



Impairment analysis of listed Italian companies

November 2020



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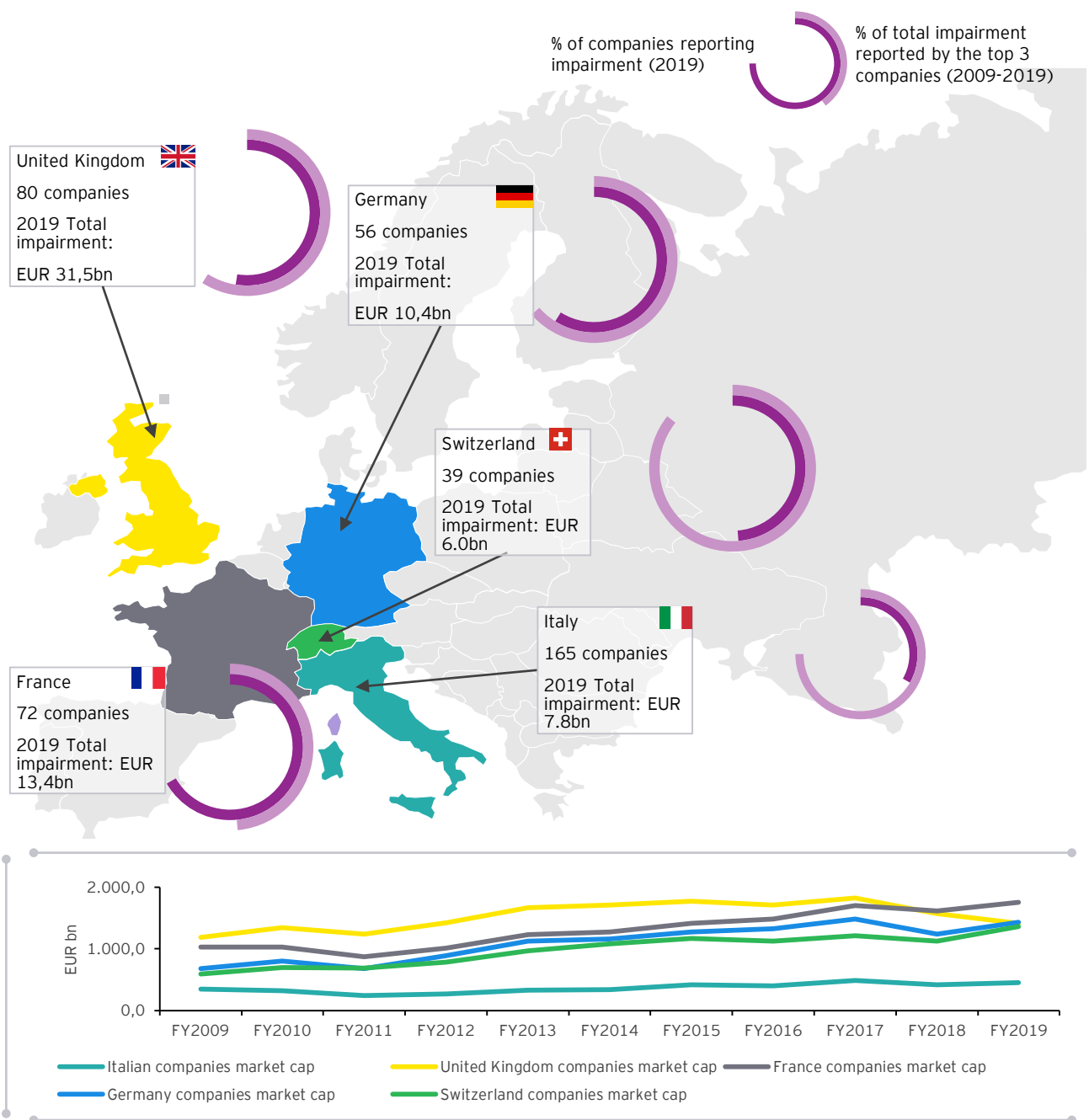


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Executive summary:

Impairment analysis for top 5 countries



- ▶ Italian companies include FTSE AIM and FTSE MIB companies
- ▶ Other countries companies include MSCI Europe companies

Executive summary:

FTSE MIB impairment analysis for top 5 sectors (based on average of 11 years total impairment, 2009-2019)



FTSE MIB	Year	Energy	Financial services	TMT	DIP	Infrastructure	Others	Total
n° of companies	2019	7	13	3	6	3	8	40
Total impairment (EUR bn)	2019	5,0	1,2	0,1	1,1	0,1	0,1	7,8
	5 yrs Average	3,2	0,7	0,6	0,4	0,6	0,1	5,8
	10 yrs Average	3,8	4,0	1,7	0,5	0,4	0,1	10,6
% of companies reporting impairment	2019	100,0%	76,9%	33,3%	83,3%	66,7%	50,0%	72,5%
	5 yrs Average	91,4%	55,4%	66,7%	80,0%	66,7%	47,5%	65,5%
	10 yrs Average	84,3%	54,6%	60,0%	80,0%	63,3%	46,3%	63,0%
Market capitalization (EUR bn)	2019	164,5	156,8	38,3	48,2	33,2	92,3	533,3
	5 yrs Average	138,1	135,3	31,1	40,9	36,7	64,8	446,9
	10 yrs Average	126,7	111,3	25,6	29,6	38,2	41,4	372,9
Market-to-book ratio	2019	1,2x	0,6x	0,8x	0,7x	0,9x	1,9x	1,1x
	5 yrs Average	0,9x	0,9x	1,1x	0,9x	1,6x	1,8x	1,0x
	10 yrs Average	0,9x	0,5x	0,6x	0,5x	3,0x	1,5x	0,9x

- ▶ In 2019, Energy sector reported highest total impairment with EUR 5,0bn followed by Financial services sector with EUR 1,2bn
 - ▶ As per 5 years average total impairment, Energy sector reported highest impairment at EUR 3,2bn followed by Financial services sector
 - ▶ As per 10 years average total impairment, Financial services sector reported highest impairment at EUR 4,0bn followed by Energy sector
- ▶ In 2019, % of companies reporting impairment was 72,5% for FTSE MIB, where, all Energy sector companies reported impairment
 - ▶ By 5/10 years, all the companies in Energy sector recorded impairments
- ▶ In 2019, Energy sector reported the highest market-to-book-ratio at 1,2x, where as, Infrastructure and TMT sectors reported 0,9x and 0,8x respectively. The lowest value of market-to-book ratio 2019 is the one of Financial Service (0.6x)
 - ▶ As per 5 years average market-to-book-ratio, Infrastructure sector reported highest ratio being 1,6x followed by TMT sector with ratio 1,1x. 10 years average ratio was highest for Infrastructure sector being 3,0x followed by Energy sectors with ratio 0,9x. "Others" are excluded from the analysis.

Executive summary:

MSCI Europe impairment analysis for top 5 sectors (based on average of 11 years total impairment, 2009-2019)



MSCI Europe	Year	Energy	Financial services	TMT	DIP	Healthcare	Others	Total
n° of companies	2019	42	80	47	65	45	144	423
Total impairment (EUR bn)	2019	29,9	19,5	4,8	8,6	15,2	11,2	89,2
	5 yrs Average	27,5	11,3	4,8	5,6	6,6	11,3	67,0
	10 yrs Average	30,0	13,1	10,0	5,3	4,7	9,5	72,6
% of companies reporting impairment	2019	71,4%	60,0%	57,4%	56,9%	46,7%	55,6%	57,4%
	5 yrs Average	70,0%	56,8%	53,2%	56,9%	40,4%	48,6%	53,2%
	10 yrs Average	70,0%	56,3%	51,1%	57,8%	39,6%	45,6%	51,9%
Market capitalization (EUR bn)	2019	1.125,0	1.285,7	927,4	1.223,8	1.719,4	3.101,0	9.382,2
	5 yrs Average	1.188,7	1.651,0	836,9	1.184,5	1.149,2	1.769,7	8.985,7
	10 yrs Average	1.177,7	1.484,7	741,8	1.017,0	1.174,1	1.468,6	7.810,0
Market-to-book ratio	2019	1,3x	0,8x	1,9x	1,9x	3,1x	1,8x	1,5x
	5 yrs Average	1,2x	0,8x	2,0x	2,2x	3,4x	2,1x	1,6x
	10 yrs Average	1,2x	0,8x	1,9x	2,0x	3,3x	2,0x	1,5x

- ▶ In 2019, Energy sector reported highest total impairment with EUR 29,9bn followed by Financial services sector with EUR 19,5bn
 - ▶ As per 5 and 10 years average total impairment, Energy sector reported highest impairment as EUR 27,5bn and EUR 30,0bn respectively, Financial Service sector was the second highest
- ▶ In 2019, % of companies reporting impairment was 57,4% for MSCI Europe, where, highest % of companies reported impairment by Energy sector being 71,4%
- ▶ In 2019, Healthcare sector reported the highest market-to-book-ratio being 3,1x, where as, TMT and DIP sectors both reported 1,9x
- ▶ As per 5 and 10 years average market-to-book-ratio, Healthcare sector reported highest as 3,4x and 3,3x respectively followed by DIP sector being 2,2x and 2,0x respectively

Introduction:

Impairment testing in Italy

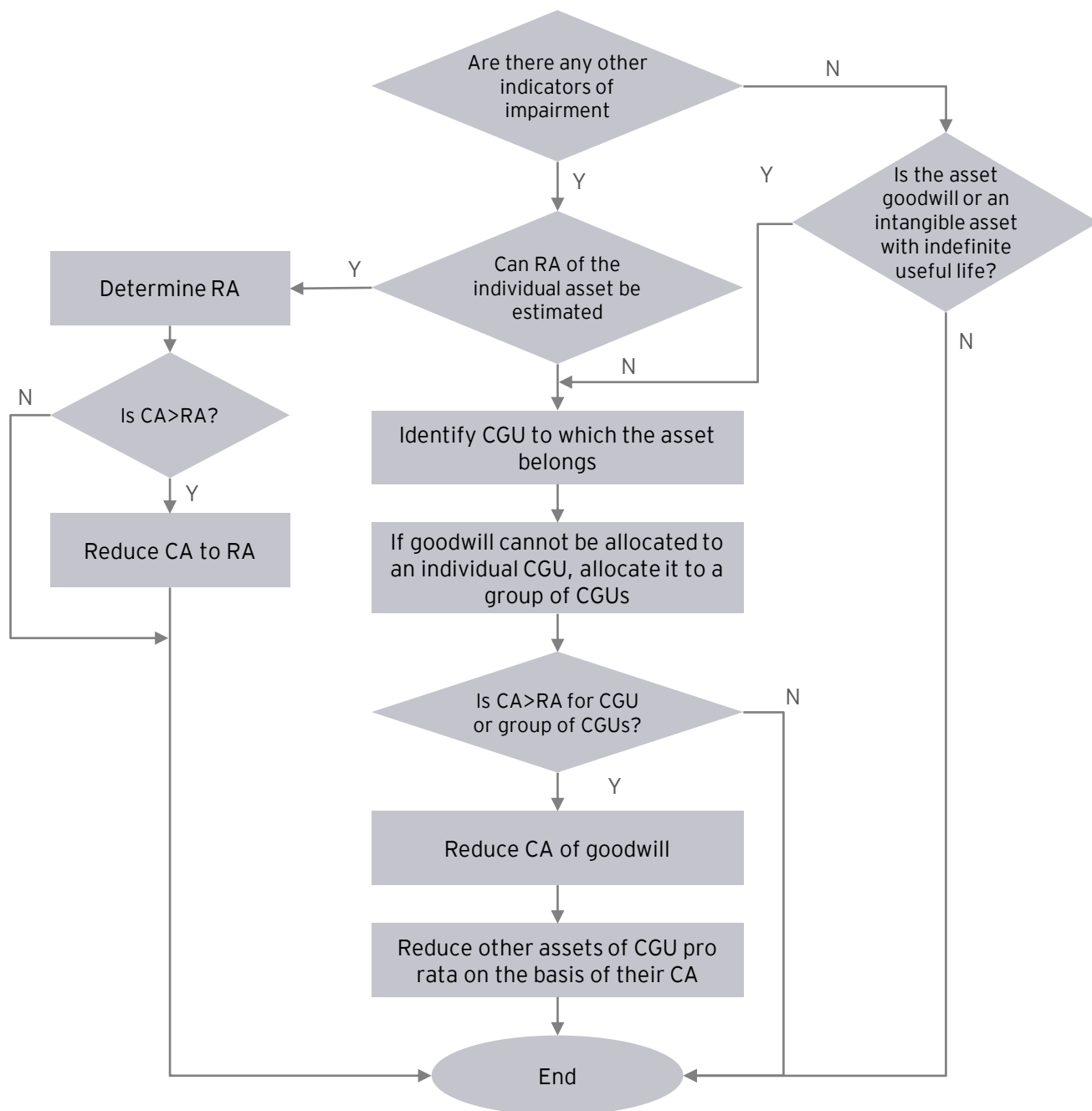


Impairment testing (IAS - 36)

- ▶ IAS 36 specifies that the assets are to be carried at no more than their recoverable amount (RA). The companies test for impairment for its assets
- ▶ IAS 36 requires an entity to assess, at each reporting date if an asset may be impaired
- ▶ To measure impairment, assets carrying amount (CA) is compared with recoverable amount
- ▶ Recoverable amount is calculated as higher of its “fair value less costs to sell” and its “value in use” (VIU)
- ▶ Fair value less costs to sell (FVLCS) is the amount obtainable from the sale of the asset in an arm’s length transaction between knowledgeable and willing parties, less the costs of disposal
- ▶ Fair value can also be calculated using Discounted cash flow methodology
- ▶ VIU is the present value of the future cash flows expected to be derived from an asset or a cash generating unit (CGU)
- ▶ VIU can be calculated either by a comparable assets approach or expected cash flow approach. However, IAS 36 indicates that the expected cash flow approach is, in some situations, a more effective measurement tool than the traditional approach (comparable assets)
- ▶ Reasonable and supportable assumptions are to be considered to calculate future cash flow. An entity is required to consider both external sources (such as market interest rates, significant adverse changes in the technological, market, economic or legal environment in which the entity operates, market capitalisation being lower than net assets) and internal sources (such as internal restructurings, evidence of obsolescence or physical damage)
- ▶ Future cash flows of the asset are calculated and a discount rate is applied to arrive at the present value of the future cash flows
- ▶ An impairment loss is recognised to the extent the CA of the asset exceeds its RA. For assets carried at historical cost, impairment losses are recognised as an expense immediately in profit or loss
- ▶ Primary difference with US GAAP: The reversal of previously recognised impairment losses is prohibited
- ▶ The key disclosures required:
 - ▶ The amount of impairment recognised and reversed and the events and circumstances that were the cause thereof
 - ▶ The amount of goodwill per CGU or group of CGUs
 - ▶ The valuation method applied: FVLCS or VIU and its approach in determining the appropriate assumptions
 - ▶ The key assumptions applied in the valuation, including the growth and discount rate used
 - ▶ A sensitivity analysis, when a reasonably possible change in a key assumption would result in an impairment, including the ‘headroom’ in the impairment calculation and the amount by which the assumption would need to change to result in an impairment

Process flow:

Determining and accounting for Impairment



RA = Recoverable amount; CA = Carrying amount; CGU = Cash generating unit

Valuation methods:

DCF remained most widely method for Impairment test along with Industry Comparable approach



Valuation methods used for top 10 companies by impairment value; considered for the period of 2014 - 2019

Industry	Company Name	DCF (Discounted Cash Flows)	OPM (Options Pricing Model)	DDM (Dividend Discount Model)	GGM (Gordon Growth Model)	AVM (Appraisal Value Method)	Comparable Approach
DIP	Company A	✓					
	Company B	✓					
Energy	Company C	✓					
	Company D	✓					
	Company E	✓					
Financial Services	Company F	✓	✓				✓
	Company G	✓	✓	✓	✓		✓
	Company H	✓	✓				✓
Infrastructure	Company I	✓					
TMT	Company J	✓					

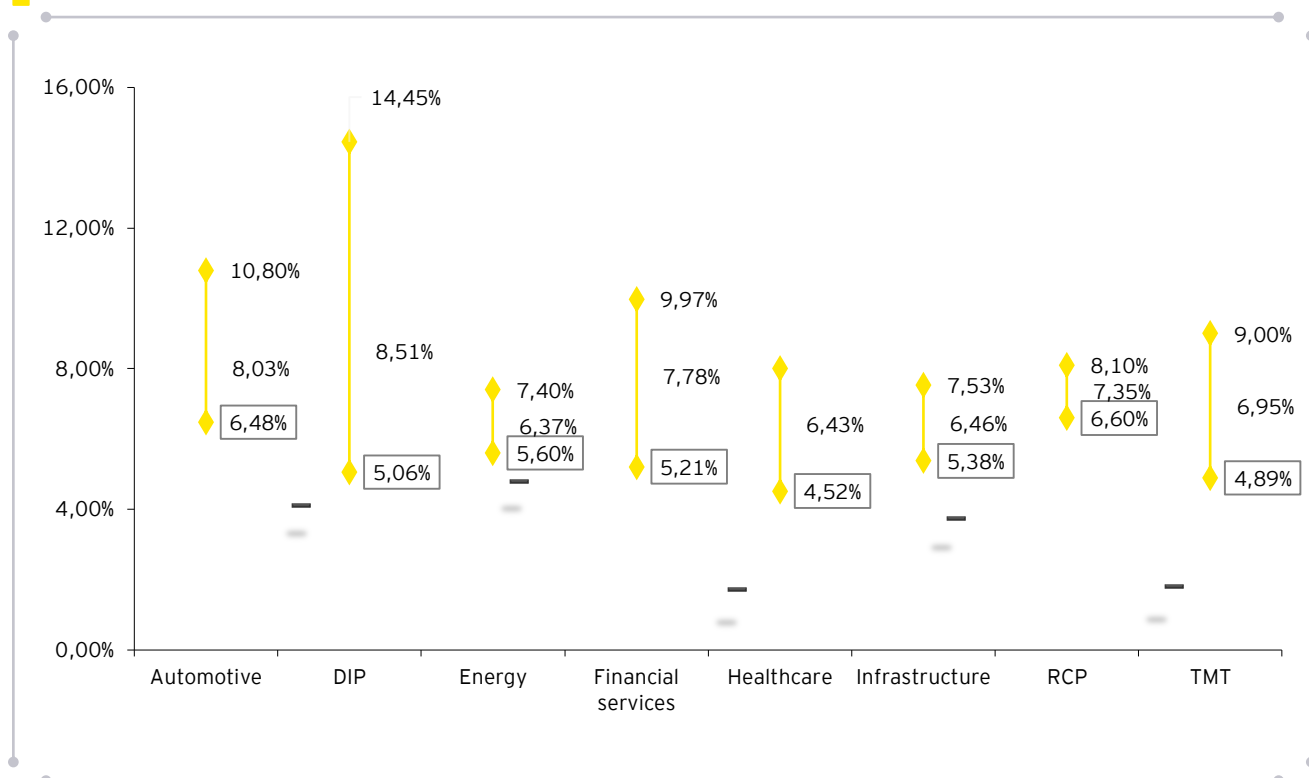
- ▶ DCF is the most widely used method for the impairment testing analysed for the top 10 companies considered by the impairment value for the period of 2014 - 2019
 - ▶ Comparable Approach (using comparable transaction or multiples) preferred besides DCF for various asset evaluation under impairment testing
- ▶ Financial Services industry used the most types of valuation methods to ascertain the fair market value (FMV) or fair value (FV) of assets while experiencing impairment test

2019 Industry WACC:

Infrastructure companies had highest average WACC followed by Automotive, and DIP industry



