What determines the quality of remuneration policy in financial holding companies? An analysis based on the example of the UniCredit Group

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ABSTRACT

This study seeks to examine the quality of the remuneration policy (RP) and identify its main determinants within a financial holding company (FHC) – the UniCredit Group. The results show that the quality of remuneration policy in the examined FHC was low. Although the dominant bank is characterized by high remuneration policy standards, the rest of the group is not. The empirical approaches used show that remuneration policy quality was positively related to the size of the bank and the transparency index of the remuneration policy, but negatively affected by the selected corporate governance determinants.

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Keywords: banking and insurance, corporate governance, financial holding company, remuneration policy, quality index of the remuneration policy

INTRODUCTION

Institutions that operate in the financial sector have specific characteristics that distinguish them from corporations that operate in other sectors of the economy. The Cadbury report (1992) drew attention to the need to regulate issues related to corporate governance, such as the work of the board of directors, their independence and remuneration, and the creation of committees. These issues, as well as the corporate scandals of the early 21st century, gave rise to international regulations covering corporate governance that apply to all sectors of the economy, including the financial sector (for example: EU, 2011; OECD, 2015; EBA, 2013). However, it was only

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the outbreak of the financial crisis in 2007 that revealed the problem of the need for stricter regulation of the financial sector, in particular, with regard to remuneration policies (RPs) (for example: FSB, 2018; EU, 2010; EBA, 2015). It was pointed out that an optimally designed managerial compensation scheme should reflect a bank's strategy and give incentives to achieve the institution's goals concerning stakeholder or shareholder value creation (Marcinkowska, 2014, p. 68). This was confirmed by the implementation of individual international recommendations into national legal regulations and best practice codes.

This strict regulation also applies to financial holding companies (FHCs). The lack of regulation relating only to FHCs (mainly in Asian countries) is due to the fact that they are covered by the same regulations as banking holding companies (BHCs)[2]. For example, Swamy (2012, p. 11) outlined the role and the structure of the lead regulator for a financial conglomerate in selected countries.

Although there are many definitions of a holding company in the literature, for this article, a holding company can be defined as a structure that consists of at least two legally independent economic entities, one of which is in a position to influence the decisions made by the other as a result of an agreement between them concerning the entity (the dominant one) acquiring the capital share of the other (the subsidiary) (Gajewski, 2013, p. 76). The advantage of creating an FHC is that it offers a geographically flexible financial product that is beyond the reach of an individual bank (Mayo, 1980). Moreover, it can assume the debt of shareholders on a tax-free basis, borrow money, acquire other banks and non-bank entities more easily, and issue stock with greater regulatory ease (Swamy, 2012, p. 7).

The literature on the subject lacks studies that deal with the relationships within FHCs. There is also a lack of research on the quality of RPs in FHCs. The shortcomings can be perceived as an important empirical gap because the quality of the whole group depends on the quality of all units, not only on the quality of the "leader". It is applied to all aspects of the FHC policy, including corporate governance, remuneration policy, quality of the management, among others. The identification of the cause-effect relationship between all units of the whole group is perceived as a valuable input into the empirical literature, especially in the context of the quality of the aspect of corporate governance which is remuneration policy. Considering these motivations outlined by the identified gaps and existing inconsistencies, this paper aims to fill these research gaps by analyzing the quality of RPs in a particular FHC as well as by indicating the factors that influence their level. The basis for that research is the UniCredit Group, which operates in the financial sector, mainly in the banking sector. Due to the limited access to data for banks making up the UniCredit Group, the time sample covers the period between the years 2005 and 2018. In 2018, it comprised 505 financial institutions. However, due to a lack of access to all necessary information[3], 27 banks that belong to the UniCredit Group from 17 countries, including the parent bank and 26 subsidiary banks (20 banks and seven other financial institutions), were finally qualified for the survey. The size of the group and its international reach mean that the FHC is an excellent example and case study for the research. However, due to data availability, the study covered the period from 2005 to 2018. The time sample allowed us to observe changes in the quality of corporate governance standards regarding remuneration policy and investigate what factors influence the quality of these standards. The research methodology is based on computing a quality index of the remuneration policy (QRI) and applying it in a panel data analysis.

The paper's value and novelty lie in the empirical results. Firstly, QRI is created and explained using an important FHC. To our knowledge, this is the first attempt to translate international guidelines on the quality of remuneration policy into a quantitative measure. This will make it

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[2]   The FHC is a broader concept than the BHC because it is not only banks that may belong to it. Therefore, everything that refers to the BHC also applies to the FHC.

[3]   Most of the group's financial institutions do not have a website. For institutions that do have a website, it is not possible to open it in English. However, in some cases, where it is possible, the financial institutions do not make their annual reports available.

possible to compare the quality of the remuneration policy not only in banks under FHC, but also in all companies on the market. Secondly, the index is used to proxy the quality of all important aspects of the remuneration policy conducted within an international holding. Thirdly, due to the ambiguous results of existing studies, mainly obtained for individual banks or groups of banks, the paper investigates the relationships between RP quality and its determinants and identifies the most important ones for the analyzed holding. Fourthly, the study offers a set of conclusions based on an existing unit, thereby creating input to the discussion aimed at corporate governance and the quality of remuneration policy. Fifthly, the results of the study are valuable as it gathers and compares the regulations of standards of remuneration policy and recommendations included in national codes of good practice. As stated, the scope of the research is important for further discussions on remuneration policy.

The paper consists of five sections. The first section presents a literature review. Section 2 indicates regulations on the quality of remuneration policy that result from international recommendations and confronts them with national regulations, both laws and codes of best practice. Section 3 emphasizes the research methodology, while section 4 contains the empirical results of the research. The final section presents the discussion and conclusions.

LITERATURE REVIEW

The subject matter of holding companies is widely described in the literature. However, few works are devoted strictly to FHCs (Swamy, 2012; Olszewska, 2015; Stiroh & Rumble, 2006; Cuong, 2021). They treat the FHC as a whole, without paying attention to what is happening within the company. More often, there are studies in which a BHC has been surveyed, focusing on the BHC in terms of the role of capital in BHC decision-making (Barajas et al., 2015) or risk management (Ellul & Yerramilli, 2013; Jiangli & Pritsker, 2008). Equally frequent are comparisons between BHC banks and individual banks (Ashcraft, 2008; Raykov & Silva-Buston, 2020), as well as the BHC itself, given its complexity, geographical coverage, or what its subsidiaries do (Avraham, Selvaggi, & Vickery, 2012; Goetz, Laeven, & Levine 2012; Flood et al., 2020). By contrast, bank channels which have been used to transfer assets and income from the parent bank to its subsidiaries and vice versa are much less frequently studied (Allen, Gu, & Kowalewski, 2013).

Few papers analyze corporate governance standards in BHCs, in particular, their RP, even though irregularities in remuneration policy were identified as one of the causes of the 2007 crisis. Adams and Mehran (2003) compared BHCs and industrial companies in terms of board size, the number of external directors, the board composition, the number of committees, the frequency of board meetings, and the remuneration structure. Fortin, Goldberg and Roth (2010) examined the relationship between the CEO remuneration structure and the risk level of a BHC. They showed that CEOs who earned higher base salaries took less risk. However, BHCs that pay CEOs more in stock options or bonuses exhibit greater risk-taking (Fortin, Goldberg, & Roth, 2010, p. 894). Minnick, Unal, and Yang (2011, p. 440) showed that the more closely a bank CEO's wealth is tied to the bank's stock, the more consistent acquisition decisions are with shareholder value maximization. Specifically, when CEOs are paid for performance, they are less likely to make acquisitions that do not create shareholder value and more likely to seek out value-enhancing investments.

