Enterprises that survived the crisis have become fundamentally sounder

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Jessie Voumvaki
Head of Entrepreneurship and Business Analysis
(+30210) 334 1549
e-mail: fvoumv@nbg.gr

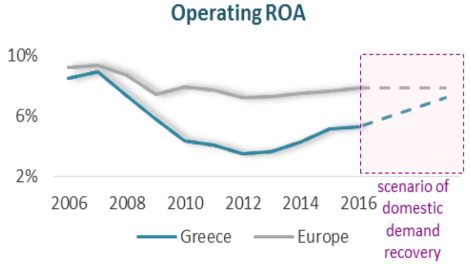
Analysts:

Athanasia Koutouzou
(+30210) 334 1528
e-mail: koutouzou.ath@nbg.gr

Georgios Sakkas
(+30210) 334 1547
e-mail: sakkas.georgios@nbg.gr

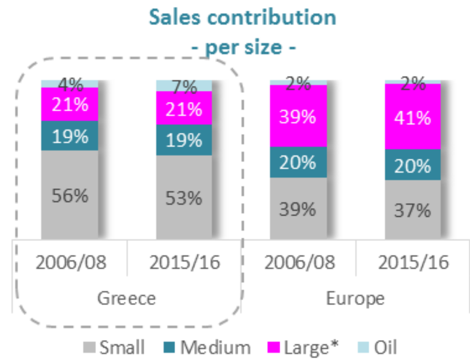
Niki Konstantopoulou
(+30210) 334 1646
e-mail: konstantopoulou.niki@nbg.gr

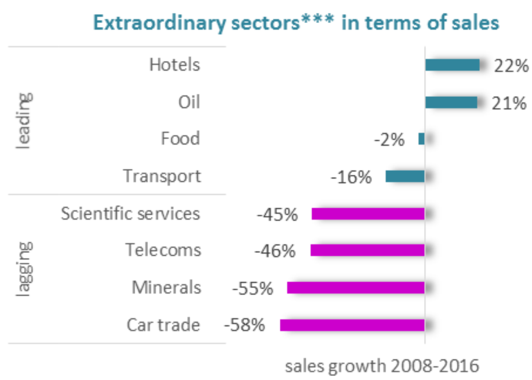
Issue Focus:

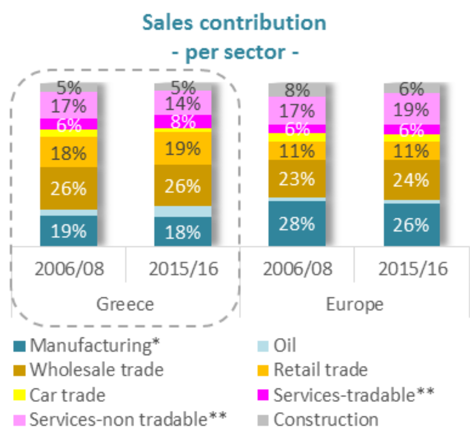


- During the protracted crisis of 2008-2016, the Greek business sector shrank in terms of turnover by 28 per cent. Although the distribution of related sales did not see significant restructuring (with trade covering almost ½ compared with about $^{1}/_{3}$ in the EU), in terms of profitability there was a clear shift towards tradable sectors – with the export-oriented services of hotels and transport covering 18 per cent of the business sectors total operating profitability in 2016 (versus 10 per cent in 2008) and manufacturing (with petroleum in the vanguard) covering 31 per cent of the operating profitability in 2016 (versus 24 per cent in 2008).
- The slowdown in economic activity was reflected in the basic performance indicators of the business sector, resulting in deviation of Operating ROA (as an efficiency measure) by 3 percentage points from the EU in 2016 (versus a more balanced state before the crisis). However, this picture tends to conceal the improved efficiency achieved by Greek businesses during the crisis (which is not yet evident due to the squeeze in domestic demand). More specifically, gross profit margin has significantly improved (being slightly better that the European average), while the rate of turnover sold on credit has declined significantly (gradually approaching European standards of the trade cycle).
- Despite the pressure on Greek entrepreneurship due to the crisis, there are two categories of sectors showing dynamic, which combined account for about ½ of the business sector:
  - ✓ Already competitive sectors (with ROA higher than the EU average in 2016), covering 13 per cent of the business sector and mainly concerning oil, plastics manufacturing and transport services.
  - ✓ A new wave of dynamic sectors which are currently under pressure but have the potential to outperform European peers (in terms of ROA) in the event that domestic demand in Greece recovers by 10 per cent (an assumption consistent with our estimates regarding GDP growth over the next three years). This segment accounts for ⅓ of the business sector and mainly concerns food, beverages, minerals (cement) as well as hotels.
- Although such recovery compensates for just ⅕ of the losses in domestic sales during the crisis, it is sufficient to enable the fundamentally enhanced Greek business sector to align its performance (ROA) with the EU average (as before the crisis).

The business sector shrank by about $^{1}/_{3}$ during the crisis, without however any significant restructuring of the sales mix







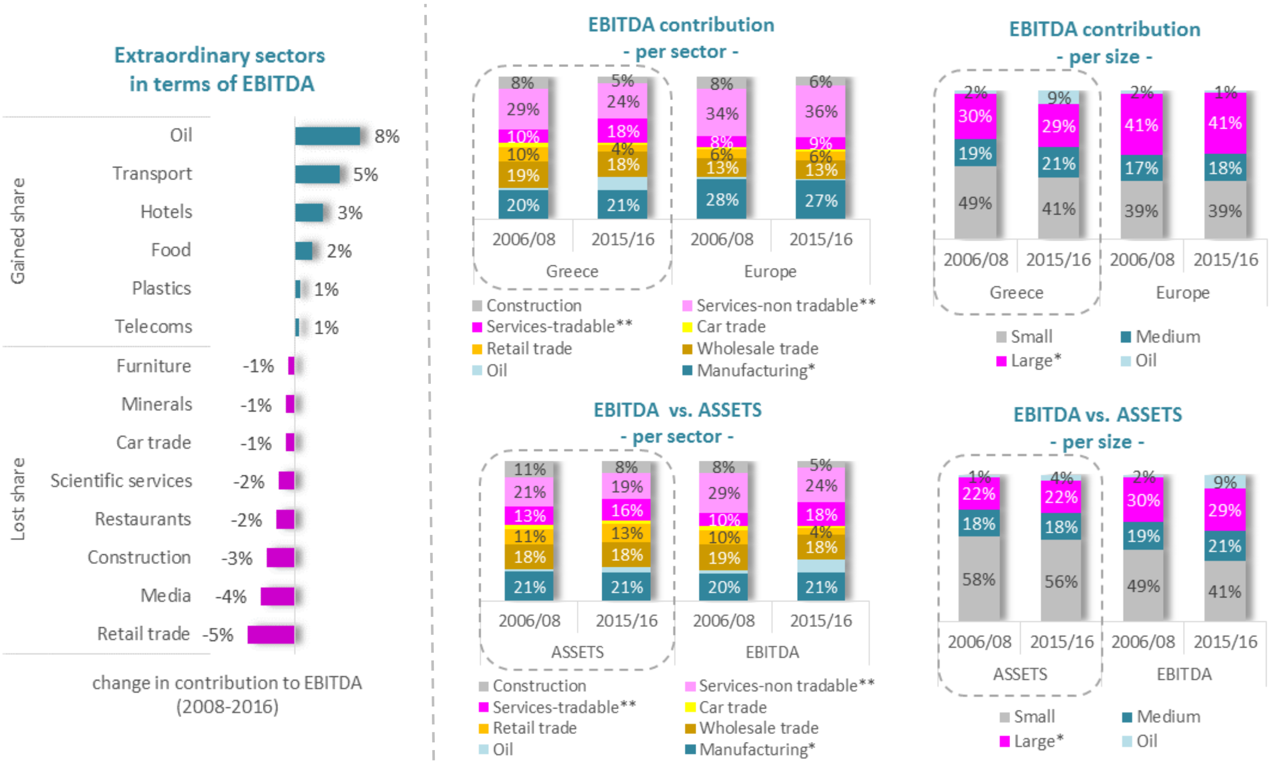
** In these specific graphs, the manufacturing sector and large enterprises are presented excluding oil (which is shown separately)*
*** Services are distinguished to tradable (exporting sectors, basically transport and hotels) and non tradable (other services).*
**** Sectors covering less than 1 per cent of total sales are not presented.*

Sources: Eurostat, ICAP Data, Bach Database, NBG estimates

TURNOVER

- Against an ongoing uncertain economic backdrop, the Greek business sector shrank in terms of turnover by 28 per cent during the period 2008-2016, as it was affected by both by i) the closure of a significant number of enterprises and ii) the reduced activity of surviving enterprises.
- Despite this disruption in demand, the restructuring of sales distribution in terms of key sectors and enterprise sizes was not extensive:
  - ✓ Small businesses continue to account for more than ½ of business sales (versus 37 per cent on average in the EU), thereby constraining large businesses down at 28 per cent (versus 43 per cent in the EU).
  - ✓ As regards key sectors, retail trade in Greece continues to hold a 20 per cent share of business sales (versus circa 10 per cent in the EU), while on the other hand, manufacturing – excluding oil – remains at the low level of 18 per cent (versus 26 per cent on average in the EU), thereby showing that there hasn't been a broad shift in sales from non-tradable to tradable sectors of the Greek economy. It is notable that the share of export-oriented services (transport and tourism) increased to 8 per cent of sales in 2016 (versus 6 per cent in 2008 - close to the EU average over time).
- Regarding individual sectors, hotels and petroleum stood out positively, increasing sales by over 20 per cent during 2008-2016, while food and transport demonstrated relative resilience during the crisis. These four sectors presented the greatest increase in sales contribution – exceeding cumulatively 19 per cent of the business sector in 2016 versus 14 per cent in 2008. On the other hand, car trade, non-metallic minerals (mainly cement) science-related activities (mainly freelance professionals such as architects, attorneys and other) and telecoms recorded a greater decline in sales – with their cumulative share in business sales shrinking to 9 per cent in 2016 versus 14 per cent in 2008.

