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Unveiling Istishna' and the Construction Industry in Shaping the Islamic Banks' Figures and Residential Property Prices

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Abstract

Purpose: Prioritising one Islamic financial contract over others because of cost arguments may benefit Islamic banks (IBs) more than their partners. IBs frequently use murabahah and less for Istishna, even for the construction industries. The study attempts to explore the position of istishna' aqad in Islamic banks (IBs) and how it relates to the construction industry regarding property prices, specifically in delivering affordable housing to society. Its role is reflected in the three critical issues: banks' risk, performance, and contribution to property prices. **Design/methodology/approach:** Using Islamic banks in Indonesia between 2010 and 2023, the study employs a GLS approach to examine the direct and moderating relationship between Istishna and the construction industry. **Findings:** The findings show that Istishna' reduces residential property prices and does not impact IBs' risk and performance. It indicates that Istishna' plays a long-term orientation for IBs to manage their contract preferences in facilitating public interest. The construction industry moderates the relationship between Istishna' and residential property price; however, with the contrary direction. **Originality/value:** Our findings highlight the urgency to rearrange the composition of contract schemes in Islamic banks, mainly recommendations for using Istishna' *aqad* in the construction industry. It compares two perspectives on property price determinants, both Islamic bank institutions and public interest orientation, which balance three parties' interests at once, covering IBs, the construction industry, and the end user.

Keywords: Property Prices, Islamic Finance, Residential Property, Developer Property, Murabahah, Real Estate

Introduction

Indonesia continues to have a housing backlog due to substantial annual population growth. The indicators were based on the number of households in Indonesia that do not own a home, approximately 12.7 million households total; in a quantitative approach, this represents almost 17% of the population, and in a qualitative one, it represents nearly 60% of urban households that do not have access to affordable housing (NHAP, 2023). There will be a backlog of 215,000 units per year for credit-link subsidies and 200,000 units per year for home-improvement grant programmes on average between 2018 and 2022. 72.79 million homes will be needed for house ownership in 2021. In Indonesia, about 1.13 million new households are established each year.

Through investment mechanisms and housing regulations, the government, banks, and developers have indirect relationships: developers receive construction loans and cost recovery from banks for their operational (short-term) and strategic (long-term) orientations (Rahmawati & Rukmana, 2022a). The distinction lies in the way the mechanism is implemented: either the developer offers the customer housing provision first and then proposes construction loans to the bank, or the customer receives KPR from the bank first, in which case the bank will reimburse the developer for any discrepancy between the housing market price and the loans that are approved by the bank. However, the goal of every programme is to provide lower-class citizens with access to basic housing.

There are several types of financial support created by the government to provide housing to the residents. Almost all the financialization of housing schemes is operated by government entities, based on the requirements of the National Law of Housing and Settlements 11/2011, which regulates the government's liabilities in facilitating low-income societies (*Masyarakat Berpenghasilan Rendah*/MBR) to access affordable housing. The programme is simply called subsidised house ownership credit (*Kredit Pemilikan Rumah/KPE bersubsidi*). The program is managed by the Directorate General of Infrastructure Finance of the Ministry of Public Works and Public Housing of the Republic of Indonesia (Pembiayaan PUPR, 2024).

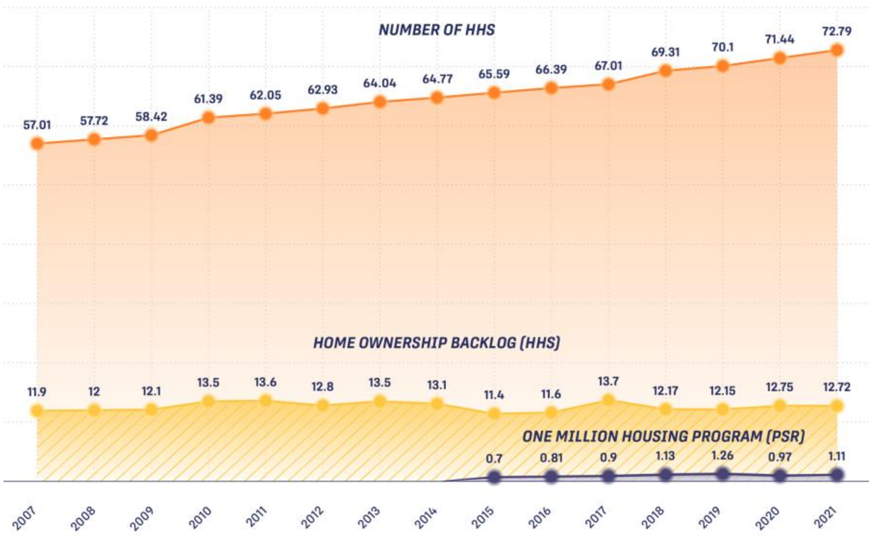

Figure 1. Comparison of need for new housing units, home ownership backlog (HHS), and one million housing programs (PSR)
Source: NHAP (2023)

Almost all housing funding offered by the bank is connected to the KPR schemes, mainly to the middle-low-priced products, which have dominant demands in the housing market. Nevertheless, the middle-up price of housing is commonly offered to the users through conventional interest-based loan mechanisms. What differs is that the construction cost or total price has not been covered by government subsidies.

The government has allocated IDR 28.9 trillion in 2022 for mortgage subsidies, more than seven times since 2011, to reduce the housing backlog (Figure 1). In sum, housing financing in conventional schemes refers mainly to KPR, a housing ownership credit, which is basically an interest-rate-based credit. Technically, it can be covered by government subsidies, various products that can be taken, or not, upon the user's target revenue classification, whether categorised as low-income societies (MBR) or not, and the house price.

Based on Cheong et al. (2011) research, there was a direct correlation between market volatility and the real estate industry, which peaked during the 2008 financial crisis. If declining house prices coincide with the global economic crisis, the impact will be worse. Real economic activity is impacted by the worldwide housing demand shock spillovers in a global environment (Cesa-Bianchi, 2013), but the response in developed and emerging economies differs, with essentially no direct impact in the case of emerging nations.

The construction industry's non-performing financing (NPF) proportion, which ranks third after the processing industry (0.44%) and wholesale and retail traders (0.71%), seems to be consistent with funding quantities. While Islamic banks have had a bigger part in the construction industry than conventional banks over the last seven years, there have been notable changes in their net profit margin.