Most of the work is done on banks. For years, the subject matter has been very broad, from capital adequacy issues (Davis, 2012; Klepczarek, 2015) to corporate governance itself (Adams & Mehran, 2003; Becht, Bolton, & Roell, 2011; Gropp & Heider, 2010; de Andrés, Rejg, & Vallelado, 2019; Diaz, García-Ramosand, & Olalla, 2020; Cerasi et al., 2020). The outbreak of the financial crisis caused great interest in RPs in the banking sector. There are two main

research areas in this field. The first includes studies that attempted to identify the main factors that determine the level of remuneration, e.g., bank size and economic performance. In most studies, the size of the bank (measured by the size of assets) influences the increase in the level of remuneration (Doucouliagos, Haman, & Askary, 2007; Luo & Jackson, 2012; Słomka-Gołębiowska & Urbanek, 2013). However, other works confirm the negative relationship between the size of the bank and the level of remuneration (Aduda, 2011). There are also studies that look for relationships between bank size and the remuneration structure (Demsetz & Saidenberg, 1999) or the level of remuneration transparency (Słomka-Gołębiowska & Urbanek, 2015a). Large banks usually have many years of experience and an established position on the market. In order to retain existing shareholders and attract new investors, these institutions should be characterized by high standards, also in terms of remuneration policy. Since the studies conducted so far confirm the impact of bank size on executive remuneration, it is worth examining whether it impacts remuneration policy quality.

Linking managerial remuneration to financial performance is a way for a bank to communicate with its shareholders and the capital market. The strength of this relationship indicates the importance to the bank of creating shareholder value. The literature contains several papers that examine the relationship between a bank's financial results and the level of remuneration (Słomka-Gołębiowska & Urbanek, 2013; Le, Shan, & Taylor, 2020). They confirm that the rate of return on shares significantly impacts managers' remuneration (Livne, Markarian, & Milne, 2011; Demsetz & Saidenberg, 1999; Luo & Jackson, 2012). Remuneration was also found to depend on fair value accounting (Livne, Markarian, & Milne, 2011), earnings per share (Barro & Barro, 1990), net profit (Laietu & Mellado, 2009), ROE (Doucouliagos, Haman, & Askary, 2007), and ROA (Doucouliagos, Haman, & Askary, 2007; Luo & Jackson, 2012), although this correlation could not always be confirmed (Aduda, 2011).

Nevertheless, the relevance of the bank's financial results to the remuneration level is undeniable. Additionally, some studies confirm a positive correlation between corporate governance standards and financial performance (Vo & Nguyen, 2014; Aktan et al., 2018). Therefore, it can be assumed that financial performance also influences the remuneration policy itself and its quality. Banks with high financial performance, as an example of efficient financial institutions, may feel obliged to apply higher standards, also in terms of remuneration policy, to stand out even more from their competitors.

The literature also focuses on selected standards of corporate governance that determine the level of remuneration. Among these standards is the size of the bank's board[4]. The literature stresses that a large number of board members can make it difficult for the board to have an in-depth, effective discussion. This may result in a passive attitude of the entire board and the free-rider problem (Coles, Daniel, & Naveen, 2005). In such a situation, it is easier for the chief executive to control the behavior of board members. The result is that directors can push through the bank's non-compliance with internationally recommended remuneration policy standards. Large boards may also cause board meetings to be limited to almost 'ritualistic' approval (rejection) of previously prepared decisions (Słomka-Gołębiowska & Urbanek, 2015a, p. 140).

On the other hand, a large bank board may benefit from a greater ability to distribute its tasks among specialized committees, which may translate into effective supervision (Klein 2002; Anderson, Mansi, & Reeb, 2004). However, the benefits of greater experience and knowledge of the members of a larger board (Coles, Daniel, & Naveen, 2005) may outweigh the limitations of slowing down decision-making, greater risk aversion, and communication problems (Hermalin & Weisbach, 2003). Moreover, the effectiveness of the board's activities can be measured by, inter alia, the frequency of meetings. In this context, the more frequent the meetings, the greater the range of issues discussed, and the more effective the monitoring of directors' remuneration.

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[4]   The bank's board is understood as the supervisory board or the board of directors.

Another standard of corporate governance is the presence of independent directors on the bank board. It seems that a lack of connections with the bank and its executives and shareholders makes such people willing to objectively assess the effects of the executives' work and effectively oppose the opportunistic behavior of the directors, which may lead to, among other things, setting excessive remuneration. However, existing studies have not clearly confirmed the impact that appointing independent directors to the board has on managers' remuneration (Angbazo & Narayanan, 1997; Słomka-Gołębiowska & Urbanek, 2013).

The second thread in the literature is devoted to the transparency of RPs, mainly determining the factors that influence the scope of disclosures in this area of corporate governance. Such factors include financial results. Banks disclose more detailed information on directors' remuneration when they perform better, meaning that directors may be more inclined to disclose their remuneration when they act more effectively (Burghof & Hofmann, 2000). Sheu et al. (2010) suggested that transparency (the comprehensive disclosure of information on compensation) signals that companies have fewer agency problems and a better governance structure; poor disclosure can be perceived as camouflage for excess compensation and bargaining behavior (Marcinkowska, 2014, p. 67). The literature also emphasizes the importance of transparency regulation (Chu, Lawrence, & Stapledon, 2006), or the relationships between RP transparency and corporate governance standards, such as the size of the board, the number of meetings of the Remuneration Committee (RC), or the participation of independent directors (Słomka-Gołębiowska & Urbanek, 2015a). Research shows that banks are willing to disclose more information when they are certain that it will have a positive impact on their image and will be positively received by potential investors. Taking this into account, it can be assumed that banks that apply international standards recommended by international institutions concerning remuneration policy will disclose more information on remuneration policy.

As presented, the literature review lacks studies that deal with the relationships within FHCs. The studies presented above are not directly and completely associated with the research on the quality of remuneration policies in FHCs. The facts are perceived as an important empirical gap because the quality of the whole group depends on the quality of all units, not only on the quality of the "leader" unit. The stated lack of comparative analysis is an important motivation for the proposed research and allows for studying the relationship between the quality index of the remuneration policy and a set of its determinants including those associated with corporate governance, financial performance or transparency.

ANALYSIS OF INTERNATIONAL LEGAL REGULATIONS AND CODES OF BEST PRACTICE

The banking sector is subject to strict supervision, not only nationally but also internationally. For this reason, international institutions make their own recommendations on banking activities, including remuneration policy standards. A summary of international recommendations on RP standards is presented in Table 1A in Appendix A.

There is almost full convergence in the scope of the recommendations in the case of the European Banking Authority (EBA) and the European Union (EU), and partial convergence in the case of the Basel Committee on Banking Supervision (BCBS) and the Financial Stability Board (FSB). For the first pair, the EBA concludes that banks should apply Directive 2013/36/EU. For the second pair, the BCBS recommends applying the FSB Principles for Sound Compensation Practices in its recommendations. The provisions of the international recommendations indicate certain practices in terms of RP standards. They can be divided into two subgroups (Table 1A): (i) those concerning the quality of the Remuneration Committee, (ii) those concerning the quality of the variable components of RPs.

