EFFICIENCY OF TSL ENTERPRISES FROM EU-13 AND EU-15 COUNTRIES – A COMPARATIVE STUDY ON THE MARINE TRANSPORT SUBSECTOR

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ABSTRACT

The paper presents ratios analysis of EU-15 and EU-13 marine transport enterprises during the 2009 – 2015 period. The author concentrates on quoted business entities in order to provide the most up-to-date data as well as to take into consideration enterprises with a significant level of income. By using the liabilities side of the balance sheet, the author is able to provide a valuable insight on the possibilities of individual business entities to self–finance, and thus – evaluate their strategy to finance the development of their operation. The evaluation in question make it also possible to analyzed the effectiveness of business models choice of entities providing service in a globalized sector – marine transportation

INTRODUCTION

Enterprises are being constantly analyzed by both the academia as well as investment professionals, taking into account their balance sheets. However usually both group tend to favor the asset side of the balance sheet. Furthe more a standard approach linked with ratio analysis concentrate on measuring turnovers, inventories or price levels. And thus – usually bypassing the liabilities side of the equation. This is especially true in the case of analysis concerning the transport sector (marine subsector). As such – there is a clear need to assess potential differences in the business models choices made by entities registered in EU-15 and EU-13 countries.

The paper analysis liabilities-side financial ratios of transport companies for the 2009-2015 time frame. The reader should take notice of the technical note of the study, since it does contain assumptions affecting both the number of entities being analyzed as well as the sector their represent.

Technical note

The following work will be using standard financial ratios analysis concerning the liabilities side of the balance sheet. By concentrating on the liabilities side of business entities, one can assess the performance of their business models in terms of their ability to self-finance their operation. This is especially true in the case of using the following ratios:

- total debt to total assets,
- total long term debt to total,

which measure the level of leverage used by individual entities, and thus can be used to assess the risk level of a specific business model.

The author has chosen to analysis business entities that are listed on European stock exchanges in two groups – entities officially registered and listed in EU – 15 countries (please refer to Table 2 for a full list of used entities) and EU – 13 countries (please refer to Table 1 for a full list of used entities). Additionally, due to data conformity and quality, all used and chosen business entities should provide data for at least four consecutive years during the period 2009 – 2015.

As seen on Figure 1 the number of entities belonging to EU-13 countries is much lower than those belonging to EU-15 countries. However even with a small population (of 13 entities as seen below) data for EU-13 business entities can offer statistically correct insight into the business models of transport enterprises from those countries.

Figure 1. Population of the analysis
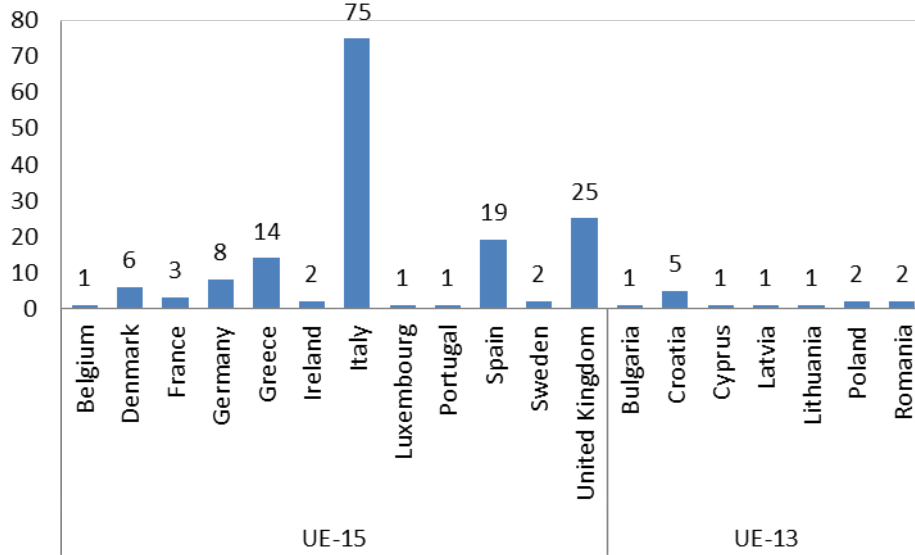
Source: Authors calculations.

