

Intellectual Capital and the Competitive Position of Polish Listed Banks in 2021–2025: A Taxonomic and VAIC-Based Approach

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Abstract

Intellectual capital is one of the key resources that shape banks' ability to create value, absorb technological change, and sustain a long-term competitive position. In banking, its role is particularly important, as competitive advantage is determined not only by scale, profitability, capital adequacy, or asset quality, but also by employees' competencies, organisational processes, customer relationships, reputation, innovation capacity and the level of digitalisation. At the same time, the measurement of intellectual capital remains one of the most challenging areas in research on intangible resources. The Value Added Intellectual Coefficient (VAIC) is still the dominant method used to quantify intellectual capital efficiency, mainly due to its simplicity, comparability, and reliance on financial statement data. However, since VAIC is based on value added, an important question arises as to whether it captures the actual efficiency of intellectual capital or rather the current economic strength of a bank.

The purpose of the paper is to assess the relationship between intellectual capital efficiency, measured by VAIC, and the competitive position of listed banks in Poland, determined using a synthetic measure based on taxonomy. The study examines whether banks with the highest VAIC values also occupy leading positions in a multidimensional competitiveness ranking and whether the observed consistency of the rankings is driven by components of intellectual capital or by the economic dimension of banking activity. The empirical analysis covers ten commercial banks listed on the Warsaw Stock Exchange during the period 2021–2025. This period is particularly relevant, as it combines the post-pandemic recovery of the banking sector, a rapid increase in interest rates, historically high net interest income, regulatory and legal burdens, the costs of credit holidays, and the acceleration of digital transformation. Such conditions make it possible to assess whether VAIC retains its diagnostic value as a measure of intellectual capital under strong macroeconomic and institutional disturbances.

The methodology is based on the comparison of three rankings of banks: a ranking based on VAIC and its components, a ranking constructed using a synthetic measure of competitiveness, and partial rankings reflecting the economic and intellectual dimensions of the competitive position. The synthetic measure incorporates both economic capital and three layers of intellectual capital: innovation capital, organisational capital, and institutional-relational capital. The consistency of the rankings will be assessed using the Spearman rank correlation coefficient and Kendall's tau. The contribution of the paper lies in moving beyond the dominant research approach in which VAIC is analysed mainly in relation to single profitability or efficiency indicators. Having faced VAIC with a multidimensional measure of competitiveness, the study verified its usefulness as a proxy of the competitive position of banks and identified the interpretative limits of this measure. The paper therefore contributes methodologically to the debate on intellectual capital measurement and empirically to research on the competitiveness of listed banks in Poland.

Keywords

Intellectual capital, competitive position, VAIC, taxonomic measure, linear ordering, listed banks, Poland.

JEL Codes: G21, O34, C38, C43, L25.