For the first sub-group, all international recommendations included a recommendation on establishing an RC. Most international organizations (except the FSB and the BCBS) recommend that non-executive directors or supervisory board members should be members of the committees. Moreover, most of them should meet the independence criteria. The most detailed recommendations connected with the second sub-group were issued by the EU and EBA, followed by the BCBC and FSB. They focused on the process of constructing remuneration and on variable remuneration itself.

Each country has the right to decide which international recommendations it will transpose into national regulations, if any[5]. If a country decides to do so, it has two options. It can either introduce the relevant provisions into the legislation or transfer them into codes of best practice. Table 1 shows which international recommendations on selected corporate governance standards have been transposed into national legislation and those that have been incorporated into legislation despite the lack of recommendations from international institutions[6].

In the case of international recommendations on RP standards, only one provision was not included in any country's legislation (Table 1). The remaining provisions were included in the legal regulations of at least one country.

Table 1. Regulations regarding standards of the remuneration policy in national law based on international recommendations

	YES	NO
Concerning the quality of Remuneration Committee (RC)		
Establishment of the Remuneration Committee	AU, BA, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU, SK, SI, TR	RS, UA
Remuneration Committee is composed of at least three members	AU, BA, HR, RO, SI, TR[VI]	BG, CZ, HU, IR, IT, LU, PL, RU, RS, SK, UA
A majority of members should be independent	IT	AU, BA, BU, HR, CZ, HU, IR, LU, PL, RO, RU, RS, SK, SI, TR, UA
The chairman of the Remuneration Committee is an independent director	TR	AU, BA, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU, RS, SK, SI, UA
RC members should have experience in remuneration policies and practices, risk management, and control activities	AU, CZ, RU	BA, BG, HR, HU, IR, IT, LU, PL, RO, RS, SK, SI, TR, UA
Concerning the quality of the variable components of the remuneration policy		
The possibility of using malus	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU, SK, SI	BA, RS, TR, UA
The possibility of using clawback	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU, SK, SI	BA, RS, TR, UA
The variable component shall not exceed 100% of the fixed component of the total remuneration[I]	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU[III], SK, SI	BA, RS, TR, UA
50% of variable compensation should be awarded in shares or share-linked instruments	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU[IV], SK, SI	BA, RS, TR, UA

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[5] The exception are countries belonging to the EU, which are obliged to implement directives and regulations issued by the European Parliament on the domestic market.

[6] The countries surveyed are the 17 countries in which UniCredit subsidiaries are present and for which information was available in English. The data in the table were collected based on regulations that were available in English.

Table 1 – continued

	YES	NO
40 to 60% of variable compensation should be payable under deferral arrangements over a period of years	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU, SK, SI	BA, RS, TR, UA
The deferral period should not be less than three to five years	AU[II], BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU[V], SK, SI	BA, RS, TR, UA
During the assessment of the performance, financial criteria are taken into account	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, SK, SI	BA, RU, RS, TR, UA
During the assessment of the performance, non-financial criteria are taken into account	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, SK, SI	BA, RU, RS, TR, UA
The remuneration is based on a combination of the assessment of the performance of the individual and the business unit concerned	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, SK, SI	BA, RU, RS, TR, UA
The variable remuneration components take into account all types of current and future risks	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, SK, SI	BA, RU, RS, TR, UA
The assessment of the performance is set in a multi-year framework in order to ensure that the assessment process is based on longer-term performance	AU, BG, HR, CZ, HU, IR, IT, LU, PL, RO, SK, SI	BA, RU, RS, TR, UA
Additional recommendations regarding standards of the remuneration policy in national law		
Minimum number of meetings of Remuneration Committee	AU	BA, BG, HR, CZ, HU, IR, IT, LU, PL, RO, RU, RS, SK, SI, TR, UA

Abbreviations: AU – Austria, BG – Bulgaria, BA – Bosnia and Herzegovina, CZ – Czechia, HR – Croatia, HU – Hungary, IR– Ireland, IT – Italy, LU – Luxembourg, PL – Poland, RO – Romania, RU – Russia, SK – Slovakia, SI – Slovenia, RS – Serbia, TR – Türkiye, UA – Ukraine.

[I] This level can be increased to 200%, provided that some of the conditions are fulfilled; [II] Minimum of five years; [III] The variable part of the remuneration should be no less than 40% of the total remuneration; [IV] No information about which part of the variable remuneration should be awarded in shares or share-linked instruments; [V] Minimum of three years; [VI] Minimum of two members.

Source: own compilation based on national legal regulations.

As regards the provisions on Remuneration Committees, almost all countries (except Serbia and Ukraine) have introduced a provision on establishing Remuneration Committees in their legislation. In the case of countries belonging to the EU, there is an obvious reason for such a high level of implementation of this provision. Directive 2013/36/EU obliges the member states to implement the provisions concerning the necessity to establish a Remuneration Committee. For the other provisions concerning the quality of the Remuneration Committees, their implementation is very low. The reason for this again seems simple. Although the EU has introduced these recommendations, they are not binding. Therefore, these countries, as with countries that do not belong to the EU, were not obliged to implement them into national regulations and, consequently, they did not do so, which is visible in Table 1.

The provisions regarding the quality of the variable components of RPs have been implemented by most of the countries surveyed. Such a high level of transposition of these provisions into national markets may be because those countries belong to the EU (with the exception of Russia). The EU introduced a number of provisions on variable components of RPs in Directive 2013/36/EU. Members of the EU were, therefore, obliged to implement these provisions into legal regulations. Russia, although it does not belong to the EU, also decided to introduce some of these regulations into its legal regulations. Other countries (Bosnia and Herzegovina, Serbia, Türkiye, and Ukraine)

have not introduced them into their legal regulations. One of the reasons for this may be that these countries focus their legal regulations on other issues, such as capital requirements. The provisions on remuneration policy standards have been introduced into national codes of good practice.

As mentioned above, countries may incorporate international recommendations into national codes of good practice. However, banks are not obliged to comply with these rules. Nevertheless, in order to attract investors, particularly from abroad, banks may have to comply with high standards of corporate governance, which will involve complying with good practice codes. Table 2 shows which countries' domestic good practice codes include standards of corporate governance based on international recommendations and which are not based on international recommendations[7].

Recommendations related to the quality of RCs appeared much more often than the quality of the variable components of RPs. This is likely because most recommendations relating to the quality of the variable components of RPs are included in national legislation. Therefore, there was no need for them to be included in codes of good practice.

In the codes of good practice of two countries (Czechia and Luxembourg), there was a recommendation for a minimum number of meetings of the RC, which was not mentioned by the international institutions. Both codes of good practice recommended that RCs meet at least once a year.

