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Bridging the Micro Small Medium Enterprises financing gap through gold pawn financing: A market sizing analysis of household gold potential in Indonesia

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ABSTRACT

Background: Indonesia's MSMEs face a persistent financing gap estimated at IDR 2,400 trillion, despite sizeable household gold assets that remain underutilized as productive financing collateral. This study quantifies the contribution potential of gold pawn financing to MSME funding through an integrated TAM–SAM–SOM market sizing framework combined with financing gap and strategic gap analysis. **Methods:** Using a quantitative descriptive approach, this research relies on secondary data and applies market sizing calculations, financing gap comparison, sensitivity and scenario analysis, and strategic gap analysis. **Findings:** TAM reaches IDR 212.28 trillion (8.8% of the financing gap); the realistically obtainable SOM is IDR 8.49 trillion (0.3%). Sensitivity analysis identifies market capture as the most critical parameter, outweighing gold ownership rates and LTV ratios. Strategic gap analysis reveals three limiting dimensions: functional orientation, institutional capacity, and policy direction. **Conclusion:** The study concludes that gold pawn financing holds strategic value as a complementary financing instrument for MSMEs, but its effectiveness depends on clearer policy alignment and product design explicitly oriented toward productive use. **Novelty/Originality of this article**: The originality of this study lies in its integrated framework combining market sizing, financing gap analysis, and strategic gap assessment to quantitatively and policy relevantly evaluate the role of gold pawn financing in MSME development.

KEYWORDS: financing gap; gold pawn financing; market sizing; MSMEs; Pegadaian.

1. Introduction

By 2025, MSMEs in Indonesia will reach 66 million entities, with the majority consisting of approximately 99 percent micro businesses, which are businesses with a maximum turnover of Rp 2 billion per year (Kementerian Koordinator Bidang Perekonomian, 2025; Muhamad, 2023). In terms of contribution, MSMEs account for more than 61% of GDP and employ 97% of the workforce. This shows that MSMEs play an important role in the economy, as evidenced during the COVID-19 pandemic when they served as the backbone of the national economy and the driving force of the local economy (Kholifah & Andini, 2024; Hapsari et al., 2024). Their distinctive characteristics including diverse product categories such as food, handicrafts, and clothing, as well as broad geographic distribution across regions, further amplify their role as engines of local economic growth (Sinaga & Sitorus, 2023).

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Despite its potential, challenges remain in developing MSMEs, particularly in terms of the financing gap, which is a situation where business capital needs are not being met. This occurs due to barriers to accessing finance, one of which is caused by legal issues. The majority of MSMEs are still informal (Anam, 2025) thereby affecting opportunities for financial access (Saifurrahman & Kassim, 2025). MSMEs are often considered too large to access finance from microfinance institutions and, on the other hand, too small to access finance from formal institutions such as banks (Lu et al., 2022). Susana et al. (2022) and Bui et al. (2022) stating that the factors hindering the achievement of MSME financial inclusion are asymmetric information between MSMEs and financial institutions, high transaction costs, lack of financial education among MSMEs players, lack of trust in financial institutions, and other factors.

Solving the financing gap is key to developing MSMEs, as mentioned in almost all of the Sustainable Development Goals (SDGs), where equitable access to finance is the solution to ending poverty, protecting the planet, and ensuring prosperity for all (Azis, 2024). Research data conducted by EY Parthenon projects that the total financing needs of MSMEs in Indonesia in 2026 could reach IDR 4,300 trillion, while the available financing supply capacity is estimated to be only around IDR 1,900 trillion, resulting in a significant financing gap (Rahma, 2024). In addition, as of January 2025, the portion of bank loans channeled to MSMEs only reached around 19.84 percent of total national bank loans, reflecting the limited access of MSMEs to formal financing. Furthermore, around 70 to 74 percent of MSMEs reportedly still face difficulties in accessing capital from formal financial institutions (Yahya, 2025).

The financing gap requires alternative financing solutions that are inclusive, flexible, and asset-based, which are easily accessible to small businesses. Gold is a promising asset in this regard due to its various advantages. Baur et al. (2025) stating that gold is classified as a High Quality Liquid Asset (HQLA) because it meets the criteria of the Basel Committee on Banking Supervision with high volumes, relatively low volatility, and negative correlation with risky assets during stress periods. According to Erb & Harvey (2025), gold can solve trading problems, provides a store of value, is scarce and non inflationary, and no single authority controls it. Gold is also considered suitable in the context of physical collateral based financing because it is considered capable of reducing credit risk and expanding access to financing for businesses that do not have administrative banking eligibility (Bui et al., 2022; Susana et al., 2022). Currently, gold prices are quite high, reaching an all time high of $4,530 per ounce on December 27, 2025. The price of Antam gold on Saturday, December 27, 2025, was around IDR 2,589,000 per gram (Faisal, 2025; Trading Economics, 2025).

