

The ERICA series:

4. Dividend distribution in European non-financial listed groups

ERICA (European Records of IFRS Consolidated Accounts) WG
European Committee of Central Balance Sheet Data Offices (ECCBSO)

September 2016



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eccbso
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IMPORTANT INFORMATION ABOUT THE SOURCE USED (ERICA¹ DATABASE)

The data used in this note are obtained from publicly available financial statements of European non-financial listed groups, having been treated manually, by CBSO statistics and accounting specialists, to be fitted on a standard European format (ERICA format); this manual treatment involves, in some cases, the interpretation of the original data, a constraint that readers of this document should bear in mind.

The database does not represent the total population of European non-financial groups; nevertheless, the coverage attained with ERICA (in the whole dataset of around 1,000 groups, as well as in ERICA+, a subset of around 200 groups with extra accounting details) of the listed European groups is well-attuned to the situation and national composition of the stock markets.

The opinions of the authors of this note do not necessarily reflect those of the national central banks to which they belong or those of the ECCBSO.

The “ERICA series” complement the annual report prepared on the ERICA database, with additional pieces of information and/or analyses on specific issues, using the full database ERICA, or its subset ERICA +. Owing to their interest and/or the speciality of the themes treated, these short notes are diffused separately from the annual report on the ECCBSO webpage (www.eccbso.org).

¹ ERICA (European Records of IFRS Consolidated Accounts) is a database of the European Committee of Central Balance Sheet Data Offices.

THE ERICA SERIES:

4. Dividend distribution in European non-financial listed groups

(Document prepared by Ana Bárbara Pinto, Banco de Portugal and Vincenzo Favale, Centrale dei Bilanci / Cerved Group²)

ERICA (European Records of IFRS Consolidated Accounts) WG

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September 2016

² The authors want to thank Vítor Lopes, Mário Lourenço, Carmén Vega and the members of ERICA WG for all their contributions to this study.

DIVIDEND DISTRIBUTION IN EUROPEAN NON-FINANCIAL LISTED GROUPS

ERICA Series N.º 4 is dedicated to dividend distribution. Dividends are defined as a payment made by a company to its shareholders in proportion to the number of shares they own. Dividends are usually based on previous year's corporate earnings and paid out in cash, although they can also be paid through the issuance of new shares or through the repurchase of previously issued shares.

This analysis was conducted with consolidated data of the 880 largest European non-financial listed groups in the period 2012 – 2014 of the following countries: Austria, Belgium, France, Germany, Greece, Italy, Portugal and Spain.³ The use of consolidated data avoids the double counting of intra-group dividends which occurs with individual data, enabling more accurate results and conclusions.

In the first part of the document a theoretical framework is presented. In the second part some evidence by country, size and sector of activity is shown. Next, a financial analysis discloses some differences and similarities between countries, size and sector of activity considering indicators such as payout ratio, return for shareholders, dividend yield and profitability. We conclude the analysis running a probit model to identify the determinants of dividend distribution.

EXECUTIVE SUMMARY

Dividend policy seems to be quite stable during the period 2012-2014. 70% of European listed groups decided to distribute dividends to shareholders; the percentage is higher in Austria, Germany and France, and lower in the other countries. The percentage rises to 90% for the larger groups and decreases to 50% for the smaller ones. Some differences in the trend outcome: the payout ratio (relationship between dividends and results) increased during the period for large and medium size groups and the return for shareholders (dividend to equity) decreased for small groups.

Analysing the behaviour by sector, it is evident that the energy groups are more inclined to distribution whereas the percentage of groups that distributed dividends was higher in all size classes, while construction and services are more careful.

The behaviour by sector of activity and size are confirmed analysing all the indicators: payout ratio, return for shareholders, dividend yield (comparison with the market price) and profitability (more profit, more dividends).

Probit analysis indicates that lagged dividends distributed to owners and lagged profit to total assets ratio are high predictors of dividend distribution decisions, since the coefficients of these variables are significant. This econometric analysis also indicates that the probability of distributing dividends is higher in those countries with a higher percentage of dividend distribution and in large groups, and that the sector of activity is not significant for predicting the dividend distribution.

³ This is a constant sample of groups with information in the ERICA database in 2012, 2013 and 2014.

1. THEORETICAL FRAMEWORK

There are several reasons for a company to distribute dividends to its shareholders or to reinvest its earnings back into the company.

Managers run the company on behalf of shareholders. However, management might have incentives to act in its own interest, in order to maximise its own utility, rather than simply trying to maximise shareholder's value. Then, in cash generating firms and/or when there are few value-enhancing investment opportunities, paying out dividends is a useful instrument to avoid agency conflicts stemming from managers' choices that benefit the latter at shareholders' expense. However, when cash is unavailable and/or the company has to borrow new funds, the chance of bankruptcy is higher. New **agency conflicts** can be deployed between creditors and shareholders or even contractual and legal restrictions that simply inhibit dividend distribution.

Some investors clearly prefer to receive dividends due to their **tax rate** and/or **risk aversion**. Indeed, if investors have a marginal tax on capital gains that is lower than the marginal tax on dividends, they will often prefer earnings to be reinvested, obtaining a return on their investment through an increase in the company's share price. Other groups of investors, with taxation on capital gains higher than the marginal tax on dividends, will prefer frequent and higher dividends. Investors with a higher risk aversion also prefer a cash dividend when compared with uncertain capital gains. Further, a higher dividend yield also means a lower payback period for their investment on shares. Others, by their nature, tend to pick only companies with regular dividend payment policies due to their need to receive periodic payments.

If a company believes that its investment growth opportunities have a higher value than shareholders' investment alternatives elsewhere, profits should be kept at the company in order to be reinvested back into the business. As a result, dividend payments by young and rapidly growing firms are highly unlikely. When a company reaches a phase in its life cycle where investment opportunities and expected growth rates of that investment become slimmer, dividend distribution becomes more foreseeable. Moreover, more mature and creditworthy companies usually have a wider range of external financing sources at lower costs and are, therefore, more in favour of paying out dividends. In this way, **companies' life cycles** tend to explain dividends.