Table 2. Recommendations regarding standards of the remuneration policy in national codes of good practice based on international recommendations

	YES	NO
Concerning the quality of RC		
Establishment of an RC	AU, HR, CZ, HU, IR, IT, LU, PL, RO, RU, RS, SK, SI, UA	BA, BU, TR
RC is composed of at least three members	HR, CZ, HU, IT, LU, PL, RU, SK, SI	AU, BA, BU, IR, RO, RS, TR, UA
A majority of members should be independent	AU, HR, CZ, HU, IR, IT, LU, PL, RO, RU, SK, UA	BA, BU, RS, SI, TR
The chairman of RC is an independent director	IT, LU, RU	AU, BA, BU, HR, CZ, HU, IR, PL, RO, RS, SK, SI, TR, UA
RC members should have experience in remuneration policies and practices, risk management, and control activities	AU, IT, PL, SI	BA, BU, HR, CZ, HU, IR, LU, RO, RU, RS, SK, TR, UA
Concerning the quality of the variable components of the remuneration policy		
The possibility of using malus	IT	AU, BA, BU, HR, CZ, HU, IR, LU, PL, RO, RU, RS, SK, SI, TR, UA
The possibility of using clawback	AU, PL	BA, BU, HR, CZ, HU, IR, IT, LU, RO, RU, RS, SK, SI, TR, UA
50% of variable compensation should be awarded in shares or share-linked instruments	RU	AU, BA, BU, HR, CZ, HU, IR, IT, LU, PL, RO, RS, SK, SI, TR, UA
The deferral period should not be less than three years	AU, IT, PL1, RU, SI	BA, BU, HR, CZ, HU, IR, LU, RO, RS, SK, TR, UA

Table 2 – continued

	YES	NO
During the assessment of the performance, financial criteria are taken into account	AU, IT	BA, BU, HR, CZ, HU, IR, LU, PL, RO, RU, RS, SK, SI, TR, UA
During the assessment of the performance, non-financial criteria are taken into account	AU, IT	BA, BU, HR, CZ, HU, IR, LU, PL, RO, RU, RS, SK, SI, TR, UA
The remuneration is based on a combination of the assessment of the performance of the individual and the business unit concerned	AU, BA, BU, HR, RU, RS, SI	CZ, HU, IR, IT, LU, PL, RO, SK, TR, UA
The variable remuneration components take into account all types of current and future risks	RU	AU, BA, BU, HR, CZ, HU, IR, IT, LU, PL, RO, RS, SK, SI, TR, UA
The assessment of the performance is set in a multi-year framework in order to ensure that the assessment process is based on longer-term performance	AU, LU	BA, BU, HR, CZ, HU, IR, IT, PL, RO, RU, RS, SK, SI, TR, UA
Additional recommendations regarding standards of the remuneration policy in national good practice codes		
Minimum number of meetings of RC	CZ, LU	AU, BA, BU, CR, HU, IR, IT, PL, RO, RU, RS, SK, SI, TR, UA

[1]   2 years.
Country abbreviations – see Table 1

Source: own compilation based on national codes of good practice.

When comparing Tables 1 and 2, one important detail should be noted. The international recommendation that the RC and the risk committee should work closely together is not found in the legislation or good practice code of any country. This is surprising, as it was mentioned in the recommendations of four international institutions (BCBS, EBA, EU, FSB). For the other international recommendations, the situation is clear. Recommendations that are not included in the legal regulations of individual countries are included in their codes of good practice. This shows that the countries surveyed fully comply with the recommendations issued by international institutions (except for the one mentioned above).

METHODOLOGY

The assessment of the quality of the remuneration policy in the UniCredit Group was based on research conducted on a group of 27 financial institutions that belong to this FHC (see Table 2A in Appendix A). The annual financial statements for the years 2005–2018 were the source of data for the analysis.

For the study, a composite QRI was constructed, consisting of two sub-indices: the quality index of the variable components of the remuneration policies (QVRI) and the quality index of the RC (QRCI). The indices were calculated based on information given in the reports published by the banks. Such information is treated as reliable as these reports are audited by independent,

external auditors who, by accepting a given report, confirm that all information contained within it is consistent with reality.

Each of the sub-indices is based on information on selected aspects of the RP (see Appendix B). The indices are composed of variables that correspond to the categories of standards for RPs recommended by international institutions or national regulations, as shown in Table 1A. All variables are binary, and they were selected in such a way that in each area, a higher index value means a higher quality RP. As the number of variables that form the individual sub-indices differs, they were standardized using the following formula (Słomka-Gołębiowska & Urbanek, 2015b, p. 11):

$$QRIi_i = \sum_{J=1}^{2} \frac{Jj,i}{\max Tj} \tag{1}$$

where:
$QRIi_i$ – the value of the quality index for the *i*-th bank,
Jj,i – the value of the *j*-th sub-index for the *i*-th bank,
$\max Tj$ – the maximum value for the *j*-th sub-index.

The transformed value of sub-indices for each bank is in the range (0,1). As a result of this approach, the value of the *QRI* is in the range (0,2). The value of each calculated sub-index shows the share of the quality of information disclosed by the analyzed banks in each aspect of RP described by the appropriate sub-index. Generally, the larger the *QRI*, the higher the quality of the remuneration policy in the company.

Next, the *QRI* was used to investigate the determinants of the quality of the remuneration policy in the UniCredit Group. Considering the literature review and the unambiguous results, the set of explanatory variables was chosen, including the importance of the size of the bank, the effects of the corporate governance quality, the banks' financial performance, and the transparency index of the remuneration policy (TI_{it}). As a result, the general, standard equation used is as follows:

$$QRI_{it} = \alpha_0 + \alpha_1 \times lna_{it} + \alpha_2 \times fin\_result_{it} + \alpha_3 \times board_{it} + \alpha_4 \times TI_{it} + \xi_{it} \tag{2}$$

where:
QRI_{it} – the value of the quality index of the remuneration policy for the *i*-th bank in the *t*-th year,
lna_{it} – the natural logarithm of the bank's assets for the *i*-th bank in the *t*-th year,
fin_result_{it} – the vector of variables that capture the financial condition of the *i*-th bank in the *t*-th year (like ROE – roe_{it}, ROA – roa_{it}, earnings per share – eps_{it}),
$board_{it}$ – the vector of variables that capture institutional aspects related to the quality of the bank's corporate governance determinants, like the board size $board\_size_{it}$, the number of the board meetings $board\_meet_{it}$, and the share of independent members in the total members of the board $indep\_dir_{it}$,
TI_{it} – transparency index of the remuneration policy for the *i*-th bank in the *t*-th year,
ξ_{it} – error term.

The full list of the variables used and their descriptive statistic is presented in Table 3A in Appendix A. The data used for computing the variables come from the banks' annual reports. However, the data for the full sample (covering years 2005–2018) are not available for all banks. Even if the literature is not conclusive in investigating the relationships between the chosen

explanatory variables and remuneration policy, the potential and expected signs for those relations are presented in Table 4A in Appendix A.

In order to evaluate the relationship between the composite QRI and its determinants, and to overcome the potential endogeneity, the instrumental variable, the two-stage least squares estimation method, was applied (see, e.g., Wooldridge, 2010; Baltagi, 2008). Moreover, robustness checks were also employed by emphasizing other estimation methods (applying dynamic panel data, or Beck and Katz's panel corrected standard errors procedure) or different sets of control variables.

THE QUALITY INDEX OF THE REMUNERATION POLICY – RESULTS

The empirical part of this study consists of a two-step procedure. The first step relates to computing the appropriate quality index. The quality of the remuneration policy applied in the UniCredit Group was measured using *QRI*, which consists of two sub-indices. Table 3 shows the *QVRI*, *QRCI*, and *QRI*.

Table 3. Quality index and sub-indices of remuneration policy

Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	average
QVRI															
UniCredit SPA	0.00	0.00	0.00	0.00	0.64	0.82	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.66
UniCredit Group	0.00	0.01	0.02	0.02	0.06	0.07	0.16	0.19	0.28	0.29	0.35	0.40	0.33	0.30	0.18
QRCI															
UniCredit SPA	0.57	0.57	0.71	0.71	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84
UniCredit Group	0.10	0.16	0.08	0.09	0.08	0.07	0.10	0.10	0.12	0.14	0.16	0.17	0.14	0.15	0.12
QRI															
UniCredit SPA	0.57	0.57	0.71	0.71	1.35	1.53	1.62	1.91	1.91	2.00	2.00	2.00	2.00	2.00	1.50
UniCredit Group	0.11	0.18	0.10	0.11	0.14	0.15	0.25	0.29	0.39	0.42	0.51	0.56	0.47	0.44	0.30

Source: own compilation.