Clear shift to tradable sectors in terms of profitability although capital allocation hasn't managed to keep up with performance



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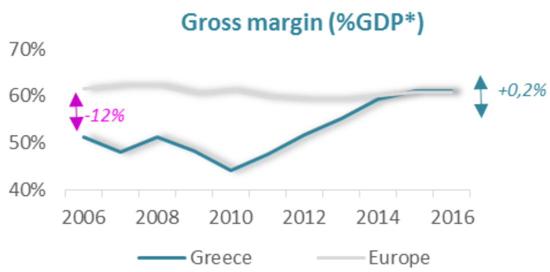
Sources: Eurostat, ICAP Data, Bach Database, NBG estimates

ALLOCATION OF PROFITS AND CAPITAL

- Looking at the sectors that generate operating profit for the Greek economy, we see an impressive shift of about ¼ of operating profits from domestic demand sectors (including retail trade, media, construction and restaurants) to export-oriented sectors (such as oil, food and plastic industries, hotels and transport). Specifically:
  - ✓ The contribution of exporting services (hotels and transport) soared to 18 per cent in 2016 versus 10 per cent in 2008 (very close to the European average).
  - ✓ In addition, although the contribution of wholesale trade to the operating profit of the Greek business sector remains consistently high (18 per cent versus 13 per cent on average in the EU), the contribution of the retail trade was contained to a level equivalent to European levels (4 per cent in 2016 versus 10 per cent in 2008).
  - ✓ The manufacturing sector, with petroleum in the vanguard, increased its contribution close to EU levels (31 per cent in 2016 versus 24 per cent in 2008), further enhancing the shift to tradable sectors in terms of profitability.
- However, despite the reallocation in terms of profits, funds engaged in the Greek business sector (as reflected in total assets of the business sector) remain, to a large extent, allocated in line with the structure of profitability pre crisis. Specifically, retail trade engages 13 per cent of capital and currently generates 4 per cent of operating profits, while the manufacturing sector engages 26 per cent of capital generating 31 per cent of profits. The increase in the share of capital engaged in tradable services sectors (16 per cent in 2016 versus 13 per cent in 2008), although on the right path, continues to lag behind that of the relevant share in terms of profitability (18 per cent in 2016). Similar conclusions are drawn following an analysis by enterprise size. Although large and medium enterprises currently generate 59 per cent of the operating profit (approaching European levels), they still engage 44 per cent of the Greek business sector capital (and 41 per cent of fixed capital).
- Although in the EU profitability moves in line with capital (ROA standing at similar levels among different sectors), in Greece there is a mismatch between capital and profitability, which is expected to be moderated through (i) the active management of NPLs (and accordingly allowing unhealthy businesses to wane) and (ii) gradual channelling of increasing financing flows to profitable businesses.

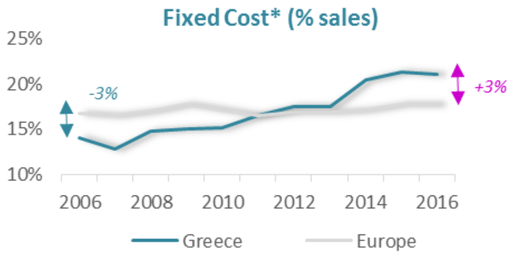
Production factors are used more efficiently - but fixed costs keep operating profit margins low

* Depreciation expenses included in the cost of goods sold have been considered
Sources: Eurostat, ICAP Data, Bach Database, NBG Estimates



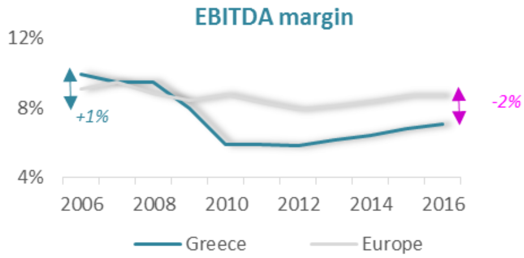
Source : Eurostat, ICAP Data, Bach Database, NBG estimates

** Corporate sector GDP (excluding value added from agriculture, financial services, energy, public sector and imputed rents).*



Source : Eurostat, ICAP Data, Bach Database, NBG estimates

** Operating cost excluding cost of goods sold (variable cost).*



Source: Eurostat, ICAP Data, Bach Database, NBG estimates

*** The gap between Greek and European sectors (calculated as the difference between index levels) is presented in green color when they are favorable and with purple when they are adverse.*

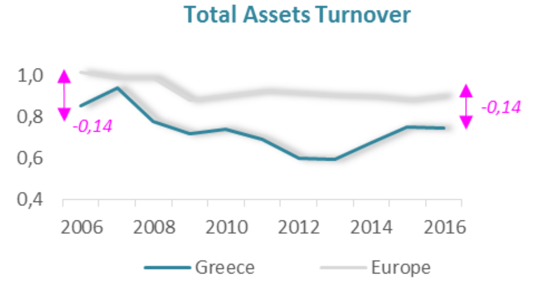
BUSINESS SECTOR

- Greek businesses became more efficient during the crisis as regards the cost of raw materials and labour directly linked to production cost (i.e. not including administrative and distribution expenses). Specifically, gross profit margin increased to 28 per cent in 2016 versus 24 per cent in 2006, thereby outperforming the European average by 2 percentage points. This trend can also be seen in terms of value added, with the gross profit-to-GDP ratio converging to the European average (versus a lag of 12 percentage points in 2006) – mainly after 2010, with the impact of labour market reforms becoming evident.

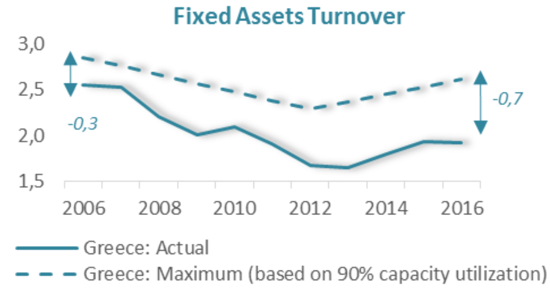
- However, the sharp drop in sales in the business sector resulted in a steadily growing burden of fixed operating costs (mainly rentals, insurance premia and administrative costs), ultimately leading EBITDA margin to a decline of 3 percentage points (from 10 per cent in 2006 to 7 per cent in 2016).

- Consequently, although at a first reading the relative position of Greek businesses seems to have deteriorated in terms of operating profitability vis-à-vis the EU during the crisis (lag of 2 percentage points in 2016 compared with +1 pp in 2006), this reflects the current juncture of an extremely contracted domestic demand (and eventually high fixed costs). The recovery of domestic demand to normal levels should show the improvement in efficiency in terms of variable cost that has already been made (and is already reflected in the improved gross profit margin).