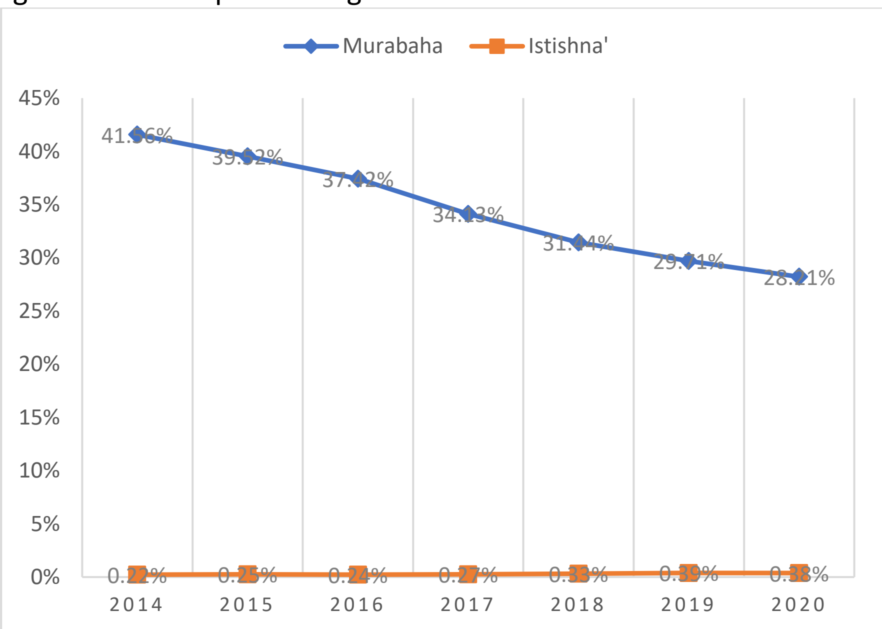

Figure 2. The Scheme of 'Aqad in Sharia Banking Comparing Murabahah and Istishna'(Percentage of Total Assets)
Source: OJK (2021)

Istishna' is among the least adopted contracts Islamic banks use in their agreements with producers and buyers (Figure 2). Compared to others, istishna's portion in Islamic banking financing is always less than 1 percent. Based on OJK data from 2010 to 2023 on selected significant Islamic banks in Indonesia, on average, the portion is around 0,18% of total financing (OJK, 2024).

There hasn't been much in-depth research done on Istishna, mostly in the construction business. The relationship between istishna' and the construction industry in delivering affordable housing through Islamic banking mechanisms is to be urgently explored. The dominant position of IBs when deciding which contract is most suitable for funding makes them prefer prioritising their interests over public or partner conditions. It will, consequently, disadvantage other parties in the homeownership financing scheme, including the construction industry and the end user, who will get the higher price. It contradicts the Public Interest Theory (Baker, 2005), which says that the public should be protected from harmful decisions and benefit the benefit at large. Therefore, it needs to evaluate the current position of the contract's composition in the IBs, mainly Istishna's position.

By evaluating the existing position of IBs' contract (aqad), using the Istishna' issue in the context of the construction industry, the study tries to show how the empirical-based result of the correlation between Istishna' and IBs' risk and performance, including its contribution to the residential property prices.

The study contributes in two ways: theoretical and practical aspects. The study orients IBs' performance evaluation to the long-term impact of IBs' contract preferences based on the public interest framework, while the existing literature on IB studies was dominated by short-term evaluation. It is highly related to the maqashid sharia, the ultimate goal of Islamic values, which is the protection of wealth (Fitria et al., 2022; Siddiqui et al., 2019) through forming the property prices fairly.

Among these settings is exploring the relationship between IBs' contracts and profitability, performance, risk, efficiency, countercyclical issues, and so forth. In this case, the shareholders' perspective remains dominantly used as a conceptual framework. Furthermore, the IBs' performance tends to be compared with conventional banks, which may lead to a pseudo-game and a disoriented IB pathway.

In the practical aspect, the study provides empirical evidence to policymakers for developing policies for society that are well-balanced for all stakeholders, specifically in forming regulations and frameworks governing Islamic banks and the property market. How the optimum relationship among the regulator, Islamic banks, and the construction industry interacts in harmony to deliver affordable housing for the end user remains underexplored. The study presents the connection between IBs' contracts in comparison to property prices being formed.

Literature Review

Prior research has thoroughly investigated how different contract types affect the profitability of Islamic Banks (IBs), aiming to identify direct or indirect effects (Belkhaoui et al., 2020; Salleh et al., 2021; Widarjono et al., 2025). Most of IB's contracts have been explored in correlation with the institutional profitability (Ar Rumaishaa & Zamzami, 2022; Widarjono et al., 2025), performance (Eljelly & Abdelgadir Elobeed, 2013; Nawaz & Haniffa, 2017), risk (Abdullah, 2019; Mutamimah & Saputri, 2023; Widarjono et al., 2022), efficiency (Belkhaoui et al., 2020), stability (Beck et al., 2013; Risfandy et al., 2022), and macroeconomic issues (Soedarmono & Yusgiantoro, 2023a). The study extends this limited scope to the wider beneficiaries of IBs, particularly concerning housing issues.

There are variations of risk channels via the type of contracts in IBs. The past studies have extensively explored various IBs' agreement with institutional indicators. Although Musharakah does not show procyclical behaviour, Murabahah and Istishna aqad in consumption finance contracts have contributed to the countercyclical trend of the Islamic banking business (Soedarmono & Yusgiantoro, 2023b). This study also shows that the ijarah contract, a model of the leasing agreement, is more procyclical, the mudharabah contract, a profitable financing scheme in Islamic banks, is less affected by the countercyclical pattern, and the *qardh* contract, a contract without a margin payment, is unaffected by changes in economic growth. At the Indonesian Islamic Bank, the financial scheme has a distinct effect on the financial risk.

According to Mutamimah & Saputri (2023) musharakah does not influence the risk associated with Islamic bank financing, mudharabah has a negative effect, and murabahah financing has a favourable effect. Remarkably, Koh et al. (2022) revealed that Malaysian Islamic banks are, on the whole, riskier than conventional banks, yet the difference appears to have closed recently. However, according to Warninda et al. (2019), there is no difference in risk between musharakah and mudharabah contracts. Both have a reverse U-shaped, non-linear effect on the credit risk of Islamic banks, particularly concerning *musyarakah* funding.

Regarding this matter, various studies have produced conflicting results. Almsafir & Alsmadi (2014) show that murabahah contracts contribute to equilibrium more quickly than the interest rate in the context of the financial crisis. The impact of istishna' and murabahah financing on Indonesia's Islamic commercial banks' net profits varies. Empirical research by Ar Rumaishaa & Zamzami (2022) finds that istishna does not influence the net profit of Indonesian Islamic commercial banks, while murabahah has a positive effect. According to empirical research, several elements, including perceived company viability, country laws, customer fairness, and product attributes, are important considerations in contract agreements between financial institutions and their clients in Indonesia (Wulandari et al., 2016).

Islamic Financial Schemes

In Islamic schemes, developers can choose to fund housing projects directly or indirectly through banking or financing institutions. Based on their orientation, Islamic agreements are categorised into four different types, as shown in Table 1.

In Islam, there are two types of agreement: tijariah, which is for-profit, and tabaru'at, which is not-for-profit (Faiz, 2020). Based on Alamad's (2019) explanation, there are two types of akad or transaction possibilities involved in real estate or housing projects: equity-based contracts and sale-based contracts.