The first thing that is conspicuous when analyzing the data in Table 3 is that UniCredit SPA applied all the international standards on RPs recommended by international institutions, thus obtaining the maximum index value in particular years. The values of the indices of the UniCredit Group as a whole, on the other hand, were very low. These results show that although the dominant bank has fully applied all standards since 2014, it has not required this from its subsidiaries. These results emphasize how little interest these financial institutions show in improving the quality of their RPs. It can be argued that the banks apply the standards without providing information about it in their annual reports. However, it seems unlikely. Applying the variable components of RP standards recommended by international institutions is very well received by investors. Therefore, banks should brag about this, thus encouraging investors to buy their shares. Another argument is that these banks included this information in reports written in their native language. However, this is unlikely because, as a rule, both reports (in English and the native language) should contain the same information.

The results of both the main index and the sub-indices show how large the differences are in the number of standards used within the FHC. Although the dominant bank, often treated as a representative of the group, is characterized by high standards, it should be remembered that the

group comprises all the financial institutions belonging to it, not just this one. Looking at the FHC through the prism of UniCredit SPA, it would seem that the UniCredit Group has high standards in terms of RP. However, if we take a closer look at the whole group, we can see that it is not so.

Considering the econometric approach, *QRI* is a dependent variable in baseline equation (2). Due to potential endogeneity, the baseline estimation method applies the two-stage least squares method. Before the estimation, the test of endogenous regressors was applied. The tested regressor is earnings per share, instrumented by the net profits (lagged by two periods). The test shows that the regressor can be implemented. At the same time, the Sargan statistic, which is computed in each regression, informs that the instruments used may be treated as valid. Supported by the use of the fixed-effects estimator, the results of the estimates for the baseline and alternative equations are presented in Table 4. *Regressions I* and *II* are the baseline equations, but *regression I* covers the whole sample, while *regression II* covers the period 2010–2018, i.e., after the financial crisis hit and the post-crisis period.

The relationship between earnings per share and the dependent variable is marginal, negative, and not statistically significant. *QRI* was not affected by the level of earnings per share, even though the robustness checks suggest the potential negative effect of the variable on RP quality in the group. The lack of a statistically significant relationship is also applied to the ROA and ROE. The results indicate that all three variables representing the financial performance of the units (ROE, ROA, and earnings per share) were statistically insignificant. Thus, the financial results were not important in creating the quality of the remuneration policy.

On the other hand, the relationship between the size of the bank, measured by the natural logarithm of the level of assets, generally proved to be statistically significant. The estimates showed that the effect of the size of the bank on the quality of the remuneration policy was positive. Therefore, the hypothesis regarding bank performance captured by size and the quality of the remuneration policy was confirmed.

The estimates concerning the relationships between the dependent variable and the quality of the corporate governance (expressed by the size of the board, the number of board meetings, or the number of independent members in the board) were negative. As obtained, the magnitude of the statistically significant effects of the control variables depends on the other explanatory variables applied in the regressions. Generally, the impact of the board size is estimated as ranging between -0.08 to -0.06, the effect of the frequency of board meetings ranges between -0.04 to -0.02, while the share of the independent "outsiders" ranges from -0.004 to -0.006. The analysis of the relationship between the quality of the remuneration policy and the three corporate governance variables (board size, board independence, and frequency of board meetings) proved to be statistically significant in almost every case, except for *regression IV*, which includes the variable lagged by one year, which captures earnings per share, and *regression VII*, with the dummy variable for the implementation of the RC (rc_{it}). The rc_{it} takes a value of 1 if the bank implemented an RC, and 0 otherwise.

However, taking into account the quality of the data, the results confirm only the hypothesis that the larger the board, the lower the quality of the remuneration policy. The effect might also be interpreted by the coefficient for the relationship between *board_size$_{it}$* and *QRI$_{it}$*, which was the highest for all three relationships related to variables that include the corporate quality of the board. Although it was expected that board independence and the frequency of the board meetings were positively related to the quality of RP, the results were negative. Considering the results, the more independent the board, the less information on the RP is disclosed, and the lower the quality of the policy. Additionally, more frequent board meetings negatively impacted the quality of the RP.

RP transparency, measured by *TI$_{it}$*, was positive and statistically significant. The estimated effect of the variable on *QRI$_{it}$* ranged between 0.3 to 0.4, on average. The hypothesis about the positive relationship between *TI$_{it}$* and the remuneration policy quality was not rejected; thus, transparency may be treated as an important determinant of the quality of RP in the group.

Table 4. Coefficient estimates of the regressions for the UniCredit Group units

	I	II	III	IV	V	VI	VII
ln_a_{it}	0.4031* (0.2326)	0.4321* (0.2423)	0.3336** (0.1705)	0.3172 (0.2275)	0.4408* (0.2554)	0.3311* (0.1857)	0.3696* (0.2145)
eps_{it}	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0003* (0.0002)	-0.0004 (0.0004)	-0.0003 (0.0002)	-0.0002 (0.0002)	-0.0003 (0.0002)
roa_{it}	0.0164 (0.0339)	0.0072 (0.0284)	0.0148 (0.0306)	0.0212 (0.0440)	0.0191 (0.0356)	0.0091 (0.0270)	0.0148 (0.0333)
roe_{it}	-0.0016 (0.0046)	-0.0003 (0.0040)	-0.0006 (0.0044)	-0.0017 (0.0055)	-0.0017 (0.0047)	-0.0002 (0.0037)	-0.0017 (0.0045)
$board\_size_{it}$	-0.0818** (0.0320)	-0.0572** (0.0278)	-0.0798*** (0.0268)	-0.0724** (0.0336)	-0.0857** (0.0343)	-0.0617** (0.0264)	-0.0844** (0.03321)
$board\_meet_{it}$	-0.0367* (0.0221)	-0.0329* (0.0198)	-0.0443** (0.0212)	-0.0303 (0.0233)	-0.0395* (0.0237)	-0.0230* (0.0176)	-0.0330 (0.0205)
$indep\_dir_{it}$	-0.0054* (0.0031)	-0.0055* (0.0033)	-0.0044** (0.0025)	-0.0042 (0.0031)	-0.0058* (0.0034)	-0.0043* (0.0025)	-0.0053* (0.0031)
TI_{it}	0.4035*** (0.0937)	0.3903*** (0.0828)	0.2715** (0.1278)	0.4459*** (0.0871)	0.3949*** (0.0989)	0.2658*** (0.0927)	0.3626*** (0.1195)
TI_{it-1}			0.2034** (0.0988)				
eps_{it-1}				0.0002 (0.0002)			
$eps_{it}x(2009–2018)$					-0.0001 (0.0001)		
$TI_{it}x(2009–2018)$						0.1427** (0.0561)	
rc_{it}							0.1469 (0.1493)
Sargan statistic (p-value)	4.384 (0.2229)	2.347 (0.5036)	3.358 (0.3396)	3.519 (0.3183)	3.925 (0.2697)	3.332 (0.3432)	4.464 (0.2155)
Test statistic of endogenous regressors (p-value)	7.621 (0.0058)	5.567 (0.0183)	9.909 (0.0016)	5.586 (0.0181)	8.328 (0.0039)	4.566 (0.0326)	4.470 (0.0345)
Obs.	175	160	175	175	175	175	175
Years	2005–2018	2010–2018	2005–2018	2005–2018	2005–2018	2005–2018	2005–2018
Objects	26	26	26	26	26	26	26
Centered R^2	0.8055	0.3212	0.3641	0.0041	0.2241	0.5437	0.8055

The values of standard errors presented in parentheses. Signs *, **, *** denote significance at the 10, 5, and 1 percent levels, respectively. Estimates for the two-stage least squares method, supported by the fixed-effects estimator.

