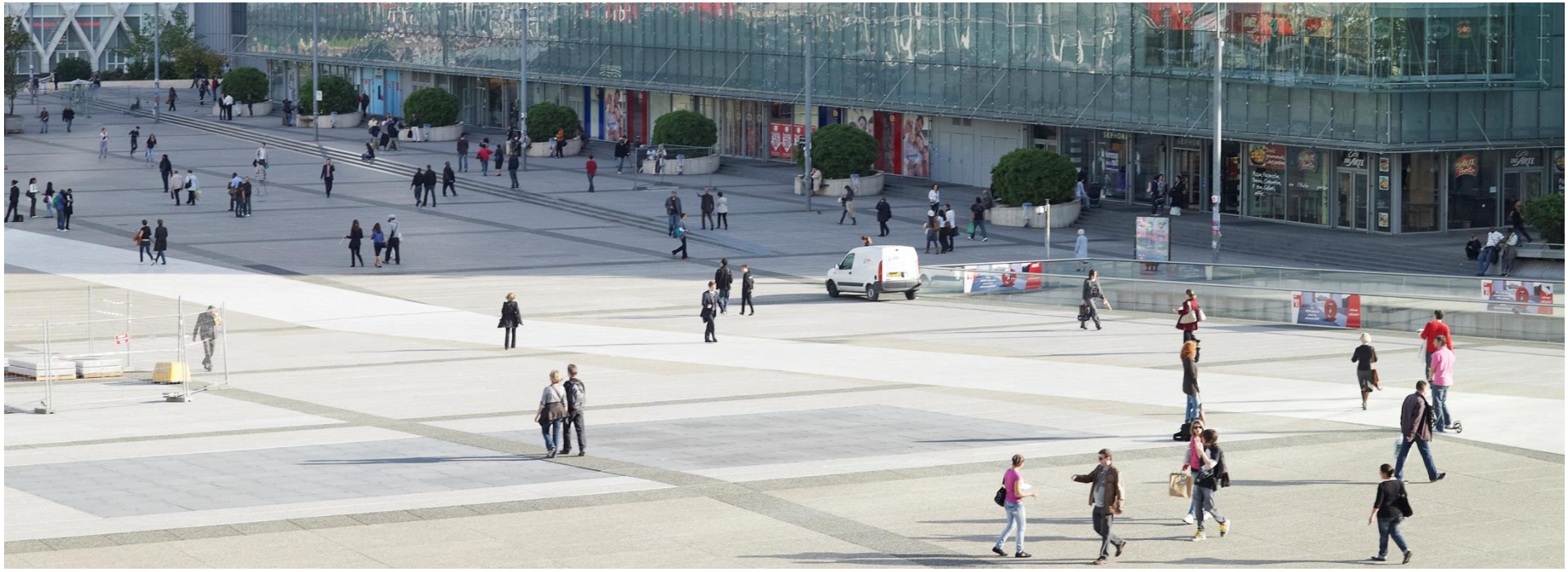
Stars and Zombies

Greek corporates coming out of the crisis

Executive summary

September 2015



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Summary of 2012 findings

- In 2012, a sample of 2,950 companies had €141bn revenues, €120bn capital employed, €102bn of fixed assets and approximately 466k employees
- Profitability, in terms of EBITDA, compared to 2008, had decreased by 40.6% while Earnings Before Taxes for the same period, collapsed from €6bn to €1bn
- The production fabric of the economy remained active over the respective 5-year period, as the shareholders' equity drop by a mere 7.9% and Capital employed by 5.9% yet it was under remunerated
- At a second level, there were 179 Stars, 628 Almost Stars, 1,269 Greys and Almost Zombies, while Zombies accounted for 650 corporates
- Total debt stood at €56bn, of which around 20% was held by the 650 Zombies
- Zombies' return on capital employed decreased by 17 percentage points during the period 2009-2012
- The restructuring needs of the Greek corporates accounted for about €15 bn, while the refinancing needs for €10 bn
- Manufacturing, commerce and services represented 80% of the sample companies and 74% of the total revenues

Comparison with 2012 Stars & Zombies study

- The overall picture of the two studies did not change dramatically; however, marginally more companies appear to be overindebted
- Between 2012 and 2013, the number of **Star** (8% of sample) **and Zombie** (23% of sample) companies **remained relatively stable**, while the middle categories (Almost Stars and Greys) slightly rose compared to 2012
- The share of the **Groups** in the sample remained stable at around 35% of the total sample's revenues
- Return on Capital Employed remained at the same levels as in 2012
- **Debt sustainability** of the sample in 2013 has slightly **worsened**. More companies have **debt servicing problems**, but **Trapped Debt** remained stable at around 25% of total loans
- **Less companies** need debt restructuring in 2013, but the restructuring needs as percentage of total loans have **increased by 3ppts**
- **Investments** in 2012 sample are being **funded by more debt** than in 2013
- The share of each sector to profitability, debt and capital employed remained relatively stable

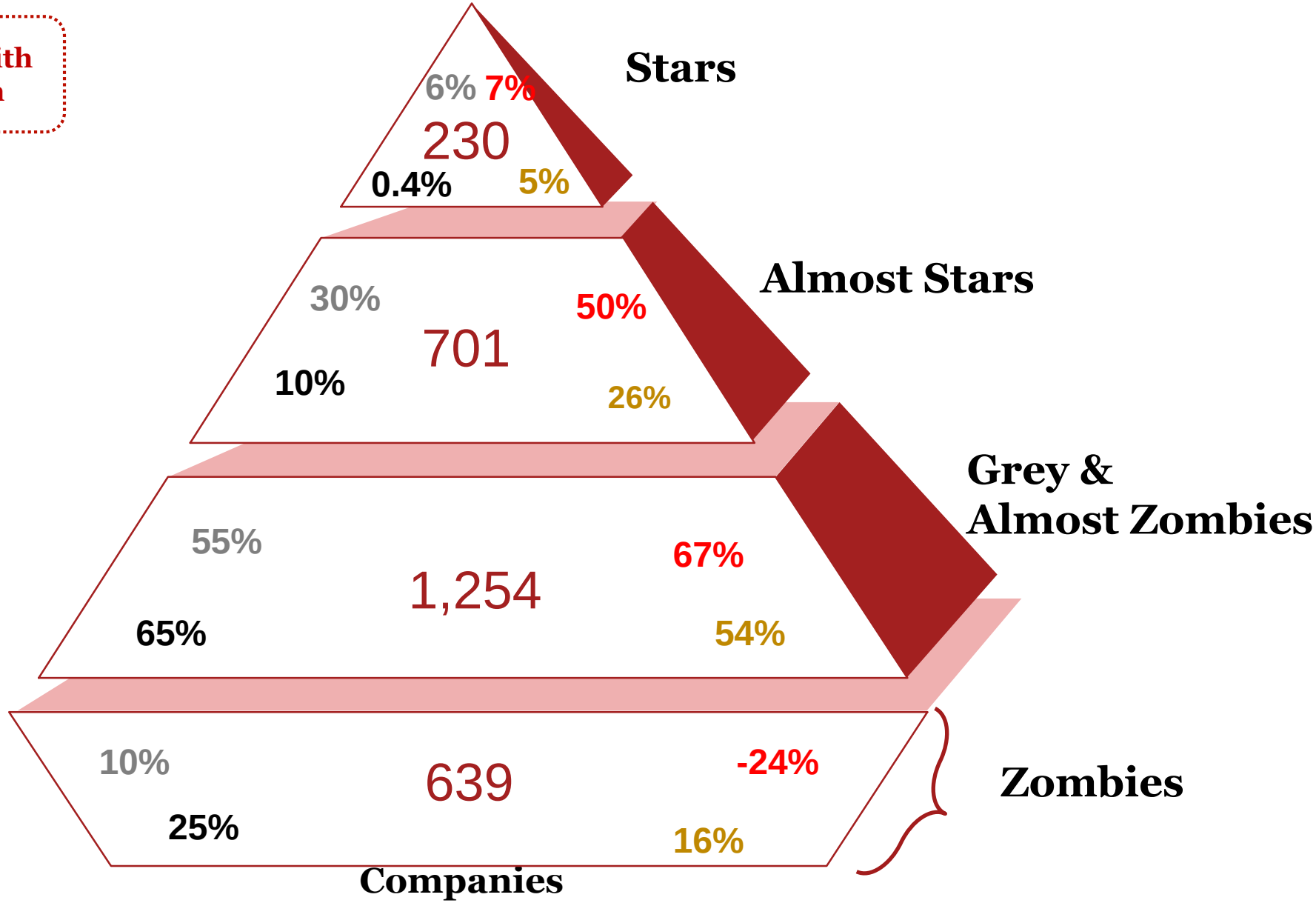
3,078 companies were used for the analysis of the 2013 S&Z study, while 2,950 were analysed in S&Z 2012

The value pyramid of the Greek corporate economy

2,824 companies with revenues >€10mn

~ 25% of GDP

~ 480.000 employees



% Revenue 2013	% EBITDA 2013
% Total Debt 2013	% Number of personnel 2013

Methodology (1/3)

- The Greek active limited liability companies excluding all financial institutions, insurance companies and financial sector subsidiaries of banks and insurance companies, in total are 20,533 (2013). A sample of 3,304 (16%) companies that had **annual revenues of more than €10 mn** in any given year during the period 2008-2013 was selected
- The data used for the period 2008-2013 were extracted from the published financial statements of the companies. For 302 companies whose financial statements were not available for 2013 we estimated their financial data based on that of previous years
- For **13 Groups** of companies, which were centrally financed, consolidated data were used instead of individual company figures
- The companies, whose debt is guaranteed by the Greek state, have been excluded from the sample
- 226 companies were excluded from the sample for a number of reasons (i.e. public law entities, private law entities and companies debt guaranteed by the Greek State)
- Finally, **3,078 companies** were selected representing 85% of revenues and 67% of Fixed Assets of the total corporate economy

Methodology (2/3)

- The companies were classified in terms of **Growth, Profitability** and **Debt Sustainability**
- The criteria chosen for the classification were the Compound Annual Growth Rate of Revenue (2008-2013), Return on Capital Employed (ROCE) and the Net Debt / EBITDA

Criteria	Star	Grey	Zombie
CAGR Revenue (2008-2013)	Greater than 5%	Between -5% and 5%	Less than -5%
ROCE	Greater than 15%	Between 0% and 15%	Less than 0% or Capital Employed <0
Net Debt/ EBITDA	Less than 1.5 or Net Debt <0	Between 1.5 and 5	Greater than 5 or EBITDA <0

Methodology (3/3)

- By combining the three financial variables 27 different classes of companies were created
- According to the ranking against each of the criteria, the classes formed are combinations such as for example SGZ (Star, Grey, Zombie)
- Classes with similar characteristics were merged into 10 Groups in order to facilitate statistical analysis

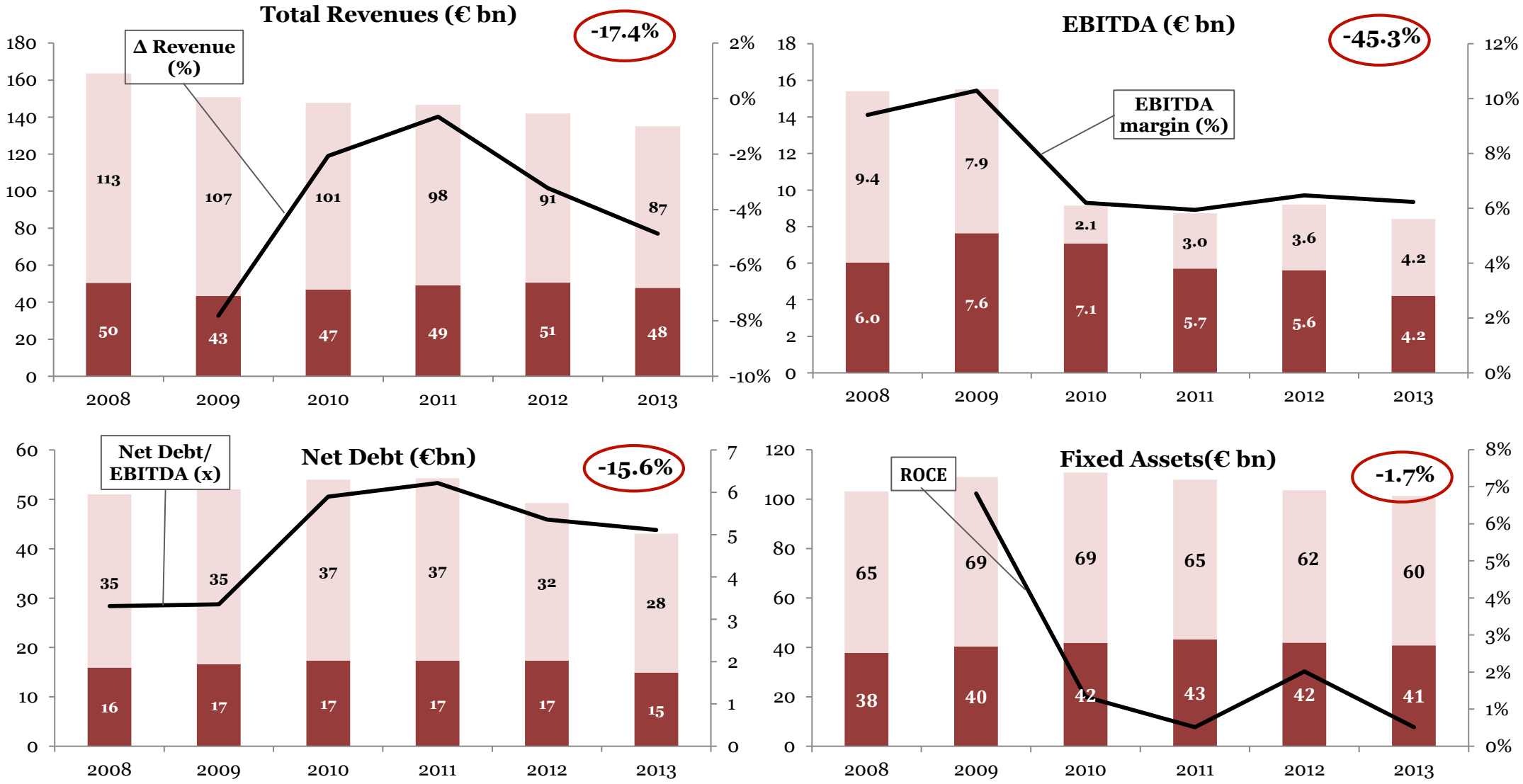
No	Groups	Classes	Designation	Groupings
1	Group 5*	SSS	Stars	Stars
2	Group 4*	SSG+SGS+GSS	Almost Stars	Almost Stars
3	Group 3*	SGG+GSG+GGS	Aspiring Stars	
4	Group 2*	SSZ+SZS+ZSS	Stars with Zombie aspects	
5	Group 1*	GGG	Good	Grey
6	Group -1*	GSZ+SGZ+ZGS+GZS+SZG+ZSG	Mixed Bags	
7	Group -2*	ZGG+GZG+GGZ	Departing Good	Almost Zombies
8	Group -3*	ZZS+ZSZ+SZZ	Zombies with Star aspects	
9	Group -4*	ZZG+ZGZ+GZZ	Almost Zombies	
10	Group -5*	ZZZ	Zombies	Zombies

