

Computational implementation of AAOIFI Standard 21 for US public equities: A 12,500- stock applied screening study

Zaid Ghazal, Independent Researcher (Kiel, Germany)

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Abstract

This paper documents the computational implementation of AAOIFI Sharia Standard No. 21 across the full US-listed equity universe of approximately 12,500 active tickers. The methodology operationalises the four canonical tests of the standard: a primary-business activity screen against an industry exclusion list, a leverage screen requiring interest-bearing debt to remain below thirty-three percent of market capitalisation, a non-permissible-income screen requiring revenue from prohibited sources to remain below five percent of total revenue, and a liquid-assets screen requiring cash and interest-bearing securities to remain below thirty-three percent of market capitalisation. We describe the data inputs sourced from Financial Modeling Prep and the United States Securities and Exchange Commission EDGAR system, the implementation choices required when canonical AAOIFI definitions interact with imperfect commercial classifications, and the ticker-level override layer used to correct industry-classifier errors. We document approximately fifteen hundred Sharia-compliant operating equities identified from the twelve thousand five hundred ticker universe, a compliance rate of approximately twelve percent. We then compare the sector composition of the compliant cohort against the S&P 500 to characterise the structural sector tilt the screen induces, and intersect the compliant cohort with the seven-framework value-investing consensus signal documented in a companion paper to test whether Sharia constraints are in tension with quality-investing constraints. The intersection produces a smaller but materially overlapping cohort, indicating that the two screens are not mutually exclusive and that Sharia constraints are not in tension with quality-investing constraints as is sometimes assumed. The methodology and reason-coded compliance verdicts are fully documented in public source code and exposed through a public verdict API and per-ticker pages. This is a research artifact and not investment advice.

1. Introduction

Approximately two billion Muslims globally face a recurring problem when participating in public equity markets: the screening tools available to them are concentrated either in expensive institutional products built for Sharia-compliant fund managers, or in mobile applications with opaque methodologies and inconsistent verdicts across providers. The intersection of programmatic screening, transparent methodology disclosure, and full-universe coverage at the retail price point is poorly served.

This is not a niche concern. Global Islamic finance assets exceeded four trillion United States dollars by 2024 across banking, sukuk, takaful, and Islamic asset management. Retail demand for Sharia-compliant equity screening tools has accelerated in step with the growth of self-directed brokerage accounts among Muslim retail investors in the United States, the United Kingdom, the Gulf Cooperation Council states, Southeast Asia, and North Africa. Yet the academic literature on programmatic Sharia screening of US public equities is sparse,

particularly compared with the volume of work on Sharia screening for international and emerging-market equities, where index providers like Dow Jones Islamic Market, S&P Shariah, MSCI Islamic, and FTSE Russell have published methodology documents.

This paper contributes a transparent, reproducible implementation of AAOIFI Sharia Standard No. 21, the most-cited institutional Sharia screening framework, applied to the full US-listed universe of approximately twelve thousand five hundred active tickers as of May 2026. We describe the four canonical tests of the standard, the engineering trade-offs that arise when canonical definitions interact with imperfect commercial classifications, and the override layer required to correct misclassifications at the ticker level. We document the empirical sector and size distribution of the compliant cohort and characterise its overlap with conventional value-investing frameworks.

Three notes on scope. First, this paper does not advocate for or against any particular interpretation of Islamic commercial law. AAOIFI Standard 21 is one of several institutional standards; alternative interpretations exist among scholars and among index providers. We document the standard as a fixed reference and report the empirical results of applying it. Second, the implementation is deterministic and rule-based. We do not apply machine learning or natural-language processing to financial disclosures; we apply documented rules to structured data. Third, this paper documents the May 2026 snapshot. Compliance verdicts drift over time as company financials change; the supporting code recomputes daily, but a single snapshot is the unit of academic record.

2. AAOIFI Standard 21 overview

AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions) is a Bahrain-based standard-setting body for Islamic finance, founded in 1991. Its Sharia Standards (currently more than sixty documents covering everything from murabaha contracts to zakat calculation to corporate governance for Islamic financial institutions) are the closest available reference to a global authoritative source in institutional Islamic finance. They are voluntarily adopted by central banks and regulators in more than forty jurisdictions including Saudi Arabia, the United Arab Emirates, Bahrain, Pakistan, Malaysia, Sudan, and parts of Syria.

Sharia Standard No. 21, titled “Financial Papers (Shares and Bonds)” in the official English translation, governs what a Sharia-compliant investor can and cannot hold in the listed-equity universe. It is the institutional benchmark referenced by most large Islamic asset managers, by Islamic index providers, and by Sharia supervisory boards across the industry. Smaller retail tools (Zoya, Wahed, Musaffa, IdealRatings) either reference Standard 21 directly or use a derived methodology that diverges only on documented edge cases.

The standard imposes four tests, all of which must pass for an equity to be considered Sharia-compliant.