Indonesia has a unique characteristic in that, it has a large amount of household gold ownership. According to data from the Central Statistics Agency (BPS) in 2025, around 17.03% of households in Indonesia are recorded as having gold or jewelry assets of at least 10 grams, or around 13.2 million households (Yonatan, 2025). Based on this data, the total amount of gold stored at the household level is estimated to reach 132 million grams. This asset has great potential if it is utilized as access to financing through a pawn scheme that can provide capital funds quickly (Nik Azman et al., 2020). As an operational financing channel, gold pawnbroking offers key advantages: a fast disbursement process, simple documentation requirements, low transaction costs, and controllable credit risk due to physical gold collateral (Zainuddin & Mutaqin, 2025; Nik Azman et al., 2020). In the Indonesian context, Pegadaian, as a pawn-based financing institution, has the infrastructure, network, and extensive experience in managing gold based financing, both conventional and sharia, which can be an added value (Faristania et al., 2024; Pegadaian, 2024; OJK, 2025).

However, in practice, gold pawnbroking has not been strongly integrated into productive activities such as MSME financing. Pawnbroking report data shows that as of May 2025, the funds disbursed through this scheme nationwide reached IDR 103.35 trillion, but there is no specific data on the allocation of these funds for productive or consumptive activities (OJK, 2025). On the one hand, the potential economic value of utilizing household gold to finance MSMEs is estimated to be enormous. On the other hand, the realization of productive gold pawn financing still lacks a strong direction for integration, requiring comprehensive and data driven initial steps to map the market and determine the actual size of the gold pawn market that can be mobilized to close the MSME financing gap.

Based on the foregoing, this study addresses three explicit research questions: (1) What is the quantifiable market potential of gold pawn financing for MSMEs in Indonesia, as estimated through TAM, SAM, and SOM approaches?; (2) To what extent can gold pawn financing contribute to closing the national MSME financing gap under varying assumptions?; (3) What strategic and policy gaps currently impede the productive utilization of gold pawn financing for MSME development?. To address this need, this study attempts to size the gold pawn industry market in Indonesia using the Total Addressable Market (TAM), Serviceable Available Market (SAM), and Serviceable Obtainable Market (SOM) approaches. These approaches are concepts used to analyze market opportunities from a marketing perspective and are often used when entering a market (López, 2024).

TAM is a measurement of market demand for the industry as a whole, SAM is a measurement of specific segments of TAM that can be served based on operational reach, SOM is the portion of SAM that can be achieved considering resources and industry competition (Ramos et al., 2024; Noorli et al., 2025; Yehuda, 2018). Market sizing is important to ensure that market targets are realistic, optimize resource allocation, and generate profits in a competitive environment based on available resources (Yehuda, 2018; Ramadhani et al., 2025). In this study, TAM, SAM, and SOM enable a more structured quantitative estimate of the relevant, achievable, and realistic scale of the gold pawn market. With this approach, the potential contribution of gold pawn to closing the MSME financing gap can be measured more objectively and based on transparent assumptions.

This study also conducted gap analysis, sensitivity analysis, and scenario analysis to identify gaps in conditions and measure the impact of changes from various scenarios of gold contributions in MSME financing. This analysis helps to understand the conditions and possibilities that may occur in order to prepare appropriate policies for the development of the gold pawn industry (Khatimah & Muchran, 2025; Ibu & Gunarta, 2022). Through these analyses, researchers attempt to contribute to the pawnshop industry literature, particularly in terms of the potential for gold pawnbroking from a macro data perspective.

Previous studies have mostly been conducted in the area of pawnshop industry marketing from a micro perspective, such as Amalia et al. (2025); Fajar et al. (2024); Aryanny et al. (2025); Amalia (2024). Research looking at macro data has also been conducted, such as Karnain et al. (2024); Khairunisa & Syafii (2025), however, no one has analyzed the market sizing of the gold pawn industry. A critical review of existing studies reveals important gaps. First, while Karnain et al. (2024) and Khairunisa & Syafii (2025) examined macro level pawnshop demand determinants, neither quantified the productive financing potential of gold assets. Second, Nik Azman et al. (2020) demonstrated gold pawn's role in micro-enterprise financing in Malaysia but relied on primary survey data from a single market; this study extends that approach using national secondary data from Indonesia.

Third, prior market sizing studies (López, 2024; Yehuda, 2018) applied TAM–SAM–SOM in commercial contexts without integrating financing gap or strategic gap dimensions. This study therefore occupies a distinct space at the intersection of macro quantitative market analysis, financing gap measurement, and institutional strategy, a combination not previously applied to the gold pawn sector in any emerging economy context. This study analyzes the macro market potential of gold pawnbroking for MSME financing by utilizing national secondary data such as household gold ownership data, while also mapping out the strategic implications for the pawnbroking industry.