Table 1
Types of Islamic Agreements

No	Types	Covers
1	Equity-based contracts	Musharaka (partnership), mudharaba (profit sharing), wakala investment (agency), mugharasah musaqah muzar'a (labour and materials profit sharing-based agricultural financing)
2	Sale-based contracts	Murabahah (credit sale), istishna (manufacturing sale contract), salam (forward sale), ijarah (lease)
3	Debt-based contracts	Qard (loan without benefit), Amanah (trust), wadia (safe keeping)
4	Charitable contracts	Takaful (cooperative financial contributions), waqf (endowment)

Source: Alamad (2019)

The financial capability of customers is certainly related to their income and interest rate conditions. Based on Rahmawati and Rukmana's (2022b) study, the increasing 1% of property loans will contribute to the rise of property prices in the long run, while the housing credit instalment has reached 80% up to 400% of the average revenue of the working class.

Istishna'

Istishna' is described as a contract of sale of specified items to be manufactured or constructed, with an obligation on the part of the manufacturer or builder (contractor) to deliver them to the customer upon completion (AAOIFI, 2015). A similar definition is given by the IAI Sharia Accounting Committee. Financial Accounting Standard (SAK) released by Sharia Committee of Indonesian Accountant Chartered (IAI) described Istishna' as a sale and buy aqad in the form of a specific good manufactured with certain agreed criteria and requirements between the order (buyer, mustashni') and the seller (manufacturer, shani').

Compared to other contract schemes, istishna' has several eminences, specifically when relating to the housing and property industries. It is appropriate for the construction and infrastructure industries, mainly in the property. These industries are categorized as long-term projects, conducting a capital-intensive business since they need a huge amount of capital to start the project. In Indonesia, several property developers have applied the istishna' contract to their products, mainly home ownership credit. Rhosyidy (2019) has critically evaluated the implementation of istishna' aqad using a case study in Jember, Indonesia, for sharia compliance issue alignment. As a new wave in property ownership mechanisms, Istishna still faces numerous issues in terms of Sharia compliance, technical aspects, product knowledge, customer awareness, legal aspects, and more. Istishna' also aligns with manufacturing industries' contracts, including furniture and home appliances (Luthfi et al., 2021).

Istishna' delivers real profit-loss sharing in the sale-based contract in Islamic aqad, which is fairer for the property industries. It contradicts Salam Aqad in terms of risk management and uncertainty issues. The developers have fully controlled their own cash flow and operational costs on the specific product order, which is better financial control management for the corporation. Otherwise, the Islamic banks and customers could manage their payments flexibly based on the agreed-upon detailed contract. The reason why Islamic Banks and IFIs tend to avoid using it is because of perceived risk, stringent standards, additional legal burden, and limited usage.

Istishna's eminence in risk mitigation, linking pricing to project completion, and flexibility in its payment structure are among its strengths. However, the study explores how the advantages of it remain limited, possibly less in practice as a higher IFI bargaining position.

Property and Construction Industries

The sector that contributes the most to the nation's economic system is property, as seen in Figure 3. Corresponding to World Bank data, during the last ten years, from 2010 to the end, the number of the property sector, which often includes the industry, has expanded continuously by about two to six percent per year (Figure 4). The industry's value (including construction) was US$461 billion last year, a modest decline from US$474 billion the year before. This decline may have been caused by the pandemic.

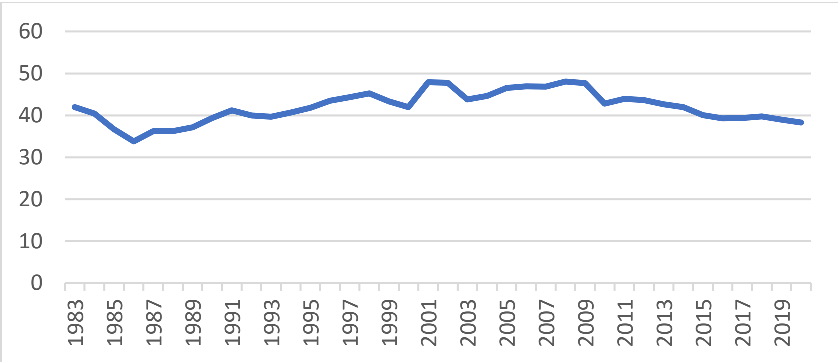

Figure 3. Industry contribution (including construction), value added (annual % growth)
Source: The World Bank (2022)

Due to a number of several factors, there is a growing demand for Sharia property, particularly in housing. According to Al Qorni et al. (2020), Islamic property buying decisions are influenced by three factors: pricing, environment, and religiosity. Regarding the supply side, instead of creating the designs of Sharia buildings for private residential properties, real estate developers for Sharia housing goods typically concentrate on offering Sharia amenities for public use and other Islamic activities in their neighbourhoods (Rahadi et al., 2021). It indicates that, at least for the time being, the main Islamic character does not depend on the particular form that Sharia property figures take. In contrast to traditional property, facilities and any kind of physical Islamic attributes are still crucial, regardless of the financial method that is employed.

Since housing has become a necessity for everyone and is the most expensive good compared to others, it is one of the notable economic performance indicators. In both affluent and emerging nations, the home must make a substantial economic contribution. Since a house is the most expensive asset, financing organisations are typically required to support the purchase.

Residential property prices (RPP) represent much information about plentiful economic indicators, from macro and micro aspects. Some of the significant positions can be seen from many attributes related to it, including economic growth and stability (Isyanto et al., 2022), as key points in targeting the inflation set by the central bank in monetary policy, household wealth and spending indicators (Pan et al., 2023), financial sector stability parameters (Tissot, 2014), and other critical attributions in economic, social, and political areas.

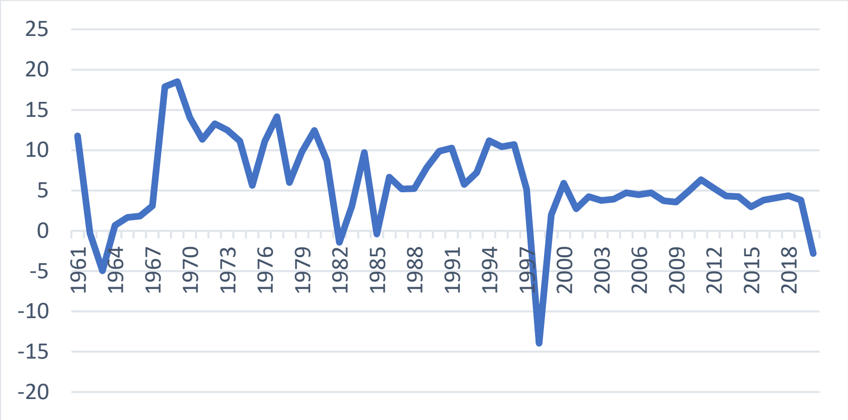

Figure 4. Industry contribution (including construction), value added (annual % growth)
Source: OJK (2021; The World Bank (2022)

We learned much about the importance of property prices and their market relationships during the 2008 financial crisis (Bofinger et al., 2013; Cheong et al., 2011). According to Kivedal (2013) research, the housing market experienced an explosive bubble before the financial crisis. The primary cause of the crisis, even with the interest rate limited and falling, was the rising cost of housing. According to Gustafsson et al. (2016), a 20% drop in property values in Sweden can have a recession-like effect on household consumption and joblessness.

