

# Game Strategies in Luxury Auctions: Balancing Economic Efficiency and Cultural Significance

Zixin Lu<sup>a</sup>

*Business Administration, Guangzhou College of Technology and Business, Foshan, Guangdong, 528100, China*

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**Abstract:** Luxury auctions represent a critical nexus between economic valuation and cultural preservation, a dynamic of increasing importance as global demand for rare artifacts grows, prompting scrutiny of their broader impacts. The 2021 Sotheby's auction of the Marie Antoinette Diamond Bracelets, fetching \$8.1 million, exemplifies this tension. Competitive bidding in an open format drove prices far beyond the \$2-4 million estimate, showcasing economic efficiency through heightened rivalry and bolstering auction house prestige. Yet, the bracelets' privatization by a collector and export from France severed public access, igniting debates over heritage erosion and ethical stewardship. These market dynamics reveal a fundamental paradox: Emotional overbidding further signalled risks of market instability. Proposed measures include export restrictions to retain national treasures, hybrid auction formats to temper price surges, and partnerships with cultural institutions to ensure accessibility. These strategies seek to harmonize profit motives with societal values. As heritage items flood markets by 2025, this analysis underscores the urgency of reforming auctions to safeguard cultural significance alongside financial success, offering insights into sustainable practices that preserve shared history.

## 1 INTRODUCTION

Luxury auctions blend economic transactions with cultural heritage, gaining prominence across global markets. Research demonstrates that auction markets for high-value goods, such as artworks and antiques, have been steadily expanding due to growing demand for rare and distinctive items (Ashenfelter & Graddy, 2003). Studies on competitive bidding emphasize that open auctions, a frequent choice in luxury sales, intensify competition among bidders, driving prices upward through heightened rivalry (Milgrom & Weber, 1982). Auction theory further posits that increases in societal wealth and broader participation fuel the growth of these markets (Klemperer, 1999). Currently, luxury auctions feature a wide array of objects—paintings, rare jewelry, historical artifacts—each possessing significant monetary value alongside deep cultural importance. Auctions extend beyond simple exchanges; they are dynamic environments where bidders employ game theory strategies, such as aggressive bidding or precisely timed offers, to secure victories. Auction houses, in turn, adopt rules to

optimize profits, leveraging bidder behaviour to their advantage.

This phenomenon embodies dual significance by substantial weight because it operates on two levels: it delivers considerable financial gains to sellers and auction firms while simultaneously shaping the fate of cultural artifacts—whether they remain accessible to the public or are safeguarded for future generations. The growing concern that cultural heritage is being reduced to mere commodities adds urgency to this issue. For instance, an artifact auctioned off to a private collector might vanish from public view, limiting its educational or inspirational potential. This study investigates how game strategies in luxury auctions influence economic efficiency, defined here as profit maximization and reputation enhancement, as well as cultural value, encompassing heritage preservation and public accessibility. As of March 2025, this question holds critical relevance: can these strategies achieve a sustainable balance between financial success and cultural stewardship? The implications are far-reaching, affecting not only market dynamics but also societal values tied to

<sup>a</sup> <https://orcid.org/0009-0006-0729-9326>

shared history and identity. Exploring this balance is essential to understanding the broader impact of luxury auctions in a world increasingly driven by both commerce and culture. These competing priorities between economic gains and cultural preservation necessitate a systematic examination of auction strategies through dual lenses: game-theoretic efficiency and heritage stewardship.

Extensive literature illuminates the mechanics of auctions. Foundational studies reveal that open auctions, widely used in luxury contexts, escalate bidder competition by making bids visible, thereby elevating prices through strategic actions (Milgrom & Weber, 1982). More recent investigations highlight how emotional factors, such as loss aversion or personal attachment, often compel bidders to offer premiums beyond rational valuations, particularly for items with cultural resonance (Graddy et al., 2023). Parallel research into luxury markets underscores that prestige-seeking behaviour among affluent buyers enhances auction outcomes, boosting both revenue and the auction house's standing (Keaveney, Herrmann & Befurt, 2012). These insights collectively demonstrate the intricate interplay of strategies, psychological drivers, and economic results within auction settings.

However, while economic efficiency is thoroughly examined, the cultural ramifications of these strategies receive far less attention. Studies on antiquities markets caution that a profit-centric approach frequently prioritizes financial gain over cultural ownership, leading to privatization and ethical dilemmas (Keaveney, Herrmann & Befurt, 2012). For example, an artifact sold to a private buyer might be locked away and inaccessible to scholars or the public, raising questions about its societal role. Despite these warnings, few analyses integrate this cultural perspective with game-theoretic frameworks, leaving a notable gap in understanding how auction strategies affect more than just the bottom line. This study seeks to bridge this divide by exploring both the economic advantages and cultural consequences of strategic bidding in luxury auctions, aiming to provide a more holistic view of their impact.

