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South African fine wine investment, 2019–2023: A case study for an emerging wine region

Evidence on fine-wine investment remains dominated by established European regions, leaving limited peer-reviewed evidence on whether an emerging wine region such as South Africa can be analysed credibly as an investable alternative asset. In this study, we examined whether South African fine wine can function as a portfolio diversifier, using data from 29 March 2019 to 31 March 2023. Using secondary-market transaction data from Wine Cellar brokerage trades and Strauss & Co Fine Wine Auctions, we compiled 2756 mixed lots, identified 523 unique producer–vintage–varietal combinations, and constructed a Top-10 South African Fine Wine Index (SAFW10) using repeat-sales regression. The sample is dominated by red wines (approximately 67% of transactions), with white and fortified wines accounting for about 29% and 4%, respectively. We then compared SAFW10 with Liv-ex benchmarks and selected conventional assets in a monthly rebalanced portfolio backtest. SAFW10 displays low contemporaneous correlation with the selected traditional assets in our sample and improves selected risk-adjusted portfolio metrics. Because the sample is short and the market is thinly traded, the findings are interpreted as descriptive evidence rather than definitive proof of persistent outperformance. The results nonetheless support the case for broader data collection, greater market transparency and further microstructure-aware research on South African fine wine as an emerging alternative asset.

Significance:

- This study extends a literature largely centred on Bordeaux, Burgundy and global Liv-ex benchmarks by providing the first South African fine-wine investment index built from observed secondary-market prices.
- The results show that South African fine wine may improve diversification relative to selected traditional assets and global wine benchmarks, although these benefits should be interpreted cautiously in a thin market.
- The findings highlight how data coverage, lot sizes, sales channels, sparse trading and index-construction choices shape inference in an emerging wine market.

Introduction

Fine wine has increasingly attracted attention as an alternative investment, driven by growing participation of high-net-worth collectors, the professionalisation of trading venues, and the availability of benchmark indices. Yet the empirical evidence remains concentrated on traditional European regions that dominate global fine-wine benchmarks, especially Bordeaux and Burgundy, with comparatively little evidence on emerging wine regions and their secondary-market dynamics.

This imbalance creates a clear knowledge gap. South Africa has gained quality recognition, export visibility and secondary-market activity, yet there is still limited peer-reviewed evidence on how South African fine wine should be measured as an asset, how an investable basket should be formed, and whether observed diversification benefits survive careful interpretation in a thinly traded market. We therefore studied South African fine wine as an illustrative emerging wine region. Here, 'emerging wine region' refers to a wine industry gaining global recognition and secondary-market depth; it is not used in the macroeconomic sense of an emerging market.

The study had four specific objectives: (1) to construct a transparent South African Fine Wine Index (SAFW10) from observed secondary-market transactions; (2) to justify the use of a top-10 basket by focusing on the most liquid and consistently rated wines in a relatively thin market; (3) to compare the behaviour of SAFW10 with global fine-wine benchmarks and conventional financial assets over the sample period; and (4) to assess, in a disciplined monthly rebalancing framework, whether including SAFW10 changes portfolio risk, return, concentration and turnover. These objectives motivate three research questions concerning relative performance, diversification benefits and sensitivity to market microstructure.

The paper makes three contributions. First, we construct SAFW10 as a repeat-sales index built from observed secondary-market trades and a rule-based selection procedure designed to mitigate look-ahead bias. Second, we provide a comparative portfolio backtest against global wine indices and conventional asset proxies commonly available to investors. Third, we foreground interpretive issues that are especially important in emerging wine markets – coverage limitations, lot sizes, sales channels, sparse trading and price smoothing – and use these to frame the results conservatively.

South African fine wine as an emerging wine-region case

South Africa has a long history of wine production, yet it has only recently emerged as a significant player in the fine wine investment space. The market has shown robust growth, driven by improvements in quality, increased global recognition, and secondary market activity through fine wine auctions. South Africa is one of the most affordable fine wine producers worldwide, making it an attractive entry point for investors seeking undervalued assets.¹

South African fine wine producers have benefitted from increased international recognition, with many wines receiving high scores from global wine critics and performing well at auctions.¹ Notable producers, such as Kanonkop, Sadie Family Wines, and Klein Constantia, have consistently ranked among the highest quality wines. These wines, known for their ageing potential and limited supply, have demonstrated a strong price appreciation over time.