2019 WACC of FTSE MIB companies as per industry classification



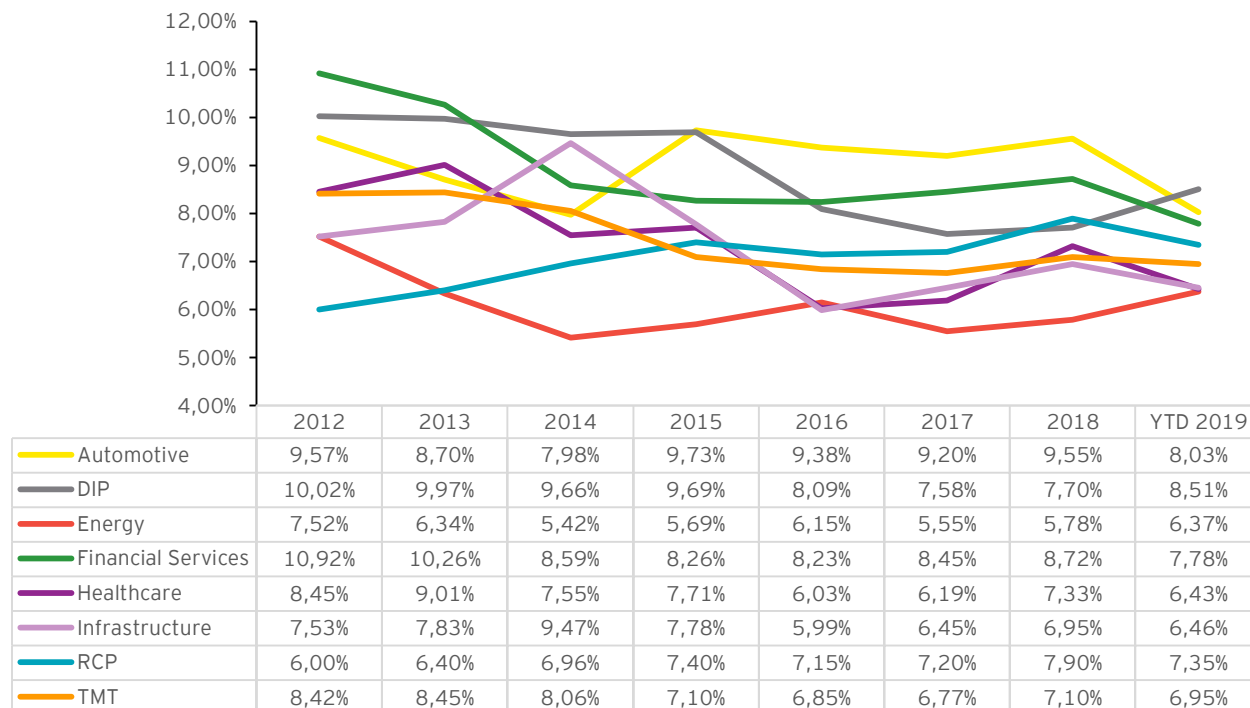
- ▶ In 2019, the DIP industry recorded the highest maximum WACC, (compared to the WACCs analyzed for 2019 of indices FTSE MIB companies) with a value of 14,45% followed by Automotive companies with maximum WACC of 10,80% and 9,97% for Financial services.
- ▶ Average WACC for DIP industry was highest as 8,51% followed by Automotive with 8,03% and Financial services with 7,78%, whereas, Energy industry had the lowest average WACC of 6,37%
- ▶ Average WACC of FTSE MIB remained 7,47%.

2012-2019 Industry WACC:

Declining WACC for FTSE MIB companies from 2012 to 2019



2012-2019 WACC of FTSE MIB companies as per industry classification



- ▶ Industry WACC shows no correlation among industries between 2012 and 2019
- ▶ Financial Services WACC in 2012 was the highest in the period and was equal to 10,92%, from 2013 onwards, however, the WACC of this sector decreased and its value in 2019 was its lowest (7,78%)
- ▶ Energy WACC in 2014 was the lowest in the period and was equal to 5,42%, Energy industry also recorded, from 2012 to 2019, the lowest WACC average.
- ▶ Generally, WACC of all industries, except for RCP industry, recorded lower value in 2019 than in 2012

10 years government bonds:

Italy's 10 year government bond has the highest interest rate as compared to United Kingdom and Germany



Interest rates of 10 year government bond

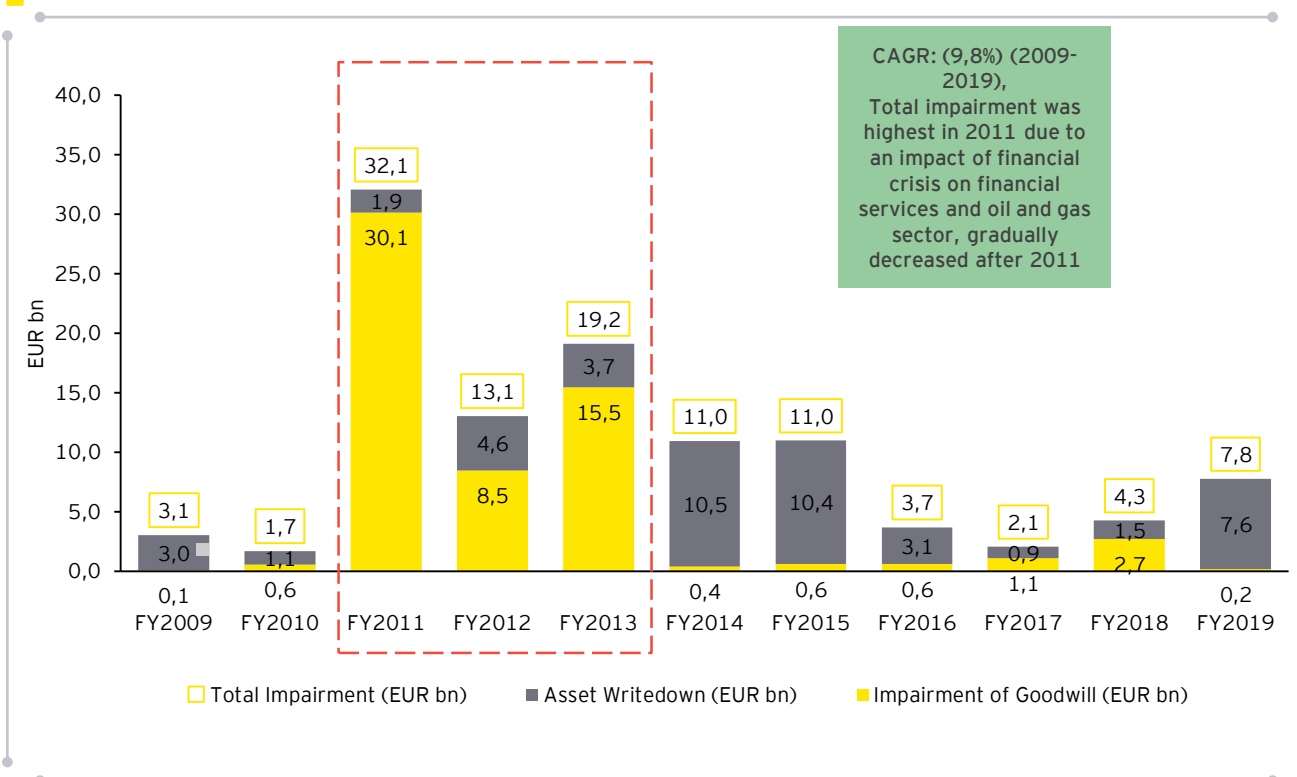


Total impairment:

Significant increase in impairment by Italian firms specially Financial companies during 2011-13 owing to acquisitions made during 2005-07 era



Total impairment of Italian companies*



- ▶ Total impairment recognized by Italian companies increased at a CAGR of 9,8% to EUR 7,8bn in 2019 from EUR 3,1bn in 2009
 - ▶ The impairment of goodwill recorded highest values in 2011 (EUR 30,1bn), the value recorded a huge increase between 2010 and 2011, a decrease from 2011 and 2013 and a huge decrease from 2013 to 2014. In 2009 was of EUR 0,1bn and the final value was EUR 0,2bn in 2019.
 - ▶ The asset write down increased at CAGR of 9,8% to EUR 7,6bn in 2019 from EUR 3,0bn in 2009
- ▶ Total impairment was highest in 2011 of EUR 32,1bn due to an impact of financial crisis on financial services and energy companies

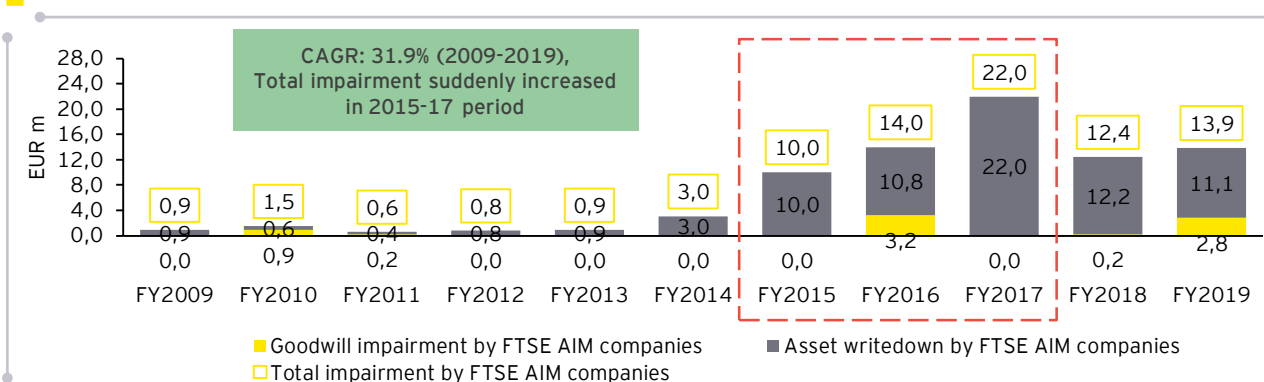
* Italian companies include FTSE AIM and FTSE MIB companies

Total impairment:

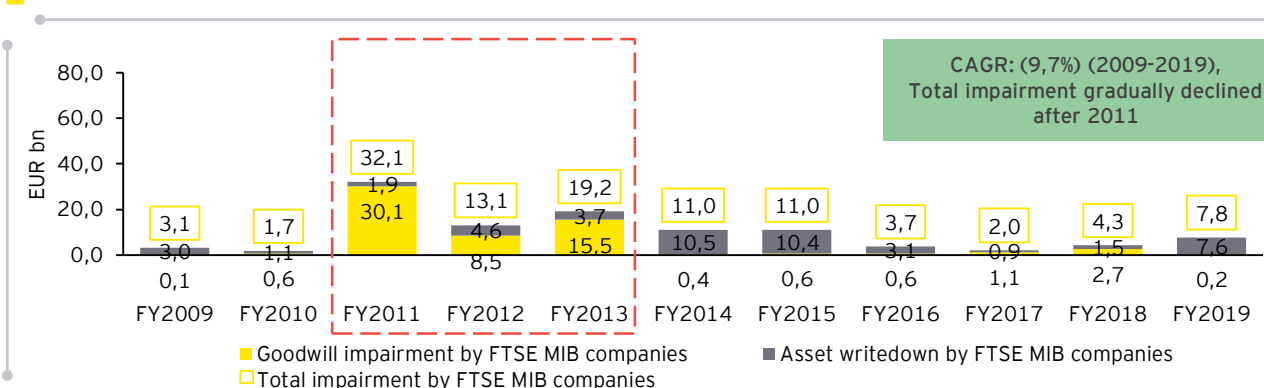
Owing to their relative size, FTSE MIB listed companies reported significantly higher impairment than FTSE AIM listed companies



Total impairment of FTSE AIM companies (EUR m)



Total impairment of FTSE MIB companies (EUR bn)



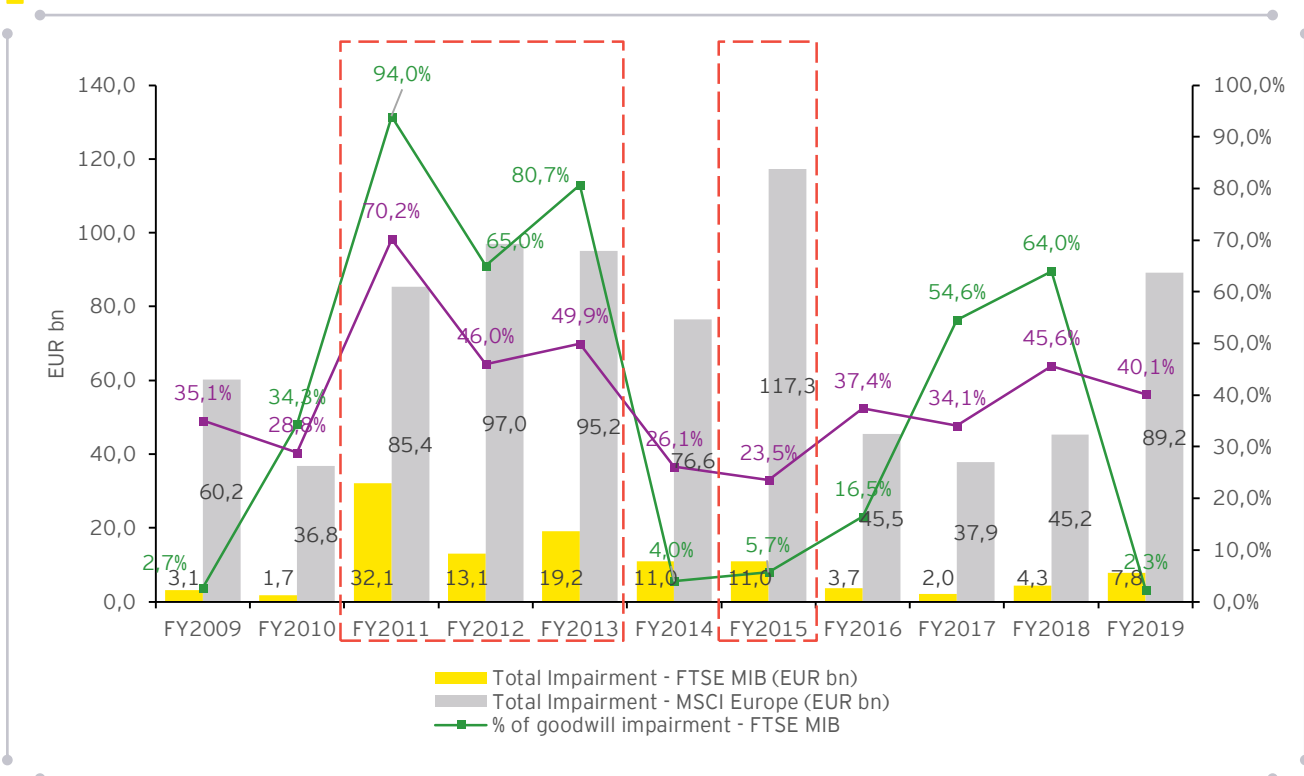
- ▶ Total impairment of FTSE AIM increased significantly at a CAGR of 31,9% during the period 2009 to 2019 vs. FTSE MIB companies, which increased at a CAGR of 9,7% during the same period
 - ▶ Total impairment of FTSE AIM companies increased unexpectedly in 2015-17, particularly in 2017 - total impairment of EUR 22.0m, whereas total impairment of FTSE MIB companies was highest in 2011 of EUR 32.1bn and decreased gradually until 2017, afterwards it increased yearly.
- ▶ The impact of financial crisis is clearly evident on FTSE MIB companies, highest impairment in 2011 due to increase in impairment of goodwill in financial services sector companies

Total impairment:

MSCI Europe registered highest impairment in 2015, due to an increase in impairment by Energy, and Metals and Mining companies (decrease in crude oil and metal prices)



Total impairment of FTSE MIB vs MSCI Europe companies



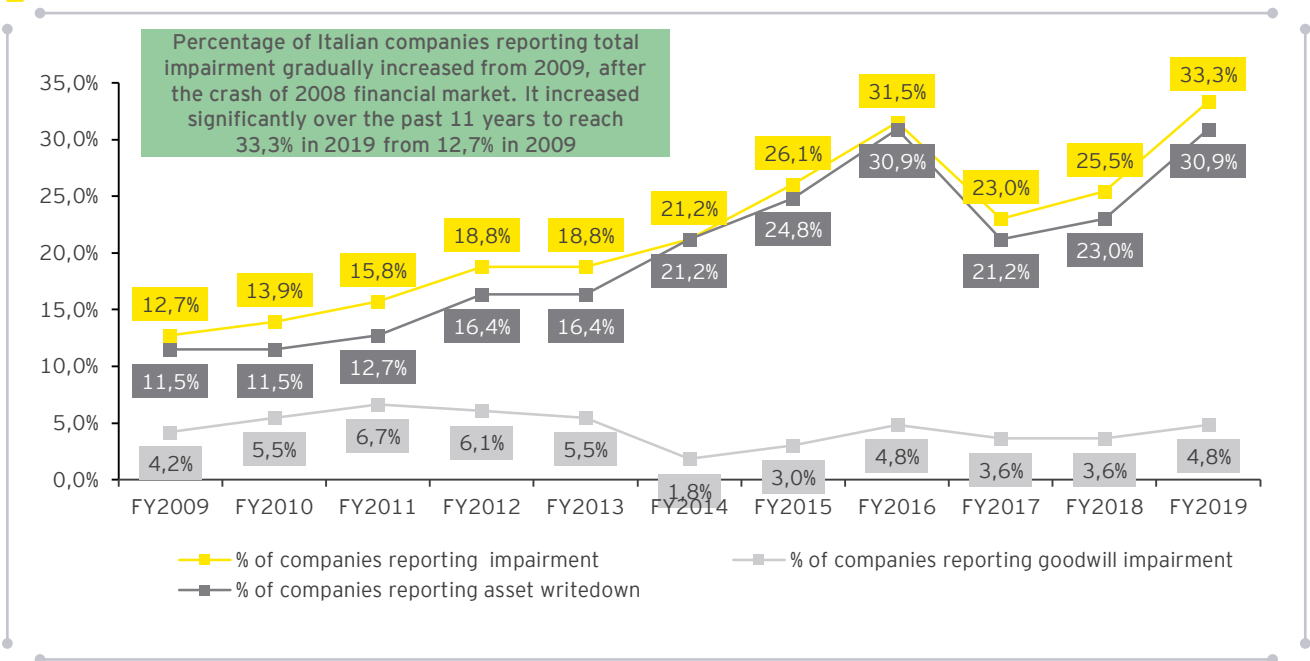
- ▶ Total impairment increased for both MSCI Europe and FTSE MIB companies at a CAGR 4,0% and 9,7% respectively during 2009 - 2019 period
- ▶ Total impairment by MSCI Europe was highest in 2015 (EUR 117,3bn), due to an increase in impairment by 53,2% YoY
 - ▶ Impairment was led by Energy, and Metals and Mining sectors due to decrease in crude oil and metal prices
- ▶ During 2011 - 2013, total impairment was high due to an increase in % of goodwill impairment by both MSCI Europe and FTSE MIB companies
 - ▶ The % of goodwill impairment decreased from 70,2% in 2011 to 49,9% in 2013 for MSCI Europe companies

% of Companies reporting impairment:

From 2009, Italian companies specially Financial organizations, post 2008 sub-prime crisis, took significant impairment hit



