10 years of crisis

A smaller but unreformed corporate economy

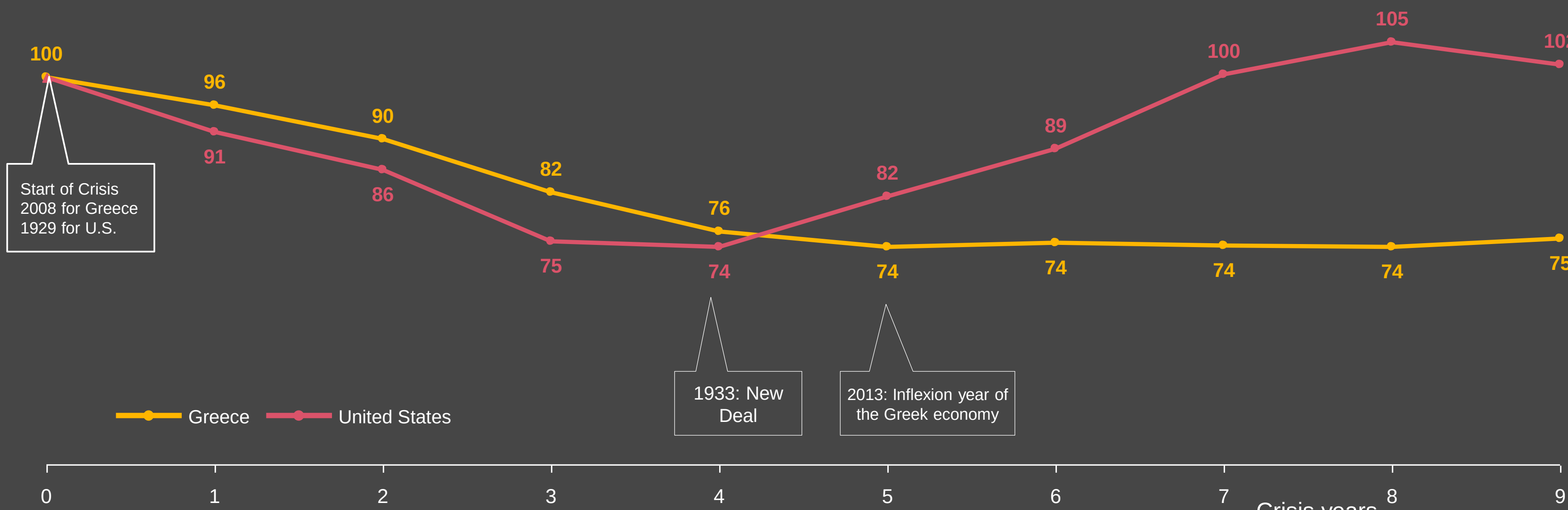
pwc

1

The impact of the crisis

The longest and the deepest crisis in recent history in the western world left its marks on Greece

Greek vs U.S. GDP evolution during crisis years (normalised)



Source: Ameco, U.S. Bureau of Economic Analysis

Although it did not lead to tectonic changes it induced significant drags and shifts in the economy and forced companies to adjust

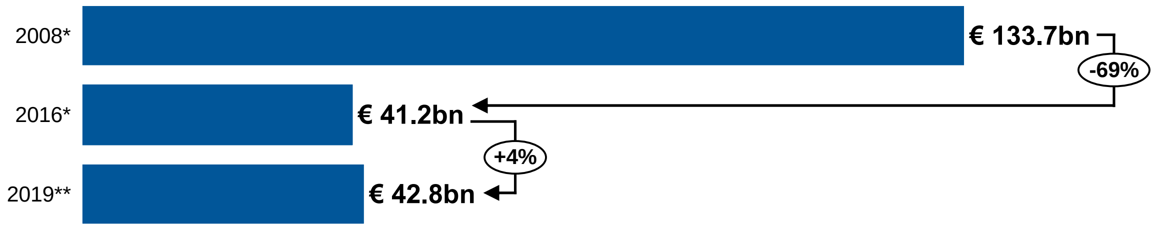
The ASE market capitalisation shrunk 70% by 2016 but the non banking part recovered thereafter

Top 10 listed companies

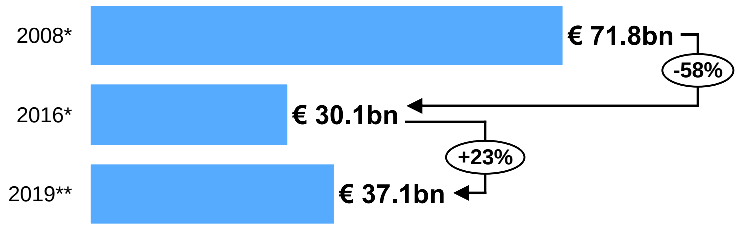
Only two of the four banks in 2008 remained in the Top 10 of market capitalization at the Athens Stock Exchange in 2018

Seven out of ten non financial corporates retained their position in the Top10 of market capitalization in the Athens Stock Exchange

ASE market capitalization
All companies



ASE market capitalization
Excluding financial institutions***



*December 31st

**Latest data (7/1/2019)

***The companies excluded are banks, insurance companies, real estate investment companies, investment groups and Hellenic Exchanges – Athens Stock Exchange SA

Source: Reuters

The Top 10 in terms of revenue non financial sector companies remained almost the same during the crisis

Marinopoulos dropped out of the top 10 and was replaced by Titan

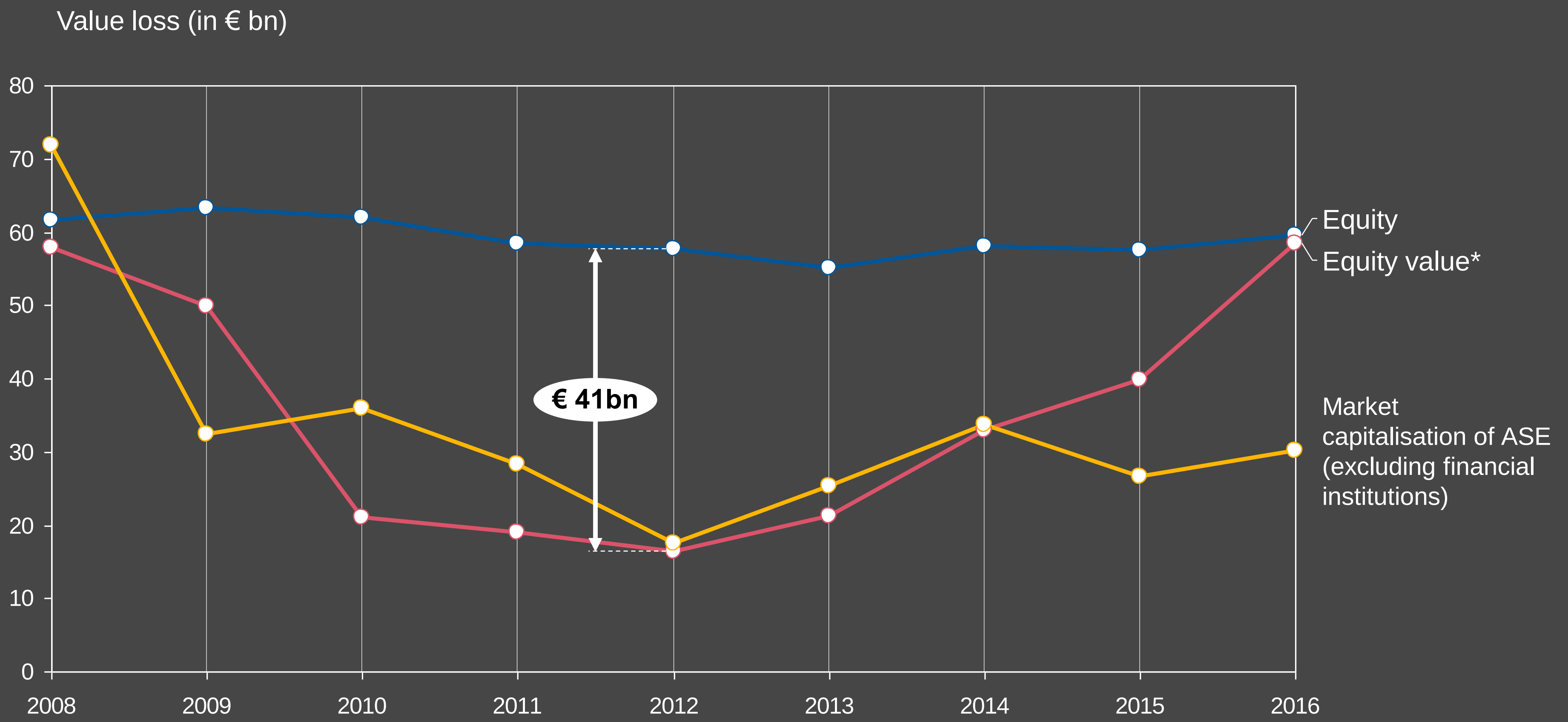
Motor Oil Group had the largest rise in the list coming in 2nd place in 2016, a 4 spot rise

Very few changes, mainly in tourism and construction, in the Top 3 companies by revenue per sector

Top 10 companies by revenue

	2009		2016		
Rank	**Company name**	**Revenues (in € bn)**	**Company name**	**Revenues (in € bn)**	**Rank in 2009**
1	HELPE	6,76	HELPE	6,61	1
2	CCHBC Group	6,54	Motor Oil Group	6,36	6
3	PPC Group	6,03	CCHBC Group	6,22	2
4	OTE Group	5,96	PPC Group	5,17	3
5	OPAP Group	5,44	OPAP Group	4,23	5
6	Motor Oil Group	3,94	OTE Group	3,91	4
7	Viohalco Group	2,30	Viohalco Group	3,11	7
8	Ellaktor Group	2,27	Alfa-Beta Vassilopoulos S.A.	2,18	10
9	Marinopoulos S.A.	1,93	Ellaktor Group	1,94	8
10	Alfa-Beta Vassilopoulos S.A.	1,39	Titan Group	1,51	11

There was a huge value loss in the corporate economy although values recovered by 2016



