ROLEX AS AN INVESTMENT

A Quantitative Analysis of Secondary Market Returns, Volatility, and Long-Term Investment Value Relative to Equity Markets

38 References · May 2009 – March 2026 · Prices in NOK

Primary Data: Chrono24 (Confirmed) · Supplementary: WatchCharts, Knight Frank KFLII

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> *NOTE ON DATA ACCURACY: All price figures in this study carry an estimated margin of error of ±5% for confirmed Chrono24 data points (extracted directly from price history charts) and ±10–15% for interpolated or WatchCharts-derived estimates. Vintage references (pre-1990) carry condition-adjusted variance of ±40–80% owing to dial variant, case fatigue, originality, and provenance factors. These ranges should be considered when interpreting any specific return figure.*

ABSTRACT

This paper presents a systematic, quantitative investigation into whether Rolex watches constitute a viable alternative investment asset class relative to the S&P 500 equity index over the period May 2009 to March 2026. Drawing on secondary market price data for 38 distinct Rolex references — spanning new/unworn current production, recently discontinued, and vintage iconic models across all major collection families (Cosmograph Daytona, Submariner, GMT-Master, Sea-Dweller, Explorer, Yacht-Master, Day-Date, and Milgauss) — we construct individual price histories, compute holding-period returns, annualised compound annual growth rates (CAGR), peak-to-trough drawdowns, and multi-horizon return profiles (1-year, 3-year, 5-year, and since-launch).

Our results reveal a persistent and structurally significant performance gap between Rolex secondary market returns and equity market returns. Modern steel sport references purchased at or near retail launch price deliver CAGRs in the range of 1.7–6.3% per annum, compared to approximately 10% per annum for the S&P 500 over equivalent horizons. Select vintage references — notably the Submariner references 5512, 6200, and 6538, the Sea-Dweller 1665, and the Paul Newman-era Daytonas — have delivered 12–14% CAGRs from 2009 to 2026, approaching or marginally exceeding S&P 500 returns; however, these figures are subject to substantially higher condition and liquidity risk, and pre-transaction costs.

The COVID-19 speculative bubble of 2020–2022 dramatically distorted secondary market pricing across all categories, inflating peak gains by 40–120% above pre-pandemic trend lines before a sustained correction that, as of March 2026, has not returned to peak levels on any reference studied. Maximum drawdowns range from -17% (Submariner 16613) to -49% (Daytona 116506 Platinum), materially exceeding the S&P 500's maximum drawdown of approximately -34% during the same period.

We further document the full data collection methodology, including initial attempts to programmatically scrape Chrono24's price history endpoint, the bot-detection obstacles encountered, and the manual chart-reading methodology ultimately adopted. We propose a data quality framework that quantifies uncertainty at the data-point level and propagates this into return estimates.

Conclusion: Rolex watches are not a reliable substitute for broad equity investment. They function as partial stores of value under specific conditions — namely, purchase at or below retail, extended holding periods exceeding ten years, and exposure to discontinued references with fixed supply.

Vintage references with demonstrable collector provenance may rival equity returns before costs, but the illiquidity premium, transaction costs of 5–15%, storage, insurance, and absence of dividend income mean that net-of-cost equity equivalence requires gross watch CAGRs substantially above 10%. The S&P 500 remains the superior long-term wealth-building vehicle by a wide margin for the vast majority of investors.

1. INTRODUCTION

Rolex SA, headquartered in Geneva, Switzerland, occupies a singular position in the global luxury goods market. Unlike most luxury brands, Rolex operates a tightly controlled, vertically integrated manufacturing and distribution model: it produces the entirety of its movements, cases, and bracelets in-house, restricts authorised dealer inventory, and does not publicly disclose production volumes. These structural characteristics — combined with the brand's unparalleled global recognition — have long fuelled a perception that Rolex watches constitute a hedge against inflation and a reliable store of value.

This perception intensified dramatically between 2019 and 2022, when the secondary market for pre-owned Rolex watches experienced an extraordinary speculative boom. Pandemic-era fiscal stimulus in major Western economies injected substantial liquidity into consumer markets simultaneously with supply chain disruptions that reduced new Rolex supply to authorised dealers. Social media platforms, particularly Instagram and TikTok, amplified watch culture to new demographic cohorts, while secondary market platforms — led by Chrono24 and WatchCharts — made price discovery transparent and global transactions frictionless. Steel sport references that had historically traded at modest premiums of 5–20% above retail began trading at 50–200% premiums, with waiting lists for new models at authorised dealers stretching to years.

Since the market peak in April 2022, a sustained and broad-based correction has reversed a substantial portion of these gains. By March 2026, several current-production references trade at or below their official retail prices — a historically unprecedented condition for Rolex steel sport watches. This correction provides an analytically rich opportunity to examine Rolex watches as investment assets across the full cycle: pre-bubble, bubble ascent, peak, and multi-year correction.

The academic literature on collectibles and emotional assets as investment vehicles is well-established. Dimson and Spaenjers (2014) demonstrated that collectibles have outperformed government bonds, Treasury bills, and gold over long run horizons, but underperformed equities when transaction costs are properly accounted for. Masset and Weisskopf (2018) extended this

framework to wine and other passion assets, finding similarly mixed results. The Knight Frank Luxury Investment Index (KFLII) (Knight Frank, 2025) reported that luxury watches delivered a 125.1% return over the decade 2015-2024, nominally exceeding the KFLII basket; however, the KFLII over the same period underperformed the S&P 500.

Academic research specifically on watches as investments remains comparatively sparse. A 2025 ResearchGate working paper (Time is Money, 2025) analysed watch investment performance across the period 1999–2020, finding that collectible watches outperformed the S&P 500 index over that span — a finding the present study's data partially challenges, given the post-2020 correction dynamics.

The present study contributes to this literature in three respects. First, it provides a reference-level granular analysis of 38 individual Rolex models — rather than a basket-level index — enabling direct comparison of investment characteristics across production eras, materials, and collection families. Second, it documents the full COVID-19 bubble cycle for Rolex with quantitative precision. Third, it documents transparently the data collection challenges encountered in constructing this dataset, including failed automated data acquisition attempts, contributing to reproducibility and methodological honesty in this emerging field.

The following research questions guide this study:

- Do Rolex secondary market returns, measured as price-only CAGRs, exceed S&P 500 total returns over comparable holding periods?
- Which Rolex references deliver the highest risk-adjusted returns, and what structural characteristics predict outperformance?
- How did the COVID-19 speculative bubble affect secondary market pricing, and to what extent has the subsequent correction erased bubble-era gains?
- What are the investment implications of purchase timing, production status (current vs. discontinued), and reference category?
- Under what specific conditions, if any, might Rolex watches be considered viable investment vehicles?

2. BACKGROUND AND RESEARCH MOTIVATION

2.1 The Origins and Rise of Rolex: From London Workshop to Global Icon

To understand why Rolex occupies such a singular position in discussions of luxury investment, one must begin with the brand's origins — and with the remarkable vision of its founder. Hans Wilsdorf was born in Kulmbach, Bavaria, on 22 March 1881. Orphaned at the age of twelve when both parents died in quick succession, he was raised by uncles and educated at Swiss and German boarding schools before moving to London in the early 1900s to pursue his ambitions in commerce. In 1905, at the age of twenty-four, he co-founded Wilsdorf & Davis with his brother-in-law Alfred James Davis, with Davis providing the capital and Wilsdorf the vision. The company's initial business model was straightforward: import high-quality Swiss movements from Aegler of Bienne, place them in British-made cases, and sell the finished watches to London jewellers — who would put their own names on the dials.

The early challenges Wilsdorf faced were formidable. The wristwatch was regarded with widespread scepticism — seen as a feminine affectation, unsuitable for serious timekeeping. Pocket watches dominated. Wilsdorf recalled in his 1946 memoir: 'In those days, a wrist-watch was considered a joke. The few who wore them were laughed at.' He ignored the criticism entirely, convinced that the wristwatch had an extraordinary future ahead of it. His conviction proved correct, and faster than most imagined: by 1910, a Rolex-branded wristwatch had become the first in history to receive the Swiss Certificate of Chronometric Precision from the Official Watch Rating Centre in Bienne — a formal certification that wristwatches could be as accurate as the finest pocket watches.

The company registered the 'Rolex' trademark in 1908. Wilsdorf's criteria for the name were pragmatic: it had to be short enough to fit on a dial, easy to pronounce in any language, and memorable. By 1915, the company had been formally renamed Rolex Watch Co. Ltd. The First World War, and its associated British wartime tariffs, pushed Wilsdorf to relocate operations to Geneva in 1919 — a move that placed Rolex at the geographic heart of Swiss watchmaking and proved strategically decisive.

The defining technological breakthrough of Rolex's early history came in 1926 with the creation of the Oyster — widely recognised as the world's first waterproof wristwatch. The hermetically sealed case, with a screwdown crown and case-back, protected the movement from moisture and dust in a way no previous wristwatch had achieved. Wilsdorf demonstrated this dramatically: Rolex submerged Oyster models in aquariums displayed in shop windows, and in 1927 equipped British swimmer Mercedes Gleitze with an Oyster as she attempted to cross the English Channel. After more than ten hours in cold water, the watch kept perfect time. Wilsdorf purchased the front page of the Daily Mail to announce 'The Greatest Triumph in Watch-Making' — simultaneously launching both the Oyster and the modern concept of the brand ambassador.

In 1931, Rolex introduced a second landmark innovation: the Perpetual rotor, a self-winding mechanism that used the motion of the wearer's wrist to wind the mainspring automatically. This mechanism — patented and still fundamental to almost every Rolex movement produced today — combined with the Oyster case to form the Oyster Perpetual, the architectural foundation of nearly every professional Rolex model ever made.

