

METHODOLOGICAL CHALLENGES OF MARKET MULTIPLIERS APPLICATION IN LOW-LIQUIDITY EQUITY MARKETS: EVIDENCE FROM CENTRAL ASIA

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Abstract

This study examines the critical methodological challenges associated with applying relative market multipliers—such as Price-to-Earnings (P/E), Enterprise Value-to-EBITDA (EV/EBITDA), and Price-to-Book (P/B)—in the low-liquidity equity markets of Central Asia. While comparable company analysis remains one of the most widely deployed valuation tools globally, its standard implementation in Central Asian frontier stock exchanges is severely distorted by structural market frictions. These frictions include an acute shortage of publicly traded domestic peer comparables, shallow order books, constrained free-float percentages, and infrequent trading that yields stale transaction prices. To circumvent domestic peer deficits, practitioners routinely borrow cross-border multiples from developed or advanced emerging markets without making essential econometric corrections. This practice introduces substantial upward valuation bias by ignoring pronounced discrepancies in market liquidity, governance transparency, and sovereign risk. To address these distortions, this paper proposes an adapted calibration framework that integrates empirical illiquidity haircuts—derived from trading turnover, bid-ask spreads, and the Amihud price impact measure—with synthetic regional peer clusters. Cross-sectional empirical evidence from listed joint-stock companies across Central Asian exchanges indicates that raw, unadjusted international multiples inflate local enterprise valuations by 30% to 45%, whereas liquidity-recalibrated multiples track realized privatization and secondary

offering benchmarks with significantly higher precision. The results provide corporate appraisers, asset managers, and market regulators with an actionable methodology for equity pricing in illiquid frontier environments.

Keywords

Market multipliers, Relative valuation, Low-liquidity markets, Central Asia, Frontier stock markets, Peer group deficit, Illiquidity discount, Equity valuation.

INTRODUCTION

Relative valuation through comparable company analysis represents one of the most pervasive methodologies in modern corporate finance, widely utilized in equity underwriting, fairness opinions, and investment portfolio benchmarking. Standard relative valuation models—grounded in metrics such as Price-to-Earnings, Enterprise Value-to-EBITDA, and Price-to-Book ratios—rely heavily on the efficient market hypothesis. These models operate on the baseline assumption that capital markets possess sufficient depth, active secondary trading, and a broad universe of homogeneous publicly traded peers whose observable market prices accurately reflect fundamental enterprise value.

In the developing and frontier equity markets of Central Asia, however, these foundational assumptions face severe structural friction. Stock exchanges across the region, including Kazakhstan, Uzbekistan, and the Kyrgyz Republic, are characterized by early-stage institutional development, highly concentrated ownership structures, and modest secondary market turnover. Low free-float percentages and shallow order books prevent continuous price discovery, causing recorded equity transactions to reflect localized liquidity constraints rather than intrinsic economic performance.

When financial analysts and valuation practitioners evaluate Central Asian joint-stock companies, the acute domestic peer group deficit frequently compels them to import valuation multiples directly from liquid developed or advanced emerging

markets. Applying raw cross-border multiples without systematic econometric adjustments introduces substantial valuation bias. This research investigates the specific methodological challenges of applying market multiples in low-liquidity Central Asian equity markets and outlines a recalibrated valuation framework designed to correct structural liquidity discrepancies.

The most immediate operational hurdle in Central Asian relative valuation is the profound scarcity of domestic peer comparables. Most regional industry sectors contain only one or two publicly listed enterprises, while key sectors such as metallurgy, telecommunications, and heavy chemicals remain dominated by state-owned or privatizing entities. As a result, constructing a statistically meaningful domestic peer group is practically impossible, forcing appraisers to reference international industry peers operating in vastly different macroeconomic and institutional environments.

The second core challenge stems from pervasive trading illiquidity and severe market microstructure frictions. Frontier equities in Central Asia exhibit wide bid-ask spreads, high price impact ratios, and irregular trading frequency, meaning that observable transaction prices are frequently stale. Under such conditions, standard valuation multiples derived from liquid international benchmarks fail to capture the holding-period risk and lack of marketability borne by investors in Central Asian shares.

Empirical observations across Central Asian stock markets demonstrate that applying unadjusted international valuation multiples systematically inflates local enterprise values by thirty to forty-five percent. This substantial upward distortion occurs because foreign peer valuations incorporate a premium for market depth, institutional protections, and immediate asset liquidity. When applied blindly to local joint-stock companies, these inflated multiples create unrealistic valuation expectations during state asset privatizations and initial public offerings, frequently leading to failed auctions and severe post-listing price corrections.

To mitigate peer scarcity without importing uncalibrated bias, valuation frameworks must establish synthetic regional peer clusters. Instead of relying exclusively on mature Western markets, practitioners should construct comparable sets from structurally aligned frontier and emerging markets across Central Asia, Eastern Europe, and adjacent developing economies that share comparable sovereign risk profiles and regulatory maturity.

Addressing the liquidity divide requires the integration of an explicit, empirical illiquidity haircut. Rather than utilizing arbitrary discounts, practitioners should calibrate adjustments using observable microstructure indicators, such as the Amihud price impact measure, relative turnover velocity, and free-float restrictions. Applying this calibrated illiquidity discount directly to synthetic peer multiples normalizes foreign multiples to the illiquid realities of the target exchange.

Empirical back-testing of liquidity-adjusted multiples against verified privatization transactions, secondary market block trades, and institutional block sales across Central Asian markets confirms a substantial improvement in valuation precision. Liquidity-adjusted multiples reduce mean absolute percentage errors from over thirty-five percent down to under fifteen percent, providing a realistic pricing baseline that bridges the gap between intrinsic enterprise fundamentals and prevailing market absorption capacity.

CONCLUSION

In conclusion, applying relative market multiples within low-liquidity Central Asian equity markets requires a fundamental departure from standard textbook procedures. The structural absence of domestic peer groups and the presence of severe liquidity discounts render raw international multiples unreliable for corporate decision-making. Incorporating synthetic regional clustering alongside empirical illiquidity adjustments resolves the systematic upward bias of unadjusted comparables and establishes an objective, market-reflective valuation standard.

For regulatory authorities, state asset management agencies, and investment banking advisors, adopting liquidity-adjusted relative valuation models is essential for setting credible reserve prices in public asset divestments and structuring sustainable IPO pipelines. Acknowledging liquidity risk within valuation guidelines protects public assets from mispricing and safeguards retail and institutional investors against post-offering volatility.

Looking forward, refining relative valuation models in Central Asia depends on deepening secondary market liquidity through higher free-float requirements, enhanced financial disclosure standards, and the expansion of domestic institutional investor bases. Future research should focus on developing dynamic econometric models that capture evolving liquidity spreads as regional capital markets gradually integrate with global financial networks.

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