This study is expected to provide empirical contributions to the development of MSME financing literature, as well as serve as a policy reference for financing institutions and regulators in optimizing gold pawnbroking as a productive financing instrument.From a theoretical perspective, this study is further grounded in the literature on national economic resilience and financial system resilience. Resilience frameworks in the context of national economic paradigms emphasize the capacity of institutions and policy instruments to withstand, adapt to, and recover from structural disruptions (Briguglio et al., 2009; Holling, 1973). In the financing domain, financial resilience refers to the ability of households and enterprises to sustain economic activity during periods of stress through diversified and accessible financial instruments (Lusardi et al., 2011). Gold pawn financing, as an asset-based instrument deeply embedded in Indonesian household wealth structures, aligns with these resilience principles by offering a counter-cyclical financing mechanism that can remain accessible even when formal credit markets tighten.

2. Methods

This study uses a descriptive quantitative approach based on secondary data to estimate the market potential of gold pawnbroking for MSME financing and analyze its contribution to the MSME financing gap. This study compiles estimates of economic potential and strategic implications based on macro data with measurable assumptions. The analysis techniques used include economic arithmetic calculations, comparative analysis, and scenario analysis. The data in this study is macro data obtained from various sources as described in Table 1.

Table 1. Research data sources

Data	Source
Number of MSME	Ministry of Cooperatives and Small and Medium Enterprises
Household Gold Ownership	Central Statistics Agency
Gold Price	https://harga-emas.org/
Pawnshop Data	https://pegadaian.co.id/kinerja-keuangan/laporan-tahunan
MSME financing Gap Data	EY Parthenon research results

The data in the study was then analyzed through the stages shown in the chart above. The first stage was to estimate the initial capital requirements of MSMEs on a macro level by multiplying the number of MSMEs nationwide by the assumed initial capital requirements. The assumptions regarding initial capital requirements were based on common practices in microbusiness financing. The second stage is to estimate the potential of household gold as a potential asset for financing collateral. At this stage, the number of households or business units assumed to have gold is multiplied by the average gold ownership (in grams) and the price of gold per gram. This value represents the potential value of gold assets that can theoretically be mobilized in the pawn financing system.

The third stage is gold pawn market sizing using the Total Addressable Market (TAM), Serviceable Available Market (SAM), and Serviceable Obtainable Market (SOM) approaches. TAM is calculated as the total potential value of gold pawn financing if all MSME gold owners pawn part of their gold assets at a certain loan-to-value ratio. SAM represents the portion of TAM that can realistically be reached by Pegadaian based on service coverage and market segmentation. SOM describes the portion of SAM that can be operationally and strategically realized by Pegadaian within a certain time horizon (Ramos et al, 2024; Noorli et al., 2025).

Next, the analysis was conducted by calculating the contribution of gold pawnbroking to the MSME financing gap. At this stage, the TAM, SAM, and SOM values were compared with the estimated national financing gap to measure the extent to which the potential distribution of gold pawnbroking could contribute to closing the MSME financing gap. Finally, sensitivity and scenario analysis using the switching method (Fuad et al., 2021) was conducted to assess various estimates with different assumptions. This analysis provides a more comprehensive and relevant range of estimates for the formulation of pawn industry policies.