Test 1: Primary business activity. The company’s core economic activity must not fall in any prohibited category. The prohibited categories under AAOIFI Standard 21 are conventional interest-based banking and lending, conventional insurance (which combines riba in the investment float with gharar in the policy structure), production and primary distribution of alcoholic beverages, tobacco products, pork and non-halal meat, gambling and betting, adult entertainment, conventional weapons of mass destruction or offensive design, and cannabis where prohibited under local law.

Test 2: Interest-bearing debt ratio. The ratio of interest-bearing debt to thirty-six-month average market capitalisation must remain strictly below thirty-three percent. AAOIFI’s stated threshold is thirty percent in some translations and thirty-three percent in others; the discrepancy reflects translation across the Arabic original and is typically resolved by index providers using the thirty-three percent figure, which is also the Dow Jones Islamic Market threshold. The thirty-six-month averaging is intended to dampen the effect of short-term price volatility on the ratio.

Test 3: Non-permissible income. The ratio of income from non-permissible sources to total income must remain strictly below five percent. Non-permissible income in this context includes interest income earned on cash deposits and on interest-bearing securities, revenue from a non-halal subsidiary, lease income from property let to a non-halal tenant, and service revenue from clients in prohibited industries. Where the ratio exceeds zero but remains below five percent, the investor is required by the standard to purify the corresponding fraction of any dividends received, by donating that fraction to charity.

Test 4: Liquid assets ratio. The ratio of cash plus interest-bearing securities plus receivables to thirty-six-month average market capitalisation must remain strictly below thirty-three percent (some derived standards apply this threshold separately to cash and to receivables). The rationale is that a company sitting on so much liquid assets that its dominant economic activity is collecting interest on those assets has become, in substance, a money-market vehicle with an operating sideline, which is not structurally permissible regardless of the underlying business.

A stock that passes all four tests is considered Sharia-compliant. A stock that fails any one test is non-compliant. A stock that passes tests one through three but exceeds the cash-pile threshold under test four is non-compliant for cash-pile reasons even if its operating business is otherwise impeccable; the canonical example in the literature is the early-2010s Apple Inc., whose cash holdings briefly approached this threshold.

3. Computational implementation methodology

We describe the implementation in the same order the runtime scorer evaluates the four tests. The source code is publicly available at `src/lib/scoring/halal.ts` in the open repository associated with this paper.

3.1 Industry-based exclusions

The activity screen (Test 1) is implemented as a three-layer filter against the company's industry classification from Financial Modeling Prep, with manual override lists at the ticker level.

Layer 1: hardcoded industry exclusion set. A set of approximately twenty-four FMP industry strings that map directly to AAOIFI-prohibited categories. The set is built by enumerating the actual industry values in the live US-listed universe and hand-classifying each one. Excluded industries include: "Banks - Regional", "Banks - Diversified", "Banks", "Insurance - Property & Casualty", "Insurance - Life", "Insurance - Diversified", "Insurance - Specialty", "Insurance - Reinsurance", "Financial - Credit Services", "Financial - Conglomerates", "Asset Management - Bonds", "Asset Management - Income", "Asset Management - Leveraged", "REIT - Mortgage", "Beverages - Wineries & Distilleries", "Beverages - Brewers", "Beverages - Alcoholic", "Tobacco", "Gambling, Resorts & Casinos", "Gambling", "Resorts & Casinos", and several FMP data-quality variants such as "FIRE, MARINE & CASUALTY INSURANCE" which appears in uppercase on certain ticker classes due to differing FMP feed sources.

Layer 2: ticker-level compliant overrides. Some clearly Sharia-compliant businesses are grouped into excluded industries by the FMP classifier because the classifier operates at a coarser granularity than the AAOIFI activity test. The canonical example is the payment networks Visa and Mastercard, which appear in the FMP "Financial - Credit Services" industry alongside interest-issuing credit-card lenders like American Express and Capital One. Visa and Mastercard are pure transaction-processing networks: they earn fees per transaction and do not extend interest-bearing credit. The issuing banks extend the credit; the networks merely route the transaction. All four major Islamic index providers (Dow Jones Islamic, S&P Shariah, MSCI Islamic, and the Saudi Tadawul Shariah Index) treat Visa and Mastercard as compliant. Our override list grants industry-classification pardon to these and a small number of similarly miscategorised payment processors. The financial-ratio screens still run on pardoned tickers; the override only addresses the industry-classifier error.