The lag in ROA versus Europe tends to conceal substantial improvements that have been achieved in the business sector



Source: Eurostat, ICAP Data, Bach Database, NBG estimates



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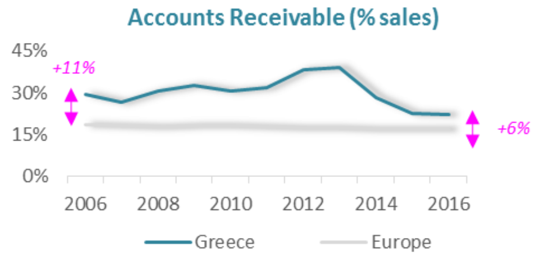

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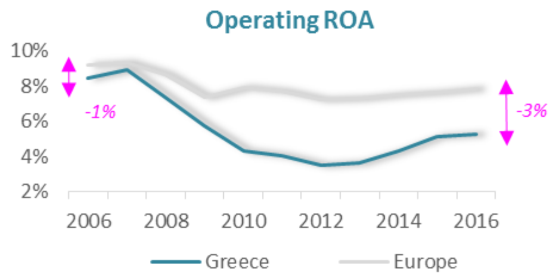

Source: Eurostat, ICAP Data, Bach Database, NBG estimates

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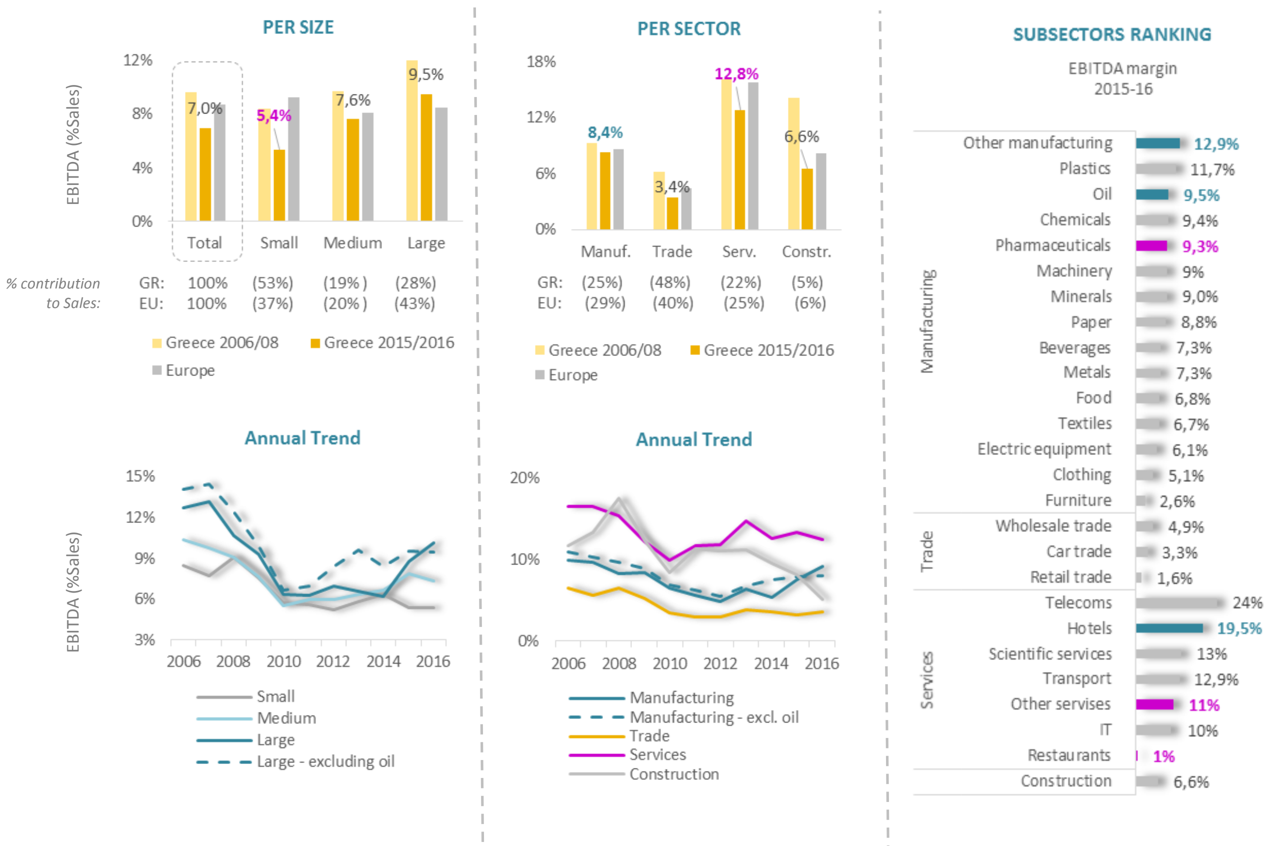
BUSINESS SECTOR

- As regards return on assets (ROA) the conclusions to be drawn are similar. Specifically, total assets turnover ratio posted a sharp decline from 0.85 in 2006 to 0.6 in 2013, while over the past three years it has been converging to pre-crisis levels (deviation of 0.14 points from the EU). In this context, some encouraging signs can be identified:
  - ✓ The share of turnover sold on credit (as measured by the accounts receivable to sales ratio) has declined from 30 per cent to 22 per cent, showing an improvement in the transaction cycle.
  - ✓ The slowdown in sales has led to unexploited fixed assets (with fixed asset turnover posting deviation of 0.7 points from its potential in 2016, versus 0.3 points pre crisis), which could meet the needs of increasing demand without requiring significant investments.
- Combining the impact of i) the deterioration of EBITDA margin and ii) the relatively constant lag of 0.14 points in asset turnover, the deviation from Europe in terms of Operating ROA grew by 2 pps (from -1 p.p in 2006 to -3 pps in 2016 – but improved compared with the low levels of 2012 (-5 pps)). However, this picture tends to conceal the significant improvement in terms of efficiency achieved by Greek businesses during the crisis, which is expected to become evident when the current sluggish domestic demand picks up again.
- In the following pages we will discuss ROA and the sub-indicators that make it up (EBITDA margin and asset turnover) by enterprise size and sector of activity, and we will explore sectors with growth prospects in the event of domestic demand recovery.

In terms of operating profit margin, hotels and oil industry stand out positively while restaurants and pharmaceuticals lag behind



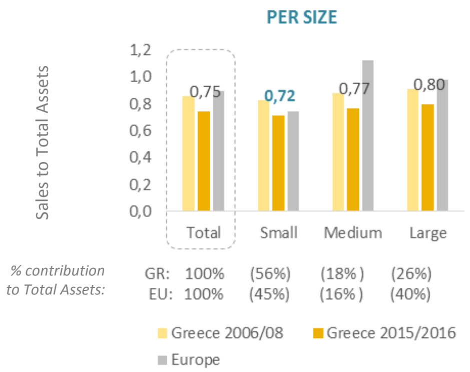
** In the graphs above, segments (sectors, sizes, subsectors) with the maximum or minimum gap from the EU average (calculated as the difference between index levels) are marked with purple (adverse) and green (favorable) color respectively.*

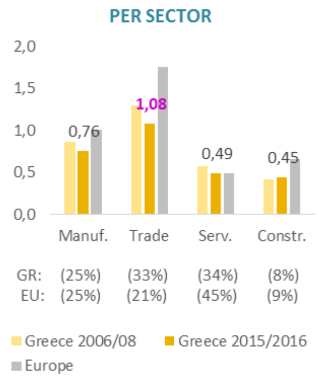
Sources: Eurostat, ICAP Data, Bach Database, NBG estimates

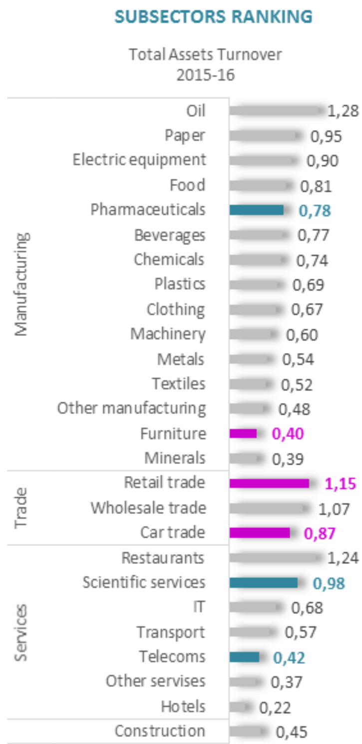
EBITDA MARGIN

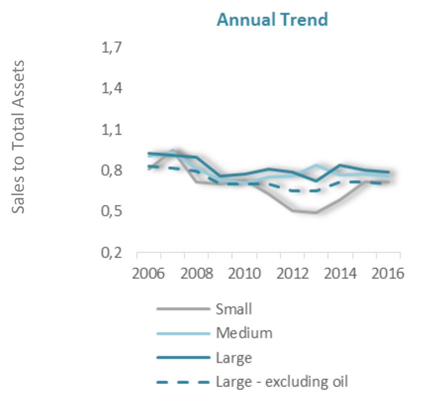
- Although business size does not seem to be a significant defining factor for profit margin in the EU (with EBITDA margin standing at 8-9 per cent regardless of size), in Greece, on average, large businesses operate with operating margins of 10 per cent, medium businesses with 7.5 per cent and small businesses with 5.5 per cent over the past two years – suggesting the existence of economies of scale, particularly with regard to non-exporting businesses.
- From a sectoral point of view, the following stand out as posting higher EBITDA margins compared with the European average:
  - ✓ Hotels (19.5 per cent over the last two years, versus 16.4 per cent on average in the EU)
  - ✓ Oil industry (9.5 per cent over the last two years, versus 4.1 per cent on average in the EU).
- On the other hand, the following recorded significantly lower EBITDA margins than the EU average:
  - ✓ Restaurant businesses (1 per cent over the last two years, versus 7.5 per cent on average in the EU).
  - ✓ Medicine (9.5 per cent over the last two years, versus relatively high 19.5 per cent on average in the EU), reflecting partly the different nature of activity, which focuses on contract manufacturing and production of generics in Greece, versus the development of original drugs in Europe.

