**Role of CEO education in company`s RD investments decisions**

**Abstract**

This paper investigates the impact of chief executive education and other personal characteristics (including ownership, tenure, involvement in founding the company or being member of the founding family) on investments in R&D on the sample of 270 pharmaceutical high-tech companies from S&P BMI index in 1999-2018 from 23 countries (both developed and emerging). Hypothesizing that personal CEO`s characteristics built specific risk-preferences inside the firm, we investigate this impact on one of the risk-taking incentives common among all the companies – investment into R&D, measured as a proportion in previous years revenues.The pharmaceutical industry is of particular interest in this regard, as the projects developed in it require specialized education to understand and manage the process.

The personality of the CEO, in particular the observable characteristics and decisions he personally makes (repurchase / purchase of shares, interviews, etc.) are frequently used by researchers to explain decisions made within the company. One of the most common characteristics used in the analysis is education. This is due to both the comparable availability of data (in contrast to behavioral characteristics and other factors measured through face-to-face interviews, educational data is often available on company pages and reporting), the ability to evaluate and compare (educational level and university rankings), and the available breadth applications: it not only allows you to assess the cognitive abilities of the individual, but is also used as a variable capable of explaining the attitude to risk. In such cases, the emphasis is not on the level of education, as in (Bantel & Jackson, 1989; Orens & Reheul, 2013; Lee & Moon, 2016; Kiong Ting et al, 2015; You et al, 2021; Colombo et al, 2021), but on specialization (King et al, 2016; Mammassis et al, 2019). For example, (Yang et al, 2021) using the Chinese market as an example, showed how the financial education of CEOs reduces the company's innovative activity by 17.5%, arguing that this group of CEOs is less likely to make risky decisions.

At the same time, some authors argue that neither the level nor the specialization matter, and only the quality and “eliteness” of the university where it took place plays a role (Boubaker et al, 2020)

Based on the findings of past studies, we begin our analysis with a separate study of educational attainment and specialization. According to the results of linear regression analysis, the presence of a doctoral degree in the CEO showed a negative impact on the share of funds invested in research. Financial, managerial and economic education had a significant negative impact on investment, but only in developed countries, education in a specialization has a significant positive impact regardless of region, as does the presence of several educations both in economic / financial or managerial fields, and in a specialty related to with the activities of the company (physics, chemistry, biology, mathematics). These results are in line with the findings of similar studies in the field of education. At the next stage of the study, while simultaneously analyzing both the specialty and the level of education of the CEO, the results regarding the presence of a doctoral degree change slightly: a degree obtained in the company's specialization or supplemented by a financial / economic or managerial education had a positive impact (as well as education in technical specialties on bachelor's/master's level), while a purely financial degree, on the contrary, had a negative effect.

Based on the results obtained, we come to the conclusion that it is necessary to comprehensively include education in the study, since the inclusion of individual parameters can lead to biased results.