Layer 3: ticker-level non-compliant overrides. The mirror of Layer 2: tickers that FMP classifies in industries that pass the activity screen but that the AAOIFI literature, the major Islamic index providers, and the published rulings of the AAOIFI Sharia Board treat as non-compliant. The list covers approximately seventy tickers across several rationales: streaming and entertainment conglomerates with R-rated content libraries (Netflix, Disney, Warner Bros Discovery, Paramount, Comcast, Roku), lodging chains with material embedded alcohol revenue from minibars and on-property bars (Hilton, Marriott, Hyatt, IHG, Wyndham, Host Hotels), cryptocurrency-exchange and Bitcoin-treasury companies (Coinbase, Strategy formerly MicroStrategy, Riot Platforms, MARA Holdings, CleanSpark) following the public ruling of Mufti Taqi Usmani, then chairman of the AAOIFI Sharia Board, against cryptocurrency, the Berkshire Hathaway ticker variants for the structural reason that the parent owns the GEICO conventional-insurance subsidiary and its interest-bearing float, mixed private-credit alternative-asset managers (Blackstone, Apollo, Blue Owl) where the credit sub-business exceeds the five-percent threshold of Test 3, and a cluster of business development companies (BDCs), collateralised loan

obligation (CLO) funds, and closed-end bond funds whose company name reveals the structurally interest-bearing nature but whose industry classification does not.

Layer 4: regex-based name-pattern fallback. A fourth layer catches credit-fund and BDC entities whose company name reveals the actual business but whose ticker is not on the explicit non-compliant override list. The implementation runs a list of conservative regex patterns against the company name when the industry is in a credit-vehicle-prone set (“Asset Management”, “Asset Management - Global”, “Financial - Capital Markets”, “Financial - Conglomerates”, “Shell Companies”). Patterns include word-boundary matches on “credit”, “income fund”, “bond fund”, “BDC”, “CLO”, “notes due”, “strategic credit”, “opportunistic credit”, “debt fund”, “mortgage income”, “municipal credit”, “senior loan”, “senior debt”, “business development co”, and “opportunities trust”. The scoping to the credit-vehicle-prone industry set prevents the pattern from incorrectly excluding a software company named “Credit Karma” or a brand named “Senior Living”. This layer added measurable coverage during the May 2026 audit, catching closed-end credit funds that the explicit ticker override list had not yet enumerated.

3.2 Debt-to-market-cap ratio

Test 2 of AAOIFI Standard 21 is implemented as a direct ratio computation:

```
debt_ratio = interest_bearing_debt / market_cap
```

Three implementation details warrant disclosure.

First, our `interest_bearing_debt` input is the FMP `long_term_debt` field, which is a slight under-estimate of the conceptual “total interest-bearing debt” used in the canonical AAOIFI definition. The canonical definition includes the current portion of long-term debt and certain lease liabilities under newer accounting standards (IFRS 16, ASC 842); our implementation excludes these. We compensate partially for the under-estimate by adopting the stricter thirty-percent threshold rather than the looser thirty-three-percent threshold. The mainstream conservative interpretation accepts this trade-off as a v1 implementation choice and documents it on the public methodology page.

Second, our `market_cap` denominator is point-in-time rather than the thirty-six-month average specified in the canonical standard. Point-in-time market capitalisation introduces additional volatility into the ratio: a stock that has dropped fifty percent in the past quarter shows an inflated debt ratio that may not reflect the company’s actual leverage profile. The thirty-six-month average dampens this effect. We adopt point-in-time market cap in v1 to maintain always-fresh data and document the choice as a known limitation. A v2 implementation using a thirty-six-month moving average is on the development roadmap.

Third, the ratio is computed only when both inputs are positive and finite. Companies with missing debt data or with non-positive market capitalisation produce an `insufficient_data` verdict, distinct from a compliance failure. The distinction matters because data-availability gaps should not be conflated with substantive non-compliance.

The verdict mapping is:

```
debt_ratio < 0.30           -> compliant on Test 2
0.30 <= debt_ratio < 0.40 -> questionable (borderline)
debt_ratio >= 0.40         -> non_compliant on Test 2
```

The grey zone between thirty and forty percent corresponds to the disagreement between AAOIFI’s stricter threshold and the Dow Jones Islamic Market index’s looser thirty-three-percent threshold. Companies that pass DJIM but fail AAOIFI fall into this zone. The “questionable” verdict is intended to surface this disagreement to the user rather than hide it behind a hard fail.

3.3 Interest-bearing securities ratio

Test 4 of AAOIFI Standard 21 (the liquid-assets ratio) is documented but not yet automated in the v1 implementation. The reason is data quality: reliable cash, accounts receivable, and interest-bearing securities data is not consistently available for the full twelve-thousand-five-hundred-ticker universe in the structured FMP feed. The fields are present for large-cap US-listed companies with high-quality 10-K disclosure, partial for mid-caps, and frequently missing for small and micro caps.

The implementation roadmap includes ingesting the relevant balance-sheet line items directly from SEC EDGAR XBRL filings for the subset of the universe that files with the SEC, which would close approximately seventy percent of the data gap. The remaining thirty percent (foreign private issuers and small companies with minimal XBRL coverage) would continue to receive an “insufficient_data” verdict on Test 4 specifically.

Until Test 4 is automated, the implementation labels a stock as `compliant` based on passing Tests 1, 2, and 3, and documents on the per-ticker methodology page that Test 4 has not been independently verified for that ticker. For the large-cap segment where the cash-pile failure mode is most likely to be relevant (mature technology companies with disproportionate cash holdings being the canonical example), we maintain a manual review list and apply ticker-level non-compliant overrides where a cash-pile concern has been raised by any of the major Islamic index providers.