Equity value=EBITDA sectoral multiple – Net Debt

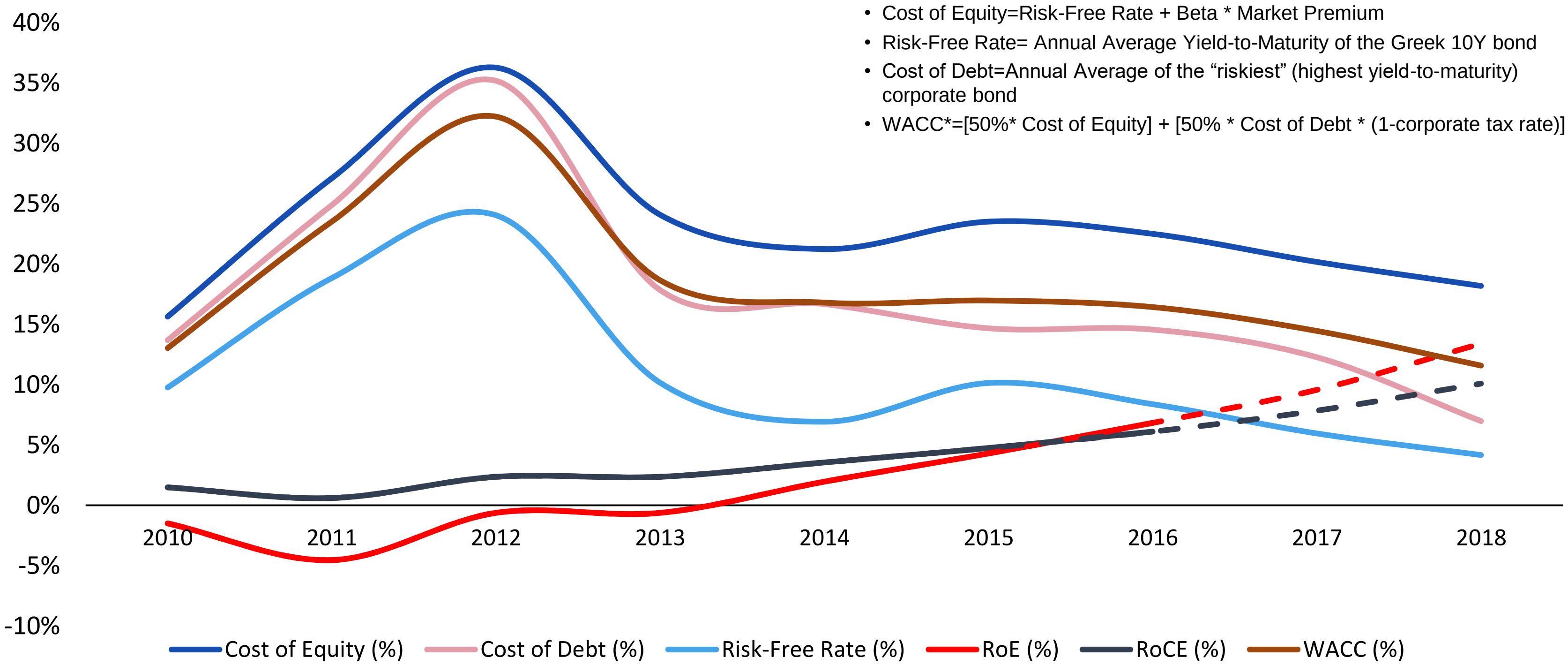
Source: Reuters

A "high cost of capital" environment was created as a result of the crisis and it is persisting

The cost of capital severely outweighs capital returns

Definitions

- Cost of Equity=Risk-Free Rate + Beta * Market Premium
- Risk-Free Rate= Annual Average Yield-to-Maturity of the Greek 10Y bond
- Cost of Debt=Annual Average of the "riskiest" (highest yield-to-maturity) corporate bond
- WACC*=[50%* Cost of Equity] + [50% * Cost of Debt * (1-corporate tax rate)]



Source: Thomson Reuters, Damodaran Database (NYU), OECD, PwC Analysis

* Weighted Average Cost of Capital

2

The response of the firms

Observing around 2,900 companies over the period 2008-2016 to identify the changes in the structure and dynamics of the Greek corporate economy

The sample comprises of companies with revenue exceeding € 10mn in any year during the period 2008-2016

Sample relative to Greek economy

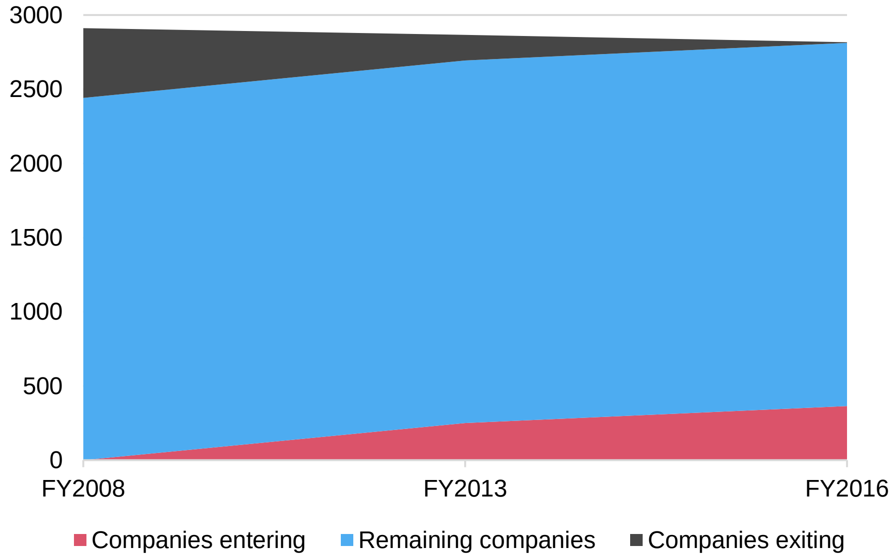
Direct Value Added/ GDP (%)
37.2%

Corporate revenue (%)
57.8%

Sources: European Commission (Ameco), Eurostat, OECD, PwC Analysis

The 2008 sample lost 18% of its population and gained 15% graduating from lower revenues in the course of the years to 2016

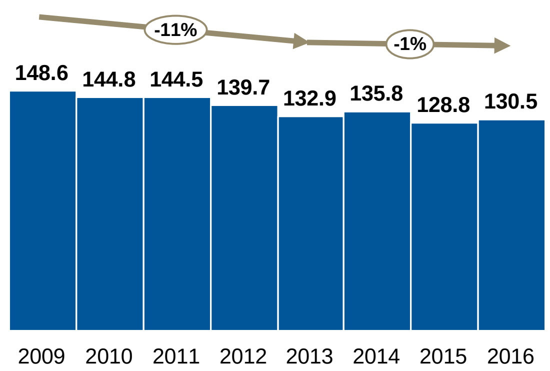
The sample time profile



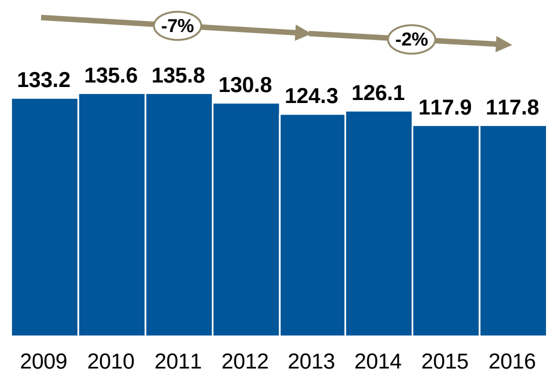
Companies remaining (2008-2016) ***2,441***
Companies exiting from 2009 to 2016: ***444***
Companies entering since 2009: ***364***

The drop in demand was sizeable and quickly led companies to compress costs and reduce investment

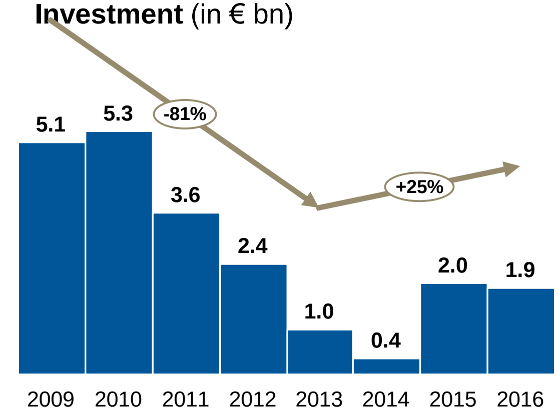
Revenue (in € bn)



Operating costs (in € bn)

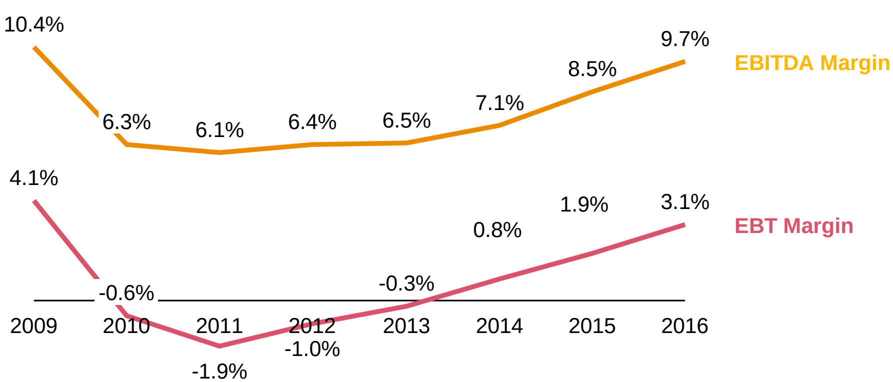


Investment (in € bn)