- 94 companies which have applied for restructuring under Article 99 of law 3588/07 have been classified as Zombies (-5*)
- The groups were further consolidated into three groupings (Stars: 5*/4*/3*/2*, Grey: 1*/-1*, Zombies: -2*/-3*/-4*/-5*) in order to facilitate the understanding of the dynamics

Significant decline of economic activity between 2008 and 2013, yet no extensive damage of the production fabric of the economy (1/2)

- Overall, the situation of the sample companies did not change materially between 2012 and 2013 and the conclusions of the analysis remained robust
- The sample companies revenues reached almost €135bn in 2013, they had €113bn of capital employed, €56.5bn debt and approximately 480k employees
- Almost 35% of the sample's revenue derives from 13 Groups of companies, which account for 50% of the profitability, 35% of the net debt and 40% of the fixed assets
- Aggregate sample revenue decreased by 17.4% between 2008-2013, with total assets going down by 8.1 % and fixed assets slightly decreasing
- Capital employed dropped by only 10.7%, debt by 13.5% and shareholders' equity by 7.7% over the period 2008-2013, suggesting that the production fabric of the economy remained operational
- Profitability, in terms of EBITDA, decreased by 45% while Earnings Before Taxes collapsed from €6bn in 2008 to -€496mn in 2013. In addition, during the same period capital employed was consistently under-remunerated
- Gross financing shrank by 13.5% within five years, leading to a reduction of working capital by 41.4% in 2013
- Debt sustainability deteriorated substantially between 2008 and 2013, with loans still representing about 50% of the capital employed in 2013 compared to 52% in 2008
- In summary, despite the fact that the capital structure of the sample did not change significantly, the decrease in revenue and the shrinkage of profitability had had a major impact on debt servicing for a significant number of companies

Significant decline of economic activity between 2008 and 2014, yet no extensive damage of the production fabric of the economy (2/2)

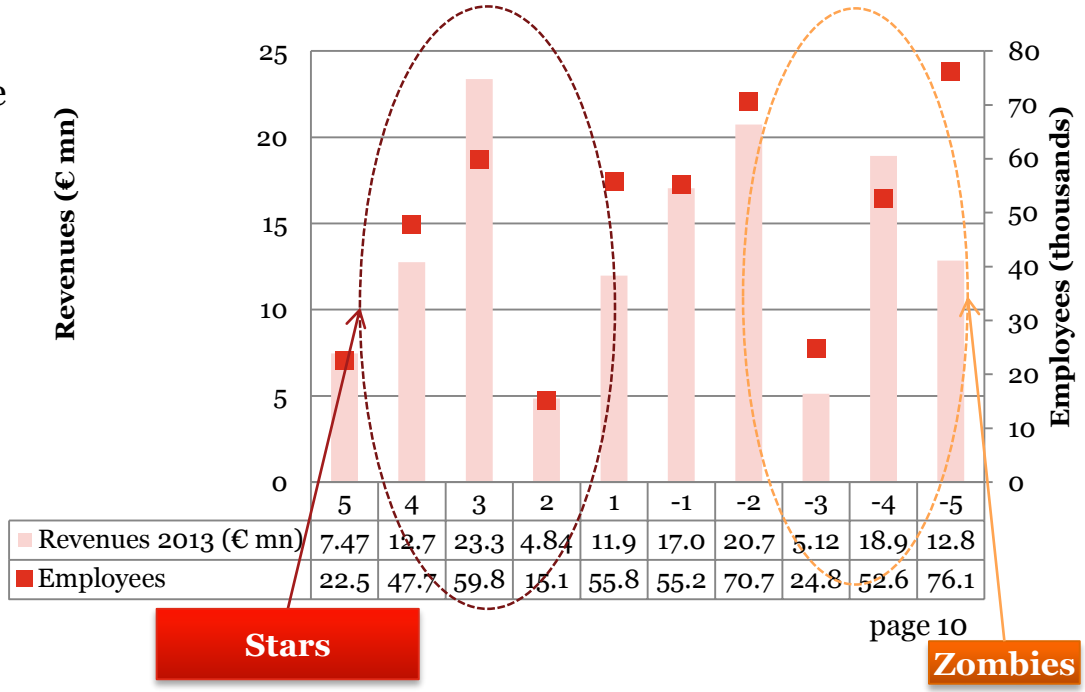


Debt servicing difficulties increase exponentially from Group 5 to Group -5

* € Millions

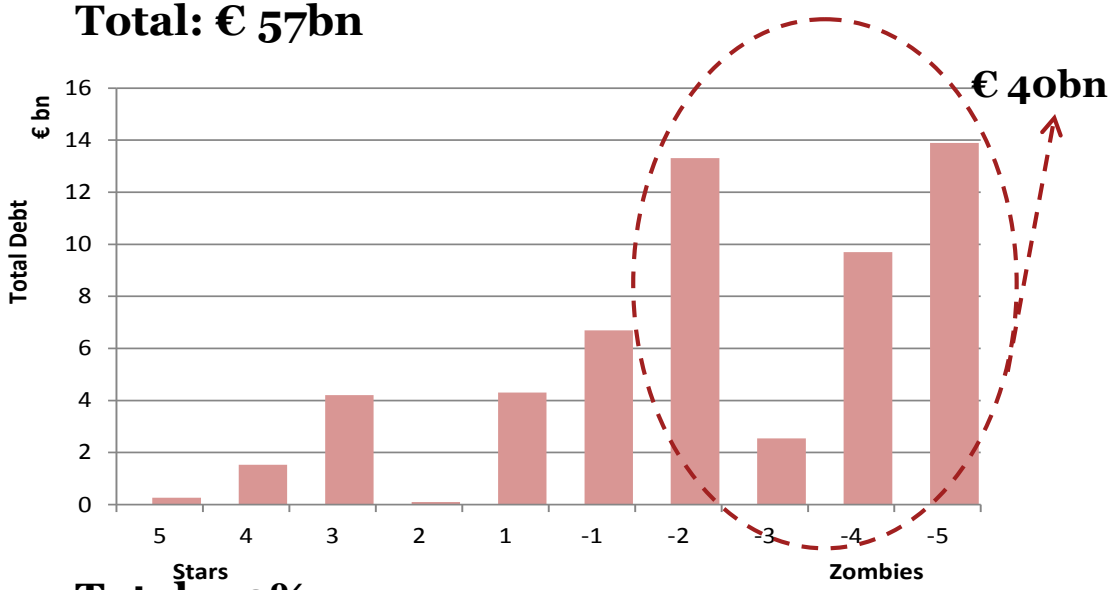
No	Group	# Companies	% Companies	Personnel	Revenue*	CAGR Revenue '08 -'13	EBITDA*	EBITDA Margin	ROCE	Fixed Assets*	Net Debt*	Capital Employed*	Net Debt / EBITDA	
1	5*	230	8%	22,521	7,470	22%	624	8%	33%	876	-296	1,739	N/A	Stars
2	4*	281	10%	47,768	12,759	7%	1,318	10%	17%	5,204	-31	6,439	N/A	
3	3*	261	9%	59,834	23,378	7%	1,780	8%	8%	12,232	2.369	13,999	1.3	
4	2*	159	6%	15,151	4,845	-11%	1,132	23%	45%	1,397	-433	2,303	N/A	Grey
5	1*	117	4%	55,817	11,977	0%	1,309	11%	8%	8,149	3,330	9,340	2.5	
6	-1*	370	13%	55,271	17,038	-7%	2,435	14%	7%	12,477	4,006	14,265	1.6	Zombies
7	-2*	273	10%	70,712	20,732	-2%	1,961	9%	3%	25,270	11,070	25,548	5.6	
8	-3*	138	5%	24,839	5,120	0%	13	0%	-11%	4,534	2,180	4,369	172.4	
9	-4*	356	13%	52,673	18,928	-5%	-88	0%	-4,1%	13,735	8,198	16,367	N/A	
10	-5*	639	23%	76,187	12,845	-16%	-2,059	-16%	-14%	17,383	12,683	18,843	N/A	
Total		2,824	100%	480,773	135,090	-3%	8,424	6%	2%	101,256	43,077	113,212	5,1	

- 8% of the companies are Stars (Group 5*) versus 23% which are Zombies (Group -5*). Almost 33% of the companies belong to the Star groups (5* to 2*) and 50% to the Zombie groups (-2* to -5*)
- 36% of revenue originates from the Star groups and 43% from the Zombie groups
- Only Star companies showed growth while Zombies' profitability is negative
- The Zombie groups accounts for 43% of total revenue, 58% of capital employed and 79% of net debt
- Zombie groups have almost 224 thousand employees, approximately 47% of the total

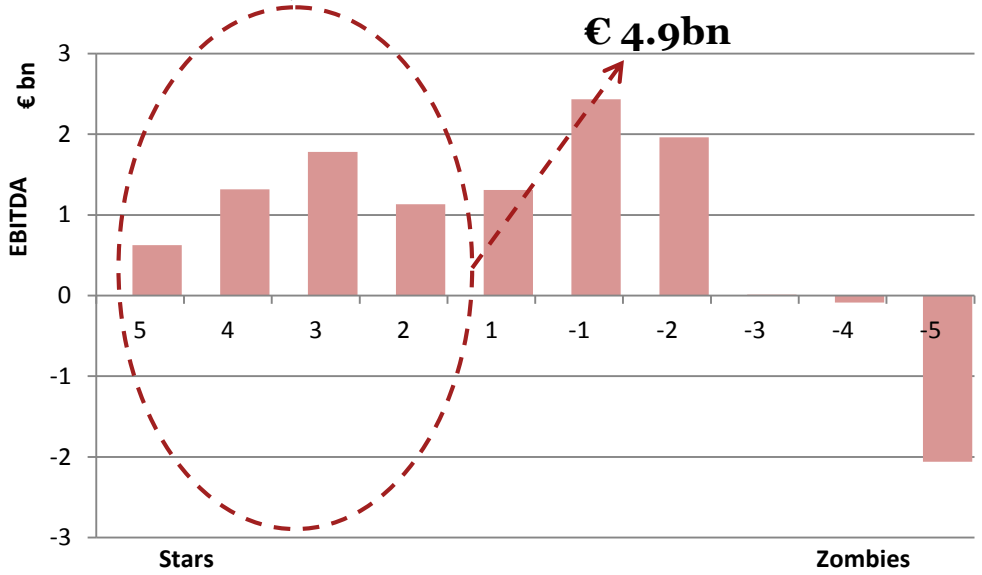


Corporate debt is concentrated in Zombies; profit and growth in Stars

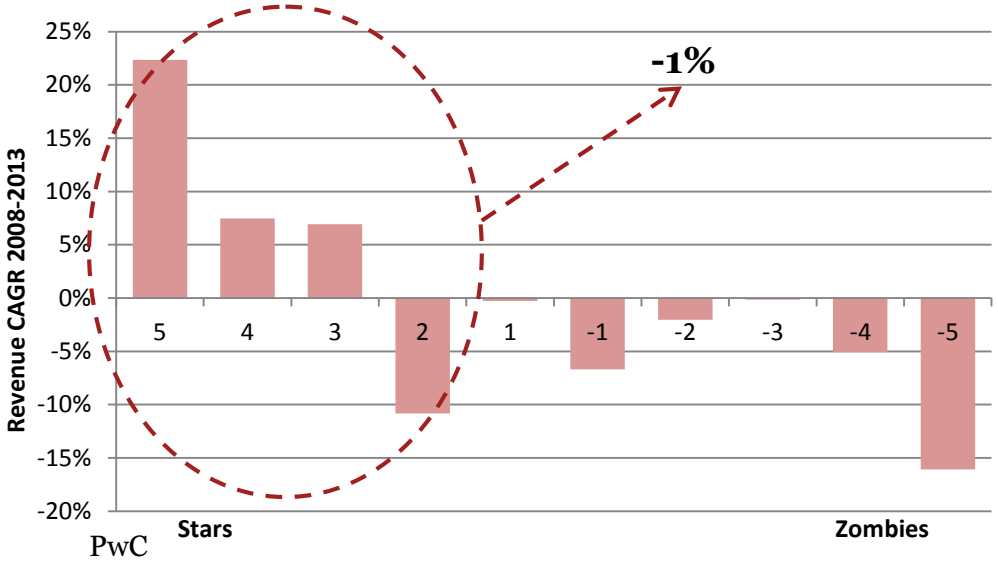
Total: € 57bn



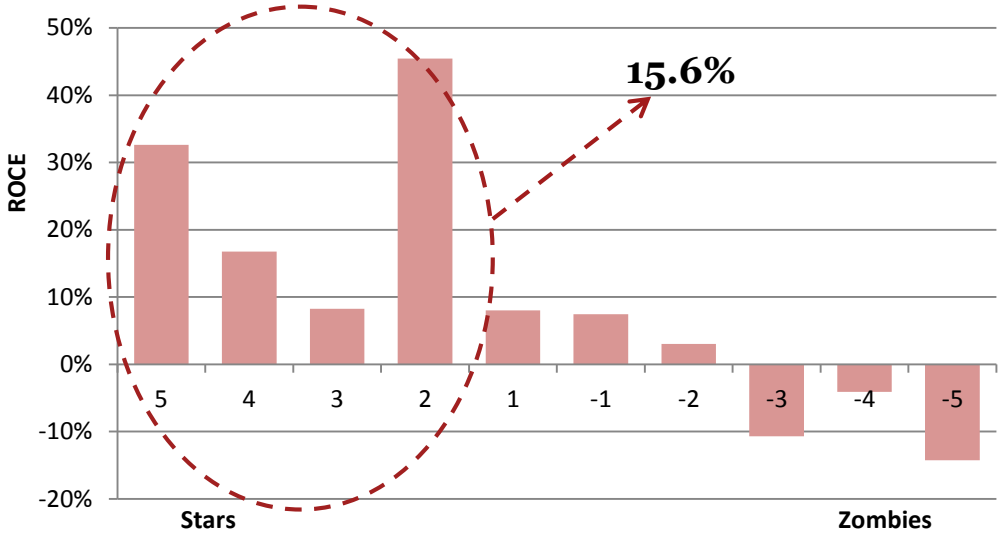
Total: € 8bn



Total: - 3%



Total: 2%



The Greek corporate economy retained some of its dynamism through the crisis

1,481 companies (51%) **did not get worse or they did better**

1,418 companies (49% of total companies) moved **downward**

728 companies (25% of total companies) remained in the **same group**

753 companies (26% of total companies) moved **upward**

2009	5*	4*	3*	2*	1*	-1*	-2*	-3*	-4*	-5*	2013	
5*	62	40	22	20	2	16	6	6	7	5	186	Stars
4*	54	67	42	33	7	26	10	11	12	5	267	
3*	28	44	49	17	16	57	16	12	10	8	257	
2*	28	23	4	50	1	12	5	5	1	8	137	
1*	2	12	15	2	11	17	27	1	21	7	115	Grey
-1*	36	32	22	67	4	86	29	21	30	20	347	
-2*	8	16	16	9	21	40	70	4	75	10	269	
-3*	16	9	10	16	1	25	6	30	7	9	129	Zombies
-4*	10	15	28	10	15	50	63	12	109	37	349	
-5*	38	47	40	54	18	109	113	46	184	194	843	
2009	282	305	248	278	96	438	345	148	456	303	2,899	
% Δ	-34%	-12%	4%	-51%	20%	-21%	-22%	-13%	-23%	178%		