3.4 Impure-income-to-revenue ratio

Test 3 of AAOIFI Standard 21 (income from non-permissible sources strictly below five percent of total income) is the test with the highest variance across screening tools because the underlying data is the least standardised.

The v1 implementation has two layers.

Layer A: segment-level haram keyword match. Where FMP provides product-segment revenue data for a given company, the screen sums revenue from segments whose name matches a haram-keyword list. The keyword list covers explicit haram domains: “alcohol”, “wine”,

“spirits”, “beer”, “liquor”, “brewery”, “brewing”, “distill”, “tobacco”, “cigarette”, “cigar”, “casino”, “gambling”, “wager”, “betting”, “lottery”, “sportsbook”, “adult content”, “adult entertainment”, “pornograph”, “interest income”, “interest revenue”, “loan interest”, and “mortgage interest”. A segment whose name contains any keyword adds its revenue to the haram total. The screen then computes haram revenue divided by total revenue. A ratio greater than five percent fails the stock outright. A ratio between two and five percent flags the stock as questionable (the band where dividend purification is required but holding remains permissible).

Layer B: ticker-level non-compliant overrides for known-but-undisclosed haram revenue. Most companies do not voluntarily disclose haram revenue at the segment level. A hotel chain rarely breaks out “Bar and Alcohol Revenue” as a separate segment line; this revenue is usually bundled into “Food and Beverage” or “Hotel, Owned”. The screen cannot detect this from the structured segment data alone. For such companies, we maintain the ticker-level override list described in Section 3.1, populated by cross-referencing the published constituent lists of the major Islamic index providers. A ticker that appears as non-compliant in at least three of the four major providers (Dow Jones Islamic, S&P Shariah, MSCI Islamic, FTSE Russell Islamic) and that we cannot independently verify as compliant is added to the override list with the provider consensus as the rationale.

This dual approach (segment-level keyword match plus provider-consensus override) catches the cases that can be programmatically detected, while the override layer covers the cases where the underlying disclosure is insufficient. The honest characterisation is that Test 3 is the test with the most residual judgement; full automation would require either substantially more granular segment-level disclosure than US public companies typically provide, or natural-language analysis of 10-K narrative disclosures.

3.5 Dividend purification

The AAOIFI Standard 21 framework imposes a dividend-purification obligation when a holding’s non-permissible income falls in the zero-to-five-percent band. The investor must donate to charity the fraction of received dividends corresponding to the haram fraction of income. A stock with three percent non-permissible income that distributes a one-dollar annual dividend requires the investor to donate three cents to charity per share held per annum.

The platform surfaces the purification calculation per-ticker for the relevant cohort, computed as:

```
purification_per_dividend_dollar = non_permissible_income_ratio
```

The display reports the haram-income ratio in basis points (a thirty-basis-point ratio implies thirty cents of purification required per hundred-dollar dividend received), and presents the resulting figure alongside the dividend yield on the per-ticker page. The calculation is informational; the actual purification is the investor’s responsibility, typically calculated annually at the holding-level rather than the dividend-payment level.

The methodology page documents the purification arithmetic explicitly for two reasons. First, transparency: the investor should understand the cost of holding a Sharia-questionable name with material purification obligation. Second, completeness: AAOIFI Standard 21 is not only a binary screen but also imposes the corresponding remediation obligation; reporting only the binary verdict would be an incomplete implementation of the standard.

4. Data sources

The implementation draws on two primary data sources.

Financial Modeling Prep (FMP). FMP provides the structured company classification (sector, industry, country of incorporation), the financial statement line items (income, balance sheet, cash flow), the computed market capitalisation, and the product-segment revenue disclosures where companies report them. Coverage is comprehensive for US-listed equities across NYSE and NASDAQ. FMP is the same fundamental data feed used in the seven-framework value-investing scorer documented in the companion paper. Industry classifications are coarser than ideal for the activity screen, which is why the override layers described in Section 3.1 are required.

SEC EDGAR. The United States Securities and Exchange Commission's electronic data gathering, analysis, and retrieval system provides the structured XBRL-encoded financial filings for all SEC-registered issuers. Where FMP's data is incomplete (particularly for the Test 4 liquid-assets line items), the SEC EDGAR XBRL feed provides the canonical source. The current implementation reads FMP as the primary feed and uses SEC EDGAR as a planned secondary source for the v2 implementation of Test 4.

Data freshness: FMP financials are refreshed within forty-eight hours of company filings. The recompute pipeline runs the halal scorer over the full universe on a daily cron, so changes in any company's reported financials propagate to the compliance verdict within seventy-two hours of the underlying filing.

Coverage at the May 25, 2026 snapshot: approximately twelve thousand five hundred US-listed tickers across NYSE, NASDAQ, and NYSE American, of which approximately ten thousand are operating equities (excluding ETFs, closed-end funds, preferreds, warrants, and special-purpose vehicles for which the AAOIFI screen as applied to equity claims is not directly meaningful). The remainder are excluded from the compliant cohort at the universe-filter step rather than failing any of the four tests substantively.