The South African wine industry is also supported by infrastructure developments, including improved storage, auction platforms and specialised brokerage services that facilitate secondary-market transactions. Even so, important constraints remain. Secondary-market liquidity is limited, international coverage is incomplete, and storage, provenance and currency risk all matter for investors. These features make South Africa a useful but challenging case for studying fine wine as an asset.

Brief literature review

Wine economics has developed along several overlapping strands. A first strand studies the determinants of wine prices. In this literature, price is shaped by a combination of natural endowments, terroir, production technology, producer reputation and formal classification systems. Bordeaux has been especially prominent in this work, with evidence that climate, vineyard conditions and appellation-related quality signals matter materially for valuation.²⁻⁵ These studies are important because they show that wine prices reflect both intrinsic and informational characteristics, a point that carries directly into index construction.

A second strand evaluates whether wine behaves like an investable asset class. Early studies reported that wine can generate competitive long-run returns and, under some conditions, compare favourably with traditional assets, while later work showed that the answer depends heavily on the market segment, sample window and benchmark used.⁶⁻¹² The broader message is not that wine is uniformly superior, but that fine wine may exhibit distinct risk–return properties that justify portfolio attention, especially when compared with bonds or mainstream equity indices.

A third strand emphasises market frictions and investor behaviour. Behavioural heterogeneity among wine investors, differences in willingness to pay and the role of consumption motives complicate the interpretation of observed prices and returns.^{13,14} In contrast to standard financial assets, fine wine is simultaneously a collectable, a consumption good and a store of value. This character affects market liquidity, bid behaviour, reservation values and the speed with which information is incorporated into prices.

A fourth strand addresses the construction of wine indices. Because wines are heterogeneous, thinly traded and sold in varying lot sizes and bottle formats, index design is not straightforward. Repeat-sales methods, hedonic models and hybrid approaches have therefore all been proposed in the literature.¹⁵⁻¹⁹ Each method involves trade-offs. Repeat-sales methods reduce heterogeneity by focusing on the same wine across transactions, but they may discard information when repeat pairs are sparse. Hedonic approaches can incorporate product characteristics, but they depend on the availability and stability of those characteristics through time. Hybrid approaches attempt to combine these advantages, although they typically require richer data than many emerging markets can provide.^{16,17}

A fifth strand highlights the problem of stale pricing and smoothing in illiquid markets. Work from real estate and finance shows that infrequent trading can depress measured volatility, distort serial dependence and produce misleading Sharpe ratios or correlation estimates.²⁰⁻²² This caution is especially relevant for fine wine, where sparse trades, auction timing and channel effects can all shape observed returns. Recent work also points to selection issues in wine-return data sets, suggesting that observed cross-sections may overstate investability when inactive wines are underrepresented.²³

Finally, a smaller but important literature speaks directly to the South African and broader emerging-market context. South African industry structure, bifurcation and market development have been discussed by Hira²⁴, while local hedonic pricing studies have examined value formation in South African red wines^{25,26}. More recent South African contributions have begun

to position fine wine explicitly as an alternative asset in portfolio settings.^{27,28} At the same time, international studies show that macroeconomic conditions, exchange rates and international diversification considerations also matter for wine pricing and risk management.^{29,30} Taken together, these contributions motivated the present study: there is still little peer-reviewed work that combines transparent index construction, explicit treatment of thin-market frictions and portfolio evaluation for South African fine wine. Conceptually, we therefore view secondary-market microstructure, index design and portfolio inference as a linked sequence rather than as separate problems.

Methods: Data, index construction and portfolio design

The methodological design has two parts. First, we constructed a South African Fine Wine Index (SAFW10) to capture the price evolution of a rule-based basket of South African fine wines. Second, we evaluated the role of this index in diversified portfolios relative to global fine-wine benchmarks and liquid financial assets.

For index construction, we employed the repeat-sales regression method, first introduced by Bailey et al.¹⁵ Although hybrid models are sometimes preferred in richer data sets¹⁶, repeat-sales regression is appropriate here because the South African secondary market is relatively thin and repeated observations on the same wine are especially valuable for tracking price dynamics. The approach therefore fits the institutional realities of the market we study.

However, repeat-sales regression is not without limitations. Sparse trading may reduce the number of usable repeat pairs; lot sizes and bottle formats can affect observed prices; and price dynamics may still reflect omitted characteristics or shifting consumer preferences. These limitations are acknowledged explicitly in our interpretation and motivate our emphasis on transparency, diagnostics and conservative inference.