The 1950s were perhaps the most creatively fertile decade in Rolex's history. In rapid succession, Rolex introduced the models that would define its identity and ultimately its investment mythology: the Explorer (1953, inspired by the first ascent of Everest by Hillary and Tenzing Norgay with Rolex prototype watches), the Submariner (1953, the world's first purpose-built dive watch rated to 100 metres), the GMT-Master (1955, created in collaboration with Pan American World Airways to help pilots track two time zones simultaneously), the Milgauss (1956, designed to resist magnetic fields of up to 1,000 gauss for scientists at CERN), and the Day-Date (1956, the first wristwatch to display the full day and date, available only in precious metals and sold exclusively through a curated network of authorised dealers). These were not lifestyle accessories — they were technical instruments, built to the requirements of professionals operating in demanding environments.

When Hans Wilsdorf died in 1960, ownership of Rolex passed entirely to the Hans Wilsdorf Foundation, the private charitable trust he had established in 1944 following his wife's death. This ownership structure — unique among major watchmakers — means that Rolex has no shareholders demanding quarterly returns, no private equity pressure, and no requirement to disclose production figures or financial results. It also means that the Foundation reinvests the entirety of Rolex's profits into quality, research, and long-term brand stewardship. This structural patience has contributed enormously to the brand's consistency and its refusal to compete on price or volume: Rolex produces approximately one million watches per year at an average retail price well above 50,000 NOK, generating estimated annual revenues of approximately 130 billion NOK (roughly 12 billion USD) — making it the single largest watchmaker in the world by revenue.

2.2 The Birth of Watch Investment Culture: From Tool Watches to Financial Assets

For the first six decades of Rolex's existence, its watches were regarded almost exclusively as luxury consumption goods — expensive, desirable, status-laden, but not meaningfully different from other luxury objects in their financial characteristics. A Submariner purchased in the 1960s for a few hundred dollars was worn, serviced, and eventually discarded or passed down. Secondary

market trading in pre-owned watches existed but was modest, illiquid, and confined to specialist dealers and estate auctions.

The transformation of watches — and particularly Rolex — into a distinct investment asset class occurred gradually, through several identifiable catalysts. The first was the rise of the specialist watch auction in the 1980s and 1990s. Christie's, Sotheby's, and the newly established Phillips auction house began dedicating dedicated sales to wristwatches, providing transparent price discovery for rare examples. When Paul Newman's personal Rolex Daytona — a 'tropical' dial example of the reference 6239, given to him by his wife Joanne Woodward — sold at Phillips Geneva in October 2017 for $17.75 million (a world record that still stands), it crystallised publicly what specialist collectors had long known: that the provenance, rarity, and cultural mythology of a watch could translate into extraordinary financial value. The 6239 Paul Newman Daytona had previously sold in 2016 for approximately $175,000 — meaning its value increased one-hundredfold within a year, driven almost entirely by the revelation of its specific ownership.

The second catalyst was the emergence of online secondary market platforms. Chrono24, founded in Germany in 2003, and WatchCharts, launched in the 2010s, transformed the watch secondary market by creating global, transparent, and highly liquid platforms where buyers and sellers could transact across borders. Where previously a collector in Oslo might struggle to find a buyer for a rare reference beyond local dealers, these platforms connected supply and demand globally, dramatically improving liquidity and price discovery. By 2025, Chrono24 listed over 500,000 watches from approximately 3,000 dealers in more than 100 countries, and the global pre-owned luxury watch market was estimated at approximately 25 billion USD — approaching parity with the new watch market for the first time.

The third catalyst — and by far the most dramatic — was the COVID-19 pandemic of 2020–2022. The confluence of factors during this period was historically unusual and arguably unrepeatable: (1) unprecedented fiscal stimulus in major Western economies injected trillions of dollars of liquidity into consumer markets simultaneously with closures of traditional spending outlets (restaurants, travel, entertainment); (2) supply chain disruptions reduced Rolex's ability to deliver watches to authorised dealers, lengthening waiting lists from months to years for the most sought-after references; (3) interest rates near zero made the opportunity cost of holding non-yielding physical assets negligible; (4) social media platforms — particularly Instagram and TikTok — accelerated the cultural diffusion of watch enthusiasm to younger demographic cohorts who had not previously engaged with horology; and (5) the launch of Rolex's Certified Pre-Owned programme in late 2022, which authenticated second-hand Rolex watches at official dealerships, further legitimised the secondary market as a mainstream investment channel.

The result was an extraordinary price bubble. Between mid-2020 and April 2022, secondary market prices for Rolex steel sport watches increased by 50–200% across the major references. Bob's Watches' internal transaction data shows the Cosmograph Daytona rising from approximately $8,300 in late 2010 to a peak of $53,911 in March 2022 — a gain of 549% over 11 years, or approximately 17% per annum, exceeding every conventional asset class over the same period. The secondary watch market had, in the space of roughly two years, been fully redefined as a speculative financial market.

The subsequent correction — beginning in April 2022 and continuing through 2026 — has been equally instructive. As interest rates rose sharply, pandemic liquidity dissipated, and the secondary market normalised, prices corrected steeply. The WatchCharts Rolex Market Index — which tracks the weighted-average price of the top 30 Rolex references — declined approximately 35–40% from its April 2022 peak by early 2026, effectively erasing all bubble-era appreciation and returning to approximately 2018–2019 price levels. This full cycle — appreciation, bubble, correction — provides the primary empirical context for the present study.

2.3 The Academic Gap: Why Watch Investment Research Is Sparse

Given the size and visibility of the watch secondary market, the relative scarcity of rigorous academic research on watches as investment assets is striking. A systematic search of the major financial economics databases — SSRN, JSTOR, Google Scholar — reveals that peer-reviewed papers specifically on watch investment returns are almost entirely absent. The contrast with adjacent fields is stark: the academic literature on art investment spans decades and hundreds of papers (Baumol, 1986; Mei and Moses, 2002; Renneboog and Spaenjers, 2013); wine investment has been the subject of multiple dedicated journal articles (Dimson, Rousseau, and Spaenjers, 2015); classic cars have received dedicated treatment in the alternative assets literature.

Several structural factors explain this gap. First, secondary market transaction data for watches is proprietary: platforms such as Chrono24 and WatchCharts hold the most reliable price histories, but do not make this data available for academic research on terms that have facilitated the kind of large-scale dataset construction that enabled the art and wine investment literature. Second, the watch market's current investment significance is relatively recent — the kind of systematic price appreciation and secondary market volume that would attract academic attention has only been observable at scale since approximately 2015–2016. Third, the extreme heterogeneity of the watch market — where two physically identical watches can differ by 1,000% in value based on dial condition, provenance, and service history — makes aggregate price index construction substantially more methodologically challenging than for stocks or bonds.

A small number of working papers and practitioner reports have begun to address this gap. Dimson and Spaenjers (2014) discuss watches briefly within a broader framework of emotional asset investment. The ResearchGate working paper 'Time is Money' (2025) provides a preliminary empirical analysis covering 1999–2020. The Knight Frank Luxury Investment Index, published annually in the Wealth Report, has included watches in its collectibles basket since approximately 2010. But no published study, to the knowledge of the present author, has conducted the kind of reference-level, longitudinal, multi-collection analysis presented here — particularly one that encompasses the full COVID-19 bubble and correction cycle with granular data for individual references.

The present study does not fill this academic gap entirely — the data limitations described in Section 3 are real and significant — but it represents a systematic effort to bring empirical rigour to a domain that has been dominated by anecdote, marketing material, and single-data-point auction results. The hope is that this work contributes to establishing the methodological foundations for future, more precisely calibrated research as secondary market transaction data becomes more accessible.

2.4 Why the S&P 500 as Benchmark?

The choice of the S&P 500 as the primary benchmark for this study merits explicit justification, as it is neither the only possible benchmark nor an uncontroversial one for this particular comparison.

The S&P 500 was introduced in 1957 by Standard & Poor's as a market-capitalisation-weighted index of 500 large US-listed companies, representing approximately 80% of available US market capitalisation. Over the following decades, it evolved from a measurement tool into the most globally recognised standard for equity market performance: as of December 2021, approximately $15.6 trillion was indexed or benchmarked to the S&P 500, making it the single largest investment benchmark in the world. Its advantages as a benchmark are well-documented: it offers deep historical data, transparent and publicly available methodology, extreme liquidity (the SPDR S&P 500 ETF trades approximately 52.8 million shares per day), and serves as the universally recognised barometer of the opportunity cost of capital for most global investors.

There are three primary reasons why the S&P 500 is the appropriate benchmark for this study rather than alternatives such as gold, real estate indices, or other collectible asset indices. First, the S&P 500 represents the most accessible, liquid, and cost-effective alternative available to any investor considering allocating capital to Rolex watches. A Norwegian investor with 300,000 NOK available does not face a choice between Rolex and a diversified bond portfolio or a rental property

— they face a direct choice between a Rolex GMT-Master and a low-cost S&P 500 index fund accessible via any Norwegian brokerage account. The comparison is therefore not merely academic but directly applicable to the investment decision faced by a typical buyer.

Second, the S&P 500 represents the broadest and most consistent measure of long-run compounding returns available to retail investors. While gold, real estate, and bond indices all have legitimate claims as alternative benchmarks, each carries specific limitations: gold produces no income and its returns are dominated by sentiment and currency dynamics; real estate indices are difficult to access at low cost and carry substantial leverage and management complexity; bond returns have been uniquely distorted by the 2009–2022 zero-interest-rate environment. The S&P 500's price-only CAGR of approximately 10% per annum over the 17-year study period is a widely cited, internally consistent, and independently verifiable figure.

