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Greek industry looks set for faster growth over the next 5 years

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□ Gradual recovery of the key Greek industrial activity indicators (industrial production and confidence indices) reflects improved demand for Greek products (turnover growth of 3.4 per cent in 2017 vs 0.2 per cent in 2016), mainly in foreign markets (7 per cent in 2017 vs 1.5 per cent in 2016). The growth in demand boosted capacity utilization of Greek manufacturing to 68 per cent in 2017 from a low of 64 per cent in 2015.

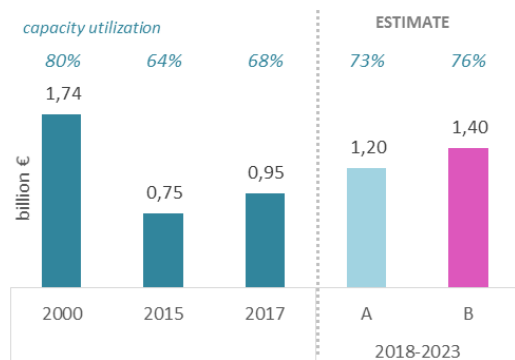
□ Capacity utilization is an important indicator for the investment strategy of Greek industry over the past 20 years (with a correlation factor of 70 per cent). Following the 2015 low (investment intensity, i.e. annual investment flow to accumulated stock, 8 per cent and capacity utilization 64 per cent), industry is already on the rise (investment intensity 11 per cent and capacity utilization 68 per cent in 2017), reflected in increased investment in mechanical equipment (average annual growth of 14 per cent in the last two years). Note that current investment flows marginally surpass the minimum level required for necessary replacement (i.e. to keep the net value of machinery constant) – thus displaying signs of a healthy momentum for the first time since 2008.

□ According to our estimates, demand dynamics will strengthen over the next 5 years (with turnover rising at an average annual rate of 4 per cent to 5.7 per cent), as domestic demand will gradually recover to more normal levels (average +3.7 per cent p.a. over the next 5 years, vs -4.2 per cent in 2009-2017). As a result, capacity utilization will reach 73-76 per cent in 2023 (vs 68 per cent in 2017), thereby approaching pre-crisis levels (77 per cent in 2000-2008).

□ Assuming that the investment behavior of Greek industry players will follow the usual response mechanism of the past 20 years, the level of investment intensity in machinery should approach 14-16 per cent in 2023 (vs 11 per cent in 2017). Under such circumstances, annual investment will be in the range of €1.2bn to €1.4bn (reflecting a 7-11 per cent average annual growth rate) -- bringing Greek industry's stock of machinery to 2011-2013 levels.

Issue Focus:

Annual manufacturing investment in machinery

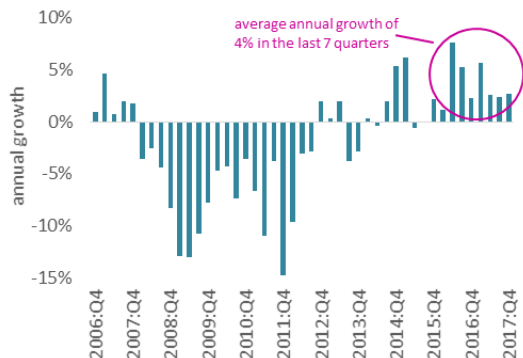


Scenario A: Current share in international trade of goods (0,16%)

Scenario B: Gradual return to the pre-crisis share (0,21%)

Source: Eurostat, Icap database, NBG Estimates

Manufacturing production index



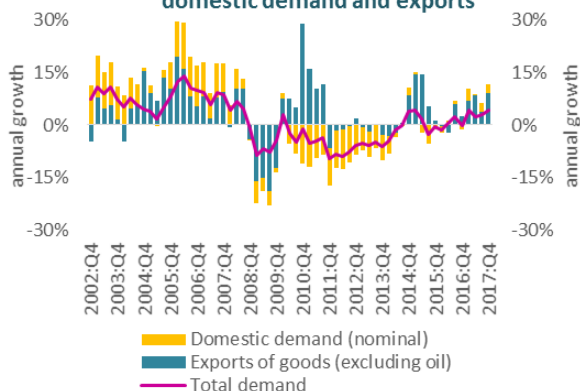
Source: Eurostat, NBG Estimates

Manufacturing total demand^[1] and Confidence Index



Source: Eurostat, Europ. Commission, World Trade Organization, NBG Estimates

Manufacturing total demand^[1] : domestic demand and exports



Source: Eurostat, World Trade Organization, NBG Estimates

Greek market share in international trade of goods^[2]



Source: Eurostat, World Trade Organization, NBG Estimates

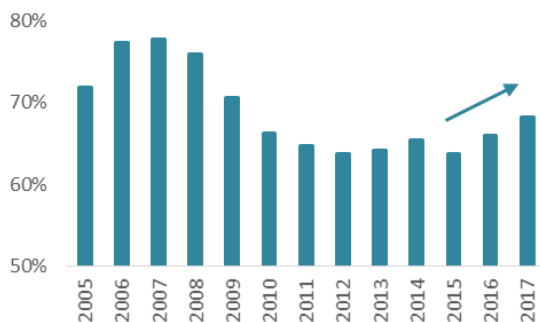
^[1] The growth rate of total demand is the weighted average growth of domestic demand (nominal) and exports of goods (excluding oil), based on the extroversion of the Greek manufacturing sector.

^[2] The Greek market share concerns international trade in goods (excluding oil).

- ❑ The y-o-y rise in the industrial confidence index by 7 points in Q1.18, coupled with the steady **rise in industrial production** over the last two years (average 4 per cent p.a.) are important signs of a gradual recovery.
- ❑ To get a better understanding of this trend, we focused on examining the relationship between the business climate and emerging demand conditions. To do this we constructed a **demand index** taking into account: (i) the trend in domestic demand, (ii) the trend in exports, and (iii) the degree of extroversion of Greek manufacturing. As indicated by the second graph, the gradual recovery of the confidence index seems to be largely reflected in the improved demand conditions for Greek industrial products.
- ❑ In particular, the gradual increase in turnover (average 1.4 per cent p.a. in 2015-2017 vs -4.9 per cent p.a. in the period 2011-2014) has been driven mainly by **growth in exports** (average 5.7 per cent p.a. in 2015-2017 vs 1.6 per cent p.a. in 2011-2014), on the back of growth in international trade flows (average 3 per cent p.a. in terms of volume in the period 2015-2017) and a small increase in Greece's share of international trade (by 3 per cent vs the low of 2015).

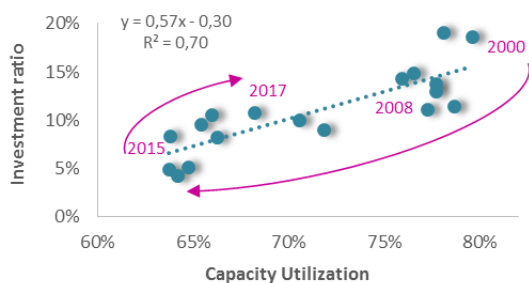
... leading to an increase in capacity utilization, which in turn sets in motion the mechanism for investment growth

Manufacturing capacity utilization



Source: Eurostat, European Commission, Icap database, NBG Estimates

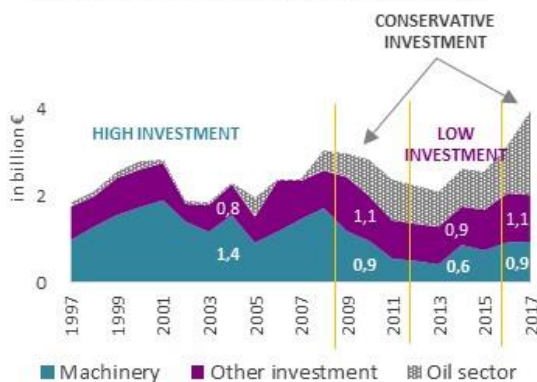
Investment behaviour of Greek manufacturing



* Ratio of annual investment flow in machinery to the net stock of machinery of the previous year

Source: Eurostat, European Commission, Icap database, NBG Estimates

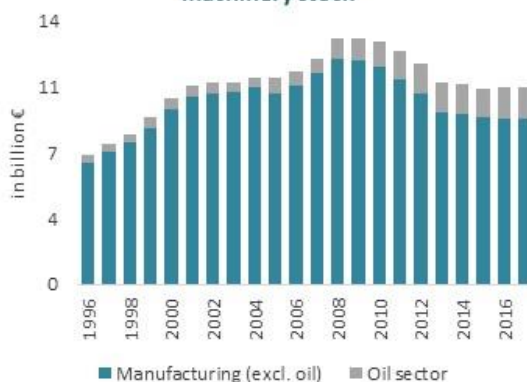
Periods of industrial investments behaviour



* excl. oil sector

Source: Eurostat, Icap database, NBG Estimates

Net value of greek industry machinery stock



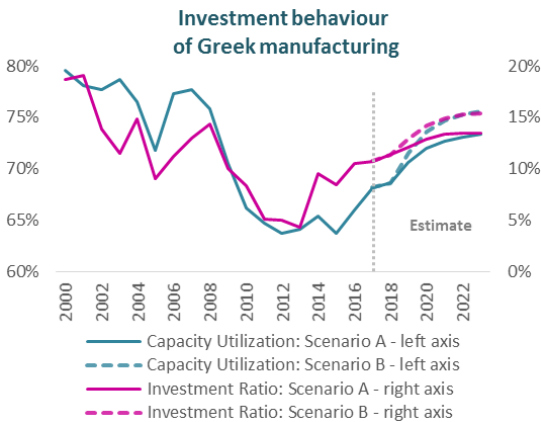
Source: Eurostat, Icap database, NBG Estimates