Source: own compilation.

Regressions V–VII include additional variables. *Regressions V* and *VI* were extended by variables that emphasize the importance of the post-crisis period (i.e., after 2008). As estimated, after 2008, *QRI* was positively and significantly affected by *TI* while the earnings per share still showed a lack of relationship with the dependent variable. The estimates of the baseline explanatory variables were robust. Finally, *regression VII* includes the dummy variable for the implementation of the RC. The estimate shows a positive but insignificant effect on the dependent

variable. It is likely due to the fact that in most cases, the Committee was not introduced into the structure of the banks, so the panel regression exhibited a lack of (but a potentially positive) relationship.

The robustness checks for the alternative estimation method are presented in Table 5A in Appendix A. The estimation technique is a panel corrected standard error (PCSE) approach. The estimates confirm the results from Table 4 regarding the signs of the relationships between all variables and the dependent variable in the baseline regressions. However, the statistical significance was only confirmed for variables ln_a_{it}, and TI_{it}, suggesting that the other variables have an ambiguous impact on QRI. As presented in Table 4A, the PCSE method confirms the statistical significance of the explanatory variables depending on the set of regressors. Despite this, the effect of financial conditions in terms of ROA was significant, in contrast to the results presented in Table 4. Moreover, the impact of earnings per share was also significant in most of the analyzed regressions. The effect of the dummy variable for the RC was positive and statistically significant; the estimated coefficient was about 0.08 on average. The highest magnitude of coefficients was related to the positive relationship between QRI_{it} and TI.

As the QRI may depend on its value in the past, the estimates presented in Table 5 show the results of a test for the dynamic panel data approach. The methodology is based on the system-GMM approach. The estimation technique employs the system two-step GMM estimator rather than the one-step estimator. This approach is based on Windmeijer's (2005) inferences, whose correction procedure of the system two-step GMM estimator generates an increase in precision compared to the system one-step GMM estimator. Some of the regressions are presented in Table 5.

Table 5. Robustness checks for the system-GMM estimator

	I	*II*	*III*	*IV*
QRI_{it-1}	0.4521*** (0.0362)	0.4611*** (0.05769)	0.3809*** (0.0317)	0.4433*** (0.0983)
ln_a_{it}	0.0526*** (0.0063)	0.0539*** (0.0046)	0.0575*** (0.0128)	0.0497*** (0.0139)
eps_{it}	-1.88e-06 (2.66e-06)	4.84e-06 (3.81e-0)	-9.45e-08 (2.99e-06)	-1.97e-06 (2.67e-06)
roa_{it}	0.0016 (0.0076)	0.0016 (0.0062)	0.0004 (0.0042)	0.0014 (0.0079)
roe_{it}	-0.0006 (0.0006)	-0.0006 (0.0005)	0.0000 (0.0005)	-0.0006 (0.0007)
$board\_size_{it}$	-0.0138*** (0.0011)	-0.0133*** (0.0014)	-0.0129*** (0.0021)	-0.0137*** (0.0022)
$board\_meet_{it}$	-0.0120*** (0.0006)	-0.0121*** (0.0005)	-0.0120*** (0.0017)	-0.0123*** (0.0009)
$indep\_dir_{it}$	-0.0008*** (0.0002)	-0.0008** (0.0002)	-0.0004 (0.0011)	-0.0007*** (0.0002)
TI_{it}	0.3879*** (0.0121)	0.3942*** (0.0169)	0.40389*** (0.0174)	0.3837*** (0.0213)
eps_{it-1}		6.83e-06* (3.61e-06)		
rpc_{it}				0.0223* (0.0132)

Table 5 – continued

	I	*II*	*III*	*IV*
cons	-0.8028*** (0.0986)	-0.8585*** (0.0688)	-0.8901*** (0.2079)	-0.7573*** (0.2244)
Obs.	228	228	179	228
Years	2005–2018	2005–2018	2010–2018	2005–2018
Sargan statistic (prob >)	12.8098 (0.9560)	12.3894 (0.9640)	10.5964 (0.8768)	12.4527 (0.9629)
AR(1) statistic (p-value)	-2.4605 (0.0139)	-2.4604 (0.0139)	-2.3839 (0.0171)	-2.524 (0.0116)
AR(2) statistic (p-value)	1.0902 (0.2756)	1.1305 (0.2583)	1.2598 (0.2078)	1.0490 (0.2942)

Standard errors presented in parentheses. Signs *, **, *** denote significance at the 10, 5, and 1 percent levels, respectively. Estimates for system two-step GMM estimator. AR(1) and AR(2) denote the values of the statistic for the Arellano-Bond test for serial correlation. The Sargan statistic denotes the value of the Sargan test of over-identifying conditions.

Source: own compilation.

The estimates confirm the positive and statistically significant effects of lagged denoting the importance of the past effects of the index on the current quality of the remuneration policy. Thus, a better quality of remuneration policy in the past requires high quality in the current period. The estimated coefficients ranged between 0.4 and 0.5, on average.

Generally, the sign and statistical significance of the estimates are similar to those for the baseline estimation method, which was the instrumental variable approach. The coefficients for the relationship between and the dependent variable were positive and ranged between 0.05 and 0.06. The effect of TI was around 0.4, on average. The coefficients for the effects of corporate governance (in the form of board size, board independence, and board meeting frequency) were negative. However, as in the use of the instrumental variable approach, the negative effects of the board size were the highest in their magnitude. However, in contrast to the estimates presented in Table 4, the coefficient for the dummy variable for the RC was statistically significant.

DISCUSSION AND CONCLUSIONS

The financial crisis emphasized the importance of good corporate governance, including RPs, for well-functioning financial institutions. The importance of standards for remuneration policies in this sector has been confirmed by macro-prudential regulations at both international and national levels. Since the most important institutions devote so much attention to this issue, and since national supervisors see the rationale for incorporating these recommendations into legal regulations and codes of good practice, the problem should be considered unquestionably important in shaping appropriate corporate governance mechanisms in financial institutions.

While there is consensus at the macro-prudential level on the need for high RP standards, at the level of individual financial institutions, this issue seems to be marginalized. Therefore, it is necessary to consider the reason why the dominant bank implements the rules but the subsidiary banks underestimate the issue. Is it because the dominant bank is "representative" of the whole group, and based on its assessment, investors form an opinion/build trust in the subsidiary banks? Are subsidiary banks left with such a degree of autonomy that the standards they introduce are not controlled?

The strength of the dominant bank's influence on its subsidiaries depends on the number of shares and voting power of the authorities of the subsidiary bank. The shares held in a given subsidiary bank give them the right to participate in general meetings and in the work of the bank's board through the possibility of deciding on the composition of this body. Therefore, it can be presumed that the lack of implementation of corporate governance standards, including RPs, is due to weaknesses in the functioning of the supervisory mechanisms.