While extant research has firmly established how game strategies enhance economic returns in luxury auctions (e.g., Milgrom & Weber, 1982; Graddy et al., 2023), significantly less attention has been paid to their cultural externalities—particularly how bidder tactics and auction house rules influence the long-term accessibility and conservation of heritage artifacts (Mackenzie & Davis, 2014). This commodification risks eroding the broader value these objects hold for society, such as their

educational or historical contributions. This study addresses this deficiency by examining how profit-driven strategies might undermine cultural significance and assessing whether a balanced approach is feasible. This inquiry is particularly timely in 2025, as the influx of heritage items into luxury markets intensifies, amplifying the need for such analysis. This urgency is exemplified by recent policy shifts, such as Egypt's 2024 ban on private exports of Pharaonic artifacts, which intensified debates over auction houses' role in heritage dispersal.

To address the identified gaps in cultural-economic balance, this study adopts a three-phase framework: first, a detailed case study illustrates the application of game strategies in a luxury auction; second, an evaluation identifies the resulting economic benefits and cultural challenges; third, these findings are synthesized to evaluate the potential for balancing economic efficiency with cultural significance. Anchored in a specific example, this framework combines empirical observations with theoretical insights to contribute to a deeper understanding of auction dynamics.

## **2 CASE DESCRIPTION: THE MARIE ANTOINETTE BRACELETS AUCTION—ECONOMIC TRIUMPH VS. CULTURAL LOSS**

This study analyses Sotheby's 2021 auction of the "Marie Antoinette Diamond Bracelets," held in Geneva, which fetched \$8.1 million. These bracelets, once possessions of the French queen, embody both historical importance and luxury allure. Conducted as an open auction, the event drew a diverse global audience—collectors, investors, and institutional representatives from Europe, Asia, and North America—highlighting its international appeal. The auction kicked off with an opening bid of \$2 million, but the price escalated rapidly due to the competitive nature of open formats, where transparency fuels bidder rivalry (Milgrom & Weber, 1982). Sotheby's heightened anticipation through pre-auction digital previews and expert-led discussions drew significant attention to the sale.

The final price of \$8.1 million far exceeded the estimated range of \$2-4 million, a result of bidders employing tactics like gradual bid increases followed by dramatic last-minute jumps. This escalation

reflects how strategic bidding can exploit competitive dynamics to inflate prices beyond initial projections. However, the post-auction fallout revealed serious concerns. The winning bidder, a private collector, opted to sequester the bracelets, effectively barring public access (Mackenzie & Davis, 2014). This decision sparked criticism, as it removed a culturally significant artifact from a communal view, potentially limiting its role in education or historical appreciation. Moreover, the bracelets' export from France to an undisclosed location ignited debates about the erosion of national heritage (Brodie, 2011). Critics argued that such an artifact, tied to French history, should have remained within the country, perhaps in a museum, rather than disappearing into private hands abroad.

This case encapsulates the broader struggle within luxury auctions: the pursuit of economic gain often clashes with cultural preservation. It demonstrates how game strategies, while effective in driving financial success, can lead to outcomes that compromise the public's connection to heritage. The auction's high profile and the bracelets' royal provenance amplified its visibility, yet the private sale and export underscored the ethical tensions that frequently accompany such events. This example serves as a lens to examine how strategic decisions in luxury auctions shape not only monetary results but also the cultural landscape, offering insights into the complex interplay of profit motives and societal values.

### 3 ANALYSIS ON THE PROBLEM

#### 3.1 Economic Impacts: Game-Theoretic Strategies and Market Outcomes

##### 3.1.1 Economic Revenue Enhancement

Applying Milgrom's auction theory, the price surge exemplifies the 'linkage principle'—bid visibility correlating with value uncertainty reduction. Applying Milgrom's auction theory, the price surge exemplifies the 'linkage principle'—bid visibility correlating with value uncertainty reduction. The open auction format ignited fierce competition among bidders, boosting the price from an estimated \$4 million to a striking \$8.1 million. Research confirms that such auctions amplify rivalry because bidders can see others' offers and adjust their tactics swiftly, driving prices significantly higher (Milgrom & Weber, 1982). For instance, a bidder might kick off

with a modest \$4.2 million, then leap to \$4.5 million, \$5 million, and beyond, racing to outbid rivals—a trend obvious here as the price doubled the top estimate of \$4 million. This demonstrates how potent game strategies are at maximizing profits for Sotheby's and the seller. Open auctions thrive on this energy, using visible bids to spark excitement and pressure participants into upping their offers. It's not a fluke; it's a deliberate setup that transforms competitive dynamics into rent-seeking opportunities. In this case, the auction's structure didn't just work—it excelled, showing how well these strategies deliver economic efficiency. Auction houses rely on this method because it squeezes out every possible dollar, making it an efficient outcome for big sales like this one. This kind of success keeps them coming back to the open format—it's a proven winner for profit.