Additionally the author has chosen to concentrate the analysis on only one subsector of the transport sector: marine transportation, as define by Bloomberg Industry Classification System (Bloomberg, 2017). This choice have been made deliberately, since in the authors opinion, this group is the most uniform among transport subsectors as defined by the BICS standard classification. Additionally, the marine transportation subsector is clearly highly globalized, and thus competitive. This allows for an analysis on business models differentiation.

Table 1. EU – 15 Business entities

Country	Bloomberg terminal TICKER
Belgium	EURN BB
Denmark	DFDS DC; DNORD DC; ERRI DC; HAFNIA NO; MAERSKB DC; NORDIC DC
France	144898Z FP; ALCLA FP; TOUP FP
Germany	2581Z GR; 2662Z GR; 3041702Z GR; 3741899Z GR; HHX GR; HLAG GR; M5S GR; NEP GR
Greece	ANW US; DAC US; DCIX US; DRYS US; ESEA US; EXMCQ US; FREEF US; GASS US; GLBS US; NEWLF US; PRGNF US; SHIP US; TEUFF US; TOPS US
Sweden	CCORB SS; VSSABB SS
United Kingdom	1064402Z LN; 1095458Z LN; 1096866Z LN; 1134799Z LN; 1194711Z LN; 1356786Z LN; 1358466Z LN; 1756777Z LN; 2044635Z LN; 2112763Z LN; 2182452Z LN; 2582562Z LN; 2631153Z LN; 3640743Z LN; 3640775Z LN; 3641531Z LN; 3747060Z LN; 4155877Z LN; 4156101Z LN; 634188Z LN; GMLP US; GPRT LN; GSHP LN; GSL US; HCL LN
Ireland	4525783Z ID; 514675Z ID
Italy	11162Z IM; 259783Z IM; 2637943Z IM; 2652315Z IM; 3898178Z IM; 3898586Z IM; 3997316Z IM; 3998332Z IM; 3999012Z IM; 4174877Z IM; 4183125Z IM; 4183245Z IM; 4188329Z IM; 4189777Z IM; 4189833Z IM; 4190473Z IM; 4205985Z IM; 4207417Z IM; 4227709Z IM; 4228109Z IM; 4228957Z IM; 4248069Z IM; 4250085Z IM; 4254381Z IM; 4255653Z IM; 4258653Z IM; 4258725Z IM; 4259525Z IM; 4260685Z IM; 4267261Z IM; 4270261Z IM; 4276389Z IM; 4277253Z IM; 4281293Z IM; 4282101Z IM; 4288109Z IM; 4292317Z IM; 4300789Z IM; 4300869Z IM; 4303933Z IM; 4305997Z IM; 4320325Z IM; 4320605Z IM; 4331909Z IM; 4332997Z IM; 4334549Z IM; 4343669Z IM; 4357909Z IM; 4363557Z IM; 4385033Z IM; 4418169Z IM; 4419001Z IM; 4420321Z IM; 4420685Z IM; 4472295Z IM; 4473179Z IM; 4473195Z IM; 4473219Z IM; 4473227Z IM; 4473251Z IM; 4500875Z IM; 4503995Z IM; 4504667Z IM; 4508715Z IM; 4513831Z IM; 4513839Z IM; 4514695Z IM; 4514743Z IM; 4514751Z IM; 4514807Z IM; 4514823Z IM; 4523119Z IM; 4780129Z IM; FNV IM; PR IM;
Portugal	4286741Z SM;
Spain	2770174Z SM; 3654135Z SM; 3745656Z SM; 3745936Z SM; 3748640Z SM; 3777936Z SM; 3788928Z SM; 3791040Z SM; 3804272Z SM; 3804940Z SM; 4368089Z SM; 4368297Z SM; 4376977Z SM; 4418273Z SM; 4420265Z SM; 4492299Z SM; 4509707Z SM; 8949974Z SM; MUR SM;