- Exogenously-driven growth in demand over the past two years has led to an **increase in the capacity utilization of Greek industry** to 68 per cent in 2017 from a low of 64 per cent in 2015.
- Capacity utilization is an important **indicator of the investment strategy** of Greek industry. As shown in the second graph, the correlation between intensity of investment in machinery (annual flow-to-stock) and capacity utilization approaches 70 per cent over the last 20 years. Accordingly, Greek manufacturing players seem to track the level of capacity utilization in their companies, and on this basis decide how much to invest in machinery. Greek industry followed a contracting trend from 2000 to 2015, with declining investment intensity and capacity utilization. Following the 2015 low (with investment intensity of 8 per cent and capacity utilization of 64 per cent), Greek manufacturing has now embarked on an upward trend (investment intensity 11 per cent, and capacity utilization 68 per cent in 2017). We note that the current investment intensity level (11 per cent) exceeds marginally the level of depreciation (i.e., the pivotal point at which the net asset value of the stock of machinery remains constant) -- showing signs of healthy dynamics for the first time since 2008.
- The momentum of the past two years is reflected in **industrial investment in mechanical equipment**, which has increased by 14 per cent p.a. in the past two years, reaching almost €0.9bn p.a. (though still below the pre-crisis highs). This has led to stabilization of the stock of industrial machinery, which posted a drop of 20 per cent during the worst phase of the crisis (2012-2015), as investments in machinery collapsed to €0.6bn p.a. vs an average of circa €1.4bn p.a. in the pre-crisis years (2000-2008). Note that non-machinery industrial investments – being less flexible – remained close to €0.8-1.1 bn p.a. over the past 20 years.

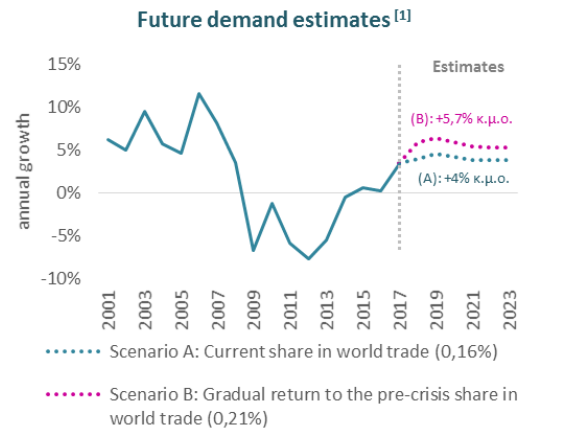
The return of domestic demand to normal levels should help underpin the momentum towards normalization of operating conditions for Greek industry

Future demand estimates: Assumptions		
Average annual growth 2018-2023	Scenario A	Scenario B
i. Domestic Demand	3,7%	3,7%
Real demand	2,0%	2,0%
Prices	1,7%	1,7%
ii. Exports	5,1%	11,6%
Volume of international trade of goods (annual growth)	3,7%	3,7%
Greek market share (in 2023)	0,16%	0,21%
Total Demand (i)+(ii)	4,0%	5,7%

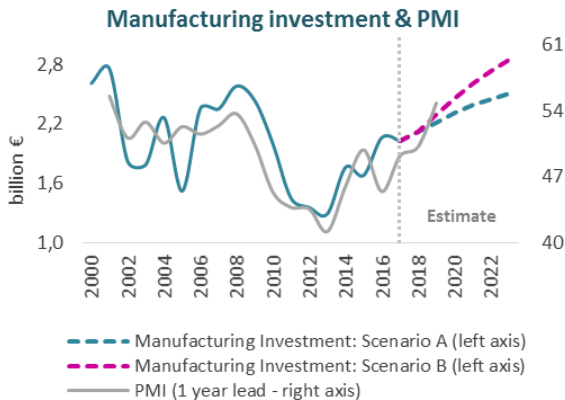
Source: Eurostat, World Trade Organization, IMF, NBG Estimates



Source: Eurostat, Icap database, NBG Estimates



Source: Eurostat, World Trade Organization, IMF, NBG Estimates



Source: Eurostat, Icap database, NBG Estimates

[1] Scenarios have been based on a 3.7 per cent estimated annual growth of the domestic demand during the period 2018-2023 (NBG est.) and two alternative scenarios about the Greek industrial products’ global market share: Stable at 0.16% in scenario A and gradual recovery at 0.21% in scenario B.

- According to our estimates, demand dynamics will strengthen over the next five years, as domestic demand will gradually recover to more normal levels (average +3.7 per cent p.a. over the next five years, vs -4.2 per cent in 2009-2017). In this light, we estimated **two alternative demand scenarios** depending on the trend in the share of Greek products in international markets (Scenario A: Unchanged share of Greece in world trade of goods (excluding oil), and Scenario B: International market share returns to pre-crisis levels).
- Assuming that the investment behavior of Greek manufacturing players will follow the usual response mechanism of the last 20 years, Greek industry is likely to embark on an investment recovery trajectory over the course of the next five years (which is confirmed by the upswing of the PMI in the last 12 months). In particular, under the first more **conservative scenario**, turnover is expected to recover by 4 per cent p.a. with average annual investment close to €1.2bn over the next 5 years – bringing the capital stock of machinery back to 2013 levels. Under the second more **expansive scenario**, turnover recovers by 5.7 per cent p.a. and investment is close to €1.4bn p.a. over the next 5 years – bringing the capital stock of machinery to 2011 levels.
- It is noteworthy that under both scenarios **Greek industry is seen to step up its key operating indicators**. In particular, capacity utilization will reach 73-76 per cent (vs 68 per cent in 2017) in 2023, and investment intensity in machinery (i.e. annual flow-to-stock) will reach 14-16 per cent (vs 11 per cent in 2017).

CHARTBOOK | 2018:Q1



BUSINESS SECTOR

SHARE OF GDP



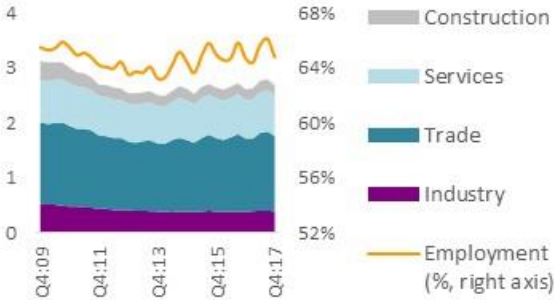
The **improvement of the economic climate** by 16 points over the last two and a half years and the 3% increase in employment in the business sector during the same period show that demand is gradually recovering.

Value added & business climate ^[2]



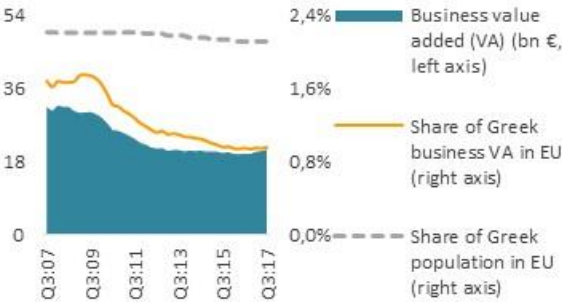
Sources: Eurostat, European Commission, NBG Estimates

Employment



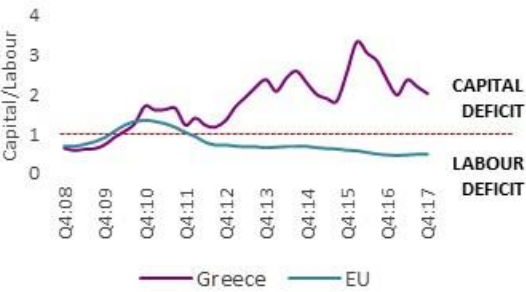
Sources: Eurostat, European Commission, NBG Estimates

Production of business sector



Sources: Eurostat, European Commission, NBG Estimates

Main deficit factor ^[1]



Sources: Eurostat, European Commission, NBG Estimates

Business sector: Main sectors ^[2]

Year 2017	Value added				Employment			
	Share		Annual growth rate		Μερίδιο		Ετήσια μεταβολή	
	Greece	EU	Greece	EU	Greece	EU	Greece	EU
Industry	27%	31%	+8,0%	+3,2%	19%	26%	+4%	+1%
Construction	4%	8%	-13,2%	+4,3%	6%	10%	+1%	+2%
Trade	20%	17%	+2,5%	+3,4%	30%	21%	+3%	0%
Transports	12%	8%	+2,5%	+3,4%	8%	8%	+2%	+3%
Tourism	12%	5%	+2,5%	+3,4%	14%	7%	-1%	+1%
ICT & Telecoms	6%	7%	-0,7%	+2,0%	3%	4%	+10%	+2%
Scientific activities	10%	17%	+2,3%	+3,1%	13%	15%	+3%	+2%
Other	9%	8%	+6,2%	+0,7%	7%	9%	+13%	+3%
Total business sector	100%	100%	+3,3%	+3,0%	100%	100%	+3%	+2%
% of business sector	65,0%	72,4%			61,8%	66,1%		

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Share of businesses that face deficit mainly in capital/Share of businesses that face deficit mainly in employment

^[2] Excluding agriculture, finance and public sector (including education and health services), as well as private house rents.