Percentage of Italian companies* reporting impairment



- ▶ The percentage of Italian companies reporting total impairment increased from 12,7% in 2009 to 33,3% in 2019, primarily due to increase in reporting of asset write-down by the Italian companies since 2009
 - ▶ The percentage of companies reporting goodwill impairment increased from 4,2% in 2009 to 4,8% in 2019 (highest reporting of 6,7% was in 2011 and lowest reporting of 1,8% was in 2014)
 - ▶ The percentage of companies reporting asset write-down increased from 11,5% in 2009 to 30,9% in 2019 (highest reporting of 30,9% was in 2016 and in 2019, and lowest reporting of 11,5% was in 2009 and 2010)
- ▶ The companies reported goodwill impairment is still low at just an average of 4,5% as compared to an average of 20,1% for companies reported asset write-down over the past 11 years (2009-2019)
 - ▶ Companies reported goodwill impairment and asset write-down was 4,2% and 11,5% respectively in 2009
 - ▶ Companies reported goodwill impairment and asset write-down was 4,8% and 30,9% respectively in 2019

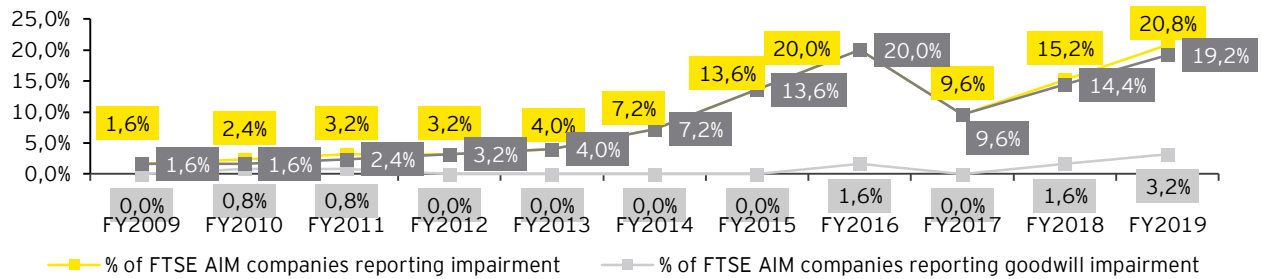
* Italian companies include FTSE AIM and FTSE MIB companies

% of Companies reporting impairment:

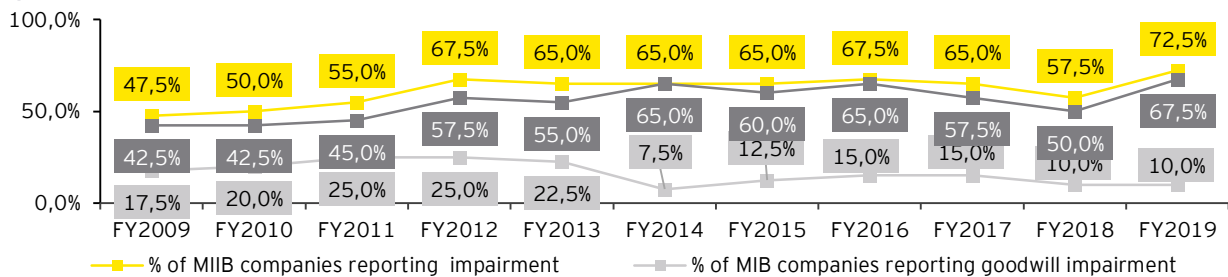
In 2019 alone, 72,5% of FTSE MIB listed companies and c. 20,8% of FTSE AIM listed companies recorded total impairment



Percentage of FTSE AIM companies reporting impairment



Percentage of FTSE MIB companies reporting impairment



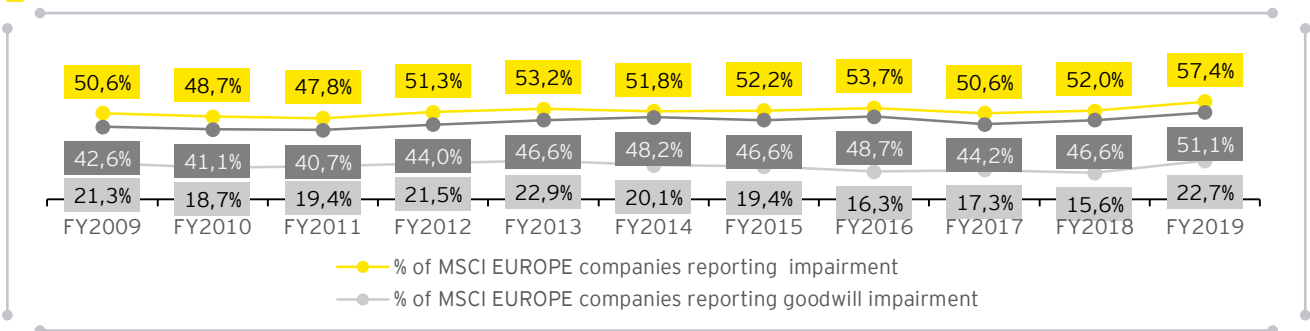
- ▶ In 2019, reporting of total impairment increased for both FTSE MIB and FTSE AIM
 - ▶ 72,5% of FTSE MIB companies reported total impairment in 2019 vs. 57,5% in 2018
 - ▶ Similarly, 20,8% of FTSE AIM companies reported total impairment in 2019 vs. 15,2% in 2018
- ▶ Reporting of goodwill impairment was comparatively lower than asset write-down across companies over the past 11 years (2009-2019)
 - ▶ FTSE AIM companies reported an average of 0,7% for goodwill impairment vis a vis 8,8% for asset write-down
 - ▶ FTSE MIB companies reported an average of 16,4% for goodwill impairment vis a vis 55,2% for asset write-down
- ▶ No goodwill was impaired by FTSE AIM companies during 2012-15 and even in 2017, the figures are negligible as these companies are too small and inactive in M&A space

% of Companies reporting impairment:

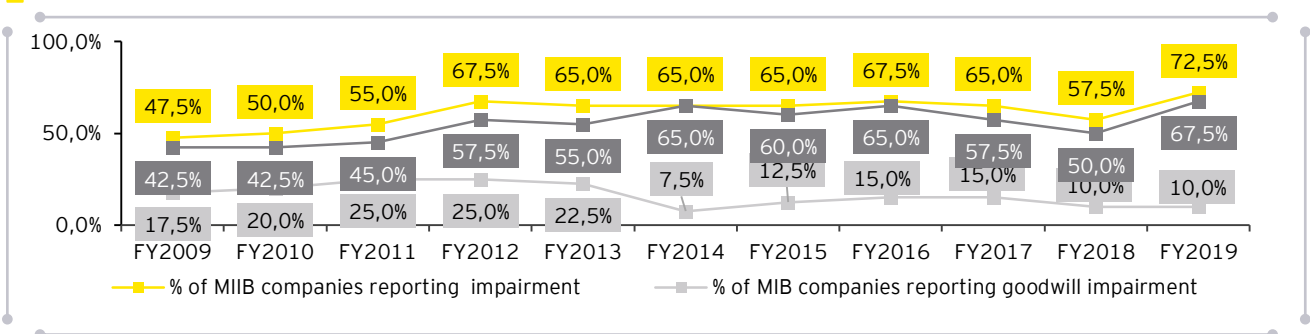
MSCI Europe companies increased impairment reporting but there are around half of the companies not reporting impairment



Percentage of MSCI Europe companies reporting impairment



Percentage of FTSE MIB companies reporting impairment



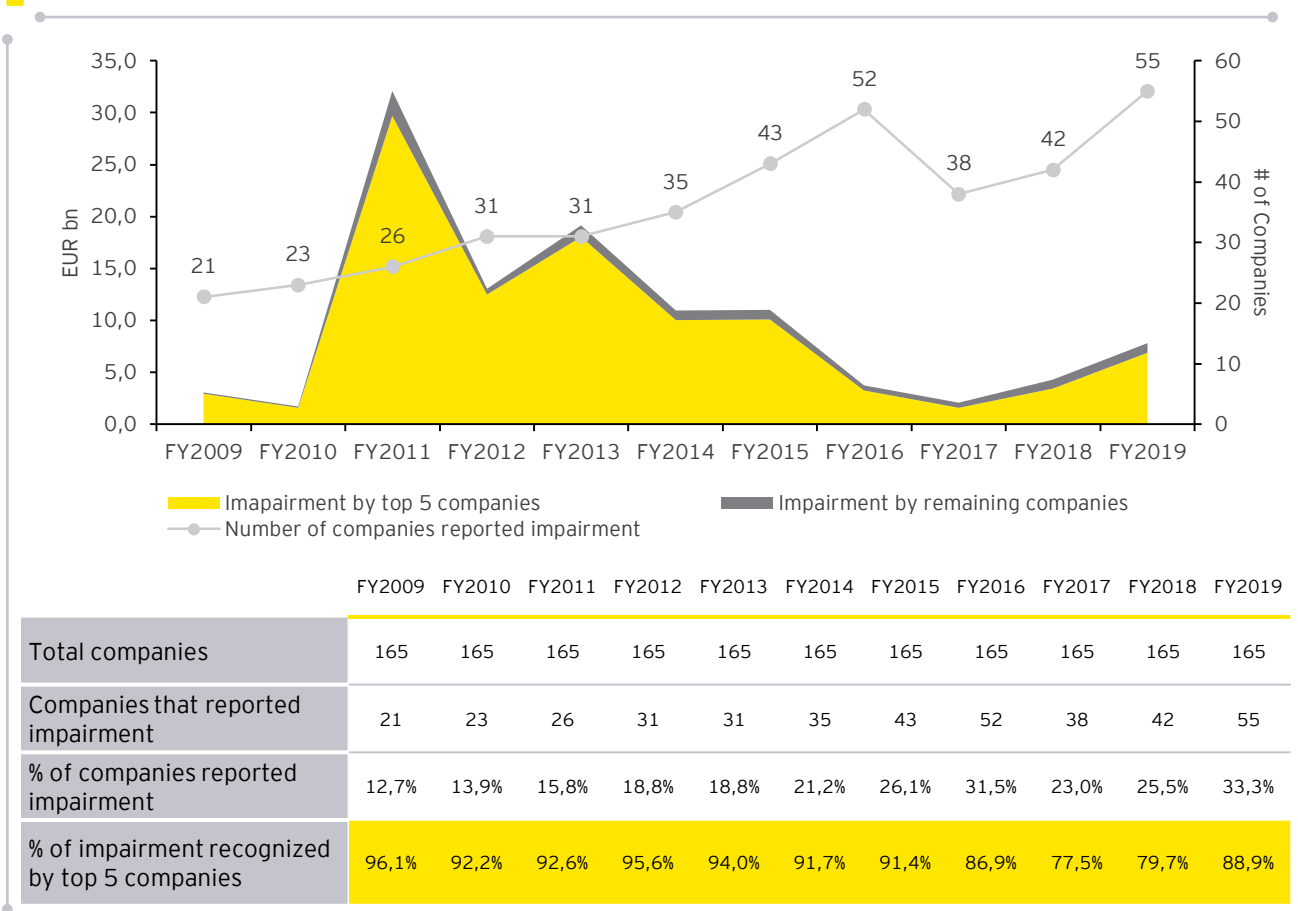
- ▶ For MSCI Europe, 217 companies did not report impairment in 2009 as compared to 180 companies in 2019
 - ▶ In 2019, 57,4% of MSCI Europe companies and 72,5% of FTSE MIB companies reported impairment
- ▶ Reporting of goodwill impairment was comparatively lower than asset write-down. However, reporting of goodwill impairment was highest during financial market crisis period
 - ▶ For MSCI Europe, 22,7% of companies reported goodwill impairment vs. 10,0% of FTSE MIB companies reporting goodwill impairment in 2019
- ▶ MSCI Europe and FTSE MIB reported an average total impairment of 51,8% and 61,6% respectively, during 2009-2019
 - ▶ For same period, average goodwill impairment was 19,6% and 16,4% and asset write-down was 45,5% and 55,2% respectively

Concentration of impairment:

Total impairment was highly concentrated among top 5 companies



Concentration of impairment for Italian companies*



- ▶ Impairment was highly concentrated in the top 5 companies
 - ▶ Since 2012, the concentration of impairment by top 5 companies decreased, primarily due to an increase in the number of companies reporting impairment. In 2019 the concentration of impairment increased approaching the 2015 level.
 - ▶ During 2009 to 2019, on an average, 89,7% of the impairment was reported by the top 5 companies,

* Italian companies include FTSE AIM and FTSE MIB companies

Concentration of impairment:

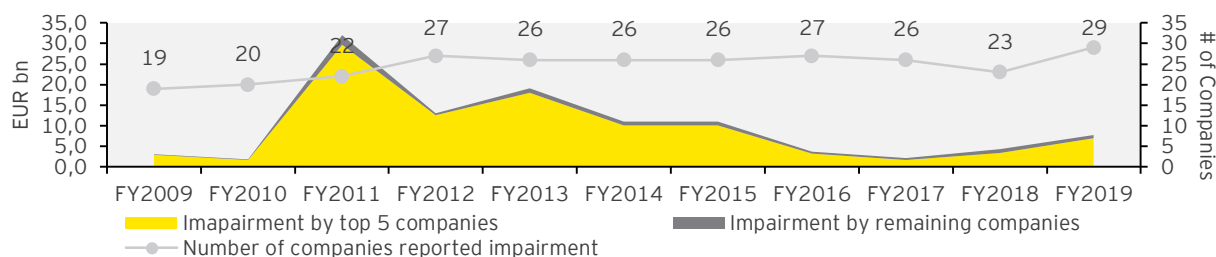
c. 60,0% and c. 89,0% of total impairment is reported by top 5 companies in FTSE AIM and FTSE MIB, respectively in 2019



Concentration of impairment of FTSE AIM companies

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total companies	125	125	125	125	125	125	125	125	125	125	125
Companies that reported impairment	2	3	4	4	5	9	17	25	12	19	26
% of companies reported impairment	1,6%	2,4%	3,2%	3,2%	4,0%	7,2%	13,6%	20,0%	9,6%	15,2%	20,8%
% of impairment recognized by top 5 companies (by value)	100,0%	100,0%	100,0%	100,0%	100,0%	97,4%	76,2%	91,3%	96,4%	87,3%	60,0%

Concentration of impairment of FTSE MIB companies



	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total companies	40	40	40	40	40	40	40	40	40	40	40
Companies that reported impairment	19	20	22	27	26	26	26	27	26	23	29
% of companies reported impairment	47,5%	50,0%	55,0%	67,5%	65,0%	65,0%	65,0%	67,5%	65,0%	57,5%	72,5%
% of impairment recognized by top 5 companies (by value)	96,1%	92,3%	92,6%	95,6%	94,0%	91,7%	91,5%	87,2%	78,4%	79,9%	89,0%

- ▶ Total impairment was highly concentrated in the top 5 companies for both FTSE AIM and FTSE MIB companies
 - ▶ FTSE AIM: Impairment recognized by top 5 companies was 100% from 2009 to 2013, and as more companies reported total impairment over the years, percentage by top 5 companies decreased. The % of impairment recognized by top 5 companies decreased from 87,3% in 2018 to 60,0% in 2019.
 - ▶ FTSE MIB: The concentration of impairment by top 5 companies decreased until 2017, due to an increase in the % of companies reporting impairment, then increased in 2018 and 2019.

Concentration of impairment:

% of impairment recognized by top 5 companies decreased for FTSE MIB and FTSE AIM companies between 2009 and 2019



Concentration of impairment of MSCI Europe companies

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total companies	423	423	423	423	423	423	423	423	423	423	423
Companies that reported impairment	214	206	202	217	225	219	221	227	214	220	243
% of companies reported impairment	50,6%	48,7%	47,8%	51,3%	53,2%	51,8%	52,2%	53,7%	50,6%	52,0%	57,4%
% of impairment recognized by top 5 companies	31,4%	26,2%	46,8%	37,2%	45,0%	39,9%	29,0%	33,0%	36,5%	40,5%	30,5%
% of impairment recognized by top 10 companies	44,5%	42,2%	61,1%	54,7%	62,2%	59,2%	51,2%	49,2%	50,9%	54,4%	46,7%

Concentration of impairment of FTSE MIB companies

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total companies	40	40	40	40	40	40	40	40	40	40	40
Companies that reported impairment	19	20	22	27	26	26	26	27	26	23	29
% of companies reported impairment	47,5%	50,0%	55,0%	67,5%	65,0%	65,0%	65,0%	67,5%	65,0%	57,5%	72,5%
% of impairment recognized by top 5 companies	96,1%	92,3%	92,6%	95,6%	94,0%	91,7%	91,5%	87,2%	78,4%	79,9%	89,0%
% of impairment recognized by top 10 companies	99,4%	98,0%	99,3%	98,6%	99,0%	97,3%	98,0%	95,4%	90,6%	92,4%	95,5%

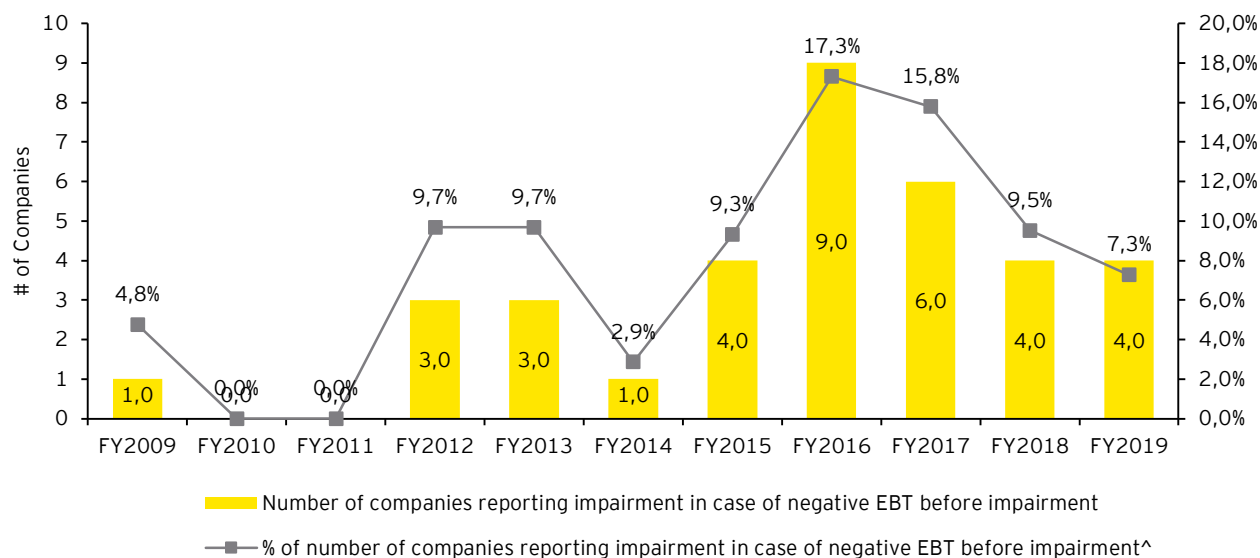
- ▶ Total impairment was highly concentrated in the top 5 companies for both MSCI Europe and FTSE MIB companies
 - ▶ MSCI Europe: Impairment recognized by top 5 companies slightly decreased from 31,4% in 2009 to 30,5% in 2019, due to negligible change in the n° of companies reporting impairment
 - ▶ FTSE MIB: The concentration of impairment by top 5 companies decreased due to an increase in the % of companies reporting impairment from 96,1% in 2009 to 89,0% in 2019
- ▶ Total impairment concentrated in the top 10 companies decreased for MSCI Europe however, increased for FTSE MIB companies from 2018 to 2019

Timing of impairment:

Majority of organization recorded impairment only if operational and financial performance was positive