Formally, the model is as follows. First, we divide the set W into two subsets: wines that sell only once ($i \in J = 1, \dots, I \subset W$) and wines that sell more than once ($j \in J = 1, \dots, J \subset W$). Let $t \in J = \{0, 1, \dots, T\}$ be the set of time periods. For wines sold multiple times, let the first sale of wine j occur at time t and the second sale at time τ . The sales observations are identified as:

$$P_{it} = \alpha + \beta^T x_{it} + \gamma^T d_{it} + \epsilon_{it}, \quad \text{Equation 1}$$

$$P_{jt} = \alpha + \beta^T x_{jt} + \gamma^T d_{jt} + \epsilon_{jt}, \quad \text{Equation 2}$$

$$P_{j\tau} = \alpha + \beta^T x_{j\tau} + \gamma^T d_{j\tau} + \epsilon_{j\tau}, \quad \text{Equation 3}$$

where, $P \cdot t$ is the log price at time t , β is a vector of implicit prices for wine attributes, $x \cdot t$ is a vector of attributes for wine sold at time t , γ is a vector of index numbers, and $d \cdot t$ is a vector of time dummies, with a value of one if wine sold at time t and zero otherwise. The error term $\epsilon \cdot t$ is random and is uncorrelated with $x \cdot t$ and $d \cdot t$.

Subtracting Equation 2 from Equation 3, the α and β^T terms are eliminated, leaving the repeat sales model:

$$P_{j\tau} - P_{jt} = \gamma^T \delta_{j\tau} + \epsilon_{j\tau} - \epsilon_{jt}, \quad \text{Equation 4}$$

where $\delta_{j\tau}$ is a $T \times 1$ vector of time dummy variables taking the value minus one for the first sale, one for the second sale, and zero for all other cases.

The wine price index was constructed from the estimates of γ using ordinary least squares. To improve transparency and reproducibility, the index was implemented using a fixed and documented procedure: observations were cleaned, bottle sizes were converted to comparable per-bottle values, extreme outliers were excluded, repeat-sales pairs were identified, and the index was constructed on a quarterly basis. The construction of SAFW10 was also designed to mitigate look-ahead bias

by ensuring that all selection criteria were based only on information available at the time of inclusion. Quality ratings (e.g. Tim Atkin MW and Platter's Wine Guide) are limited to historically available information; annual reconstitution uses pre-defined rules; and backtesting is performed without forward-looking contamination.

Study setting and data sources

The study setting is the South African secondary fine-wine market. Our transaction data are from two primary sources: Wine Cellar, which provides brokerage data, and Strauss & Co Fine Wine Auctions, which provides auction results. Together these sources capture a substantial share of observable formal secondary-market activity from 2019 to 2023, although they do not represent the entire market. We therefore treat the analysis as an institutional case study rather than a full census of all South African fine-wine trades.

After data cleaning, the sample contained 2756 mixed lots and 523 unique producer–vintage–varietal combinations. Red wines account for approximately 67% of transactions, while white and fortified wines account for about 29% and 4%, respectively. Cleaning included checks for bottle size, duplicate descriptions, spelling inconsistencies, obvious data-entry errors and anomalous observations that would distort per-bottle pricing.

Because the South African secondary market is concentrated and partly opaque, coverage limitations remain important. Informal trades, private sales outside the observed venues, and some international transactions were not captured. The data set therefore reflects observable formal-market activity rather than the complete universe of transactions, and this constraint is carried through the discussion of results.

To select wines for the index, we used criteria intended to balance investability and data availability. For feasibility, we included all vintages of the selected wines and used a quarterly period for index construction. The main inputs are:

- average annual returns for all vintages of the wines, taking inflation into account (we assume a Consumer Price Inflation (CPI) rate of 6%, which is the average domestic CPI over the past 20 years);
- standard deviation of returns adjusted for inflation;
- wine critic ratings; and
- number of price entries for each wine.

Constituent selection, top-10 rationale and look-ahead bias

SAFW10 is designed as a rule-based top-10 basket intended to represent the most investable South African wines in the observable secondary market. The top-10 format is deliberate: in a thin market, a narrower basket helps retain sufficient trading depth, reduces the influence of sparsely observed wines, and produces an index that is easier to interpret and replicate. At each annual reconstitution date, candidate wines are ranked using only information available up to that date: (1) trading volume, (2) number of observed price entries and (3) quality signals from Tim Atkin MW, Platter's Wine Guide and, where available, broader critic information. The selected top 10 are then held fixed until the next reconstitution.