Conceptual Framework

How to compare the Istishna's contribution better, whether to the IBs' entities or the property price shaping, can be seen in Figure 5. The stakeholder theory explains the impact of istishna' on the performance and risk of IBs. While investigating the effect of istishna' on property prices is performed, the public theory is the most appropriate concept.

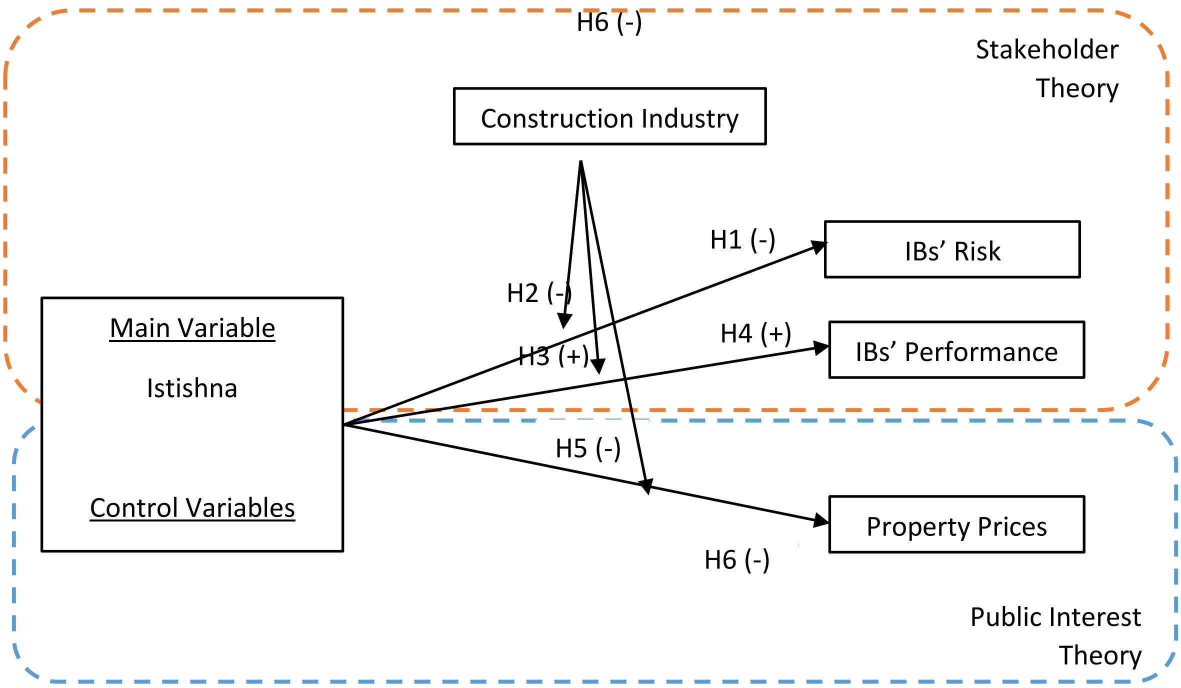

Figure 5 Research Conceptual Framework
Source: author's conception

A company should create value for all its stakeholders, any group or individual related to the organisation's objectives, including employees, customers, suppliers, communities, and others who have a stake in the business, not just shareholders (Freeman, 2010). It helps the entities achieve long-term sustainability and success by balancing and aligning the various stakeholders' interests when making decisions (Parmar et al., 2010).

In their business decision-making, IBs should consider stakeholders when allocating the schemes: which contract, to whom, how much, and proposing the cost and prices. It's all covered in stakeholder theory. However, the theory still centres on institutional interest, which aligns with the stakeholders. Sometimes conflicting interests among stakeholders cannot be accommodated by the management (Rutherford, 2016); thus, the reporting remains questionable whether legitimation of a paradox interest (Pinto, 2019) or a kind of obfuscation (Sinnewe et al., 2021). Therefore, the public interest point of view needs to be used as an alternative counterbalancing.

The definition of public interest centred on the institutions' objectives alignment makes the self-interest orientation dominant over society, termed as rhetorical claims by Baker (2005). However, in the public accountants' context, it has a positive side, specifically releasing the bonding between the accountants and their clients, which possibly makes the opinion biased. This definition aligns with the previous manuscript by Parker (1987), who defines public interest as the interest of third parties who rely on the opinions and advice delivered by the members of the accounting profession.

The most advisable definition of public interest may come from the International Federation of Accountants (IFAC) as guidance to the standard-setting process. IFAC defines public interest as the net benefits for, and procedural rigour employed on behalf of, all society in relation to any action, decision, or policy (Williams, 2013). Rather than discuss a definition, though contested or debated, Sorauf (1957) identified some indicators or classifications that cover the public interest as commonly held value, as the wise or superior interest, as a moral imperative, as a balance of interest, including something undefined.

The public interest, defined by Bozeman, p. (2007, p. 12), refers to the outcomes best serving the long-run survival and well-being of a social collective constructed as a "public". Bozeman (2007) has resurrected and deeply constructed the term public interest theory, including public value, as a counterbalancing of economic individualism widely spread in the public policy and public management areas. In the public finance study, Musgrave (1959) defined public interest as the government's role in addressing market failures, mainly in allocating resources for public goods, redistributing income, and stabilising the economy.

Contrary to the self and institutional interest in deciding a policy, IBs should consider the public interest orientation in the financial schemes' product variety to all their partners. It's mandated in regulation (Bakar et al., 2018; Hassan & Nasir, 2019; Nurdin, 2018); conceptual, mainly in maqashid al syariah theoretical frameworks (Mergaliyev et al., 2021); and professional standards, for instance, AAOIFI standards (Saleem & Mansor, 2020).

Hypothesis Development

In researching NPF determinants in Islamic banks, Yuwannita et al. (2022) found that foreign direct investment (FDI) positively impacts NPF, while capital adequacy ratio (CAR) and return ratio (RR) negatively impact NPF in the Indonesian case. Meanwhile, in Malaysia, FDI, CAR, and RR affect NPF in a positive direction.

Every programme or kind of product offered by Islamic banks generally has a favourable impact on the NPF indicator; the more items offered, the bigger the influence on the NPF position (Wahyuni & Azmi, 2019). Fianto et al. (2019) found that the NPF in microfinance institutions was influenced by age, gender, occupation, and contract type. Age has a negative direction in this study, meaning that older clients are more likely than younger clients to perform NPF. Gender-related variables indicate that men are more likely than women to undertake NPF. It's interesting to note that the employment variable reveals that clients in the formal sector frequently fail to meet their financing commitments. The last variable shows that profit and loss sharing (PLS) contracts are riskier than non-PLS contracts.