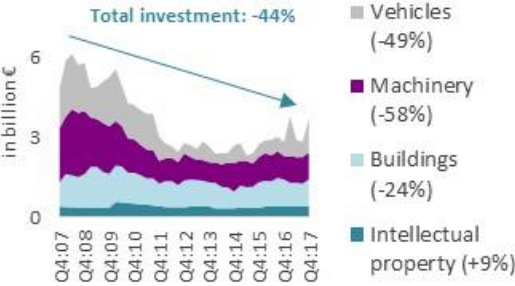
^[3] Annual growth rate| Last available data| Value added: 2017, Employment: 4th quarter 2017

INVESTMENT OF BUSINESS SECTOR

SHARE of TOTAL INVESTMENT  58%

Having hit their lowest point in late 2015, business investment in Greece has recovered by 29% over the last two years, with the **services sector leading the way** (+40% over the same period).

Business investment per type ^[1]



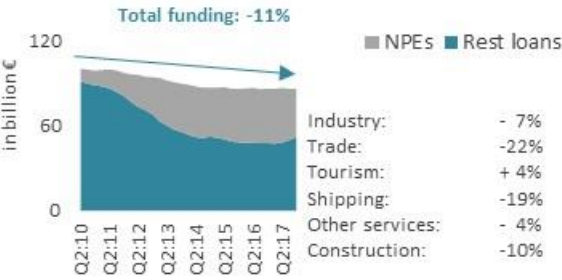
Sources: Eurostat, European Commission, NBG Estimates

Business investment per sector ^[1]



Sources: Eurostat, European Commission, NBG Estimates

Financing of business sector



Source: Bank of Greece, NBG Estimates

Demand for financing



Source: Bank of Greece, NBG Estimates

Business sector: Investment

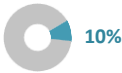
	Share in annual investment		Annual growth rate (2015 – 2016)		Investment/ Value added (2016)		Value added/ Capital stock (2016)	
	Greece	EU	Greece	EU	Greece	EU	Greece	EU
Industry	35%	39%	+20%	+4%	20%	36%	22%	26%
Construction	6%	4%	+22%	+4%	18%	14%	22%	42%
Trade	12%	9%	+10%	+3%	9%	15%	42%	67%
Transportation	20%	12%	+18%	+4%	24%	44%	11%	17%
Tourism	5%	2%	+6%	+3%	6%	12%	37%	40%
ICT & Telecoms	8%	9%	+10%	+1%	17%	37%	13%	41%
Scientific activities	9%	17%	-1%	+7%	13%	28%	37%	48%
Other	5%	8%	-8%	-3%	9%	24%	26%	15%
Total business sector	100%	100%						
Share of business sector in total investment	57,5%	57,6%						

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Changes refer to the period 2008 – 2017

INDUSTRY

SHARE OF GDP



The confidence index in industry has risen by 10 points over the last two years. At the same time the employment index has stayed in positive territory over the last quarter, thus reflecting estimates of an **upward trend in industrial production**.

Employment ^[1]

Industrial production



Sources: Eurostat, European Commission, NBG Estimates

Sources: Eurostat, European Commission, NBG Estimates

Main macroeconomic indicators ^[2]

Main financial indicators ^[3]

	% of industry	Production		Exports	
		12M	3M	12M	3M
Greece		+2,7%	+5,3%	+9,5%	+13,5%
Europe		+3,7%	+4,5%	+6,7%	+5,6%
Food	24,6%	+2,5%	+4,2%	+2,9%	+15,9%
Beverages	4,3%	-2,5%	+8,3%	+7,0%	+0,4%
Clothing	2,0%	-6,3%	-0,5%	+14,5%	+10,8%
Furniture	1,6%	+1,2%	+15,3%	+13,4%	+12,5%
Chemicals	5,2%	+2,9%	+5,1%	+12,1%	+10,2%
Pharmaceutical	5,1%	+19,0%	+21,1%	+14,4%	+20,8%
Plastics	4,3%	+2,5%	+7,0%	+9,7%	+4,7%
Minerals	5,5%	-1,8%	-0,6%	+18,0%	+14,7%
Metals	4,9%	+18,0%	+1,4%	+27,5%	+27,7%
Metal products	7,0%	-0,1%	+4,6%	+17,6%	+12,8%
Electrical equip.	2,4%	+1,0%	+6,1%	+9,5%	+13,4%
Machinery	4,3%	+2,0%	+13,4%	-0,6%	-0,7%

	EBITDA margin	Asset turnover	Debt to Ebitda
Greece	7,1%	0,74	6,24
Europe	8,7%	0,90	3,93
Food	7,2%	0,81	6,72
Beverages	7,1%	0,76	5,74
Clothing	5,0%	0,66	9,07
Furniture	3,0%	0,39	42,03
Chemicals	8,8%	0,74	4,99
Pharmaceutical	8,4%	0,77	3,94
Plastic	12,5%	0,69	3,17
Minerals	9,1%	0,39	7,99
Metals	9,2%	0,52	10,67
Metal products	5,2%	0,55	8,24
Electrical equip.	6,2%	0,89	4,57
Machinery	8,0%	0,59	6,02

Sources: Eurostat, El.Stat., NBG Estimates

Source: Icap database, NBG Estimates

^[1] 4 quarters lead of employment index

^[2] Latest available data i. Production February 2018, ii. Exports February 2018 for Greece and January 2018 for EU

^[3] Data for year 2016.

EXPORTS

SHARE in EU
EXPORTS



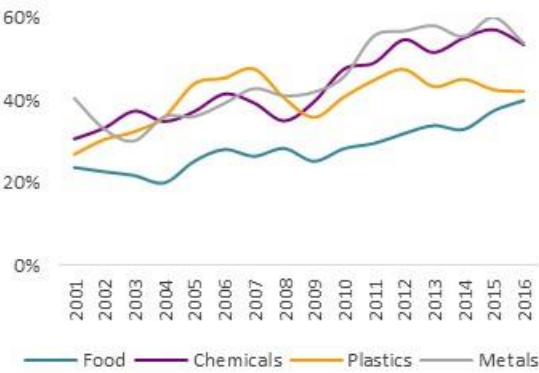
Exports (excluding oil) increased by 9.5% over the last year¹ and hint at a **trend of further strengthening** (+13.5% y-o-y in the last quarter¹). **Metals and minerals** are the leading sectors (+28% and +18% respectively in the past 12 months¹), with Turkey and Romania being the most dynamic markets (+22% and +15% respectively in the past 12 months¹).

Export order & industrial production



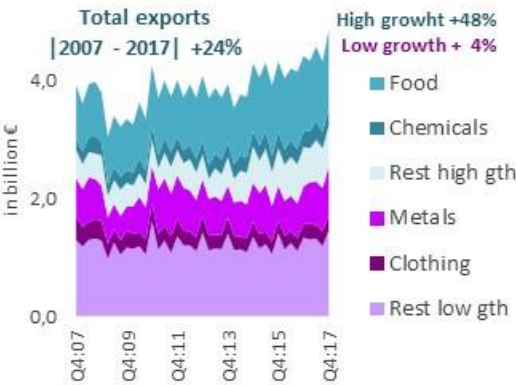
Sources: Eurostat, European Commission, NBG Estimates

Extroversion ^[2] of industry's subsectors



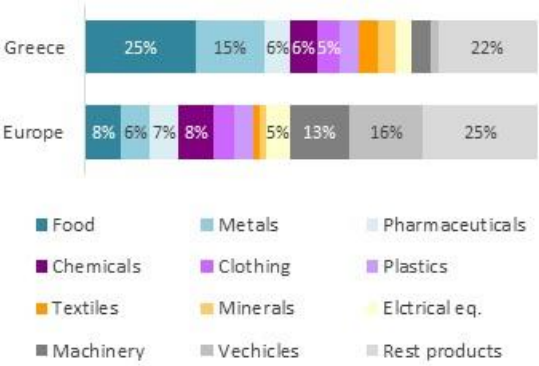
Source: Eurostat, NBG Estimates

Greek exports ^{[3][4]}



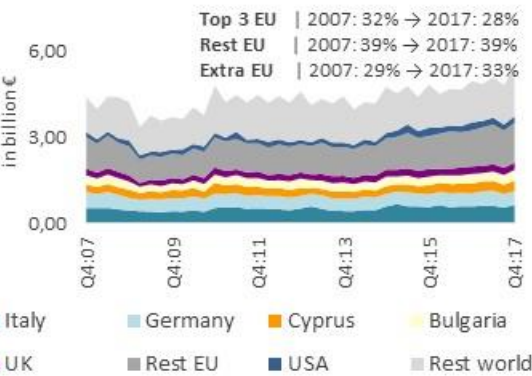
Source: Eurostat, NBG Estimates

Exports breakdown ^[2]



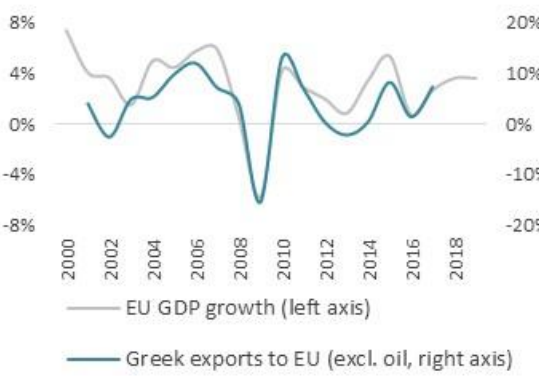
Source: Eurostat, NBG Estimates

Greek exports of goods ^[3]