Sales channels, lot sizes and price normalisation

Prices from brokerage and auctions were combined because they refer to the same underlying bottles and together represent the observable South African secondary market. However, the channels differ in lot-size structure and price discovery. We therefore normalised prices to per-bottle values, adjusted for bottle size, screened for outliers, and compared baseline results with channel-specific robustness checks where possible. This step is important because auction pricing can vary materially with lot size and sequencing. The resulting constituent basket is reported in Table 1.

Selection of the top-10 index of South African fine wines is based on multifaceted criteria including trading volume (liquidity), the economic value of wines, and a comprehensive assessment of wine quality and reputation (wine critic Tim Atkin's average 5-year rating).

Selecting wines for index inclusion follows a transparent rule-based procedure based on secondary-market liquidity, economic value and publicly available quality signals at the time of selection. We used Tim Atkin's annual reports as a consistent quality screen for South Africa, and we treat this choice as pragmatic rather than definitive; future work can extend the screen using aggregated critic measures.

It is important to consider the role of the auction mechanism in the final price a wine receives. In our sample, we noticed that the exact same wine variety/vintage sold for vastly different prices per bottle depending on the lot size. In addition, when lots include the same number of bottles, lot prices generally decrease chronologically from one lot to the next. This economies of scale phenomenon has been confirmed to be more than an anomaly by Ashenfelter². Based on auction data from the UK, as lot sizes increase, wine prices tend to decrease. Presumably, bidders find larger lots less attractive and hence competition for these lots decreases. Further, early bidders fear missing the wines they really desire and are therefore willing to submit higher bids.

Another crucial factor to consider when creating an index of fine-wine investment is the volume of a particular wine produced in each vintage. Fine wines, by their nature, are limited in supply in each vintage. Upon a favourable rating, indicating exceptional quality, demand for that specific wine surges. This demand surge subsequently leads to a sharp increase in the secondary-market value of wine.

Portfolio design and evaluation metrics

The empirical design is descriptive and comparative rather than causal. We used a monthly rebalanced backtest over 47 rebalancing dates to compare four portfolio sets: equity only, equity plus Liv-ex wine indices equity plus SAFW10 and the full multi-asset portfolio. The intention was to evaluate portfolio behaviour under transparent assumptions, not to claim statistically definitive superiority in a short and thinly traded sample.

To evaluate portfolio implications, we benchmarked SAFW10 against two global fine-wine indices (see the Appendix for the construction of this index) and a set of liquid exchange-traded funds representing South African equities, South African bonds, listed property, gold and international equity exposure. All series are converted to South African rands (ZAR) for comparability using contemporaneous exchange rates.

Benchmark return series were obtained from Bloomberg. We used them to form diversified portfolios and to compare a locally constructed wine index with both global wine benchmarks and conventional assets.

Table 1: Constituents of the Top-10 South African Fine Wine Index (SAFW10)

SAFW10	Volume	Tim Atkins rating
Sadie Family Columella	504	98.40
Kanonkop Paul Sauer	944	97.60
Porseleinberg	325	98.20
Klein Constantia Vin de Constance	328	97.40
Sadie Family Palladius	486	96.20
Meerlust Rubicon	701	95.50
Boekenhoutskloof Syrah	264	96.40
Vilafonte Series C	264	95.60
Sadie Family Skurtberg	179	98.60
Alheit Family Makstok	158	98.75

Because currency conversion may itself affect co-movement, all portfolio results are interpreted from the perspective of a ZAR-based investor. The benchmark series used in the comparison are listed in Table 2.

Results

Figure 1 illustrates the cumulative performance of the financial indices over the sample period. The fine-wine indices (LXFW 100, LXFW 50 and SAFW10) perform strongly relative to several traditional assets in this period, and SAFW10 compares favourably in return terms. These patterns are descriptive and should be read with caution, because thin trading may mechanically lower measured volatility.

We constructed the portfolio using a mean-variance framework, in which a specified degree of risk aversion is incorporated rather than exclusively selecting the tangency portfolio that maximises the Sharpe ratio. Rolling historical return estimates were used as a proxy for expected returns. Given the well-documented instability of return forecasts, we also constructed a risk-parity portfolio as a robustness check, ensuring a more resilient allocation methodology by equalising risk contributions across assets.