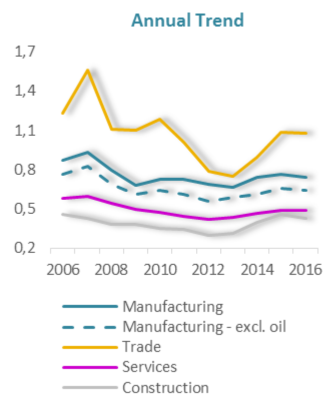
Significant decline in ROA in trade, while hotels lag behind the EU due to high seasonality











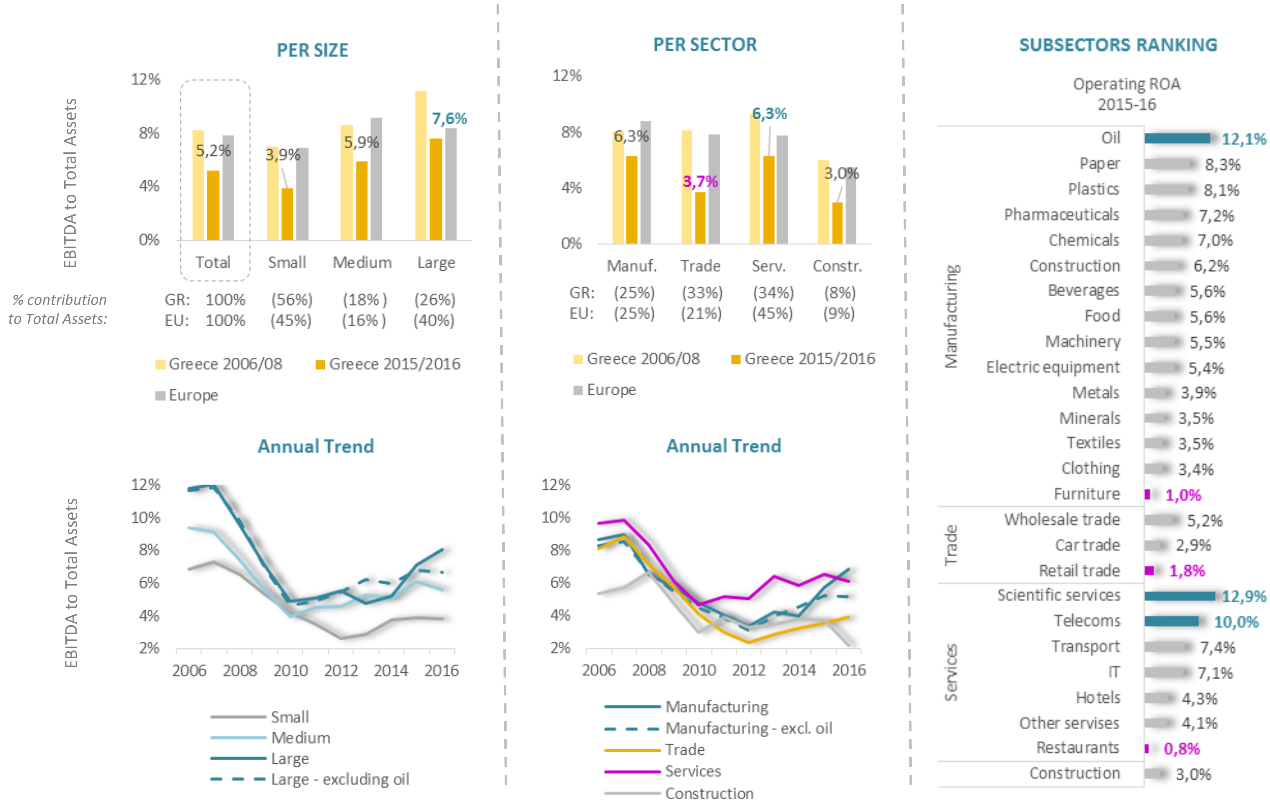
** In the graphs above, segments (sectors, sizes, subsectors) with the maximum or minimum gap from the EU average (calculated as the difference between index levels) are marked with purple (unfavorable) and green (favorable) color respectively.*

Sources: Eurostat, ICAP Data, Bach Database, NBG estimates

TOTAL ASSETS TURNOVER

- The advantage of size seems to be particularly important in Europe as regards the ability of capital to generate sales -- with asset turnover being above 1 for medium and large businesses and approaching 0.75 for smaller ones. By contrast, in Greece size does not seem to affect the dynamics of capital in terms of sales, with asset turnover approaching 0.75 over the last two years (from approximately 0.9 before crisis) regardless of size.
- Considering the individual sectors, pharmaceutical industry stands out positively, with asset turnover in Greece standing at 0.8 over the last two years (from about 0.9 pre crisis) versus the European average of about 0.6.
- By contrast, a sharply negative deviation from the EU average was recorded as regards:
    - ✓ Trade (mainly retail and car trade), which recorded the sharpest decline in terms of asset turnover during the crisis (down by 17 per cent versus 7 per cent in the other sectors)
    - ✓ Metal industry (mainly due to the steel industry)
    - ✓ Hotels (under the pressure of high seasonality).

Large businesses stand out in respect of ROA, partly due to petroleum



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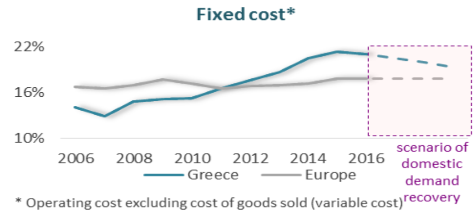
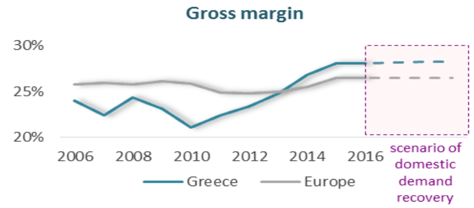
Sources: Eurostat, ICAP Data, Bach Database, NBG estimates

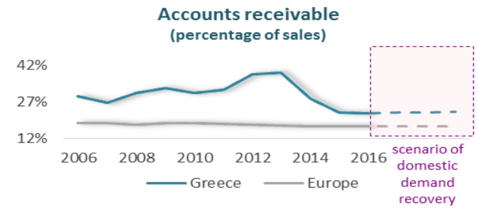
OPERATING ROA

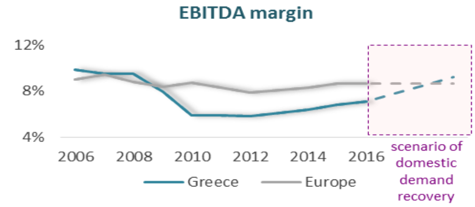
- Combining the impact in terms of EBITDA margin and asset turnover, we get the operating return on assets (Operating ROA).
- Large businesses dominate, as they achieve ROA of 8 per cent, recovering from the sharp drop of previous years (with ROA at 5 per cent in 2010-2013) – mainly due to profit margin – and gradually approaching the superior position they held pre crisis against the EU (deviation from the EU just -0.7 pps in 2016 (-1.5 pps without oil), versus -3 ppps in small and medium businesses).
- As regards individual sectors, oil stands out positively, with ROA at 12 per cent in 2016, versus 5.5 per cent in the EU, while hotels lose the advantage they held in terms of EBITDA margin due to high seasonality.
- By contrast, the highest deviations from the EU were posted by restaurant services (with a deviation of -9 pps) and retail trade (-6 pps, which has been hit both in terms of EBITDA margin and asset turnover).

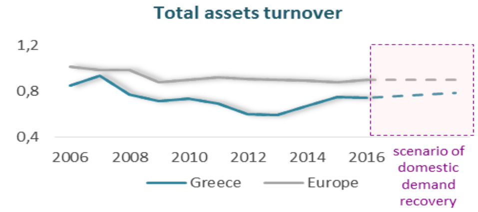
The recovery of domestic demand to normal levels (compensating for ⅓ of the losses due to the crisis) will highlight the structural improvements achieved in the Greek business sector