Wasiaturrahma et al. (2020a) have carried out a study on the subject of Islamic cooperatives in West Java, Indonesia. This study examines the effects of size, NPF, number of branches, grants, financial leverage, and age on the outreach of Islamic cooperatives. The contacts and relationships that microfinance institutions have with internal and external stakeholders that involve contributing to social welfare are referred to as outreach in this study. This study's intriguing conclusion is that size has a detrimental effect. This means that when Islamic cooperatives grow in size, they tend to provide less financial assistance to the underprivileged, especially if those funds originate from outside sources like banks or financial organisations. Islamic cooperatives with modest asset values are more likely to score highly in the outreach category. Regardless of the favourable effects of age, grants, number of branches, and financial leverage on the outreach score, the NPF variable reduces IBs' outreach.

H1: The adoption of Istishna's contract reduces non-performing financing in Islamic banks.

Istishna' aqad is mostly used by the construction and manufacturing industries (Rhosyidy, 2019). The observation from Mustori & Rohmani's (2022) research on the istishna' agreement' implementation on Sharia housing revealed that there are four methods of payment: prepayment, payment upon delivery of goods, payment during the house-building process, and deferred payment for a specific time. It means the construction industry has healthy financial conditions in the cash flow aspect, which contributes to the decreasing IBIs' NPF.

H2: Construction industries enhance the effect of Istishna' contract on the NPF of IBs

Rottke & Gentgen (2008) have addressed how to manage non-performing real estate loans in troubled debt cycles. It must ascertain the real estate collateral's attributes as well as the situation of the underlying credit engagement. Rottke & Gentgen (2008) recommend using the transaction cost economics schemes to undertake exercise management through their own departments (integrative method) or opting to outsource the workout to third parties (disintegrative approach). The other options in the disintegrative scheme include selling the bad loans exposure to the external investor. The istishna financing model used by Islamic banks in Malaysia and Indonesia is influenced by some factors, including equity, deposit variability, and the increase of non-performing financing (NPF), which has a positive orientation but also a negative direction due to NPF itself (Jasin et al., 2019).

The institutional indicator towards a particular set of objectives that must be met is referred to as performance. Both financial and nonfinancial characteristics are possible; these are frequently thought of as two sides of the same coin. In general, revenue is the most often used measure of company performance, including in the finance and banking sectors. This study focuses on the resilience parameter's role in the company's revenue generation.

In banking and financial organisations, resilience is defined by several measurable factors, including increasing profit achievement (Ulina & Majid, 2020), independence in using one's own resources and earning trust (Farooq & Zaheer, 2015), risk and profit (Bahemia, 2019), risk and stability features (Abedifar et al., 2013; Faiz, 2010) (, and other factors. When comparing the resilience determinants of Sharia property developers to conventional property data, fit parameters are used as an alternative.

In the research conducted by Nisra & Ramadhan (2021), there was no correlation between istishna' and Islamic Banks' financial performance. The phenomenon is possibly caused by the size of the istishna scheme, which is commonly less than others in the Islamic banks' funding allocation.
H3: The adoption of Istishna's contract improves Islamic banks' performance

As a capital-intensive sector, property is closely related to financial institutions. Using the Australian banking and property sectors as an observation, Pais & Stork (2011) found a close relationship between property and banking. Construction industries will contribute to the relationship between Istishna's and IBIs' performance. The greater the allocation of istishna' aqad to the construction industry, the stronger the relationship between istishna' and IBIs' performance.
H4: Construction industries enhance the effect of Istishna' contract on the performance of IBs

Trofimov et al. (2018) conducted research exploring the relationship between macroeconomic and demographic determinants and residential property prices in Malaysia. It found that residential property prices are positively impacted by demographics, population growth, low interest rates, and rising consumer prices. Whereas household income and level of GDP didn't contribute to the residential property prices.

In the global context, research from Tripathi (2019) confirmed that the rent, price-to-income ratio, price-to-rent ratio, urbanization, per-capita GDP, inflation, the share of the population aged 15-64, GDP growth rate, broad money, and real exchange rate positively affect real house prices.

Istishna' facilitates the construction industries to arrange their cash flow and manage their operations flexibly, which gives them space to allocate resources and address uncertainties. The specific terms of the contract, product, and service features that are customised to the request, and periodic payments, give the construction manager the ability to reduce uncertainty costs in forming the product price. It will bring down the final product price. The higher product price comes from the uncertain circumstances faced by the entities (Oh et al.,

2016). To reduce transaction costs and minimise uncertainties, options could include fixing the engineering design, fair risk allocation, and contractor capacity to detect non-normal patterns (Guo et al., 2016).
H5: The adoption of istishna's contract reduces residential property prices

Though istishna' mostly applies to the property industries, the allocation of construction corporations is significant in the property industries, which remains limited in the IBIs' financing portion. It is simply said that the cost of construction is the largest material expenditure in the property industry. The more allocation to the construction industry, the stronger the relationship between istishna' aqad and residential prices. The construction industry is placed in the third portion of IBIs' financing, whereas murabahah aqad is a dominant part of IBIs' schemes. Murabahah aqad tends to benefit the customer more and seems to have an end-target orientation, which is not directly lucrative for the construction corporation.
H6: Construction industries enhance the effect of Istishna' contract on residential property prices

Methods
The study employed a purposive sampling method for conducting the analysis. The criteria are the Islamic commercial banks (ICBs) category and data availability in the OJK (the Financial Authority Services of Indonesia) from 2010 to 2023. ICBs contribute dominantly to the IBs' assets, finance, and depositors, including a comprehensive range of services (Julia & Kassim, 2020; Nasim et al., 2025). Using data from 2010 due to stability issues after the global financial crisis. After eliminating ICBs with uncompleted data, there are 12 IBs whose data can be further processed. All financial data is gathered from the OJK website, while residential property prices are obtained from the Bank for International Settlements (BIS).

The main observation of the research is Istishna's contract, which explores its effect on risk, performance, and residential property price, and how the construction industry moderates the relationship.

We use NPF as bank risk proxies (Henriques et al., 2020; Soedarmono & Yusgiantoro, 2023a; Wasiaturrahma et al., 2020b), ROE as bank performance indicators (Joaqui-Barandica et al., 2022; Moussu & Petit-Romec, 2017; Pennacchi & Santos, 2021), and residential property prices as a measure of property prices (D Trofimov et al., 2018; Isyanto et al., 2022).
The study's control variable is equity (Durand & Le Quang, 2022). If financing schemes are reflected in IBs' assets, liabilities, and equity are part of IBs' passive. This will give better information about the IBS's determinants of risk, performance, and property price shaping. IBs' financial contract schemes are associated with risk (Al Rahahleh et al., 2019; Zins & Weill, 2017) and performance (Salleh et al., 2021).

The margin of IBs' contracts indicates their preference for aqad types, risk aversion, and competitiveness (Khan et al., 2021; Malim & Normalini, 2018). We use it as part of the independent variables to observe how the main variables differ in terms of risk, performance, and property price shaping relationships. We observe the industry-specific variables to confirm how the differences among industries funded by IBs toward the study objectives (Alfadli & Rjoub, 2020).