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

Table 2. EU – 13 Business entities

Country	Bloomberg terminal TICKER
Bulgaria	5BR BU
Croatia	ATPLRA CZ; JDPLRA CZ; LPLHRA CZ; TNPLRA CZ; ULPLRA CZ
Cyprus	SFS CY
Latvia	LSC1R LR
Lithuania	LLK1L LH
Poland	KDM PW; OTS PW
Romania	COVG RO; PONO RO

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

Main findings

Results obtained shows clearly that even though the business models of entities register and listed in EU-15 do not differ much from those form EU-13 countries, the do however obtain different scores in the ratios analyzed.

In the case of the total debt to total asset ratio analysis three major findings were assessed:

- The EU-13 business entities have attained a higher median result for ratio during the entire 2009-2015 time frame,
- The EU-13 business entities attain a lower maximum level of the ratio during the entire 2009-2015 time frame. Additionally, during only two years (2015, ,2013, 2012) the level surpass 80%,
- The EU-15 business entities attain higher levels of maximum ratios.

Please consult Table 3 for complete results.

Table 3. Total debt to total asset ratios

Country group		Year						
		2015	2014	2013	2012	2011	2010	2009
EU-13	min	2,01	3,78	5,57	5,78	7,74	1,86	0,01
	max	85,06	78,74	91,36	87,26	67,99	57,92	77,83
	median	48,50	42,67	46,26	47,32	38,55	37,08	35,95
	average	43,68	39,79	43,09	40,65	37,06	32,65	35,05
EU-15	min	0,10	0,21	0,33	0,21	0,05	0,03	0,20
	max	206,53	108,85	203,33	246,43	126,18	165,08	96,20
	median	24,79	25,07	25,56	32,27	32,56	30,41	30,55
	average	32,31	29,20	31,50	35,76	35,19	33,29	31,46

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

Additionally approximately ¾ of all EU-13 business entities the total debt to total assets ratio was below 60%. While for EU-15 business entities the said ratio was below 75%, thus showing that their actual emdebtment level was higher than in the first group. Please refer to Figure 2 and Figure 3 in order to assess the ratios for both groups during the analyzed time frame.

However one should take note that the sustainable level of debt for a company is not only a function of its business model (including i.a. serviced clients groups, products offered and markets served) but also external factors such as the financing potential of the national or supra-national (in some cases) financial market.

Even though the emdebtment level varies between the two regions, the level of change that occurred between 2009 and 2015, was sharing some similarities. Among business entities that noted an increase in the reaction, the growth was lower than 1 point. This was the case for more than ¾ of all EU-13 business entities and slightly less than ¾ of all EU-15 business entities have increased their ratio by less than 1 point. However in the case of entities that noted a decrease in the ratio of total debt to total assets, the average and median level of change was much higher in business entities belonging to EU-15, than EU-13. For additional detail – please refer to Figure 4 and Figure 5.

This result could be however linked with the fact that lending and credit conditions were more favorable on EU-15 financial markets than on EU-13. However market data show that the so-called emerging markets (whish i.a. encompass the majority of EU-13 countries), have gained more point during the analyzed period than EU-15 countries, as described i.a. by major asset managers and investment banks – RBC GAM (2017) or JPMorgan AM (2017).

This shows the need to make further assessment using other ratios, especially those pinpointing debt and equity value. An additional analysis made using the long term debt to common equity can be used to measure the financial leverage used by a business entity.