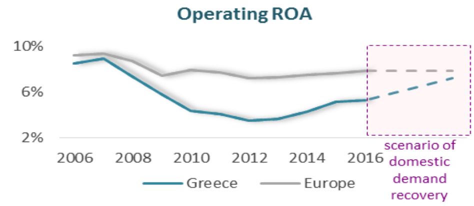












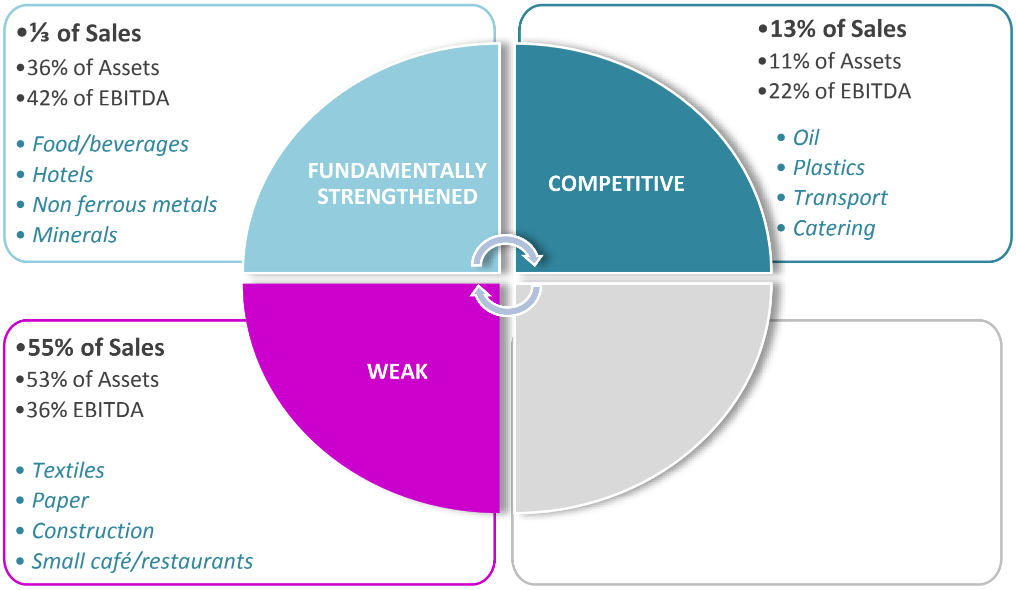
* In the scenario of domestic demand recovery, demand in Greece increases by 10 per cent (consistent with 3 per cent annual growth within the following 3 years), assuming Greek exports as well as European sales remain unchanged.

Sources: Eurostat, ICAP Data, Bach Database, NBG estimates

SENSITIVITY ANALYSIS: DOMESTIC DEMAND RECOVERY

- Taking into account (i) the export activity of each sector and (ii) long-standing flexibility in the face of changes in domestic demand, we estimated the potential ROA level in the event that domestic demand grows by 10 per cent in nominal terms over a 3-year horizon (which, on the basis of the aforesaid factors, ends up with different changes in aggregate demand per industry - see Annex A.6). Note that this scenario is consistent with our estimates regarding GDP growth over the next three years. In particular, based on the analysis:
  - ✓ in the event of a 10 per cent increase in domestic demand – compensating for just ⅓ of the losses due to the crisis – the business sector shall converge with average European ROA (7.2 per cent versus 7.8 per cent respectively), with the deviation approaching pre-crisis levels (deviation of 0.6 pps versus 3 pps in 2016).
- The factors that mainly create the competitive edge are two changes that have taken place as Greek businesses struggled to survive:
  - ✓ The improvement in gross profit margin versus the pre-crisis situation (i.e. the fall in the cost of raw materials and unit labor costs)
  - ✓ The improvement of the trade cycle compared with the pre-crisis situation, with the reduction in accounts receivable (claims from customers), and thus the related needs for additional working capital.
- Note that in the analysis we have taken into consideration the production capacity of each segment (comparing the current fixed assets turnover with the maximum potential based on capacity utilization) and, therefore, the likely need for investments.

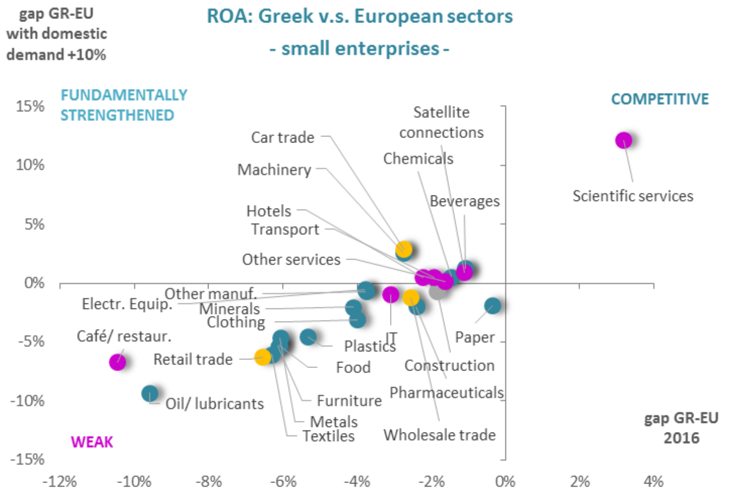
The sectors to benefit the most will be the food & beverage manufacturing, minerals (mostly cement) and hotels



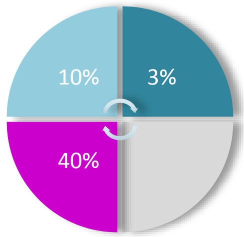
SENSITIVITY ANALYSIS: DOMESTIC DEMAND RECOVERY - competitiveness of sectors -

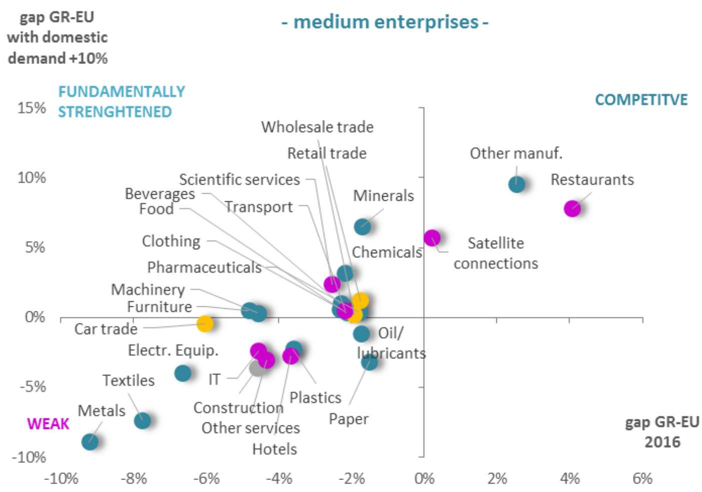
- In order to estimate the competitiveness of each sector in the current and new-potential environment, we assess deviations from the respective European sectors in terms of ROA. Specifically, for the purposes of comparability, we break down the business sector into 26 sectors, with 3 sizes each, thereby giving rise to 78 subsectors (page 14). For each one we calculated the ROA for Greece and the EU at two points in time (current level and potential level after a 10 per cent increase in domestic demand). Accordingly, on the basis of the deviation in ROA between Greece and the EU, we ranked the 78 sub-sectors in 3 categories:
  - ✓ **Competitive:** higher ROA than the EU in the current period
  - ✓ **Fundamentally strengthened:** higher ROA than the EU after a 10 per cent increase in domestic demand (currently lagging)
  - ✓ **Weak:** lower ROA than the EU even after a 10 per cent increase in domestic demand
- The first category includes industries that are already **competitive** - with higher ROA than the EU - corresponding to 13 per cent of the business sector (and 22 per cent of EBITDA). They are found mostly among larger enterprises (⅓ of large businesses (11 per cent excluding the oil industry) compared with less than 5 per cent of SMEs) and they concern mainly petroleum related sectors (7 per cent), plastics, transport and catering.
- The second category includes industries that are currently under pressure but are **expected to stand out** after an increase in domestic demand. This is a significant share of the business sector (about ⅓) and includes mainly hotel, food & beverage, non-ferrous metals and minerals (especially cement). Note that the recovery in domestic demand will primarily help and enhance medium businesses (70 per cent of which are considered to be structurally strengthened versus just 20 per cent-30 per cent of the other businesses).
- Finally, almost ½ of the business sector seems to remain **weak** according to this new scenario (80 per cent of small businesses and almost ⅓ of the other), the basic sectors being construction, textile industry, paper industry and small restaurants.

Mainly medium businesses are strengthened while 80 per cent of smaller businesses remain weak (compared with ⅓ of the others)

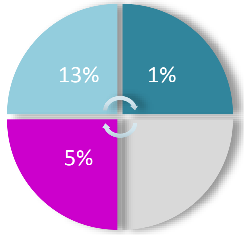


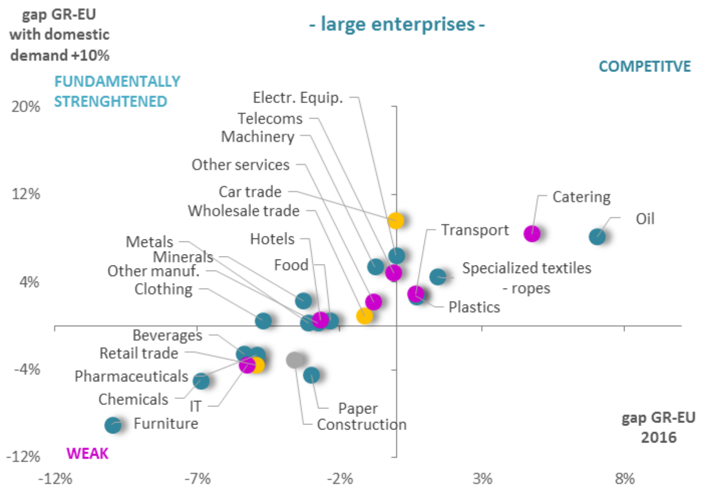
Small (<50 employees):
Covering 53% of sales:



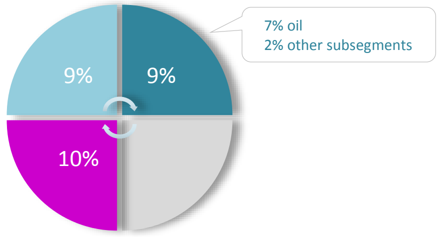


Medium (50-250 employees):
Covering 19% of sales:





Large (>250 employees):
Covering 28% of sales:



*** Notes:**

LEFT GRAPHS: Bullet colors represent different sectors of each subsegment (green for **manufacturing**, yellow for **trade**, purple for **services** and grey for **construction**).