To test the hypothesis proposed, we use the following regressions as our model:

$$NPF_{i,t} = \sigma_1 + \beta_1 Is_{i,t} + \sum_{k=1}^{15} \delta_k\, Ck_{i,t} + \varepsilon_{1,t} \quad (1)$$

$$NPF_{i,t} = \sigma_1 + \beta_1 Is_{i,t} + \beta_2 Is_{i,t} * Ks_{i,t} + \sum_{k=1}^{15} \delta_k\, Ck_{i,t} + \varepsilon_{1,t} \quad (2)$$

$$PERF_{i,t} = \sigma_1 + \beta_1 Is_{i,t} + \sum_{k=1}^{15} \delta_k\, Ck_{i,t} + \varepsilon_{1,t} \quad (3)$$

$$PERF_{i,t} = \sigma_1 + \beta_1 Is_{i,t} + \beta_2 Is_{i,t} * Ks_{i,t} + \sum_{k=1}^{15} \delta_k\, Ck_{i,t} + \varepsilon_{1,t} \quad (4)$$

$$RPP_{i,t} = \sigma_1 + \beta_1 Is_{i,t} + \sum_{k=1}^{15} \delta_k\, Ck_{i,t} + \varepsilon_{1,t} \quad (5)$$

$$RPP_{i,t} = \sigma_1 + \beta_1 Is_{i,t} + \beta_2 Is_{i,t} * Ks_{i,t} + \sum_{k=1}^{15} \delta_k\, Ck_{i,t} + \varepsilon_{1,t} \quad (6)$$

Where the subscripts i and t represent banks and years, respectively, and $\varepsilon_{\mathrm{i},t}$ denotes the stochastic error term. LNPF denotes non-performing finance, PERF denotes performance, RPP denotes residential property prices, Is denotes the istishna' contract, Ks denotes the construction industry, and Ck denotes controlling variables. 'Controlling variables' refers to the contract possibly used by Islamic banks in Indonesia, including murabahah (Mr), musyarakah (Ms), mudharabah (Md), qard (Qd), ujrah (Uj), ijarah (Ij), and equity (Ek). For comparing among the business sectors on the observation, the study conducted an additional test considering wholesale and retail trade (Pd), construction industry (Ks), processing industry (In), agriculture (Pt), and mining and quarrying (Ptb).

Each model assesses the proposed hypothesis. The examination result can be seen in the coefficient of istishna' variable (Is) for H1, H3, and H5, and the coefficient of the interaction between Istishna' and the construction industry (Is * Ks) for H2, H4, and H6.

For estimation, the study employs Generalized Least Squares (GLS). GLS is an advanced statistical approach that handles some Ordinary Least Squares (OLS) limitations requiring rigid statistical assumptions. Some conditions are solved by GLS when OLS faces classical assumption problems, including heteroskedasticity and autocorrelation (Yang et al., 2024). When a study uses panel data, it is recommended to employ GLS, which produces Best Linear Unbiased Estimators (BLUE).

Findings and Discussion

Table 2 presents a summary of descriptive statistics results for the observed variables in the study. Not all aqad were conducted in each IB. It depends on the IBs' orientations and positioning. Murabahah aqad is used in all observed IBs, while other aqad vary in one or more are not applied in their funding scheme. Among IBs' financial schemes—including Uj, Ij, Qd, Is, Ms, and Md—murabahah (Mr) is the most frequently used, with an average value of 14.75 (mean) and 14.97 (median), and the highest value of 19.73. On the contrary, Istishna (Is) is the least used in IBs' contracts, with an average of 7.30 and an optimum value of 11.61. The musyarakah (Ms) aqad ranks second—around 38% portion--after murabahah (Mr)—more than 49% distribution—with a mean of 5.89, a median of 14.02, and a maximum of 18.30. The pattern seems similar for the margin—MgIj, MgIs, MgMd, MgMr, MgMs—case: murabahah dominated, followed by musyarakah. IBs finance various business sectors with the order, on average (median), Pd, Ks, In, Pt, Tr, and Ptb are 10.15 (10.33), 9.71 (9.60), 9.59 (9.91), 9.00 (9.09), and 8.47 (8.63), respectively. The IB's performance (ROE) is diverse, ranging from 1.09 (min) to 6.06 (max), with an average of 5.88 (mean) and 5.90 (median). The NFP and RPP have an average of 5.89 and 6.21.

Table 2
Descriptive Statistics

	Mean	Median	Min	Max	Std. Dev.
Mr (*murabahah*)	14.75	14.92	5.89	18.73	2.07
Is (*istishna*)	7.30	5.89	5.89	11.61	1.86
Qd (*qard*)	9.67	9.38	5.89	16.24	3.59
Md (*mudharabah*)	10.79	12.32	5.89	15.04	3.37
Ms (*musyarakah*)	11.98	14.02	5.89	18.30	4.40
Ij (*ijarah*)	8.42	7.58	5.89	14.07	2.63
Uj (*ujrah*)	7.13	5.89	5.89	13.78	2.27
MgMr (margin of *murabahah*)	12.46	12.58	5.89	16.35	2.09
MgIs (margin of *istishna*)	6.47	5.89	5.89	9.43	0.90
MgMd (margin of *mudharabah*)	9.59	10.12	5.89	13.36	2.29
MgMs (margin of *musyarakat*)	11.13	11.80	5.89	15.58	2.61
MgIj (margin of *ijarah*)	6.92	5.89	5.89	12.44	1.88
Ek (equity)	14.10	13.97	11.71	17.47	1.14
ROE (return on equity)	5.88	5.90	1.90	6.06	0.32
NPF (non-performing financing)	5.89	5.89	5.89	5.95	0.01
RPP (residential property prices)	6.21	6.22	6.13	6.26	0.04
Pd (wholesale and retail trade)	10.15	10.33	8.98	10.92	0.58
Ks (construction)	9.71	9.60	8.42	10.64	0.72
In (processing industry)	9.59	9.91	7.90	10.49	0.80
Pt (agriculture)	9.00	9.09	7.66	10.27	0.79
Ptb (mining and quarrying)	8.47	8.63	7.30	9.16	0.52

Source: processed data

Baseline Results

The main observation result is provided in Table 4. All variable controls significantly influence the NPF with variance directions: murabahah (Mr), musyarakah (Ms), ujrah (Uj), and qardh (Qd) affect the NPF positively, while mudharabah (Md) and equity (Ek) negatively. However, Istishna (Is) did not affect the NPF either directly or moderately by the construction industry. It indicates that the hypotheses H1 and H2 were not supported empirically. The information is available in columns 1 and 2 of Table 4.

For the second examination, only *musyarakah* (Ms) and equity (Ek) influence the IBs' performance. It can be seen in columns 3 and 4. The former affects positively, and the latter influences negatively. It means that adopting the musyarakah aqad implies IBs' performance decreases, contrary to the amount of equity that increases IBs' performance. The rest of the variables are found to have no impact on the IBs' performance, including istishna'in, both direct and indirect relationships, moderated by the construction industry. Accordingly, the two hypotheses, H3 and H4, concerning the positive effect of Istishna on IBs' performance are not supported. These findings align with previous studies, for instance, Sari & Anshori (2017) and Ar Rumaishaa & Zamzami (2022), who found no effect of Istishna' on the IBs' performance.