5. Results

5.1 Universe-level pass rates

At the May 25, 2026 snapshot, the four-test implementation produces the following verdict distribution across the twelve thousand five hundred US-listed ticker universe:

- **Sharia-compliant (passes all evaluated tests):** approximately fifteen hundred tickers, or twelve percent of the universe.
- **Non-compliant by activity screen (Test 1):** approximately three thousand tickers, or twenty-four percent. The dominant categories are conventional banks, conventional insurance, conventional credit-card issuers, BDCs and credit funds, breweries and distilleries, and gambling and resort operators.
- **Non-compliant by debt-ratio screen (Test 2, $\text{debt_ratio} \geq 0.40$):** approximately two thousand five hundred tickers, or twenty percent. Many of these would have passed Test 1 (the operating business is permissible) but fail on leverage.
- **Questionable on debt-ratio screen (Test 2, debt_ratio in $[0.30, 0.40)$):** approximately fifteen hundred tickers, or twelve percent. This is the AAOIFI-versus-DJIM grey zone described in Section 3.2.
- **Non-compliant by impure-income screen (Test 3, segment data available):** a small explicit population of approximately eighty tickers, dominated by hotels with disclosed alcohol revenue, retailers with disclosed tobacco or alcohol segments, and conglomerates with disclosed casino segments.
- **Insufficient data (missing debt or market cap):** approximately one thousand five hundred tickers, or twelve percent.
- **Unknown (missing sector and industry classification):** approximately two thousand tickers, or sixteen percent. This category is dominated by recent SPACs, foreign issuers with thin US disclosure, and some recently delisted instruments still appearing in the ticker feed.

The twelve-percent universe-level pass rate is broadly consistent with the published constituent-count to universe-size ratios of the major Islamic index providers, which typically report twelve to fifteen percent of a broad US universe surviving the four tests, depending on threshold choices and override coverage.

5.2 Sector tilt of the halal cohort vs S&P 500

The compliant cohort exhibits a sector distribution that differs materially from the S&P 500 due to the structural exclusion of conventional financials and conventional insurance.

The compliant cohort is overweight relative to the S&P 500 in: information technology and software (which contains few directly excluded industries and tends to maintain low leverage), healthcare equipment and services (similar reasoning), consumer staples excluding alcohol and tobacco (e.g. food and household products), industrials excluding heavy aerospace and defence

offensive systems, and selected utility names whose debt ratios remain below the leverage threshold.

The compliant cohort is underweight relative to the S&P 500 in: financials (structurally excluded by the activity screen), real estate trusts that depend on mortgage-financed structures (mortgage REITs excluded outright, equity REITs frequently excluded by leverage), consumer discretionary (hotels and casinos excluded), and selected energy names with high leverage profiles.

The result is that the compliant cohort tilts heavily toward what the conventional sector taxonomy would describe as quality-compounder names: high-margin software businesses, healthcare equipment providers, branded consumer-staples manufacturers, and selected industrials with low leverage and durable end markets. This sector tilt is consistent with the structural exclusions of the standard and is not an artifact of implementation choices.

The concentration is meaningful for portfolio construction. A market-cap-weighted compliant cohort exhibits sector concentration above what would be considered prudent for a diversified portfolio under conventional concentration guidelines. Existing Sharia-compliant index products (notably the Dow Jones Islamic Market USA Index and the S&P 500 Shariah) explicitly accept this concentration as a structural feature of Sharia screening rather than a tracking-error issue. The same trade-off applies to any retail investor constructing a portfolio from the compliant cohort: the universe is smaller than the conventional universe and is sectorally concentrated.

5.3 Intersection with the 7-framework value-investing consensus

The companion paper documents a seven-framework value-investing consensus scoring system that grades every US-listed operating equity against the canonical philosophies of Buffett, Graham, Fisher, Lynch, Greenblatt, Munger, and Smith, and identifies cohorts of stocks where multiple frameworks simultaneously rate the company at the equivalent of B-plus or better. We use that scoring system here to test whether AAOIFI compliance is in tension with conventional quality-investing constraints.

The intersection of the AAOIFI-compliant cohort with the value-investing consensus cohort produces an empirically meaningful overlap. In the May 2026 snapshot:

- The all-seven-frameworks-pass cohort (forty-seven stocks in the conventional universe of approximately three thousand operating equities passing the size filter) overlaps with the AAOIFI-compliant cohort in approximately seventeen names, or thirty-six percent.
- The five-frameworks-or-more cohort overlaps with AAOIFI-compliant names in approximately forty percent of cases.
- The Buffett-A-or-better standalone cohort overlaps with AAOIFI-compliant names in approximately twenty-five percent of cases.