Stars ⟷ **Zombies**

- Since 2009, 649 companies turned into Zombies (-5*), while 124 companies became Stars (5*)
- 64% of Zombies (-5*) failed to move upward, while only 22% of Stars (5*) of 2009 remained there

** 222 companies were classified directly as Zombies in 2013 (152 due to ceasing publishing financial statements from 2009 onwards)*

Capital employed decreased by €15.5bn between 2009-2013, almost exclusively due to Zombies and primarily through the accumulation of losses

	Equity			Total Debt			Cash			Capital Employed			
	2009	2013	Δ	2009	2013	Δ	2009	2013	Δ	2009	2013	Δ	
5*	0.7	1.5	0.8	0.4	0.3	-0.1	0.2	0.6	0.3	1.1	1.7	0.7	Stars
4*	3.5	4.9	1.4	1.3	1.5	0.2	1.2	1.6	0.3	4.8	6.4	1.6	
3*	7.3	9.8	2.5	4.1	4.2	0.1	1.2	1.8	0.7	11.4	14.0	2.6	
2*	1.2	2.2	1.0	0.4	0.1	-0.3	0.6	0.5	-0.1	1.6	2.3	0.7	
1*	4.6	5.0	0.5	4.8	4.3	-0.5	0.6	1.0	0.3	9.3	9.3	0.0	Grey
-1*	5.4	7.6	2.2	11.6	6.7	-4.9	2.5	2.7	0.2	17.0	14.3	-2.7	
-2*	13.1	12.2	-0.8	13.8	13.3	-0.5	2.3	2.2	-0.1	26.9	25.5	-1.3	Zombies
-3*	2.8	1.8	-1.0	1.6	2.5	0.9	0.7	0.4	-0.3	4.4	4.4	0.0	
-4*	8.6	6.7	-1.9	8.8	9.7	0.9	1.6	1.5	-0.1	17.4	16.4	-1.0	
-5*	15.9	5.0	-11.0	19.0	13.9	-5.1	2.7	1.2	-1.5	34.9	18.8	-16.1	
Total	**63.06**	**56.70**	**-6.36**	**65.70**	**56.51**	**-9.18**	**13.69**	**13.44**	**-0.25**	**128.76**	**113.21**	**-15.55**	

- Between 2009 and 2013 in the overall sample capital outflow of €15.5bn took place. Equity decreased by €6.4bn while total debt by €9 bn. This reduction is almost exclusively due to the Zombie groups. The majority of companies in other groups raised both equity and cash levels within the period of crisis
- The majority of companies in the other groups, increased equity and cash within the crisis period
- A significant reduction of equity due to losses is observed in the Zombie group. There is an inflow of equity in the majority of the remaining groups
- Total debt decreased in the Zombie groups, with the greatest reduction taking place in the last Zombie group (-5*)

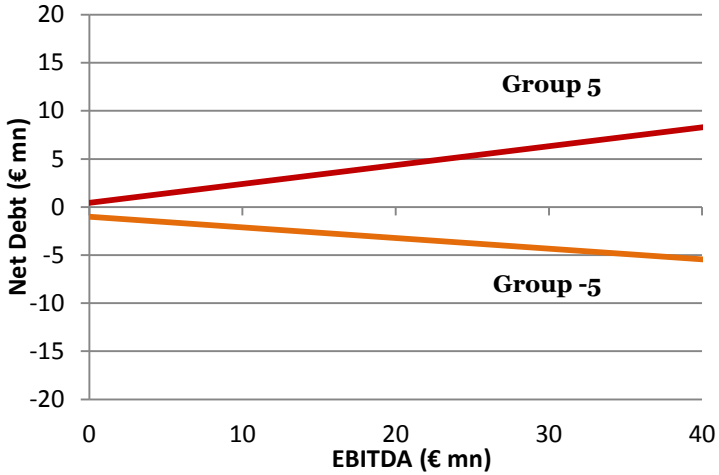
Capital use differs significantly between Groups (1/2)

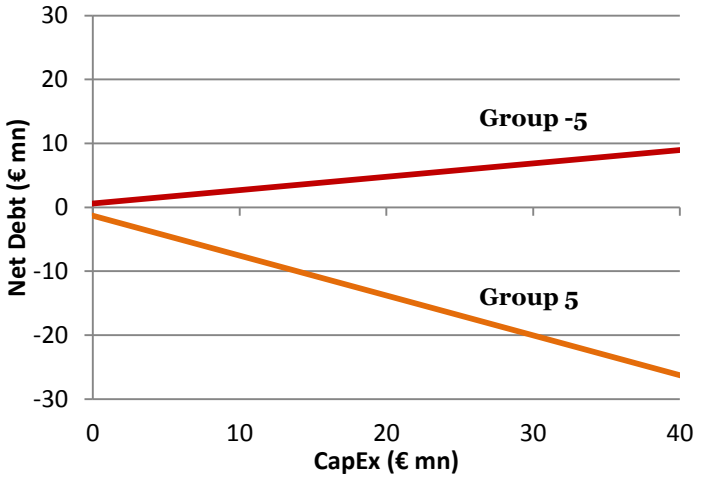
d Net Debt =a_1EBITDA +a_2CapEx + α_3Interest + a_4dShare Capital + a_5dCA + a_6dCL

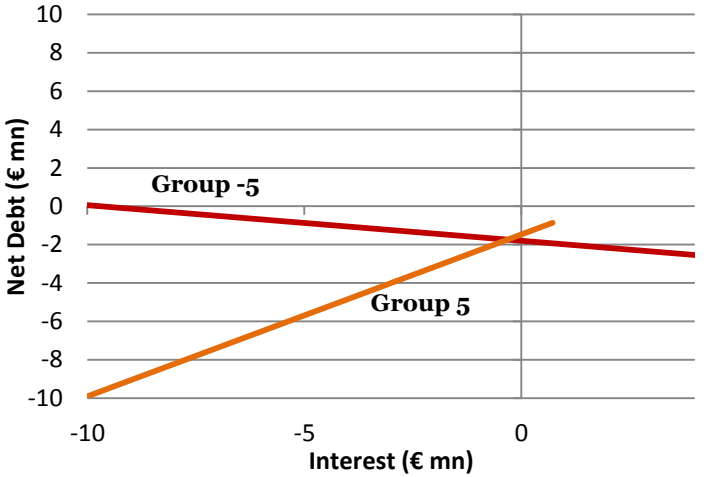
	EBITDA		Capital Exp.		Interest		d Share Capital	d Current Assets		d Current Liabilities		
	α_1		α_2		α_3		α_4	α_5		α_6		R^2
Total	**-0.18**		**0.73**		**-0.53**		**-0.23**	**0.35**		**-0.54**		**0.85**
Group 5*	-0.04		0.28		0.01		-0.72	0.54		-0.59		0.55
Group 4*	-0.16		0.66		-0.73		-0.44	0.95		-1.01		0.77
Group 3*	-0.37	Avg.:-0.16	0.31	Avg.:0.40	-1.78	Avg.:-0.64	0.03	0.86	Avg.:0.65	-0.92	Avg.:-0.74	0.74
Group 2*	-0.05		0.35		-0.05		-0.37	0.25		-0.45		0.57
Group 1*	-0.13		0.59		-0.31		-0.36	1.20	≃	-0.79		0.98
Group -1*	-0.03		0.65		0.63		-0.04	0.40		-0.29		1.00
Group -2*	-0.18		0.58		-0.42		-0.09	0.74		-0.44		0.85
Group -3*	0.16		0.89		-0.71		-0.32	0.39		-0.36		0.73
Group -4*	-0.46	Avg.:-0.16	1.37	Avg.:0.82	-2.04	Avg.:-1.11	-0.91	1.13	Avg.:0.70	-1.44	Avg.:-0.65	0.91
Group -5*	-0.16		0.43		-1.26		-0.15	0.56		-0.39		0.32

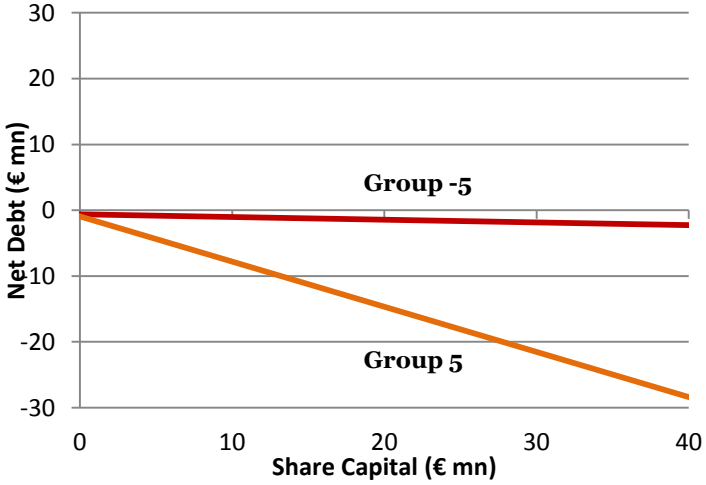
- About **15% of EBITDA** has been used by both Stars and Zombies for **Debt repayment**
- **Investments by Zombies** are being funded to more than **80%** by debt
- **Interest payments** in the Zombie categories are funded **entirely through new debt,** by being rolled over into it
- **Share capital increases** are **37%** used by both Stars and Zombies for **Debt repayment**
- Additional **working capital requirements** are not financed through debt, but from **trading partners**

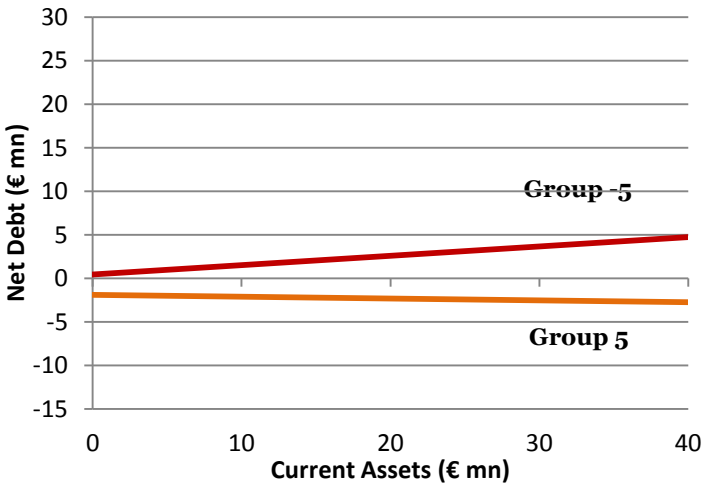
Capital use differs significantly between Groups (2/2)

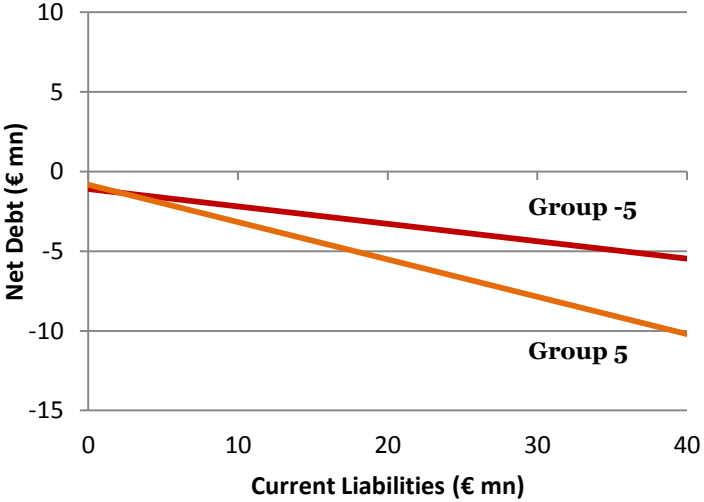












Zombies' return on capital employed decreased by 14.5 percentage points during the period 2009-2013