Source: Eurostat, NBG Estimates

Greek exports to EU



Sources: Eurostat, Ameco, NBG Estimates

^[1] Annual growth rate, last available data: February 2018

^[2] Exports as share of sector's total sales

^[3] Excluding oil sector

^[4] As high (low) growth are classified sectors with growth of exports higher (lower) than the average growth of total exports

FOOD

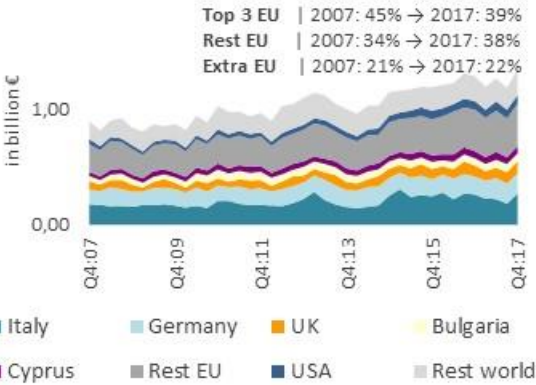
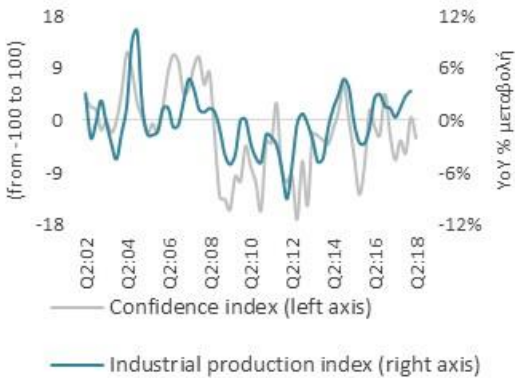
SHARE in
EXPORTS



The food sector is pursuing an **upward trajectory** (+2.5% in the past 12 months² and +4.2% in the past quarter²) with **exports being the main driver** (+2.9% in the past 12 months²). **Vegetables and dairy** products are the main contributors to the upward trend (+6.7% and 5.8% respectively in the past 12 months²).

Production ^[1]

Exports of main products

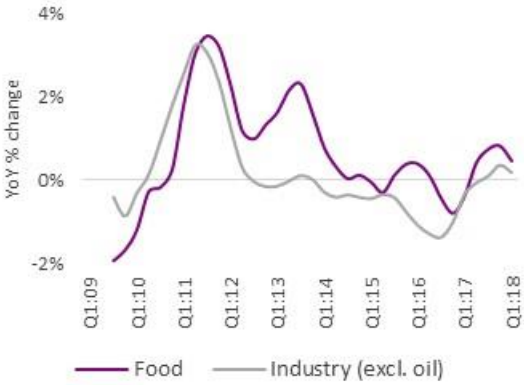
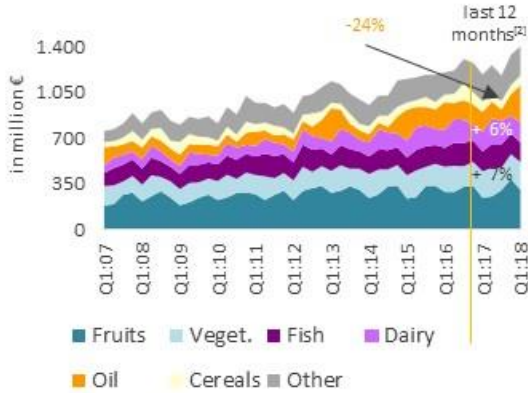


Sources: Eurostat, European Commission, NBG Estimates

Source: Eurostat, NBG Estimates

Main export markets

Producer price index



Source: Eurostat, NBG Estimates

Source: Eurostat, NBG Estimates

Main financial indicators ^[3]

Main macroeconomic indicators ^[3]

2016	Greece	EU
ROA	5,8%	9,6%
EBITDA margin	7,2%	6,9%
Asset turnover	0,8	1,4
Debt to Equity	1,4	1,4
Debt to EBITDA	6,7	2,9
Receivables to Sales	31%	14%
growth of assets	-7%	+8%

		Greece	EU
Share in GDP		2,9%	1,6%
Industrial production	12 months ^[2]	+2,5%	+2,2%
	3 months ^[2]	+4,2%	+2,1%
Producer price index	12 months ^[2]	+0,6%	+2,9%
	3 months ^[2]	+0,1%	+1,2%
Exports	12 months ^[2]	+2,9%	+5,3%
	3 months ^[2]	+15,9%	+3,3%

Sources: Icap database, Bach database, NBG Estimates

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018
^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018, Greek Producer price index: March 2018)
^[3] Reference years | Main financial indices: 2016, GDP: 2016

BASIC METALS

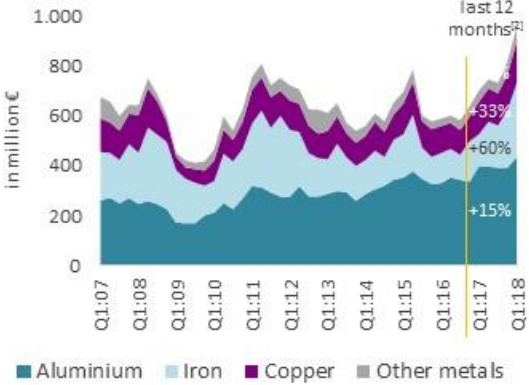
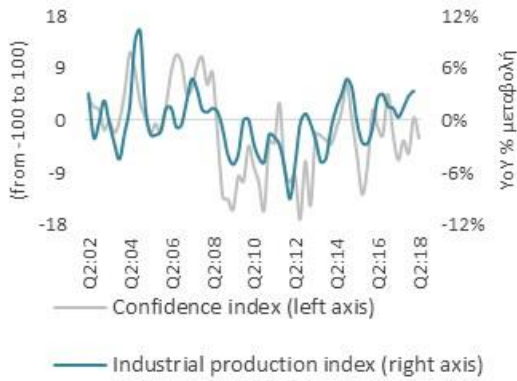
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EXPORTS



This **steady export momentum** of this sector (+28% in the past 12 months² and +28% in the past quarter²) – with iron and aluminum being the leading metals (+60% and 15% respectively²) – has boosted the production of metals in Greece (+18% in the past 12 months and 1.4% in the past quarter²).

Production ^[1]

Exports of main products

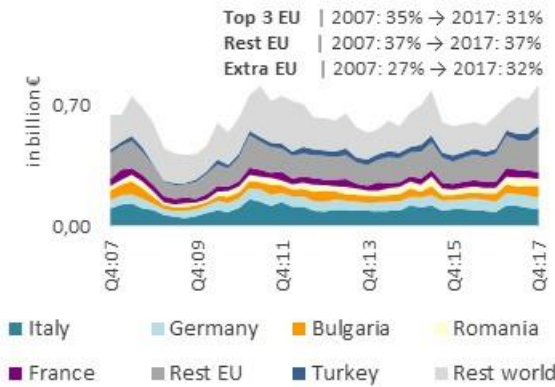


Sources: Eurostat, European Commission, NBG Estimates

Source: Eurostat, NBG Estimates

Main export markets

Producer price index ^[3]



Source: Eurostat, NBG Estimates

Sources: Eurostat, Bloomberg NBG Estimates

Main financial indicators ^[4]

Main macroeconomic indicators ^[4]

2016	Greece	EU		Greece	EU
ROA	4,8%	7,0%	Share in GDP	1,1%	0,5%
EBITDA margin	9,2%	6,0%	Industrial production	12 months ^[2]	+18,0%
Asset turnover	0,5	1,2		3 months ^[2]	+1,4%
Debt to Equity	1,9	1,7	Producer price index	12 months ^[2]	+3,8%
Debt to EBITDA	10,7	4,0		3 months ^[2]	+3,0%
Receivables to Sales	19%	16%	Exports	12 months ^[2]	+27,5%
growth of assets	-3%	+13%		3 months ^[2]	+27,7%

Sources: Icap database, Bach database, NBG Estimates

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018

^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018)

^[3] 2 quarters lead for metal prices

^[4] Reference years | Main financial indices: 2016, GDP: 2016

NON METALIC MINERALS

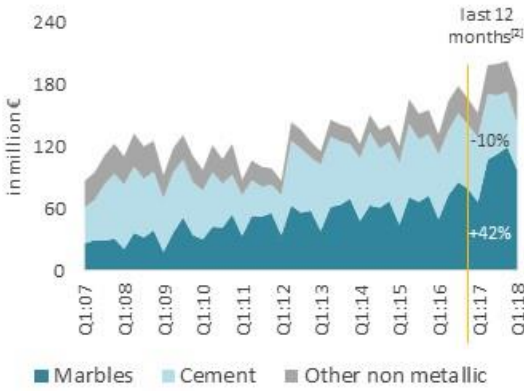
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EXPORTS



Despite the dynamic that **exports** lend to this sector (+18% in the past 12 months and +15% in the past quarter y-o-y), especially exports of **marble products** (+42% and +15% respectively), the sector's industrial production shows only weak signs that the stagnation is starting to reverse (-1.8% in the past 12 months and -0.6% in the past quarter y-o-y).