The overlap is materially above what would be expected if the two screens were uncorrelated. If AAOIFI compliance were random with respect to value-investing quality, we would expect the intersection rate to approximate the base rate (the twelve-percent universe pass rate). The

observed thirty-six percent intersection rate at the all-seven tier is approximately three times the base rate.

The mechanistic interpretation is that several of the AAOIFI Standard 21 tests select for the same financial characteristics that quality-investing frameworks select for. The leverage test (Test 2, debt below thirty-three percent of market cap) directly aligns with Buffett's and Munger's preference for conservative balance sheets. The activity exclusions remove banks, insurers, and asset-heavy interest-bearing credit vehicles, which Buffett and Greenblatt's published frameworks already partially exclude (Greenblatt excludes financials from his Magic Formula universe explicitly; Buffett's lens is structurally incompatible with the float-leveraged business model of conventional insurance for most retail screens). The non-permissible income test (Test 3) is silent on quality but does not penalise quality. The cash-pile test (Test 4) discourages exactly the kind of unproductive balance-sheet inflation that Smith's quality-compounder framework flags.

In short, the AAOIFI screen and the value-investing consensus screen are not orthogonal; they share substantial common ground in their preference for low-leverage, transparent-business, durable-margin operating businesses. Sharia constraints are not in tension with quality investing as is sometimes assumed in retail conversation; they are partially correlated with quality investing because both target similar business and balance-sheet attributes through different motivations.

6. Comparison with other Sharia screening standards

AAOIFI Standard 21 is the institutional benchmark but is not the only Sharia screening framework in use. The major published alternatives, all of which derive from the same underlying jurisprudence but differ on specific thresholds and definitions, are:

Dow Jones Islamic Market Index (DJIM, S&P Global). Activity exclusions broadly identical to AAOIFI. Leverage threshold: total debt divided by trailing twenty-four-month average market capitalisation must be below thirty-three percent. Non-permissible income: below five percent of revenue. Cash-plus-interest-bearing-securities divided by trailing twenty-four-month average market capitalisation: below thirty-three percent. Accounts-receivable divided by trailing twenty-four-month average market capitalisation: below thirty-three percent. Methodology published in the S&P Global Dow Jones Islamic Market Indices Methodology document (S&P Global, 2024). Used as the benchmark for Sharia-compliant US large-cap exposure.

FTSE Russell Global Islamic Index Series. Activity exclusions broadly aligned with AAOIFI plus an explicit exclusion of cinemas and music. Leverage threshold: debt divided by total assets must be below thirty-three percent (FTSE uses the total-assets denominator rather than market capitalisation, which produces materially different verdicts on asset-heavy businesses; the same operating company can pass FTSE's screen while failing DJIM's, and vice

versa, depending on its asset-to-market-cap ratio). Non-permissible income: below five percent. Cash and interest-bearing items divided by total assets: below thirty-three percent. Methodology published in the FTSE Russell Global Islamic Index Series Ground Rules document (FTSE Russell, 2023).

MSCI Islamic Index Series. Closest derivative methodology to AAOIFI Standard 21. Activity exclusions aligned. Leverage threshold: total debt divided by trailing twelve-month average market capitalisation below thirty-three and one-third percent. Non-permissible income: below five percent. Cash plus interest-bearing securities divided by trailing twelve-month average market capitalisation: below thirty-three and one-third percent. Receivables divided by total assets: below seventy percent. The receivables ratio is materially looser than AAOIFI's strict reading and reflects MSCI's accommodation for service-business models with large outstanding-invoice books. Methodology published in the MSCI Islamic Index Methodology document (MSCI Inc., 2024).

S&P Global BMI Shariah. Uses the AAOIFI thresholds applied to the S&P Global Broad Market Index universe. Most-aligned standard among the index providers to AAOIFI's strict reading.

The cross-provider disagreement is a feature of the standards landscape, not a defect of any particular provider. Different jurisdictions have different scholarly traditions, and the index providers serve different end markets (DJIM is the US-centric benchmark, FTSE serves the UK and Commonwealth markets, MSCI serves the global institutional market). When two retail Sharia screening apps produce different verdicts on the same stock, the most common explanations in order of frequency are: divergent ticker-level override lists (Section 3.1, Layer 2 and Layer 3), divergent definitions of interest-bearing debt (whether to include current portion and lease liabilities), and divergent denominator choices (trailing twenty-four-month average versus thirty-six-month average versus point-in-time market capitalisation versus total assets).

Our implementation adopts the AAOIFI Standard 21 strict thresholds as the reference. Where AAOIFI is ambiguous between alternative readings of the original text, we adopt the stricter reading (the thirty-percent debt threshold rather than the thirty-three-percent reading, the point-in-time market capitalisation rather than the twenty-four-month average until v2 ships the moving-average computation).

7. Limitations

We disclose the following methodological limitations openly. Each is documented on the public methodology page and is reflected in the open-source code's inline comments.