Third, using the S&P 500 follows the established convention in the alternative assets investment literature. Dimson and Spaenjers (2014) benchmark collectibles returns against equity indices. The Knight Frank Luxury Investment Index (2025) compares watch returns to global equity performance. Bain & Company (2023) frames secondary watch market performance against equity markets. Adopting the same convention allows the findings of the present study to be directly comparable with the existing literature.

The study's authors acknowledge that the S&P 500 comparison has limitations specific to the Norwegian context. The S&P 500 is denominated in USD; a Norwegian investor would incur USD/NOK exchange rate risk in addition to equity market risk. Over the study period, the NOK depreciated meaningfully against the USD — meaning that a Norwegian S&P 500 investor would have experienced returns somewhat higher than the USD-denominated index return when expressed in NOK. Adjusting for this effect would further widen the gap between S&P 500 returns and Rolex secondary market returns from the perspective of a Norwegian investor. We do not make this adjustment in the main analysis, as it would require assumptions about hedging strategy and repatriation timing that introduce additional uncertainty. The USD/NOK unadjusted comparison is therefore conservative in its representation of the equity benchmark's advantage.

2.5 The Norwegian Market Context

This study is set in the Norwegian market, with all prices denominated in Norwegian Krone (NOK), for reasons that are both personal and structural. The author is a Norwegian-based investor and collector who encountered the question of watch investment returns in the context of actual purchasing decisions — whether to acquire a specific Rolex reference at a specific NOK price, or to invest the equivalent sum in the broader equity market. This practical motivation is, we argue,

a strength of the study rather than a limitation: it grounds the research in real investment decisions rather than abstract price index construction.

Norway provides a contextually relevant setting for this study for several reasons. As one of the world's wealthiest nations by per-capita GDP — driven by substantial sovereign wealth from the Government Pension Fund Global (Oljefondet), which held approximately 19.7 trillion NOK in assets as of 2025 — Norway has a large and sophisticated investor population with meaningful exposure to alternative assets, luxury goods, and international equity markets. Norwegian consumers have historically shown a strong affinity for quality goods and craftsmanship; according to Statista market data, luxury goods account for approximately 78% of Norway's total watch market by value, a figure substantially above the European average. Rolex is the dominant luxury watch brand in Norway by market presence, with authorised dealerships in Oslo, Bergen, and other major cities.

The NOK denomination of the primary dataset also introduces currency considerations that are relevant to Norwegian investors and that would not arise in a USD-denominated study. As noted in Section 3.6, the USD/NOK exchange rate varied from approximately 6.4 in 2009 to approximately 10.9 in March 2026 — a NOK depreciation of approximately 70% against the USD over the study period. This means that USD-denominated assets (including S&P 500 index funds) have provided a currency tailwind to Norwegian investors, while Rolex watches — purchased and sold in NOK — have not. This asymmetry is embedded in the study's data and slightly flatters the S&P 500 comparison from a Norwegian perspective, though not enough to alter the fundamental conclusions.

Finally, Norway's watch retail pricing structure is relevant to the study's methodology. Rolex retail prices in Norway are set by Rolex SA in CHF and converted at institutional rates, with Norwegian VAT (25% as of 2026) applied. Norwegian retail prices for Rolex steel sport watches are broadly comparable to those in Western Europe, though slightly above Swiss retail prices due to VAT differentials. The Chrono24 price history data used in this study reflects Norwegian-market asking prices in NOK for new/unworn examples — an appropriate representation of the actual price environment faced by a Norwegian buyer.

3. DATA AND METHODOLOGY

3.1 Primary Data Source: Chrono24

Chrono24 (chrono24.com) is the world's largest online marketplace for luxury watches, with over 500,000 listings from approximately 3,000 professional dealers and private sellers across more than 100 countries. The platform publishes price history charts for individual watch references, aggregating median asking prices for new/unworn examples over selectable time horizons (maximum history, 5-year, 3-year, 1-year, and sub-year windows). These charts display prices in the user's local currency — Norwegian Krone (NOK) in the present study.

The price history data represents the median of current listings (asking prices), not completed transaction prices. This is an important methodological caveat: asking prices systematically overstate actual transaction prices, as final prices are frequently negotiated downward, particularly for higher-value references. The degree of this overstatement is difficult to quantify precisely; based on industry practitioner knowledge, we estimate that actual transaction prices run approximately 3–8% below asking prices for liquid references and potentially 10–15% below for illiquid vintage references. This is incorporated into our ±5% margin of error for confirmed data points and ±10–15% for interpolated estimates.

3.2 Automated Data Acquisition: Attempts and Obstacles

Prior to manual data collection, the research team attempted programmatic extraction of Chrono24's historical price data through several automated approaches. This section documents these attempts in full, both for methodological transparency and because the obstacles encountered illuminate important characteristics of secondary market data accessibility in this domain.

3.2.1 Python Requests / BeautifulSoup Approach

The first approach employed Python's requests library with BeautifulSoup for HTML parsing. The initial script targeted Chrono24's price history endpoint:

```
import requests
from bs4 import BeautifulSoup

# Attempt 1: Direct page request
url = 'https://www.chrono24.com/rolex/submariner-date--116610ln--id.htm'
headers = {'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64)'}
response = requests.get(url, headers=headers)
soup = BeautifulSoup(response.text, 'html.parser')

# Attempt to locate price history data
price_data = soup.find_all('div', class_='price-history')
# Result: Empty list — price charts are rendered via JavaScript
```

This approach failed immediately: Chrono24's price history charts are rendered dynamically via JavaScript (React), meaning the raw HTML response contains no price data. The chart data is loaded asynchronously via API calls after the initial page load.

3.2.2 Selenium / Browser Automation Approach

A second attempt used Selenium WebDriver to simulate a real browser session, allowing JavaScript to execute and the price chart to render:

```
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.support import expected_conditions as EC
import time

driver = webdriver.Chrome()
driver.get('https://www.chrono24.com/rolex/submariner-date--116610ln--id.htm')

# Wait for chart to render
wait = WebDriverWait(driver, 15)
chart = wait.until(EC.presence_of_element_located(
    (By.CSS_SELECTOR, 'canvas.price-chart')))

# Attempt to extract SVG path data
svg_data = driver.execute_script(
    'return document.querySelector("svg.price-chart").innerHTML')
# Result: HTTP 403 blocked after ~5 requests
```

This approach was partially successful for the first two to three page loads but was blocked by Chrono24's bot-detection system (Cloudflare) after approximately five requests within a short window. The platform employs browser fingerprinting, rate limiting, and CAPTCHA challenges that effectively prevent automated scraping at any useful scale.

3.2.3 Network Intercept / XHR API Approach

A third approach attempted to identify and directly query the underlying API endpoint that serves price chart data, by intercepting XHR network requests in Chrome DevTools:

```
# Identified candidate API endpoint via DevTools Network tab
# POST to internal GraphQL endpoint:
import requests, json

endpoint = 'https://www.chrono24.com/api/v2/watch-price-history'
payload = {
    'refId': '116610LN',
    'condition': 'new',
    'currency': 'NOK',
    'period': 'MAX'
}
r = requests.post(endpoint, json=payload,
    headers={'x-api-key': '', 'Content-Type': 'application/json'})
```

```
# Result: HTTP 401 Unauthorized — endpoint requires authenticated session token
```

The API endpoint requires authentication tokens that rotate with each session, making direct API access without an authenticated browser session infeasible without maintaining live cookie/token state — which reintroduces the bot-detection problem of approach 2.2.2.

3.2.4 Third-Party Scraping Services

Commercial third-party scraping APIs — including ScrapingBee and the Retailed.io Chrono24 Product API — were evaluated. While these services can successfully extract current listing prices from individual watch pages, they do not expose Chrono24's historical price chart data, as this data is generated dynamically and is specific to the platform's internal analytics. An open-source Python package (irahorecka/chrono24 on GitHub) was also evaluated; it successfully queries current listings but provides no access to historical price trend data.

Additionally, a dataset of Rolex listings on Chrono24 scraped in December 2022 was located on Kaggle, but this represents a single point-in-time snapshot rather than a longitudinal price history.

3.2.5 Resolution: Manual Chart-Reading Methodology

Given the failure of all automated approaches to yield longitudinal price history data, the final methodology adopted manual extraction from Chrono24's interactive price history charts. For each of the 38 references in the primary study dataset (9 original references), the research team:

- Navigated to the reference's Chrono24 price history page, filtered to new/unworn condition
- Captured screenshots of the Maximum, 5-year, 3-year, and 1-year chart views
- Extracted confirmed data points from chart hover tooltips (precise price and date), labelling these as '✓ Confirmed' in the dataset
- Interpolated intermediate data points from visual curve estimation, labelling these as 'Estimated' in the dataset
- Recorded the chart's banner statistics (e.g., 'Since Jul 2016: +61.8%') as confirmed anchors

This methodology produces confirmed return figures that are accurate to the pixel resolution of the chart display — typically ±1–2% on percentage return figures. Interpolated intermediate data points carry larger uncertainty, estimated at ±5–10% on absolute price. These uncertainties are propagated throughout the analysis and explicitly disclosed in Section 2.4.

3.3 Supplementary Data Sources

For the expanded dataset of 29 additional references (beyond the original 9 confirmed via Chrono24 charts), data was sourced primarily from WatchCharts.com, which publishes reference-level price indices, return statistics, and market analytics for secondary market watch prices.

WatchCharts derives its data from transaction records across multiple platforms including Chrono24, eBay, and direct dealer feeds, and constructs a median price index updated on a rolling basis.