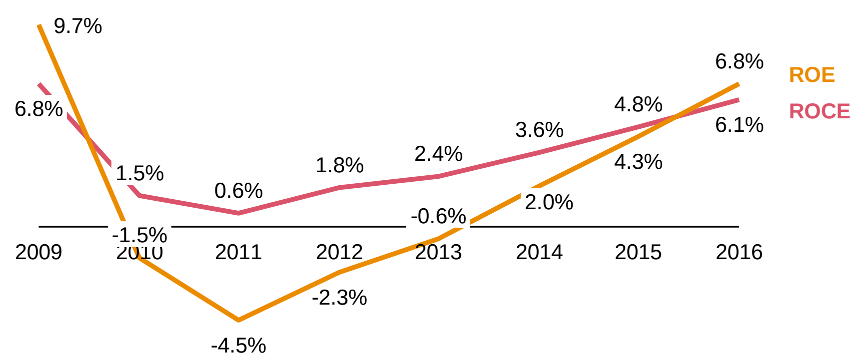


Profitability initially collapsed, but rebounded as a result of cost cutting

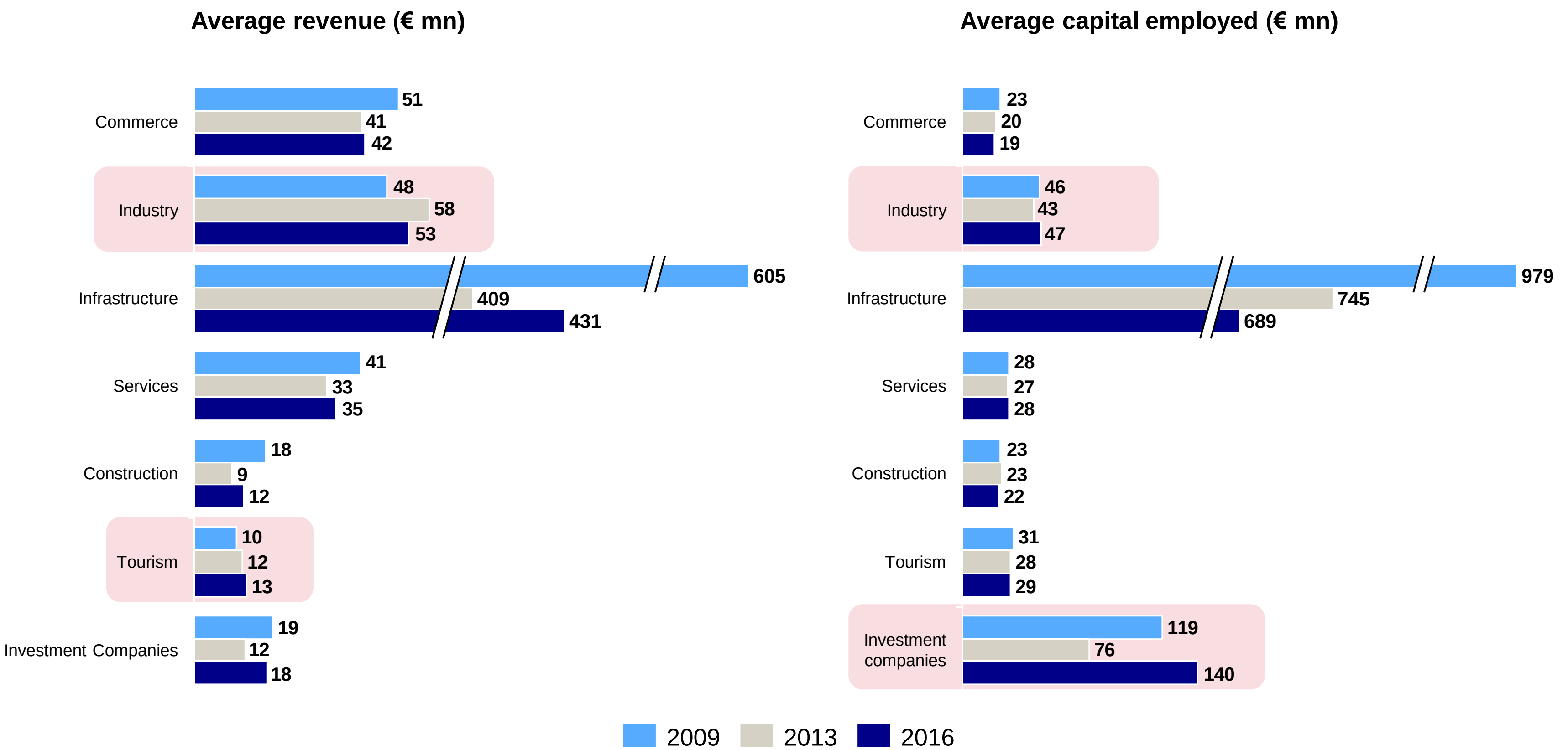
EBITDA and EBT margin
(%)



ROCE and ROE
(%)



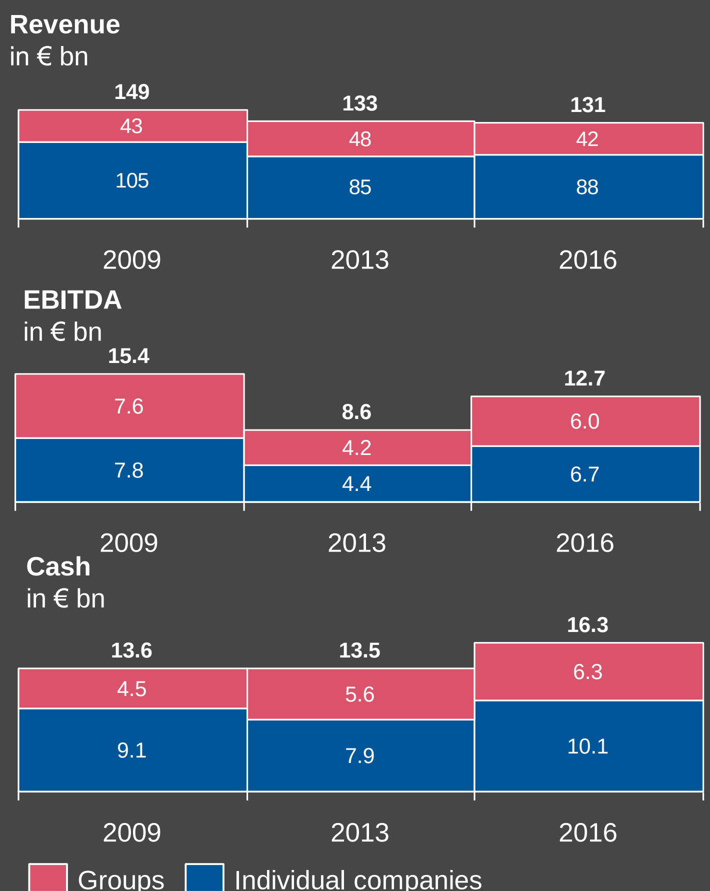
The average size of the firm in general decreased



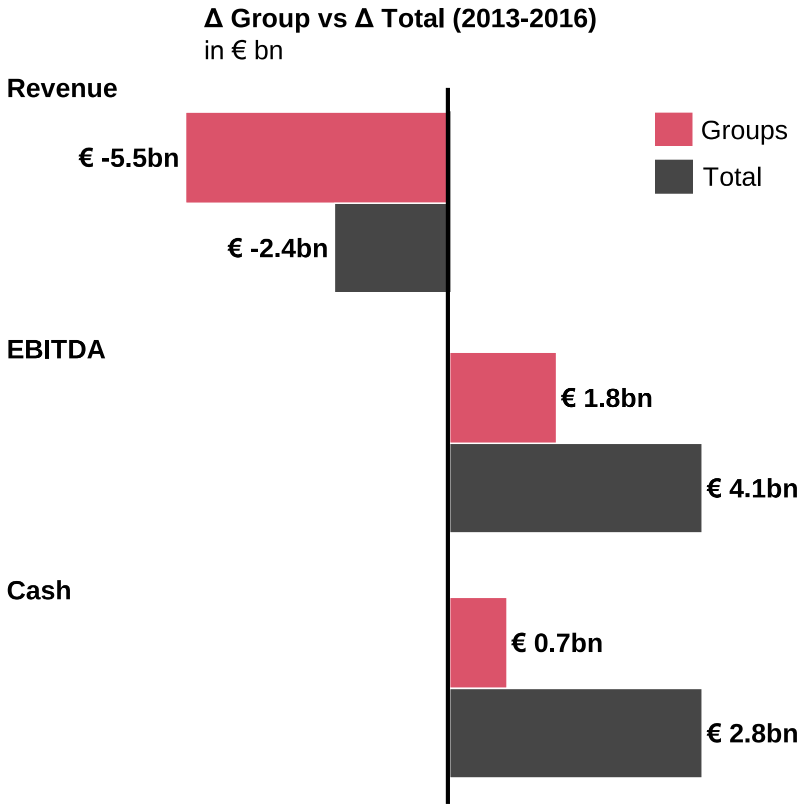
Average firm size in Industry and Tourism went up

Average capital employed in Industry and Investment companies increased

13 Groups strengthened their relative position in the corporate economy, providing stability and accumulating cash

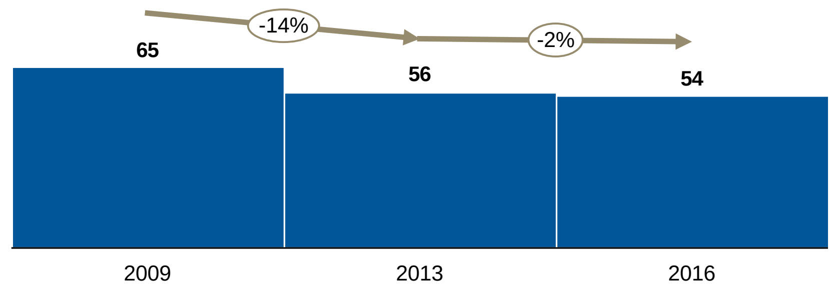


Groups were responsible for the reduction in revenue, for 44% of the increase in profitability and for 35% of the increase in cash, in the period 2013-2016



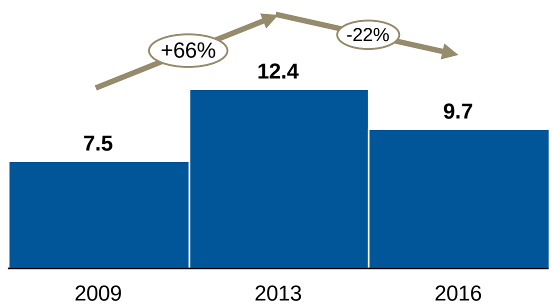
Systematic deleveraging and the elimination of working capital led gradually to the accumulation of cash