The ratios in question show the following trends:
- The EU-15 business entities are able to achieve a much lower minimum ratio than their EU-13 counterparts during the entire 2009-2015 time frame,
- This advantage do however diminish in time since after the year 2013, the difference in ratios between the two groups of entities is reduced to not more than 0,1 point,
- The EU-15 business entities tend to reach much higher maximum ratio values than their EU-13 counterparts during the entire 2009-2015 time frame,
- EU-13 business entities tend on the long run to lower the maximum ratio attained during the 2009-2015 time frame (as an overall trend, based on aggregated individual results). At the same time, their EU-15 counterparts tend to increase the overall maximum ratio that can be attained,
- The median ratio result obtained by EU-15 business entities tend to decrease within the entire time frame, apart for the year 2011-2012 and 2015 (for the aggregated data),
- The median ratio result obtained by EU-13 business entities tend to decrease within the entire time frame, apart for the year 2011-2012 and 2015 (for the aggregated data).

Please consult Table 4 for complete results.

Table 4. Long term debt to common equity

Country group		Year						
		2009	2010	2011	2012	2013	2014	2015
EU-13	min	2,67	2,42	8,23	4,04	0,41	0,33	0,18
	max	883,50	317,22	215,14	244,52	318,52	334,04	151,48
	median	70,78	71,15	76,10	72,17	55,72	78,64	84,33
	average	124,62	95,77	80,73	78,88	75,72	94,79	73,50
EU-15	min	0,10	0,12	0,05	0,01	1,03	0,20	0,04
	max	967,77	862,87	723,05	731,14	724,29	693,36	922,06
	median	63,35	62,54	66,79	65,81	50,66	45,67	51,02

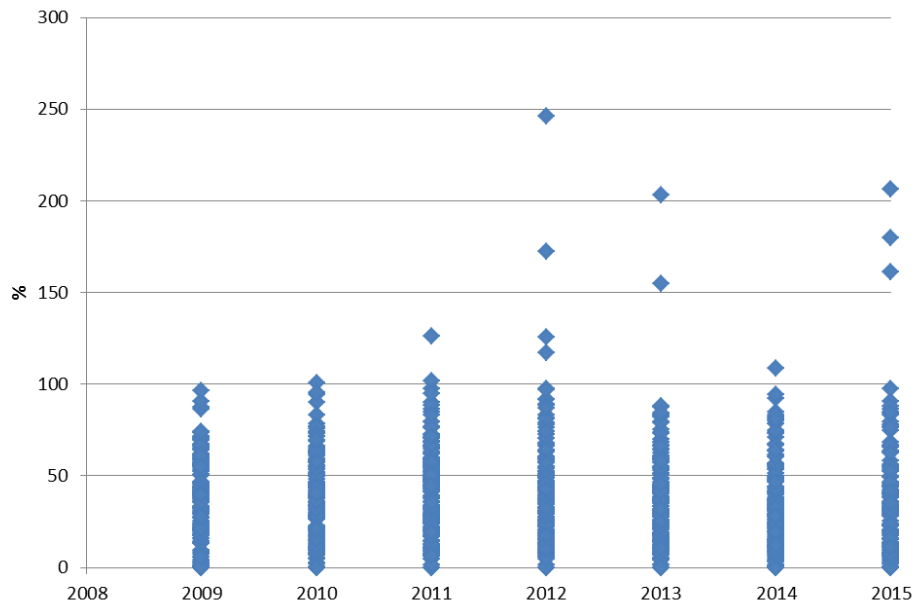|	average	128,35	123,50	104,43	98,52	90,06	83,27	101,35

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

Interesting results can also be seen in the size of the population that attain ratio level over 100% - in the case of EU-15 business entities this was the case to more than 1/3 of all entities during the entire 2009-2015 time frame. In the case of their EU-13 counterparts, the results were more moderate with less than 1/5 of the population attaining those levels. For further detail – please refer to Figure 6 and Figure 7.

Furthe more it should be noted that there are significant differences between the two groups of business entities, when it comes to the dynamic of long term debt to common equity ratio change during the 2009-2015 time frame.