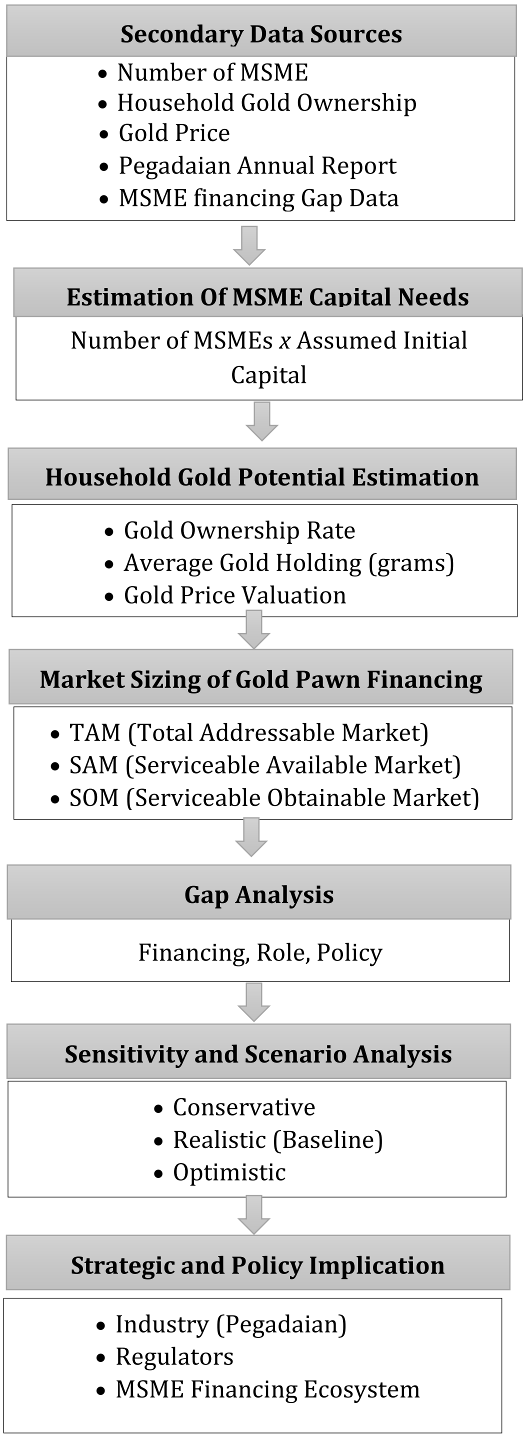

Fig. 1. Research framework and analytical flow

3. Results and Discussion

3.1 Estimated initial capital requirements for national MSMEs

Table 2 shows data on the estimated initial capital requirements for MSMEs in Indonesia. Data on the growth of MSMEs over the past five years was taken from the Ministry of Cooperatives and SMEs and then multiplied by 20 million, which is the estimated minimum working capital required by micro and small businesses to finance basic operational activities, such as the procurement of initial raw materials, simple equipment, and short-term cash requirements. The estimated initial capital data was obtained from several previous studies on the working capital requirements of MSMEs conducted by (Nik Azman et al., 2020; Liani & Prawihatmi, 2017; Aisah & Syahputra, 2024).

Table 2. Estimated initial capital requirements for national MSMEs (2020–2024)

Year	Number of MSMEs	Initial Capital Requirements	Total Initial Capital Requirements
2020	64,000,000	20,000,000	IDR 1,280,000,000,000,000
2021	65,460,000	20,000,000	IDR 1,309,200,000,000,000
2022	65,000,000	20,000,000	IDR 1,300,000,000,000,000
2023	66,000,000	20,000,000	IDR 1,320,000,000,000,000
2024	64,200,000	20,000,000	IDR 1,284,000,000,000,000

This calculation aims to provide a macro overview of the scale of financing needs in the early stages of MSMEs in Indonesia. Data on the number of MSMEs shows that during the 2020–2024 period, the number of MSMEs will be in the range of 64–66 million business units with total MSME capital requirements ranging from IDR 1,280 trillion to IDR 1,320 trillion. These results show that the capital requirements are very large and relatively stable, indicating that the problem of MSME capital in Indonesia is structural and recurring, especially in the micro and small business segments. Although the capital requirements per business unit are relatively small, the large number of MSMEs means that the aggregate financing requirements are quite large, requiring efforts to meet these requirements and reduce the financing gap.

3.2 The potential of community gold as a source of financing for MSMEs

Gold is a valuable asset that has great potential as an alternative in meeting the working capital needs of MSMEs. People generally store gold assets as a store of value, a precautionary measure, and long-term savings. Gold ownership by the community, including MSME players, can be utilized, particularly through pawn schemes, due to the characteristics of gold, which is liquid, easy to appraise, and relatively stable, making it relevant in supporting micro and small business financing (Quang et al., 2022; Susana et al., 2022).

Table 3. Indonesian household gold ownership data for 2025

Amount of household gold in Indonesia (grams)	Gold value based on the latest price (2.4 million per gram)
132,000,000	316,800,000,000,000

From the Table 3, it can be seen that based on the BPS survey, household gold ownership data in Indonesia is around 132 million grams and if estimated at current prices, the value is around 316.8 trillion. The large value of household gold shows a significant financing capacity outside the formal banking credit system. When compared to the estimated initial capital requirements of national MSMEs, which are in the range of IDR 1,300 trillion per year, the potential value of this gold is still insufficient, at only around 24.4%. The calculated value of this gold potential is not intended to meet the overall requirements, but it does indicate the important position of gold assets as a complementary source of financing for the national MSME sector. For households that also run micro businesses, gold can be a financial instrument that can be used to meet business capital needs when facing limited access to formal credit. In this context, the gold pawn scheme acts as an intermediary mechanism that connects household assets with MSME financing needs.

3.3 Market sizing of potential gold pawn financing (TAM, SAM, and SOM approaches)

To clarify the scale of potential gold pawn financing that can be utilized to support MSME capital, this study uses a market sizing approach through the concepts of Total

Addressable Market (TAM), Serviceable Available Market (SAM), and Serviceable Obtainable Market (SOM). This approach aims to analyze the aggregate potential of household gold into a more realistic and relevant market size for the pawn industry.

3.3.1 Total Addressable Market (TAM)

TAM describes the total potential value of gold pawn that can be utilized by MSMEs in Indonesia, assuming that every MSME that owns gold is willing to pawn some of it. Mathematically, it is calculated as follows Eq 1. Based on national data, the number of Indonesian MSMEs is estimated to be between 64 and 66 million business units during the 2020–2024 period. Since direct data on the proportion of MSMEs that own gold is not available, this study uses a proxy derived from data on household gold ownership, namely that approximately 17.01 percent of all households own at least 10 grams of gold. The use of household gold ownership as a proxy for MSME gold ownership is justified on the grounds that the majority of Indonesian MSMEs are household-based micro-enterprises (approximately 99% are micro-businesses per BPS, 2025), meaning household-level and enterprise-level gold assets are largely co-located within the same economic unit. This proxy approach is consistent with methodological precedents in emerging economy MSME financing research where enterprise-level asset data is unavailable (Lusardi et al., 2011; World Bank, 2021). Nonetheless, this proxy introduces inherent measurement uncertainty, which is explicitly acknowledged as a study limitation and is addressed through the multi-scenario sensitivity analysis.