Production ^[1]

Exports of main products

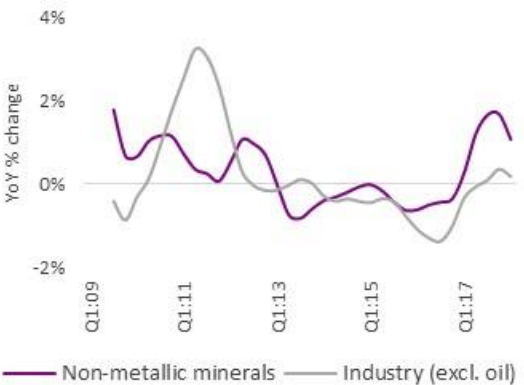
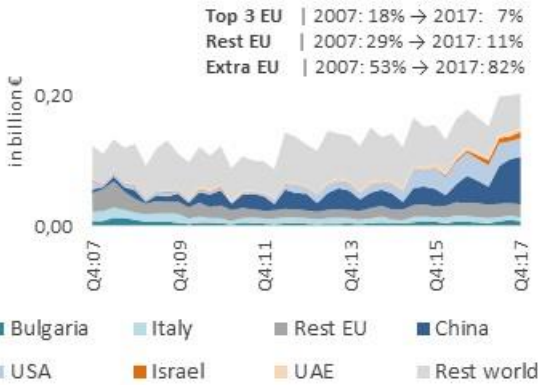


Sources: Eurostat, European Commission, NBG Estimates

Source: Eurostat, NBG Estimates

Main export markets

Producer price index



Source: Eurostat, NBG Estimates

Source: Eurostat, NBG Estimates

Main financial indicators ^[3]

Main macroeconomic indicators ^[3]

2016	Greece	EU
ROA	3,6%	7,1%
EBITDA margin	9,1%	9,9%
Asset turnover	0,4	0,7
Debt to Equity	1,1	1,2
Debt to EBITDA	8,0	4,0
Receivables to Sales	42%	22%
growth of assets	-12%	+4%

		Greece	EU
Share in GDP		0,6%	0,5%
Industrial production	12 months ^[2]	-1,8%	+4,4%
	3 months ^[2]	-0,6%	+3,8%
Producer price index	12 months ^[2]	+1,4%	+1,0%
	3 months ^[2]	+0,5%	+1,0%
Exports	12 months ^[2]	+18,0%	+3,7%
	3 months ^[2]	+14,7%	+7,0%

Sources: Icap database, Bach database, NBG Estimates

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018

^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018, Greek Producer price index: March 2018)

^[3] Reference years | Main financial indices: 2016, GDP: 2016

CHEMICALS

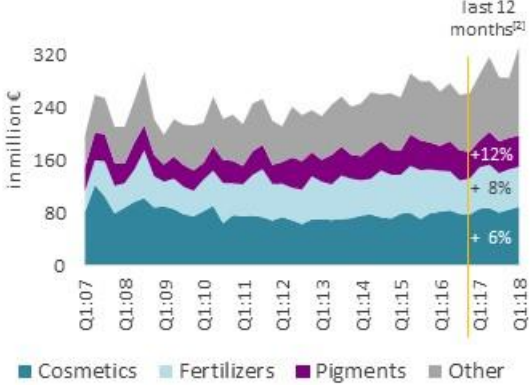
SHARE in
EXPORTS



Industrial production of chemicals continues its **positive momentum** (+2.9% in the past 12 months² and 5.1% in the past quarter²), with significant **support from exports** (+12%² and +10%² respectively), mainly towards the Balkans (+30% to Romania and 22% to Bulgaria over the last year²).

Production ^[1]

Exports of main products

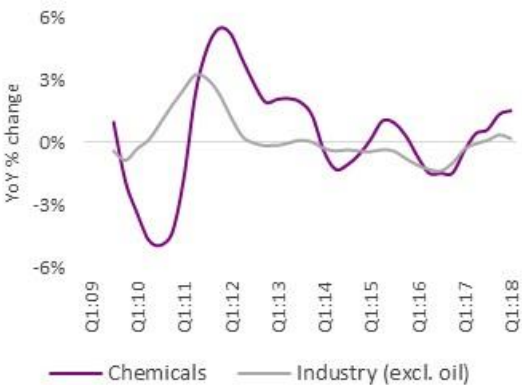
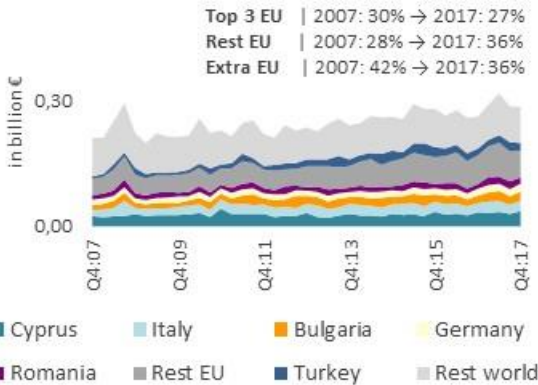


Sources: Eurostat, European Commission, NBG Estimates

Source: Eurostat, NBG Estimates

Main export markets

Producer price index



Source: Eurostat, NBG Estimates

Source: Eurostat, NBG Estimates

Main financial indicators ^[3]

Main macroeconomic indicators ^[3]

2016	Greece	EU
ROA	6,5%	10,2%
EBITDA margin	8,8%	14,2%
Asset turnover	0,7	0,7
Debt to Equity	1,3	1,1
Debt to EBITDA	5,0	2,8
Receivables to Sales	36%	16%
growth of assets	-8%	+7%

	Greece	EU
Share in GDP	0,7%	1,1%
Industrial production	12 months ^[2] +2,9%	+2,8%
	3 months ^[2] +5,1%	+2,5%
Producer price index	12 months ^[2] +1,1%	+4,0%
	3 months ^[2] +1,3%	+2,9%
Exports	12 months ^[2] +12,1%	+6,7%
	3 months ^[2] +10,2%	+10,8%

Sources: Icap database, Bach database, NBG Estimates

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018
^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018, Greek Producer price index: March 2018)
^[3] Reference years | Main financial indices: 2016, GDP: 2016

PHARMACEUTICALS

SHARE in
EXPORTS



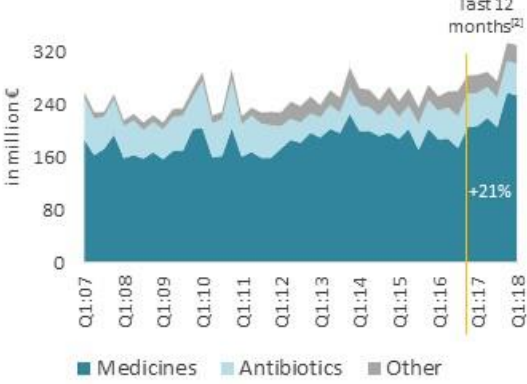
With the domestic market in stagnation, the **growth of production** in this sector (+19% in the past 12 months²) is the result of **external demand**. More specifically, exports by Greek pharmaceutical industries present a stronger dynamic than the dynamic of total Greek exports of medicines (+14% in the past 12 months²) which include re-exports (pharmaceutical products that are imported into Greece and then exported back out to other countries).

Production ^[1]



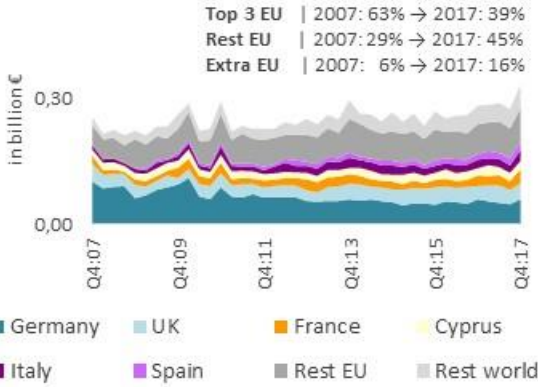
Sources: Eurostat, European Commission, NBG Estimates

Exports of main products



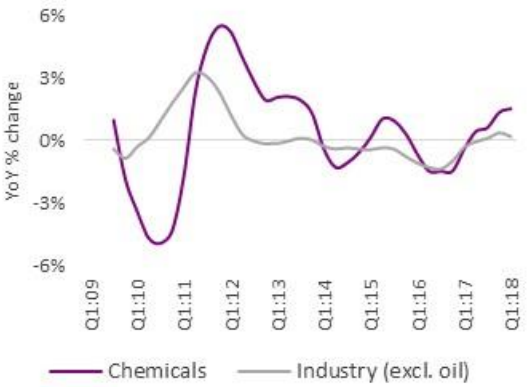
Source: Eurostat, NBG Estimates

Main export markets



Source: Eurostat, NBG Estimates

Producer price index



Source: Eurostat, NBG Estimates

Main financial indicators ^[3]

2016	Greece	EU
ROA	6,4%	11,2%
EBITDA margin	8,4%	19,5%
Asset turnover	0,8	0,6
Debt to Equity	1,5	0,9
Debt to EBITDA	3,9	2,3
Receivables to Sales	34%	18%
growth of assets	-4%	12%

Sources: Icap database, Bach database, NBG Estimates

Main macroeconomic indicators ^[3]

		Greece	EU
Share in GDP		0,3%	0,9%
Industrial production	12 months ^[2]	+19,0%	+2,4%
	3 months ^[2]	+21,1%	+1,7%
Producer price index	12 months ^[2]	-4,2%	-0,2%
	3 months ^[2]	-3,8%	-0,9%
Exports	12 months ^[2]	+14,4%	+6,1%
	3 months ^[2]	+20,8%	+4,2%

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018

^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018, Greek Producer price index: March 2018)

^[3] Reference years | Main financial indices: 2016, GDP: 2016

PLASTICS

SHARE in
EXPORTS



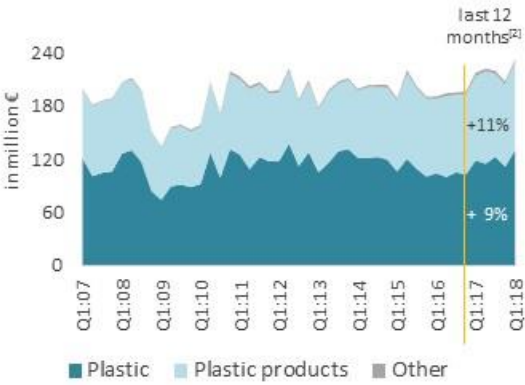
Boosted by the **positive trend in exports** (+10% in the past 12 months²), industrial production of plastics in Greece is growing at an **accelerating rate** over the last months (+2.5% in the past 12 months² and 7% in the past quarter²).