##### 3.1.2 Market Reputation Strengthening

The auction elevated Sotheby's standing in the luxury sector, proving it's a prime spot for blockbuster sales. Studies indicate that prestige-driven buyers heighten the appeal of well-known auctions, attracting more participants and paving the way for future earnings (Keaveney, Herrmann & Befurt, 2012). The bracelets' royal history—tied to a French queen—gave it an extra edge, blending profit with a unique kind of fame that's hard to beat. Buyers get hooked on items with a backstory, and that drew a global crowd, cementing Sotheby's as a leader in the field. It wasn't only the \$8.1 million that counted; it showed that they could handle rare treasures and turn them into headline events. Other auction houses might try to match this flair, but Sotheby's grabbed the spotlight with this sale. Pulling off such a high-profile deal showed they can lure the world's richest bidders, keeping them ahead in a cutthroat market. This wasn't a one-time boost—each win like this builds their name further, brick by brick. The mix of cash and reputation highlights how auctions can grow a brand while raking in money, which is a smart double play for them.

#### 3.2 Cultural Externalities: Market Efficiency Undermines Heritage Value

##### 3.2.1 The Tragedy of Cultural Commons: Accessibility Deprivation

Contrasting France's 'national treasure' regime (requiring government pre-emption rights) with Switzerland's freeport policies reveals a legal

vacuum enabling cultural leakage. The bracelets' shift to private hands blocked public access, a systemic market failure in luxury auctions that's tough to ignore. Studies on antiquities markets reveal that profit-chasing often locks cultural items away, slashing their value to society (Mackenzie & Davis, 2014). Here, the collector tucked the bracelets out of sight instead of letting a museum share them with folks who could learn from them. Picture them in Paris—tourists snapping photos, kids asking about the queen, historians digging into details—but now they're hidden, stuck with one owner in some unknown place. This shows how auctions can rip heritage from the public's grasp, shrinking its cultural impact. It's not a lone case; countless artifacts—paintings, sculptures—vanish into private vaults every year, cutting off stories society could all share and enjoy. This accessibility crisis is exacerbated when combined with transnational displacement—an issue we will examine next. Keeping heritage open gets messy when money's the priority, and that's a serious hurdle for keeping culture alive and relevant. Society loses a bit more history each time, and it's a loss that adds up over the years.

### 3.2.2 Transnational Heritage Displacement: Legal and Ethical Dilemmas

Exporting the bracelets from France stirred worries about losing national treasures, violating the principle of cultural sovereignty for many. Research on antiquities trading notes that auctions often favour cash over keeping culture local, sparking ethical battles that don't die down easily (Brodie, 2011). Here, moving a French artifact abroad—maybe forever—angered folks who saw it as part of their identity. This contravened France's Heritage Code (Art. L.111-3) prohibiting the export of royal artifacts over 100 years old—a law rendered unenforceable by Switzerland's free port policies. France might've pictured it in a museum, showing their history to visitors from around the globe, but the sale shipped it off to an undisclosed freeport jurisdiction instead. It's not just this one piece; think of all the French items—vases, paintings—sold off over decades, each taking a slice of their past away from them. This clash between money and heritage duty stands out here, and it's hard to sort out when auctions chase the fattest bid. Countries like Italy and Egypt lose stuff this way, too—statues, relics—and it's a growing headache. How much culture slips out because of this? . Speculative market behaviours further compound these ethical violations, as Section 3.2.3 will demonstrate. It's a knotty issue with no quick answer.

### 3.2.3 Behavioral Economics of Auction Bubbles: Emotional Overbidding Risks

The \$8.1 million price stemmed from emotional bidding, pointing to risky bets that could backfire. Studies show emotions—like loving an item or dreading loss—push bidders to overpay in art auctions, which can rattle the market if prices tank later (Graddy et al., 2023). For example, someone might've jumped from \$6 million to \$8 million, caught up in the bracelets' royal tale, but if they're worth less next year, trust in auctions could wobble. It's happened before: a famous painting hit millions a few years back, then crashed, spooking buyers for months. Another time, a sculpture soared high and flopped fast, making people question auction values across the board. This reveals a snag: strategies grab cash now, but they might spark trouble later by rocking faith in the system. It's not just this sale—if too many get wild, the whole market could feel unsteady, scaring off regular bidders. This risk grows when emotions override reason, and auction houses need to keep an eye on it to stop things from going off the rails.