Timing of impairment for Italian companies*



- ▶ The above chart indicates the companies recognizing impairment when they reported negative EBT before impairment
 - ▶ During 2009 to 2019, an average 21,9% of the companies reported impairment
 - ▶ The chart shows that the majority of the companies reported impairment when it reported positive EBT before impairment
- ▶ Number of companies reporting impairment in case of negative EBT (before impairment) over the last 11 years period (2009-2019) was average 3, with highest in 2016 being 9 companies and lowest in 2010 and 2011 being 0
- ▶ % of number of companies reporting impairment in case of negative EBT (before impairment) over the last 11 years period (2009-2019) was average 7,8% with highest in 2016 being 17,3% and lowest in 2010 and 2011 being 0,0%

* Italian companies include FTSE AIM and FTSE MIB companies

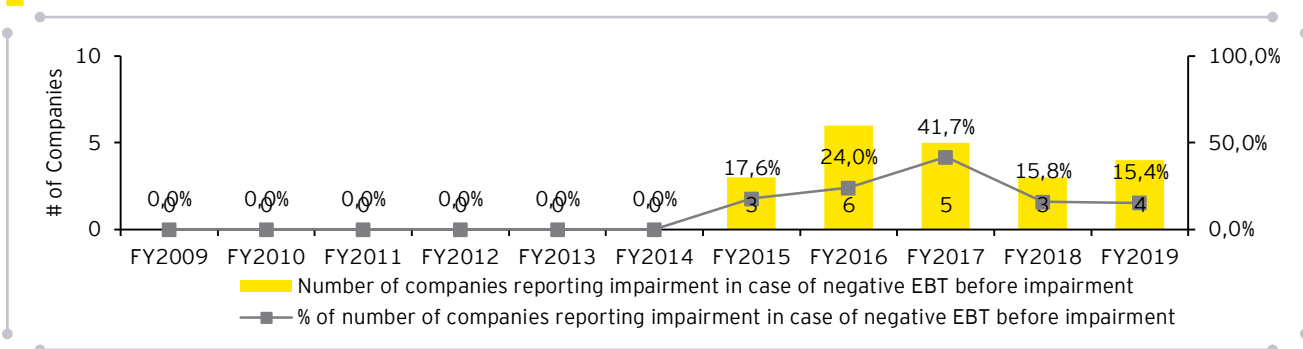
^ % of companies which took impairment during the year

Timing of impairment:

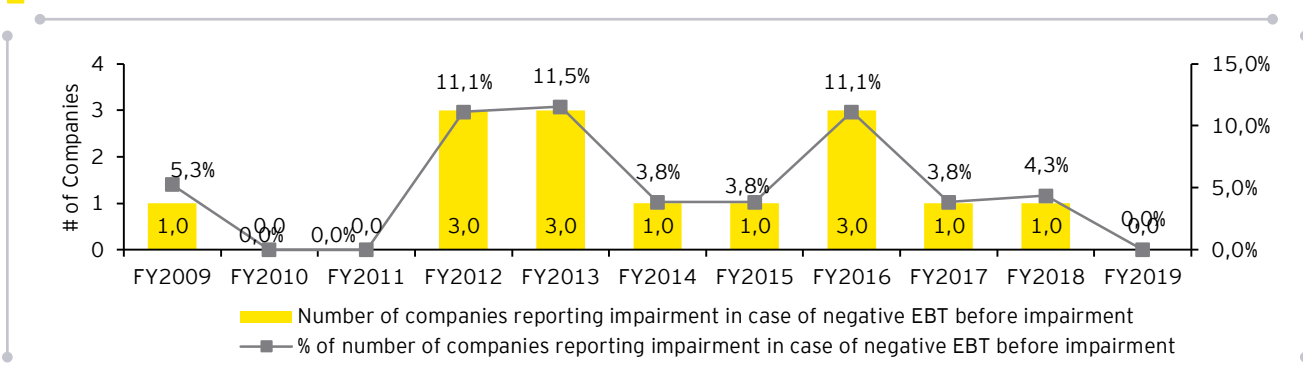
Majority of the FTSE MIB listed companies timed Impairment to coincide with positive EBT



Timing of impairment (FTSE AIM)



Timing of impairment (FTSE MIB)



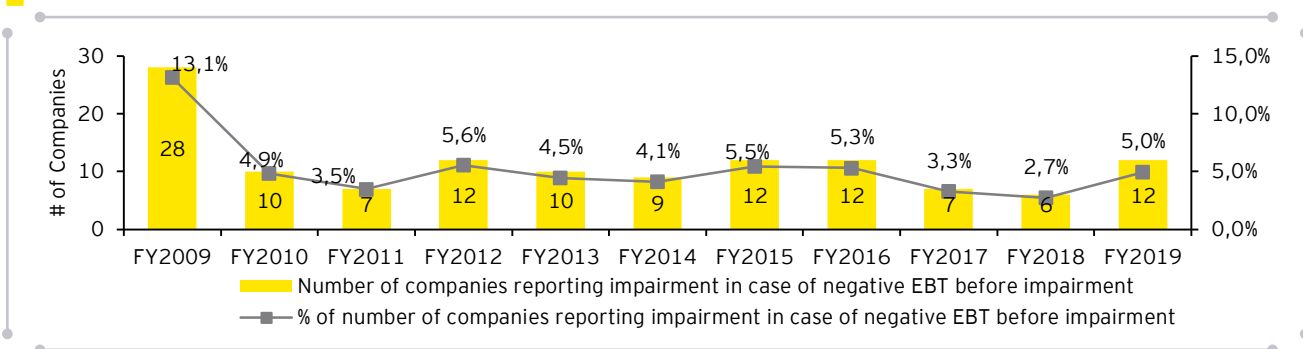
- ▶ Number of FTSE AIM companies reporting impairment in case of negative EBT before impairment increased from 0 in 2009 to 4 in 2019
 - ▶ Average 10,4% companies reported impairment in case of negative EBT before impairment over last 11 years period (2009-2019)
- ▶ Number of FTSE MIB companies reporting impairment in case of negative EBT before impairment increased from 2011 to 2013 period due to financial markets impact on the companies, post which there was a decline, however, in 2016 the n° was equal to 2012-2013 period
 - ▶ Even though, the n° of companies reporting impairment increased significantly but the n° of companies reporting impairment in case of negative EBT before impairment remained in the range of 0 to 3 companies

Timing of impairment:

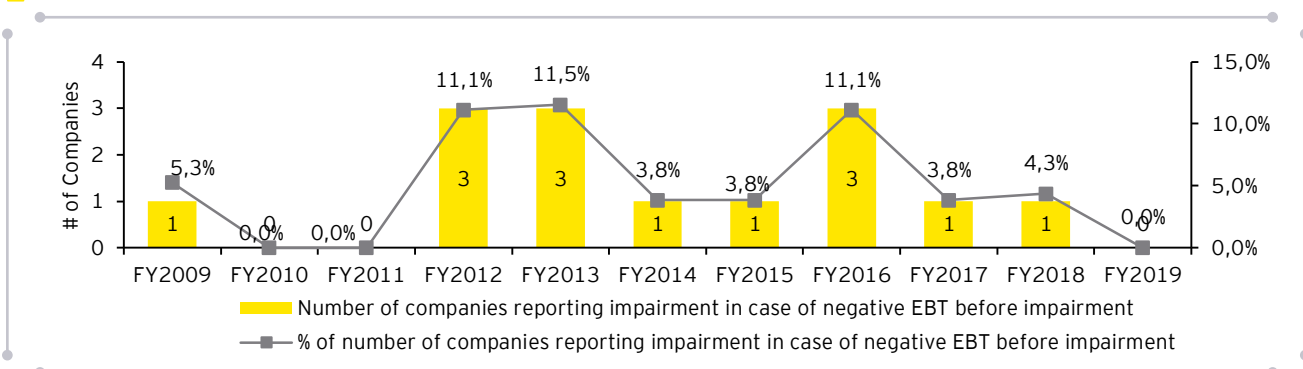
Majority of the MSCI Europe and FTSE MIB companies timed Impairment to coincide with positive EBT



Timing of impairment (MSCI Europe)



Timing of impairment (FTSE MIB)



- ▶ Number of MSCI Europe companies reporting impairment in case of negative EBT before impairment decreased from 2009 to 2019, the decrease in mainly between 2009 and 2010
 - ▶ Both the number of companies and the % of companies reporting impairment in case of negative EBT before impairment were highest during 2009, being 28 and 13,1% respectively, primarily due to financial market crisis
- ▶ Number of FTSE MIB companies reporting impairment in case of negative EBT before impairment increased from 2011 due to financial markets impact on the companies, but declined again post 2013, however in 2016 both the n° of companies reporting impairment in case of negative EBT before impairment and the % of companies reporting impairment in case of negative EBT before impairment was equal to 2012-2013 period (respectively 3 and 11,1%).

Intensity of impairment:

Majority of companies reported Impairment between EUR 0-5m



Distribution of Italian companies* by the amount of impairment reported

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
No impairment	144	142	139	134	134	130	122	113	127	123	110
0-5	10	10	8	13	12	14	22	31	14	21	32
5-10	1	3	0	1	2	2	1	5	5	4	3
10-20	4	3	3	2	2	4	6	1	6	2	4
20-50	1	2	4	6	5	3	4	7	6	2	4
50-100	2	2	1	3	0	4	2	2	3	6	5
100-200	1	0	2	1	3	4	1	1	2	5	3
200-500	0	1	2	0	2	2	5	3	1	1	0
>500	2	2	6	5	5	2	2	2	1	1	4
Total Impaired	21	23	26	31	31	35	43	52	38	42	55
Total	165	165	165	165	165	165	165	165	165	165	165

- ▶ Maximum number of companies reported impairment between EUR 0-5m
 - ▶ In 2019, 33,3% of the total companies reported their impairment
 - ▶ Average 21,9% reported impairment during 2009-2019, whereas, maximum was registered in 2019 being 33,3% and lowest being 12,7% in 2009
- ▶ During 2011 to 2013, a sizeable number of companies reported impairment greater than EUR 500m:
 - ▶ as financial markets crashed during the same period and the market capitalization of the companies declined sharply and were below the book value, so companies reported impairment to balance out
- ▶ Companies reporting no impairment was significantly high with an average 78,1% during period 2009-2019

* Italian companies include FTSE AIM and FTSE MIB companies

Intensity of impairment:

Majority of AIM and MIB listed companies reported Impairment between EUR 0-5m



Distribution of FTSE AIM companies by the amount of impairment

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
No impairment	123	122	121	121	120	116	108	100	113	106	99
0-5	2	3	4	4	5	9	17	24	10	18	26
5-10	0	0	0	0	0	0	0	1	2	1	0
>500	0	0	0	0	0	0	0	0	0	0	0
Total Impaired	2	3	4	4	5	9	17	25	12	19	26
Total	125	125	125	125	125	125	125	125	125	125	125

Distribution of FTSE MIB companies by the amount of impairment

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
No impairment	21	20	18	13	14	14	14	13	14	17	11
0-5	8	7	4	9	7	5	5	7	4	3	6
5-10	1	3	0	1	2	2	1	4	3	3	3
10-20	4	3	3	2	2	4	6	1	6	2	4
20-50	1	2	4	6	5	3	4	7	6	2	4
50-100	2	2	1	3	0	4	2	2	3	6	5
100-200	1	0	2	1	3	4	1	1	2	5	3
200-500	0	1	2	0	2	2	5	3	1	1	0
>500	2	2	6	5	5	2	2	2	1	1	4
Total Impaired	19	20	22	27	26	26	26	27	26	23	29
Total	40	40	40	40	40	40	40	40	40	40	40

- ▶ Maximum n° of companies reported impairment between EUR 0-5m in both FTSE AIM and FTSE MIB
- ▶ FTSE AIM: No company reported impairment greater than EUR 10m during 2009 to 2019
- ▶ FTSE MIB: The companies reporting impairment greater than EUR 5m increased from 11 in 2009 to 23 in 2019
 - ▶ The companies reporting impairment between EUR 5-100m increased from 8 in 2009 to 16 in 2019; from 42,1% to 55,2% respectively of total companies reporting impairment
 - ▶ 6 companies reported impairment greater than EUR 500m being highest in 2011, due to financial market impact on the companies, which gradually decreased as the financial markets improved

Intensity of impairment:

MSCI Europe companies reporting impairment >EUR 500m from 33 companies in 2009 to 41 companies in 2019



Distribution of MSCI Europe companies by the amount of impairment

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
No impairment	209	217	221	206	198	204	202	196	209	203	180
0-5	47	50	40	47	51	42	39	47	50	40	47
5-10	13	17	16	15	14	18	24	23	23	28	26
10-20	21	27	19	19	27	23	21	26	23	26	20
20-50	33	27	33	34	28	41	37	44	40	37	38
50-100	17	22	21	24	28	29	25	18	22	23	36
100-200	23	21	20	26	26	19	16	29	18	28	16
200-500	27	17	21	20	18	18	14	16	18	15	19
500-1,000	18	15	12	9	14	11	23	11	12	14	17
>1,000	15	10	20	23	19	18	22	13	8	9	24
Total Impaired	214	206	202	217	225	219	221	227	214	220	243
Total	423	423	423	423	423	423	423	423	423	423	423

Distribution of FTSE MIB companies by the amount of impairment

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
No impairment	21	20	18	13	14	14	14	13	14	17	11
0-5	8	7	4	9	7	5	5	7	4	3	6
5-10	1	3	0	1	2	2	1	4	3	3	3
10-20	4	3	3	2	2	4	6	1	6	2	4
20-50	1	2	4	6	5	3	4	7	6	2	4
50-100	2	2	1	3	0	4	2	2	3	6	5
100-200	1	0	2	1	3	4	1	1	2	5	3
200-500	0	1	2	0	2	2	5	3	1	1	0
>500	2	2	6	5	5	2	2	2	1	1	4
Total Impaired	19	20	22	27	26	26	26	27	26	23	29
Total	40	40	40	40	40	40	40	40	40	40	40

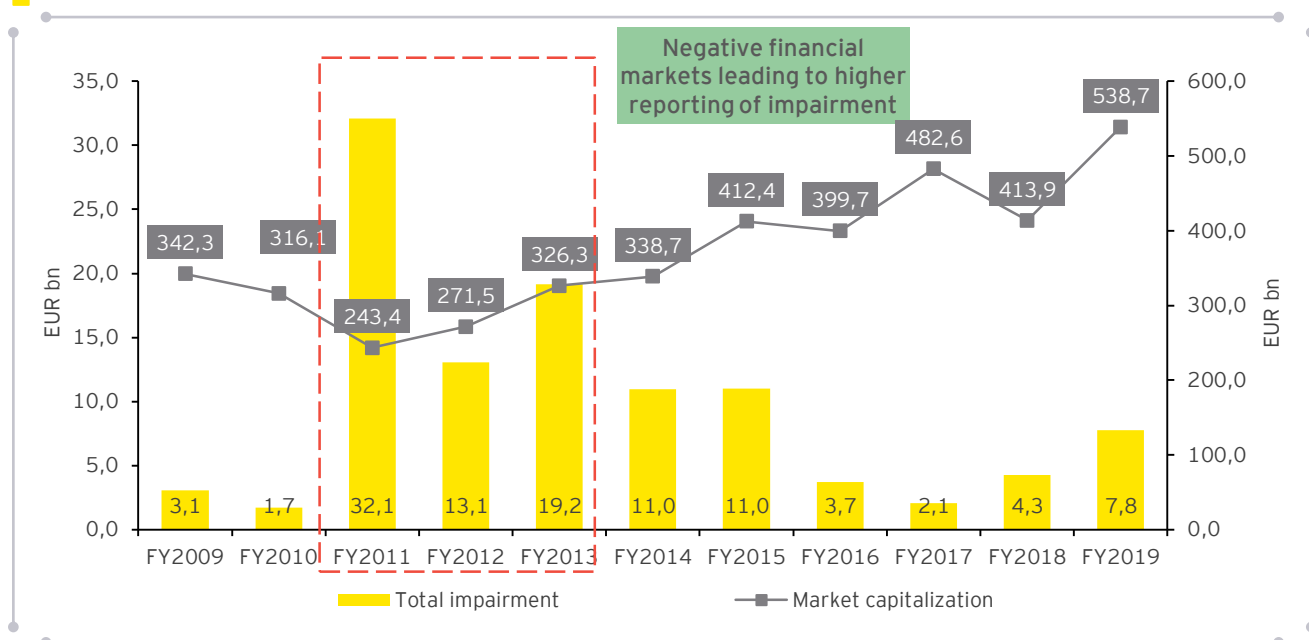
- ▶ Maximum n° of companies reported impairment between EUR 0-5m in both MSCI Europe and FTSE MIB
- ▶ MSCI Europe: Even distribution of impairment can be observed in the above table
 - ▶ n° of companies reporting impairment (>EUR 500m) has increased from 33 in 2009 to 41 in 2019. This was highest in 2015 (45) due to an increase in impairment by Energy and Metals and Mining companies (decrease in crude oil and metal prices)

Impairment vs. Market cap.:

The total Impairment tends to be higher when financial markets are negative and lower when they are positive



Italian companies* evolution of impairment vs. market cap.