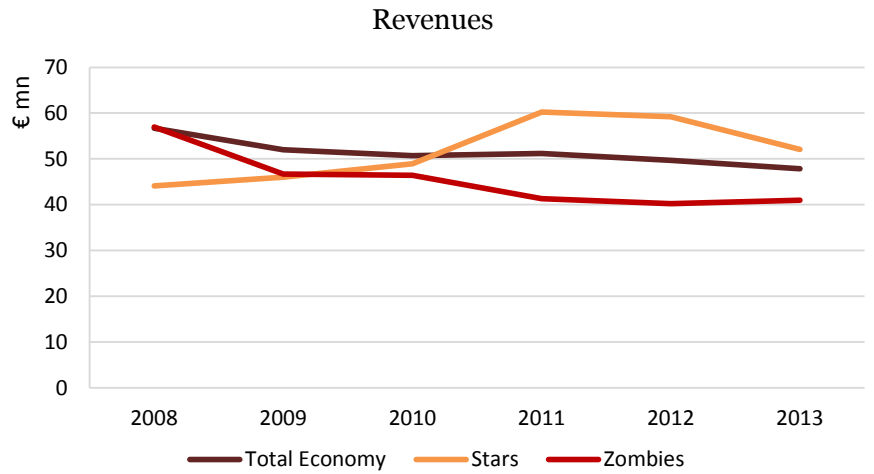
	Capital Employed				ROCE			
€ bn	**2009**	**2013**	**% Difference**		**2009**	**2013**	**Δ (pps)**	
5*	1.1	1.7	62%		20%	33%	12.6	
4*	4.8	6.4	34%		14%	17%	3.2	
3*	11.4	14.0	22%		7%	8%	0.9	
2*	1.6	2.3	45%		30%	45%	15.1	
1*	9.3	9.3	0%		12%	8%	-3.7	
-1*	17.0	14.3	-16%		14%	7%	-6.6	
-2*	26.9	25.6	-5%		9%	3%	-5.8	
-3*	4.4	4.4	-1%		3%	-11%	-13.4	
-4*	17.4	16.4	-6%		3%	-4%	-7.2	
-5*	34.9	18.8	-46%		0%	-14%	-14.5	
Total	**128.8**	**113.2**	**-12%**		**7%**	**2%**	**-4.8**	

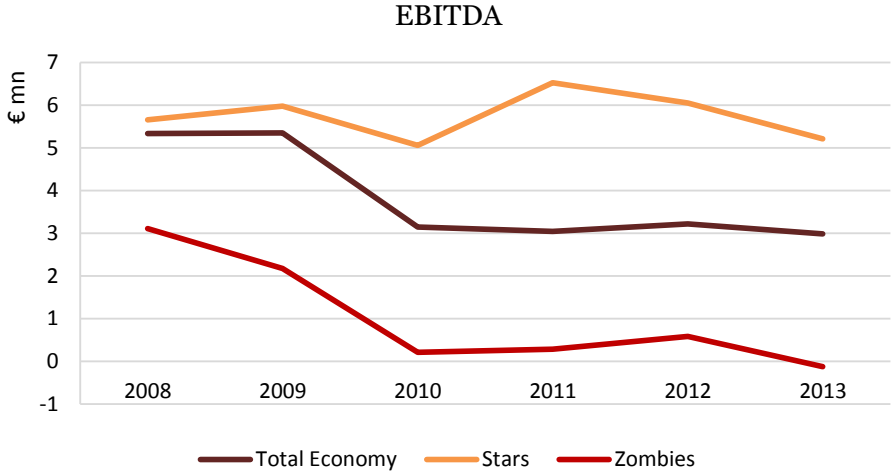
€24.5 bn — Avg.:41% — Avg.:26% — Avg.:5.6

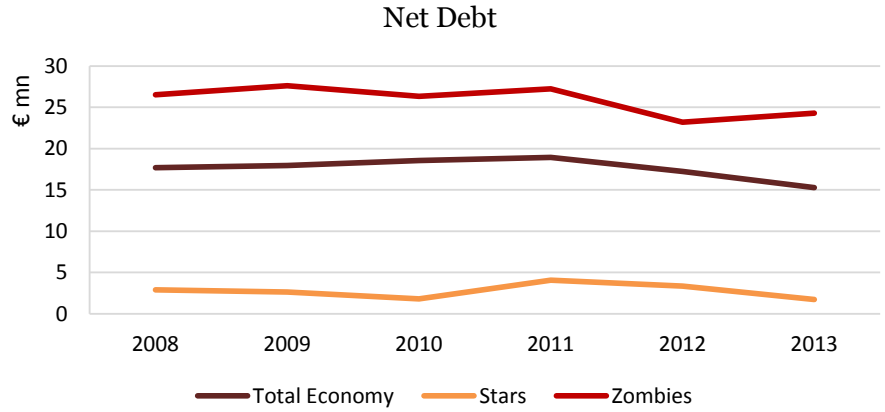
€65.1 bn — Avg.:-14% — Avg.:-7% — Avg.:-10.2

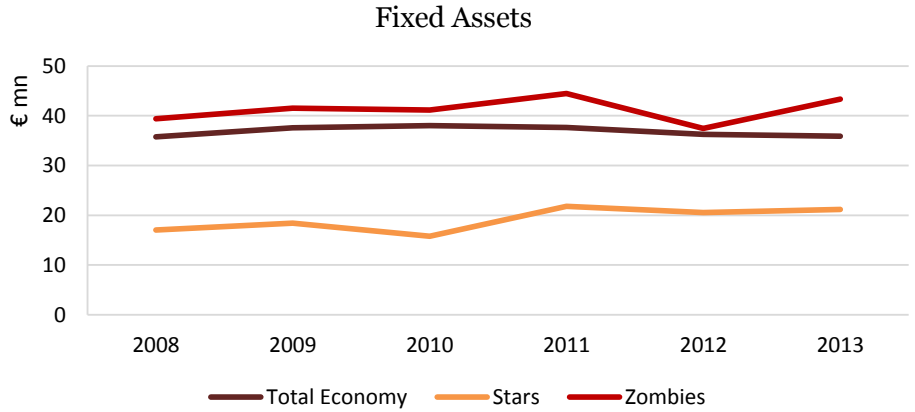
- In total, during the period 2009-2013 capital employed decreased by 12%; however, this decrease did not compensate for the shrinking EBITDA
- Capital employed due the Star groups increased almost by €6bn, while in the Zombie groups it decreased by €18.5bn, with €16bn to Zombies (-5*)
- Star companies have high returns on capital employed, averaging 26% p.a.
- Return on capital employed increased in the Star groups (5*, 4*, 3*, 2*), decreased in the groups 1*,-1* and collapsed in the Zombie groups with the last group (-5*) consuming a great part of capital employed

The loss of the Zombies is the gain of the Stars







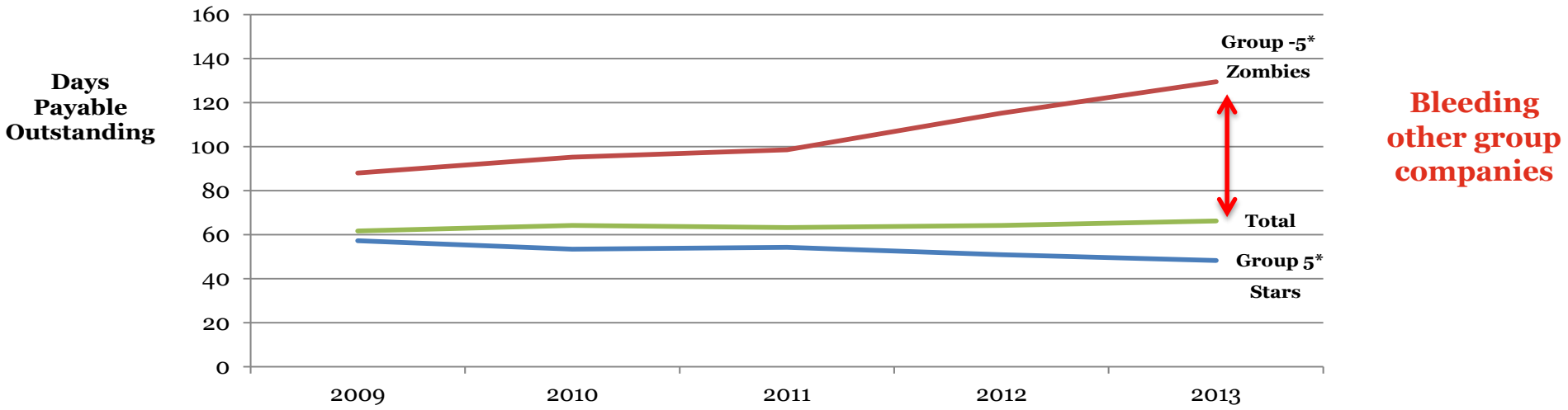


Stars: 5*/4*/3*/2* **Zombies:-5*/-4*/-3*/-2***

- Within 2008-2013, the revenues of the typical Greek corporate has remained stable, while Zombies (5*) have experienced a sharp decline in revenues
- Zombies show negative EBITDA from 2009, while Stars stand higher from the typical corporates in the economy
- There is a sharp gap between Stars and Zombies in terms of Net Debt, rendering a possible Zombie restructuring vital for the whole economy

The figures depicted in the above graphs correspond to the typical Star, typical Zombie and typical corporate of the total economy

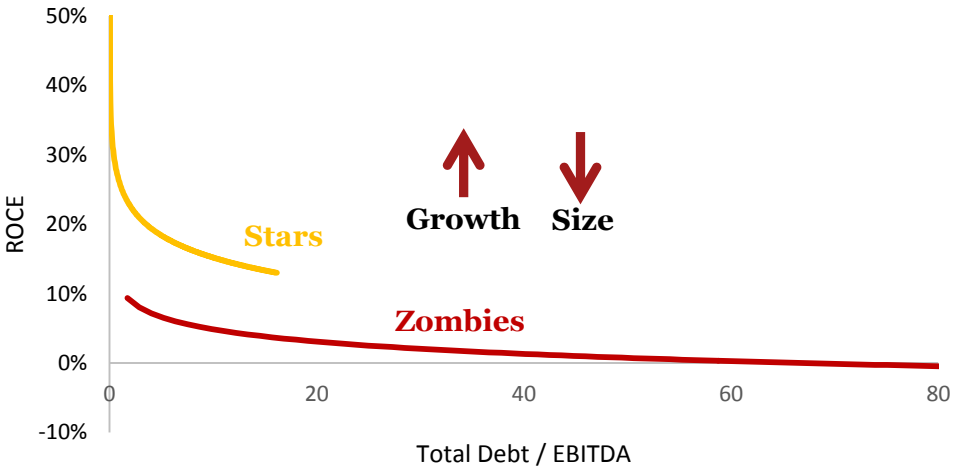
Zombies have a negative effect on the cash flows of all other companies



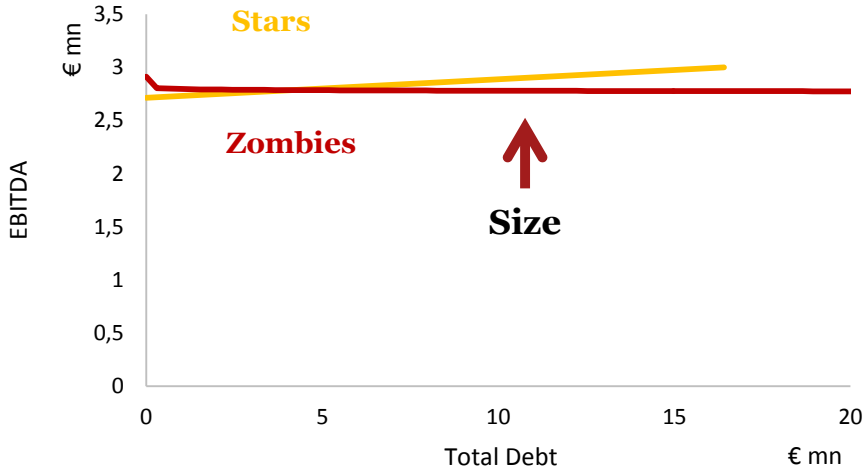
- During the period 2009-2013 the Zombie companies showed a constantly increasing number of Days Payable Outstanding compared to the total of companies, causing cash flow problems to the counterparties
- Zombie companies delay their payments 42 days more than they did in 2009
- In 2013, the average Zombie company delayed its payments to its suppliers 63 days more than the average company of the sample. The average Star company paid its suppliers 18 days earlier than the average company of the sample
- The growing delays in payments of Zombie companies increases the financing needs in the rest of the groups

High levels of debt reduce ROCE whilst fresh debt beyond a point does not lead to EBITDA increase

Incompatibility of cash flows and debt



Diminishing returns on new debt for Zombies



$$\ln(ROCE) = a_1 \ln R + a_2 \ln(D/EBITDA) + a_3 \ln(\Delta R/R_{2008\text{-}2013})$$

	ln(Revenues)	ln(D/EBITDA)	ln(ΔR/R2008-2013)	R²
Total	**-0.12**	**-0.07**	**0.15**	**0.75**
Group 5*	-0.05	-0.04	0.40	0.48
Group 4*	-0.15	-0.01	-0.45	0.80
Group 3*	-0.15	0.02	-0.01	0.93
Group 2*	-	-	-	-
Group 1*	-0.10	-0.58	-0.004	0.94
Group -1*	-0.18	0.03	-0.07	0.92
Group -2*	-0.06	-1.15	-0.02	0.85
Group -3*	-	-	-	-
Group -4*	-	-	-	-
Group -5*	-	-	-	-

$$\ln(EBITDA) = a_1 \ln R + a_2 \ln D$$

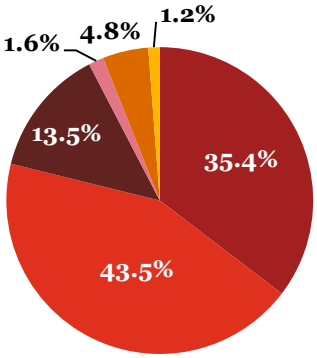
	lnR	lnD	R²
Total	**0.81**	**0.02**	**0.99**
Group 5*	0.82	0.04	0.99
Group 4*	0.84	0.00	0.99
Group 3*	0.82	0.03	0.99
Group 2*	0.84	0.02	0.98
Group 1*	-0.08	1.00	0.99
Group -1*	0.79	0.05	0.98
Group -2*	-0.01	0.89	0.99
Group -3*	0.77	0.04	0.97
Group -4*	0.09	0.74	0.99
Group -5*	0.28	0.48	0.98

General Categories

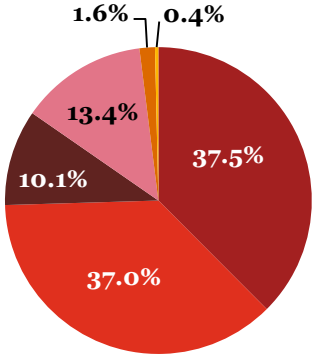
- The companies were classified into sectors by the type of their economic activity. The ICAP classification of sectors was used as a basis, and then grouped into six hyper-sectors
- The **Manufacturing** hyper-sector includes most of the Greek companies engaged in light and heavy manufacturing
- The hyper-sector of **Commerce** accounts for the part of tertiary sector involved in trading
- The hyper-sector of **Services** also represents a share of tertiary production
- The **Tourism** hyper-sector includes hotels and companies which offer tourism related services
- The hyper-sector of **Investment Companies** includes all companies whose operating model is based on capital investment outside the financial sector (e.g. Real Estate and Car Rental)
- The I**nfrastructure** hyper-sector includes companies which build and operate infrastructure such as public utilities, telecommunications and highways