7.1 Self-reporting of “impure income” by issuers

Test 3 of AAOIFI Standard 21 requires the screening tool to compute revenue from non-permissible sources as a fraction of total revenue. The underlying data is the company's own

product-segment disclosure. Companies are not required by accounting standards to break out revenue by halal-versus-haram designation; they segment their revenue by their own reporting structure. A hotel chain that derives material alcohol revenue from its bars and minibars typically reports this revenue bundled into a “Food and Beverage” segment or simply within “Hotel, Owned” revenue. The screen cannot detect the haram component from the structured segment data alone.

The implementation’s defence against this limitation is the ticker-level override list described in Section 3.1, populated from the major Islamic index providers’ constituent lists. This is effective for the well-known cases (large lodging chains, major entertainment conglomerates with content libraries) but cannot generalise to small and mid-cap companies that are not in any index provider’s universe. For these companies, Test 3 is effectively skipped, and the verdict relies on Tests 1, 2, and 4. The honest characterisation is that a small-cap operating company with material undisclosed haram revenue could pass our screen as compliant if it does not appear on any index provider’s exclusion list. The probability of this scenario is low for the categories most relevant to Muslim retail investors (consumer-staples and software businesses rarely have meaningful undisclosed haram revenue), but it is not zero.

7.2 Quarterly vs annual screening cadence trade-offs

AAOIFI Standard 21 does not specify the frequency at which the four tests should be re-run. In practice, index providers re-screen quarterly, with constituents removed mid-quarter only on substantive corporate events (material acquisitions, dividend declarations). Our implementation re-runs daily on the full universe, which produces fresher verdicts but also introduces more verdict-flip noise: a stock whose debt ratio sits at 0.298 one day and 0.305 the next will flip from compliant to questionable on consecutive snapshots even though no economically meaningful change has occurred.

The trade-off between freshness and stability is genuine. Daily recomputation provides faster reaction to material corporate events (a leveraged buyback that pushes a company through the threshold is reflected within forty-eight hours) at the cost of higher verdict-flip rates on borderline names. Quarterly recomputation would be more stable but would also leave material new compliance failures undetected for up to ninety days.

We adopt the daily-recomputation model and document the question-trafficked-with-stability trade-off explicitly. A future implementation may layer a stability filter (e.g. require a stock to remain across a threshold for three consecutive daily snapshots before flipping the verdict) without changing the underlying scoring logic.

7.3 Asset-light businesses (financial ratios less stable)

The debt-to-market-cap ratio (Test 2) and the liquid-assets-to-market-cap ratio (Test 4) both use market capitalisation as the denominator. Market capitalisation is volatile in absolute terms; a stock that drops fifty percent in a quarter has the denominator of its ratio computation cut in

half, which mechanically doubles the apparent leverage and apparent cash-pile ratio even if the absolute debt and absolute cash positions are unchanged. The standard's use of a trailing twenty-four or thirty-six-month average market capitalisation dampens this volatility; our v1 implementation's use of point-in-time market capitalisation does not.

The effect is more pronounced for asset-light businesses (software, certain consumer brands, certain healthcare services) where the market cap reflects expected future cash flows rather than current book equity, and is therefore more volatile relative to the relatively stable absolute debt and cash positions. An asset-light technology company can move from compliant to non-compliant on Test 2 over a single quarter purely on equity-market sentiment, even if its absolute leverage is unchanged. The v2 implementation's switch to a moving-average market capitalisation will materially reduce this issue.

A second consideration for asset-light businesses: small absolute interest-bearing debt amounts can produce ratios that fluctuate by tens of basis points on small absolute debt changes, particularly when the company's total debt is on the order of one to two percent of market capitalisation. We do not currently smooth these small absolute changes; doing so would introduce a confounding parameter without materially improving the verdict on any meaningful threshold case.

8. Reproducibility

The methodology and scoring engine are open and auditable. Specifically:

8.1 Public API endpoints

A public verdict API exists at [https://invest-like.com/api/public/verdict/\[ticker\]](https://invest-like.com/api/public/verdict/[ticker]) returning the halal status, reasons, and debt ratio for any covered US-listed ticker, alongside the seven framework scores documented in the companion paper. The OpenAPI specification at <https://invest-like.com/api/public/openapi.json> documents the full public API surface including the halal-status field in the verdict response.

A public consensus API exists at <https://invest-like.com/api/public/consensus> returning the current count of compliant tickers and the size of the cross-screen overlap with the value-investing consensus cohort.

The per-ticker methodology page at [https://invest-like.com/halal/\[ticker\]/](https://invest-like.com/halal/[ticker]/) renders the verdict, the specific reason code, the computed debt ratio against the AAOIFI threshold, and the cross-reference to the seven-framework value-investing verdict for the same ticker.

The methodology document at <https://invest-like.com/methodology/halal/> describes the four tests, the implementation choices, the override layer rationale, and the known v1 limitations. The same content is fully expressed in the open-source code at `src/lib/scoring/halal.ts`.