- ▶ The total impairment tends to be higher when the market capitalization of the companies are lower, this indicates that the companies tend to report higher impairments when the financial markets are negative and lower when financial markets are positive
- ▶ In 2011, the total impairment was at peak - EUR 32,1bn, due to the financial market crash; as the market capitalization of the companies was below the book value, most of the companies reported goodwill impairment
 - ▶ After the 2011 peak, the total impairment decreased gradually as the financial markets improved, from 2017 onwards it started to increase again
- ▶ In 2019, the companies reported a impairment of EUR 7,8bn and the market cap was of EUR 538,7bn
- ▶ Market capital grew at a CAGR of 4,6% over the past 11 years to reach EUR 538,7bn in 2019 from EUR 342,3bn in 2009

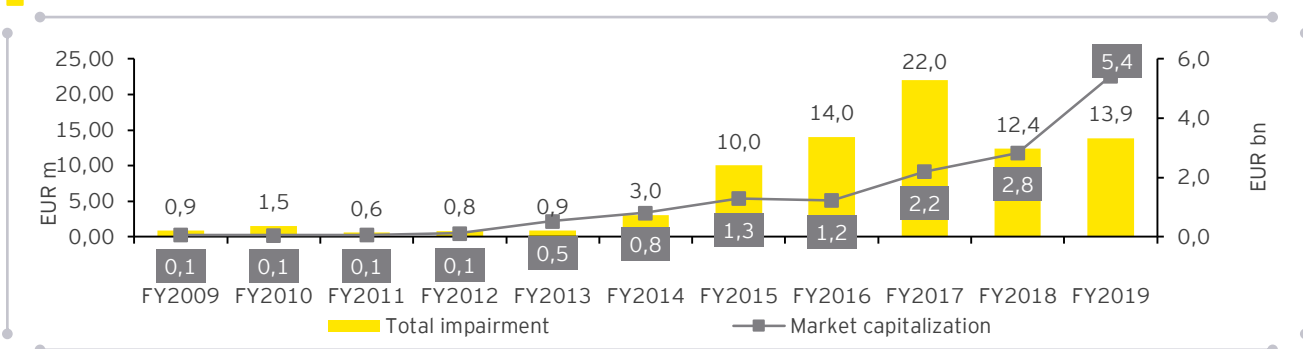
* Italian companies include FTSE AIM and FTSE MIB companies

Impairment vs. Market cap.:

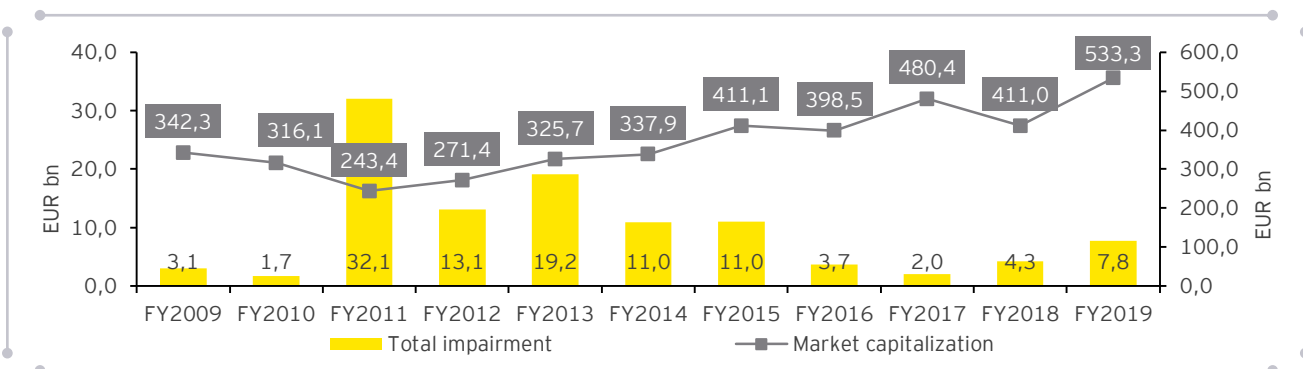
FTSE MIB companies reported higher total Impairment when financial markets are negative and lower when they are positive



Evolution of impairment vs. market capitalization (FTSE AIM)



Evolution of impairment vs. market capitalization (FTSE MIB)



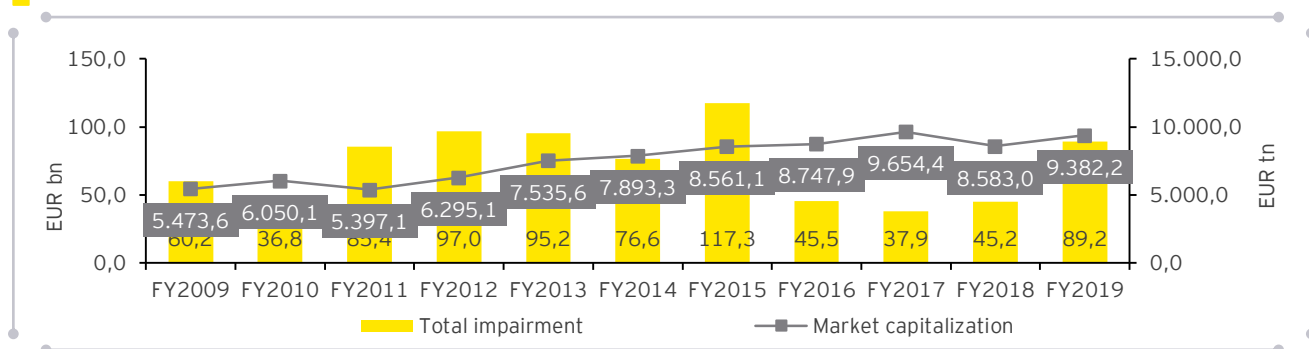
- ▶ FTSE MIB companies: The total impairment tends to be higher when the market capitalization of the companies were lower, this indicates that the companies tend to report higher impairments when the financial markets are negative and lower when financial markets are positive
 - ▶ In 2011, the total impairment was at peak due to the financial market crash, as the market capitalization of the companies was below the book value, most of the companies reported goodwill impairment
- ▶ As FTSE AIM companies are very small as compared to FTSE MIB companies, there was no such correlation between market capitalization and the reported total impairment

Impairment vs. Market cap.:

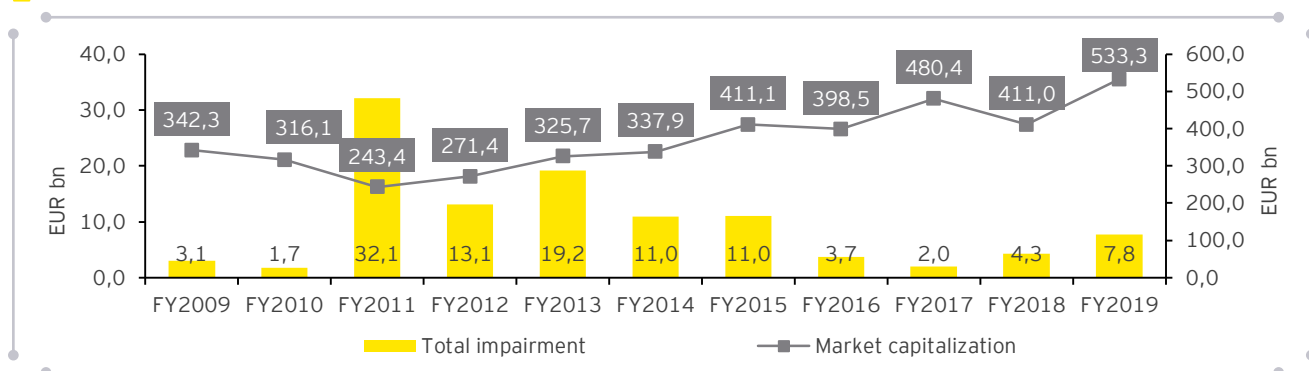
In 2015, MSCI EUROPE companies' total impairment recorded its peak, for FTSE MIB it happened in 2011



Evolution of impairment vs. market capitalization (MSCI Europe)



Evolution of impairment vs. market capitalization (FTSE MIB)



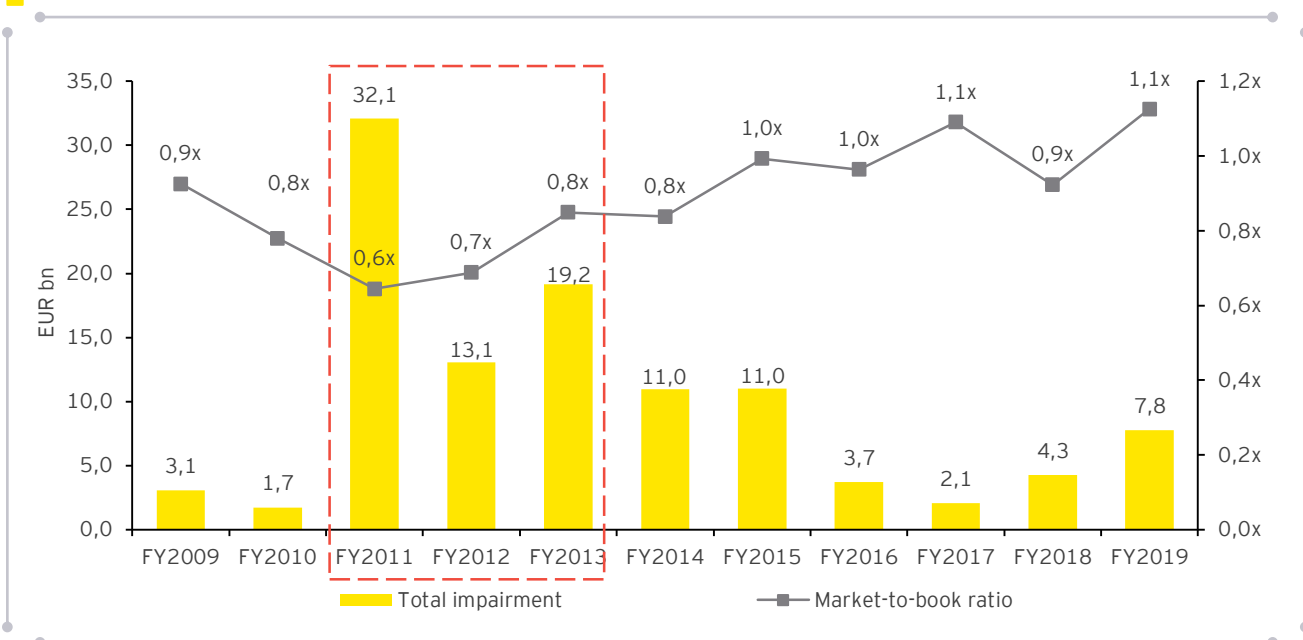
- ▶ MSCI Europe companies:
 - ▶ In 2011, the market capitalization decreased due to European debt crisis in late 2009 and 2010
 - ▶ The market capitalization increased at a CAGR of 5,5% during 2009 to 2019 period, the market capitalization was highest in 2017 (9.654,4bn), lowest in 2011 (5.397,1bn)
- ▶ FTSE MIB companies: Market capitalization increased at a CAGR of 4.5% during 2009-2019, it was highest in 2019 with market capital of EUR 533,3bn, lowest in 2011 with EUR 243,4bn

Market-to-book ratio vs. Impairment:

In 2011, market to book ratio was lowest with highest impairment



Market-to-book ratio vs. total impairment for Italian companies*



- ▶ In 2011, the market-to-book ratio was lowest (0,6) as compared to the highest total impairment (32,1bn), primarily due to decrease in market capitalization
 - ▶ As financial markets recovered, the ratio improved. Also, the total impairment started declining
- ▶ In 2019, the market-to-book value ratio was highest
- ▶ Between 2018 and 2019, market-to-book ratio increased from 0,9x to 1,1x and total impairment increased from 4,3bn to 7,8bn
- ▶ Net assets increased at a CAGR of 2,6% and market capitalization increased at a CAGR of 4,6%, during 2009-2019 period
 - ▶ Total impairment increased at a CAGR of 9,8% during the same period
 - ▶ Average Market to book ratio was 0,9x over the last 11 years (2009-2019)

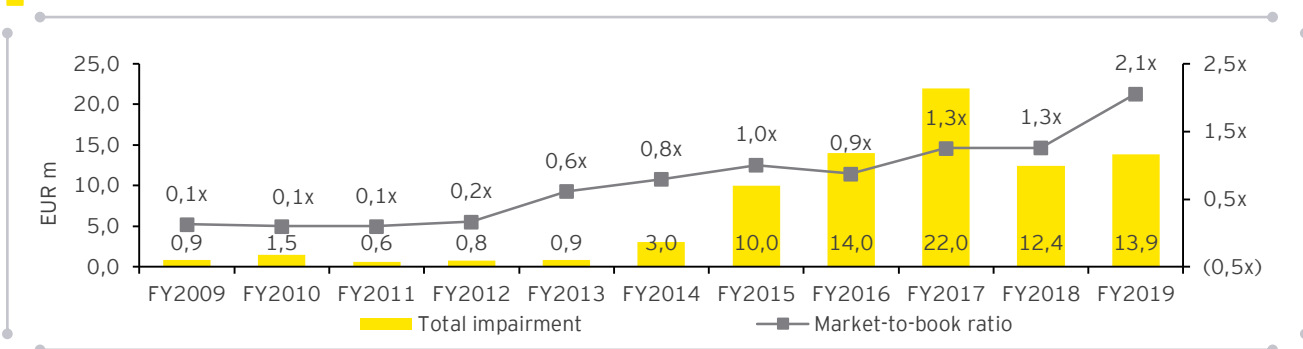
* Italian companies include FTSE AIM and FTSE MIB companies

Market-to-book ratio vs. Impairment:

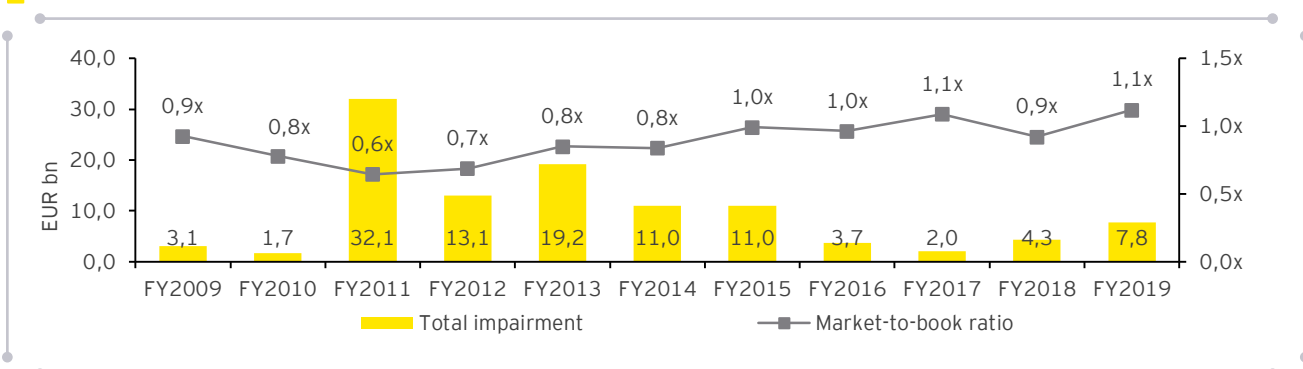
FTSE MIB companies tended to report highest total impairment when market-to-book ratio was at the lowest levels



Market-to-book ratio vs. total impairment (FTSE AIM)



Market-to-book ratio vs. total impairment (FTSE MIB)



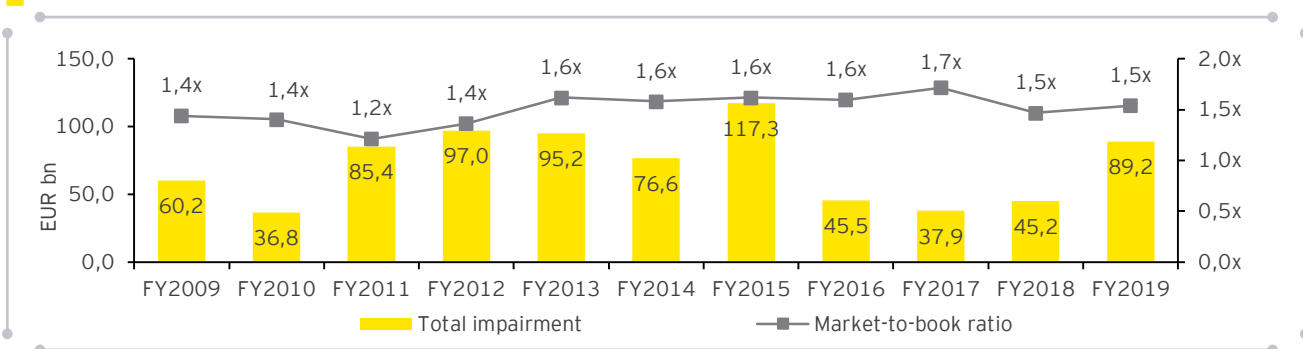
- ▶ Market-to-book ratio of FTSE MIB increased from 0,9x in 2009 to 1,1x in 2019, for FTSE AIM companies it was 0,1x in 2009 and 2,1x in 2019
 - ▶ During 2017 to 2019, the market-to-book value ratio for FTSE MIB companies was high, primarily due to low impairments charged and strong growth in financial market during the same period.
- ▶ Net assets increased at a CAGR of 17,8% for FTSE AIM, where as, it increased at a CAGR of 2,6% for FTSE MIB companies

Market-to-book ratio vs. Impairment:

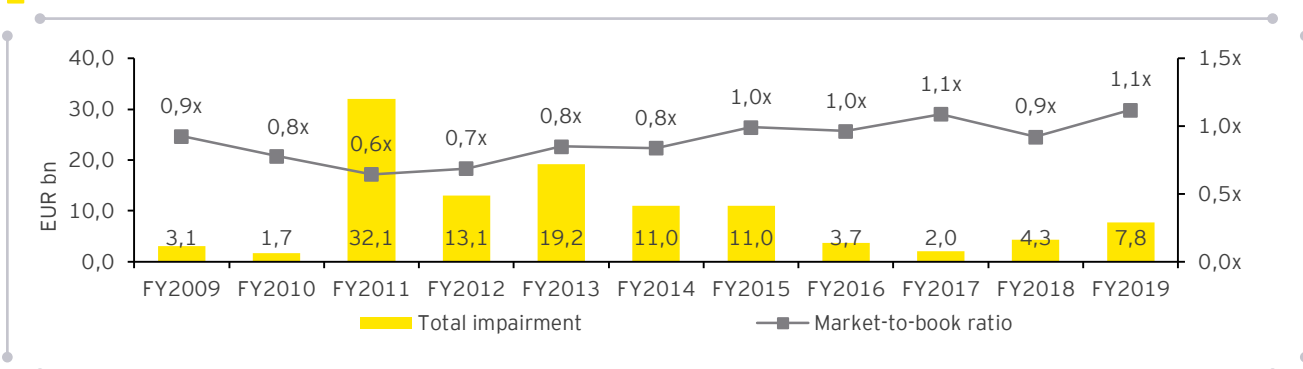
No relation can be seen between market-to-book ratio and total impairment reported by MSCI Europe companies



Market-to-book ratio vs. total impairment (MSCI Europe)



Market-to-book ratio vs. total impairment (FTSE MIB)



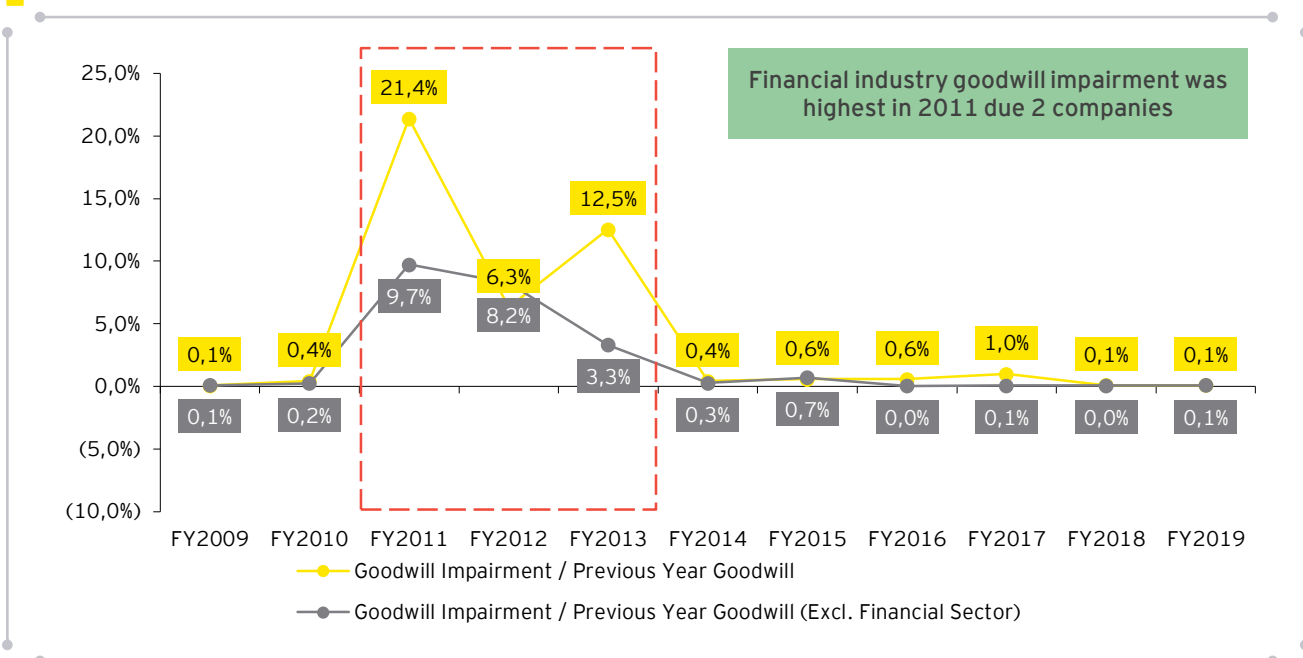
- ▶ Market-to-book ratio has been largely constant for both MSCI Europe and FTSE MIB in the last few years
 - ▶ For MSCI Europe companies, it increased from 1,4x in 2009 to 1,5x in 2019. Also, for FTSE MIB companies, it increased from 0,9x in 2009 to 1,1x in 2019
- ▶ MSCI Europe: No relation can be seen between market-to-book ratio and total impairment reported
 - ▶ The market-to-book ratio was lowest in 2011 (1,2x) , whereas total impairment was highest in 2015 (EUR 117,3bn)
- ▶ FTSE MIB: In 2011, Market-to-book ratio was lowest being 0,6x, with the highest total impairment of EUR 32,1bn, primarily due to decrease in market capitalization