Taking into account all the issues mentioned above, the low values of QRI for the whole group is quite interesting. It shows that although many banks that belong to UniCredit Group do not meet the international requirements in terms of the remuneration policy, there is no reaction to this behavior by the parent bank. There is also no reaction from the international institutions that created these regulations. Therefore, one may question the point of creating regulations concerning the quality of RP since not applying them has no consequences.

It is worth paying attention here to the growing awareness of social responsibility presented by banks. Increasingly, when making investment decisions, investors take into account the implementation of the Environmental, Social, Governance (ESG) issues into the business strategy of the bank. As one of the elements of ESG is "Governance", which includes RP, it would be worth considering why supervisors do not react to banks' non-compliance with the regulations concerning this area of corporate governance. The results of the research clearly show that the banks belonging to the UniCredit Group do not follow RP requirements in most cases. Such a low quality of RP in the surveyed banks may prove that the supervisory institutions have little importance or that they have little power of influence on the banks.

The research carried out in this study allowed us to positively verify some of the research hypotheses. However, it is not possible to discuss similar research results, as this is the only work of its kind. The empirical part of the study, based on alternative estimation methods, emphasized the positive correlation between the size of the bank and the quality of remuneration policy, thus confirming studies that indicate that larger banks have better supervisory standards (Słomka-Gołębiowska & Urbanek, 2015a; Demsetz & Saidenberg, 1999).

Considering the empirical results, it turned out that weaker quality RPs are found in banks with larger boards. This outcome is consistent with the view that small boards promote critical and intellectual reflection and greater involvement of members. This, in turn, can lead to more effective decision-making, monitoring, and performance improvement (Firstenberg & Malkiel, 1994; Hermalin & Weisbach, 2003). However, the study showed the negative effect of the frequency of bank board meetings on remuneration policy quality. It is surprising as it would seem that the increased frequency of meetings is intended to intensify the activities of the board, to raise more issues, and probably also to demonstrate a more responsible attitude of the council members towards their duties. Considering the ambiguous result of the statistical significance of the relationship, there is a need for future research.

The share of independent directors was generally negatively related to QRI. This is in line with the position presented by Axworthy (1988), who claimed that non-executive directors do not generally exercise effective supervision and that the board of directors itself is a body that approves only the findings of the board of directors.

RP quality was positively and statistically significantly related to transparency index, regardless of the estimation method used. The relationship between these variables is indisputable. Quality and transparency are closely related. By applying all standards regarding the remuneration policy, banks will want to boast about it, which will translate into greater transparency. Therefore, it seems logical that higher transparency means higher quality of the remuneration policy.

In conclusion, some limitations of the study should be mentioned. Firstly, it was not possible to analyze all of the financial institutions that belong to the FHC. Secondly, some imperfections of the computed index itself should be outlined, resulting from all components having equal weights. Thirdly, the time sample is limited, as is the quality of the data. Moreover, there is a wide

range of missing observations for the units in the whole UniCredit Group. When the data for the COVID-19 pandemic period will be available, then their inclusion may be a valuable input into the analysis. Thus the analysis of the unique situation in the banking sector created by the remote work and lockdowns may deliver some implications. In the context of this study, it is a recommended direction of further research. Nevertheless, the work may be seen as a good start on the road to getting to know groups from within. It also outlines a potential area for further research, mainly focusing on the construction of alternative indices for RP quality and deeper analyses of the robustness of the determinants of the remuneration policy. In the future, as part of an in-depth study, it would also be possible to examine other holdings and, as a result, compare the UniCredit Group with other groups and examine and compare the results with other corporate governance standards.

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APPENDIX

Appendix A

Table 1A. International recommendations regarding standards of remuneration policy

	Basel Committee on Banking Supervision	Committee of European Banking Supervisors	European Banking Authority	European Union[I]	Financial Stability Board	OECD[II]
Concerning the quality of RC						
Establishment of an RC	YES	YES	YES	YES	YES	YES
RC is composed of at least three members			YES[III]	YES[III]		
A majority of members should be independent	YES		YES	YES		YES
The chairman of RC is an independent director	YES		YES			
Work closely with the firm's risk committee in evaluating the incentives created by the compensation system	YES		YES	YES	YES	
RC members should have experience in remuneration policies and practices, risk management, and control activities			YES	YES		
Concerning the quality of the variable components of RP						
The possibility of using malus	YES		YES	YES	YES	YES
The possibility of using clawback	YES	YES	YES	YES	YES	YES

Table 1A – continued

	Basel Committee on Banking Supervision	Committee of European Banking Supervisors	European Banking Authority	European Union[I]	Financial Stability Board	OECD[II]
The variable component shall not exceed 100% of the fixed component of the total remuneration[IV]			YES	YES		
50% of variable compensation should be awarded in shares or share-linked instruments	YES		YES	YES	YES	
40 to 60% of variable compensation should be payable under deferral arrangements over a period of years	YES		YES	YES	YES	
The deferral period should be not less than three to five years	YES[V]	YES[VI]	YES	YES	YES[V]	
During the assessment of the performance, financial criteria are taken into account	YES	YES	YES	YES		
During the assessment of the performance, non-financial criteria are taken into account	YES	YES	YES	YES		
The remuneration is based on a combination of the assessment of the performance of the individual and of the business unit concerned	YES	YES	YES	YES	YES	
The variable remuneration components take into account all types of current and future risks	YES	YES	YES	YES	YES	
The assessment of the performance is set in a multi-year framework in order to ensure that the assessment process is based on longer-term performance	YES		YES	YES		

[I]　The European Union makes recommendations in the form of recommendations but also in the form of directives and regulations. In the case of directives and regulations, all countries belonging to the EU are obliged to implement them in national law. However, as the survey also involved countries that do not belong to the EU and therefore do not have to comply with EU regulations, the survey does not consider recommendations, regulations, and directives separately.

[II]　The OECD makes recommendations for all companies, not just banks. However, due to the international importance of the OECD, these were taken into account in the study.

[III]　In the case of a small board of directors/supervisory board, the minimum number of directors in RC is two.

[IV]　With the consent of the general meeting, it can be increased to 200%.

[V]　3 years.

[VI]　In the case of a significant bonus, some of it should be deferred.

Source: own compilation based on regulations issued by Basel Committee on Banking Supervision, Committee of European Banking Supervisors, European Banking Authority, European Union, Financial Stability Board, OECD.

Table 2A. The surveyed companies that are part of the UniCredit financial holding group