Gross Debt
(€ bn)

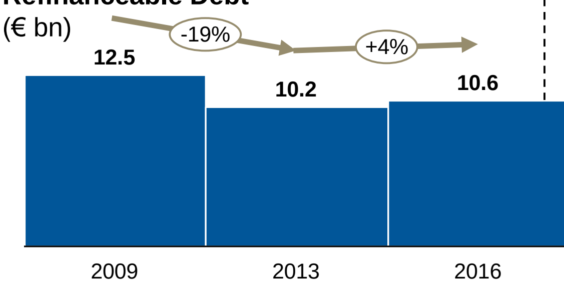


- Debt repayments
- Debt write-offs

Trapped Debt
(€ bn)

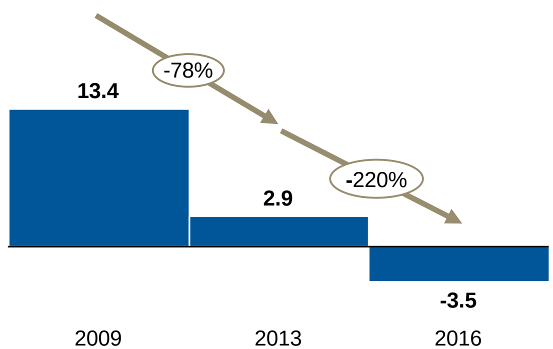


Refinanceable Debt
(€ bn)

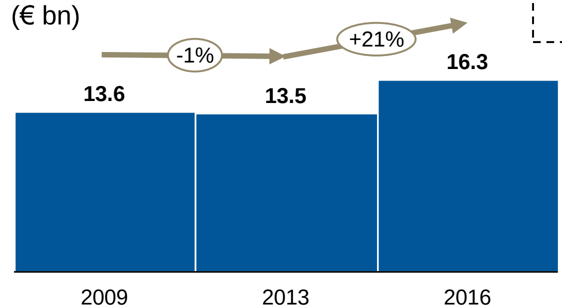


- Persisting Zombies
- Refinancing
- Improvements in Grey firms

Working capital
(€ bn)

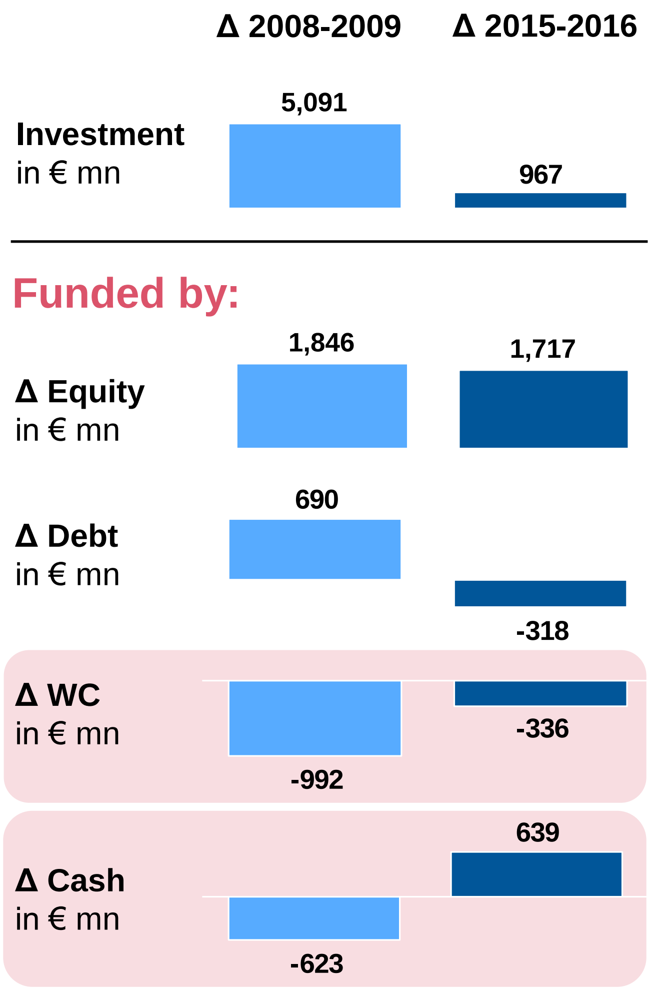


Cash
(€ bn)

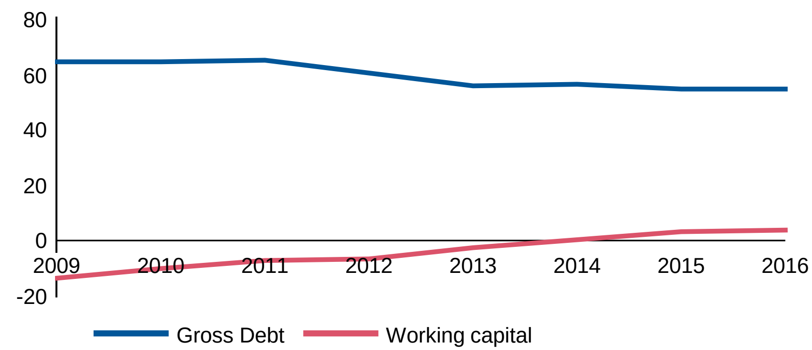


- Payables did not follow costs

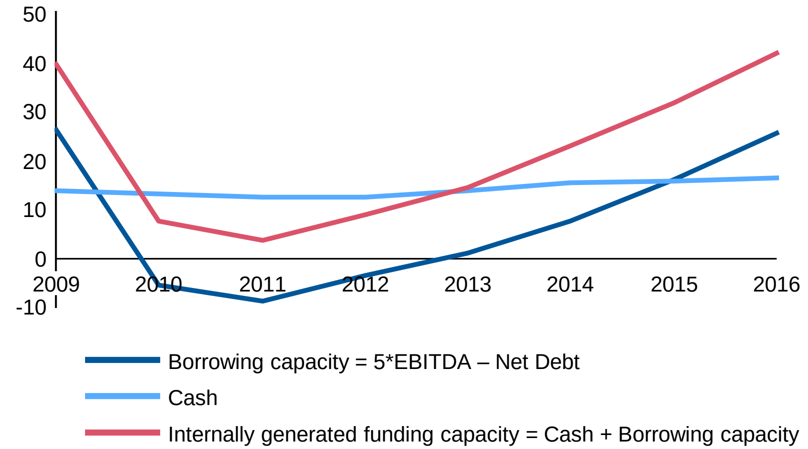
Investment funding switched from the use of equity and debt to the use of own funds, as a result of deleveraging



Overall deleveraging
€ bn

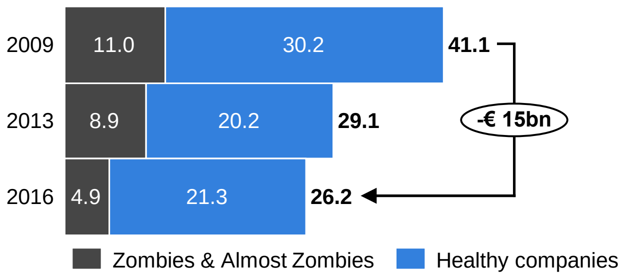


Funding capacity
€ bn



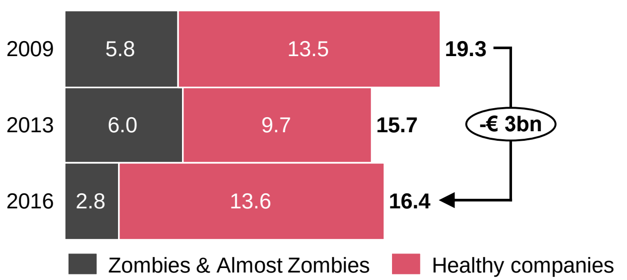
Receivables and payables reflected difficult trading conditions, as well as the resilience of Zombies

Receivables (in € bn)



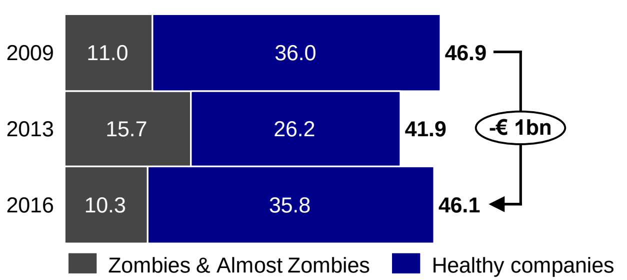
Receivables declined by 36% compared to a 12% revenue reduction, demonstrating a tougher credit environment

Inventories (in € bn)



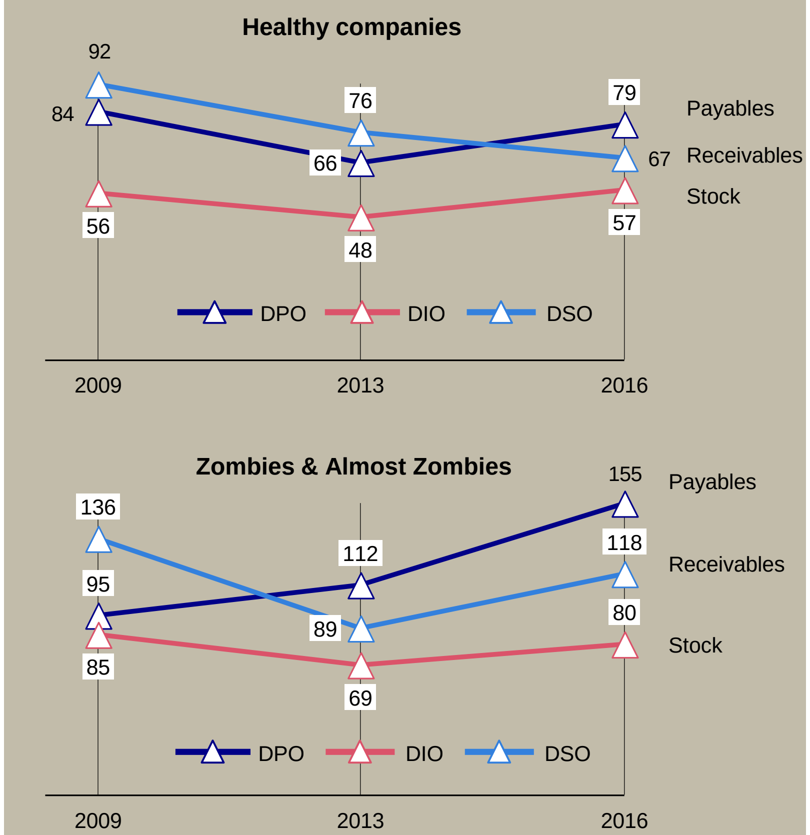
Inventories went down in line with revenue, not revealing intense destocking