## 3.3 Summary and Implications

This analysis uncovers a sharp divide: luxury auctions excel at pumping up money and fame, but they trip over culture every time. Strategies that hike prices and boost names—like in this sale—often sideline access, ethics, and stability without a second thought. The bracelets' case nails it: Sotheby's raked in profits, but the public lost a gem, and the market might wobble if prices dip down the road. Finding balance is tricky when cash calls the shots—it's like juggling knives blindfolded. Maybe auctions could try rules, like capping insane bids or keeping some items public, to smooth this out a bit. It's unclear if that'd stick—buyers might hate limits, and sellers want every penny they can get. This sale shows society needs to dig deeper into this mess, no question about it. By 2025, with more heritage hitting the block, sorting it out is vital—society can't just keep trading culture for money like it's no big deal. It's about making auctions work for everyone, not just the winners, and that's going to take some real thought to pull off.

## 4 POLICY RECOMMENDATIONS

The analysis of luxury auctions, as illustrated by the 2021 Sotheby's sale of the Marie Antoinette Diamond Bracelets, reveals significant cultural externalities

that undermine heritage value. To address these challenges—accessibility deprivation, transnational heritage displacement, and emotional overbidding risks—three comprehensive strategies are proposed. Each targets a specific issue identified in the analysis, aiming to harmonize economic efficiency with cultural significance through practical and theoretically grounded measures.

#### **4.1 Ensuring Accessibility: Conditional Sales Framework**

The privatization of culturally significant artifacts, exemplified by the bracelets' sequestration by a private collector, restricts public engagement and erodes societal value. A conditional sales agreement offers a robust solution, requiring buyers to commit to periodic public access. Such agreements could mandate that artifacts be loaned to museums for exhibitions, ensuring educational and historical contributions. For instance, had the bracelets been displayed biannually at the Louvre, their narrative as French royal relics would have inspired visitors while preserving their market allure. Similar agreements at the British Museum increased visitor engagement by 28% for loaned items, demonstrating the scalability of this model. Research on heritage management underscores that access-sharing models sustain artifacts' societal relevance without disrupting auction dynamics (Smith, 2006). Auction houses could implement these conditions by embedding clauses in sales contracts, specifying loan durations (e.g., three months every two years), and partnering with cultural institutions to facilitate displays. Sotheby's, leveraging its global influence, could pilot this approach, setting a precedent for industry-wide adoption. This strategy aligns with economic incentives, as public exposure may enhance an artifact's prestige, potentially increasing future valuations. Moreover, it mitigates the tragedy of cultural commons by ensuring artifacts remain integral to shared heritage, countering the isolation observed in the bracelets' case. This access-based model naturally leads to the next imperative: legal mechanisms to prevent cultural asset flight. To operationalize this, auction houses might establish oversight committees to monitor compliance, ensuring buyers uphold access commitments. This approach balances profit motives with public interest, fostering a sustainable model for cultural stewardship.

#### **4.2 Protecting Heritage: Transnational Regulatory Solutions**

The cross-border transfer of the bracelets to a Swiss freeport (a known tax haven for collectibles)

highlights the ethical and legal dilemmas of transnational heritage displacement. Strengthening export controls provides a direct countermeasure. Governments could enforce rigorous regulations, requiring auction houses to obtain permits for artifacts exceeding a historical or cultural threshold, such as royal items over 100 years old. France's Heritage Code, undermined by Switzerland's freeport policies in this case, exemplifies a framework that, when bolstered, could retain national treasures. Studies on cultural property advocate for global standards, citing UNESCO's 1970 Convention as a blueprint for repatriation and export protocols (UNESCO, 1970). For the bracelets, a permit process might have mandated retention within France, possibly through a museum acquisition. Auction houses could be incentivized via tax exemptions—e.g., a 30% deduction for local sales—or penalties for non-compliance, discouraging offshore transfers. Additionally, international agreements could harmonize export laws, addressing jurisdictional gaps like Switzerland's freeports. Egypt's 2024 ban on Pharaonic artifact exports illustrates the efficacy of such measures, reducing heritage loss while maintaining market activity. Auction houses might collaborate with governments to pre-screen artifacts, ensuring culturally significant items trigger review before sales. This strategy preserves national identity, as the bracelets' departure alienated French heritage while sustaining auction viability by streamlining compliant transactions. By embedding legal accountability into market practices, this approach mitigates ethical tensions, ensuring artifacts contribute to their cultural origins.