The third part of the exploration focuses on the long-term relationship between Istishna' and residential property prices (RPP). Based on columns 5 and 6, it can be seen that musyarakah (Ms) and equity (Ek) are positively influencing RPP, while qardh (Qd) and Istishna' (Is) impact negatively. The rest of the variables did not significantly impact RPP. Implementing Istishna' and qard aqad in IBs contributes to the reduction of property prices, contrary to the musyarakah. This finding indicates H5 is supported, while H6 is not supported. The construction industry's presence plays a moderating role between Istishna' and residential property prices; however, it is in the opposite direction.

Table 3
Results from the Baseline Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
_Cosnt	5.906329***	5.907929***	5.137959***	5.082413***	5.888159***	6.134124***
	(0.003915)	(0.004132)	(0.380557)	(0.396036)	(0.045086)	(0.013762)
Mr	0.000499**	0.000536***	-0.011306	-0.012606	-0.000195	0.000289
	(0.000193)	(0.000195)	(0.014350)	(0.015483)	(0.001881)	(0.000714)
Ms	0.000449***	0.000389***	-0.016279**	-0.014201*	0.004904***	0.002099***
	(0.000087)	(0.000104)	(0.008165)	(0.008483)	(0.000616)	(0.000343)
Md	-0.000431***	-0.000403***	0.000035	-0.000946	-0.000316	-0.001601***
	(0.000106)	(0.000109)	(0.008886)	(0.009114)	(0.000653)	(0.000356)
Uj	0.000413**	0.000384**	-0.008348	-0.007335	0.000501	0.001200**
	(0.000161)	(0.000164)	(0.017531)	(0.017319)	(0.001252)	(0.000500)
Qd	0.000441***	0.000483***	0.011404	0.009946	-0.002753**	-0.002289***
	(0.000111)	(0.000118)	(0.010361)	(0.010271)	(0.001106)	(0.000399)
Ek	-0.002361***	-0.002551***	0.070772**	0.077378*	0.025511***	0.004661***
	(0.000333)	(0.000369)	(0.031342)	(0.036794)	(0.003016)	(0.001226)
Is	0.000191	-0.000560	0.006854	0.032922	-0.009236***	-0.058030***
	(0.000163)	(0.000683)	(0.012973)	(0.051226)	(0.001785)	(0.002279)
Is*Ks	-	0.000089	-	-0.003073	-	0.006186***
		(0.000079		(0.006302)		(0.000264)
Obs	155	155	155	155	155	155
R-squared	0.429529	0.433907	0.066149	0.067010	0.878323	0.942983
Adj R-squared	0.402364	0.402888	0.021680	0.015887	0.862218	0.939859
Model	RE	RE	RE	RE	FE	FE

Note: This table presents the research model equation. *, **, *** indicates significance at the level of 10%. 5% and 1% level, respectively. Standard errors are in parentheses.

From the business entity's perspective, it can be explained by the high-cost transaction attribution of Istishna's aqad. The critical issue when using Istishna's contract is the higher cost to execute it, besides legal and impractical concerns. Furthermore, from the customer perspective, the research findings from Rosdiana et al. (2021) confirmed no impact of using Istishna's contract on the customer's intention to buy property products using this scheme.

It is confirmed that Istishna' has negative effects on the residential property price, as shown in Table 4. However, when interacting with the construction industry, the direction changes to the opposite. The biggest part of IBs' financing is murabahah contracts, and the construction industry's third position in IBs' funding may explain this fact. Instead of using the Istishna' scheme, which could reduce the residential property price, murabahah contracts shift the construction industry to cope with uncertainty, which contributes to the increasing cost of property products.

From the supply-side perspective, property prices are empirically affected by the interest rate, as shown in many previous studies (Harun et al., 2023; Isyanto et al., 2022; Tham et al., 2022). It means the financial sector's dominance in configuring property prices is the main price driver in the construction industry. If the supply-side mechanism can be changed to Islamic contracts through Istishna', for instance, it is possible to downsize property prices in the market. Indonesian property developers have shown different capital behaviour in facing business cycles. Based on Indomo & Lubis's (2023) research, property developers tend to search for an optimal capital structure by changing the debt degree, mainly in the peak session. However, when facing tough times, the corporation prioritises internal financing over debt. It can be interpreted that the external condition, the institutional pressure from financial institutions, including the products and instruments offered, will be responded to by the construction industry by transmitting the risk and cost to the consumer via the final product price. The higher the pressure from financial institutions, the more costs will be charged to consumers.

Robustness Checks
This work conducts a robustness check by modifying the regressor to consider whether the results are altered (Lu & White, 2014). We employ an alternative measurement for istishna' aqad and competing contracts—*murabahah, musyarakah*, and *mudharabah*—with their margin. The margin of the contract is a critical issue when determining which contract will be adopted and prioritised in the financial distribution schemes of IBs. It reflects profitability, cost-effectiveness, competitiveness, service simplicity, and other issues of contract types. Table 4 shows the use of alternative measurement using a margin of aqad.

Table 4
Results from Regressions with an Alternative Measure of IBs' Contracts

	(1)	(2)	(3)	(4)	(5)	(6)
_Const	5.893635*** (0.001995)	5.892890*** (0.002548)	5.702137*** (0.105541)	5.478441*** (0.160427)	5.788367*** (0.039322)	6.110570*** (0.024529)
MgMr	0.000059 (0.000122)	0.000075 (0.000133)	0.005450 (0.006216)	0.005353 (0.007552)	-0.003321 (0.002093)	-0.000251 (0.001034)
MgMd	0.000039 (0.000079)	0.000053 (0.000080)	0.003196 (0.004709)	0.001309 (0.005379)	0.004107** (0.001751)	0.003256*** (0.001007)
MgMs	0.000178* (0.000090)	0.000208** (0.000098)	-0.001448 (0.004168)	0.002450 (0.004219)	0.005653*** (0.001351)	0.001446* (0.000735)
MgIj	-0.000304*** (0.000072)	-0.000316*** (0.000072)	0.002619 (0.001734)	0.000378 (0.002540)	-0.004334*** (0.000742)	-0.002057*** (0.000432)
Ek	-0.000239 (0.000147)	-0.000117 (0.000236)	-0.001817 (0.008446)	0.019828 (0.014757)	0.036216*** (0.002773)	0.003306 (0.002071)

Qd	0.000063 (0.000084)	0.000075 (0.000087)	0.003937 (0.003371)	0.008112* (0.004731)	-0.000263 (0.001369)	-0.000559 (0.000610)
Uj	0.000142* (0.000085)	0.000140 (0.000085)	-0.002135 (0.001873)	-0.003067 (0.002562)	0.000771 (0.000934)	0.001251** (0.000490)
Mgis	0.000026 (0.000169)	0.000243 (0.000361)	0.011687* (0.006314)	0.052308*** (0.018704)	-0.019023*** (0.002794)	-0.073495*** (0.002809)
MgIs*Ks	-	0.000033 (0.000045))	-	-0.006184** (0.002498)	-	0.007913*** (0.000358)
Obs	155	155	155	155	155	155
R-squared	0.862276	0.862455	0.343918	0.372643	0.873000	0.964451
Adj R-squared	0.842892	0.841925	0.251580	0.279008	0.855126	0.959146
Model	FE	FE	FE	FE	FE	FE

Note: This table presents the research model equation. *, **, *** indicates significance at the level of 10%. 5% and 1% level, respectively. Standard errors are in parentheses.