In the case of EU-13 business entities the majority (approximately 2/3) of analyzed enterprises increased the ratio during the said time frame. When on the other hand slightly more than 2/5 of EU-15 enterprises achieved a decrease of the said ratio. Additionally the amount of the change in question was lower in the case of EU-13 entities by more than 0,5 point in relation to results obtained by their EU-15 counterparts. For additional detail – please refer to Figure 8 and Figure 9.

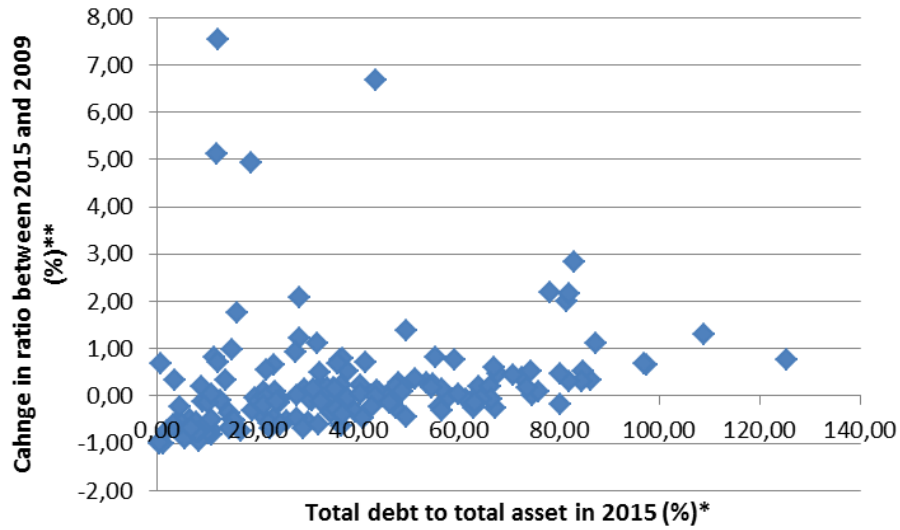Figure 2. Total debt to total assets (EU-15) by year.

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

Figure 3. Total debt to total assets (EU-13) by year.
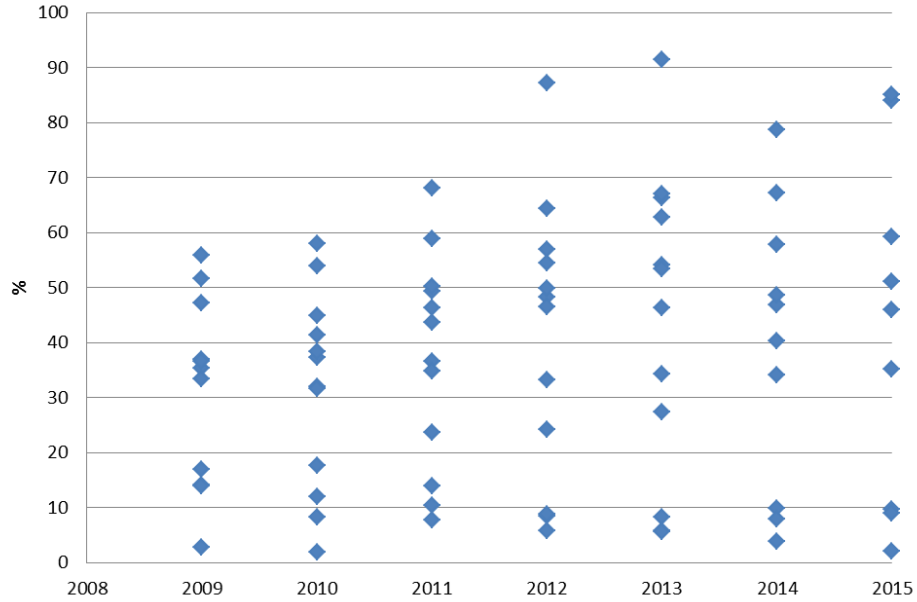
Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