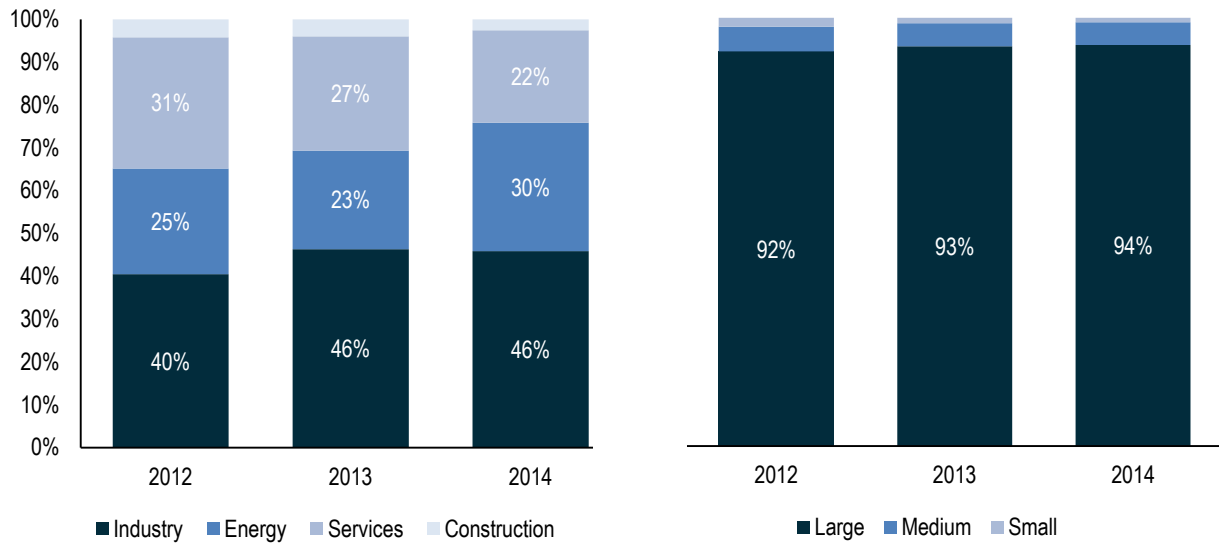
Dividends can convey company managers' prospects for the company. As managers have more information about the present health and future outlook of the company than investors, **dividend payments signal** – from among companies with the same profit, life cycle and cash flow levels – the most robust ones. Indeed, a cut in dividend in mature firms is often associated with management concerns over the future level of profitability and cash flow. Accordingly, companies tend to communicate good performances in terms of liquidity and profitability through dividend distribution, adopting a **stable dividend policy** that does not generate negative expectations.

2. EVIDENCE BY COUNTRY, SIZE AND SECTOR OF ACTIVITY

The total amount of dividends of the 880 largest European non-financial listed groups increased 21% from 2012 to 2014. This increase is masked by an extraordinary distribution in 2014. Excluding this effect, the dividends would have increased 7% in this period. Dividends distributed are mainly from large groups (Graph 1).

GRAPH 1

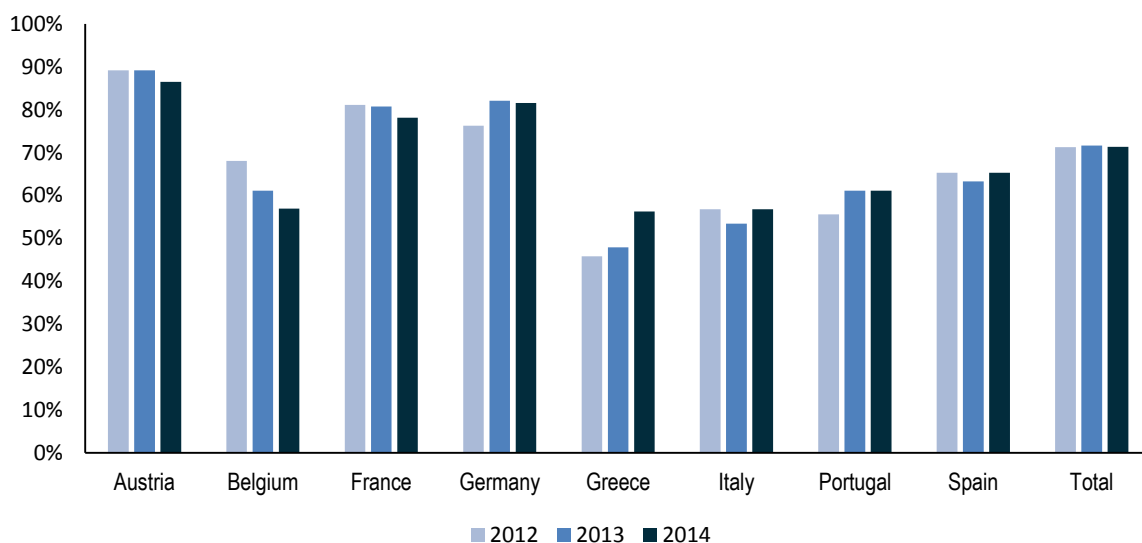
BREAKDOWN OF DIVIDENDS BY SECTOR AND SIZE, 2012 - 2014



Concerning the number of groups, dividend distribution within European non-financial listed groups were quite stable during the period. Besides a slight decrease in Belgium and an increase in Greece, all the other countries exhibit a stable percentage of groups distributing dividends (Graph 2).