Goodwill Impairment over prior year Goodwill:

Significant % of Goodwill Impaired by Financial services companies during 2011-13



Goodwill impairment over prior year goodwill for Italian companies*



- ▶ Goodwill impairment / previous year goodwill ratio, refers to the intensity of impairment as the ratio of impairment charged in a period over the opening balance of goodwill.
- ▶ Goodwill impairment / previous year goodwill ratio did not change from 0,1% in 2009 to 0,1% in 2019, with highest ratio during 2011-2013 period.
- ▶ Companies recognized goodwill impairment/ previous goodwill ratio on an average of 4,0% during 2009-2019 period, however if we exclude 2011-2013 period then average was recognized only 0,4%
- ▶ Goodwill impairment / previous year goodwill (Excl. Financial Sector) slightly did not change from 0,1% in 2009 to 0,1% in 2019, with highest ratio during 2011-2013 period.
- ▶ Companies recognized goodwill impairment/ previous goodwill (Excl. Financial Sector) ratio on an average of 2,1% during 2009-2019 period, however, if we exclude 2011-2013 period then average was recognized 0,2%
- ▶ In 2011, goodwill impairment was highest primarily due to impairment in financial sector companies

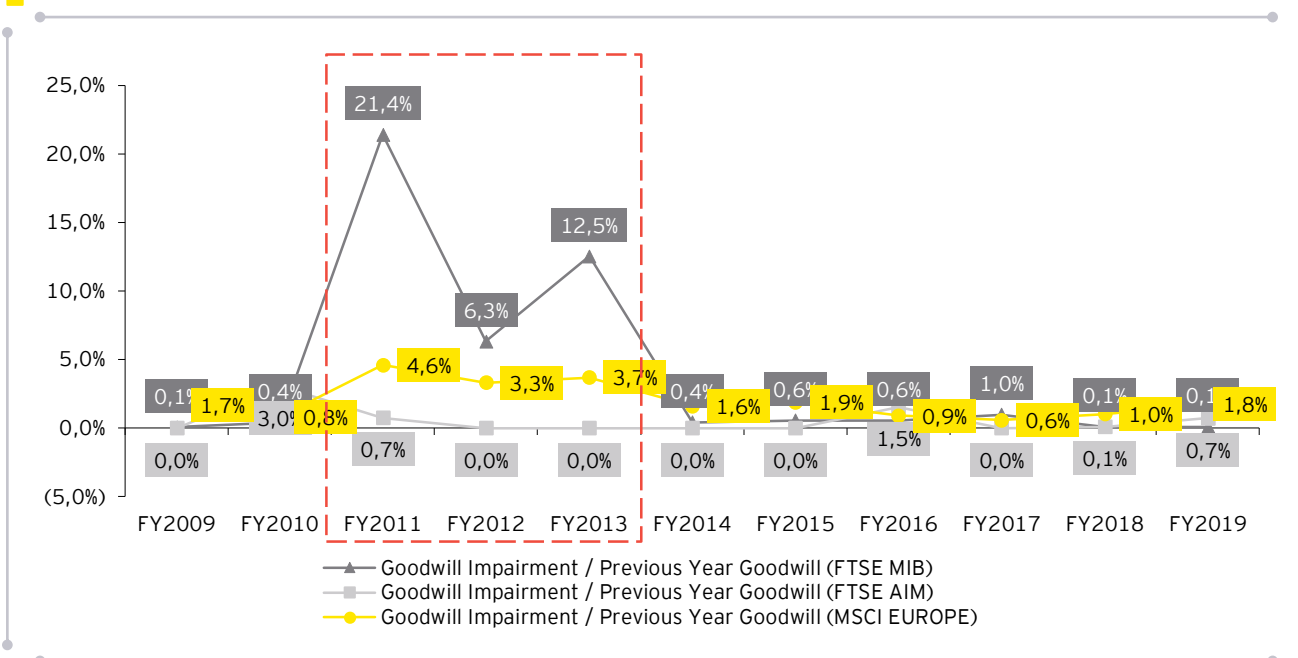
* Italian companies include FTSE AIM and FTSE MIB companies

Goodwill Impairment over prior year Goodwill:

During 2011 - 2013 period, goodwill impairment was high for both FTSE MIB and MSCI Europe companies



Goodwill impairment over prior year goodwill



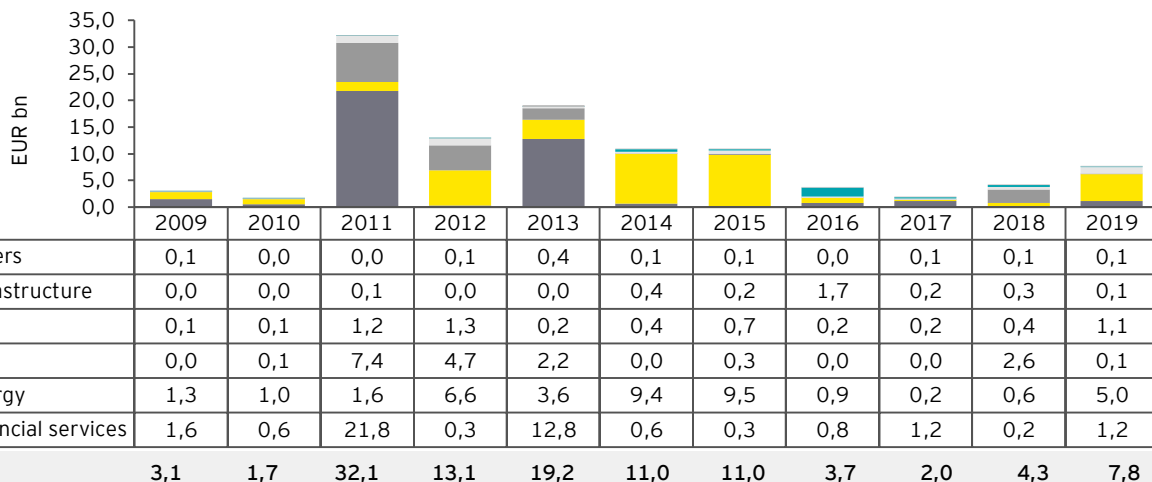
- ▶ Goodwill impairment / Previous Year Goodwill ratio, refers to the intensity of impairments as the ratio of impairment charged in a period over the opening balance of goodwill
- ▶ FTSE AIM: These are small cap listed companies, the companies hardly reported any goodwill impairment
- ▶ FTSE MIB: Companies recognized goodwill impairment / previous goodwill ratio on an average of 4,0% during 2009-2019 period, however if we exclude 2011-2013 period then average was recognized only 0,4%
- ▶ MSCI Europe: Goodwill impairment / previous year goodwill ratio changed from 1,7% in 2009 to 1,8% in 2019, with highest ratio during 2011-2013 period
 - ▶ Companies recognized goodwill impairment / previous goodwill ratio on an average of 2,0% during 2009-2019 period, however if we exclude 2011-2013 period then average was recognized only 1,3%

FTSE MIB impairment by sector:

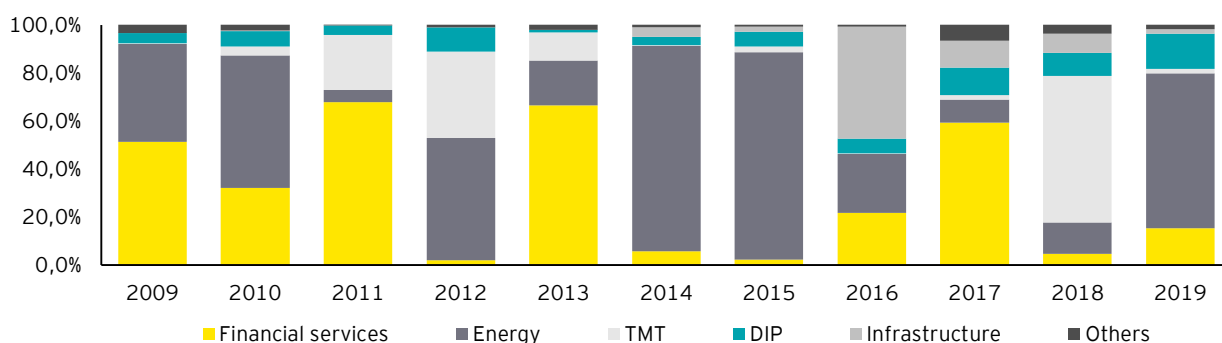
In 2019, 81,6% of total Impairment reported by top 3 sectors (Financial services, Energy and TMT)



Total impairment by sector



- ▶ Financial services sector reported its highest impairment in 2011 due to the financial debt crisis, whereas Energy sector reported its highest impairment in 2014-15 period due to decline in oil prices
- ▶ In 2019, 81,6% of total impairment is reported by Financial services, Energy and TMT sectors
 - ▶ Financial services sector impairment contributed highest % of total impairment till 2011
 - ▶ After 2011, energy sector contributed highest % of total impairment
 - ▶ Similar trend was observed in the infrastructure sector



* FTSE MIB companies by sector have been covered as FTSE AIM companies reported negligible impairment

FTSE MIB impairment by sector:

% of companies reporting Impairment increased during the period 2009 to 2019 in all the sectors



% of companies reporting impairment by sector

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Financial services	38,5%	38,5%	53,8%	61,5%	61,5%	53,8%	46,2%	61,5%	53,8%	38,5%	76,9%
Energy	57,1%	85,7%	57,1%	100,0%	71,4%	71,4%	85,7%	71,4%	100,0%	100,0%	100,0%
TMT	33,3%	33,3%	33,3%	66,7%	66,7%	66,7%	100,0%	100,0%	33,3%	66,7%	33,3%
DIP	57,1%	57,1%	71,4%	71,4%	85,7%	85,7%	85,7%	71,4%	71,4%	71,4%	71,4%
Infrastructure	50,0%	50,0%	100,0%	50,0%	50,0%	100,0%	100,0%	100,0%	50,0%	50,0%	100,0%
Others	50,0%	37,5%	37,5%	50,0%	50,0%	50,0%	37,5%	50,0%	62,5%	37,5%	50,0%

- ▶ % of companies reporting Impairment increased for Financial Services, Energy, Infrastructure and DIP whereas remained similar for TMT and declined for Healthcare
 - ▶ Impairment reporting for Financial services companies increased from 38,5% in 2009 to 76,9% in 2019
 - ▶ Energy companies impairment reporting increased from 57,1% in 2009 to 100.0% in 2019
 - ▶ TMT companies impairment reporting did not change from 33,3% in 2009 to 33,3% in 2019
 - ▶ DIP companies impairment reporting increased from 51,7% in 2009 to 71,4% in 2019
 - ▶ Infrastructure companies reporting increased from 50,0% in 2009 to 100,0% in 2019

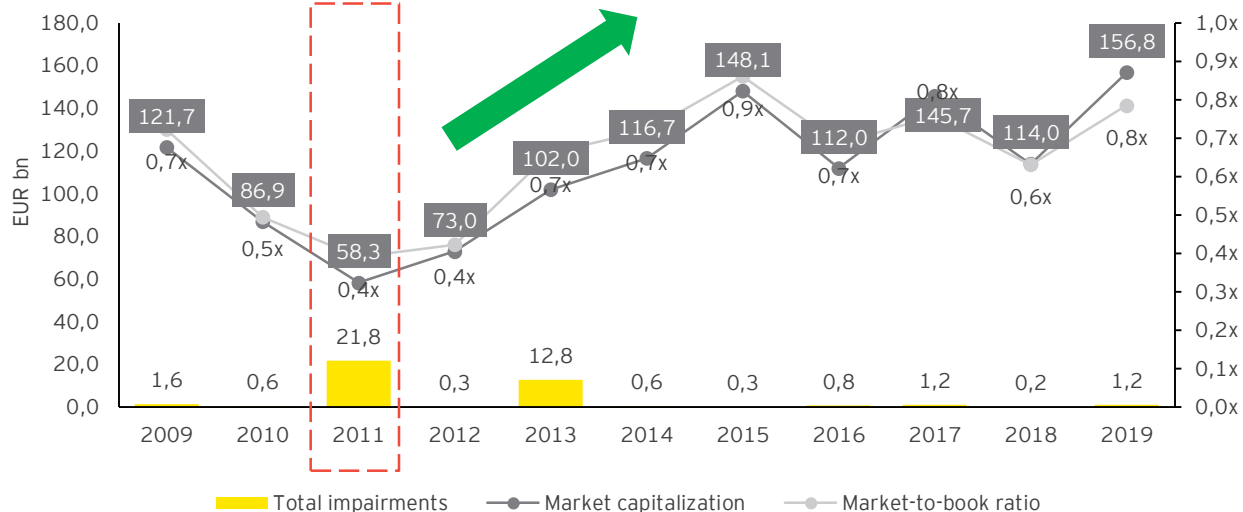
* FTSE MIB companies by sector covered as FTSE AIM companies reported negligible impairment

FTSE MIB Financial Services sector:

Increase in Impairment over the years due to impact of great recession and European debt crisis



Financial services sector impairment vs. Market cap. and Market-to-book



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goodwill impairment	0,1%	68,9%	99,9%	39,0%	97,6%	30,9%	4,5%	70,4%	87,8%	47,0%	1,4%
Asset writedown	99,9%	31,1%	0,1%	61,0%	2,4%	69,1%	95,5%	29,6%	12,2%	53,0%	98,6%

- ▶ Financial services sector was significantly impacted due to the great recession and European debt crisis, resulting in the increase in reporting of total impairment
 - ▶ In 2011, market capitalization (EUR 58,3bn) and market-to-book ratio (0,4x) was the lowest and impairment was the highest of EUR 21,8bn
- ▶ Financial services companies reporting goodwill impairment increased from 0,1% in 2009 to 1,4% in 2019
- ▶ In 2011, goodwill impairment contributed 99,9% of total impairment due to EUR 10,3bn and EUR 8,2bn of goodwill impairment by two companies from the financial services sector

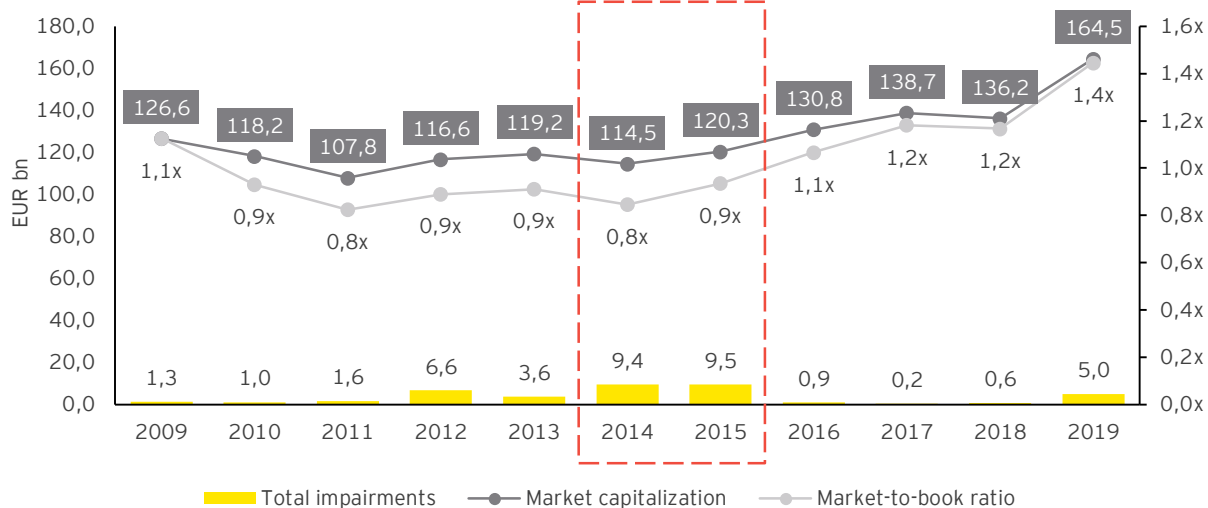
* FTSE MIB companies by sector covered as FTSE AIM companies reported negligible impairment

FTSE MIB Energy sector:

The decline in global oil prices lead to an increase in asset write-down



Energy sector impairment vs. Market cap. and Market-to-book



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goodwill impairment	0,2%	13,4%	18,3%	38,9%	20,8%	2,1%	0,0%	3,8%	23,7%	7,9%	2,2%
Asset writedown	99,8%	86,6%	81,7%	61,1%	79,2%	97,9%	100,0%	96,2%	76,3%	92,1%	97,8%

- ▶ Due to the decline in oil prices in 2014, the O&G companies significantly increased their asset write-down
- ▶ In energy sector, goodwill impairment was less than asset write-down: in the last 11 years average 88,1% of impairment is from asset write-down
- ▶ In 2014, O&G companies reported highest total impairment of EUR 9,4bn due to asset write-down of EUR 6,7bn and EUR 2,5bn by two companies
 - ▶ Similarly, in 2015, asset write-down of EUR 1,8bn and EUR 7,2bn by these two companies
- ▶ Total impairment increased to EUR 5,0bn in 2019 from EUR 1,3bn in 2009

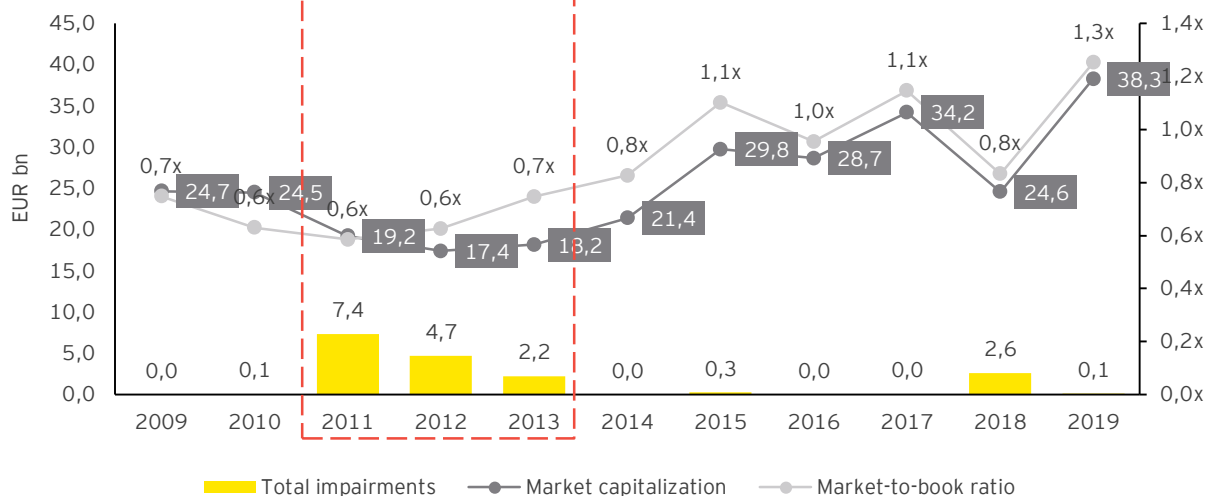
* FTSE MIB companies by sector covered as FTSE AIM companies reported negligible impairment

FTSE MIB TMT sector:

Increase in Impairment due to decline in financial markets



TMT sector impairment vs. Market cap. and Market-to-book



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goodwill impairment	100,0%	100,0%	100,0%	98,7%	99,3%	0,0%	91,7%	0,0%	0,0%	99,3%	0,0%
Asset writedown	0,0%	0,0%	0,0%	1,3%	0,7%	100,0%	8,3%	100,0%	100,0%	0,7%	100,0%