Manufacturing, commerce and services represent…

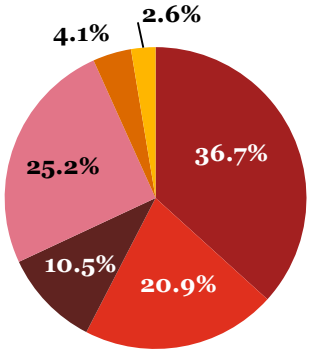
92% #Companies



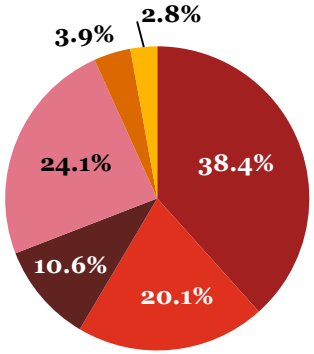
85% % Revenues



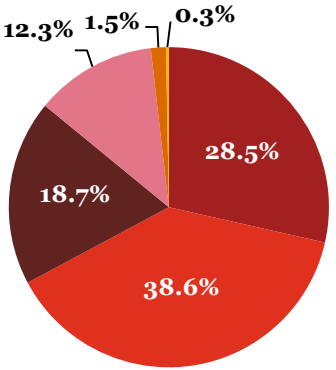
68% % Capital Employed



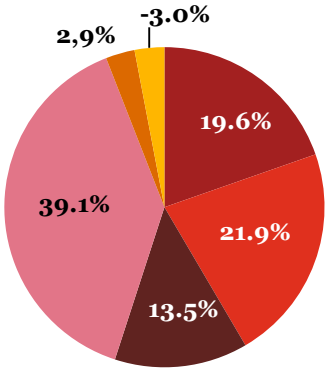
69% % Total Debt



86% % Personnel



59% EBITDA

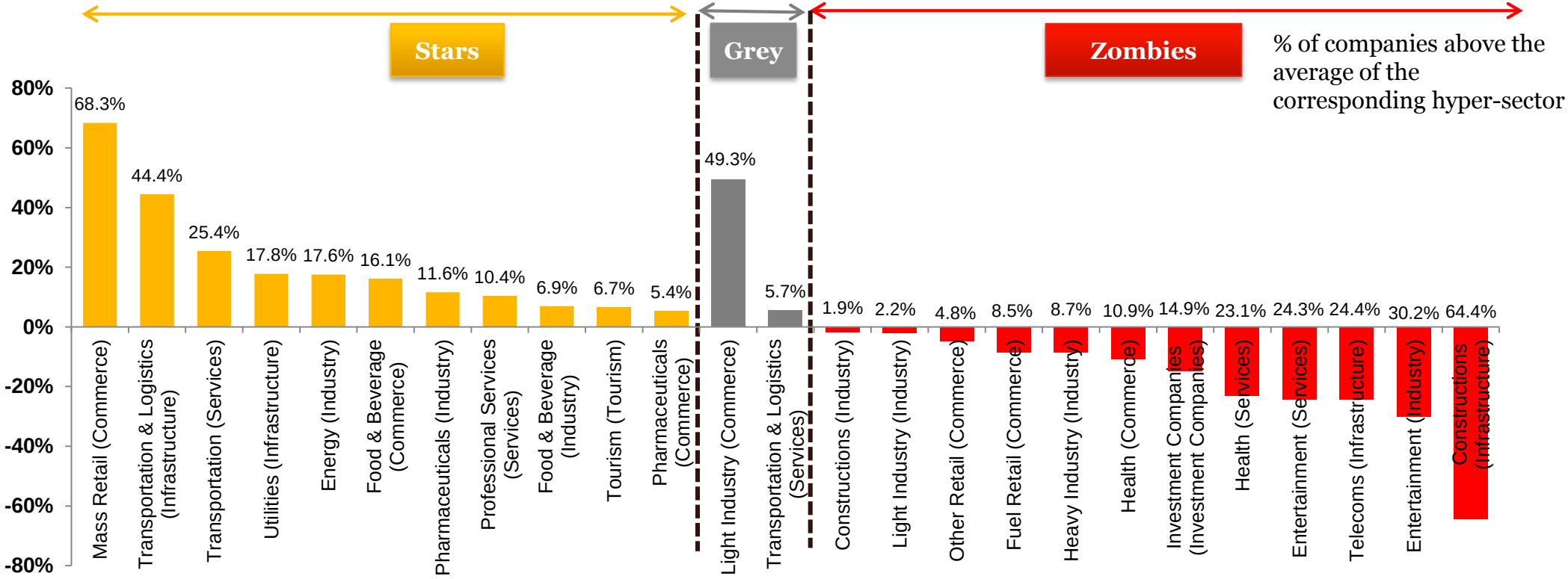


■ Manufacturing ■ Commerce ■ Services ■ Infrastructure ■ Tourism ■ Investment Companies

No	Sectors	Companies	Income*	EBITDA*	Earnings before Taxes*	Capital Employed*	Total Debt*	Personnel
1	Manufacturing	999	50,682	1,761	-1,390	41,565	21,680	137,238
2	Commerce	1,228	50,002	1,963	731	23,629	11,387	185,790
3	Services	382	13,661	1,206	280	11,847	5,998	90,107
4	Infrastructure	45	18,068	3,501	348	28,540	13,627	58,957
5	Tourism	136	2,201	263	-34	4,673	2,219	7,359
6	Investment Companies	34	476	-269	-432	2,959	1,604	1,322
Total		**2,824**	**135,090**	**8,424**	**-496**	**113,212**	**56,514**	**480,773**

*€ millions

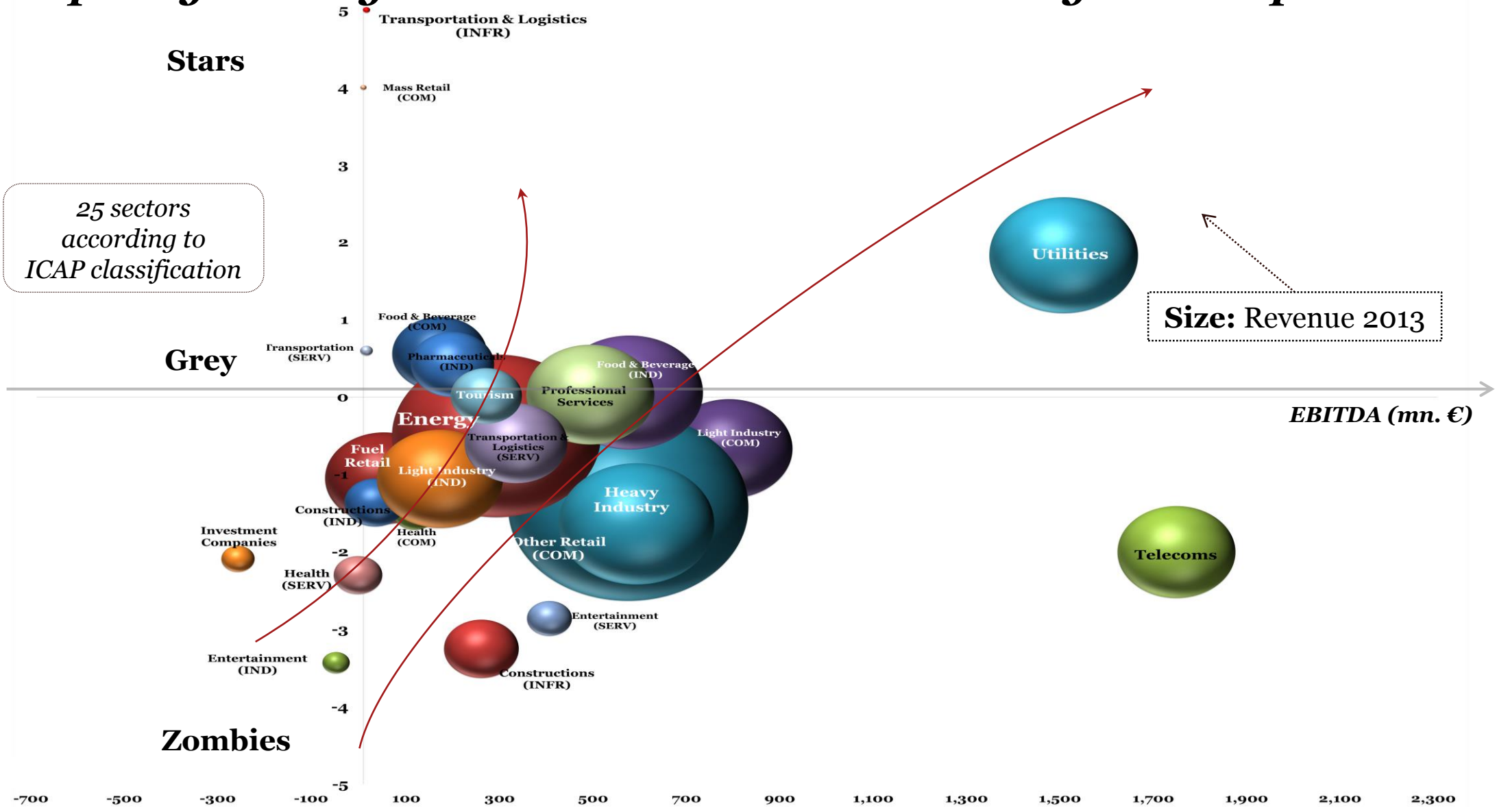
Sectors with a relative majority in Stars or Zombies



- The mass retail, food & beverage, energy and display signs of relative competitiveness in contrast with heavy industry, entertainment and construction
- Mass retail, transportation and logistics, energy and pharmaceuticals stand out in terms of Star characteristics while health commerce has a strong Zombie contingent
- The Infrastructure sector, except for telecoms and construction, has a large population of Stars
- In the Services sector, professional services stand out for their number of Stars, while Entertainment for their number of Zombies

25 sectors according to ICAP classification

Sectoral approaches lack the clarity to become a base for policy making. The markets tend to "choose" good companies



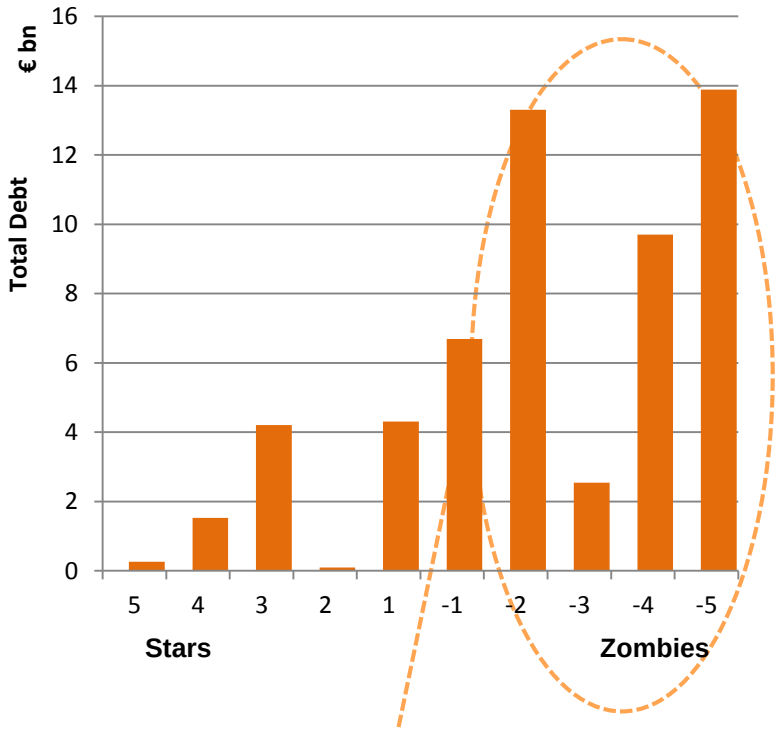
Main drivers of the corporate economy

- Zombies are **shrinking** in business terms with Stars **gaining market share** and **profitability**
- The greatest shrinkage on their **capital base** was suffered by Zombies, mainly due to **accumulated losses**
- Zombies **cannot remunerate the capital employed**, something that Stars do exceedingly well
- **Debt is recycled** to a great extend, preserving mostly Zombie companies
- Capital use differs significantly between Groups
- Zombies disseminate economic pressure on the rest of the groups (viral)
- Indebtedness inhibits profits and growth
- Size increases profit, but leads to diminishing returns on capital particularly if funded by debt

The sample's total debt (€56.5 bn) is concentrated mostly in the Zombie groups

- The analysis highlights that a part of the sample's total debt (approximately €40bn) cannot be repaid normally
- The question is **how much is the amount of debt that needs to be restructured or refinanced in order for debt to be sustainable in the sampled companies**
- The exercise was carried at the company level

1. Net Debt/ EBITDA was set equal to 5, as the maximum acceptable limit for the debt sustainability
2. The average EBITDA over years 2011, 2012 and 2013 was used in the calculation
3. For every company with negative EBITDA, it was assumed that the debt committed will not be repaid ("Trapped Debt")
4. For every company with positive EBITDA, the debt level that requires refinancing ("Refinanceable Debt") was calculated using the debt sustainability ratio of Net Debt/ EBITDA=5
5. "Trapped Debt" as well as "Refinanceable Debt" were aggregated by group and by sector