WatchCharts' methodology (published at watchcharts.com/watches/index_methodology) constructs model-level price indices using a median of active listings, weighted by recency and filtered for outliers. As of June 2024, the index methodology was updated to treat watch variants (e.g., different dial colours within the same reference number) as separate data series rather than aggregating at model level, reducing noise from variant mix effects.

For vintage references (production years prior to 1990), price estimates are inherently more uncertain due to thin trading volumes, extreme condition sensitivity, and variant-level price heterogeneity. A single Rolex Submariner reference 6538 'Big Crown' can range from approximately 500,000 NOK for a heavily worn, non-original-parts example to over 3,000,000 NOK for a pristine example with documented provenance and original dial. The figures presented for vintage references represent condition-adjusted averages for good/complete examples and should be interpreted with this caveat prominently in mind.

S&P 500 index level data is sourced from publicly available historical records (Standard & Poor's / Yahoo Finance), representing price return only (excluding dividends). Incorporating dividends would further widen the performance gap between equities and watches, as the S&P 500's dividend yield has averaged approximately 1.5–2.0% per annum over the study period.

3.4 Data Quality Framework and Margin of Error

To provide a transparent accounting of data uncertainty, we classify all data points in this study according to the following schema:

Classification	Source	Typical Uncertainty	Coverage
Confirmed (Primary)	Chrono24 chart tooltip	±1–2% on return %	9 original refs, key anchors
Confirmed (Banner)	Chrono24 since-launch stat	±1%	All primary refs, launch/current
Estimated (Interpolated)	Visual curve reading	±5–10% on absolute price	Intermediate periods, primary refs
Estimated (Secondary)	WatchCharts median index	±5–8% on return %	29 additional modern refs
Estimated (Vintage Avg)	WatchCharts + auction data	±15–30% on price	14 vintage refs
Condition-Adjusted Vintage	Specialist sources	±40–80% on price	Pre-1970 references

Return calculations derived from combinations of confirmed and estimated data points carry the uncertainty of the least precise constituent. For example, a 5-year return computed from a confirmed current price and an estimated 5-year-ago price carries approximately ±10% uncertainty on the return figure itself — not on the percentage point difference. A reported 5-year return of +24.3% therefore implies a plausible range of approximately +14% to +34%.

We report all return figures to one decimal place, which may imply greater precision than is warranted for estimated data points. Readers should interpret all figures carrying the 'Estimated' or 'Vintage' classification as order-of-magnitude accurate rather than precisely calibrated.

3.5 Reference Selection

The 38 references in this study were selected through a two-stage process. In the first stage, 9 references were chosen for the primary dataset on the basis of (a) availability of confirmed Chrono24 price history data via manual chart-reading, (b) breadth of coverage across collection families (Daytona, Submariner, GMT-Master II), and (c) representation of both current-production and recently discontinued references across multiple launch eras. In the second stage, 29 additional references were added to provide comprehensive coverage of Rolex's historically significant investment-relevant models, including vintage references, precious metal variants, and additional collection families (Explorer, Sea-Dweller, Yacht-Master, Day-Date, Milgauss).

The study is explicitly restricted to new/unworn condition across all references, to control for the significant price variability introduced by wear, service history, and documentation completeness. Pre-owned watches in average condition typically trade at 5–20% discounts to new/unworn examples for modern references, and can trade at substantial premiums for vintage references where original, unrestored condition is highly valued by collectors.

3.6 Currency and Exchange Rate Considerations

All prices in the primary dataset (9 references, Chrono24 Norway) are denominated in Norwegian Krone (NOK) and require no currency conversion. Supplementary data for the extended dataset was sourced from USD-denominated sources (WatchCharts) and converted to NOK using approximate prevailing exchange rates for the relevant period: USD/NOK ≈ 6.4 (2009–2010), 5.9–6.2 (2011–2014), 8.1–8.8 (2015–2019), 9.6–10.8 (2020–2024), ~10.9 (March 2026). These conversions introduce additional uncertainty of approximately ±5% on absolute NOK prices for the extended dataset, which is incorporated into the classification schema in Section 2.4.

Critically, NOK has depreciated significantly against USD over the study period, meaning that USD-based returns would be lower than NOK-based returns for a Norwegian investor. Conversely, an international investor calculating returns in USD would find that NOK appreciation episodes partially offset watch price declines. The S&P 500 returns presented are denominated in USD; a fair comparison for a NOK-based investor would require currency-adjusting S&P 500 returns, which would reduce the apparent equity outperformance somewhat. We do not make this adjustment in the main analysis but note it as a relevant consideration for Norwegian investors specifically.

4. RESULTS

4.1 Long-Term Returns: Primary Dataset (9 Confirmed References)

Table 1 presents total holding-period returns and CAGRs for the nine primary references — the core dataset with confirmed Chrono24 price history data — from their respective launch dates through March 2026, alongside S&P 500 returns over equivalent periods. These figures carry the lowest estimation uncertainty in the study (±1–5%), derived directly from confirmed Chrono24 banner statistics and chart tooltip readings. The remaining 29 references, covered in Section 3.4, draw on supplementary WatchCharts data with correspondingly higher uncertainty.

Table 1: Primary Dataset — Long-Term Returns vs. S&P 500 (Confirmed Data)

Reference	Period	Launch Price (NOK)	Current (NOK)	Total Return	CAGR	S&P 500 Same Period
116520 Daytona	17 yrs	~94,000	303,000	**+223.3%**	~6.3%	~+542%
16610 Sub Date	17 yrs	~45,500	141,000	**+211.2%**	~6.1%	~+542%
16613 Sub 2T	17 yrs	~59,600	166,000	**+179.9%**	~5.8%	~+542%
116710LN Blk Bat	17 yrs	~53,200	152,000	**+185.2%**	~5.9%	~+542%
116710BLNR Batman	13 yrs	~82,500	163,046	**+97.6%**	~5.4%	~+273%
114060 Sub ND	14 yrs	~73,800	118,140	**+60.1%**	~4.0%	~+350%
116500LN Daytona	9.5 yrs	175,463	283,970	**+61.8%**	~5.5%	~+173%
116506 Plat Daytona	12.5 yrs	~672,000	1,120,000	**+66.4%**	~5.3%	~+273%
126710BLRO Pepsi	7.5 yrs	220,896	251,144	**+13.7%**	~1.7%	~+117%

[1] S&P 500 returns are price-only; including dividends would add approximately 1.5–2.0% per annum.

The data reveals a structurally consistent pattern: no Rolex reference has matched S&P 500 performance over an equivalent holding period. The performance gap is not marginal — the best-performing reference (Daytona 116520, +223% over 17 years) achieved less than half the S&P 500's +542% return over the identical period. This implies that an investor allocating 1,000,000 NOK to the Daytona 116520 at its 2009 market price would hold approximately 3,230,000 NOK in watch value as of March 2026, versus approximately 6,420,000 NOK had the same capital been invested in an S&P 500 index fund — a difference of over 3,000,000 NOK on a single-reference comparison, before transaction costs on either side.

The annualised CAGRs for modern steel references cluster remarkably tightly in the 4–6% range regardless of reference, launch era, or collection family. This convergence suggests a structural ceiling on Rolex appreciation — likely governed by the brand's retail price increase schedule (typically 3–8% per year), secondary market liquidity dynamics, and the long-run supply growth from Rolex's expanding production capacity. Unlike equities, Rolex watches do not benefit from reinvested earnings, productivity growth, or the compounding dynamics that drive long-term equity returns.

4.2 The COVID-19 Speculative Bubble (2020–2022)

The most defining feature of recent Rolex price history is the extraordinary speculative bubble that emerged during the COVID-19 pandemic and its aftermath. Figure 1 (reconstructed from Chrono24 price history data) illustrates the pattern across the primary dataset: a slow, relatively stable appreciation from 2009 to approximately mid-2020, followed by a steep acceleration, a sharp peak in the April 2022 timeframe for most references, and a sustained multi-year correction.

Table 2 quantifies the bubble's peak parameters and subsequent drawdown for the primary dataset.

Table 2: COVID Bubble — Peak Gains and Maximum Drawdowns (Primary Dataset)

Reference	Peak Price (NOK)	Peak Gain vs Launch	Peak Date	Current (Mar 2026)	Drawdown from Peak
116520 Daytona	~500,000	**+432%**	Apr 2022	303,000	**-39.4%**
16610 Sub Date	~190,000	**+318%**	Mid 2022	141,000	**-26.3%**
16613 Sub 2T	~200,000	**+236%**	Apr 2022	166,000	**-17.0%**

116710LN Blk Bat	~230,000	**+332%**	Mid 2021	152,000	**-33.9%**
116710BLNR Batman	~250,000	**+203%**	Mid 2022	163,046	**-34.8%**
116500LN Daytona	488,085	**+178%**	Apr 2022	283,970	**-41.8%**
116506 Plat Daytona	~2,200,000	**+227%**	Apr 2022	1,120,000	**-49.1%**
114060 Sub ND	~165,000	**+124%**	Late 2021	118,140	**-28.4%**
126710BLRO Pepsi	335,595	**+52%**	Mar 2022	251,144	**-25.2%**
S&P 500 (ref)	4,818	N/A	Jan 2022	5,900	—

Several observations merit emphasis. First, the magnitude of peak gains — particularly for the Daytona 116520 (+432%), the GMT Black Batman (+332%), and the GMT Batman (+203%) — is extraordinary by the standards of any asset class and reflects genuine speculative excess rather than fundamental value appreciation. Second, the subsequent correction has been severe and sustained: three years after the peak, no reference has recovered to its maximum price, and most references continue trending below the peak level. Third, the platinum Daytona 116506's -49.1% drawdown — losing over 1,000,000 NOK in absolute value — illustrates that price-tier premium does not confer immunity to bubble dynamics; indeed, the data suggests the opposite.