We performed a portfolio selection backtest with monthly rebalancing at the end of each month from 29 March 2019 to 31 March 2023.

Table 2: Benchmark assets and indices

Ticker / Index	Description
LXFW100	Liv-ex Fine Wine 100
LXFW50	Liv-ex Fine Wine 50
STX40	Satrix Top 40 ETF (South African equities)
ETF500	S&P 500 ETF (US equities)
STXEMG	MSCI Emerging Markets ETF
STXWDM	MSCI World ETF
ETFGLD	Gold ETF
ETFBND	SA Bond ETF
STXPRO	SA Listed Property ETF
SAFW10	South African Top-10 Fine Wine index (this paper)

We chose 47 rebalancing days. Our analysis compares four portfolio compositions: (1) equity only, (2) equity combined with LXFW100 and LXFW50, (3) equity combined with SAFW10 and (4) the entire portfolio that includes all assets.

We examined key performance measures over the sample period, namely total return, annualised return, Sharpe ratio (Sharpe), maximum drawdown, concentration coefficient and portfolio turnover. The Sharpe ratio is computed using portfolio returns over the 47-month period and serves as a risk-adjusted return metric:

$$Sharpe_p = \frac{E[r_p] - r_f}{\sigma_p}, \quad \text{Equation 5}$$

where r_f is the risk-free rate (for simplicity, we adopt a zero risk-free rate).

The maximum drawdown (MaxDD) represents the largest observed decline in the portfolio value from a peak to a trough over the period. This measure is crucial for assessing the downside risk, as it quantifies the extent of potential losses an investor could have experienced.

To evaluate portfolio concentration, we employ the concentration coefficient (CC), also referred to as the Herfindahl–Hirschman index, defined as:

$$CC_t = \left(\sum_{i=1}^N W_{i,t}^2 \right)^{-1}, \quad \text{Equation 6}$$

where $W_{i,t}$ is the portfolio weight after rebalancing. A higher (lower) CC value indicates a more (less) concentrated or less (more) diversified portfolio.

As a proxy for transaction costs, we use portfolio turnover (PT), defined as:

$$PT_t = \sum_{i=1}^n |W_{i,t} - W_{i,t-1}|, \quad \text{Equation 7}$$

where $W_{i,t-1}$ is the portfolio weight before overbalancing.

A lower PT value suggests lower transaction costs and less frequent portfolio adjustments, making the strategy more cost-efficient. Descriptive statistics for the portfolio components are presented in Table 3.

Table 4 reports the portfolio backtest. Relative to the equity-only portfolio, portfolios that include fine wine show higher annualised