GRAPH 2

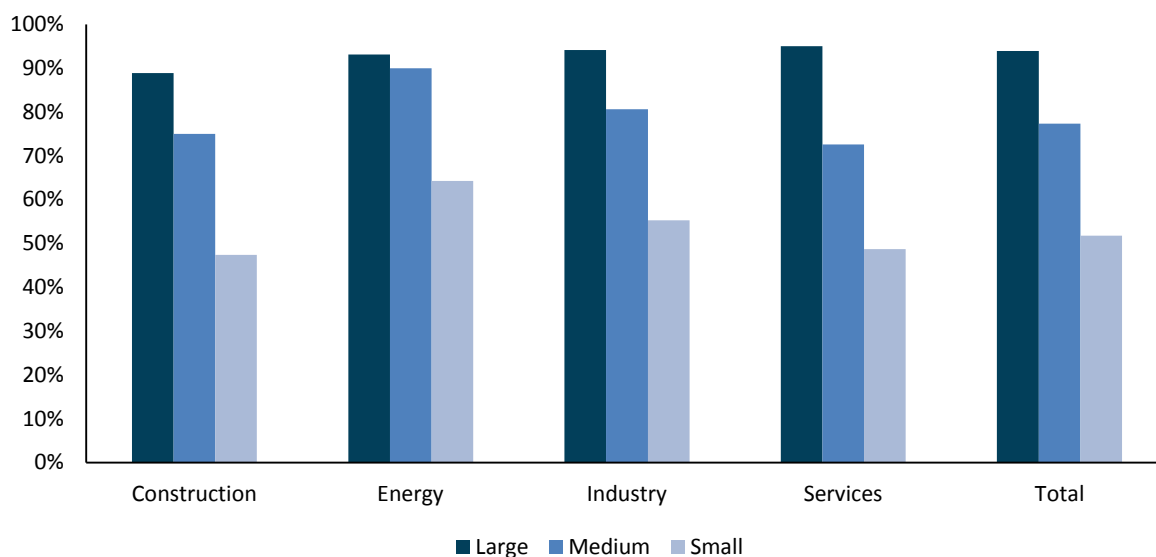
PERCENTAGE OF GROUPS THAT DISTRIBUTED DIVIDENDS BY COUNTRY, 2012 - 2014



Behaviour differed by sector and size (Graph 3). An analysis by sector highlights the behaviour of energy with a percentage of medium and small groups distributing dividends higher than the remaining sectors. By size, 94% of large listed groups distribute dividends, which compares with 77% and 52% for medium and small groups, respectively.

GRAPH 3

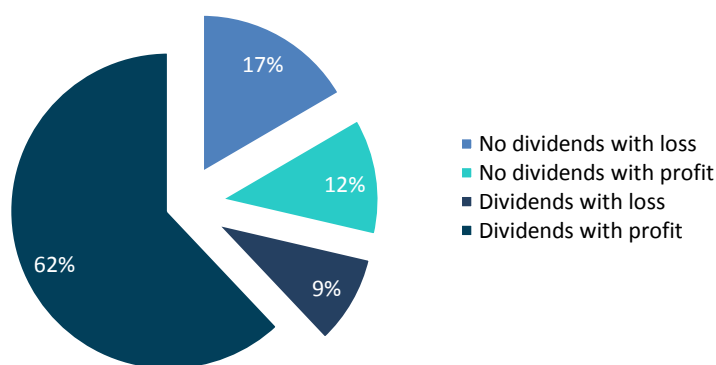
PERCENTAGE OF GROUPS THAT DISTRIBUTED DIVIDENDS BY SECTOR AND SIZE, 2014



Cross-checking dividend distribution with profits or losses of the previous year (Graph 4) allows us to conclude that the majority of listed groups with profits in the previous year ultimately distributed dividends. All other combinations, however, can occur, as supported by the theoretical framework. Dividend stability could explain the decision to distribute dividends with losses, just as company life cycle and investment opportunities could explain the decision not to distribute dividends when profits were recorded. Dividend distribution with profits and no dividend distribution when losses occur are, nevertheless, the expected economic behaviour and occur for the majority of the groups.

GRAPH 4

PERCENTAGE OF GROUPS BY DIVIDEND DISTRIBUTION AND PROFIT OR LOSS, 2014



3. FINANCIAL ANALYSIS

3.1 PAYOUT RATIO

The dividend payout ratio is the percentage of results paid to shareholders in the form of dividends. From 2012 to 2014, the payout ratio increased from 55% to 79%. The behaviour across countries was not homogeneous (Graph 5). While in Austria, France and Spain the higher level in payout ratio was in 2014, in Belgium, Germany and Portugal it was in 2013 and in Italy and Greece in 2012. In this period, Belgium, Germany and Portugal presented a fairly stable dividend payout ratio. In Greece, some outliers have driven the total payout ratio in 2012 and 2014 to extreme values. On the other hand, in Spain, a large group belonging to the energy sector explained the significant payout ratio in 2014. Excluding these three cases, payout fluctuates from a minimum of 41% in Austria in 2013 and a maximum of 97% in France in 2014.

GRAPH 5

PAYOUT RATIO BY COUNTRY, 2012 - 2014



The distribution of the payout ratio in 2014 is similar across the countries, with exception of Austria and Germany, where the first quartile was higher than zero (Graph 6). Besides Greece, the lowest value regarding the third quartile was observed in Italy, while the highest was registered in Portugal. The majority of the countries posted third quartile values between 50% and 57%.

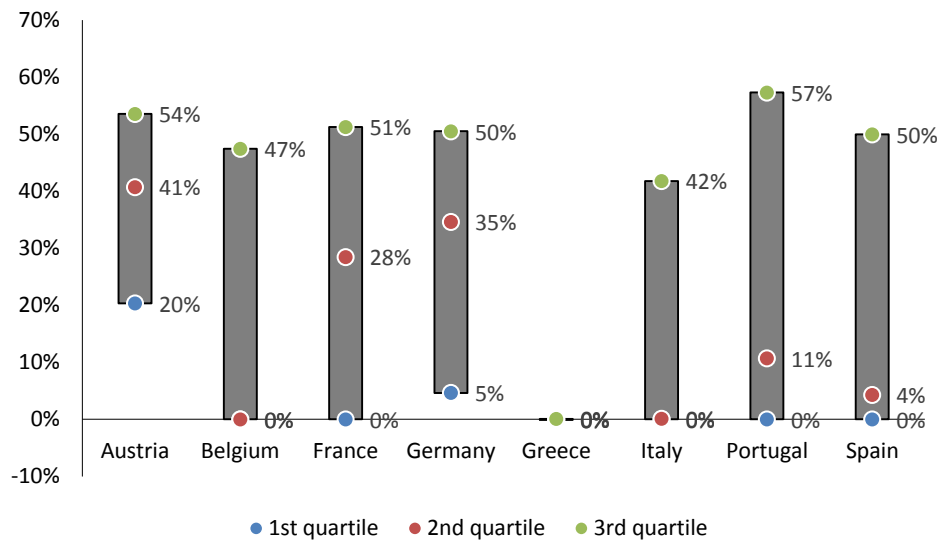
From 2012 to 2014, the dividend payout ratio increased in large and medium size groups, with small groups being responsible for outliers (values not shown in Graph 7). This result confirms a stable dividend policy. In the presence of a pronounced decrease in profits, particularly the large groups tend to maintain the dividends quite stable.

By sector of activity, industry presented the lowest value for each year of the period while construction claimed the highest ones in 2012 and 2013 and energy in 2014. In this period, industry had a stable dividend payout ratio across

50% and quite similar to the total. Construction, besides presenting a significant increase related to lesser net results obtained, had a payout ratio above 100% in 2013 and 2014, meaning that groups are distributing past retained results.