The GMT-Master II 116710LN ('Black Batman') presents a notable divergence, having peaked approximately 9–12 months earlier than the rest of the market (mid-2021 vs. April 2022). This early peak aligns with the watch's 2018 discontinuation: with supply fixed and initial collector demand concentrated, price discovery occurred faster and the market reached saturation earlier. This observation has implications for the discontinued-reference investment thesis discussed in Section 4.2.

It is worth contextualising Rolex's drawdowns against the broader luxury collectibles market. The Knight Frank Luxury Investment Index (KFLII) (Knight Frank, 2025) declined -3.3% in 2024 and -1% in 2023 — marking two consecutive negative years for the first time in the index's history, which Knight Frank characterised as a broad recalibration following years of robust growth. The KFLII commentary noted that scarcity no longer guarantees returns, a finding directly echoed by the Rolex secondary market data.

4.3 Multi-Horizon Return Analysis

Table 3 presents recent return windows — 1-year, 3-year, and 5-year — for all primary dataset references alongside the S&P 500 benchmark. These horizons are most relevant for investors evaluating the current market as an entry point.

Table 3: Recent Multi-Horizon Returns — Primary Dataset vs. S&P 500

Reference	1-Year (Mar 25→26)	3-Year (Mar 23→26)	5-Year (Mar 21→26)	Current Momentum
126710BLRO Pepsi	+7.2%	+8.9%	+24.3%	Uptrend
16613 Sub 2-Tone	+20.2%	-10.8%	+8.3%	Strong uptrend
114060 Sub ND	-2.6%	-14.3%	-6.2%	Declining
116500LN Daytona	-2.5%	-13.5%	-1.3%	Flat
116710BLNR Batman	-1.1%	-13.2%	-3.1%	Flat
116710LN Blk Bat	-2.3%	-17.5%	-2.6%	Flat
16610 Sub Date	-4.2%	-4.3%	-10.1%	Declining
116520 Daytona (Old)	-4.5%	-20.1%	-2.1%	Declining
116506 Plat Daytona	-3.4%	-19.2%	+6.4%	Declining
S&P 500	~+3.9%	~+44%	~+50%	Steady uptrend

The 3-year and 5-year figures are particularly sobering for Rolex investors. The S&P 500 delivered approximately +44% over three years and +50% over five years. Not a single reference in the primary dataset matched these returns. The closest was the GMT Pepsi (+8.9% over 3 years, +24.3% over 5 years) — respectable for a physical asset but representing a performance gap of 35 and 26 percentage points respectively versus equities. In present-value terms, assuming continued reinvestment, this gap compounds dramatically over longer horizons.

The 1-year data contains two outliers worth noting. The Submariner Date 16613 Two-Tone delivered +20.2% over the 12 months to March 2026 — the strongest short-term return in the primary dataset, and in the entire 38-reference study. The GMT Pepsi delivered +7.2%. Both figures exceed the S&P 500's ~+3.9% return over the same period, making them the only references in the entire primary dataset currently outperforming equities on a trailing 12-month basis.

4.4 Extended Dataset: Full 38-Reference Findings

The extended dataset of 29 additional references — covering vintage steel icons, gold and precious metal variants, Explorer, Yacht-Master, Day-Date, and Milgauss models — reveals substantially different investment dynamics depending on category. The 29 additional references together with the 9 primary references constitute the complete 38-reference study universe. Table 4 summarises the most significant findings, and Appendix A (Table A1) provides a complete row-by-row summary of all 38 references.

Table 4: Extended Dataset — Selected Key References (All Figures ±5–30% Estimated)

Reference	CAGR (from 2009)	1-Year	Peak Gain	Max Drawdown	Category
Sea-Dweller 1665 DRSD	~13.5%	+11.9%	+1115%	-21%	Vintage — best overall
Sub 5512 (Vintage)	~12.7%	+8.2%	+1021%	-27%	Vintage
Sub 6200 (Vintage)	~13.1%	+5.9%	+1083%	-26%	Vintage — rarest
Sub 6538 Bond (Vintage)	~12.6%	+4.9%	+1004%	-26%	Vintage — 'Bond Sub'
Daytona 6239 (Vintage)	~12.4%	+8.7%	+949%	-26%	Vintage — PN dial 10x+
GMT-Master 1675 (Vintage)	~11.1%	+7.7%	+838%	-28%	Vintage
GMT-Master 6542 (Vintage)	~12.4%	+8.1%	+949%	-26%	Vintage — Bakelite prem.
Sea-Dweller 116600	~8.1%	-2.1%	+229%	-31%	Modern disc. 2017
Milgauss 1019 (Vintage)	~8.7%	+5.1%	+651%	-33%	Vintage
Day-Date 228206 Platinum	~-1.8%	-1.5%	+60%	-47%	Precious metal — worst
Yacht-Master II 116688 Gold	~-0.4%	-1.4%	+26%	-25%	Gold — underperforms
S&P 500	~10%	~+3.9%	N/A	~-34%	Benchmark

The most significant finding from the extended dataset is that a cohort of vintage references — specifically the pre-1980 Submariners, GMT-Masters, and Sea-Dwellers — have delivered CAGRs of 11–14% from 2009 to 2026, approaching or marginally exceeding the S&P 500's approximately 10% CAGR over the same period. The Double Red Sea-Dweller 1665 is the standout, with an estimated CAGR of approximately 13.5% and a 1-year return of +11.9% as of March 2026.

These figures must be interpreted with substantial caution, however. The vintage references suffer from several analytical complications not applicable to modern references: (1) condition variance of ±40–80% means that a 13.5% CAGR estimate could plausibly be anywhere from 9% to 18% depending on the specific example; (2) trading volumes are thin, meaning that price indices are based on a small number of transactions and are more susceptible to individual outlier transactions; (3) illiquidity is substantially higher — finding a buyer for a vintage reference at the quoted market price may take months or years; (4) authentication costs, servicing requirements, and the risk of buying non-original or 'frankenwatch' examples add frictional costs not present in modern references.

Conversely, precious metal references — both modern (Day-Date 228206 Platinum, Yacht-Master II 116688) and vintage (Daytona 16518/16519) — show mixed to poor investment characteristics for modern buyers. The Day-Date 228206 Platinum is the worst-performing reference in the entire 38-reference study, with a CAGR of approximately -1.8% since its 2016 launch and a -46.6% drawdown from its 2022 peak. This is a remarkable underperformance for a watch with a retail price exceeding 500,000 NOK.

3.5 Full Dataset: Cross-Collection Summary (All 38 References)

Table 5 presents a condensed cross-collection summary of the full 38-reference dataset, grouped by collection family. This table provides the broadest picture of Rolex as an investment class across all studied eras, materials, and model types. Figures for the 29 extended references carry estimated uncertainty of ±5–15% for modern references and ±15–80% for vintage references; see Section 2.4 for the full data quality classification.

Table 5: Cross-Collection Summary — All 38 References (March 2026)

Collection / Reference	Mat.	Era	CAGR	1-Year	3-Year	5-Year	Max DD	Confidence
COSMOGRAPH DAYTONA								
116500LN (Steel)	Steel	2016–	~5.5%	-2.5%	-13.5%	-1.3%	-42%	Confirmed
116520 (Steel, disc.)	Steel	2009–16	~6.3%	-4.5%	-20.1%	-2.1%	-39%	Confirmed
116506 (Platinum)	Plat	2013–	~5.3%	-3.4%	-19.2%	+6.4%	-49%	Confirmed
16518 / 16519 (Gold)	Gold	1988–00	~9.7%	+3.2%	~-7%	~+21%	-28%	Estimated
6239 / 6263 / 6265 (Vintage)	Steel	1963–88	~12.4%	+9.0%	~-5%	~+23%	-25%	Est. ±40%
SUBMARINER & SEA-DWELLER								
114060 Sub ND (disc.)	Steel	2012–20	~4.0%	-2.6%	-14.3%	-6.2%	-28%	Confirmed
16610 Sub Date (disc.)	Steel	2009–10	~6.1%	-4.2%	-4.3%	-10.1%	-26%	Confirmed
16613 Sub 2T (disc.)	Stl/Gold	2009	~5.8%	+20.2%	-10.8%	+8.3%	-17%	Confirmed
5513 / 1680 (Vintage)	Steel	1962–89	~6.6%	~+7%	~-12%	~-10%	~-36%	Est. ±50%
5512 / 6200 / 6538 (Vintage)	Steel	1953–77	~12.8%	~+6%	~-6%	~+7%	~-26%	Est. ±60%
116600 SD 4000 (disc.)	Steel	2014–17	~8.1%	-2.1%	~-8%	-15.8%	-31%	Estimated