Production ^[1]

Exports of main products



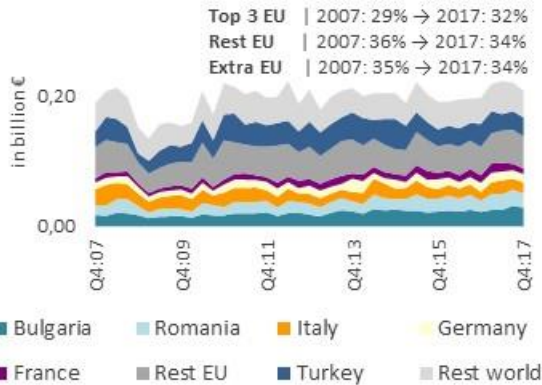
Sources: Eurostat, European Commission, NBG Estimates



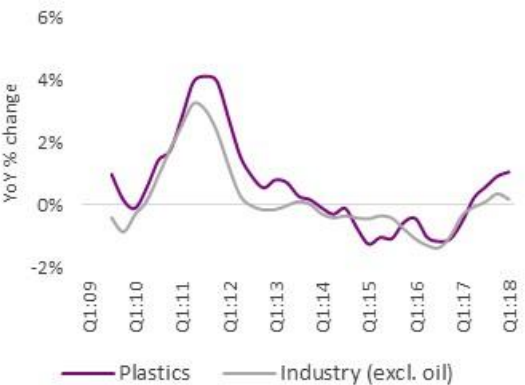
Source: Eurostat, NBG Estimates

Main export markets

Producer price index



Source: Eurostat, NBG Estimates



Source: Eurostat, NBG Estimates

Main financial indicators ^[3]

Main macroeconomic indicators ^[3]

2016	Greece	EU
ROA	8,6%	12,0%
EBITDA margin	12,5%	10,1%
Asset turnover	0,7	1,2
Debt to Equity	0,8	1,3
Debt to EBITDA	3,2	2,2
Receivables to Sales	34%	18%
growth of assets	-14%	+6%

Sources: Icap database, Bach database, NBG Estimates

	Greece	EU
Share in GDP	0,2%	0,3%
Industrial production	12 months ^[2] +2,5%	+4,6%
	3 months ^[2] +7,0%	+4,4%
Producer price index	12 months ^[2] +0,8%	+1,1%
	3 months ^[2] +1,0%	+1,3%
Exports	12 months ^[2] +9,7%	+8,5%
	3 months ^[2] +4,7%	+7,3%

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018
^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018, Greek Producer price index: March 2018)
^[3] Reference years | Main financial indices: 2016, GDP: 2016

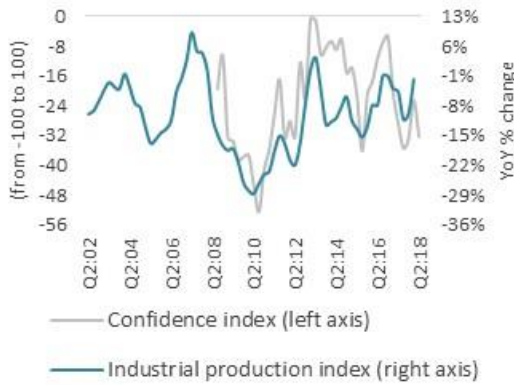
CLOTHING & FOOTWEAR

SHARE in
EXPORTS



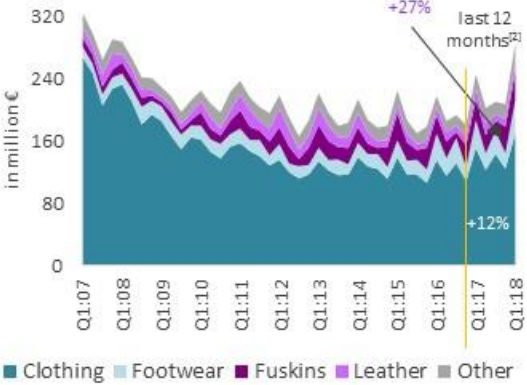
Despite a **positive export story** (+15% in the past 12 months²), the clothing and shoes sector in Greece remains in a downward trajectory. **Industrial production has contracted** by 6.3% in the past 12 months² under the pressure of domestic demand (with the domestic market declining by 4% over the same period).

Production ^[1]



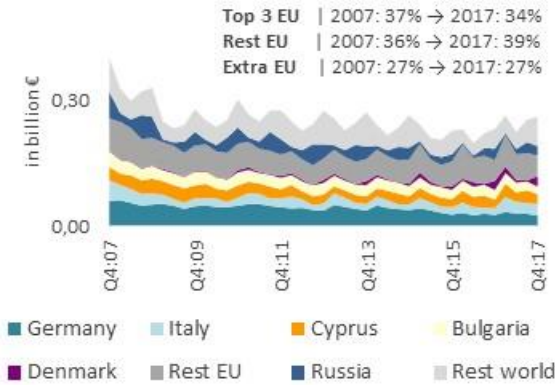
Sources: Eurostat, European Commission, NBG Estimates

Exports of main products



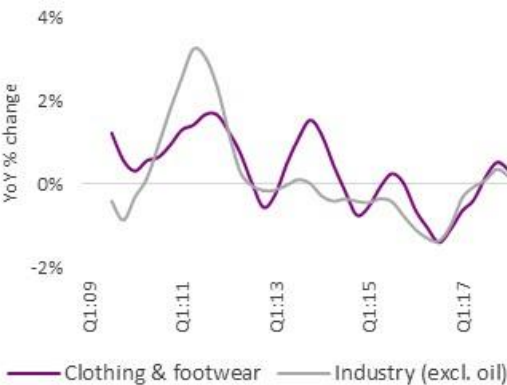
Source: Eurostat, NBG Estimates

Main export markets



Source: Eurostat, NBG Estimates

Producer price index



Source: Eurostat, NBG Estimates

Main financial indicators ^[3]

2016	Greece	EU
ROA	3,3%	9,7%
EBITDA margin	5,0%	8,4%
Asset turnover	0,7	1,2
Debt to Equity	0,9	1,7
Debt to EBITDA	3,2	2,2
Receivables to Sales	34%	18%
growth of assets	-14%	+6%

Sources: Icap database, Bach database, NBG Estimates

Main macroeconomic indicators ^[3]

		Greece	EU
Share in GDP		0,2%	0,7%
Industrial production	12 months ^[2]	-6,3%	+1,4%
	3 months ^[2]	-0,5%	+2,7%
Producer price index	12 months ^[2]	+0,3%	+0,4%
	3 months ^[2]	+0,1%	+0,4%
Exports	12 months ^[2]	+14,5%	+7,4%
	3 months ^[2]	+10,8%	+7,6%

Sources: Eurostat, El.Stat., NBG Estimates

^[1] Industrial production index is 2 quarters moving average, Confidence index Q2 2018 estimated based on April 2018

^[2] Annual growth rate, last available data: February 2018 (EU exports: January 2018, Greek Producer price index: March 2018)

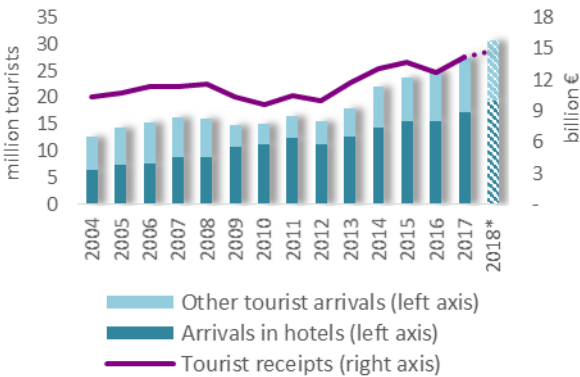
^[3] Reference years | Main financial indices: 2016, GDP: 2016

HOTELS



Recovering from a contracting 2016, **tourism receipts posted an increase** of 11% over the past 12 months¹, approaching a record high of €15 billion. The increase reflected growth in overnight stays, as **daily receipts remained unchanged** (vs increases in competitor countries such as Spain, Portugal and Croatia).