- ▶ Out of 3 TMT companies, one company has reported impairment throughout the period
- ▶ This company reported goodwill impairment of EUR 7,4bn, EUR 4,2bn, and EUR 2,2bn in 2011, 2012 and 2013, respectively, due to decline in financial markets
- ▶ Market capitalization decreased during 2011 to 2012
 - ▶ Impairment was higher during the same period, post which it has significantly declined; in 2019, total impairment was EUR 0,1bn

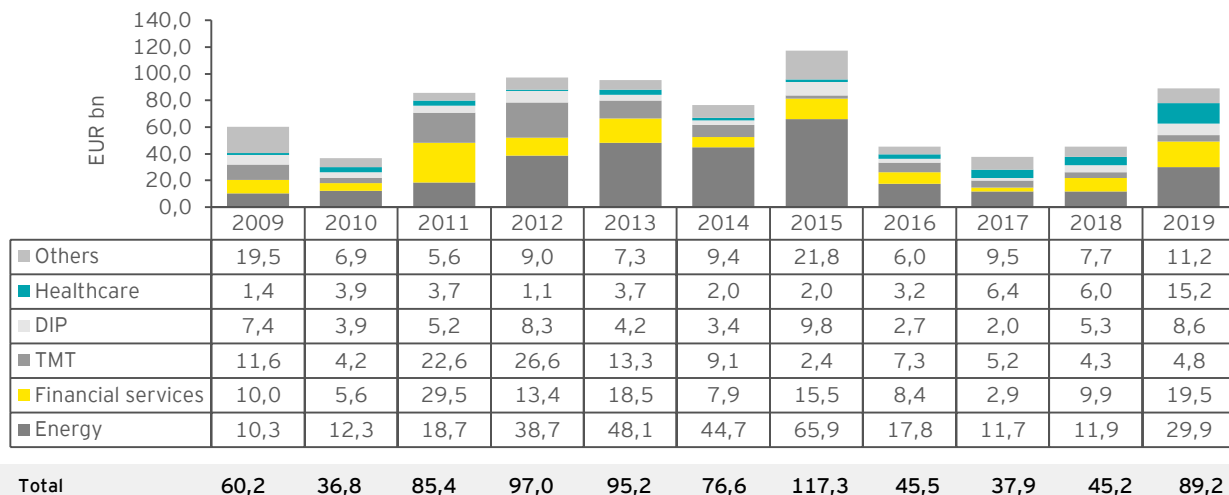
* FTSE MIB companies by sector covered as FTSE AIM companies reported negligible impairment

MSCI Europe impairment by sector:

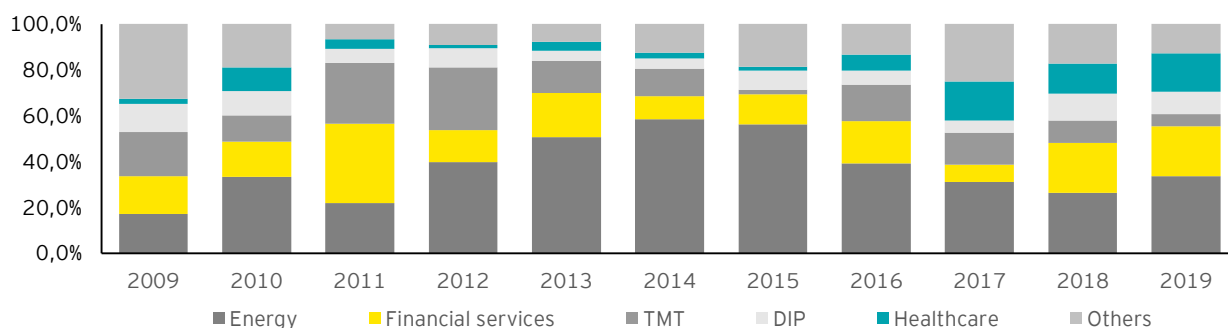
Average 60,8% of total Impairment reported by top 3 sectors (Energy, Financial services and TMT)



Total impairment by sector



- ▶ Energy sector reported highest impairment followed by Financial services from 2009 to 2019
- ▶ Energy sector reported highest impairment in 2015 due to decline in crude oil prices
- ▶ Financial services sector reported its highest impairment in 2011, time of sovereign debt crisis
- ▶ 60,8% of total impairment in 2019 is reported by Energy, Financial services, and TMT
 - ▶ TMT sector impairment was high during 2011 to 2015 period
 - ▶ Healthcare sector impairment was 17,0% of total impairment in 2019 with EUR 15,2bn



* FTSE MIB companies by sector covered as FTSE AIM companies reported negligible impairment

MSCI Europe impairment by sector:

% of companies reporting Impairment increased during 2009 to 2019 period in Energy, Financial Services, TMT and Healthcare



% of companies reporting impairment by sector

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Energy	57,1%	64,3%	64,3%	69,0%	73,8%	78,6%	71,4%	66,7%	73,8%	66,7%	71,4%
Financial services	52,5%	51,3%	57,5%	57,5%	55,0%	57,5%	57,5%	62,5%	50,0%	53,8%	60,0%
TMT	42,6%	46,8%	42,6%	46,8%	61,7%	46,8%	48,9%	59,6%	42,6%	57,4%	57,4%
DIP	59,1%	51,5%	56,1%	59,1%	62,1%	63,6%	56,1%	59,1%	56,1%	56,1%	56,1%
Healthcare	44,4%	44,4%	37,8%	42,2%	35,6%	33,3%	33,3%	42,2%	42,2%	37,8%	46,7%
Others	48,3%	43,4%	38,5%	43,4%	44,8%	42,7%	49,0%	44,1%	46,9%	47,6%	55,9%

- ▶ % of companies reporting impairment increased for Energy, Financial Services, TMT, Healthcare, whereas declined for DIP during 2009 to 2019 period
 - ▶ Energy companies impairment reporting increased from 57,1% in 2009 to 71,4% in 2019
 - ▶ Financial Services companies impairment reporting increased from 52,5% in 2009 to 60,0% in 2019
 - ▶ TMT companies impairment reporting increased from 42,6% in 2009 to 57,4% in 2019
 - ▶ Healthcare companies impairment reporting increased from 44,4% in 2009 to 46,7% in 2019
 - ▶ DIP companies impairment reporting decreased from 59,1% in 2009 to 56,1% in 2019

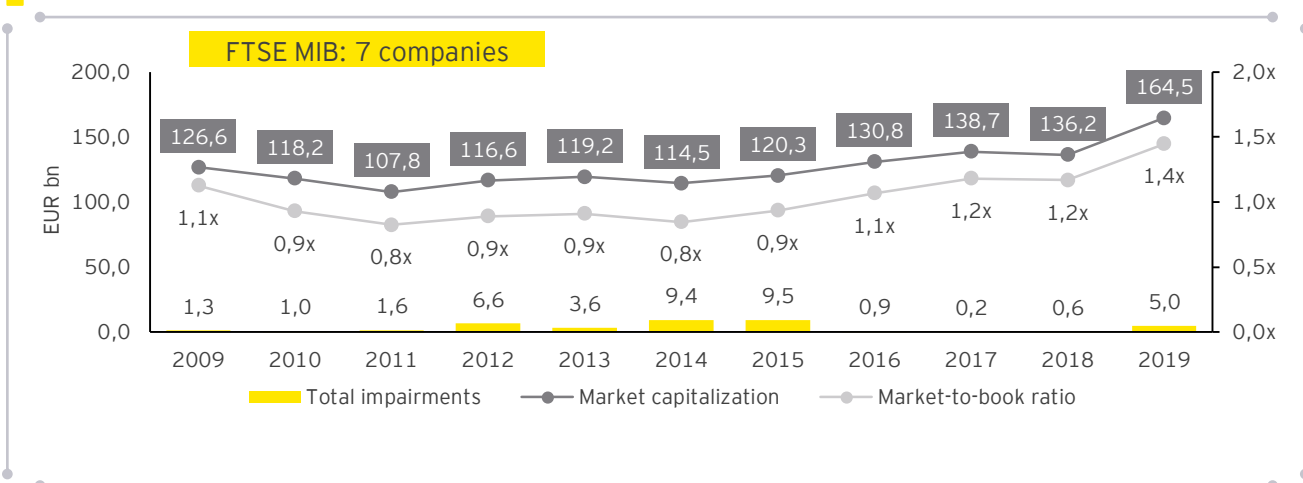
* FTSE MIB companies by sector covered as FTSE AIM companies reported negligible impairment

FTSE MIB vs. MSCI Europe (Energy sector):

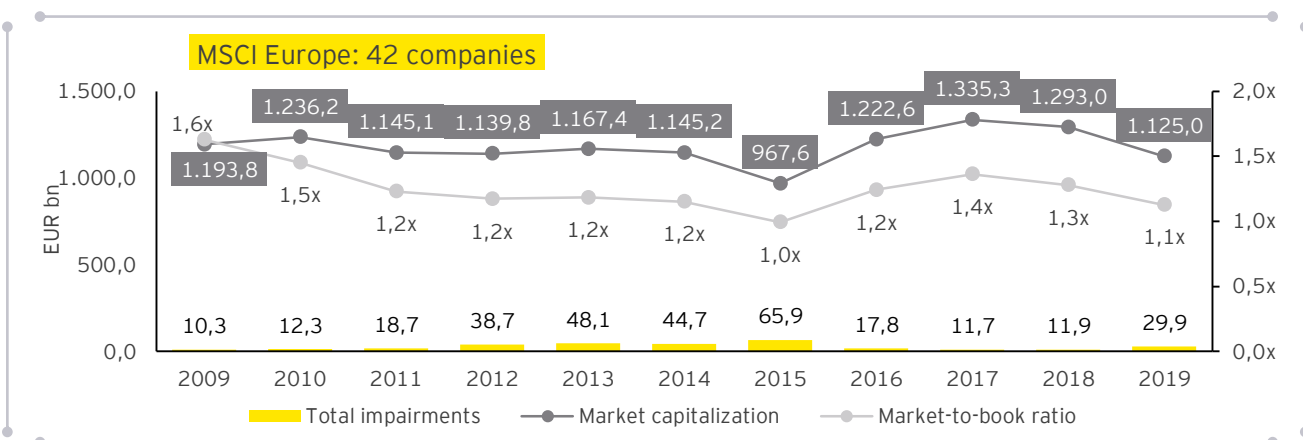
Decline in oil prices in 2014 increased the asset write-down by major upstream O&G companies



Energy sector impairment vs. Market cap. and Market-to-book



- ▶ In the last 11 years, more than 84,9% of impairment was from asset write-down for MSCI Europe and 88,1% for FTSE MIB
- ▶ Due to the decline in oil prices in 2014, the O&G companies increased the asset write-down
- ▶ Top 3 energy companies reported highest total impairment in 2019;
 - ▶ In MSCI Europe, 48,6% of total impairment by top 3 companies
 - ▶ In FTSE MIB, 98,3% of total impairment by top 3 companies



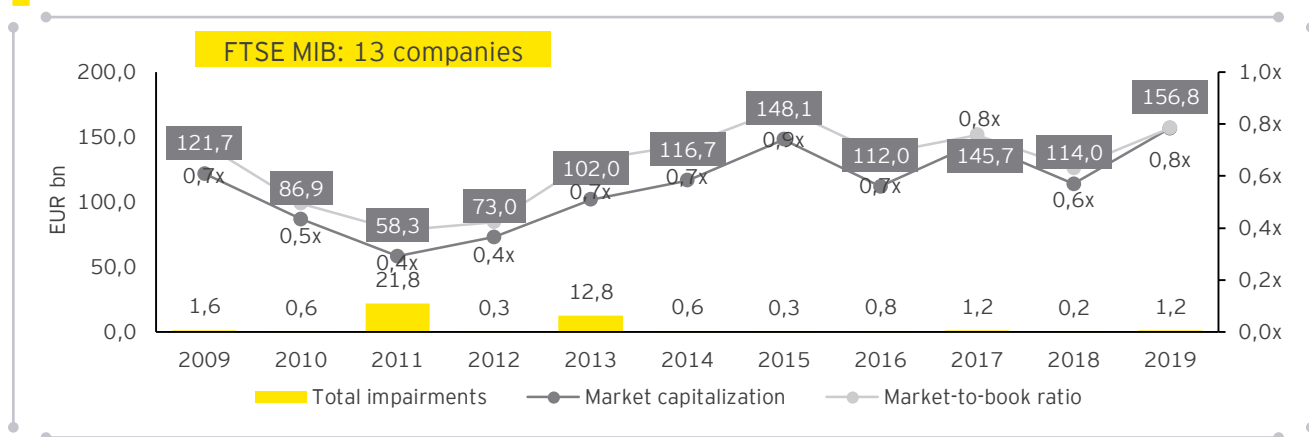
* FTSE MIB companies by sector compared with MSCI Europe as FTSE AIM companies reported negligible impairment

FTSE MIB vs. MSCI Europe (Financial sector):

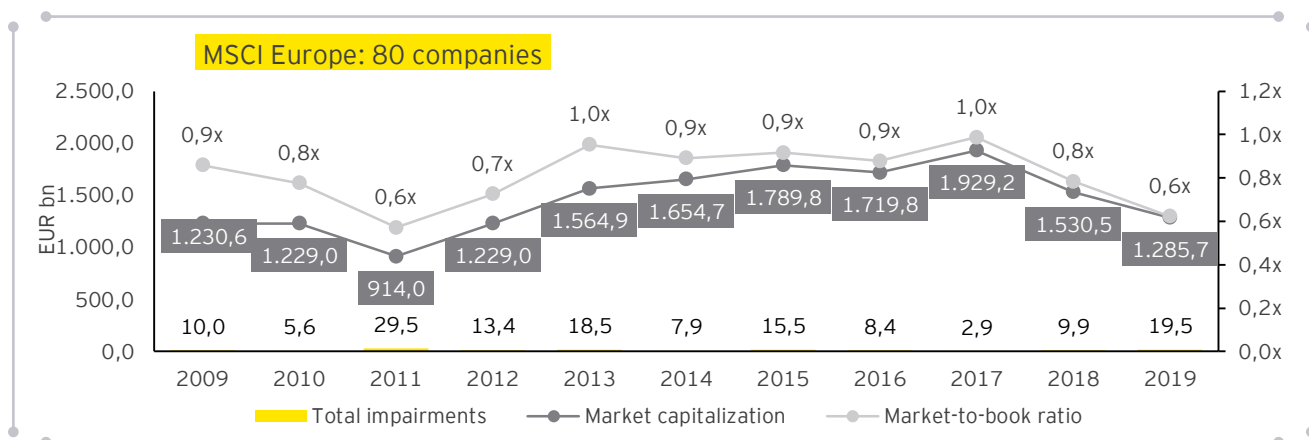
Impairment was high in 2011 due to financial market crisis and European debt crisis



Financial services sector impairment vs. Market cap. and Market-to-book



- ▶ For FTSE MIB, market capitalization and market-to-book ratio was lowest in 2011, whereas, total impairment was highest being EUR 21,8bn
- ▶ For MSCI Europe, total impairment was highest in 2011, being EUR 29,5bn, market capitalization and market-to-book ratio was lowest in 2011
- ▶ For FTSE MIB, market-to-book ratio increased in 2009 and 2019, while for MSCI Europe it decreased
- ▶ Top 3 financial companies reported highest total impairment in 2019;
 - ▶ In MSCI Europe, 53,9% of total impairment by top 3 companies
 - ▶ In FTSE MIB, 93,5% of total impairment by top 3 companies



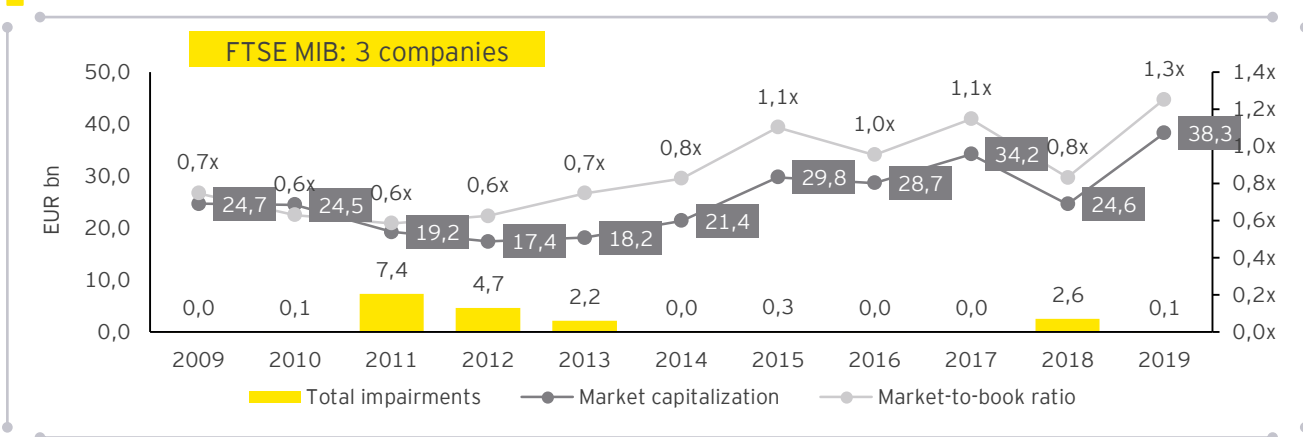
* FTSE MIB companies by sector compared with MSCI Europe as FTSE AIM companies reported negligible impairment

FTSE MIB vs. MSCI Europe (TMT sector):

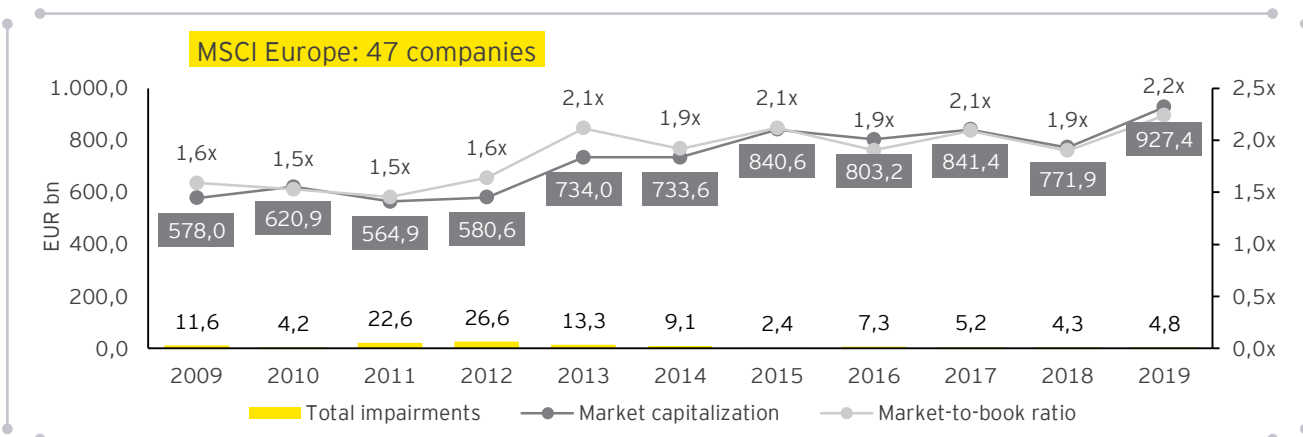
Major telecom companies reported impairment during 2011 to 2013, due to financial market crisis