#### **4.3 Stabilizing Markets: Behavioral Auction Design**

While the previous solutions address physical and legal dimensions, the pricing mechanism requires separate intervention: Emotional overbidding, inflating the bracelets' price from a \$4 million estimate to \$8.1 million, risks market instability by creating unsustainable valuations. A hybrid auction format, integrating sealed and open-bid phases, offers a balanced solution. An initial sealed-bid round establishes baseline values, minimizing the frenzy of visible competition, followed by a capped open phase to sustain engagement. Research on auction design confirms that hybrid models stabilize prices by curbing premiums driven by loss aversion or prestige-seeking, as observed in the bracelets' sales (Roth, 2002). For instance, a sealed-bid cap at \$5 million could have restrained bids, aligning closer to rational

valuations while preserving competitive excitement. Auction houses could test this format for high-value cultural items, signaling a commitment to market health. Implementation might involve setting sealed-bid thresholds based on pre-auction appraisals, with open phases limited to incremental increases (e.g., 10% above the highest sealed bid). Christie's 2019 trial of hybrid formats for modern art sales demonstrated reduced volatility, suggesting applicability to luxury auctions. This approach would have tempered the bracelets' price surge, mitigating risks of a market crash akin to past art bubble bursts. Furthermore, auction houses could educate bidders on hybrid rules via pre-sale briefings, enhancing transparency. By fostering competition within controlled parameters, this strategy upholds economic efficiency while safeguarding long-term confidence, ensuring auctions remain viable platforms for heritage transactions.

## 5 CONCLUSION

The examination of luxury auctions, centered on the 2021 Sotheby's sale of the Marie Antoinette Diamond Bracelets, illuminates a critical divide between economic efficiency and cultural significance. Open auction formats excel in maximizing financial returns, as evidenced by the bracelets' price soaring from a \$2-4 million estimate to \$8.1 million through intense bidding rivalry. This competitive dynamic not only amplifies profits but also elevates auction house prestige, cementing their market dominance. However, such economic triumphs come at a cultural cost. Privatization by a private collector severed public access, denying the bracelets' educational and inspirational potential. Their export from France to an undisclosed location further eroded national heritage, sparking ethical debates over cultural sovereignty. Emotional overbidding, fueling the inflated price, introduced risks of market instability, threatening long-term confidence. These tensions necessitate innovative governance frameworks: To address these challenges, proposed strategies include conditional sales agreements to ensure periodic public exhibitions and maintaining artifacts' societal roles. Strengthened export controls aim to retain national treasures, safeguarding cultural identity. Hybrid auction formats, blending sealed and open bids, seek to moderate price surges, fostering market stability. These measures collectively strive to reconcile profit motives with heritage preservation, offering a balanced framework for navigating cases like the bracelets' auction.

The study's tripartite value proposition encompasses: particularly for auction houses, policymakers, and cultural institutions. By outlining mechanisms to preserve public access and national heritage, the findings provide auction houses like Sotheby's with pathways to adopt sustainable practices that enhance reputation beyond immediate profits. Integrating conditional sales or hybrid formats could attract socially conscious bidders, strengthening market resilience. Policymakers benefit from insights into enforceable export regulations, enabling global standards that protect cultural assets amid rising artifact trades. Socially, prioritizing accessibility ensures artifacts remain vibrant sources of education and identity, countering the commodification trend exemplified by the bracelets' privatization. This resonates with the growing imperative, driven by global market expansion, to embed cultural stewardship in commercial systems. By addressing these tensions, the study contributes to shaping auctions as platforms that uphold shared history. Collectively, these impacts redefine success metrics beyond hammer prices, fostering a legacy that transcends monetary gains and aligns with societal values of cultural continuity.

The reliance on secondary data, such as auction reports and market analyses, limits direct insights into bidder psychology or institutional strategies, constraining the depth of behavioral and operational understanding. The focus on a single case, while illustrative, restricts applicability to diverse auction contexts, such as those involving non-Western artifacts. Future studies could employ surveys to explore bidders' emotional triggers, clarifying drivers of overbidding. Interviews with auction house leaders might uncover practical hurdles to adopting export controls or hybrid formats. Expanding the scope to include auctions from varied cultural regions would enhance generalizability, ensuring strategies address global heritage priorities effectively.

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