$$\text{TAM}=N_{MSME}\times p_{own}\times \bar{E}^{-}\times \text{LTV} \qquad \text{(Eq. 1)}$$

Explanation:
N_{MSME} = number of MSMEs nationwide
p_{own} = proportion of MSMEs that own gold
$\bar{E}$ = average amount of gold owned per MSME unit (grams)
LTV = loan-to-value ratio (proportion of loan value to gold value)

Assuming that the proportion of MSMEs that own gold is in a similar range, and the average gold owned per MSME unit is 10 grams. LTV (Loan-to-Value), which is the percentage of the loan value compared to the collateral value, is assumed to be 80% (0.80) in accordance with common practice where under normal conditions LTV is 80% to 90% This LTV assumption is further validated by OJK Regulation No. 31/POJK.05/2016 (maximum LTV of 93% for conventional pawn) and Pegadaian's reported average LTV of approximately 80%–85% in its 2024 Annual Report (Pegadaian, 2024), confirming that 80% is a conservative yet empirically grounded baseline (Herlina et al., 2023). Assuming the latest gold price is IDR 2.4 million per gram, the total TAM in rupiah can be calculated as follows:

$$\text{TAM}= N_{MSME}\times p_{own}\times \bar{E}^{-}\times \text{LTV} \qquad \text{(Eq. 2)}$$
$$\text{TAM}= 65.000000\times 0.1701\times (10\ \text{gram}\times \text{Rp}2{,}400{,}000)\times 0.80$$
$$\text{TAM}= \text{IDR } 212{,}28 \text{ trillion}$$

The above calculation (Eq. 2) shows the upper limit of the potential market for gold pawn financing for MSMEs if all MSMEs that own gold are willing to take full advantage of it. The results show that the TAM (Total Addressable Market) value is IDR 212.28 trillion. This indicates that the gold owned by MSMEs is an asset with significant economic potential, but it has not been fully utilized to support productive financing. In the national context, although the TAM value is still relatively small compared to the MSME financing gap, which reaches around IDR 2,400 trillion, gold pawn has the potential to serve as a complementary financing instrument, especially for micro and ultra micro MSMEs that face limited access to formal credit. Therefore, the TAM value is an important basis for assessing the development space for the gold pawn market and its relevance in MSME financing strategies.

3.3.2 Serviceable Available Market (SAM)

SAM (Serviceable Available Market) represents the portion of TAM that can realistically be reached by Pegadaian based on service penetration and operational reach capacity. (Ramos et al., 2024);(Yehuda, 2018). In the context of this study, not all MSMEs that own gold will become pawnshop customers, due to various factors such as limited literacy, preference for owning gold as savings, and other considerations. Therefore, this study uses a more moderate penetration assumption, namely 40 % of TAM, to reflect the market share that is realistically available for gold pawn services. This 40% penetration rate is grounded in comparable market penetration benchmarks observed in emerging economy financial inclusion studies. For instance, the World Bank (2021) reports that formal financial service penetration among micro-enterprise segments in developing economies typically ranges between 30% and 50%, and Pegadaian's own service network covering over 4,000 outlets across Indonesia supports the feasibility of this mid-range assumption. The 40% figure thus represents a conservatively calibrated estimate between theoretical maximum reach and documented operational constraints.

$$SAM = TAM \times 0.40 \tag{Eq. 2}$$
$$SAM = IDR\ 212{,}28 \text{ trillion} \times 0.40$$
$$SAM = IDR\ 84{,}912 \text{ trillion}$$

The SAM value of IDR 84.91 trillion above reflects the size of the gold pawn financing market for MSMEs that can be realistically reached by Pegadaian, taking into account the various factors mentioned earlier. TAM is more hypothetical in nature because it calculates the overall market potential, while SAM describes the applicable market potential that is relevant in terms of policy. By knowing this SAM value, it is hoped that Pegadaian can expand the role of gold pawn in supporting MSME financing.