TMT sector impairment vs. Market cap. and Market-to-book



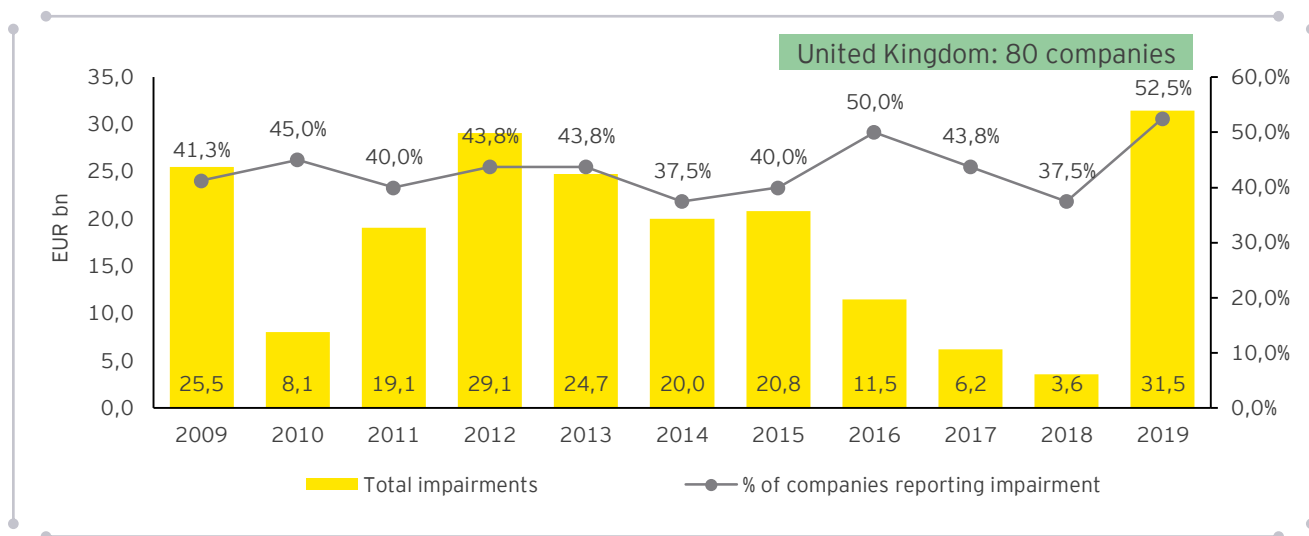
- ▶ One company has reported impairment throughout all the period except in 2019
- ▶ Due to financial market crisis, the total impairment for FTSE MIB and MSCI Europe was high during 2011 to 2013
- ▶ For MSCI Europe, total impairment during 2011 to 2013 period was amongst highest due to the European debt market crisis
 - ▶ Total impairment was highest in 2012 being EUR 26.6bn
- ▶ Top 3 financial companies reported highest total impairment in 2019;
 - ▶ In MSCI Europe, 82,5% of total impairment by top 3 companies
 - ▶ In FTSE MIB, 100.0% of total impairment by top 3 companies



* FTSE MIB companies by sector compared with MSCI Europe as FTSE AIM companies reported negligible impairment

MSCI Europe by country: United Kingdom

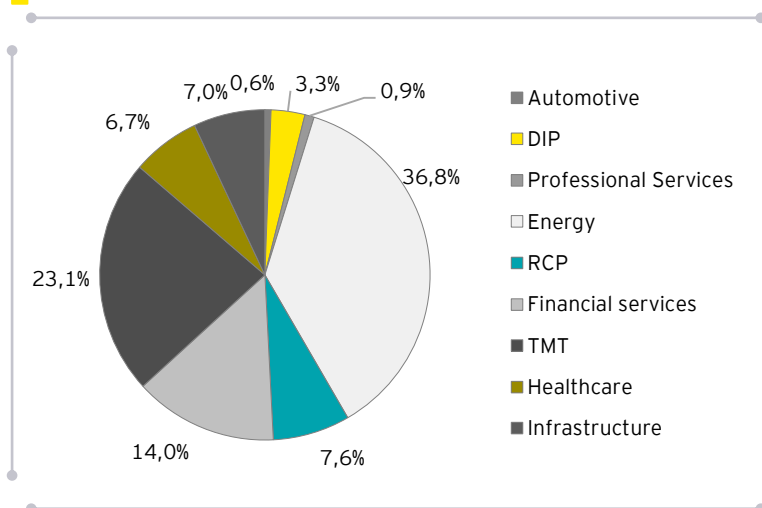
Average of 43,2% n° of UK companies reported impairment during 2009-2019, 52,5% in 2019



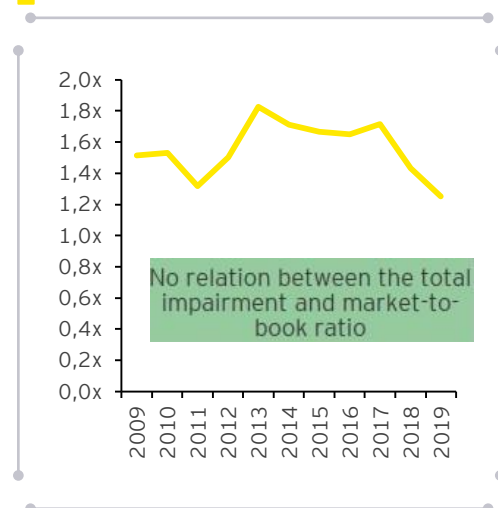
In 2019, top 3 companies based on total impairment during 2009-2019 reported impairment of EUR 40,9bn, EUR 29,8bn and EUR 20,4bn

61,8% of total impairment reported by the top 3 companies during 2009-2019

2009 - 2019 total impairment by sector

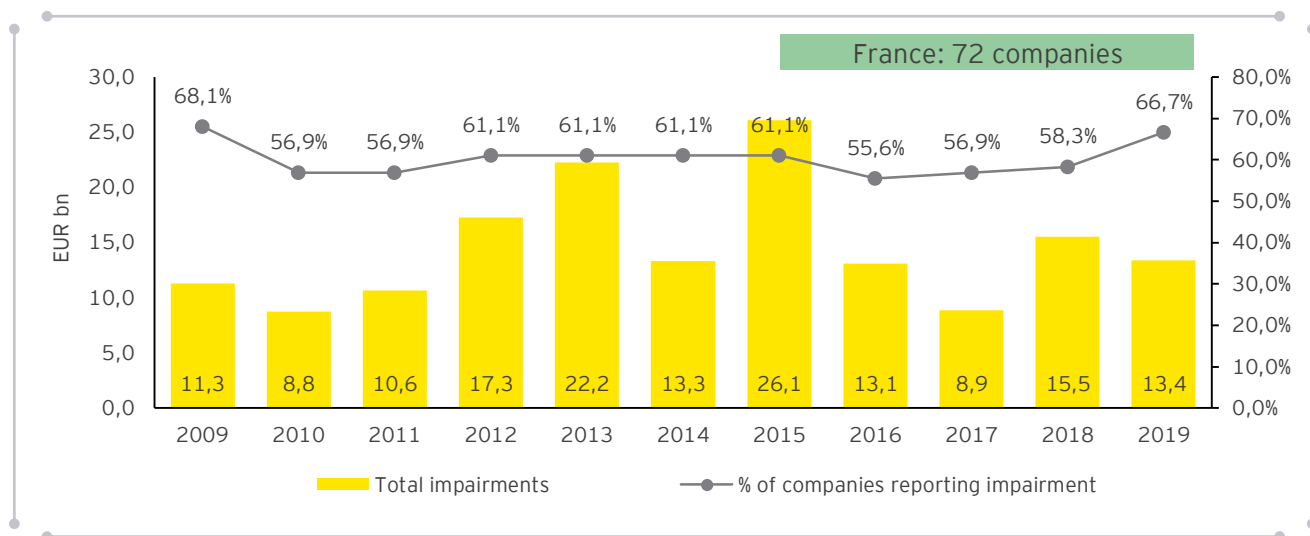
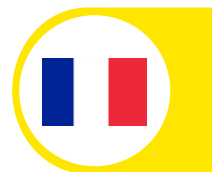


Market-to-book ratio



MSCI Europe by country: France

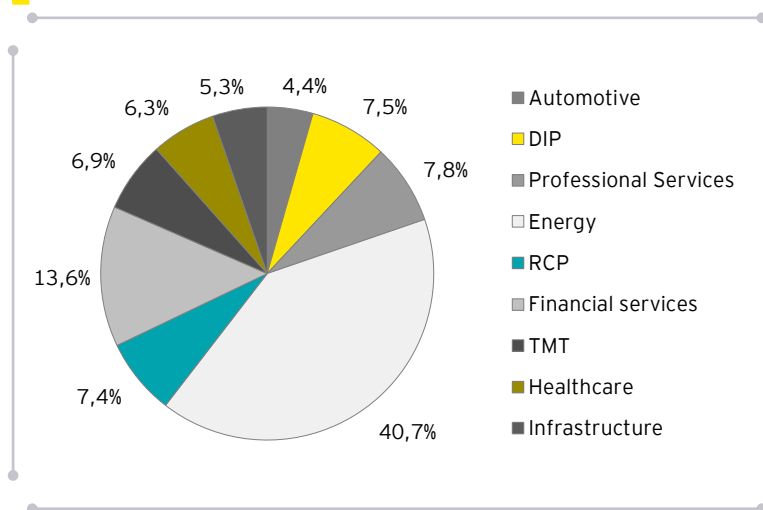
Average of 60.4% n° of French companies reported impairment during 2009-2019, 66,7% in 2019



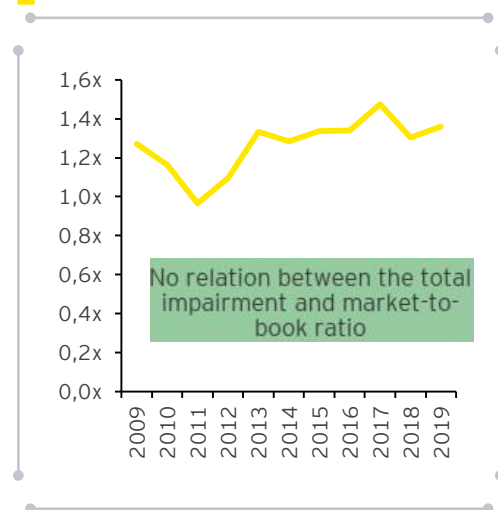
In 2019, top 3 companies based on total impairment during 2009-2019 reported impairment of EUR 37,5bn, EUR 26,1bn and EUR 10,3bn

57,8% of total impairment reported by the top 3 companies during 2009-2019

2009 - 2019 total impairment by sector

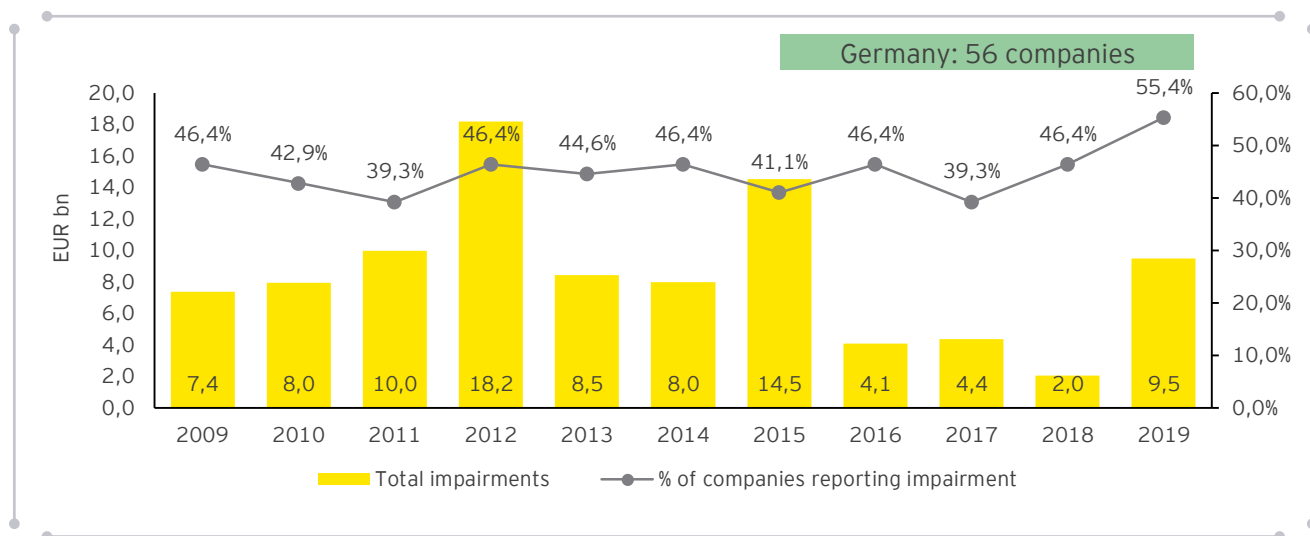


Market-to-book ratio



MSCI Europe by country: Germany

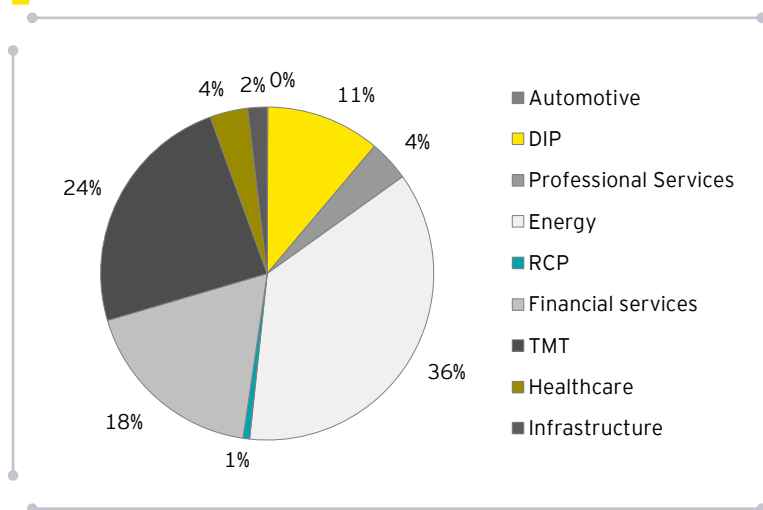
Average of 45,0% n° of German companies reported impairment during 2009-2019, 55,4% in 2019



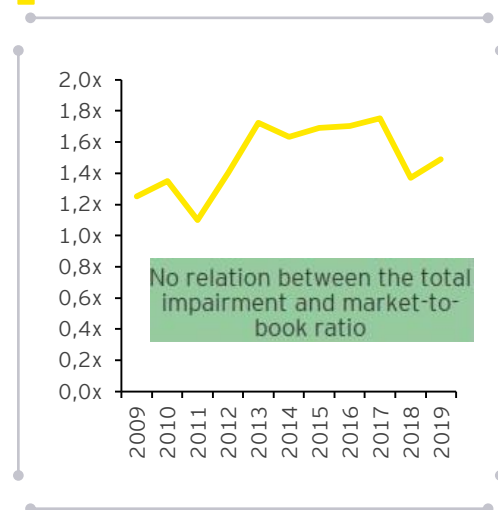
In 2019, top 3 companies based on total impairment during 2009-2019 reported impairment of EUR 22,5bn, EUR 21,3bn and EUR 13,3bn

74,3% of total impairment reported by the top 3 companies during 2009-2019

2009 - 2019 total impairment by sector

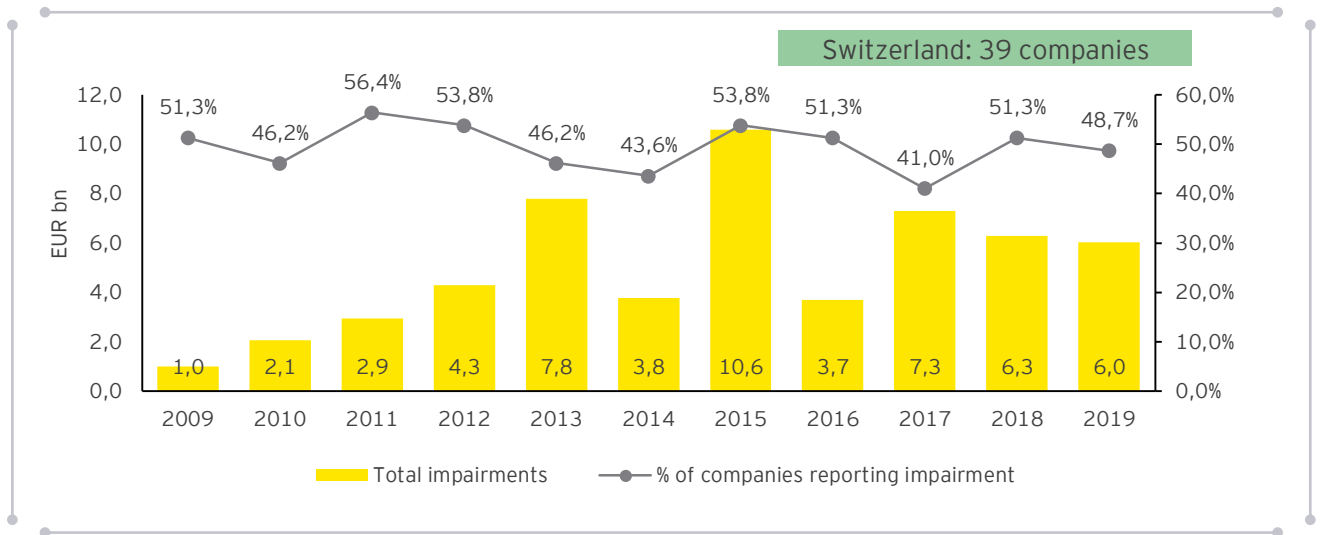
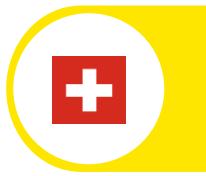


Market-to-book ratio



MSCI Europe by country: Switzerland

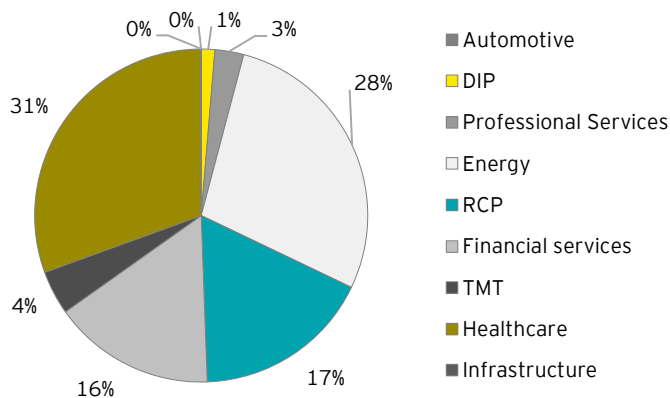
Average of 49,4% n° of Swiss companies reported impairment during 2009-2019, 48,7% in 2019



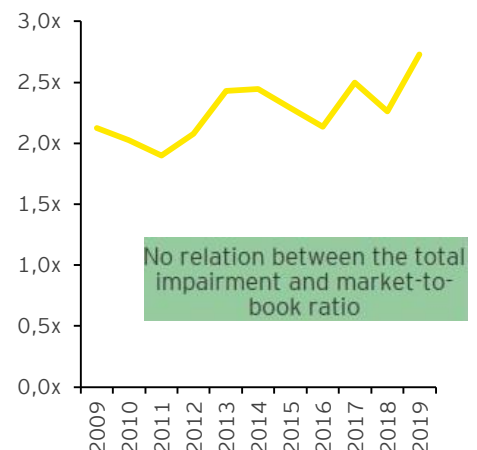
In 2019, top 3 companies based on total impairment during 2009-2019 reported impairment of EUR 14,5bn, EUR 10,9bn and EUR 8,5bn

84,1% of total impairment reported by the top 3 companies during 2009-2019

2009 - 2019 total impairment by sector



Market-to-book ratio





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