RIGHT GRAPHS: The shares to the right represent the sales contribution to the economy of each subsegment (generated based on the GR-EU gap in ROA in 2016 vs. under the scenario of domestic demand recovery in Greece by 10 per cent) as it is shown on the graphs to the left. Specifically we distinguish between sectors that are: i) **competitive** (dark green), ii) **fundamentally strengthened** (light green) and iii) **weak** (purple)

- Mapping of the Greek v.s. the European Business Sector

- Comparative analysis of financial indicators

- Sensitivity analysis:
  Scenario of domestic demand recovery in Greece

- Annex

METHODOLOGY

Definition of the business sector

- The analysis involves all sectors of economic activity apart from: agriculture (nace 1-3), mining (nace 4-9), water supply and waste management (nace 36-39), financial services (nace 64-66), public administration, education, health etc. (nace 84-94).
- As regards size, companies are classified as follows:
  - ✓ **Small:** businesses with annual turnover less than €10 million (or <50 employees)
  - ✓ **Medium:** businesses with annual turnover from €10 million to €50 million (or 50-250 employees)
  - ✓ **Large:** businesses with annual turnover over €50 million (or >250 employees)

  Note that the definition of SMEs differs from the one adopted in NBG's regular survey (as SMEs' turnover limit is €10 million instead of €50 million) for purposes of comparability with European indexes.

Weighting of business segments (sector – size)

- We assessed the **structure and trend of turnover** of the business sector over the years on the basis of Eurostat data by analysing businesses by line of activity (two-digit nace 2) and by business size (4 sizes depending on the number of employees corresponding to turnover in million €: (0-1], (1-10], (10-50], (50+)) in Greece and the EU. Note that due to lack of updated data, the time period 2015-2016 was assessed on the basis of the course of value added per sector (based on the assessments of the European Commission (SBA FACTSHEET) taking into account its historic correlation with business sales.
- The **structure and the trend of other balance sheet and income statement items** were assessed in a two-step approach:

  i. Assessment of the structure of balance-sheet data at the maximum level of sector-size analysis, with all data expressed as a percentage of turnover. As a result the businesses are classified in 240 subcategories (60 industries x 4 sizes).

     - ✓ As regards Greece, we used annual balance sheet data from a sample of 25,000 businesses (SA, Ltd) for the time period 2006-2016 extracted from ICAP DATA. Large businesses of the public sector were excluded because they affect the results of specific industries, as well as businesses with low asset turnover (lower than 0.025) that, as a rule, do not have reliable balance-sheet data.
     - ✓ As regards Europe, we used annual balance sheet data for the relevant period from a sample of 1,500,000 businesses from 8 countries (Austria, Belgium, Germany, Spain, Italy, France, Portugal, Poland) extracted from BACH DATABASE (Banque de France). Note that, as regards Europe, we consider the average structure of the available countries weighted against their business sector (which is eventually representative of the EU due to the balance in the sample between the countries of North and South).

  ii. As the simple total of the aforementioned databases is not representative of the business sector (small businesses having very low representation), we assessed the above numbers per subcategory (with balance-sheets expressed as percentages of the turnover) on the basis of the corresponding turnover. The criterion for the distinction of sizes was the number of the employees according to Eurostat, for the purposes of obtaining comparable data for Greece and Europe.

Thus, our analysis was based on the best possible information regarding the course of turnover in combination with the maximum business sample regarding the financial results of the business sector.

Financial Indicators

- ✓ **Total Assets Turnover** = Total Assets / Sales
- ✓ **EBITDA Margin:** EBITDA (Earnings before interest, tax, depreciation and amortization) / Sales
- ✓ **Gross Profit Margin:** (Sales - Cost of goods sold) / Sales
- ✓ **Accounts Receivable (% Sales)** = Claims from customers / Sales
- ✓ **Operating ROA** = EBITDA / Total Assets

T.1: SALES GROWTH

	Cummulative growth 2008-2016		Average annual growth 2008-2015		Annual growth 2016	
	Greece	Europe	Greece	Europe	Greece	Europe
Total	**-28%**	**14%**	**-3,8%**	**1,6%**	**-1,0%**	**2,4%**
Small	**-31%**	9%	**-4,4%**	0,9%	**-0,3%**	2,5%
Medium	**-28%**	15%	**-3,8%**	1,6%	**-1,7%**	3,0%
Large	**-21%**	18%	**-2,8%**	2,3%	**-1,9%**	2,1%
Manufacturing	**-22%**	**7%**	**-2,9%**	**0,8%**	**-2,4%**	**1,5%**
Small	**-40%**	-1%	**-5,6%**	-0,3%	**-1,1%**	1,5%
Medium	**-10%**	4%	**-1,3%**	0,3%	**-1,1%**	1,4%
Large	**-14%**	10%	**-1,6%**	1,2%	**-3,5%**	1,6%
Food	*-2%*	*19%*	*-0,1%*	*2,5%*	*-1,9%*	*1,3%*
Beverages	*-21%*	*10%*	*-2,8%*	*1,2%*	*-1,9%*	*1,1%*
Textiles	*-54%*	*-4%*	*-7,6%*	*-0,7%*	*-2,3%*	*1,0%*
Clothing	*-62%*	*-2%*	*-8,8%*	*-0,4%*	*-1,3%*	*0,8%*
Furniture	*-65%*	*-5%*	*-9,2%*	*-0,9%*	*-1,9%*	*1,5%*
Paper	*2%*	*8%*	*0,4%*	*1,0%*	*-0,4%*	*1,2%*
Oil	*21%*	*7%*	*3,6%*	*0,9%*	*-3,3%*	*1,1%*
Chemicals	*-35%*	*5%*	*-4,9%*	*0,5%*	*-0,5%*	*1,7%*
Pharmaceuticals	*-13%*	*29%*	*-1,6%*	*3,7%*	*-1,5%*	*2,2%*
Plastics	*-13%*	*11%*	*-1,7%*	*1,4%*	*-1,5%*	*1,5%*
Minerals	*-55%*	*-14%*	*-7,8%*	*-2,1%*	*-1,8%*	*1,5%*
Metals	*-37%*	*-5%*	*-5,1%*	*-1,0%*	*-3,2%*	*1,6%*
Electric equipment	*-41%*	*2%*	*-5,6%*	*0,0%*	*-2,1%*	*1,9%*
Machinery	*-56%*	*16%*	*-7,8%*	*2,0%*	*-2,5%*	*1,7%*
Other manufacturing	*-40%*	*-2%*	*-5,5%*	*-0,5%*	*-2,8%*	*1,7%*
Construction	**-39%**	**-12%**	**-4,9%**	**-1,8%**	**-6,3%**	**1,0%**
Small	**-39%**	-11%	**-5,2%**	-1,7%	**-4,2%**	1,3%
Medium	**-47%**	-22%	**-5,5%**	-3,2%	**-13,0%**	1,4%
Large	**-8%**	-7%	**-0,5%**	-0,9%	**-4,8%**	-0,3%
Trade	**-29%**	**18%**	**-4,1%**	**2,2%**	**-0,4%**	**2,9%**
Small	**-31%**	9%	**-4,4%**	0,9%	**-0,4%**	2,7%
Medium	**-32%**	23%	**-4,5%**	2,6%	**-0,3%**	3,8%
Large	**-17%**	29%	**-2,4%**	3,6%	**-0,3%**	2,5%
Car trade	*-58%*	*9%*	*-8,3%*	*0,8%*	*-0,4%*	*2,8%*
Wholesale trade	*-28%*	*21%*	*-3,9%*	*2,5%*	*-0,4%*	*3,0%*
Retail trade	*-23%*	*17%*	*-3,2%*	*2,1%*	*-0,4%*	*2,6%*
Services	**-28%**	**25%**	**-4,1%**	**3,0%**	**0,3%**	**3,1%**
Small	**-22%**	22%	**-3,3%**	2,6%	**1,2%**	3,1%
Medium	**-30%**	31%	**-4,1%**	3,7%	**-2,0%**	4,0%
Large	**-38%**	25%	**-5,4%**	3,1%	**0,0%**	2,7%
Transport	*-16%*	*17%*	*-2,3%*	*2,1%*	*0,4%*	*2,3%*
Hotels	*22%*	*28%*	*2,7%*	*3,5%*	*2,8%*	*2,8%*
Restaurants	*-24%*	*27%*	*-3,8%*	*3,4%*	*2,9%*	*2,6%*
Telecoms	*-46%*	*-3%*	*-6,3%*	*-0,8%*	*-3,4%*	*2,9%*
IT	*-9%*	*55%*	*-0,7%*	*7,2%*	*-3,9%*	*2,9%*
Scientific services	*-45%*	*27%*	*-6,5%*	*3,3%*	*-0,1%*	*3,6%*
Other services	*-32%*	*28%*	*-4,6%*	*3,3%*	*0,9%*	*3,6%*