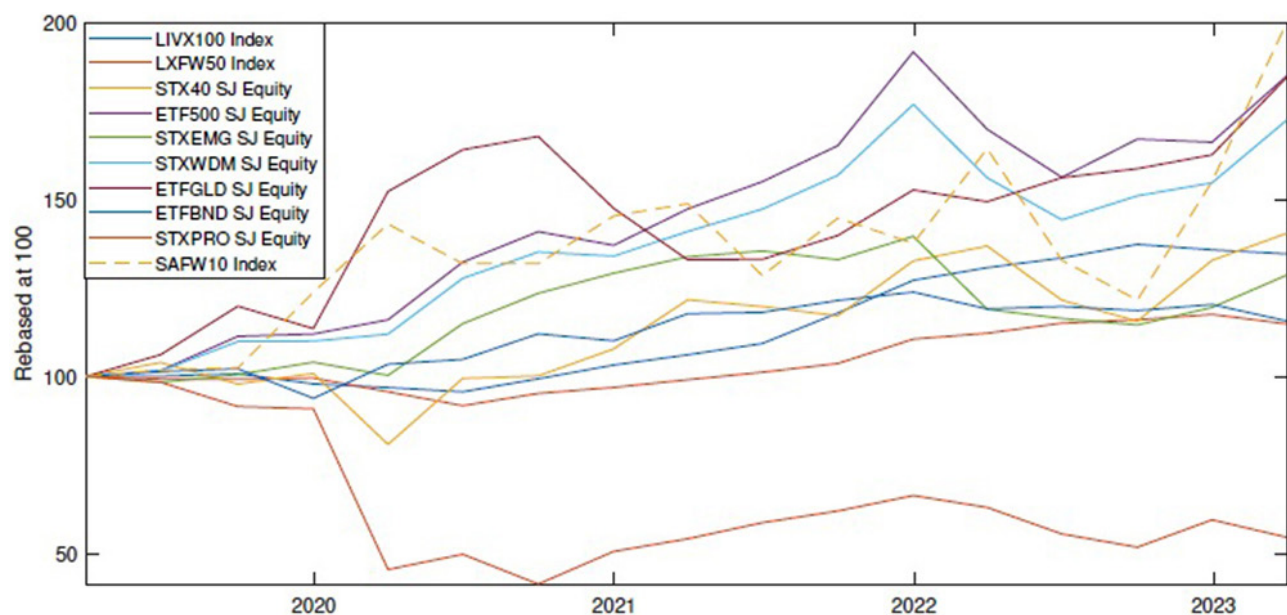


Figure 1: Cumulative performance of selected wine indices and benchmark assets from 29 March 2019 to 31 March 2023. Series are expressed from the perspective of a ZAR-based investor. LXFW100 = Liv-ex Fine Wine 100; LXFW50 = Liv-ex Fine Wine 50; SAFW10 = South African Fine Wine Index.

returns and modestly higher reported Sharpe ratios over the sample. The equity & SAFW10 portfolio has a higher Sharpe ratio and annualised return than the equity-only portfolio, while the full portfolio produces the highest total return. These differences are economically interesting, but given the short sample and possible microstructure bias, they should be interpreted as indicative rather than conclusive.

Table 5 shows that SAFW10 has low correlation with the selected asset classes in this sample, including low positive correlation with South African equities and gold and negative correlation with the Liv-ex series. This pattern is consistent with a diversification narrative, but it may partly reflect sparse trading and index smoothing. The key result, therefore, is not simply that South African fine wine 'outperforms', but that an emerging wine-market index can be constructed in a transparent way and can exhibit low measured co-movement with standard asset proxies.

Discussion and implications

Several implications follow from the empirical results. First, the South African secondary market appears sufficiently structured to support a transparent rule-based index, which is itself an important contribution in a market often discussed anecdotally rather than measured systematically. Second, the low observed correlation of SAFW10 with selected conventional assets suggests that fine wine may contribute diversification benefits for a ZAR-based investor. Third, the results also show why interpretation must remain cautious: in thin markets, apparent volatility reduction and Sharpe improvements may reflect the mechanics of infrequent trading as much as fundamental economic resilience.

These findings matter for both investors and industry participants. For investors, South African fine wine may be relevant as a small satellite allocation rather than as a stand-alone core holding. For producers, auction houses and brokers, the ability to generate credible and transparent market indices may strengthen price discovery and international visibility. For researchers, the study highlights the need to connect market microstructure, index design and portfolio inference rather than treating these as separate questions.

At the same time, the discussion highlights several boundaries. The present study does not fully model storage, insurance, authentication, taxes or bid-ask spreads; it also does not claim that observed diversification benefits would necessarily survive a longer sample or a different investor base. These omissions are important and should be treated as part of the economic interpretation rather than as minor technical footnotes.

Table 3: Descriptive statistics for portfolio components

Portfolio	Mean return (%)	Standard deviation (%)	Skewness	Kurtosis
Equity only	7.2	15.4	-0.45	3.12
Equity & LXFW	7.6	13.8	0.12	2.85
Equity & SAFW10	7.9	12.5	0.34	2.67
Entire portfolio	8.0	11.9	-0.18	3.01

Table 4: Portfolio selection backtest

Portfolio	Total return	Annualised return	Sharpe ratio	Maximum drawdown	Concentration coefficient	Portfolio turnover
Equity only	73%	7.2%	6.8%	19%	15	0.016
Equity & LXFW	78%	7.6%	6.9%	22%	14	0.014
Equity & SAFW10	82%	7.9%	7.4%	23%	14	0.014
Entire portfolio	83%	8.0%	7.5%	24%	15	0.012

South African fine wine is often described as offering strong value relative to established European regions, but value claims are inherently context-dependent and can be overstated when market depth is limited. Accordingly, we focus on observed secondary-market prices and portfolio outcomes under clearly stated assumptions, and we treat broader promotional narratives with caution.