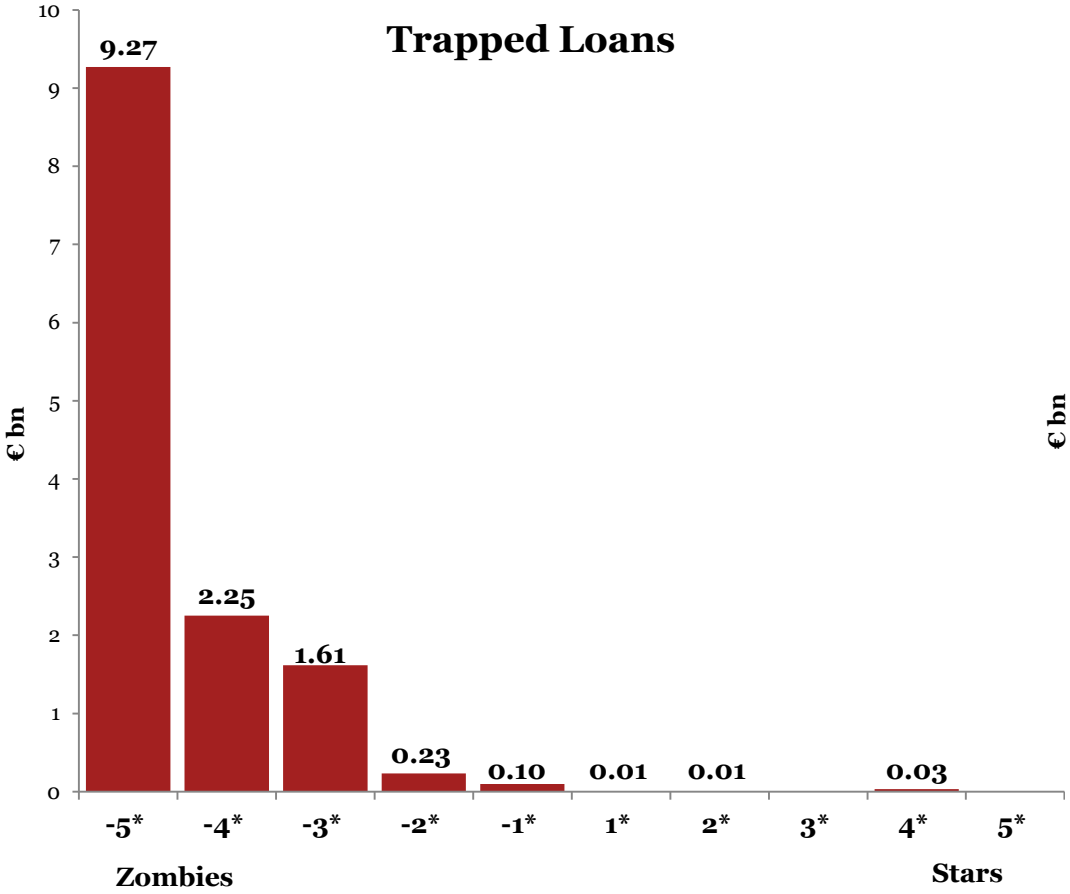


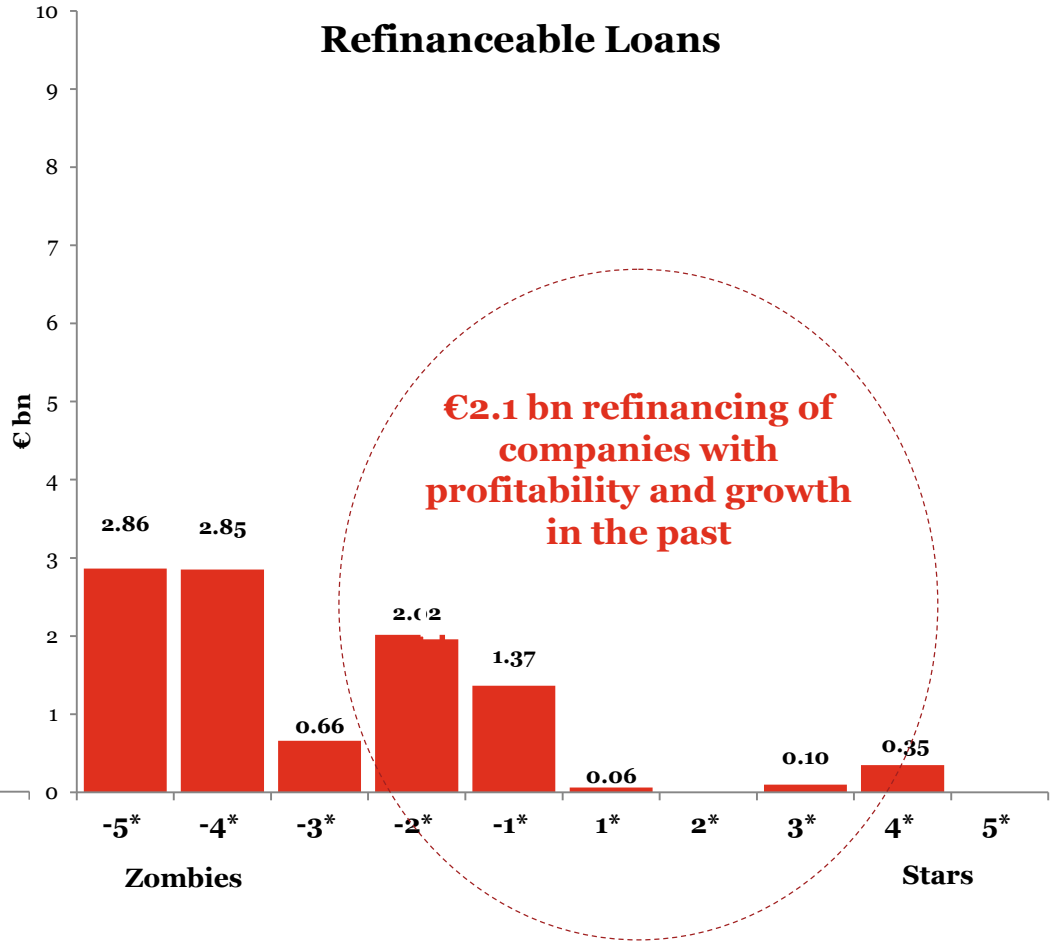
Total debt for the groups -5* to -2* amounts to € 40bn (71% of total), part of which is reflected at the corporate NPLs of the Greek banks

For the refinancing of the corporate economy, over a reasonable time horizon, banks must

*…**write off or heavily restructure** about **€13.5 bn** (24% of loans)* to release assets, mostly by Zombies

*… **restructure/refinance** about **€10.3 bn** (18% of loans) to restore the balance with operational profitability*





In total, up to about €10.3 bn (18% of loans) should be refinanced and up to €13.5 bn (24% of loans) should be restructured in the Zombie groups

Trapped Debt	-5*	-4*	-3*	-2*	-1*	1*	2*	3*	4*	5*	Total
Commerce	2.24	0.67	0.12	0.01	0.05	0.01	0.00	0.00	0.01	0.00	3.10
Manufacturing	4.08	1.00	0.87	0.16	0.01	0.00	0.00	0.00	0.00	0.00	6.12
Infrastructure	0.06	0.00	0.09	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.15
Investment Companies	0.68	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
Services	2.05	0.21	0.39	0.07	0.04	0.00	0.00	0.00	0.00	0.00	2.76
Tourism	0.17	0.06	0.15	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.40
Total	9.27	2.25	1.61	0.23	0.10	0.01	0.01	0.00	0.03	0.00	13.51

Refinanceable Debt	-5*	-4*	-3*	-2*	-1*	1*	2*	3*	4*	5*	Total
Commerce	0.78	0.70	0.01	0.33	0.10	0.00	0.00	0.00	0.12	0.00	2.04
Manufacturing	1.48	1.26	0.13	0.70	0.74	0.00	0.00	0.01	0.23	0.00	4.56
Infrastructure	0.37	0.07	0.38	0.53	0.19	0.00	0.00	0.01	0.00	0.00	1.56
Investment Companies	0.07	0.14	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.25
Services	0.16	0.26	0.11	0.16	0.09	0.05	000	0.05	0.00	0.00	0.88
Tourism	0.00	0.43	0.03	0.30	0.20	0.00	.,00	0.02	0.00	0.00	0.98
Total	2.86	2.85	0.66	2.02	1.37	0.06	0.00	0.10	0.35	0.00	10.26

General Total	12.13	5.10	2.27	2.25	1.46	0.07	0.01	0.10	0.38	0.00	23.78

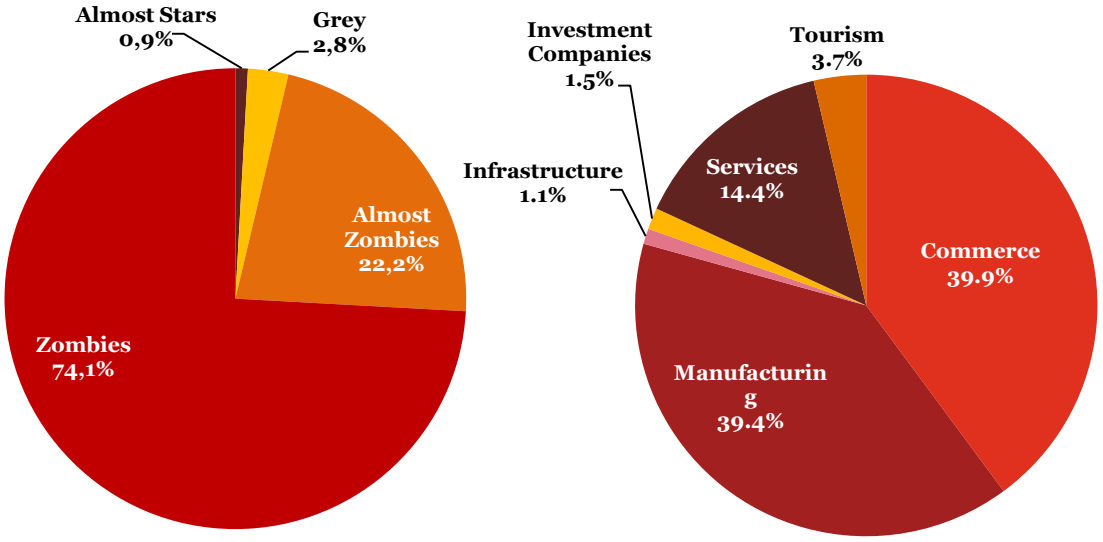
€ billions

96% of companies with trapped debt belong to the Zombie groups

- This class consists of 464 companies (16% of the sample) accounting for **8% of revenue, 15% of the sample's capital** and **22% of debt of total sample**
- Most of the companies (341) belong to Zombies (-5*), while another 102 companies belong to Almost Zombies
- **79%** of the companies are in **Commerce** and **Manufacturing** (40% and 39% respectively)

€ bn	Companies with Trapped Debt	Rest of Sample	% Rest Sample	% Total Sample
Revenue	11.3	123.8	9%	8%
Revenue CAGR	-12%	-2%	-9.7	-8.6
EBITDA	-1.9	10.4	-19%	-23%
Net Debt	13.0	30.1	43%	30%
Total Debt	13.5	43.0	31%	24%
Capital Employed	16.7	96.5	17%	15%

2013 Analysis per Group and Sector



Changes in the Debt Sustainability level (Net Debt/ EBITDA) utilised have a relatively small impact (±≈4 bn) on restructured and refinanceable debt

ND/E =5

€ bn Total figures	Refinanceable Debt		Trapped Debt		Initial Debt Level	Post Restructuring	Decrease (%)
	Number of companies	Debt Level	Number of companies	Debt Level			
Commerce	266	2.04	185	3.10	11.39	6.25	45%
Manufacturing	278	4.56	183	6.12	21.68	11.00	49%
Infrastructure	9	1.56	5	0.15	13.63	11.91	13%
Investment Companies	5	0.25	7	0.98	1.60	0.37	77%
Services	61	0.88	67	2.76	6.00	2.37	61%
Tourism	36	0.98	17	0.40	2.22	0.84	62%
Total	655	10.26	464	13.51	56.51	32.7	42%
Total Restructuring	23.77 bn / 1,119 Companies						

ND/E =8

€ bn Total figures	Refinanceable Debt		Trapped Debt		Initial Debt Level	Post Restructuring	Decrease (%)
	Number of companies	Debt Level	Number of companies	Debt Level			
Commerce	178	1.31	185	3.10	11.39	6.98	39%
Manufacturing	174	2.73	183	6.12	21.68	12.83	41%
Infrastructure	4	0.75	5	0.15	13.63	12.72	7%
Investment Companies	5	0.20	7	0.98	1.60	0.42	74%
Services	35	0.57	67	2.76	6.00	2.68	55%
Tourism	26	0.67	17	0.40	2.22	1.15	48%
Total	422	6.22	464	13.51	56.51	36.8	35%
Total Restructuring	19.73 bn / 386 Companies						

ND/E =4

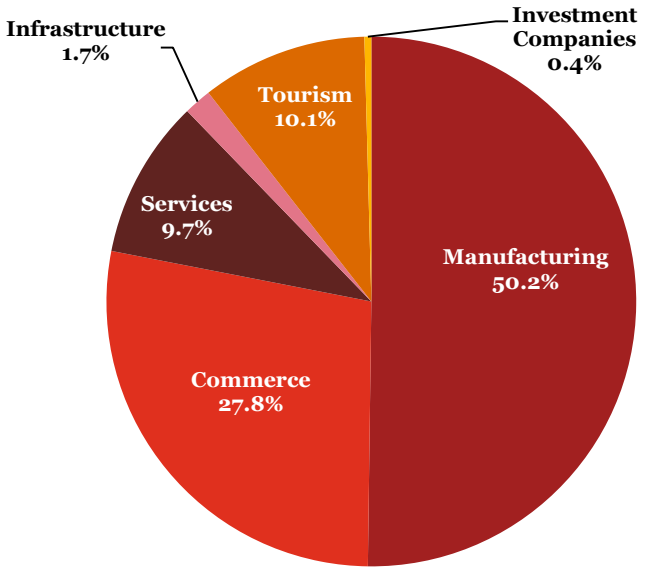
€ bn Total figures	Refinanceable Debt		Trapped Debt		Initial Debt Level	Post Restructuring	Decrease (%)
	Number of companies	Debt Level	Number of companies	Debt Level			
Commerce	305	2.43	185	3.10	11.39	5.86	49%
Manufacturing	326	5.54	183	6.12	21.68	10.02	54%
Infrastructure	11	2.71	5	0.15	13.63	10.77	21%
Investment Companies	7	0.27	7	0.98	1.60	0.35	78%
Services	73	1.03	67	2.76	6.00	2.21	63%
Tourism	42	1.11	17	0.40	2.22	0.71	68%
Total	764	13.08	464	13.51	56.51	29.9	47%
Total Restructuring	26.59 bn / 1,228 companies						

For the refinancing of over-indebted companies, which are profitable and have been growing in the past, about €2.4bn are required