Payables (in € bn)



Payables did not practically move, and include ca. € 10bn past obligation that cannot be converted to cash

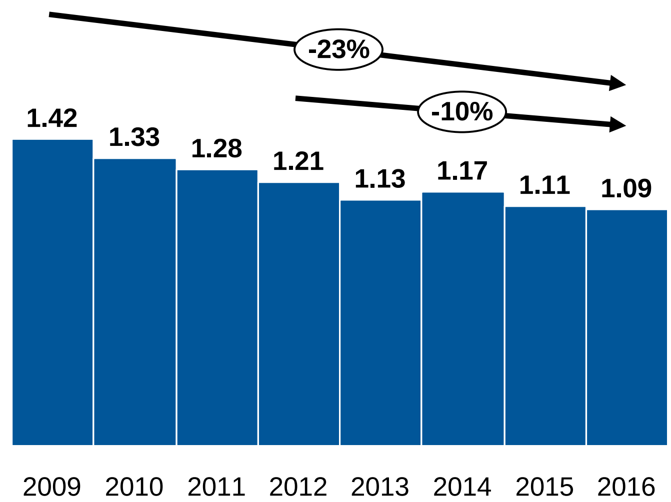
DPO, DSO, DIO
Days of revenue



Capacity utilisation and productivity both went down reflecting a production slack

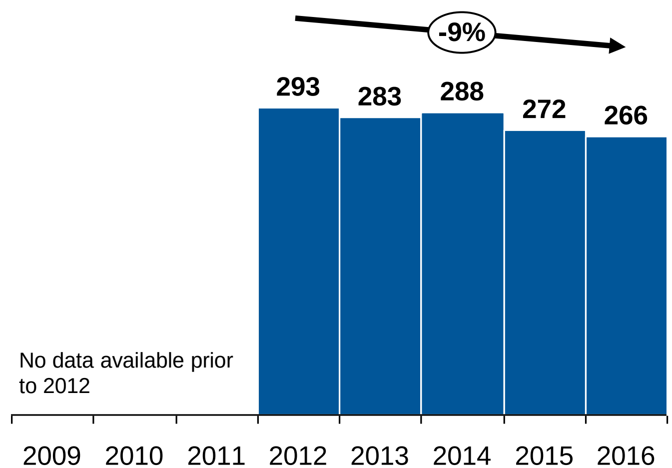
Capacity utilization
(Revenue/ Gross Fixed Assets)

Investment collapsed as there was no need for extra capacity, nor was there a push towards opening up new markets with new products and services

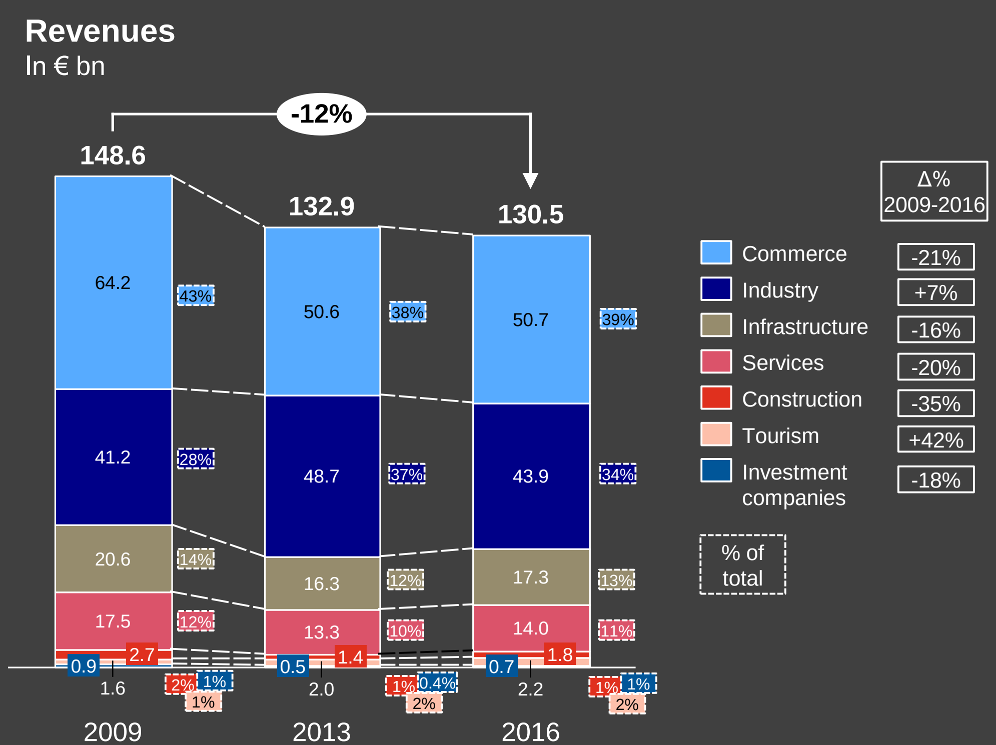


Productivity
(Revenues/ Headcount in € ‘000)

The decline in output after 2012 was faster than labour cost reduction, taking its toll on productivity



There has been a clear revenue shift away from commerce, services, construction and infrastructure to industry

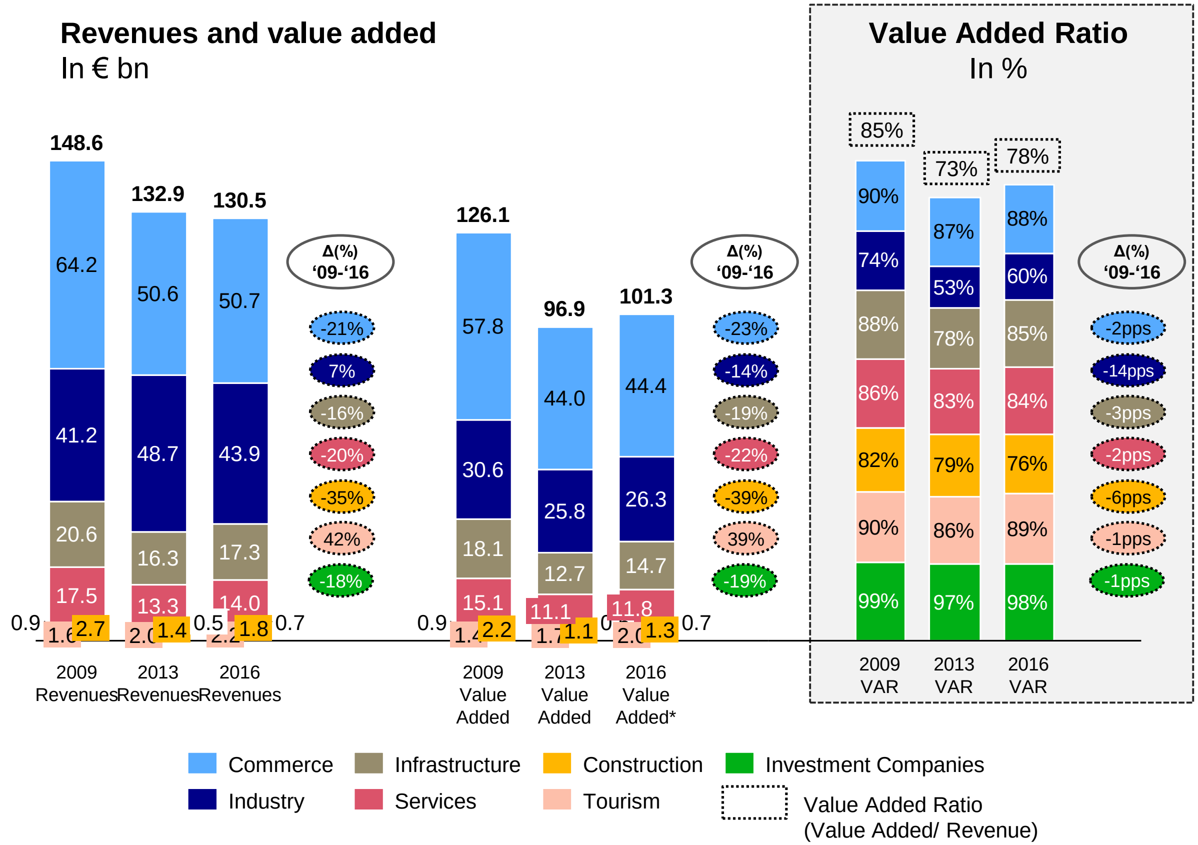


Sectoral relative performance reflects mainly the speed at which corporates in a sector adjusted to a low demand habitat, rather than any deeper competitive process

Revenues dropped by 12%, but value added recorded a decline of 21%, as the result of the shift away from services and lower investment