T.2: TOTAL ASSETS TURNOVER

	PRE CRISIS		CURRENT		
	Greece	Europe	Greece		Europe
	2006-2008		2015	2016	2015-2016
Total	**0,86**	**0,99**	**0,75**	**0,74**	**0,89**
Small	**0,83**	**0,87**	**0,72**	**0,72**	**0,74**
Medium	**0,89**	**1,18**	**0,78**	**0,76**	**1,11**
Large	**0,91**	**1,06**	**0,81**	**0,79**	**0,97**
Manufacturing	**0,87**	**1,13**	**0,76**	**0,75**	**1,01**
Small	**0,71**	**1,07**	**0,58**	**0,57**	**0,88**
Medium	**0,78**	**1,24**	**0,76**	**0,76**	**1,13**
Large	**1,07**	**1,12**	**0,90**	**0,86**	**1,01**
Food	*0,82*	*1,44*	*0,82*	*0,81*	*1,38*
Beverages	*0,70*	*0,76*	*0,77*	*0,76*	*0,73*
Textiles	*0,57*	*1,04*	*0,52*	*0,51*	*1,01*
Clothing	*0,91*	*1,19*	*0,67*	*0,66*	*1,15*
Furniture	*0,61*	*1,19*	*0,40*	*0,39*	*1,10*
Paper	*0,90*	*1,08*	*0,95*	*0,94*	*1,07*
Oil	*2,50*	*1,81*	*1,30*	*1,26*	*1,37*
Chemicals	*0,80*	*0,91*	*0,74*	*0,74*	*0,72*
Pharmaceuticals	*0,97*	*0,71*	*0,78*	*0,77*	*0,57*
Plastics	*0,78*	*1,25*	*0,70*	*0,69*	*1,18*
Minerals	*0,60*	*0,77*	*0,40*	*0,39*	*0,72*
Metals	*0,85*	*1,28*	*0,55*	*0,53*	*1,10*
Electric equipment	*1,13*	*1,16*	*0,91*	*0,89*	*0,92*
Machinery	*0,61*	*1,19*	*0,61*	*0,59*	*1,02*
Other manufacturing	*0,62*	*0,95*	*0,49*	*0,48*	*1,00*
Construction	**0,42**	**0,82**	**0,46**	**0,43**	**0,66**
Small	**0,37**	**0,84**	**0,43**	**0,41**	**0,64**
Medium	**0,59**	**0,85**	**0,63**	**0,55**	**0,74**
Large	**0,58**	**0,74**	**0,44**	**0,42**	**0,67**
Trade	**1,30**	**1,82**	**1,09**	**1,08**	**1,73**
Small	**1,24**	**1,54**	**0,96**	**0,96**	**1,41**
Medium	**1,30**	**2,07**	**1,33**	**1,33**	**1,96**
Large	**1,85**	**2,26**	**1,54**	**1,54**	**2,22**
Car trade	*1,35*	*2,14*	*0,87*	*0,87*	*1,94*
Wholesale trade	*1,20*	*1,77*	*1,07*	*1,07*	*1,66*
Retail trade	*1,48*	*1,81*	*1,15*	*1,15*	*1,83*
Services	**0,57**	**0,53**	**0,49**	**0,49**	**0,48**
Small	**0,60**	**0,47**	**0,55**	**0,55**	**0,42**
Medium	**0,63**	**0,65**	**0,43**	**0,43**	**0,63**
Large	**0,51**	**0,58**	**0,43**	**0,43**	**0,52**
Transport	*0,57*	*0,71*	*0,57*	*0,57*	*0,63*
Hotels	*0,24*	*0,43*	*0,22*	*0,22*	*0,42*
Restaurants	*0,87*	*1,33*	*1,23*	*1,26*	*1,32*
Telecoms	*0,49*	*0,41*	*0,43*	*0,42*	*0,37*
IT	*0,81*	*1,08*	*0,69*	*0,66*	*0,96*
Scientific services	*0,89*	*0,72*	*0,98*	*0,98*	*0,70*
Other services	*0,57*	*0,36*	*0,37*	*0,37*	*0,31*

T.3: EBITDA MARGIN

	PRE CRISIS		CURRENT		
	Greece	Europe	Greece		Europe
	2006-2008		2015	2016	2015-2016
Total	**9,6%**	**9,1%**	**6,8%**	**7,1%**	**8,7%**
Small	**8,4%**	9,2%	**5,4%**	**5,4%**	9,2%
Medium	**9,7%**	8,1%	**7,9%**	**7,4%**	8,1%
Large	**12,2%**	9,5%	**8,8%**	**10,2%**	8,5%
Manufacturing	**9,3%**	**9,1%**	**7,5%**	**9,2%**	**8,7%**
Small	**8,6%**	8,6%	**5,8%**	**5,2%**	8,8%
Medium	**11,9%**	8,6%	**9,3%**	**9,3%**	9,0%
Large	**8,8%**	9,4%	**7,6%**	**11,1%**	8,5%
Food	*8,8%*	*6,6%*	*6,5%*	*7,2%*	*6,9%*
Beverages	*19,4%*	*13,8%*	*7,6%*	*7,1%*	*12,7%*
Textiles	*7,1%*	*6,7%*	*6,5%*	*7,0%*	*8,6%*
Clothing	*7,2%*	*6,9%*	*5,3%*	*5,0%*	*8,4%*
Furniture	*10,1%*	*7,8%*	*2,2%*	*3,0%*	*7,7%*
Paper	*9,2%*	*9,9%*	*8,0%*	*9,5%*	*9,5%*
Oil	*4,6%*	*7,0%*	*6,6%*	*12,3%*	*4,1%*
Chemicals	*11,8%*	*9,9%*	*10,0%*	*8,8%*	*14,2%*
Pharmaceuticals	*11,9%*	*18,0%*	*10,1%*	*8,4%*	*19,5%*
Plastics	*11,6%*	*9,1%*	*10,9%*	*12,5%*	*10,1%*
Minerals	*14,9%*	*13,6%*	*8,9%*	*9,1%*	*9,9%*
Metals	*9,3%*	*10,0%*	*7,2%*	*7,4%*	*8,2%*
Electric equipment	*8,3%*	*9,8%*	*5,9%*	*6,2%*	*8,8%*
Machinery	*6,2%*	*8,2%*	*10,4%*	*8,0%*	*7,4%*
Other manufacturing	*12,6%*	*8,6%*	*13,5%*	*12,2%*	*8,9%*
Construction	**14,2%**	**9,3%**	**8,1%**	**5,1%**	**8,2%**
Small	**14,0%**	9,6%	**9,4%**	**6,2%**	8,0%
Medium	**16,5%**	9,2%	**5,8%**	**3,5%**	9,9%
Large	**8,0%**	8,6%	**5,2%**	**1,6%**	7,6%
Trade	**6,2%**	**4,8%**	**3,3%**	**3,6%**	**4,4%**
Small	**5,8%**	5,2%	**2,9%**	**3,6%**	5,0%
Medium	**7,5%**	4,6%	**5,4%**	**4,5%**	4,5%
Large	**6,5%**	4,2%	**2,5%**	**3,0%**	3,7%
Car trade	*4,9%*	*3,1%*	*3,9%*	*2,8%*	*3,1%*
Wholesale trade	*7,1%*	*5,1%*	*4,7%*	*5,0%*	*4,7%*
Retail trade	*5,3%*	*4,9%*	*1,3%*	*1,9%*	*4,5%*
Services	**16,1%**	**16,5%**	**13,3%**	**12,4%**	**15,8%**
Small	**13,6%**	16,6%	**10,2%**	**9,4%**	16,7%
Medium	**10,3%**	13,9%	**12,0%**	**12,1%**	13,5%
Large	**24,7%**	17,5%	**21,4%**	**19,5%**	15,9%
Transport	*11,3%*	*11,4%*	*13,4%*	*12,4%*	*12,8%*
Hotels	*24,3%*	*18,0%*	*20,6%*	*18,3%*	*16,4%*
Restaurants	*7,3%*	*7,7%*	*0,1%*	*1,1%*	*7,5%*
Telecoms	*24,1%*	*31,3%*	*23,3%*	*23,8%*	*25,0%*
IT	*17,3%*	*12,0%*	*12,3%*	*8,5%*	*11,8%*
Scientific services	*14,6%*	*14,4%*	*13,0%*	*13,4%*	*13,1%*
Other services	*20,2%*	*20,8%*	*12,0%*	*10,2%*	*21,1%*