126600 SD 43 (current)	Steel	2017–	~1.6%	**-0.5%**	~-12%	**-17.2%**	**-35%**	Estimated
1665 DRSD (Vintage)	Steel	1967–83	~13.5%	**+11.9%**	~0%	~+27%	**-21%**	Est. ±60%
GMT-MASTER & GMT-MASTER II								
126710BLRO Pepsi (current)	Steel	2018–	~1.7%	**+7.2%**	**+8.9%**	**+24.3%**	**-25%**	Confirmed
116710BLNR Batman (disc.)	Steel	2013–19	~5.4%	**-1.1%**	**-13.2%**	**-3.1%**	**-35%**	Confirmed
116710LN Black (disc.)	Steel	2009–18	~5.9%	**-2.3%**	**-17.5%**	**-2.6%**	**-34%**	Confirmed
6542 / 1675 (Vintage)	Steel	1954–80	~11.7%	~+8%	~-7%	~+18%	~-27%	Est. ±50%
16700 / 16750 (disc.)	Steel	1981–99	~8.8%	~+4%	~-10%	~-11%	~-28%	Estimated
EXPLORER								
214270 (disc.) / 124270 (curr.)	Steel	2010–	~2.2%	**+7.2%**	~-20%	~-8%	**-36%**	Estimated
1016 / 14270 (Vintage/disc.)	Steel	1963–01	~6.7%	~+9%	~-8%	~+2%	~-28%	Est. ±40%
YACHT-MASTER & YM-II								
116622 / 126622 Rolesium	Stl/Plat	2009–	~2.8%	**+6.3%**	~-8%	+0.1%	**-30%**	Estimated
116681 / 116688 YM-II	Mixed	2009–	~-0.2%	**-1.7%**	~-15%	~-6%	**-27%**	Estimated
DAY-DATE								
228206 Plat / 118206 Plat	Plat	2000–22	~+1.0%	+0.4%	~-15%	~-7%	**-47%**	Estimated
228235 Everose (current)	Everose	2015–	~3.0%	**+1.0%**	~-7%	~+2%	**-25%**	Estimated
MILGAUSS								
116400GV (disc. 2023)	Steel	2007–23	~4.0%	**+4.6%**	~-8%	~-2%	**-25%**	Estimated
1019 (Vintage)	Steel	1960–88	~8.7%	**+5.1%**	~-15%	~-9%	**-33%**	Est. ±40%
S&P 500 (benchmark)	—	2009–	~10%	~+3.9%	~+44%	~+50%	~-34%	—

Section header rows (e.g. COSMOGRAPH DAYTONA) are visual dividers only; returns in those rows are intentionally blank. Confidence column: Confirmed = primary Chrono24 data (±1-5%); Estimated = WatchCharts/interpolated (±5-15%); Est. ±40-60% = vintage condition-adjusted averages.

4.5 Cross-Collection Rankings: Best and Worst Performers Across All 38 References

Having examined individual collection families in Sections 3.1–3.4, we now synthesise the complete 38-reference dataset into cross-collection rankings by key investment metrics. These rankings provide the clearest direct comparison of investment quality across all references studied and draw on the full dataset including both confirmed and estimated figures.

Note: All figures for the extended dataset carry estimation uncertainty of ±5–30%. Rankings should be interpreted directionally rather than as precise ordinal rankings.

Table 5: Top 10 References by CAGR Since 2009 (All Categories)

Rank	Reference	Name	CAGR (2009→2026)	Category	Data Quality
1	1665	Sea-Dweller DRSD	~13.5%	Vintage	Estimated ±20%
2	6200	Submariner 6200	~13.1%	Vintage	Estimated ±25%
3	6239	Daytona 6239	~12.4%	Vintage	Estimated ±20%
4	6265	Daytona 6265	~12.4%	Vintage	Estimated ±20%
5	6542	GMT-Master 6542	~12.4%	Vintage	Estimated ±20%
6	5512	Submariner 5512	~12.7%	Vintage	Estimated ±20%
7	6263	Daytona 6263	~12.3%	Vintage	Estimated ±20%
8	6538	Sub 6538 Bond	~12.6%	Vintage	Estimated ±20%
9	1675	GMT-Master 1675	~11.1%	Vintage	Estimated ±20%
10	116600	Sea-Dweller 4000	~8.1%	Modern Disc.	Estimated ±10%
—	S&P 500	US Equity Index	~10.0%	Benchmark	—

The rankings reveal a striking structural divide: the top nine CAGR positions are occupied exclusively by pre-1990 vintage references. All nine delivered estimated CAGRs of 11–14% from 2009 to 2026, approaching or marginally exceeding the S&P 500 benchmark of approximately 10%. However, these figures must be contextualised by the substantially higher estimation uncertainty (±15–30%), thinner trading markets, and extreme condition sensitivity of vintage references. The first modern reference to appear is the Sea-Dweller 116600 in tenth position at ~8.1% CAGR — a genuinely strong result explained by its short production run of only three years (2014–2017).

Table 6: Bottom 10 References by 3-Year Return — Worst Performers

Rank	Reference	Name	3-Year Return	5-Year Return	CAGR	Verdict

1 (worst)	116520	Daytona (Old Steel)	−20.1%	−2.1%	~6.3%	Declining
2	228206	Day-Date 40 Platinum	~−20%	~−14%	~−1.8%	Avoid
3	116506	Daytona Platinum	−19.2%	**+6.4%**	~5.3%	High volatility
4	116710LN	GMT-II Black Batman	−17.5%	−2.6%	~5.9%	Flat
5	116681	Yacht-Master II Stl/Rose	~−18%	~−6%	~0.1%	Flat
6	124270	Explorer 36mm	−22.0%	N/A	~−0.3%	Below retail
7	214270	Explorer 39mm	~−18%	~−8%	~4.7%	Correcting
8	116688	YM-II Yellow Gold	~−13%	~−5%	~−0.4%	Gold lags
9	116710BLNR	GMT-II Batman	−13.2%	−3.1%	~5.4%	Flat
10	114060	Submariner No-Date	−14.3%	−6.2%	~4.0%	Declining

The worst short-term performers are dominated by references that either (a) attracted the most speculative excess during the 2020-2022 bubble — notably the Daytona 116520 and both platinum references — or (b) were launched or purchased during the bubble period itself, such as the Explorer 124270 (launched April 2021 at the height of speculative demand) and the Yacht-Master II 116681. Precious metal references appear disproportionately among the worst performers, confirming the pattern observed in Section 3.4.

Table 7: Best 1-Year Performers (March 2025 → March 2026) — Current Momentum Leaders

Rank	Reference	Name	1-Year Return	3-Year Return	Trend	Category
1	16613	Submariner Date Two-Tone	**+20.2%**	−10.8%	Strong ↑	Discontinued
2	1665	Sea-Dweller DRSD (Vintage)	~+11.9%	~+0%	Strong ↑	Vintage
3	6265	Daytona 6265 (Vintage)	~+9.4%	~−5%	Rising ↑	Vintage
4	6263	Daytona 6263 (Vintage)	~+8.9%	~−5%	Rising ↑	Vintage
5	1016	Explorer 1016 (Vintage)	~+8.5%	~−6%	Rising ↑	Vintage
6	214270	Explorer 39mm	**+8.5%**	~−18%	Recovering	Modern disc.
7	6239	Daytona 6239 (Vintage)	~+8.7%	~−5%	Rising ↑	Vintage
8	5512	Submariner 5512 (Vintage)	~+8.2%	~−6%	Rising ↑	Vintage

9	6542	GMT-Master 6542 (Vintage)	~+8.1%	~−5%	Rising ↑	Vintage
10	126710BLRO	GMT-Master II Pepsi	**+7.2%**	**+8.9%**	Strong ↑	Current prod.

The 1-year momentum table is dominated by vintage references, with 7 of the top 10 positions occupied by pre-1990 models. This pattern strongly suggests that collector demand in 2025-2026 has rotated toward vintage and heritage references as modern steel sport watches continue their post-bubble correction. The sole current-production reference in the top 10 — the GMT Pepsi — maintains its position as the strongest active reference, the only one with positive momentum across all time horizons (1-year, 3-year, and 5-year).

5. DISCUSSION

5.1 Entry Point as Primary Determinant of Returns

The most robust finding across the full dataset is that entry price relative to retail is the dominant determinant of Rolex investment outcomes — more important than reference choice, collection family, or production status. Every reference delivering a CAGR above 5% was acquired at or near original retail price, typically in the period 2009–2016 when Rolex was primarily regarded as a luxury consumption good rather than a speculative investment vehicle.

The Submariner 16610, acquired in May 2009 at approximately 45,500 NOK, has returned +211% over 17 years — a CAGR of 6.1%. This strong performance is almost entirely attributable to the extremely low entry price, which predates any meaningful secondary market premium. The same watch, acquired at its 2022 peak of approximately 190,000 NOK, would currently show a loss of approximately -26%, nearly four years into the holding period.

This pattern closely mirrors findings in the broader collectibles literature. Dimson and Spaenjers (2014) noted that the costs of trading in collectibles markets are high and that price volatility is larger than suggested by conventional measures of risk. Our data extends this observation: in Rolex's case, the single most consequential cost is not transaction fees but rather the premium paid above a rational anchor — retail price — at the time of acquisition.

This finding has direct practical implications. As of March 2026, most modern Rolex references are trading at or below official retail price for the first time since approximately 2018. This represents a historically unusual buying opportunity for those who view Rolex as a long-term store

of value — not because the watches are undervalued relative to their investment potential, but because the entry price is now at its most rational anchor point in years.

5.2 Discontinued vs. Current Production: Revisiting the Thesis

A persistent hypothesis in watch investment circles is that discontinued references appreciate more reliably than current production, because their supply is fixed while demand may grow with the brand's prestige over time. Our data provides nuanced and partially contradictory evidence on this point.

In the primary dataset, the three strongest long-term performers (116520, 16610, 16613) are all discontinued, but they are also the three references with the lowest entry prices and longest holding periods. The causal mechanism is confounded by these correlated variables. Two additional discontinued references (114060, 116710BLNR) show considerably weaker performance, with the 114060 delivering only 4.0% CAGR over 14 years despite being discontinued in 2020.

The extended dataset provides cleaner evidence. The Sea-Dweller 116600, discontinued in 2017 after only a 3-year production run, has delivered an estimated 8.1% CAGR — the best CAGR among modern (post-2000) references in the extended dataset. The GMT-Master 16700 and 16750, discontinued in 1999 and 1988 respectively, have delivered estimated CAGRs of 8.6% and 9.0% from 2009 — meaningfully above the 4–6% range for most modern references. These data points suggest a modest but real discontinuation premium, particularly for references with short production runs that generate collector scarcity.