Name	Position in the group	Country of origin	Group membership period
UniCredit SPA (earlier UniCredito Italiano SPA)	dominant bank	Italy	2005–2018
AO UniCredit Bank (earlier ZAO UniCredit Bank)	subsidiary bank	Russia	2007–2018
Bank BPH	subsidiary bank	Poland	2005–2007
Pekao Bank Hipoteczny (earlier BPH Bank Hipoteczny S.A.)	subsidiary bank	Poland	2005–2016
Bank Pekao SA	subsidiary bank	Poland	2005–2016
Public Joint Stock Company Ukrsotsbank	subsidiary financial institution	Ukraine	2009–2015
UniCredit Luxemburg	subsidiary bank	Luxembourg	2009–2017
UniCredit Bank d.d. Mostar	subsidiary bank	Bosnia and Herzegovina	2008–2018
UniCredit Bank Czech Republic and Slovakia, A.S.	subsidiary bank	Czechia and Slovakia	2007–2018
UniCredit Bank Ireland p.l.c. (earlier UniCredito Italiano Bank (Ireland) p.l.c.)	subsidiary bank	Ireland	2005–2018
UniCredit Bank Srbija JSC	subsidiary bank	Serbia	2007–2018
UniCredit Bank Slovenija D.D.	subsidiary bank	Slovenia	2007–2018
UniCredit Hungary Zrt.	subsidiary bank	Hungary	2007–2018
UniCredit Bank Austria AG (earlier Bank Austria Cerditanstalt AG)	subsidiary bank	Austria	2005–2018
UniCredit Bulbank AD (earlier Bulbank AD)	subsidiary bank	Bulgaria	2005–2018
UniCredit Factoring Czech Republic and Slovakia, A.S.	subsidiary financial institution	Czechia and Slovakia	2015–2018
UniCredit Factoring SPA	subsidiary financial institution	Italy	2005–2018
UniCredit Jelzálogbank Zrt. (earlier HVB Jelzálogbank Zrt.)	subsidiary bank	Hungary	2005–2018
UniCredit Leasing Cz., A.S.	subsidiary bank	Czechia	2007–2018
UniCredit Bank S.A. (earlier UniCredit Tiriac Bank SA)	subsidiary bank	Romania	2006–2018
Dom Inwestycyjny Xelion sp. z.o.o. (earlier Xelion Doradcy Finansowi sp.z.o.o.)	subsidiary financial institution	Poland	2005–2016
Zagrebačka banka dd	subsidiary bank	Croatia	2005–2018
UniCredit International Bank (Luxembourg) SA	subsidiary bank	Luxembourg	2005–2018
UniCredit services s.c.p.a. (earlier UniCredit Business Integrated Solutions S.C.p.A.)	subsidiary financial institution	Italy	2012–2018
Yapi Kredi Portfoey Yoenetimi AS	subsidiary financial institution	Türkiye	2005–2018
Yapi Kredi Yatirim Menkul Degerler AS	subsidiary financial institution	Türkiye	2005–2018
Yapi ve Kredi Banka AS	subsidiary bank	Türkiye	2005–2018

Source: own compilation.

Table 3A. Descriptive statistics

Variable	Obs	Mean	st. dev.	Min	Max
QRI_{it}	255	0.325	0.494	0.000	2.000
TI_{it}	255	0.695	0.834	0.000	2.890
ln_a_{it}	255	17.096	2.384	10.142	22.114
roe_{it}	255	11.193	12.928	-55.619	59.283
roa_{it}	255	2.688	8.252	-6.994	53.113
eps_{it}	255	1668.125	8356.749	-1113.896	91975.040
$board\_size_{it}$	255	8.553	4.119	3.000	24.000
net_profit_{it}	255	676195.300	6444778.000	-59100000.000	23200000.000
$board\_meet_{it}$	255	2.694	4.539	0.000	22.000
$indep\_dir_{it}$	255	13.884	25.664	0.000	94.118

Source: own compilation.

Table 4A. Determinants of the quality of the remuneration policy

Quality determinant	Method of measurement	Predicted nature of the relationship
Bank size	Total assets	+
Financial performance	ROE, ROA, net profit, earnings per share	+
Size of the bank's board	Number of bank board members	–
Activities of the bank's board	Number of bank board meetings	+
Independence of the bank's board	Participation of independent bank board members	+
Transparency of remuneration policy	Transparency index (TI)	+

Source: own compilation.

Table 5A. Estimates based on PCSE method

	I	II	III	IV	V
ln_a_{it}	0.0444*** (0.0127)	0.0312*** (0.0091)	0.0271*** (0.0068)	0.0422*** (0.0122)	0.0319*** (0.0097)
eps_{it}	-7.18e-07 (1.01e-06)	-2.32e-06** (8.28e-07)	-2.31e-06*** (5.96e-07)	5.78e-06 (5.53e-06)	-1.10e-06* (5.62e-07)
roa_{it}	0.0040** (0.0015)	0.0031** (0.0013)	0.0025** (0.0011)	0.0040** (0.0019)	0.0028** (0.0013)
roe_{it}	-0.0007 (0.0009)	-0.0002 (0.0007)	-0.0002 (0.0007)	-0.0005 (0.0009)	-0.0004 (0.0007)
$board\_size_{it}$	-0.0043 (0.0064)	0.0002 (0.0061)	0.0007 (0.0060)	0.0015 (0.0068)	-0.0068 (0.0058)
$board\_meet_{it}$	-0.0030 (0.0045)	-0.0064 (0.0040)	-0.0073* (0.0040)	-0.0131** (0.0057)	-0.0051 (0.0039)
$indep\_dir_{it}$	-0.0011 (0.0008)	-0.0014** (0.0007)	-0.0014** (0.0007)	-0.0015 (0.0010)	-0.0011 (0.0007)

Table 5A – continued

	I	*II*	*III*	*IV*	*V*
ti_{it}	0.5243*** (0.0227)	0.5382*** (0.0185)	0.5186*** (0.0224)	0.5418*** (0.0185)	0.5023*** (0.0233)
ti_{it-1}			0.0335 (0.0243)		
eps_{it-1}		1.30e-06 (8.43e-07)	1.27e-06** (6.25e-07)		
rpc_{it}					0.0805** (0.0409)
cons.	-0.7350*** (0.1811)	-0.5477*** (0.1305)	-0.4723*** (0.1005)	-0.7163*** (0.1896)	-0.5141*** (0.1410)
Obs.	255	228	228	187	255
Years	2005-2018	2005-2018	2005-2018	2010-2018	2005-2018
Objects	27	26	26	27	27
R^2	0.7956	0.8531	0.8872	0.8910	0.8585

Het-corrected standard errors presented in parentheses. Signs *, **, *** denote significance at the 10, 5, and 1 percent levels, respectively. Estimates for panel corrected standard errors method with inclusion the assumptions about panel-level heteroskedastic errors and panel-specific AR1 autocorrelation structure.

Source: own compilation.

APPENDIX B. DEPENDENT VARIABLES USED TO BUILD THE *QRI* – THE QUALITY INDEX OF THE REMUNERATION POLICY

The scope of the *QRI* ranges from 0 to 2. It is obtained by adding up the points obtained in two subcategories: the policy of the variable components of the remuneration (a maximum score of 11) and the RC (a maximum score of 7). In both subcategories, all items have the same weight: 1 if it is met, or 0 if it is not met.

Subcategories of the quality index of the remuneration policy (*QRI*)	
the policy of the variable components of the remuneration	**RC**
1. the possibility of using malus 2. the possibility of using clawback 3. the variable component shall not exceed 100% (200% for approval of GAM) of the fixed component of the total remuneration 4. 50 percent of variable compensation should be awarded in shares or share-linked instruments 5. 40 to 60 percent of variable compensation should be payable under deferral arrangements over a period of years 6. the deferral period should not be less than three to five years 7. during the assessment of the performance, financial criteria are taken into account 8. during the assessment of the performance, non-financial criteria are taken into account	1. establishment an RC 2. the RC is composed of at least three members 3. a majority of members should be independent (at least 51%) 4. the chairman of the RC is an independent director 5. works closely with the firm's risk committee in evaluating the incentives created by the compensation system 6. RC members should have experience in remuneration policies and practices, risk management, and control activities 7. minimum number of meetings

Appendix B – continued

Subcategories of the quality index of the remuneration policy (*QRI*)	
the policy of the variable components of the remuneration	**RC**
9. the remuneration is based on a combination of the assessment of the performance of the individual and of the business unit concerned	
10. the variable remuneration components take into account all types of current and future risks	
11. the assessment of the performance is set in a multi-year framework in order to ensure that the assessment process is based on longer-term performance	

Source: own compilation.