€ bn	Trapped Debt		Refinanceable Debt	
	Number of companies	Debt Level	Number of companies	Debt Level
GGZ	3	0.16	127	1.54
SGZ	4	0.08	64	0.57
Total	**7**	**0.24**	**191**	**2.11**

€ bn	Profitable over-indebted companies	Total Sample	% Total
Revenue	19.3	135.1	14%
Revenue GAGR 2008-2013	2.1%	-3%	5.1pps
EBITDA	1.6	8.4	19%
EBITDA Margin	8.3%	6.2%	2.1pps
Net Debt	11.0	43.1	26%
Capital Employed	21.4	113.2	19%
ROCE	3.04%	2.04%	1pps
Net Debt / EBITDA	6.9x	5.1x	1.8

2013 Sectoral Analysis



Creating the necessary conditions for the appearance of more Stars and the elimination or transformation of Zombies, should be the main policy premises for a better resource allocation in the economy

2013	Total			
	Stars	Almost Stars	Other	Zombies
Revenue*	7,470	40,981	73,795	12,845
Fixed Assets*	876	18,833	64,165	17,383
Total Assets*	3,734	37,060	102,210	29,486
Number of employees	22,521	122,753	259,312	76,187
EBITDA	624	4,231	5,629	-2,059
EBITDA margin	8.3%	10.3%	7.6%	-16.03%
EBT	496	2,801	-231	-3,562
EBT margin	6.64%	6.83%	-0.31%	-27.73%
ROCE	32.6%	14.3%	2.1%	-14.3%
ROE	37.3%	17.3%	-0.7%	-58.2%
Capital Employed*	1,739	22,740	69,890	18,843
Total Debt*	263	5,823	36,540	13,888
Net Debt*	-296	1,905	28,785	12,683
Shareholder Equity*	1,476	16,917	33,350	4,955
Net Debt/EBITDA	N/A	0.45	5.11	N/A
Net Debt/ Revenue	N/A	0.05	0.39	0.99
Net Debt/ Capital emp.	N/A	0.08	0.41	0.67
EBITDA/Financial Res.	19.74	10.18	3.26	-3.01

2013	Typical Company			
	Stars	Almost Stars	Other	Zombies
Revenue*	32.5	58.5	58.8	20.1
Fixed Assets*	3.8	26.9	51.2	27.2
Total Assets*	16.2	52.9	81.5	46.1
Number of employees	98	175	207	119
EBITDA	2.7	6.0	4.5	-3.2
EBITDA margin	8.3%	10.3%	7.6%	-16.0%
EBT	2.2	4.0	-0.2	-5.6
EBT margin	8.3%	10.3%	7.6%	-16.0%
ROCE	32.6%	14.3%	2.1%	-14.3%
ROE	37.3%	17.3%	-0.7%	-58.2%
Capital Employed*	7.6	32.4	55.7	29.5
Total Debt*	1.1	8.3	29.1	21.7
Net Debt*	-1.3	2.7	23.0	19.8
Shareholder Equity*	6.4	24.1	26.6	7.8
Net Debt/EBITDA	N/A	0.45	5.1	N/A
Net Debt/ Revenue	N/A	0.05	0.4	1.0
Net Debt/ Capital emp.	N/A	0.08	0.41	0.67
EBITDA/Financial Res.	19.74	10.18	3.26	-3.01

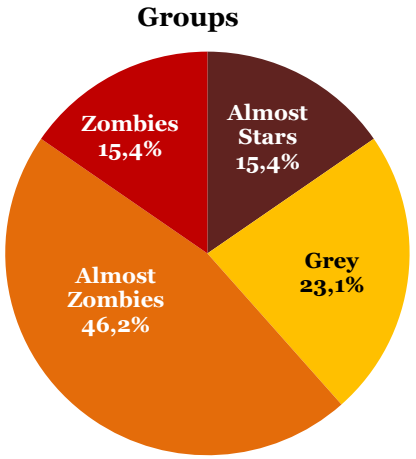
More and bigger Stars and less Zombies are necessary for sustained growth

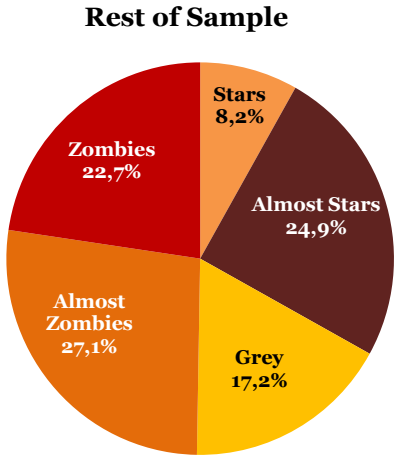
13 Groups of companies account for more than 35% of the economic activity of the sample

- In total, the 13 Groups of companies account for **35% of total Revenue and 50% of total EBITDA**
- They employ **35% of the sample's capital and 35% of debt**
- **46%** of the Groups are concentrated in the **infrastructure**, while **38% in the manufacturing** industry
- **Almost Zombies** (-2*,-3*,-4*) dominate the **Groups**' categories, while there are **no Star** groups
- ROCE stands 1,6 pps above the total sample
- On average, Debt of the 13 Groups is being **serviced more comfortably** than the rest of the sample
- Overall, Groups are significant for the corporate economy and their performance has not been tracking the rest of the sample, particularly regarding debt

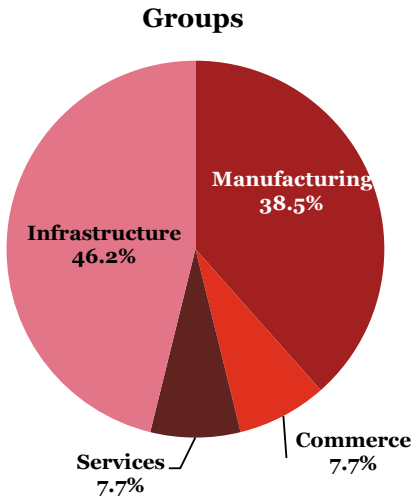
€ bn	Groups	Rest of Sample	% Rest of Sample	Total Sample	% Total Sample
Revenue	47.8	87.3	55%	135.1	35%
EBITDA	4.2	4.2	100%	8.4	50%
Net Debt	14.9	28.1	53%	43.1	35%
Capital Employed	39.6	73.6	54%	113.2	35%
ROCE	3.6%	1.2%	2.4 pps	2.0%	1.6 pps
Net Debt/ EBITDA	3.5x	6.7x	-3.2	5.1x	-1.6

2013 Analysis per category





Analysis per Sector



Groups appear to perform better than companies during the crisis

€ bn	Groups	Rest of sample	Δ
Revenue CAGR	-1.06%	-3.87%	2.81 pps
EBITDA Margin	8.82%	4.82%	4.01 pps
EBT Margin	0.44%	-0.81%	1.25 pps
ROE	1.09%	-1.87%	2.97 pps
ROCE	3.60%	1.19%	2.41 pps
Net Debt/ EBITDA	3.54x	6.69x	-3.15
Net Debt/ Working Capital	10.89	2.13	8.76
Net Debt/ Capital Employed	0.38	0.38	-0.01
EBITDA / Interest	3.35	2.63	0.73
Percentage of Non Zombies	84.62%	77.34%	7.28 pps

- Despite the slowdown of the economic activity, **Groups** achieved **higher growth and margins** than the rest of the sample
- Groups' ROCE, although low, is more than double compared to the rest corporates
- **Debt is more sustainable** for Groups than the rest of sample
- The **percentage of Zombies is lower** across Groups than from the rest of the sample

The overall debt picture

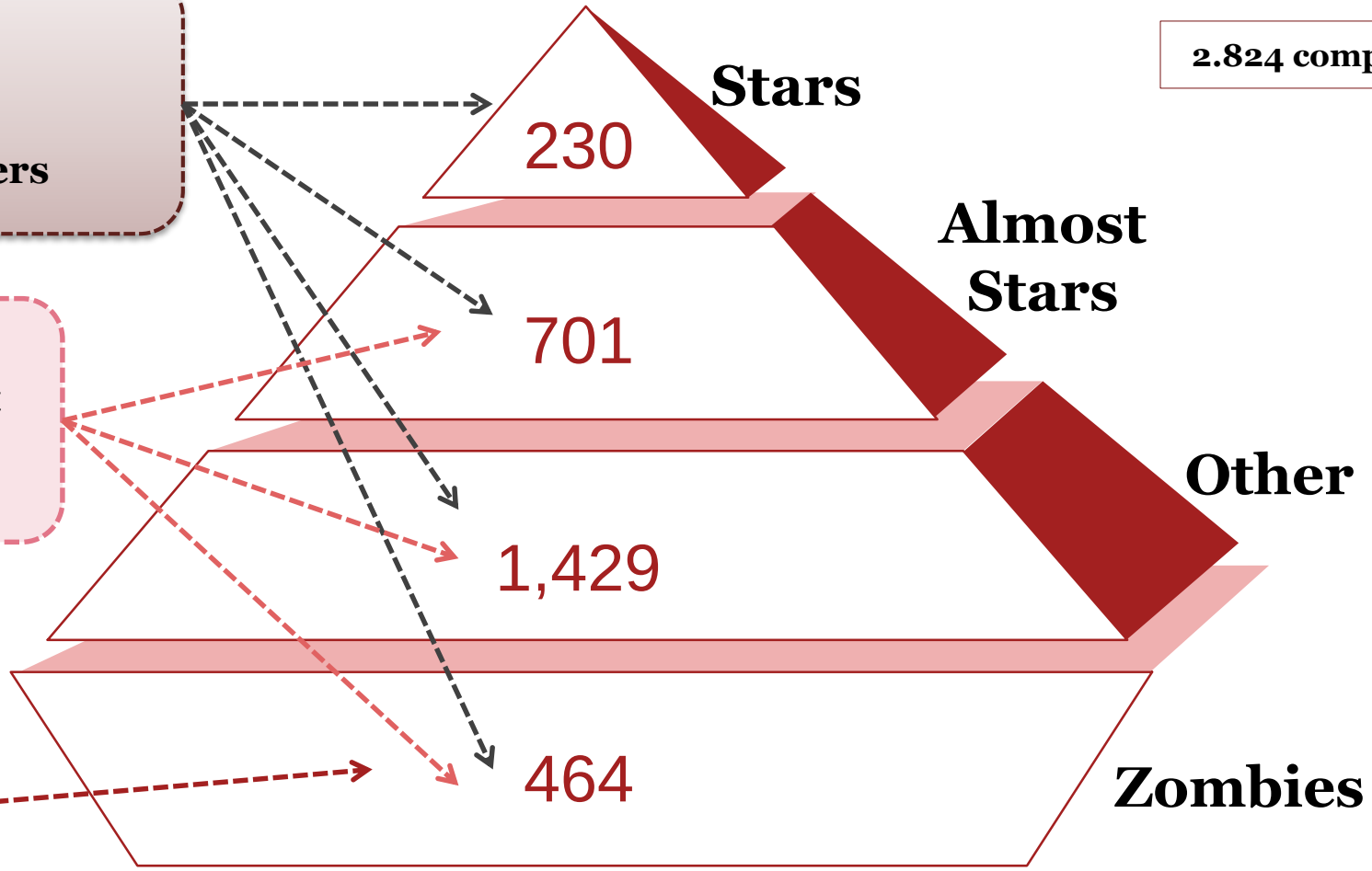
- The sample companies have loans of **€56.5bln**, compared to almost €119.2 bn total corporate loans in the economy
- Out of the 2,824 companies, 464 (16.4%) are unable to fully service loans up to **€13.5bn (24% of sample loans)**
- Moreover, 655 companies (23% of total companies) could possibly repay loans of **€10.3bn (8.6% of total corporate loans)** if they were refinanced using the right type of financing
- **Profitable** but over indebted companies, carry **€2.1bn** of refinanceable debt
- About **96%** of trapped debt is in the **Zombie categories**
- **Changing the debt sustainability criterion** (Net Debt/EBITDA) from 5 to 8, leads to a **17% reduction (c.€4bn)** in the debt to be restructured /written off
- Except for Infrastructure, all other hyper - sectors need to **restructure/write off more than 20%** of their loans. Manufacturing, Commerce and Services need **refinancing of more than 40%** of their loans
- Groups of companies account for about **35%** of the sample's economic activity and have on **average better performance** than stand alone corporate, particularly regarding debt

The dynamics of future growth

- **Investment to boost capacity**
- **Acquisitions / Mergers**

- **Restructuring of debt and fresh equity**

- **Liquidation to release assets and increase growth of the rest of the companies**