Decrease in revenues and value added in all sectors except industry and tourism

Value added ratio decreased by 7pps overall

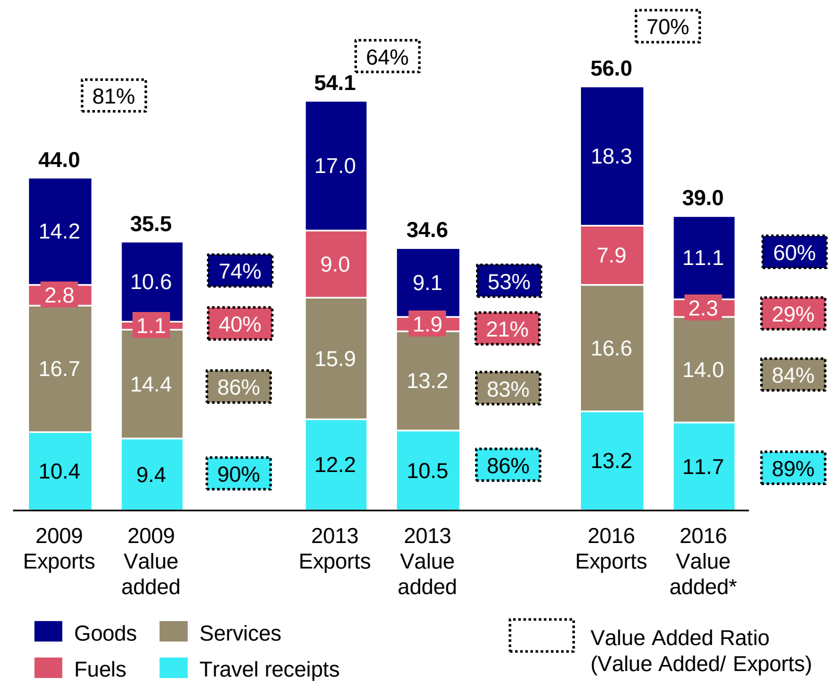


Source: OECD, PwC Analysis
*2015 added value coefficients used

Exports increased by about € 12bn, but the value added component declined

- Increase in exports of goods by € 4bn and travel receipts by €3bn
- Services showed no change
- Drop in value added ratio by 11pps

Exports and value added
In € bn

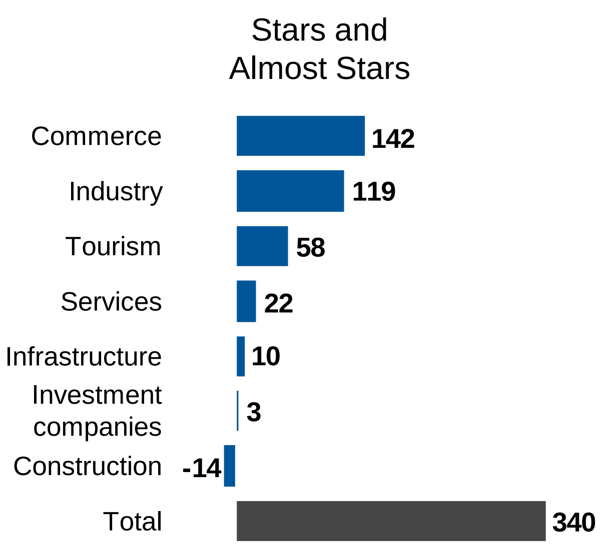


Source: Bank of Greece, OECD, PwC Analysis
*2015 added value coefficients used

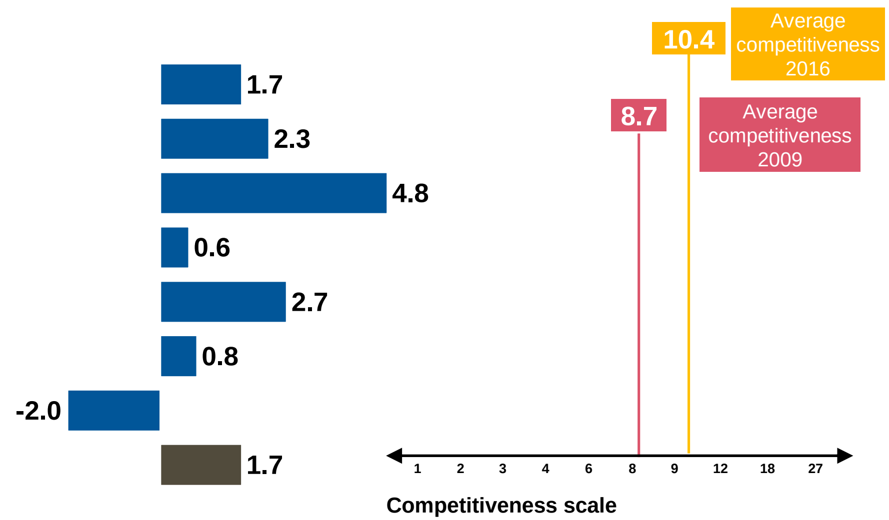
Export volume rose during the crisis, trying to balance the loss of domestic demand, but value added declined as a proportion of exports reflecting the degrading of the production base

Competitiveness improved slightly across all sectors, except construction, but overall the economy remained within the same competitiveness band

Change in number of companies by sector
(Δ 2009-2016)



Change in competitiveness by sector
(Δ 2009-2016) Scale: 1-27



Average competitiveness improved as firms were exiting the crisis, but not as much to raise competitiveness to the next level

3

Critical economic processes were damaged

The corporate economy during the crisis was driven by…

1 ***a loss of demand which suppressed revenue***

- There was a 12% decrease in revenue

2 ***tighter trading conditions***

- Receivable days 25.5% down
- Stocks days roughly the same
- Payables went up by 6.0%

3 ***higher cost of capital***

- Sovereign risk from 0% to 4%
- Corporate cost of debt rose by 16pps during the period 2010-2012
- Cost of equity rose by 17pps

4 ***Zombies survived***

- There are still 745 Zombies (26% of total) operating, of which 312 were Zombies in 2009
- Zombies account for €8.7bn of trapped debt and €10bn payables

…which led to

1 ***swift cost adjustment***

- Costs were reduced by 11.6% and average EBIDTA margin returned to 9.7%

2 ***lack of investment***

- Non replacement of assets
- No new technologies
- No R&D
- Productivity continued to go down

3 ***a marked change in funding***

- Debt decreased by €10bn
- Equity decreased by about €4bn
- The diminishing funding needs were satisfied by creditors' financing
- Overall funding became shorter term

4 ***less complexity and value added***

- Complexity and value added diminished by 7pps
- Exports rose during the crisis, but their relative value added dropped

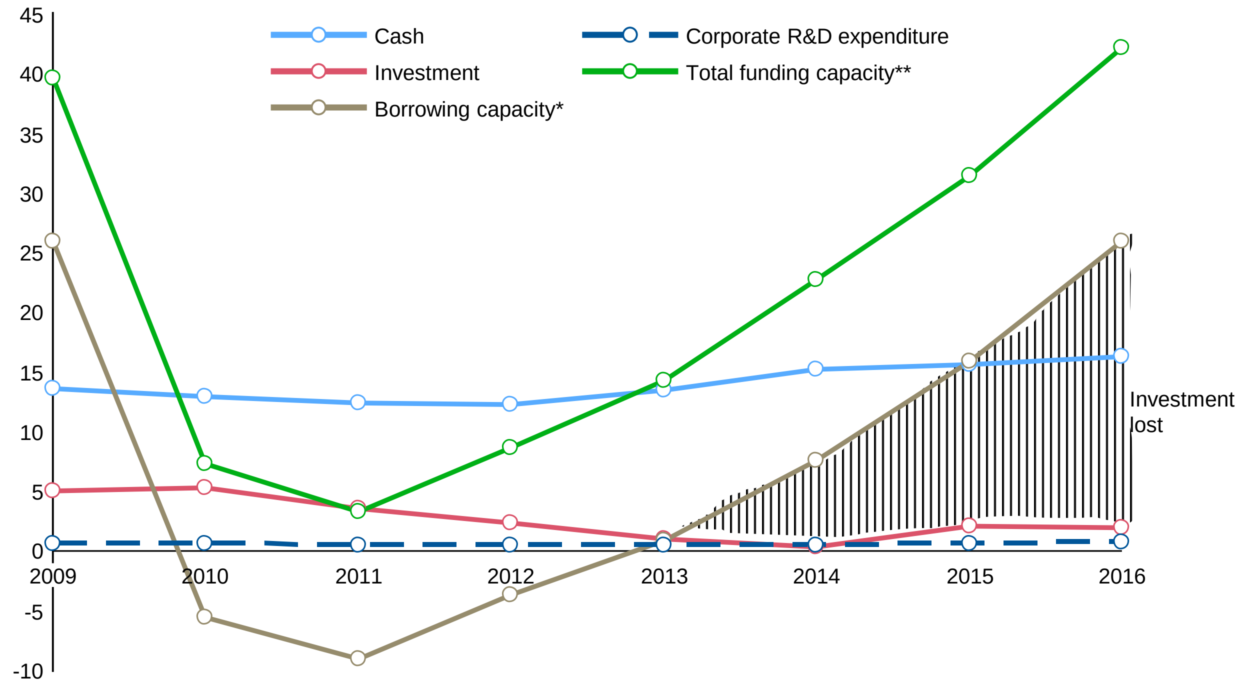
The investment loop has been dislodged

Funding capacity by far exceeds investment, revealing a damaged investment process

R&D remained dramatically weak throughout the crisis and there have been no sizeable manifested developments in new products or services

The strained investment process is a contributing factor to the diminishing level of value added

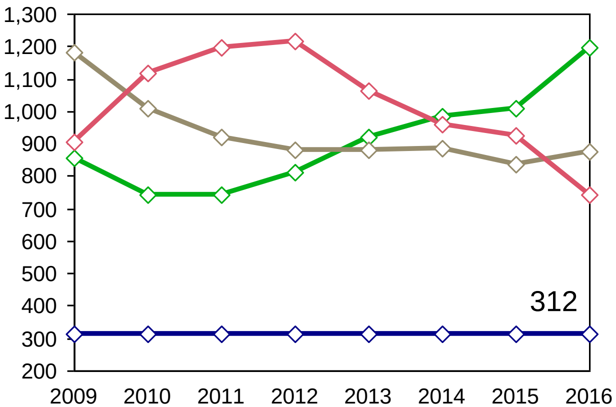
Investment loop
in € bn



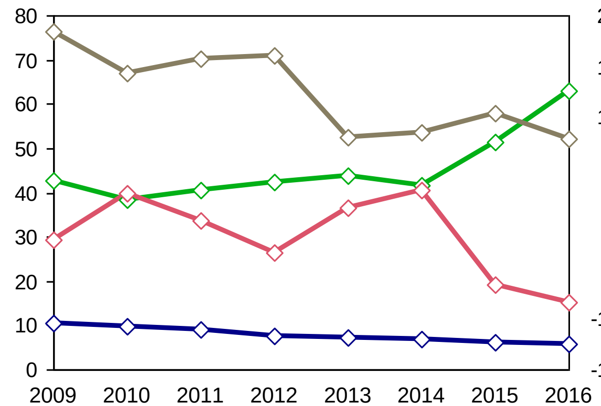
Source: Eurostat, PwC analysis
*Borrowing capacity=5*EBITDA – Net Debt
**Total funding capacity=Cash + Borrowing capacity