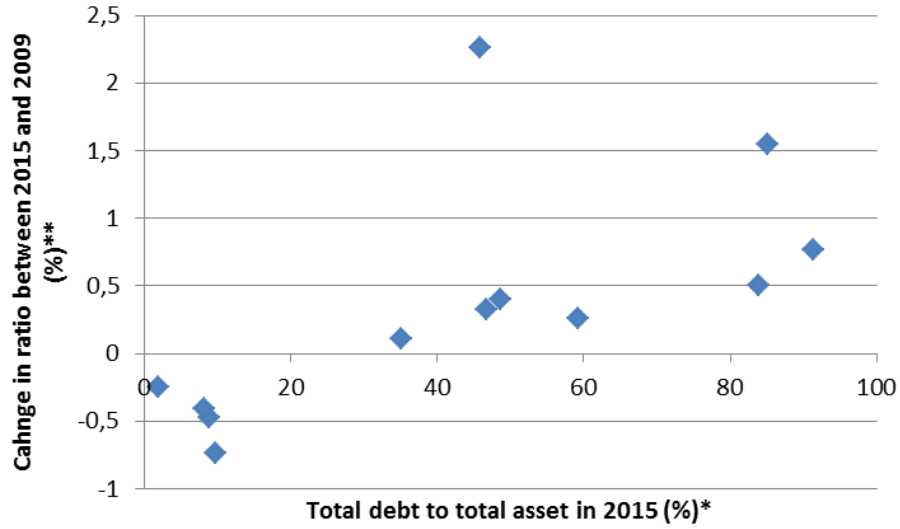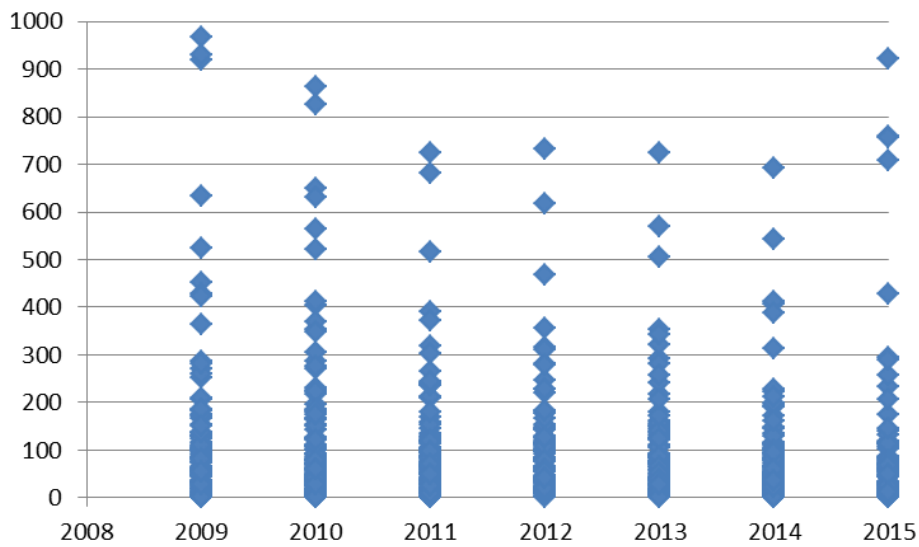Figure 4. Total debt to total assets and ratios change (EU-15).

Source: Authors calculations based on Bloomberg terminal data.
* Or most recent year if no data for 2015 was available.
** Or most historic year if no data for 2009 was available.

Figure 5. Total debt to total assets and ratios change (EU-13).