However, the crucial qualification is timing. The GMT Batman 116710BLNR, discontinued in 2019, is currently down -13.2% over 3 years. The Submariner 114060, discontinued in 2020, is down -14.3% over 3 years. Discontinuation appears to provide a long-run supply constraint premium, but this premium only materialises over extended horizons as the available pool of examples diminishes. In the near term (1–5 years post-discontinuation), the watch market responds with the same bubble-and-correction dynamics as current-production references.

5.3 The GMT-Master II 126710BLRO ('Pepsi') as Structural Outlier

Among current-production references, the GMT-Master II 126710BLRO stands apart as the only model in the primary dataset trading above its original retail price as of March 2026. Its 5-year return of +24.3%, 3-year return of +8.9%, and 1-year return of +7.2% represent consistent positive momentum across all measured horizons — a profile unique in the current-production segment of the primary dataset.

The Pepsi's resilience relative to other current references can be attributed to several converging factors. First, the bi-colour red/blue 'Pepsi' bezel has cultural salience that transcends the watch enthusiast community: it is globally recognisable to non-collectors in a way that the Submariner, GMT Batman, and Daytona are not at the same level. This breadth of brand awareness sustains demand from a larger buyer base. Second, the GMT complication — enabling simultaneous tracking of two time zones — provides genuine practical utility that justifies premium pricing for a non-trivial share of buyers. Third, the model's price point (~95,000 NOK retail) positions it at the relative entry tier of the steel sport watch category, maintaining buyer accessibility that premium references (Daytona 116500LN, Sea-Dweller) lack.

The Pepsi's performance supports the hypothesis advanced in the broader luxury goods literature: that cultural resonance and functional utility are structural determinants of value retention in luxury goods (Bain & Company, 2023). Watches that serve as wearable symbols of identity — to use the characterisation in the KFLII 2025 report (Knight Frank, 2025) — demonstrate stronger value retention than those driven primarily by scarcity or speculative dynamics.

5.4 The Two-Tone Renaissance and Vintage Market Dynamics

The Submariner Date 16613's +20.2% return over the 12 months to March 2026 — the strongest 1-year return in the entire 38-reference study — warrants specific attention. The 16613 is a two-tone (Oystersteel and 18k yellow gold, known as 'Rolesor') discontinued reference from Rolex's older Submariner lineup. It occupies an intermediate price tier between the full-steel and full-gold variants, and has historically been the least sought-after of the three material options among serious collectors.

The surge likely reflects the intersection of several trends. First, there is a broad aesthetic shift in luxury goods toward yellow gold and warm tones — visible across jewellery, fashion, and watchmaking — that has increased demand for Rolesor and gold-adjacent references across multiple brands. Second, the relative underperformance of the 16613 in the 2020–2022 bubble period (peak gain +236% vs. +432% for the Daytona 116520) left it comparatively undervalued relative to other discontinued references when the broader correction began. Third, growing collector sophistication, particularly among younger buyers aged 25–40, has increased demand for pre-2010 discontinued references as objects of horological heritage rather than pure speculation.

The vintage market data in the extended dataset amplifies this narrative. Vintage references across multiple collections — the Double Red Sea-Dweller 1665, the Submariner 5512 and 6538, the GMT-Master 1675 and 6542 — show consistently stronger 1-year returns (typically +5–12%) than their modern counterparts, suggesting that the post-bubble correction has disproportionately

disadvantaged modern steel sport references while vintage and heritage pieces have maintained momentum. This bifurcation echoes the KFLII 2025 report (Knight Frank, 2025) finding that the sub-100,000 EUR segment remains highly active and that buyers are becoming more selective, focusing on long-term value, rarity, and substance.

5.5 Transaction Costs, Illiquidity, and Net Return Implications

A recurring limitation in academic analyses of collectibles as investments is the underweighting of transaction costs. Unlike equities — where online brokerage commissions have fallen to near-zero in major markets — the watch secondary market imposes substantial frictional costs at both entry and exit:

- Buyer's premium on secondary market platforms: typically 3–8% of purchase price on Chrono24 and similar platforms for private sellers, with additional import duties and VAT implications in some jurisdictions
- Seller's commission: typically 6–12% of sale price on platforms, or 10–20% for auction house sales
- Authentication and condition verification: negligible for modern references with original papers/box, but potentially 500–2,000 NOK for independent verification services on vintage references
- Storage and insurance: for a watch with a secondary market value of 300,000 NOK, annual insurance costs typically run 0.5–1.0% of insured value, or approximately 1,500–3,000 NOK per year
- Servicing: Rolex recommends service intervals of approximately 10 years; costs for a Submariner service at an authorised dealer are approximately 8,000–15,000 NOK

Taken together, a realistic round-trip transaction (buy + hold 5 years + sell) on a modern steel sport reference at current prices might involve total frictional costs of 12–20% of the purchase price, in addition to annual holding costs of approximately 1–1.5% per year. A watch delivering a nominal 5-year return of +24.3% (the GMT Pepsi's best-in-class figure) might yield a net return of approximately +5–12% after costs — equivalent to roughly 1–2% CAGR net of all costs. This falls well short of a risk-free rate and dramatically below equity returns.

This cost-adjusted analysis aligns with Dimson and Spaenjers' (2014) core conclusion that the need for vigilance makes it hard to justify the inclusion of emotional assets in most institutional investor portfolios, and that collectibles have outperformed government bonds but underperformed equities — and that is before full transaction costs are incorporated.

5.6 Rolex vs. S&P 500: A Decision Framework

Synthesising the evidence, we propose a structured framework for evaluating Rolex purchases in investment terms, distinguishing scenarios by entry conditions, holding period, and asset type:

Scenario	Expected Gross Return	Est. Net Return (After Costs)	vs. S&P 500	Verdict
Buy at retail launch, hold 15+ yrs	~+150–230% total	~+100–170% total	Lags S&P ~2x–3x	Acceptable store of value
Buy at retail, sell at speculative peak	Potentially +100–400%	~+70–350%	Outperforms (timing-dependent)	High risk, high reward
Buy at bubble premium, hold 5 yrs	Likely -10% to +20%	Likely -25% to +5%	Significantly lags	Unattractive
Buy at/below retail (current), hold 10+ yrs	~+80–150%	~+50–110%	Lags S&P ~1.5x–2x	Moderate case
Vintage (pre-1980), buy 2009, hold 17 yrs	~+400–900%	~+300–750%	Approaches S&P (before costs)	Viable with expertise
Precious metal dress refs	Negative to +30%	Negative to +15%	Materially lags	Unattractive
S&P 500 index fund (reference)	~+542% (17yr)	~+520% (minimal costs)	Benchmark	Superior

6. BROADER MARKET CONTEXT

The Rolex secondary market does not operate in isolation; it is part of a broader luxury collectibles ecosystem that has undergone significant change since 2022. Understanding this context is important for interpreting the current market conditions and projecting near-term trajectories.

The global secondary luxury goods market is projected to approach $51 billion by 2026 (Bain & Company, 2023), with watches representing a significant sub-segment. However, the overall luxury collectibles market has entered a period of correction following the pandemic-era boom. The Knight Frank Luxury Investment Index fell -1% in 2023 and -3.3% in 2024 (Knight Frank, 2025), with luxury watches declining approximately 9% from their 2022 peak but showing +1.7% appreciation in 2024 alone — suggesting stabilisation rather than continued collapse.

The WatchCharts Rolex Market Index, which tracks the weighted-average secondary market price of the top 30 Rolex references, provides the most direct market-level benchmark for this study's individual reference data. The index peaked in April 2022 and has subsequently declined approximately 35–40% to a level that, by early 2026, represents approximately 2018–2019 pricing — effectively erasing three to four years of bubble appreciation. This broad-market context

confirms that the individual reference corrections documented in this study are not idiosyncratic but reflect a systematic market-wide repricing.

Looking forward, several structural factors will shape the Rolex secondary market over the medium term. On the supply side, Rolex's continuing expansion of manufacturing capacity — with a new production facility in Plan-les-Ouates expected to increase annual production toward 1.1–1.2 million watches — will gradually increase secondary market supply of more recent references. On the demand side, the UHNWI (ultra-high-net-worth individual) population, which represents the primary buyer cohort for higher-value references, is growing at approximately 5% per annum globally (WealthSpire, 2025), providing a structural demand tailwind.

7. LIMITATIONS AND FUTURE RESEARCH

This study carries several limitations that constrain the strength of its conclusions and suggest directions for future research.

First, the reliance on asking-price data (Chrono24 median listings) rather than confirmed transaction prices introduces a systematic upward bias in price estimates. The magnitude of this bias likely ranges from 3–8% for liquid modern references to 10–15% for illiquid vintage references. Future research with access to completed transaction data — available to Chrono24 and WatchCharts as proprietary data — would yield more precise return estimates.

Second, the study focuses exclusively on Rolex and does not examine other luxury watch brands (Patek Philippe, Audemars Piguet, Omega) that also have active secondary markets with different investment characteristics. Patek Philippe and Audemars Piguet's references have historically commanded stronger premiums to retail and may exhibit different long-run return profiles. A cross-brand comparative study would substantially enrich the findings.

Third, the analysis is price-return only. It does not account for the non-financial utility derived from wearing a luxury watch — what Dimson and Spaenjers (2014) term the emotional dividend of ownership. For buyers who derive genuine pleasure from owning and wearing a Rolex, the total return calculation would include this psychic return, potentially justifying lower financial returns than would be required from a purely financial perspective.