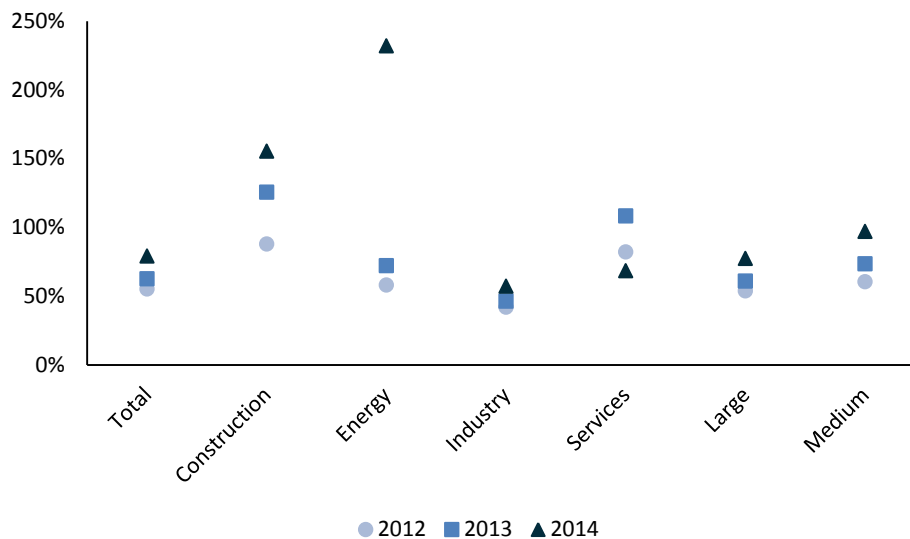
GRAPH 6

PAYOUT RATIO BY COUNTRY, 2014



GRAPH 7

PAYOUT RATIO BY SECTOR AND SIZE, 2012 - 2014



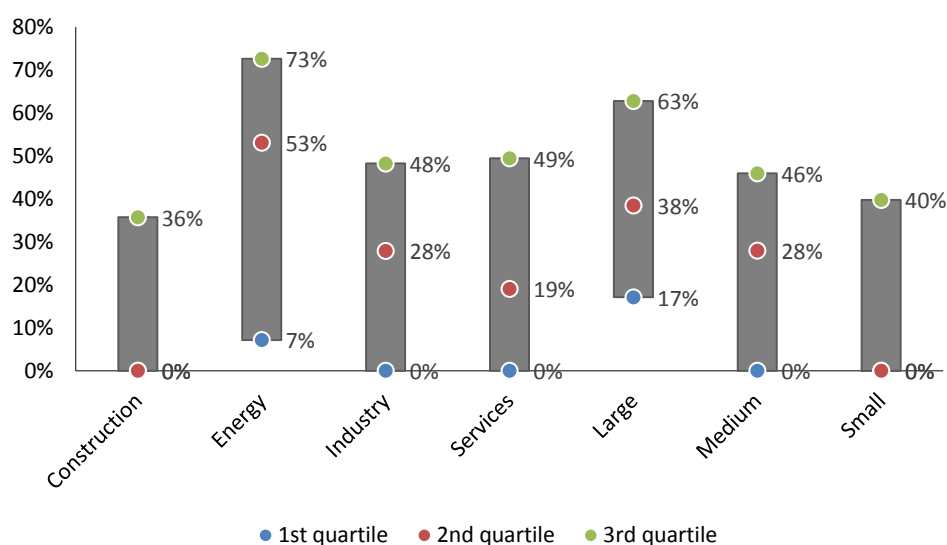
In 2014, energy achieves the highest values for payout in all quartiles (Graph 8). It is interesting to see that the first quartile of energy is the only one greater than zero and that the median of energy is higher than the third quartile of all

other sectors. Construction payout is the lowest one for all quartiles and even the median is equal to zero. Industry and services have similar values for the first and third quartiles.

By size, the highest values of payout ratio for the first, second and third quartiles are obtained by large groups whereas small groups obtain the lowest values, with the first and the second quartiles equal to zero. The first quartile of medium groups equals the first quartile of small groups.

GRAPH 8

PAYOUT RATIO BY SECTOR AND SIZE, 2014



3.2 RETURN FOR SHAREHOLDERS

Total return for shareholders comes from two different sources: capital gains (price appreciation) and dividends. For a long-term investor, only the dividends received during the period of stock ownership matter. This analysis will consider return for shareholders measured as dividends to equity. Between 2012 and 2014, return for shareholders grew from 5.6% to 6.5% (Graph 9).

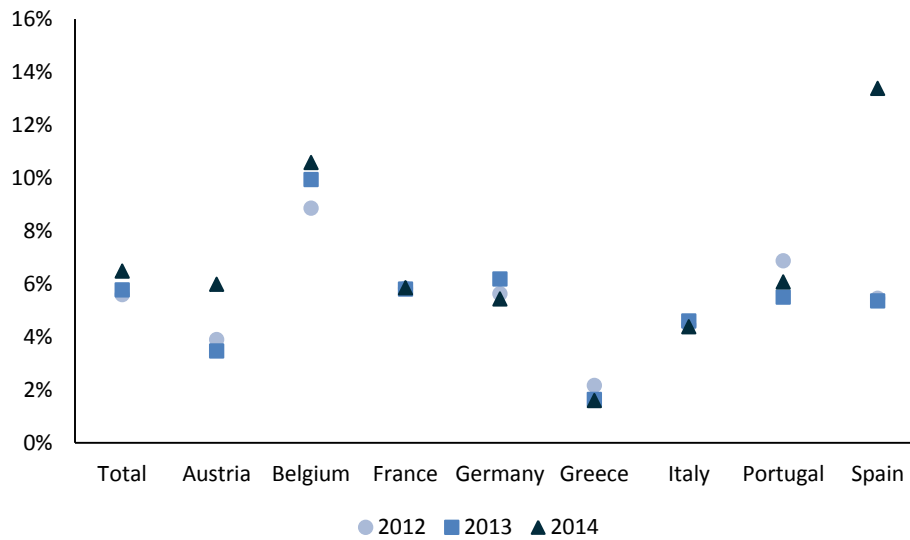
This increase is supported by Austria, Belgium and especially by an extraordinary distribution for Spain. Without this non-current event, the indicator would become stable over the period. Portugal and Greece show a slight decrease from 2012 to 2014. The ratio is stable in France and Italy.