3.3.3 Serviceable Obtainable Market (SOM)

SOM is part of SAM that may be realized by Pegadaian in the short to medium term, namely 1–3 years, taking into account various factors such as competition, the level of adoption of gold pawn products among MSMEs, the digital service transformation process, marketing strategies, etc (Noorli et al., 2025; Ramadhani et al., 2025). Comparable SOM capture rates in asset-based financial product roll-outs within Southeast Asian markets have been observed in the range of 5% to 15% in the first three years of targeted product launches (IFC, 2017; ADB, 2020). Pegadaian's existing customer base of approximately 15 million active borrowers and its digital transformation via the Pegadaian Digital Service platform supports a 10% capture rate as a realistic near-term target. This assumption also accounts for adoption barriers including consumer preference for consumptive pawn use and limited productive-purpose product differentiation. This study uses the realistic assumption that Pegadaian can capture around 10% of SAM during that period, so the calculation is as follows:

$$SOM = SAM \times 0.10 \tag{Eq. 3}$$
$$SOM = IDR\ 84{,}91 \text{ trillion} \times 0.10$$
$$SOM = IDR\ 8{,}49 \text{ trillion}$$

The assumption of a 10 percent market capture is considered appropriate because pawnshops have various advantages such as a national service network, dominance in the gold pawn portfolio, and support for digital transformation. However, on the other hand, there are challenges such as the preference for using pawnshops for consumptive needs, limitations in MSME product segmentation, and suboptimal integration with the microbusiness financing ecosystem (Pegadaian, 2024). The SOM value of Rp8.49 trillion shows that pawnshops have the potential to mobilize significant financing for MSME gold pawn loans, although this is still relatively small compared to the total MSME financing needs nationwide. SOM can be an indicator of a strategic gap between the actual capacity of pawnshops and the size of the available market opportunity.

3.4 Strategic gap analysis

To provide a more in depth and comprehensive analysis, this study conducted a gap analysis by comparing the potential or needs for the development of the gold pawn industry and the current state of the industry. This approach is important in order to provide an analysis of the situation and then formulate appropriate policies (Li et al., 2024; Kasem, 2024; Gao et al., 2024). From the data obtained in this study, gaps were found in the following areas.

3.4.1 Gold pawn capacity gap

Table 4 shows data on the percentage contribution of market sizing through TAM, SAM, and SOM compared to the financing gap needs of MSMEs. It can be seen that the overall potential of gold assets through TAM can contribute 8.8% if maximized. The realistic figure from SAM shows a contribution of 3.5%, and the calculation of the potential contribution that can be achieved in the short term is 0.3%. This contribution value may be considered small when compared to financing needs, but its multiplier effect will be felt in the national economy. These findings are broadly consistent with evidence from analogous asset-based MSME financing models in other emerging economies. In Malaysia, gold backed Islamic pawn financing (Ar-Rahnu) has been documented as contributing approximately 2%–4% of total SME financing in the short-to-medium term following targeted policy integration (Nik Azman et al., 2020). In India, gold loan penetration among micro-enterprises reached approximately 6%–8% of the addressable market within a five-year expansion period (Reserve Bank of India, 2022). These international analogues suggest that the SOM estimated in this study (0.3% contribution) reflects a conservative but plausible early stage capture rate, and that contribution can meaningfully scale with deliberate institutional and policy support, consistent with the optimistic scenario projections in this study.

Table 4. Market sizing gap contribution calculation

Market Sizing	Value	Financing Gap	Contribution (%)
TAM	212.28 trillion	2,400 trillion	8.8%
SAM	84.912 trillion	2,400 trillion	3.5%
SOM	8.49 trillion	2,400 trillion	0.3%

Furthermore, to deepen the analysis, this study also compares the market sizing results with actual pawn data from PT Pegadaian's 2024 annual report. This comparison can be considered relevant because 90% of PT Pegadaian's financing portfolio is dominated by gold based pawn and it is the largest pawn company in Indonesia (Pegadaian, 2024). The total outstanding pawn financing loans indicate a significant business scale, amounting to IDR 58.33 trillion for conventional pawn loans and IDR 10.67 trillion for gold pawn loans, bringing the total outstanding pawn loans to IDR 69 trillion. It is important to note that these figures represent aggregate outstanding balances covering both consumptive and productive financing uses, as Pegadaian does not currently disaggregate loan data by end-use purpose. This constitutes a key data limitation: the proportion of gold pawn proceeds actually directed toward MSME productive activities such as working capital procurement or equipment purchase cannot be determined from available public data. This ambiguity underscores one of the strategic gaps identified in this study, namely the absence of a financing classification framework that explicitly tracks productive versus consumptive pawn utilization. When compared to market sizing, this figure exceeds the SOM value of only IDR 8.49 trillion, reflecting PT Pegadaian's relatively strong performance in managing its aggregate gold based financing portfolio. Pegadaian is able to face competition by utilizing its advantages in controlling the gold pawn market. Furthermore, Pegadaian can focus on the potential value of SAM of Rp 84.912 trillion as a space for developing the gold pawn market in Indonesia.