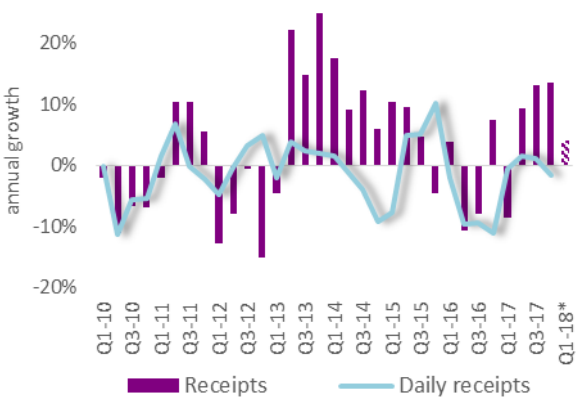
Tourist arrivals



* estimate based on Jan-Feb. 2018

Source: Bank of Greece, Eurostat, NBG Estimates

Tourist receipts (annual growth)



* estimate based on Jan-Feb. 2018

Source: Bank of Greece, Eurostat, NBG Estimates

Country of origin

Origin	Receipts ^[2]		Nights	Daily receipts
	Share 2017	12m ^[1]	12m ^[1]	12m ^[1]
Germany	17%	18%	14%	4%
UK	15%	11%	8%	3%
France	7%	10%	4%	5%
USA	6%	9%	12%	-2%
Other EU	30%	3%	4%	-1%
Other non-EU	25%	17%	23%	-4%
Greece total	100%	11%	11%	0,1%

Source: Bank of Greece, Eurostat, NBG Estimates

Main competitors

Destination	Receipts ^[2]		Nights	Daily receipts
	Billion €	12m ^[1]	12m ^[1]	12m ^[1]
Spain	61	12%	3,7%	7,7%
Italy	39	7%	6,3%	0,7%
Turkey	20	26%	30%	-2,7%
Portugal	15	19%	8,8%	9,4%
Croatia	10	10%	6,1%	3,9%
Competitors average	29	15%	11%	3,5%
Greece	15	11%	11%	0,1%

Source: Bank of Greece, Eurostat, Turkey Ministry of Tourism, NBG Estimates

Main financial indicators

2016	Greece	EU
ROA	4,1%	7,0%
EBITDA margin	18,3%	16,4%
Asset turnover	0,2	0,4
Debt to Equity	0,6	1,6
Debt to EBITDA	6,6	6,0
Receivables to Sales	14%	0,08
growth of assets	12%	-5%

Source: Icap database, Bach database, NBG Estimates

Main macroeconomic indicators

	Greece	Competitors*
Share in GDP (2017) ^[3]	2,7%	1,6%
Occupancy rate	12m ^[1] 11,7%	5,0%
	3m ^[1] 3,6%	7,3%
Arrivals in hotels	12m ^[1] 8,5%	10,9%
	3m ^[1] 8,5%	8,3%
Length of stay in hotels	12m ^[1] -2,5%	-1,8%
	3m ^[1] -4,3%	-1,9%

* Spain, Italy, Turkey, Portugal, Croatia
Source: Eurostat, El.Stat., NBG Estimates

^[1] Annual growth rate. (Latest update: Receipts, Arrivals: Feb.2018, Nights, Occupancy: Dec.2017)

^[2] Receipts from non domestic tourists (including cruise).

^[3] GDP: estimate for 2017 (q4 based on wider nace activities)

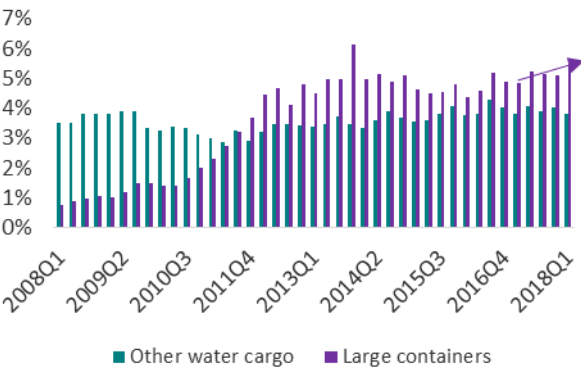
TRANSPORTATION

SHARE in
EU WATER
TRANSPORT

4,3%

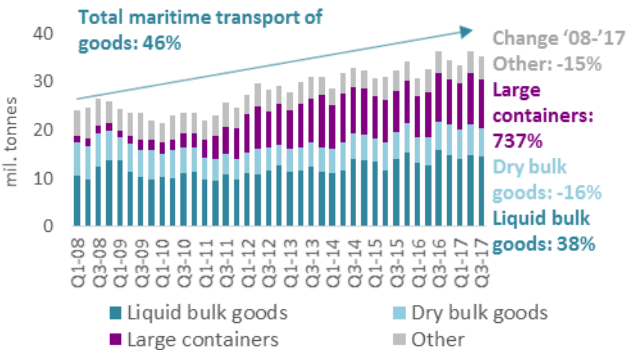
Significant growth was recorded in **container shipping**, up by 14% in the past 12 months¹ and showing an **accelerating trend** (+17% in the last quarter¹). At Greek **airports**, **passenger traffic** shows an upward trend mainly due to flights abroad (+13% in the past 12 months², vs 1.7% for domestic passengers)

Share of Greek ports to the European maritime transport of goods



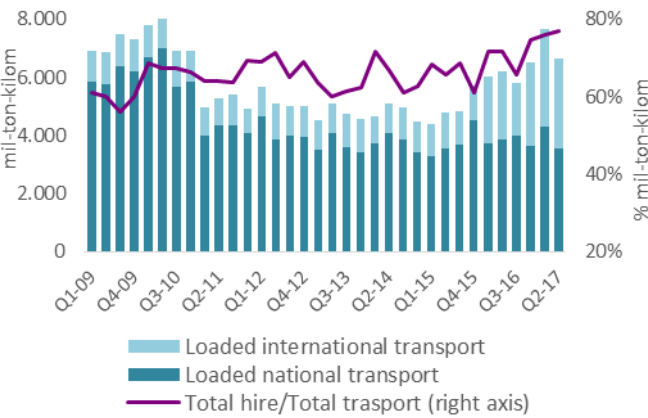
Source: Eurostat, NBG Estimates

Maritime transport of goods



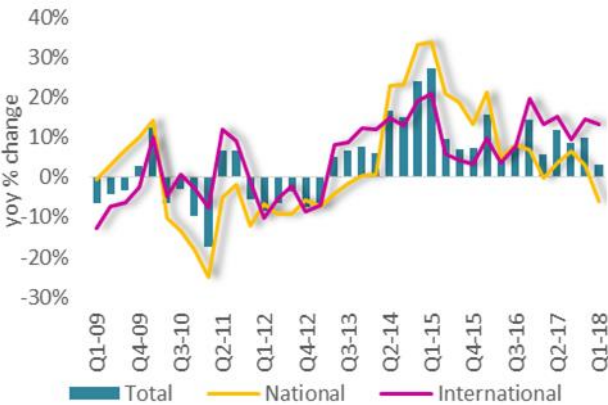
Source: Eurostat, NBG Estimates

Road freight transport



Source: Eurostat, NBG Estimates

Air passenger transport



Sources: Civil Aviation Authority, NBG estimates

Main financial indicators

2016	Greece	EU
ROA	7,1%	8,2%
EBITDA margin	12,4%	12,8%
Asset turnover	0,6	0,6
Debt to Equity	1,4	1,8
Debt to EBITDA	4,8	4,4
Receivables to Sales	24	18%
growth of assets	0%	+15%

Sources: Icap database, Bach database, NBG Estimates

[1] Annual growth rate (last available data: March 2018)

[2] Annual growth rate (last available data: Air passenger transport: Febr.2018)

[3] Annual growth rate (last available data: Maritime transport of goods: Sept. 2017, Employment: Dec. 2017, Road freight transport: June 2017)

Main macroeconomic indicators [3]

	Greece		Europe	
Share in GDP	6,2%		4,5%	
	3m	12m	3m	12m
Employment	+2,2%	+2,7%	+3,2%	+2,2%
Transport of goods				
Road	+7,4%	+16,7%	+4,9%	+4,7%
Maritime (containers)	+2,7%	+8,9%	+3,3%	+2,7%
Maritime (other)	-5,9%	+2,3%	+6,3%	+2,8%

Source: Eurostat, NBG Estimates

CONSTRUCTION

SHARE of GDP  2,5%

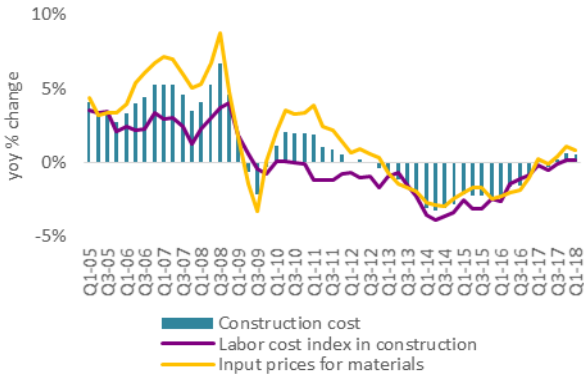
Despite of the fact that the construction sector continues to move in a downward trend in the past 12 months, there are **signs of recovery** in the last quarter of 2017 (with the volume in buildings being recorded on 3% and infrastructure on 2,2%.¹ Additionally, the confidence index shows some **positive signs** in Q2.18 (3 points increase in the past quarter relative to the same period the previous year²) on the back of the upward trend in employment.