Source: Authors calculations based on Bloomberg terminal data.
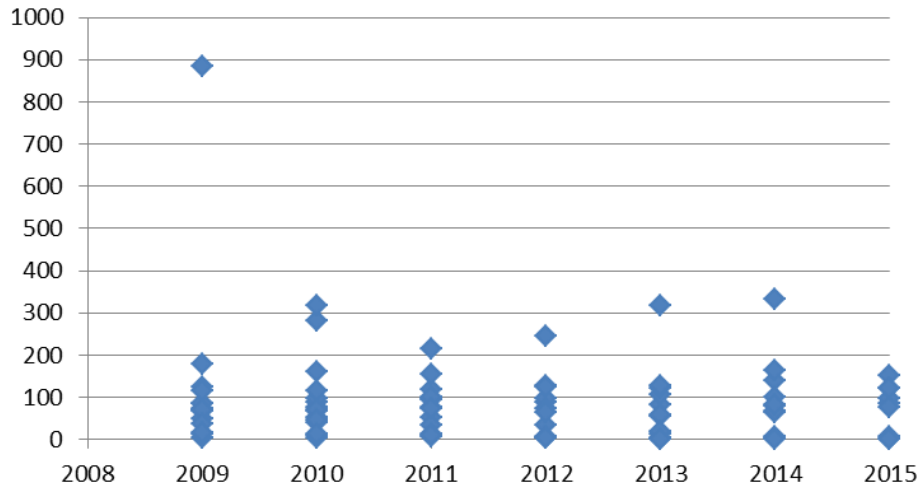* Or most recent year if no data for 2015 was available.
** Or most historic year if no data for 2009 was available.

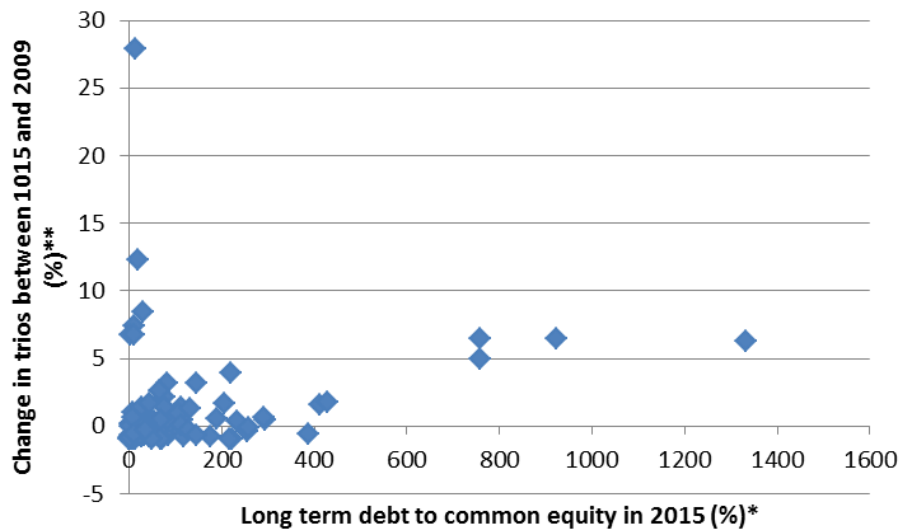Figure 6. Long term debt to common equity (EU-15) by year.

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

Figure 7. Long term debt to common equity (EU-13) by year.

Source: Authors calculations based on Bloomberg terminal data and respective companies fillings.