3.4.2 The role gap of gold pawnbroking

A gap was also found in terms of the role of gold pawnbroking in Indonesia. Both national data and data from PT Pegadaian's annual reports are still general in nature, showing no clear distinction between consumptive and productive financing for MSMEs. The outstanding loan value discussed earlier is still cumulative and heterogeneous, covering consumptive and productive financing, non MSME financing, and very short term transactions. This shows that the role of gold assets in the pawn scheme is still generally as a liquidity tool. Based on these findings, it is necessary to develop the role of gold pawnbroking that focuses on productive financing, especially for MSMEs, so that gold, as an asset with great potential and characteristics, can be used as a tool for equalizing access to financing. This finding parallels Nik Azman et al. (2020), who documented that Islamic gold pawn financing in Malaysia was predominantly used for consumptive rather than productive purposes, despite the micro-enterprise customer base, and attributed this to the absence of product features explicitly guiding funds toward business use. Similarly, Saifurrahman & Kassim (2025) identified the lack of use conditioned financing products as a key barrier to financial inclusion for Indonesian MSMEs. These precedents reinforce the argument that product redesign not merely market expansion is the critical intervention required. Although there are already programs to improve the MSME market, such as PaDi (Digital Market), a special financing program for MSMEs through a pawnbroking scheme is urgently needed so that the economy can grow and be more equitable.

3.4.3 Gap in gold pawn policy direction

This study also identified gaps at the policy and strategy levels in the use of gold pawnbroking to finance MSMEs. In terms of policy documents and strategic planning, PT Pegadaian, as the largest pawnbroking company, has demonstrated a strong commitment to strengthening the MSME segment. This is reflected in the company's vision, the G7-STAR strategy which contains strategic initiatives, as well as various digital transformations and strengthening of the Ultra Micro ecosystem which aims to expand access to financing for small businesses. However, this policy direction has not been fully integrated with quantitative mapping of the potential market for gold pawn. The pawnbroking business development strategy is still more oriented towards strengthening transaction volume and operational efficiency, without a policy framework that explicitly links the potential of household and MSME gold ownership with the design of productive financing products. This could mean that the huge opportunities arising from the accumulation of gold assets at the household level are not being fully utilized. Thus, the policy gap in this study does not lie in the absence of strategy, but rather in the lack of a systematic link between corporate strategy, the map of the gold pawn market potential, and the objectives of MSME financing development. The integration of these three elements is key to ensuring that gold pawn can function not only as a stable business instrument, but also as a policy instrument that contributes significantly to reducing the MSME financing gap.Viewed through the lens of national economic resilience frameworks, these three gap dimensions collectively reflect a structural vulnerability in Indonesia's MSME financing ecosystem: the absence of an explicitly resilience oriented financing instrument that can function counter-cyclically. Gold pawn, by virtue of its asset-based and collateral-liquid nature, has the inherent characteristics of a resilient financing mechanism (Briguglio et al., 2009). However, realizing this resilience potential requires that it be repositioned from a transaction-focused liquidity tool into a strategically managed component of the national financial safety net for micro and small enterprises.

3.5 Sensitivity & gap analysis scenarios

The Table 5 shows the results of sensitivity analysis and scenarios for market sizing and contribution gap with three conditions and different indicator values based on certain assumptions. The conservative scenario is a pessimistic assumption with low gold ownership, loan to value, and market capture. The realistic scenario is based on current data, and the optimistic scenario assumes better conditions, resulting in high gold ownership, loan to value ratios, and market capture capabilities. This analysis was conducted to assess the potential contribution of gold pawnbroking in various scenarios in order to prepare appropriate policies for industry development (Khatimah & Muchran, 2025; Ibu & Gunarta, 2022).

Table 5. Sensitivity & gap analysis scenarios

Parameters	Conservative	Realistic (baseline)	Optimistic
Gold Ownership of MSMEs	10%	17.01%	30%
Average gold	10 g	10 g	20 g
Gold price	Rp2.4 million /g	Rp2.4 million /g	Rp2.4 million /g
LTV	60%	80%	85%
Market capture	5%	10%	20%
Number of MSMEs	65 million		
TAM	Rp93.6 trillion	Rp212.28 trillion	Rp796 trillion
SAM	Rp37.4 trillion	Rp84.913 trillion	Rp318 trillion
SOM	Rp1.87 trillion	Rp8.49 trillion	Rp63.6 trillion
Financing Gap Contribution	0.07%	0.3%	2.65%

In a conservative scenario, assuming MSME gold ownership of 10%, an average of 10 grams of gold, LTV of 60%, and market capture of 5%, the total addressable market (TAM) for gold pawn financing reaches around IDR 93.6 trillion, the serviceable addressable market (SAM) is IDR 37.4 trillion, and the realistic market value that Pegadaian can capture (SOM) is around IDR 1.87 trillion. From this scenario, the value of SOM's contribution to the financing gap is 0.07%. This shows that even under minimal conditions, gold pawn can still serve as a complementary financing instrument for MSMEs. In a realistic (baseline) scenario, with gold ownership of 17.01%, LTV of 80%, and market capture of 10%, the SOM value increases significantly and is able to cover around 0.3% of the MSME financing gap. These findings reflect the current actual conditions at Pegadaian, where gold pawn has made a real but still limited contribution to reducing the MSME financing gap.

