioned to benefit from both relevant types of trade, **namely transshipment and gateway trade**. In transshipment trade, where there is an intermediate stop before the subsequent seaborne shipment of goods to their final destinations, Piraeus' vicinity to the major maritime trade lanes is comparable to major competing ports like the port of Gioia Tauro in Italy. In gateway trade, where goods are transferred directly to local and other hinterland markets, both Piraeus and Thessaloniki are well located to cater for the Eastern European market which has experienced a trade growth of 10% to 15% annually for the last 10 years.

Yet the Greek ports face stiff competition from neighboring ports like Varna (Bulgaria), Ambarli (Turkey) and Costanza (Romania), which offer better operational stability (e.g., fewer non-operating days due to strikes), and improved services with up to 50% lower time spent in unloading and custom clearance. At the same time, neighboring countries offer better hinterland infrastructure, which allows cargo to be quickly and efficiently shipped towards its final destination, an area where especially Piraeus falls short.

Exhibit 49

### There are 3 major container trade flows globally, with Asia-to-Europe exhibiting the 2<sup>nd</sup> highest growth

TEU mil, 2009



SOURCE: Drewry

McKinsey & Company

Greek ports could significantly improve their position both in transshipment and – the more valuable to the economy – gateway trade, by reducing administrative requirements and optimizing loading and unloading as well custom processes, **reviewing and enforcing legislation** to ensure a smooth and continuous operation of the ports and **improving the infrastructure** that could help develop connectivity with the main ports (e.g., cargo train lines).

### 4.2.6. Waste management

Waste volumes in Greece have been growing strongly in the past years, with 62% consisting of municipal waste between 1990 and 2007. Despite the strong growth, Greece generates approximately 15% less waste volumes per household compared to EU-27 and has waste levels comparable to Portugal and several Eastern European countries.

Greece relies on landfill as the primary way to manage its municipal waste; indeed 80% of the total municipal waste in Greece goes to land-filling versus 40% for EU-27 and less than 10% for several Western European countries (Exhibit 50).

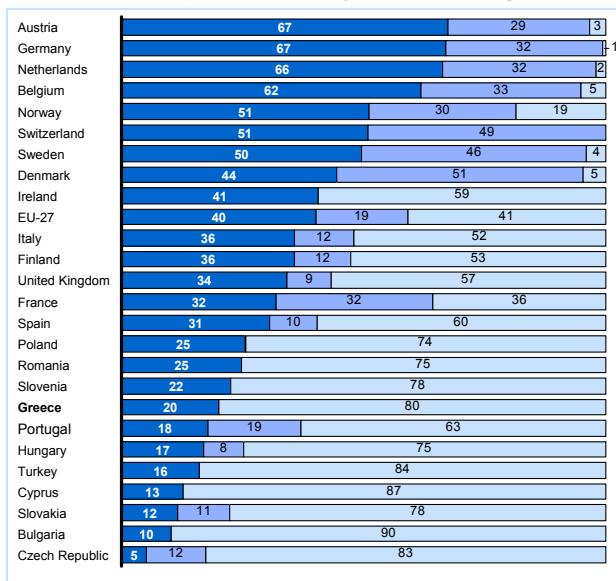
Moving away from land-filling and introducing higher value-add waste management methods (e.g., incineration, recycling, composting) can have significant environmental and financial benefits for the country, and is becoming an imperative driven by EU Directives.

Exhibit 50

### Share of landfilling in Greece is still double the average for EU27

Share of total Municipal Solid Waste by method of management

- Recycled/composted
- Incinerated
- Landfilled



- EU Directives have been pushing towards moving away from landfilling and adopting high value-add waste treatment options, e.g., recycling, decomposting, inceneration
- Greece still landfills 80% its municipal waste, double the average share of EU-27, while several W. European countries have practically fully moved away from landfilling
- Substantial improvement opportunity exists in environmental and financial terms by reducing landfilling to EU average levels

SOURCE: Eurostat Structural Indicators, Mavropoulos et al.

Similar to several other European countries, Greece could introduce incineration, increase the rate of recycling/composting and recover more energy from waste. Indicatively, no more than 40% of non-organic material (representing 54% of total municipal waste) is being recycled currently, while the EU mandated recovery rate and/or the full potential is in the order of 60%-95%.

Creating and operating the infrastructure for better waste management, (e.g., incineration facilities) could yield important environmental and financial benefits for the Greek economy. Moreover, effectively addressing the issue of industrial waste is extremely important for fundamental sustainability and the effective operation of the manufacturing and industrial sector.

#### 4.2.7. Secondary Rising Stars

Further to the six primary 'rising stars', **Greece 10 Years Ahead** outlines opportunities in two additional sub-sectors, which are expected to yield relatively smaller impact in terms of GVA and employment, but could constitute an 'ambassador' role for the new extrovert model of the Greek economy. More specifically, these two sub-sectors include:

- **Specialized food categories** - Over and above the food categories analyzed in detail in the food processing sector, Greece is fortunate to have in excess of 50 products (raw or processed) which hold a PDO (Protected Destination Origin) or PGI (Protected Geographical Indication) certification (e.g., Krokos Kozanis, Fava Santorinis, Mastiha Chiou, Avgotaraho Mesolongiou).

This product portfolio provides a considerable competitive advantage that has not been fully leveraged as in the case of other international examples which have been consistently promoted abroad (e.g., Turkey's "miracle" hazelnuts and Spain's Chorizo).

The opportunity lies in ensuring the necessary scale and government support to develop an end to end promotion strategy that communicates the value proposition for these products in domestic, as well as foreign established and emerging markets.

- **Development of targeted classical education programs** - Greece possesses both the national history and heritage as well as the proximity to the historical sites to be considered a 'natural owner' of such programs.

However, international universities such as Stanford and Harvard in the USA as well as Oxford and Cambridge in the UK are at the forefront of developing and successfully marketing such programs. These universities, leveraging the benefits they enjoy of better access to funding and teaching personnel, have been successful in promoting these programs (sometimes offering part-time courses in Greece) so as to attract the highest caliber students.

In this context the opportunity for Greece lies in establishing a world class program curriculum fully exploiting its intrinsic advantages at a postgraduate scale capturing a niche segment of the market, offering these studies in other languages based on demand (e.g., English, Chinese), ensuring and strengthening links with international high caliber educational institutions, and finally promoting such studies as part of an overall tourism strategic value proposition to ensure full visibility to source markets.