Zombie firms remain operating, undermining the rest by competing on an unfunded basis and increasing the cost of capital for all

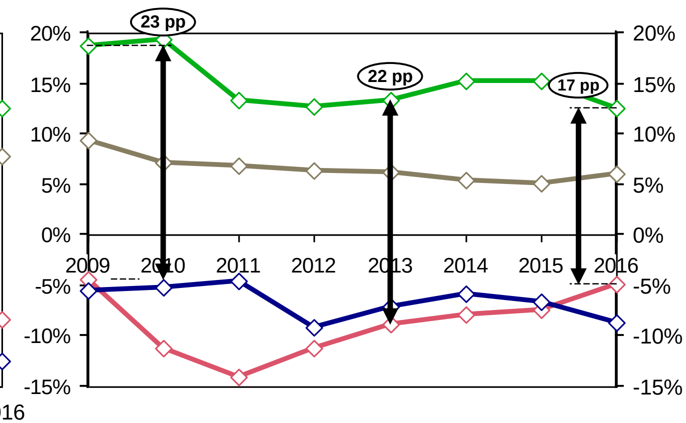
Number of companies



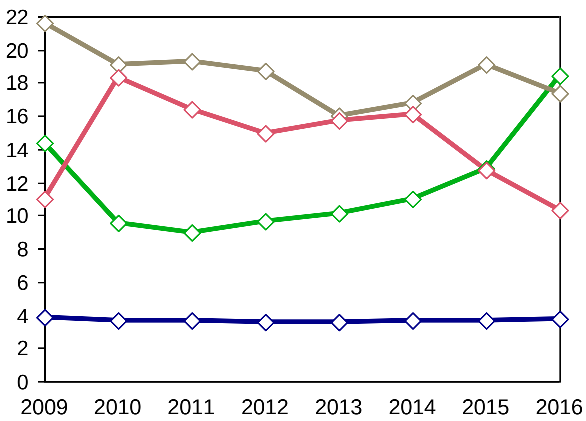
Revenues (in € bn)



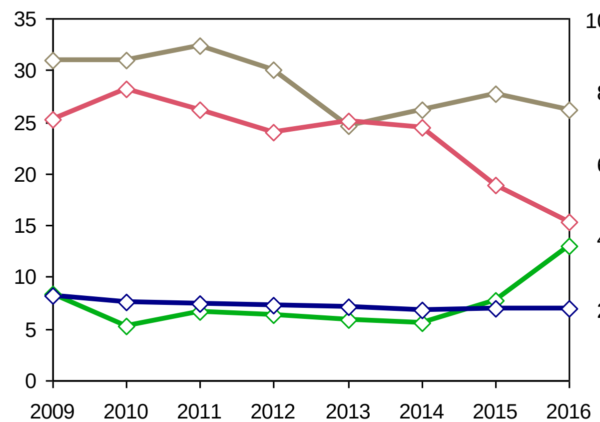
ROCE



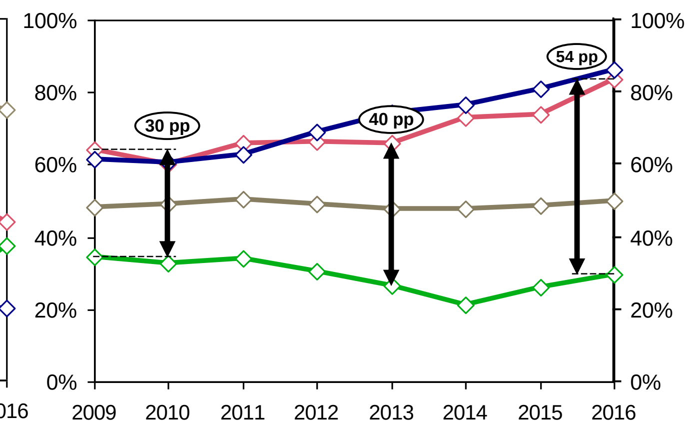
Payables (in € bn)



Gross Debt (in € bn)



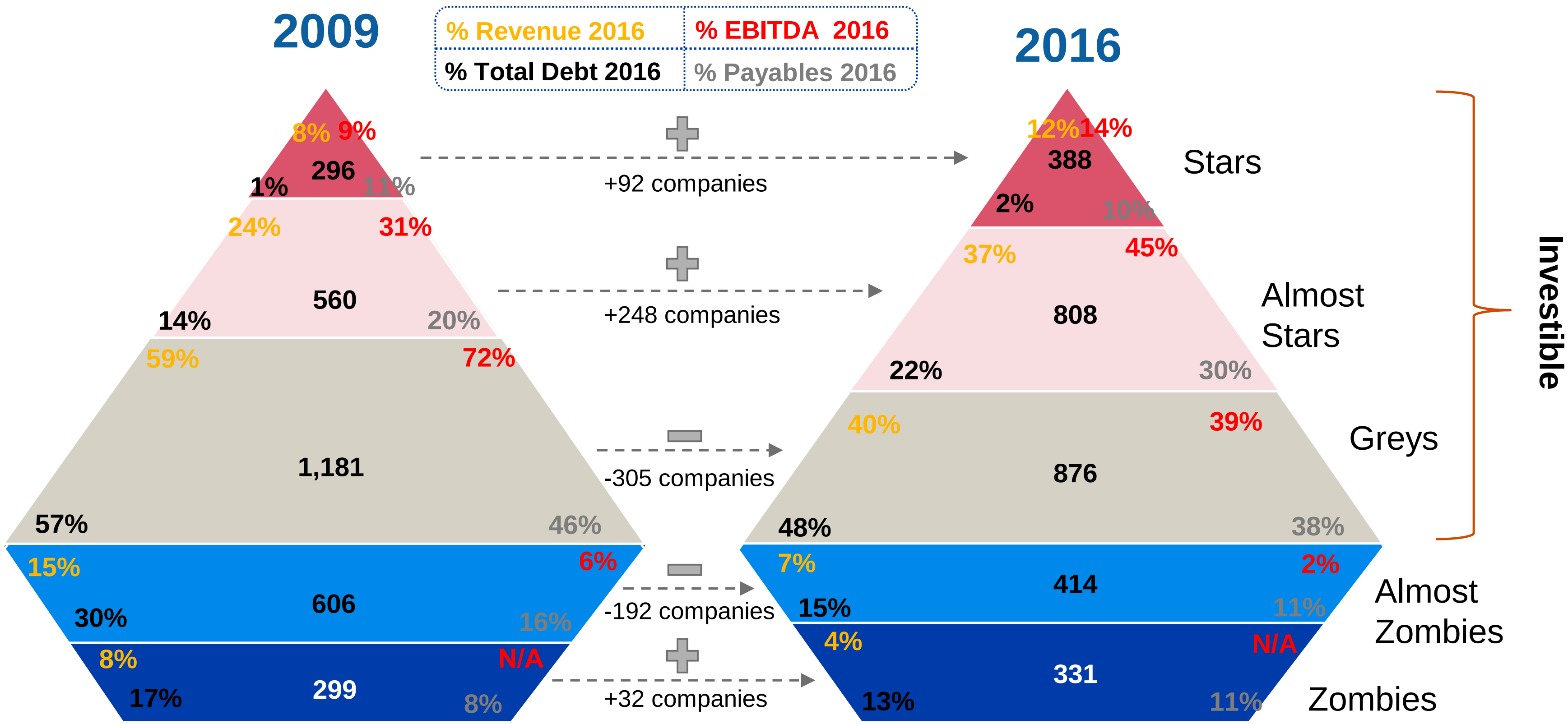
Debt/ Capital employed



The same 312 companies were Zombies or Almost Zombies in 2009 and in 2016

Stars and Almost Stars
Almost Zombies and Zombies
Greys
Persisting Zombies

Despite the value added erosion, the funding distortion and unfair competition, there are still ca. 2,100 investible companies, with total annual revenues of € 115bn



The natural response of firms was to contain costs and improve competitiveness in an environment of low demand, very limited funding and unfair competition

4

Value creation strategies out of the crisis

Revenue growth and operating profitability improvement determine, to a very large extent, increases in equity value

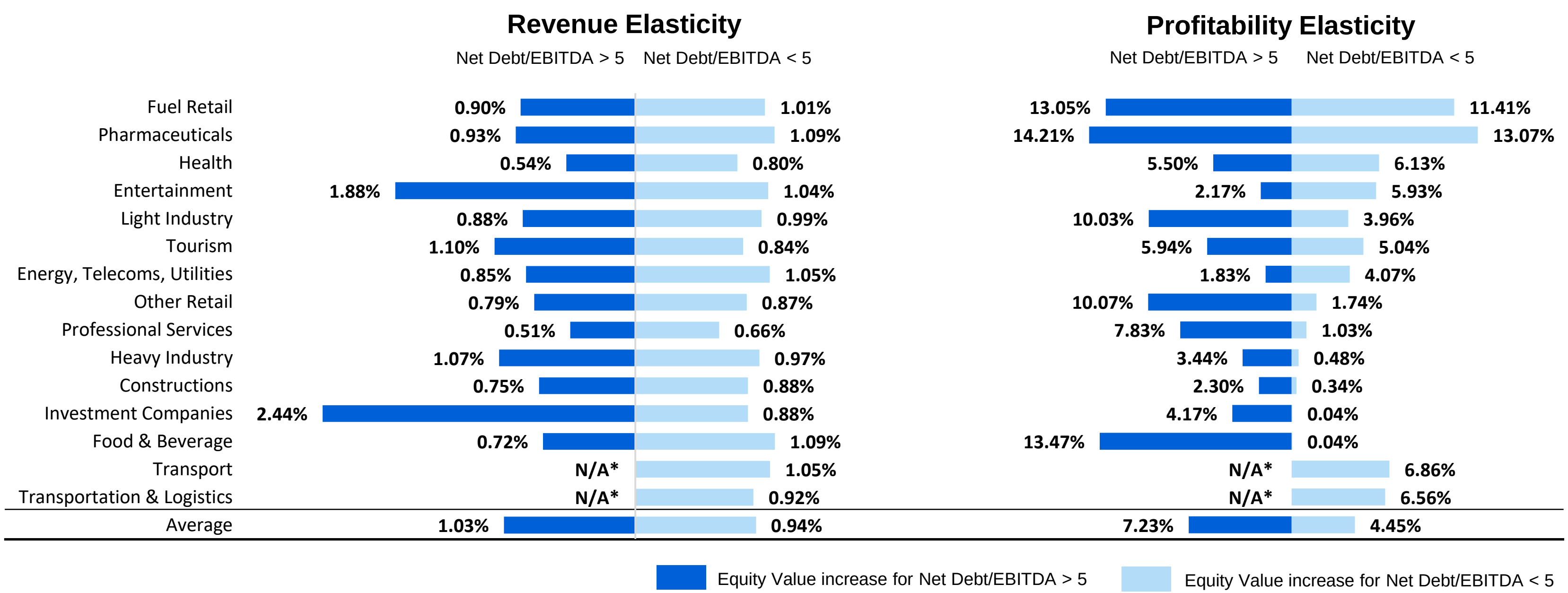
Equity value increase following 1% increase in…