The first section of the robustness exploration has different results from the baseline regression. The significant variables are only the margin of musyarakah (MgMs) and ujrah (Uj) with a positive impact, and the margin of ijarah (MgIj) in a negative way toward the NPF of IBs. However, the margin of istishna' and other variables has no impact on the NPF of IBs. The presence of the construction industry did not change the relationship between the margin of Istishna' and the NPF of IBs. The margin of istishna' did not relate to the IBs' risk, while the margin of musyarakah and ujrah improves the IBs' risk. The margin of ijarah is the only aqad that reduces the IBs' risk. The information is available in columns 1 and 2 of Table 5.

Next, column 3 shows that only the margin of Istishna has a positive impact on IBs' performance. Column 4 indicates that the construction industry moderates the relationship between the margin of Istisha' and IBs' performance in the opposite direction. Istihna' adoption may increase the IBs' performance, mainly from the marginal contribution. Lastly, columns 5 and 6 have confirmed the baseline regression that istishna' aqad reduces the property prices, and the construction industry oppositely moderates this relationship.

Further Analysis

We investigate whether the construction industries themselves contribute significantly to the IBs' risk and performance and property prices shaping than other sectors. Facing a multicollinearity issue, the additional test uses the Generalized Ridge Regression (GRR) to estimate the model (Hoerl & Kennard, 1970; Mohammadi, 2022).

Table 5 confirms that construction industries positively impact residential property prices significantly ($p < 0.01$). However, the construction industry (Ks) does not influence IBs' risk and performance. The biggest sector financed by IBs, wholesale and retail trade (Pd), does not impact IBs' risk and performance.

Table 5
Regression Results Based on the Economics Sector

	(1)	(2)	(3)	(4)	(5)	(6)
_Const	5.884599***	5.879392***	6.33140***	6.246024***	5.60464***	5.60479***
	(0.0367968)	(0.0368081)	(1.590155)	(1.600007)	(0.0251719)	(0.0253563)
In	0.0042124	0.0037343	0.0176978	0.0128031	0.0219168***	0.0217991***
	(0.0058425)	(0.0058269)	(0.2524813)	(0.2532881)	(0.0039967)	(0.004014)
Pd	0.0004878	0.0004874	0.0227587	0.0206234	0.0154874	0.0155538
	(0.0147602)	(0.0147155)	(0.6378564)	(0.6396675)	(0.0100972)	(0.0101372)
Pt	-0.0029738	-0.0024875	0.0380978	0.0406765	-0.005233	-0.005038
	(0.0053579)	(0.0053634)	(0.2315399)	(0.2331417)	(0.0036652)	(0.0036947)
Ptb	0.0031994	0.0031853	-0.1929892	-0.1866485	0.0055561	0.0055872
	(0.0059776)	(0.0059601)	(0.2583187)	(0.2590773)	(0.0040891)	(0.0041058)
Tr	-0.0004035	-0.0003604	0.0864953	0.0839912	0.0022931	0.002242
	(0.0039364)	(0.0039254)	(0.1701091)	(0.1706306)	(0.0026928)	(0.0027041)
Ks	-0.0033614	-0.0032464	-0.0364669	-0.0326925	0.0223388***	0.022209***
	(0.0063836)	(0.0063706)	(0.2758637)	(0.2769229)	(0.0043669)	(0.0043886)
Ks*Is	-	0.0000573	-	0.0008996	-	0.0000002
		(0.0000386)		(0.0016761)		(0.0000266)
Obs	155	155	155	155	155	155
R-squared	0.0695	0.0821	0.0218	0.0236	0.9855	0.9855
Adj R-squared	0.0318	0.0383	-0.0179	-0.0229	0.9849	0.9848
Model	GRR	GRR	GRR	GRR	GRR	GRR

Note: This table presents the research model equation. *, **, *** indicate significance at the level of 10%. 5% and 1% level, respectively. Standard errors are in parentheses

Conclusion

The study has examined the role of Istishna's contract and construction industry in the Islamic banks' risk and performance, and their contribution to residential property prices. In the short-term orientation context, the study strengthens previous studies that there was no relationship between Istishna' and IBs' risk and performance. In forming residential property prices, Istishna' diminished its prices. However, the construction industry, which is expected to strengthen its position, empirically changed the relationship direction. It is possible that the construction industry still uses murabahah aqad, which does not give them a better bargaining position in the funding scheme.

The construction industry, as a significant part of the economy, might not be in the optimum position against the issue of Islamic banks' financing today. The dominance of murabahah contracts likely gains the position of Islamic banks, not the construction industry. The consequence is the increasing cost that the industry charges for property products. Facing the inflexible contract and the nature of the industry—capital-intensive and long-term business—the construction industry incurs high costs in the initial business process that is fraught with uncertainty. Istishna's features fundamentally comply with the characteristics of the construction and manufacturing industries.

Implications

The study implies theoretical and practical implications. The findings revisit the existing perspective that relies on the shareholders' view of the IBs' value, mainly for specific contracts that were adopted. Existing studies intensively explore the contract type relationship with IBs' profitability, searching for a positive impact. The study expands the horizon to the broader stakeholders of IBs' beneficiaries in housing issues. The decision to adopt a contract in IBs should accommodate stakeholders' interest in a well-balanced contract. Furthermore, while past studies compare the IBs' performance indicators head-to-head with conventional banks, the study evaluates the short-term orientation of IBs' agreements on the end-user impacts. Accordingly, the policymakers need to evaluate the unstandardised contracts practice in IBs and facilitate the long-term orientation target of IBs' indicators.

The study findings have several policy implications. First, Istishna's scheme for funding should be improved in numbers, mainly for the construction industry. It will give them flexibility in managing their cash flow, thereby reducing property product prices. Second, the regulator needs to arrange a fair mechanism among industry players in delivering affordable housing through a comprehensive approach, instead of benefiting the financial institutions. The next research needs to deeply examine the connection between Aqad's cost and its earnings ability.

Limitation

The study's observation focuses on the Indonesian construction industry, which is still limitedly offered by the IBs. The comparison did not facilitate the specific issue of cash flow benefit toward the construction industry through the Istishna mechanism as proposed in the theoretical framework. Future studies may develop a rigorous model that explores the cash flow issues for the construction industry in providing housing to the end-user

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