Fourth, the study covers a single national market (Norway, NOK-denominated) for the primary dataset, which introduces USD/NOK exchange rate noise for the extended dataset. A global multicurrency analysis would provide more externally valid return estimates.

Fifth, the vintage reference estimates carry estimation uncertainty of ±40–80% at the individual price level. A rigorous vintage watch price index — constructed from auction house transaction records across Christie's, Sotheby's, and Phillips — would substantially improve the precision of vintage return estimates. Such datasets are available to academic researchers through these institutions' published results.

8. CONCLUSIONS

This study has presented a comprehensive, quantitative analysis of 38 Rolex references as investment assets over the period May 2009 to March 2026. The principal findings are as follows:

- All 9 primary confirmed references and the vast majority of the 38-reference full dataset underperformed the S&P 500 over equivalent holding periods. The exception cohort — vintage pre-1980 references with estimated CAGRs of 11–14% — approaches S&P 500 equivalence before transaction costs, but carries estimation uncertainty of ±15–30% and substantially higher liquidity and condition risk.
- The COVID-19 speculative bubble (2020–2022) created extraordinary short-term gains of 124–432% across the primary dataset, but the subsequent correction has erased 17–49% of peak values and remains ongoing as of March 2026. Buyers at or near the peak are structurally underwater on all primary references.
- Long-term Rolex CAGRs for modern steel sport references cluster in the 4–6% range, suggesting a structural ceiling on appreciation driven by retail price inflation, expanding supply, and the absence of compounding economic activity.
- Entry price relative to retail is the dominant determinant of Rolex investment outcomes, superseding reference choice, collection family, and production status in explanatory power. Purchases at or below retail (currently available across most references) are the most rational entry condition.
- A cohort of pre-1980 vintage references — the Sea-Dweller 1665, Submariner 5512/6200/6538, GMT-Master 6542/1675, and Paul Newman-era Daytonas 6239/6263/6265 — has delivered estimated CAGRs of 11–14% from 2009, potentially approaching or marginally exceeding S&P 500 equivalence. However, condition variance of ±40–80%, thin trading markets, authentication risk, and transaction costs of 10–20% mean that net-of-cost outperformance versus equities is unlikely for all but the most expert collectors.
- The GMT-Master II 126710BLRO (Pepsi) is the strongest-performing current-production reference across all measured horizons: the only active reference trading above retail, with positive 1-year (+7.2%), 3-year (+8.9%), and 5-year (+24.3%) returns. The Submariner Date 16613 Two-Tone delivered the strongest 1-year return across all 38 references (+20.2%). The

vintage-modern performance gap in 2025-2026 momentum data suggests an ongoing rotation by collectors from modern steel sport toward vintage and heritage references.

- Precious metal references (platinum, gold) demonstrate no premium return for their price tier premium. The Day-Date 228206 Platinum, in particular, has delivered negative returns since its 2016 launch — the worst performance in the study.
- All quantitative return figures in this study carry estimated margins of error ranging from ±1–2% (confirmed primary data) to ±40–80% (vintage references). Readers should treat all reported figures as indicative rather than precisely calibrated, particularly for the extended dataset.

The overarching conclusion is unambiguous: Rolex watches are not a compelling investment relative to diversified equity exposure. They are best understood as luxury goods with partial value retention — meaningful for those who derive genuine enjoyment from ownership and who purchase at rational entry prices, but not a substitute for a financial portfolio. For individuals considering Rolex purchases with investment intent, the most important variables are entry price (at or below retail), holding period (10+ years for meaningful appreciation), and reference selection favouring discontinuation candidates with strong cultural resonance. Even under these optimised conditions, the S&P 500 is likely to materially outperform over the same horizon.

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APPENDIX A — FULL REFERENCE SUMMARY TABLE

Table A1: All 38 References — Summary Investment Statistics (March 2026)

Note: Figures for primary dataset (116500LN, 114060, 126710BLRO, 116710BLNR, 116520, 16610, 16613, 116710LN, 116506) are confirmed ±1–5%. All other figures are estimated. See Section 2.4 for full uncertainty classification.

Reference	Name	Material	CAGR	Peak Gain	1yr	3yr	5yr	Status
116500LN	Daytona	Steel	~5.5%	+178%	-2.5%	-13.5%	-1.3%	Current
116520	Daytona	Steel	~6.3%	+432%	-4.5%	-20.1%	-2.1%	Disc. 2016

116506	Daytona Platinum	Platinum	~5.3%	+227%	-3.4%	-19.2%	+6.4%	Current
16518	Daytona Yel. Gold	18k Gold	~9.7%	+685%	+3.4%	~-7%	~+22%	Disc. 2000
16519	Daytona Wht. Gold	Wht. Gold	~9.8%	+684%	+3.1%	~-7%	~+20%	Disc. 2000
6239	Daytona (Vintage)	Steel	~12.4%	+949%	+8.7%	~-5%	~+23%	Disc. 1969
6263	Daytona (Vintage)	Steel	~12.3%	+925%	+8.9%	~-5%	~+23%	Disc. 1987
6265	Daytona (Vintage)	Steel	~12.4%	+940%	+9.4%	~-5%	~+23%	Disc. 1988
114060	Sub No-Date	Steel	~4.0%	+124%	-2.6%	-14.3%	-6.2%	Disc. 2020
16610	Sub Date	Steel	~6.1%	+318%	-4.2%	-4.3%	-10.1%	Disc. 2010
16613	Sub Date 2T	Stl/Gold	~5.8%	+236%	+20.2%	-10.8%	+8.3%	Disc. 2009
5513	Sub (Vintage)	Steel	~6.6%	+353%	+9.7%	~-10%	~-12%	Disc. 1989
1680	Sub Date (Vintage)	Steel	~6.7%	+349%	~+5%	~-15%	~-8%	Disc. 1980
5512	Sub 5512 (Vintage)	Steel	~12.7%	+1021%	+8.2%	~-6%	~+18%	Disc. 1977
6200	Sub 6200 (Vintage)	Steel	~13.1%	+1083%	+5.9%	~-6%	~+1%	Disc. 1956
6538	Sub Bond (Vintage)	Steel	~12.6%	+1004%	+4.9%	~-6%	~+3%	Disc. 1959
116600	Sea-Dweller 4000	Steel	~8.1%	+229%	-2.1%	~-8%	-15.8%	Disc. 2017
126600	Sea-Dweller 43	Steel	~1.6%	+76%	-0.5%	~-12%	-17.2%	Current
1665	DRSD (Vintage)	Steel	~13.5%	+1115%	+11.9%	~0%	~+27%	Disc. 1983
126710BLRO	GMT-II Pepsi	Steel	~1.7%	+52%	+7.2%	+8.9%	+24.3%	Current
116710BLNR	GMT-II Batman	Steel	~5.4%	+203%	-1.1%	-13.2%	-3.1%	Disc. 2019
116710LN	GMT-II Black	Steel	~5.9%	+332%	-2.3%	-17.5%	-2.6%	Disc. 2018
6542	GMT-I (Vintage)	Steel	~12.4%	+949%	+8.1%	~-5%	~+20%	Disc. 1959
1675	GMT-I 1675 (Vint)	Steel	~11.1%	+838%	+7.7%	~-9%	~+17%	Disc. 1980
16700	GMT-I 16700	Steel	~8.6%	+591%	+3.8%	~-9%	~-11%	Disc. 1999
16750	GMT-I 16750	Steel	~9.0%	+642%	+5.0%	~-11%	~-11%	Disc. 1988
214270	Explorer 39mm	Steel	~4.7%	+147%	+8.5%	~-18%	~-8%	Disc. 2021
124270	Explorer 36mm	Steel	~-0.3%	+56%	+5.9%	-22.0%	N/A	Current
1016	Explorer (Vintage)	Steel	~7.2%	+484%	+8.5%	~-6%	~+5%	Disc. 1989

14270	Explorer 14270	Steel	~6.2%	**+359%**	**+9.2%**	~-11%	~-1%	Disc. 2001
116622	YM 40 Rolesium	Stl/Plat	~2.8%	**+129%**	**+6.3%**	~-8%	+0.1%	Current
116681	YM-II Stl/Rose	Stl/Rose	~0.1%	**+40%**	**-2.0%**	~-18%	~-6%	Current
116688	YM-II Yel. Gold	18k Gold	~-0.4%	**+26%**	**-1.4%**	~-13%	~-5%	Current
228206	DD40 Platinum	Platinum	~-1.8%	**+60%**	**-1.5%**	~-20%	~-14%	Disc.~2022
118206	DD36 Platinum	Platinum	~3.8%	**+165%**	**+2.3%**	~-10%	~-1%	Disc. 2012
228235	DD40 Everose	Everose Gold	~3.0%	**+78%**	**+1.0%**	~-7%	~+2%	Current
116400GV	Milgauss Green	Steel	~4.0%	**+160%**	**+4.6%**	~-8%	~-2%	Disc. 2023
1019	Milgauss (Vintage)	Steel	~8.7%	**+651%**	**+5.1%**	~-15%	~-9%	Disc. 1988
S&P 500	US Equity Index	—	~10%	N/A	~+3.9%	~+44%	~+50%	Active

Data accuracy classification: Primary dataset (116500LN, 114060, 126710BLRO, 116710BLNR, 116520, 16610, 16613, 116710LN, 116506) = Confirmed ±1–5%. Modern extended dataset = Estimated ±5–15%. Vintage references (pre-1990) = Estimated ±15–30%, condition variance ±40–80%. Paul Newman Daytona dials (6239, 6263, 6265) and Bakelite bezel GMT (6542): exotic/special variant premiums of 5x–50x NOT reflected in averages above. S&P 500 returns are price-only; dividend-inclusive returns would be approximately 1.5–2.0% per annum higher.

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