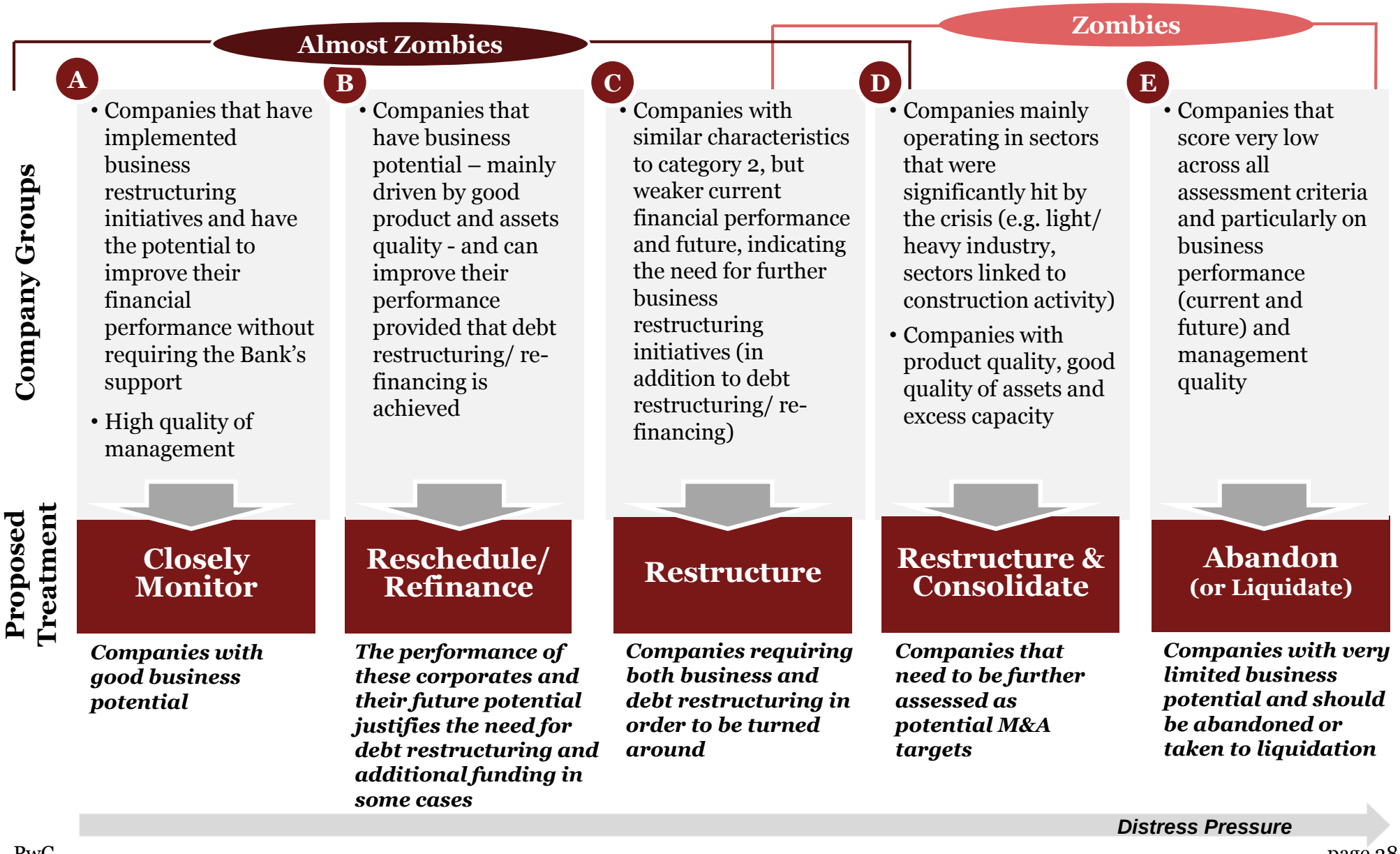
About 900 companies drive the Greek economy and another 1,500 could make a vital contribution

- The Greek corporate economy seems to be led by 230 Star companies (group 5*) which represent 7.4% of EBITDA, 5.5% of revenues, 1% of fixed assets and 5% of the employees in the sample
- These companies had an annual growth rate of 18%, ROCE of 33% and loans of only €262mn in 2013
- At a second level, Almost Stars (groups 4*, 3*, 2*) comprise 701 companies with quite good characteristics ,which are the backbone of corporate economic activity in the country and represent 50% of EBITDA, 30% of revenue, 19% of fixed assets and 26% of the employees in the sample
- These companies show a lower annual growth rate (4%) with ROCE however reaching 14%in 2013 and total debt of only €5.8bn
- 1,429 companies (groups 1*, -1*,-2*,-3*,-4*) represent the largest part of economic activity (56% revenues, 64% fixed assets, 55% employees) and produce 65% of total EBITDA. These corporates show significant diversity in performance and suffer from excessive debt
- 464 companies with trapped debt represent 8% of total revenue, 17% of fixed assets, 15% of employees and contribute negatively to the produced EBITDA (-23%). In addition, they exhibit a significant shrinkage and negative ROCE
- The strategy for the recovery of the corporate economy should have three dimensions**: funding and promoting the two leading groups**, **restructuring of debt and refinancing the third group** and the **fast liquidation of the last group**

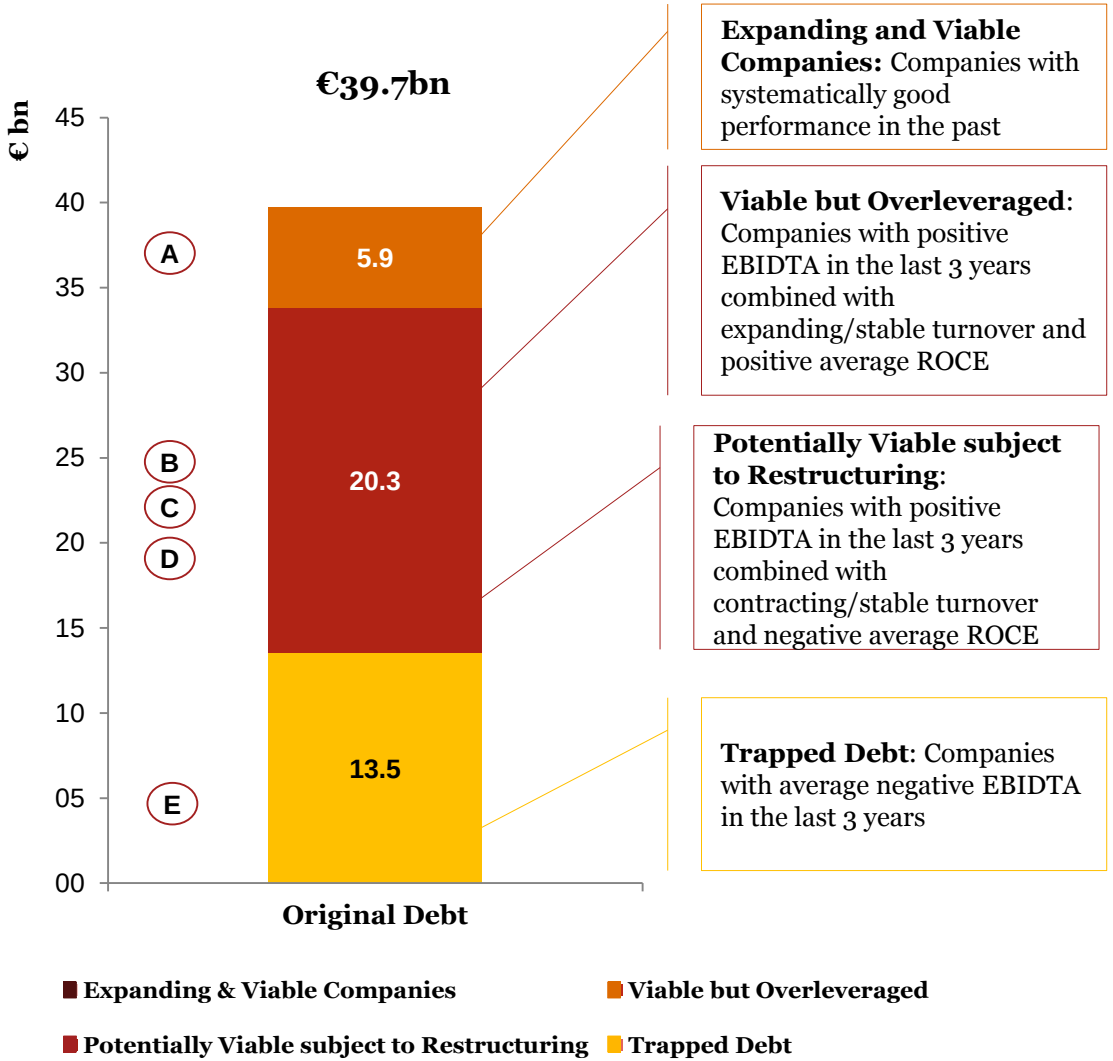
Growth Financing and Corporate Debt Management Policies

No	Policy	#	Total Debt	Effect on the companies	Effect on the Banks	Third Party Investment
1	*Financing of companies with systematically good performance in the past*	~930	€6.1 bn	✓ New Capital Employed ✓ Revenue increase ✓ EBITDA and EBIT increase	✓ **€3.5 bn** new financing	✓ **€2 bn** share capital increases
1a	*Companies with average performance in the past with no need for refinancing*	~770	€10.7 bn			
2	*Debt restructuring for companies with good performance in the past*	~200	€6 bn	✓ Revenue Increase ✓ EBITDA and EBT improvement	✓ Up to **€2 bn** restructuring/ refinancing ✓ Improvement of profitability on NPLs and reversal of provisions	✓ **€1 bn** share capital increases
3	*Debt restructuring for companies with "non-negative" outlook*	~470	€20 bn	✓ Revenue Increase ✓ EBITDA and EBT improvement	✓ Up to **€8 bn** restructuring/ refinancing ✓ Improvement of profitability on NPLs and reversal of provisions	✓ **€3 bn** share capital increases
4	*Rapid liquidation of companies with systemically negative cash flows*	~470	€13.5 bn	✓ Liquidation / Administration	✓ Up to **€14 bn** of losses	✓ **€2 bn** for purchase of assets
	Total Outcome	**2,824**	**€ 56.5 bn**	✓ **Improvement of profitability and growth**	✓ **€14 bn losses** ✓ **€10 bn refinancing** ✓ **€3.5 bn new financing**	✓ **€6 bn third party investments**

Banks need to move towards effective corporate NPL management



Applying consistent NPL management strategies will affect about € 40bn of debt and 1,100 corporates

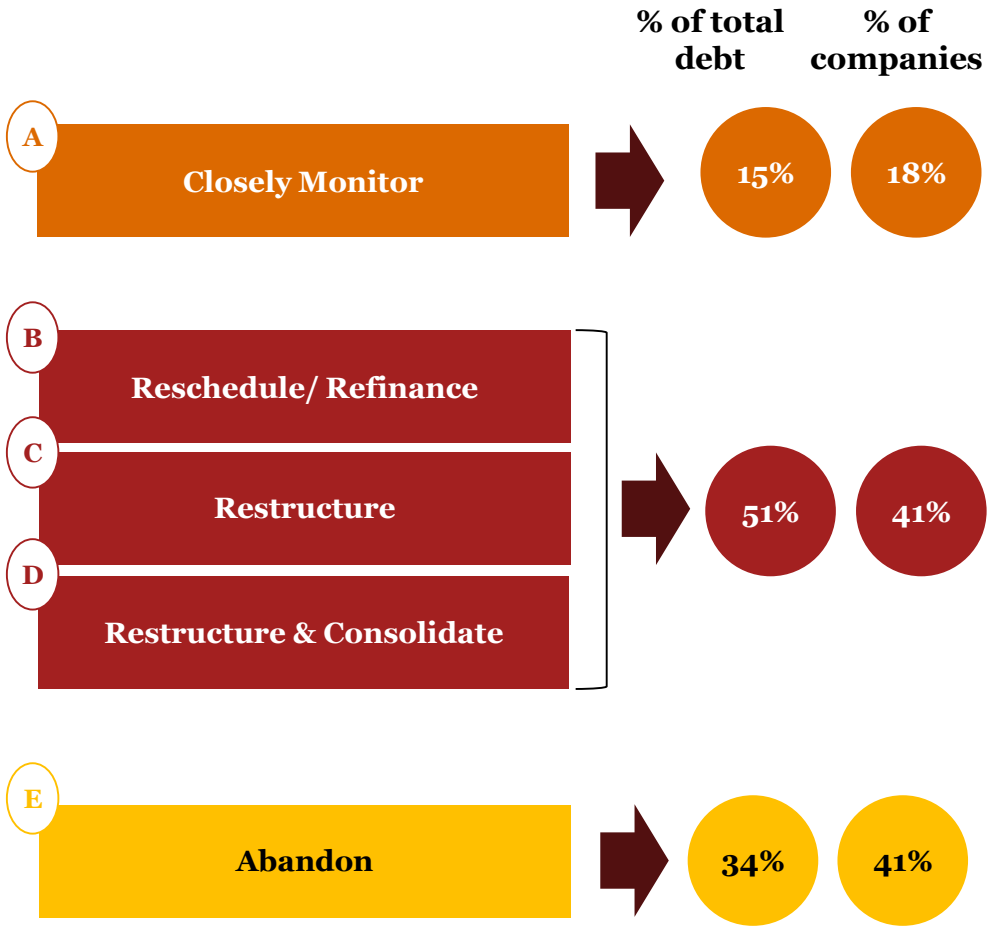


Expanding and Viable Companies: Companies with systematically good performance in the past

Viable but Overleveraged: Companies with positive EBIDTA in the last 3 years combined with expanding/stable turnover and positive average ROCE

Potentially Viable subject to Restructuring: Companies with positive EBIDTA in the last 3 years combined with contracting/stable turnover and negative average ROCE

Trapped Debt: Companies with average negative EBIDTA in the last 3 years



Addressing corporate indebtedness

- Regarding **companies with trapped debt**, the bankruptcy law has been amended to allow for the rapid liquidation of effectively insolvent companies (Article 4336/2015) and the swift re-utilisation of their fixed assets within the economy (potential targets for Star companies or new investors)
- The **Banks** need to move towards a considerably more **effective corporate NPL management** by understanding their NPL portfolio and focusing only on refinanceable and restructurable businesses while abandoning hopeless cases
- The corporate portfolio management strategy should be based on evaluating the curability potential of each distress corporate, leading to one of five potential actions:
  - **Closely Monitor**
  - **Reschedule/ Refinance**
  - **Restructure**
  - **Restructure & Consolidate**
  - **Abandon (liquidate)**
- Incentives and disincentives for the fast and effective handling of restructurings should be instituted, as for example:
  - should the banks **fail to agree on a restructuring solution within the prescribed time**, then the full outstanding debt will need to be written off in a regulatory capital term
  - upon agreement, **a tax credit** equal to part or the whole of the restructured debt could be issued proportionately to the banks

Economic growth requires investments and there are investment opportunities in Greece

- The Greek corporate economy needs to be significantly **relieved from debt**, in order to start growing again attracting new funds in the way
- **Assets trapped** in the banks' and the corporate balance sheets must be **released back** into the economy to increase production capacity
- **There is no strong case for sectoral policies**. The market tend to "decide" at the level of the corporates
- The first objective is to create more stars. Policy and resource allocation should focus on **the competitiveness of individual companies**:
  - systematic growth
  - high profitability
  - reasonable debt consistent with the company's cash flows
- The second objective is to detoxicate the economy and the banks by restructuring / writing off unserviceable debt
- By restructuring **€13.5bn** of debt and refinancing another **€10.3bn** through higher risk instruments, further **€6 bn** could be mobilised in the form of equity or quasi-equity and about **€2bn** of assets to re-enter
- The restructuring and refinancing of the corporate economy will:
  - **Cure** part of the non performing loans thus increasing Interest Income for the Banks
  - **Mobilise equity** to support restructuring and create opportunities for **Mergers and Acquisitions**
  - **Release unutilised provisions** to be used elsewhere
  - **Expand loan basis** as companies recover
- The consistent implementation by all involved parties (banks, corporates, BoG, the state) of such an approach to facilitate growth will boost the Greek economy by adding **0,7%-1% to GDP** annually up to 2020

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