Construction activity



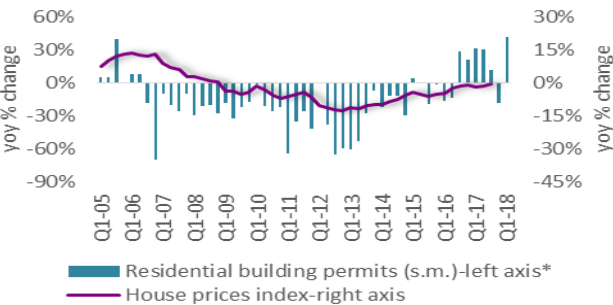
*proxy of the second quarter based on April's data
Sources: Eurostat, Elstat, European Commission, NBG Estimates

Construction cost of new residential buildings



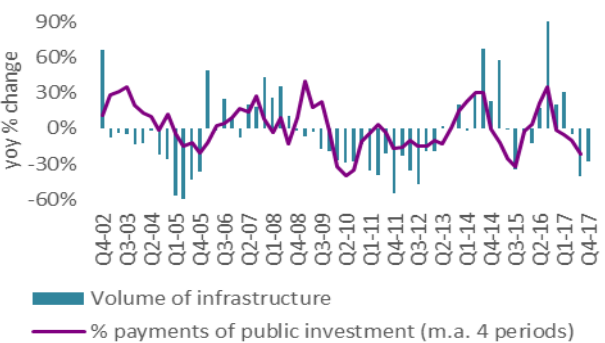
Sources: Eurostat, Elstat, BoG, NBG Estimates

Residential construction activity



*proxy of the 1st quarter based on January's data
Sources: Eurostat, Elstat, BoG, NBG Estimates

Infrastructure activity



Sources: Eurostat, Elstat, BoG, NBG Estimates

Main financial indicators

2016	Greece	EU
ROA	2,2%	5,5%
EBITDA margin	5,1%	8,2%
Asset turnover	0,4	0,7
Debt to Equity	1,0	2,5
Debt to EBITDA	13,8	5,5
Receivables to Sales	45%	28%
growth of assets	-34%	+4%

Sources: Icap database, Bach database, NBG Estimates

Main macroeconomic indicators ^[1]

	Greece		Europe	
Share of GDP	2,5%		5,3%	
	3m	12m	3m	12m
Employment	+1,5%	+1,4%	+2,7%	+2,1%
Volume of construction	+8,6%	-5,5%	+3%	+3%
Buildings	+3%	-3,5%	+4%	+4%
Infrastructure	+2,2%	-7,5%	+2%	+2%
Building permits (s.m.)	+14%	+21%	+8%	+11%
Construction cost	1%	0%	+2%	+2%

Sources: Eurostat, TrE, NBG Estimates

^[1] Annual growth rate (last available data: Construction cost: March 2018, Employment, Buildings, Infrastructure, Volume of construction: Dec. 2017, Building permits: Jan. 2018).

^[2] Annual growth rate (last available data: April 2018).

RETAIL TRADE

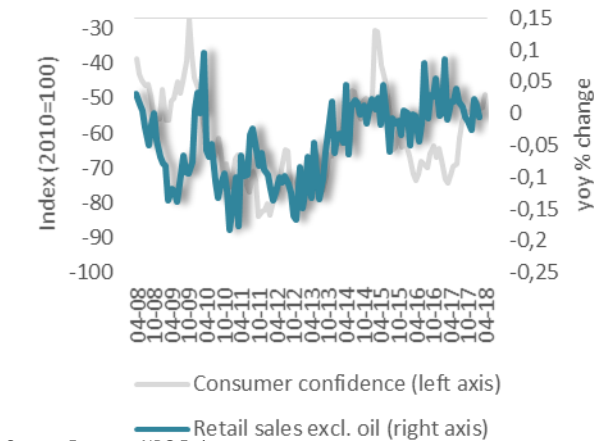
SHARE of
GDP



With **consumer confidence returning** to the levels of early 2015, retail sales posted growth for the last year¹ (+0,8% in terms of volume) – the highest increases being recorded in the sector of furnishing (up by 7,2% in the past 12 months).

Retail sales and consumer confidence

Retail sales index (volume)^[1]



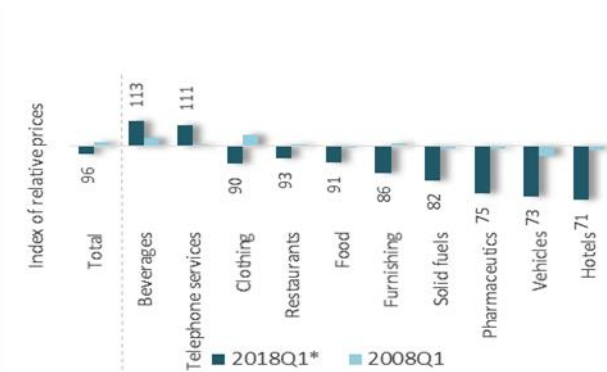
Source: Eurostat, NBG Estimates

	Weighting 2017	3m	12m
Retail trade	35%	+0,8%	+0,8%
Super market	44%	1,9%	+0,5%
Department stores	6%	-2,6%	+0,1%
Specified stores			
Food	4%	0%	-0,8%
Clothing	8%	+2,7%	+2,8%
Pharmaceuticals- Cosmetics	9%	+3,5%	+2,9%
Information equipment	3%	+12,3%	-18,3%
Furnishing	6%	+8,1%	+7,2%

Source: Eurostat, NBG Estimates

Relative prices (Greece-Europe)

Consumer price index^[2]



*proxy based on the first two months

Source: Eurostat, NBG Estimates

	Weighting 2018	3m	12m
Total goods	71%	+1,1%	+1%
Food	36%	-1,2%	0,0%
Beverages (alcohol.)	10%	+7,1%	+6%
Personal effects	1%	-0,4%	-0,9%
Clothing	7%	2,6%	-0,7%
Pharmaceuticals	3%	-0,2%	-4%
Entertainment	7%	-1,2%	-0,5%
Furnishing	6%	-1,9%	-2,9%

Source: Eurostat, NBG Estimates

Main financial indicators

Structure of retail trade value added

2016	Greece	EU
ROA	2,2%	8,3%
EBITDA margin	1,9%	4,5%
Asset turnover	1,1	1,9
Debt to Equity	2,1	1,9
Debt to EBITDA	16,2	3,2
Receivables to Sales	5%	5%
growth of assets	-16%	+5%

Sources: Icap database, Bach database, NBG Estimates

	Greece			EU
	2000	2008	2017	2017
Share of GDP	7,8%	3,6%	3,1%	4%
Super market	22%	25%	44%	31%
Household equipment	25%	21%	6%	12%
Entertainment-Technol.	7%	7%	12%	7%
Clothing	16%	12%	8%	10%
Food	10%	10%	4%	6%
Pharmac.-Cosmetics	7%	6%	9%	8%
E-commerce	0%	0,2%	16%	4%

Source: Eurostat, NBG Estimates

^[1] Annual growth rate (last available data: Febr. 2018)

^[2] Annual growth rate (last available data: Febr. 2018)

WHOLESALE TRADE AND CARS

SHARE of
GDP



Wholesale trade moved up in 2017 both in terms of turnover (+3.7% in the past 12 months¹) and employment (+10%)¹. As regards the car trade, **new registrations presented a significant increase** of 35,4% the last quarter and 23,4% the past 12 months².

Wholesale trade activity

Structure of wholesale trade value added



Source: Eurostat, NBG Estimates

	Greece			EU
	2000	2008	2017	2017
<i>Share of GDP</i>	<i>4,7%</i>	<i>5,6%</i>	<i>5,0%</i>	<i>4,6%</i>
Food	27%	24%	28%	20%
Furnishing	30%	21%	16%	16%
Pharmaceuticals	20%	15%	19%	13%
Machines	8%	9%	11%	16%
Information equipm.	6%	5%	6%	9%
Other	9%	25%	21%	25%

Source: Eurostat, NBG Estimates

*excl. oil, agents

Trade contribution to GDP

Main financial indicators (wholesale trade)



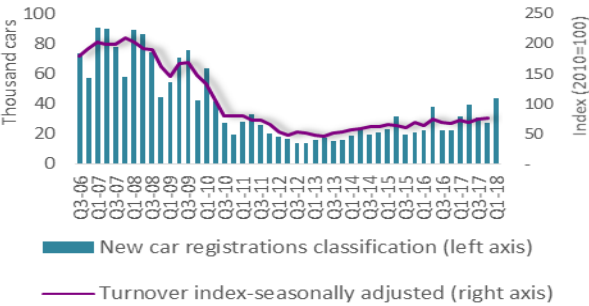
Source: Eurostat, NBG Estimates

2016	Greece	EU
ROA	5,4%	7,9%
EBITDA margin	5,0%	4,7%
Asset turnover	1,1	1,7
Debt to Equity	2,1	1,6
Debt to EBITDA	4,8	2,8
Receivables to Sales	30%	17%
growth of assets	-12%	+4%

Sources: Icap database, Bach database, NBG Estimates

Car trade

Main financial indicators (car trade)



Source: BoG, Elstat, NBG Estimates

2016	Greece	EU
ROA	2,4%	6,2%
EBITDA margin	2,8%	3,1%
Asset turnover	0,9	2,0
Debt to Equity	16,1	2,4
Debt to EBITDA	20,2	4,4
Receivables to Sales	21%	9%
growth of assets	-17%	+3%

Sources: Icap database, Bach database, NBG Estimates

^[1] Annual growth rate (last available data: Dec. 2017)

^[2] Annual growth rate (last available data: March. 2018)

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