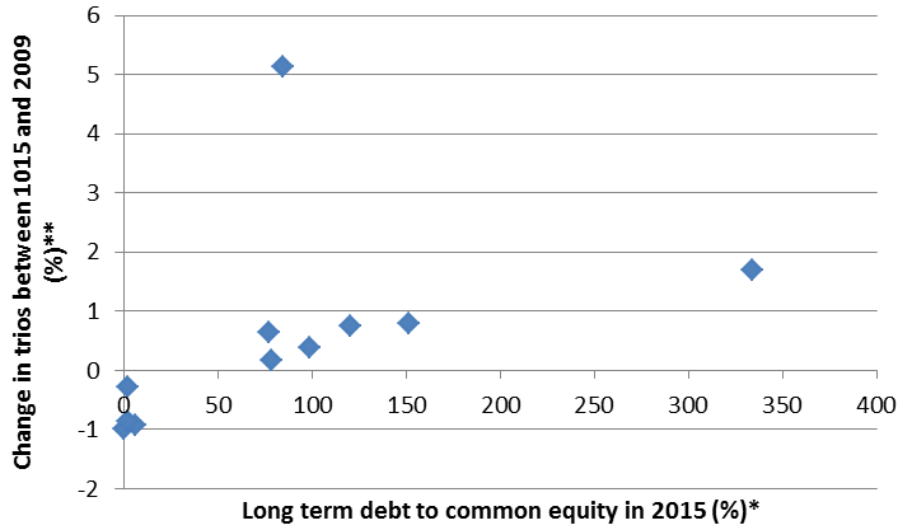Figure 8. Total debt to total assets and ratios change (EU-15).

Source: Authors calculations based on Bloomberg terminal data.
* Or most recent year if no data for 2015 was available.
** Or most historic year if no data for 2009 was available.

Figure 9. Total debt to total assets and ratios change (EU-13).

Conclusion

Results obtained within this study are in line with data streams present in the works of i.a. Bleakley & Cowan (2009) and Demirguc-Kunt & Martinez Peria & Tressel (2015). This is especially true for all post-crisis changes than can be observed within liabilities side trends concerning transport companies. And even though both of these works concern the general economy and do not concentrate their attention on any particular economic sector, the same carry over effect they describe, can be also seen in regards to described herein marine transport subsector.

Additional insight should also be given to evidence found that the size of the national or the availability of the supra-national financial market do play an important role in the post-crisis liabilities adjustment process that was described by i.a. Tektas & Ozkan-Gunay & Gunay (2005) or Kim & Tesar & Zhang (2017). This is especially true in the ontext of EU-13 business entities, that had lesser access to competitive financing scheme, than their EU-15 counterparts. This do have an important impact in a subsector that do heavily rely on external financing, to sustain day-to-day operation and require a high financial threshold for active enterprises.

The ability of individual business entities to self–finance their operation is linked to the size of the operations already in place. This is at least partially proven by average and median levels of assets and common equity. Obtained results do prove that the leverage level attained by EU-13 enterprises is much higher than in their EU-15 counterparts. Furthe more higher levels of leverage are usually linked with more risk factors to the entities business model. Data analyzed in this paper did not assess the possibility of a correlation between leverage levels and the size of the financial market to which an individual enterprises has access.

However the reader should take into consideration the fact that the first analyzed population was much smaller than the latter. And thus – more analysis should be conducted.

This does not mean that the results obtained are statistically biased. However the same limitations were found in the study prepared by Tsoy & Heshmati (2017), which also used quoted-only enterprises in their analysis. In their case, a concentration of Korean-quoted companies, was used to describe general rules concerning post-crisis adjustments to the liabilities of emerging countries' enterprises.

The author identifies other means to enlarge the population of the study. As described by Phillips & Ormsby (2016), the classification scheme can influence the choice and thus limit the scale of the population than can be analyzed. There are some difference between the three major classification standards used in modern financial fillings: BICS (Bloomberg, 2017), ICB (2017) and GICS (MSCI, 2017). In the case of marine transportation, the number of entities can vary between 200 and 900 entities for EU-15 countries and between 50 and 100 for EU-13 countries. This variation is the effect of including or excluding i.a. inland waterways transportation entities, logistic operators offering services and not pure transportation, port managers and the like.

Even though the author has chosen the BICS classification, which offer the largest population of entities, than the two other classification system described. It does not offer a comparable insight on other transport subsectors (rail, road, aviation) as the latter ones. Thus meaning that an additional study should be processed using other business classification systems.

This clearly show that there are further study possibilities that should be envisaged in the future to provide more id-depth analysis.

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