In 2014, return for shareholders presents different ranges depending on the countries (Graph 10). Germany presented the highest values for the second and third quartiles. Austria and Germany's first quartile was higher than zero

whereas in all the other countries the first quartile is equal to zero. Greece's median was also zero, the lowest one of the series and also the lowest interquartile range.

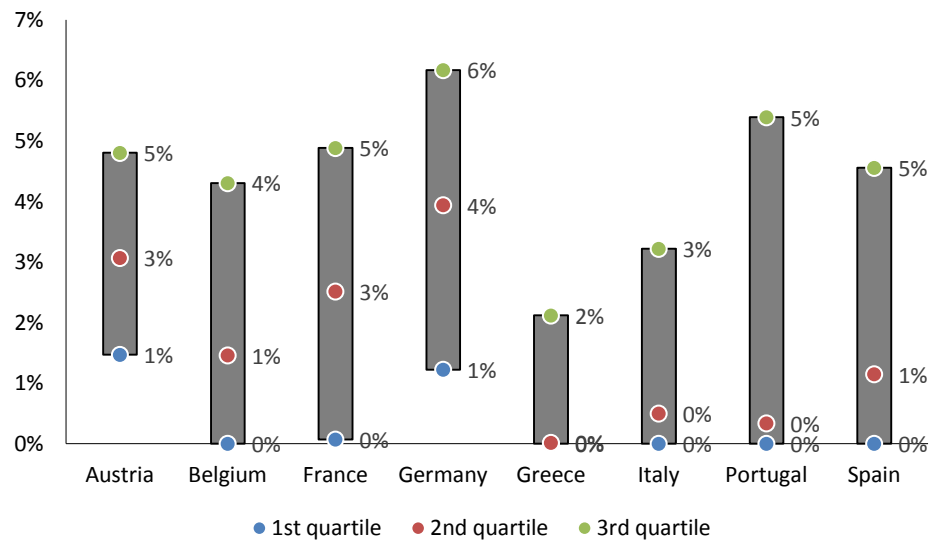
GRAPH 9

RETURN FOR SHAREHOLDERS BY COUNTRY, 2012 – 2014



GRAPH 10

RETURN FOR SHAREHOLDERS BY COUNTRY, 2014

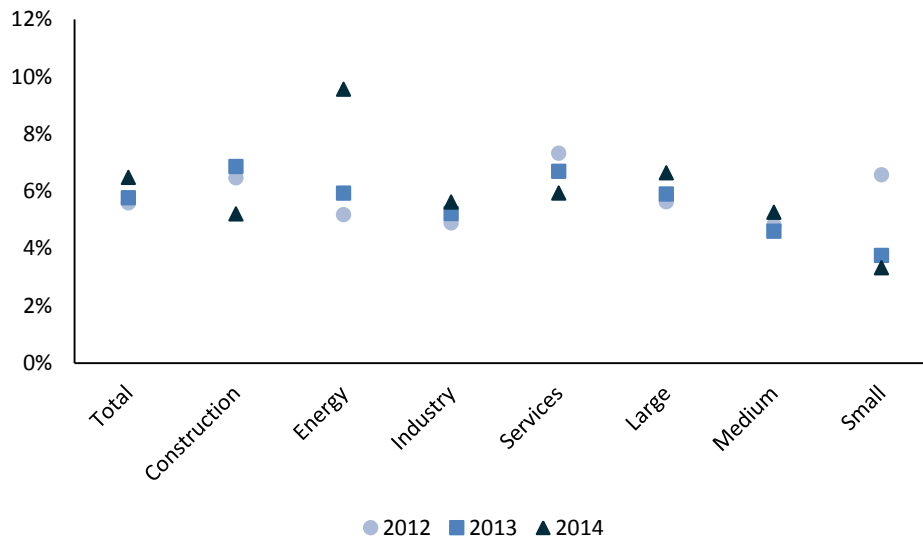


By sector of activity, energy posted a significant increase due to an extraordinary event in 2014 (Graph 11) but also presents the highest quartiles showing that the majority of the energy groups have higher return for shareholders (Graph 12). Industry displayed a small upturn and construction and services ratios fell over the period.

Concerning size, the increasing return for shareholders was supported by large and medium groups, as small groups showed a significant reduction (Graph 11). A relationship between size and performance is evident for all period 2012 - 2014 data as the highest returns were obtained by large groups and the lowest ones by smaller groups (except in 2012 due to a low equity level).