Limitations and future research

This study has five main limitations. First, the observable secondary-market data set is limited to two major South African venues and may not fully capture domestic informal trades or international secondary-market activity. Second, the evaluation window is short and includes the COVID-19 disruption, which limits statistical power and may not reflect longer-run dynamics. Third, thin trading can mechanically reduce measured volatility and inflate risk-adjusted metrics. Fourth, transaction costs such as storage, insurance, taxes and bid-ask spreads are only partially proxied through turnover rather than modelled directly. Fifth, critic information used for quality screening is not fully standardised across all possible sources.

Future research should therefore expand coverage using additional domestic and international platforms, report more formal liquidity- and microstructure-adjusted diagnostics, estimate implementation costs explicitly, and compare multiple emerging wine regions using harmonised methods. A particularly useful extension would be to test whether the diversification patterns reported here persist out of sample and after more realistic trading frictions are imposed.

Conclusion

We have constructed and evaluated a South African fine-wine index (SAFW10) using observed secondary-market transactions and a repeat-sales methodology suited to sparse trading environments. Over 2019–2023, SAFW10 exhibited low measured correlation with selected asset

Table 5: Asset class correlations, *R*-squared and standard deviations

Asset class	Correlation with SAFW10	<i>R</i> -squared (regression on SAFW10)	Standard deviation
LIVX100 Index	-0.3233	0.1045	0.0383
LXFW50 Index	-0.2645	0.0699	0.0440
STX40 SJ Equity	0.1314	0.0173	0.0275
ETF500 SJ Equity	-0.1473	0.0217	0.0199
STXEMG SJ Equity	-0.1142	0.0131	0.0230
STXWDM SJ Equity	-0.0804	0.0065	0.0213
ETFGD SJ Equity	0.0535	0.0029	0.0189
ETFBND SJ Equity	-0.2280	0.0520	0.0222
STXPRO SJ Equity	-0.1248	0.0156	0.0276
SAFW10	1.0000	N/A	0.0142

proxies and improved some portfolio metrics when included alongside conventional assets and global wine benchmarks.

The main contribution of the study is therefore methodological and empirical rather than promotional: it shows how a South African fine-wine index can be built transparently, why a top-10 basket is a practical choice in a thin market, and how portfolio conclusions should be interpreted once market microstructure is taken seriously. Given the short horizon and the well-known challenges of illiquid collectable markets, the results should be read as descriptive evidence from an emerging wine region and as a platform for more extensive future research.

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Data availability

The data supporting the results of this study are available upon request to the corresponding author.

Authors' contributions

A.M.: Conceptualisation, methodology, investigation, sample analysis, formal analysis, validation, data curation, writing – original draft, writing – review and editing. R.W.F.: Supervision, project leadership, project administration, funding acquisition. Both authors read and approved the final manuscript.

Declarations

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Appendix: LXF100 Index construction

The Liv-Ex 100 Index is a widely recognised benchmark for fine wine investment, tracking the performance of the most actively traded wines in the secondary market. The construction of the index follows a rigorous methodology to ensure accurate representation, transparency and market relevance.

The Index consists of the 100 most sought-after wines based on transaction volumes and market demand. Wines are selected from internationally recognised wine regions, including Bordeaux, Burgundy and Champagne, ensuring a representative sample of the fine wine market. Pricing data are sourced directly from the Liv-Ex electronic trading platform, where professional wine merchants execute transactions. To improve accuracy, the Index incorporates the best bid-offer spread, merchant listings and verified auction house results.

A key feature of the LXF100 Index is its dependence on a 30-day price list, which calculates the volume-weighted average price over the preceding

30 days. This approach smooths short-term price fluctuations and ensures that valuations reflect real market activity rather than sporadic trade. The Liv-Ex Valuation Committee, composed of industry experts, oversees the integrity of the pricing mechanism, ensuring that the index constituents remain the most actively traded and investment-worthy wines.

The LXF100 is a price-weighted index, where each wine's influence is proportional to its market price. The index level is computed using:

$$Index\ Level = \frac{\sum (P_t \times W_t)}{\sum (P_0 \times W_0)} \times 100,$$

where P_t represents the current market price, W_t denotes the assigned weight and P_0 is the base period price. The index undergoes a biannual rebalancing process that replaces wines that lose liquidity with more actively traded options. Adjustments are also made for currency fluctuations and macroeconomic factors affecting the wine market.