Meanwhile, the optimistic scenario shows much greater potential. Assuming that MSMEs own 30% of gold, with an average of 20 grams of gold, an LTV of 85%, and a market capture of 20%, the value of SOM reaches around IDR 63.6 trillion. At this level, gold pawnbroking has the potential to cover around 2.65% of the national MSME financing gap, which confirms the strategic role of gold pawnbroking as an alternative asset based MSME financing instrument. Overall, the analysis results show that the contribution of gold pawnbroking to SME financing is highly sensitive to policy design and market strategy. The optimization of gold pawnbroking depends not only on the availability of household gold assets, but also on measurable LTV increases, market expansion, and the integration of gold pawnbroking with productive SME financing schemes. To complement the sensitivity and scenario analysis, this study also uses switching value analysis to identify the threshold of key parameters that must be achieved in order for gold pawn financing to make a more meaningful contribution to the national MSME financing gap. Switching value analysis focuses on determining how much change in key variables is needed for the analysis results to change significantly.

Based on previous results, it can be seen that in a realistic scenario, the value of SOM is able to cover around 0.24 percent of the national MSME financing gap. If a policy target is set, for example a minimum contribution of 1 percent to the financing gap, then SOM of IDR 24 trillion is required, so that the switching value for the market capture parameter is in the range of 28% , above the baseline assumption of 10% . These results indicate that, with the current market structure and MSME behavior, increasing the contribution of gold pawn to MSME financing cannot rely solely on natural market expansion, but requires significant strategic intervention. Policies that can be implemented focus on these market indicator parameters through alternative switching values combined with other parameters, such as increasing the average amount of gold pawned, optimizing loan to value (LTV) ratios, or strengthening the design of productive gold pawn products that encourage the use of funds for business capital.

4. Conclusions

This study concludes that household gold in Indonesia is a significant financial resource but has not been optimally utilized as a financing instrument for MSMEs. Through the integration of market sizing, financing gap, and strategic gap analysis, this study shows that the limited contribution of gold pawnbroking to MSME financing is not caused by a scarcity of underlying assets or weaknesses in the Pawnshop infrastructure, but rather by gaps in strategic roles, market penetration capacity, and financing policy directions that are not yet fully aligned with the productive financing needs of MSMEs. The analysis shows that although Pegadaian's operational performance is relatively strong and stable, the use of gold pawnbroking has not yet been systematically directed as an instrument of productive financing. Sensitivity and scenario analyses confirm that the extent to which gold pawnbroking contributes to closing the MSME financing gap is highly dependent on the level of market capture and the effectiveness of implementation strategies. Therefore, optimizing the role of gold pawnbroking requires strategic interventions that go beyond conventional business approaches based on transaction volume.

The strategic implications of these findings are multi level. For the industry, particularly Pegadaian, the results of this study confirm the need to reposition gold pawnbroking from merely a short term liquidity instrument to complementary productive financing for micro and small MSMEs. This repositioning requires the development of gold pawn product designs that are more adaptive to business cycles, portfolio segmentation that distinguishes between consumptive and productive financing, and the utilization of digital transformation and data analytics to improve the accuracy of financing targets.

For regulators, these findings indicate the importance of making household gold ownership the basis for formulating national MSME financing policies, by encouraging the integration of gold pawnbroking into strategies to close the financing gap through inter-agency policy synergies and strengthening the asset based financing regulatory framework. Meanwhile, for the broader MSME financing ecosystem, gold pawnbroking can serve as an alternative financing instrument that complements bank credit, especially for business segments that still face limited access to formal financing.Future research should prioritize primary data collection to validate the proxy estimates used in this study, particularly regarding gold ownership rates among MSME operators. Longitudinal studies tracking the actual productive use of gold pawn proceeds by MSME borrowers would significantly strengthen the empirical basis for policy design. Additionally, pilot program evaluations assessing the impact of explicitly productive purpose gold pawn products on MSME performance indicators would provide actionable evidence to inform both Pegadaian's product development strategy and national MSME financing policy frameworks. Comparative studies across ASEAN economies with similar gold pawn ecosystems could further contextualize Indonesia's trajectory.

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Author Contribution

The author solely contributed to the conceptualization and design of the study, development of the analytical framework, data collection and curation, formal analysis, and interpretation of the results. The author also conducted the market sizing, financing gap analysis, and sensitivity and scenario analyses used in this study. Writing of the original draft, as well as critical review and substantive revision of the manuscript, were fully performed by the author. The author approved the final version of the manuscript submitted for publication and takes full responsibility for the integrity and accuracy of the work.

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Not available.

Data Availability Statement

The data used in this study are derived from publicly available secondary sources, including national statistics, institutional reports, and published industry data. No primary or individual-level data were collected. All data supporting the findings of this study are available from the corresponding author upon reasonable request and subject to the terms and conditions of the original data providers.

Conflicts of Interest

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Declaration of Generative AI Use

During the preparation of this work, the author used ChatGPT and DeepL to assist in language refinement, structuring academic arguments, and improving clarity and coherence of the manuscript. After using this tool, the author critically reviewed, edited, and validated all content and took full responsibility for the accuracy, originality, and integrity of the publication.

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