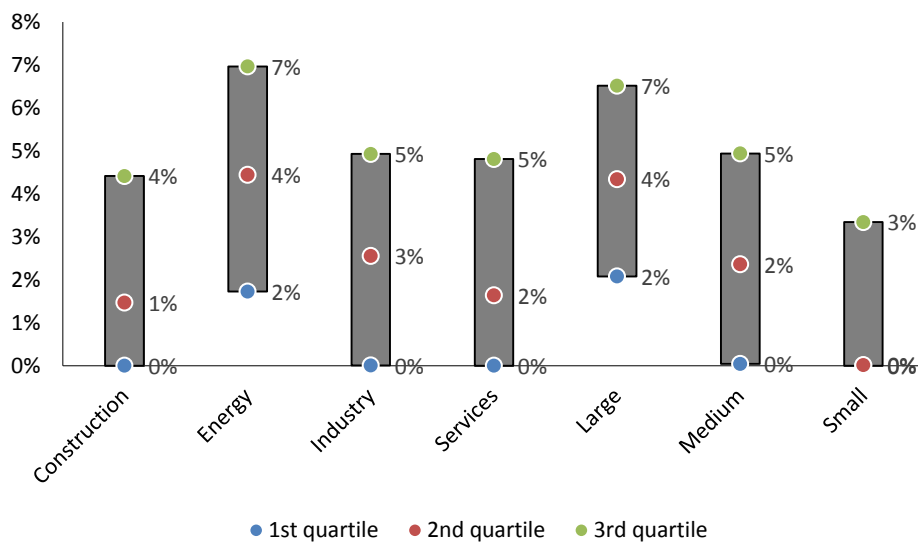
GRAPH 11

RETURN FOR SHAREHOLDERS BY SECTOR AND SIZE, 2012-2014



GRAPH 12

RETURN FOR SHAREHOLDERS BY SECTOR AND SIZE, 2014



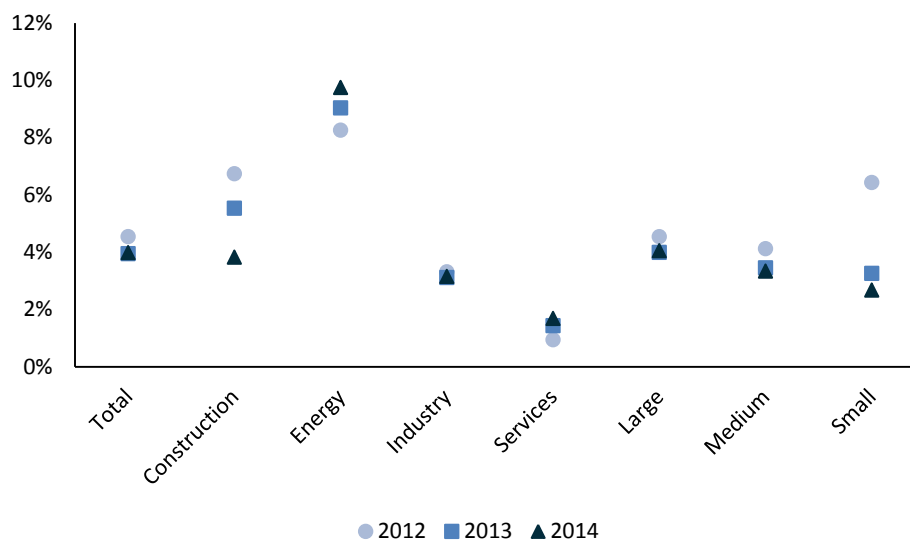
3.3 DIVIDEND YIELD

Dividend yield indicates how much a group pays out in dividends relative to its share price. The higher the dividend yield, the higher the profitability of the investment and the lower the payback period of the investment.

Over the period, dividend yield has reduced due to a stock appreciation (Graph 13). Indeed, shares prices rose by country, sector and size. By sector, dividend yield increased in energy and decreased in construction. Dividend yield has diminished in all sizes.

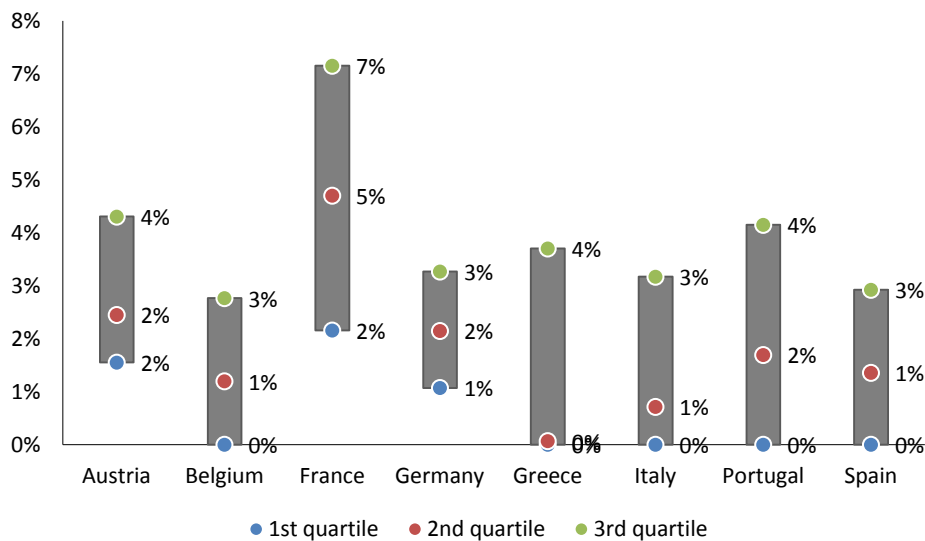
GRAPH 13

DIVIDEND YIELD BY SECTOR AND SIZE, 2012 - 2014



GRAPH 14

DIVIDEND YIELD BY COUNTRY, 2014



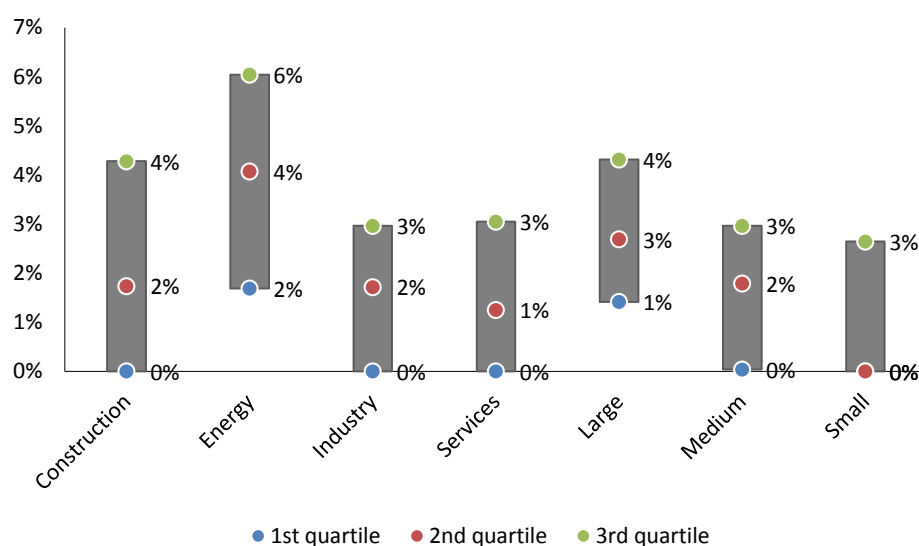
In 2014, dividend yield presents different ranges depending on the countries. France presented the highest quartiles with a median higher than the third quartile of the remaining countries. Austria and Germany's first quartile was higher than zero as in France (Graph 14).

By sector, energy groups had higher dividend yields (Graph 15). Indeed, the dividend yields of energy were the highest for all quartiles.

By size, the highest dividend yields were at large groups and the lowest were at small groups (Graph 15).