	Revenue	EBITDA Margin	Net Debt/EBITDA	R^2 Statistical Fit (%)
Fuel Retail	0.97%	13.49%	0.00%	63.1
Pharmaceuticals	1.13%	13.34%	-0.03%	54.9
Transport	1.12%	8.88%	-0.09%	68.9
Logistics	0.90%	7.08%	-0.08%	78.6
Health	0.82%	6.14%	-0.03%	77.2
Entertainment	1.03%	5.97%	-0.23%	94.5
Light Industry	0.92%	5.02%	0.00%	57.6
Tourism	0.81%	5.01%	0.00%	68.9
Energy, Telecoms, Utilities	1.03%	3.98%	-0.07%	87.8
Other Retail	0.88%	1.79%	0.00%	56.4
Professional Services	0.67%	1.03%	0.00%	38.4
Heavy Industry	0.99%	0.52%	-0.23%	67.7
Constructions	0.85%	0.37%	0.00%	51.6
Investment Companies	0.89%	0.04%	-0.07%	59.1
Food & Beverage	1.03%	0.04%	-0.01%	34.8

- An increase of 1% in revenue leads to 0.7-1.1% increase in equity value
- Long term operating profit margin increases of 1% generate between 0% and 13.5% more equity value
- A reduction in Net Debt/EBITDA ratio of 1%, adds no equity value when the company can service debt but it can provide an extra 0.1-0.2% if stretched

- Revenue growth drives equity value consistently, across sectors
- The effect of operating profitability on equity values changed during the crisis in a non homogeneous manner with some sectors being highly driven by profitability, while a few others remaining indifferent
- The capacity to service debt has a small positive impact on equity value

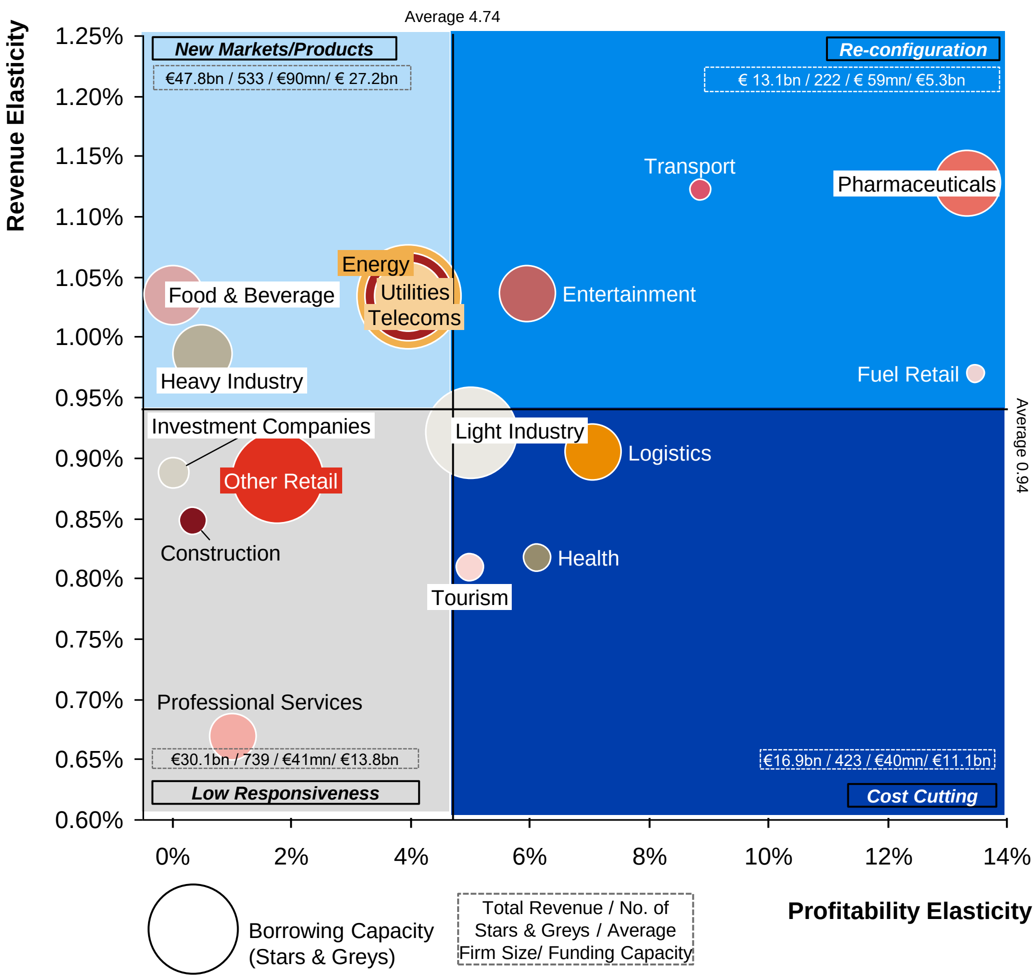
Debt sustainability alters the way revenue and operational profitability impact equity values



- The effect of a deteriorating balance sheet, significantly changes the way equity value responds to revenue growth and profitability increases
- Financially stressed corporates tend to become more sensitive to growth, but almost twice as sensitive to profitability improvements
- Sectoral behaviour varies, with Light Industry, Other Retail, Food & Beverage and Professional Services being more sensitive to profitability increases, rather than revenue growth, when firms are in financial distress
- Listed companies' equity value is more sensitive to profitability than of the non listed

* The sample consisted of 5 observations or less

There are sectors where firms are likely to pursue growth strategies, but the bulk of the corporate economy will delay its acceleration



- About **21%** of the firms, the smaller ones (Tourism, Logistics, Health, Light Industry), could keep tightening costs, improving processes and re-optimising operations making very little investment
- Another **26%** of the firms, the largest in size, may focus on expanding market share in existing market or turning into new ones (Energy, Utilities, Telecoms, Food & Beverage, Heavy Industry) with a sizeable investment potential
- About **13%** of the firms, large ones, could expand by acquiring less strong competitors and by reconfiguring themselves, depending on external funding (Pharmaceuticals, Transport, Fuel Retail, Entertainment), but this amounts to little investment
- Around **39%** of the firms, typically of medium size (Other Retail, Construction, Investment Companies, Professional Services), are slow to respond, particularly if they have no access to funding, with no significant investment in sight

5

The next day

The corporate landscape in Greece will not change unless the cost of capital returns to investment inducing levels and the impact of Zombies annuled

- The onslaught of the crisis in 2008 increased sovereign and consequently corporate risk to levels inhibiting investment and trading. The production base of the economy shifted away from services towards industry and towards lower value added
- Despite the strengthening of the funding capacity of the firms, the institutional funding of the corporate economy weakened and was partly substituted by trade funding
- The investment process has been dislodged creating a huge gap between corporate investment needs, in order to maintain and enhance market position and competitiveness, and the ability and willingness to fund them
- A disproportionate number of Zombies continue to trade undermining market equilibrium. The targeted elimination of all Zombies would result in a 13% increase in the revenue of all other companies
- Nonetheless there are about 2,100 investible companies, with annual revenues each of € 10mn or more, which have their own business strategies
- To set in motion and fund growth, corporates need to identify projects with returns in excess of the long term cost of equity
- Corporate value creation strategies depend primarily on the sensitivity of equity value to growth and profitability improvements and the availability of funding. The cost of debt and equity is critical
- As we will be entering a financially more relaxed period, with corporates having accumulated cash and having strengthened their balance sheets, there will be a shift from good housekeeping to new business

Without a policy shock, the dynamics of the economy will not change

Unaided individual strategies are unlikely to set in motion high and sustainable growth across the economy

Three broad policies must be implemented simultaneously aiming at reinstituting conditions which are conducive to longer term planning and investment and to the mobilization of resources across economy

- **First**, the corporate landscape must be **cleared of Zombies** at a fast pace. Comprehensive liquidation processes are instrumental to transferring demand to Star and Grey companies, to releasing assets back to the productive economy, whilst improving trading liquidity. At the same time, the banking system must be **cleared from NPLs,** which absorb regulatory capital, so as to resume lending to the economy
- **Second**, a well orchestrated **trust building effort** with a clear and convincing plan for the future has to be initiated. This will help reduce sovereign risk and will bring in international strategic investors to consider Greek corporates, which not only survived the worst crisis, but also improved their own competitiveness
- **Third,** as a result of investment**,** the **economy will be rebalanced** to higher value added services and products and expand into new markets. Coherent sectoral public policies promoting size, concessionary funding towards last stage R&D, demand and supply aggregation and clustering are necessary in facilitating this shift

The **legacy of the crisis is heavy**, but well hidden, and gradually is forming Greece into a more primitive physical production base with less services output, fed with little investment and starved of innovation

The crisis is over, but the corporate economy is neither prepared nor willing to grow

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