T.4: OPERATING ROA

	PRE CRISIS		CURRENT		
	Greece	Europe	Greece		Europe
	2006-2008		2015	2016	2015-2016
Total	**8,2%**	**9,1%**	**5,1%**	**5,3%**	**7,7%**
Small	**7,0%**	8,0%	**3,9%**	**3,8%**	6,8%
Medium	**8,6%**	9,5%	**6,1%**	**5,6%**	9,0%
Large	**11,1%**	10,0%	**7,1%**	**8,0%**	8,3%
Manufacturing	**8,0%**	**10,3%**	**5,7%**	**6,9%**	**8,7%**
Small	**6,1%**	9,1%	**3,4%**	**3,0%**	7,7%
Medium	**9,3%**	10,7%	**7,1%**	**7,1%**	10,2%
Large	**9,4%**	10,5%	**6,8%**	**9,6%**	8,6%
Food	*7,2%*	*9,6%*	*5,3%*	*5,8%*	*9,5%*
Beverages	*13,6%*	*10,4%*	*5,8%*	*5,4%*	*9,3%*
Textiles	*4,1%*	*7,0%*	*3,4%*	*3,6%*	*8,7%*
Clothing	*6,6%*	*8,2%*	*3,6%*	*3,3%*	*9,7%*
Furniture	*6,2%*	*9,3%*	*0,9%*	*1,2%*	*8,5%*
Paper	*8,2%*	*10,7%*	*7,6%*	*9,0%*	*10,2%*
Oil	*11,4%*	*12,6%*	*8,6%*	*15,6%*	*5,6%*
Chemicals	*9,5%*	*9,9%*	*7,4%*	*6,5%*	*10,1%*
Pharmaceuticals	*11,6%*	*18,0%*	*7,9%*	*6,4%*	*11,1%*
Plastics	*9,1%*	*11,3%*	*7,6%*	*8,6%*	*11,9%*
Minerals	*9,0%*	*10,4%*	*3,5%*	*3,6%*	*7,1%*
Metals	*7,9%*	*12,8%*	*4,0%*	*3,9%*	*9,1%*
Electric equipment	*9,4%*	*11,3%*	*5,3%*	*5,5%*	*8,1%*
Machinery	*3,8%*	*9,7%*	*6,3%*	*4,8%*	*7,5%*
Other manufacturing	*7,8%*	*8,2%*	*6,6%*	*5,8%*	*8,9%*
Construction	**6,0%**	**7,6%**	**3,7%**	**2,2%**	**5,4%**
Small	**5,3%**	8,0%	**4,0%**	**2,5%**	5,1%
Medium	**9,8%**	7,8%	**3,7%**	**1,9%**	7,4%
Large	**4,7%**	6,4%	**2,3%**	**0,7%**	5,1%
Trade	**8,1%**	**8,7%**	**3,5%**	**3,9%**	**7,7%**
Small	**7,2%**	8,0%	**2,8%**	**3,4%**	7,1%
Medium	**9,8%**	9,6%	**7,2%**	**5,9%**	8,8%
Large	**12,0%**	9,5%	**3,9%**	**4,7%**	8,2%
Car trade	*6,6%*	*6,6%*	*3,4%*	*2,4%*	*6,1%*
Wholesale trade	*8,5%*	*9,0%*	*5,1%*	*5,4%*	*7,8%*
Retail trade	*7,9%*	*8,8%*	*1,4%*	*2,2%*	*8,2%*
Services	**9,3%**	**8,8%**	**6,5%**	**6,1%**	**7,6%**
Small	**8,1%**	7,8%	**5,6%**	**5,2%**	6,9%
Medium	**6,5%**	9,0%	**5,2%**	**5,2%**	8,5%
Large	**12,6%**	10,2%	**9,2%**	**8,4%**	8,3%
Transport	*6,4%*	*8,1%*	*7,7%*	*7,1%*	*8,1%*
Hotels	*5,8%*	*7,8%*	*4,5%*	*4,1%*	*6,9%*
Restaurants	*6,4%*	*10,2%*	*0,1%*	*1,4%*	*9,8%*
Telecoms	*11,9%*	*12,7%*	*10,0%*	*9,9%*	*25,0%*
IT	*14,0%*	*13,1%*	*8,5%*	*5,7%*	*11,3%*
Scientific services	*13,0%*	*10,3%*	*12,7%*	*13,1%*	*9,3%*
Other services	*11,5%*	*7,4%*	*4,4%*	*3,8%*	*6,4%*

T.5: ACCOUNTS RECEIVABLE (% of SALES)

	PRE CRISIS		CURRENT		
	Greece	Europe	Greece		Europe
	2006-2008		2015	2016	2015-2016
Total	**29%**	**18%**	**23%**	**22%**	**17%**
Small	**29%**	20%	**25%**	**24%**	20%
Medium	**40%**	21%	**30%**	**31%**	19%
Large	**20%**	15%	**14%**	**13%**	13%
Manufacturing	**30%**	**18%**	**24%**	**24%**	**17%**
Small	**37%**	25%	**37%**	**36%**	23%
Medium	**43%**	23%	**31%**	**34%**	20%
Large	**21%**	15%	**16%**	**15%**	14%
Food	*31%*	*15%*	*31%*	*31%*	*14%*
Beverages	*33%*	*20%*	*25%*	*26%*	*19%*
Textiles	*39%*	*26%*	*26%*	*26%*	*22%*
Clothing	*36%*	*25%*	*39%*	*41%*	*23%*
Furniture	*42%*	*21%*	*42%*	*40%*	*18%*
Paper	*37%*	*19%*	*28%*	*30%*	*18%*
Oil	*7%*	*10%*	*4%*	*5%*	*7%*
Chemicals	*49%*	*19%*	*36%*	*36%*	*16%*
Pharmaceuticals	*44%*	*21%*	*41%*	*34%*	*18%*
Plastics	*36%*	*20%*	*33%*	*34%*	*18%*
Minerals	*35%*	*25%*	*34%*	*42%*	*22%*
Metals	*29%*	*20%*	*32%*	*30%*	*19%*
Electric equipment	*28%*	*23%*	*25%*	*26%*	*20%*
Machinery	*33%*	*16%*	*33%*	*31%*	*15%*
Other manufacturing	*41%*	*22%*	*27%*	*29%*	*22%*
Construction	**46%**	**27%**	**42%**	**45%**	**28%**
Small	**48%**	25%	**44%**	**48%**	28%
Medium	**41%**	29%	**36%**	**36%**	27%
Large	**38%**	31%	**41%**	**46%**	29%
Trade	**24%**	**14%**	**20%**	**19%**	**13%**
Small	**23%**	16%	**21%**	**19%**	16%
Medium	**39%**	16%	**30%**	**30%**	15%
Large	**12%**	9%	**7%**	**6%**	8%
Car trade	*21%*	*9%*	*23%*	*21%*	*9%*
Wholesale trade	*36%*	*19%*	*29%*	*30%*	*17%*
Retail trade	*10%*	*5%*	*8%*	*5%*	*5%*
Services	**33%**	**22%**	**22%**	**24%**	**21%**
Small	**35%**	23%	**23%**	**26%**	22%
Medium	**38%**	23%	**26%**	**28%**	22%
Large	**25%**	20%	**16%**	**15%**	19%
Transport	*27%*	*18%*	*21%*	*24%*	*18%*
Hotels	*33%*	*9%*	*17%*	*14%*	*8%*
Restaurants	*13%*	*7%*	*7%*	*6%*	*7%*
Telecoms	*31%*	*17%*	*18%*	*28%*	*17%*
IT	*45%*	*27%*	*34%*	*25%*	*24%*
Scientific services	*43%*	*30%*	*30%*	*29%*	*29%*
Other services	*40%*	*22%*	*31%*	*30%*	*21%*

T.6: SENSITIVITY ANALYSIS: Domestic Demand Recovery*

	Growth of domestic demand
Total	**10,0%**
Manufacturing	**14,6%**
Food	*8,7%*
Beverages	*8,7%*
Textiles	*8,7%*
Clothing	*8,7%*
Furnitures	*8,7%*
Paper	*-7,3%*
Oil	*10,0%*
Chemicals	*19,2%*
Pharmaceuticals	*8,7%*
Plastics	*8,7%*
Minerals	*46,9%*
Metals	*22,7%*
Electric equipment	*32,1%*
Machinery	*45,7%*
Other manufacturing	*27,5%*
Construction	**11,6%**
Trade	**6,9%**
Car trade	*42,8%*
Wholesale trade	*6,9%*
Retail trade	*1,8%*
Services	**13,0%**
Transports	*8,7%*
Hotels	*8,7%*
Restaurants	*8,7%*
Telecoms	*19,8%*
IT	*8,7%*
Scientific services	*21,5%*
Other services	*9,8%*

* In the scenario of domestic demand recovery, demand in Greece increases by 10 per cent (consistent with 3 per cent annual growth within the following 3 years), assuming Greek exports as well as European sales remain unchanged.

Enterprises that survived the crisis have become fundamentally sounder

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NATIONAL BANK OF GREECE

Editor: **Paul Mylonas,** Deputy CEO, Chief Economist
e-mail: pmylonas@nbg.gr, Tel: (+30210) 3341521, Fax: (+30210) 3341702