GRAPH 15

DIVIDEND YIELD BY SECTOR AND SIZE, 2014



3.4 PROFITABILITY

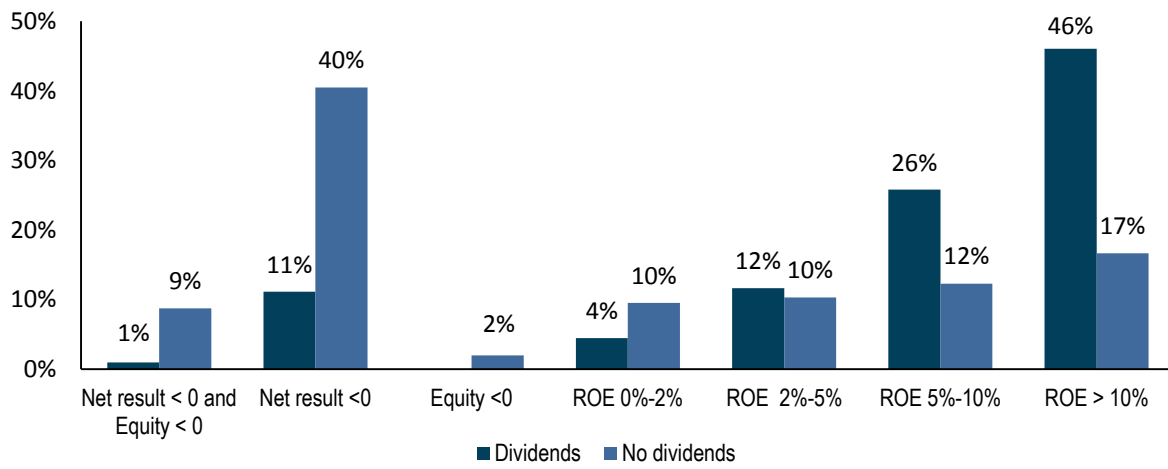
Profitability is measured by the return on equity (ROE) and by the return on assets (ROA) ratios. Both ratios allow us to conclude that a higher profitability level leads to a greater percentage of groups distributing dividends (Graphs 16 and 17).

The 49% proportion of groups not paying dividends had posted losses in the period and the majority (61%) recorded either losses, negative equity or a ROE lower than 2%. The majority of the groups with an ROE above 5% paid dividends (72%).

When ROA is used to measure profitability, the conclusions are the same. Higher ROA increases groups' probabilities of distributing dividends, while losses decrease them, as we will see in the next section.

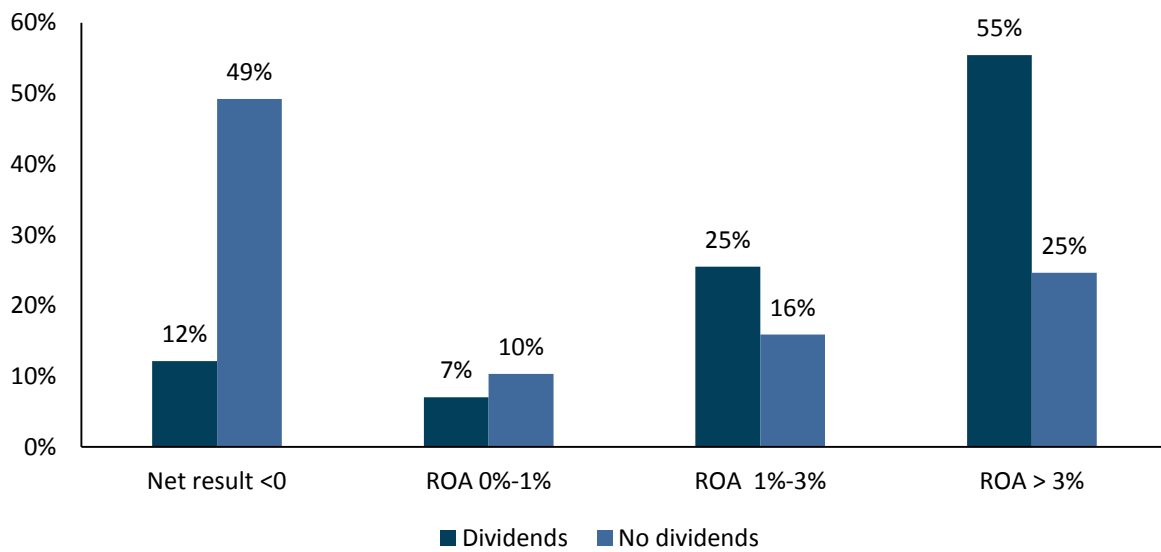
GRAPH 16

RETURN ON EQUITY, 2014



GRAPH 17

RETURN ON ASSETS, 2014



4. MICROECONOMETRIC ANALYSIS (PROBIT MODEL)

In order to confirm the empirical evidence of the previous sections, a probit model was applied to the sample of European non-financial listed groups from 2012 to 2014⁴. The dependent variable is a categorical variable, adopting the value of 1 for those groups that distribute dividends, and 0 for the remaining groups. With respect to the regressors, a set of control variables has been included, namely country, year and size. In addition, the model includes as explanatory variables those considered significant after several test estimations⁵: the same binary endogenous variable lagged (due to the likely strong recursive pattern in the dividend policy) and the lagged ROA ratio⁶.

TABLE 1

PROBABILITY OF DIVIDEND DISTRIBUTION - PROBIT COEFFICIENTS AND MARGINAL EFFECTS

Estimation period	2012-2014
Constant	-0.494** (0.2235)
Dividends _{previous period} (<i>lagged endogenous variable</i>)	0.0099*** (0.09073)
	<i>Average marginal effect</i>
	0.3114
ROA _{previous period}	0.0015*** (0.01097)
	<i>Average marginal effect</i>
	0.0054
Dummy variables	
Size	Included
Year	Included
Country	Included
Observations	2635
R-squared	0.56

** significant at 5%

*** significant at 1%

This outcome indicates that lagged dividends distributed to owners and the lagged ROA ratio are good predictors of dividend distribution decisions, since the coefficients of these variables are significant at 1% and the variables are of the expected sign. The probability of dividends distribution is positively related to the dividends distribution of the previous year and also with the ROA. Furthermore, likelihood-ratio tests indicate that the control variables are significant.

The probit model allows us to interpret the marginal effects of the regressors as changes in the probability of the tested outcome when the value of the regressor changes, keeping all other regressors constant. An increase in lagged

⁴ In order to run the model for the 880 European non-financial listed groups of the sample, lagged values of 2012 were considered to be the previous values of 2012 data (re-expressed data) and not the current values of 2011.

⁵ After an initial specification for the regression model, three variables were excluded: sector of activity and debt to equity, after they were not found significant, and interest coverage ratio, because of its high correlation with the ROA ratio.

⁶ In order to estimate a model which mitigates the endogeneity problems of some variables, the final model was based on their lagged values.

dividends distributed and an ROA of one percentage point (p.p.) increases the probability of dividends being distributed, on average, by 0.3114 p.p. and 0.0054 p.p., respectively. Although both variables are significant, the magnitude of the coefficients is different, being the lagged dividends distributed more relevant for the probability of dividends distribution than the ROA which marginal effect is rather small. This result support the stability of dividends theory.