8.2 Halal-status table schema

The compliance verdict is materialised on the `stocks` table in the supporting database with the following schema:

```
halal_status      text NOT NULL DEFAULT 'unknown'
halal_reasons     jsonb NOT NULL DEFAULT '[]'
halal_debt_ratio  numeric
halal_computed_at timestampz
```

The `halal_status` column is constrained to the five-value enum `{compliant, questionable, non_compliant, insufficient_data, unknown}`. The `halal_reasons` jsonb array stores short string reason codes (e.g. `sector_banking`, `debt_ratio_high:0.42`, `debt_ratio_borderline:0.34`, `impermissible_revenue_high:7.2%`, `ticker_override_non_compliant:NFLX`). The `halal_debt_ratio` numeric column stores the computed long-term debt over market capitalisation ratio for diagnostic display alongside the verdict. The `halal_computed_at` timestamp records the most recent recompute, allowing debugging of stale verdicts after a methodology change.

A third party with their own fundamental data feed can re-implement the four tests from the published documentation, apply them to their data, and reproduce the compliance verdicts. With access to a comparable FMP-equivalent industry classification feed and a complete override list (or with a more granular industry classifier that obviates the need for overrides) they can reproduce the universe-level pass rate within a small tolerance. We treat methodological reproducibility as a higher-priority research output than any particular numerical result.

9. Conclusion

This paper has documented the computational implementation of AAOIFI Sharia Standard No. 21 across the full US-listed equity universe. The four canonical tests of the standard (industry-based activity screen, interest-bearing debt ratio, non-permissible income ratio, and liquid-assets ratio) admit a programmatic implementation against a structured fundamental data feed, with override layers required to correct industry-classifier errors and to flag companies with material undisclosed haram revenue.

Applied to the May 2026 snapshot of approximately twelve thousand five hundred active US-listed tickers, the implementation identifies approximately fifteen hundred Sharia-compliant operating equities, a universe-level pass rate of approximately twelve percent. The compliant cohort tilts sectorally toward information technology, healthcare equipment, consumer staples excluding alcohol and tobacco, and selected industrials, and is structurally underweight conventional financials, mortgage-financed real estate, hotels with material alcohol revenue, and crypto-exposed names.

The intersection of the AAOIFI-compliant cohort with a conventional value-investing consensus screen (the seven-framework system documented in the companion paper) produces a materially positive overlap rate, approximately three times the rate that would be expected if the two screens were uncorrelated. This finding is consistent with the structural alignment between several AAOIFI tests (particularly the leverage and cash-pile tests) and several canonical value-investing preferences (low debt, productive deployment of assets). Sharia constraints are not in tension with quality-investing constraints; they are partially correlated through their common preference for transparent, low-leverage, durable operating businesses.

The implementation has documented limitations: the underlying segment-level revenue data is incomplete, the point-in-time market capitalisation denominator introduces verdict volatility relative to the canonical thirty-six-month moving average, and the Test 4 liquid-assets ratio is not yet automated in v1. The roadmap for v2 includes SEC EDGAR XBRL ingestion to close the Test 4 data gap, moving-average market capitalisation to align the denominator with canonical AAOIFI, and continued expansion of the ticker-level override list as the major Islamic index providers publish constituent updates.

The contribution of this paper is not a new interpretation of Islamic commercial law; AAOIFI Standard 21 is the institutional reference and we treat it as fixed. The contribution is a transparent, reproducible, full-universe computational implementation of the standard, exposed through public APIs and open source, available at retail price points to the Muslim self-directed investor population who has historically been served either by expensive institutional products or by opaque mobile applications. The hope is that transparent implementation contributes to the broader normalisation of Sharia-compliant equity participation by retail Muslim investors in the US public markets.

10. Disclaimer

This paper documents a research methodology and an empirical screening study. It is not investment advice. It is not a recommendation to buy, sell, or hold any security. It is not a Sharia ruling. It is a computational implementation of a published institutional standard; the underlying scholarly judgement is AAOIFI's, not ours.

The implementation is best-effort; methodological limitations are disclosed in Section 7 and may produce incorrect verdicts on specific tickers. A reader considering any investment decision should perform their own due diligence, consult their preferred Sharia scholar or compliance officer in their jurisdiction, and consult a qualified financial advisor. The author is an independent researcher and is neither a registered investment adviser nor a qualified Sharia scholar in any jurisdiction.

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Author Bio

Zaid Ghazal is an independent researcher and the founder of invest-like (<https://invest-like.com>), a self-funded equity research platform based in Kiel, Germany. The platform grades every US-listed operating equity against seven canonical value-investing frameworks, runs the

AAOIFI Standard 21 halal screen on the full universe daily, and publishes the methodology in open source and public APIs. The author is not a registered investment adviser and is not a qualified Sharia scholar. Contact: zaid@invest-like.com.

This paper documents methodology current as of May 25, 2026. The reported cohort statistics are computed from the May 25, 2026 snapshot of the platform's halal-compliance table. Subsequent revisions of this paper will be posted as new SSRN submissions rather than as amendments to this version; the asof date is the canonical version anchor.