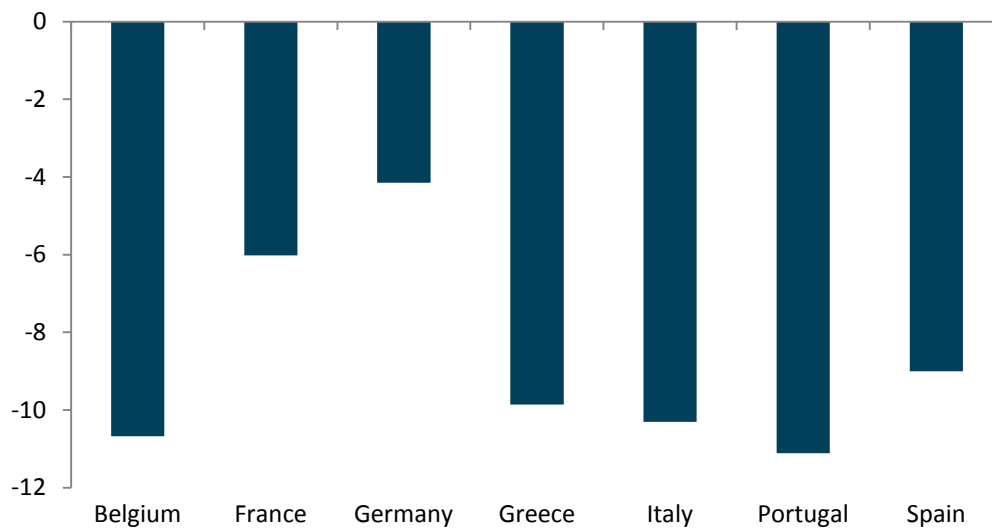
The probit model also provides information about the different behaviour in dividend distribution policy for groups depending on their country and size.

By country, considering Austria as the estimated model baseline, we observe that the probability of dividend distribution is lower in all of the other countries (Graph 18). For instance, the probability, *ceteris paribus*, of a German group distributing dividends is around 4 p.p. lower than that of Austrian groups. Also in Belgium, Greece and Italy the probability, *ceteris paribus*, of a group distributing dividends is about 10 p.p. lower than in Austria. This differential is lower in Germany and France, which both registered a higher percentage of groups distributing dividends and higher dividend yields jointly with Austria.

GRAPH 18

MARGINAL EFFECT BY COUNTRY, 2013 – 2014

Units: percentage points

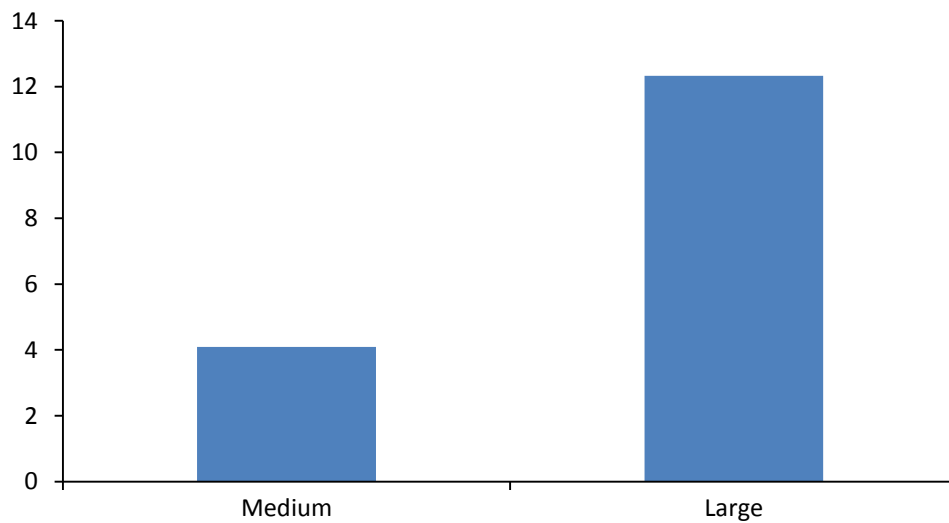


By size, considering small groups as the estimated model baseline, the probit model confirms the results of the previous sections. The probability of distributing dividends increases with the group's size, being particularly significant for large groups (Graph 19). The probability of distributing dividends of a large group, *ceteris paribus*, is higher by almost 12 p.p. than that of a small group.

GRAPH 19

MARGINAL EFFECT BY SIZE, 2013 – 2014

Units: percentage points



ANNEX

TABLE 2

VARIABLES AND RATIOS USED IN THE ANALYSIS WITH REFERENCE TO CBSO CODES

(https://www.eccbso.org/wba/pubblica/pubblicazioni/file/Doc3_2%20-%20ERICA_WG_ericafomat_2015_F2.pdf)

Definition	Variable CBSO	CBSO code	Formula
Variables			
Dividends	Dividends distributed to owners	58950	58950 or 589 if 58950=0
	Dividends	589	
Profit or loss	Profit (loss) (before non-controlling interests)	10_28	
Equity	Equity, total	50_56	
Share price	Share price (ordinary shares)	G0171	G0171 * G0172
	Number of shares	G0172	
Assets	Assets, total	3_4	
Debt	Interest-bearing borrowings, non-current	60_61	60_61 + 71_72
	Interest-bearing borrowings, current	71_72	
Operating profits	Operating profits	10_22	
Interest expense	Interest expense	2420	
Ratios			
Payout	Dividends / Profit (loss) (before non-controlling interests)		
Return for shareholders	Dividends / Equity		
Dividend yield	Dividends / Share price		
Return on equity (ROE)	Profit or loss / Equity		
Return on assets (ROA)	Profit or loss / Assets		
Debt to equity	Debt / Equity		
Interest coverage	Operating profits / Interest expense		

TABLE 3

MODEL SPECIFICATIONS

Variables	Definition	To run the model
Dependent variable (categorical): Dividends	=0 if dividends=0 =1 otherwise	div
Independent variables (regressors)		
Dividends _{previous year} (lagged endogenous variable)		lagdiv
ROA _{previous year}		lagroa
Other independent variables tested		
Debt to equity _{previous year}		lagde
Interest coverage _{previous year}		lagic
Dummy variables		
Size		size
Year		year
Country		country
The model in STATA has been run as follows: <code>probit div lagdiv lagroa i.size i.year i.country</code>		