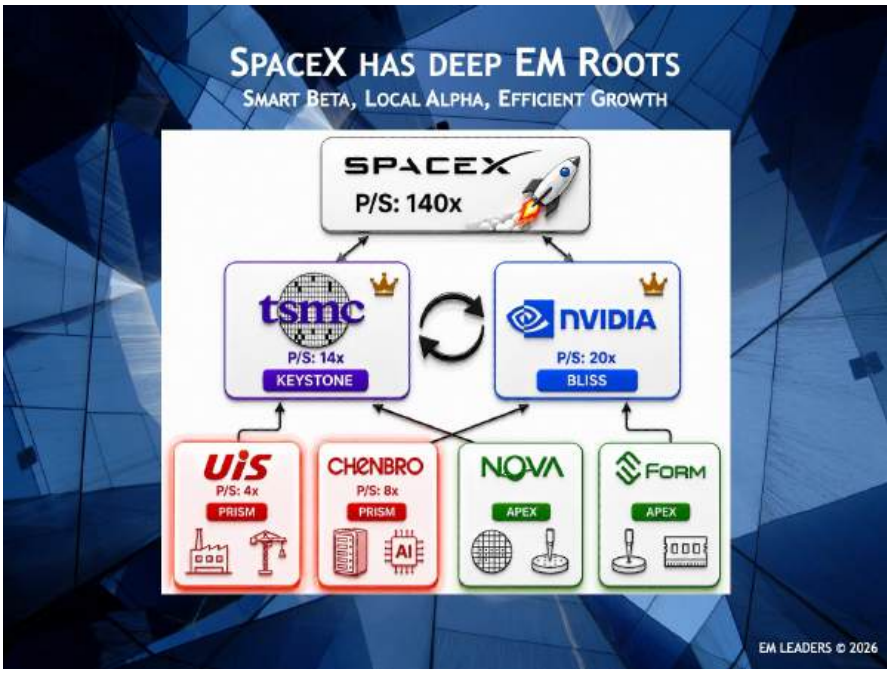


EM SUPPLIERS DRIVING AI AND SPACEX

Q1: Would you own the AI platforms — or the suppliers that feed them?
Q2: Where across the global supply chains does growth come cheapest?
Q3: How do you turn dispersion in public emerging markets into alpha?
Q4: What differentiates top-decile active managers in emerging markets?

SpaceX's $2+ trillion valuation has captured global attention, yet the rocket powering that valuation runs on data centers, advanced chips and specialized supply chains with deep roots across emerging markets. Investors are asking where to own that chain: which pond should they fish in, and how do they catch the best fish?
This article combines smart-beta allocation with local-alpha stock selection to capture more efficient growth across emerging-market supply-chain companies.

The market value of Nvidia and SpaceX now rivals the combined economic output of Korea, Taiwan and the ASEAN economies. Yet these economies supply a large share of the semiconductors, memory, electronics, networking equipment and critical inputs that underpin the growth of America's technology champions. TSMC remains the dominant producer of the world's most advanced semiconductors and relies in turn on hundreds of specialist suppliers across Taiwan, Korea and ASEAN. Indeed, much of the infrastructure behind American technology sits inside these Asian supply chains.

Holding SpaceX, Nvidia, OpenAI or Anthropic therefore means taking a view on the bottlenecks that drive them. The central question is no longer whether AI platforms will grow, but *where* in the value chain the best future returns will accrue: in the platforms themselves, or the suppliers that feed them? To find out, we organize 16 companies into four baskets: BLISS (US mega-cap compute and platforms), APEX (US specialist tools, infrastructure and power), KEYSTONE (EM large-cap foundry, memory and IT leaders), and PRISM (EM SMID-cap hardware, equipment, materials suppliers). We compare their expected growth, profitability and valuation on one critical test: which basket offers the cheapest and most efficient access to innovation-led growth?

We measure **growth efficiency (G/PS)** as current revenue growth divided by the current price-to-sales multiple. Intuitively, it measures how much growth investors receive for each unit of valuation paid. Unlike the popular PEG ratio, which compares valuation to earnings growth, G/PS focuses on revenue growth and is more useful for high-growth companies whose earnings may still be depressed by investment spending. For example, the S&P 500 trades at roughly 3x sales and is expected to grow revenues by 9%, implying a G/PS ratio of 3. Higher values indicate that investors receive more expected growth per unit of valuation. Chart 1 compares these ratios across the 16 companies in our four stylized baskets, providing a simple framework for comparing growth and valuation multiples across the innovation supply chain.

We rank the baskets by growth efficiency, where **SpaceX screens as least attractive**, with a G/PS ratio of just 0.25 at a valuation approaching 140x existing 2025 sales (or 70x projected optimistic 2026 sales). Such pricing assumes extraordinary future economics across launch services, satellite broadband, defense connectivity, infrastructure and space logistics. Yet the capture of monopoly rents is far from guaranteed: U.S. competitors such as Blue Origin, Amazon Kuiper and Rocket Lab, Chinese platforms Guowang and Qianfan, and Europe's IRIS² initiative all constrain the addressable market and pricing power. Future growth will also depend on power availability, data-center capacity, launch cadence, satellite replenishment cycles, and the resilience of global semiconductor and server supply chains.

BLISS also screens as relatively expensive with a G/PS ratio of 2.5 despite industry-leading net margins averaging 42% across **Nvidia, Apple, Microsoft and Alphabet**. This ecosystem is increasingly circular: Nvidia supplies the compute for AI platforms like OpenAI and Anthropic, while the hyperscalers are at once its customers, partners and competitors. Those cross-investments have reinforced growth and margins but may also cap future upside as the market matures and competition intensifies. Revenue growth remains robust at 30%, yet current valuations already embed exceptionally optimistic expectations for long-term expansion and margin durability.

APEX appears to be the most dispersed basket, spanning specialist U.S. suppliers ranging from relatively expensive names such as **Nova and FormFactor** to a recent growth-spurt name, **Photronics**, and a highly growth-efficient one, **AMSC**, with an **average G/PS of 1.6**. Selectivity here is critical. As a group, U.S. SMID-cap growth companies have underperformed the S&P 500 by 350 basis points annually over the past five years. More than 40% of firms in the segment remain loss-making, while private equity continues to play an active role in industry consolidation. Yet these companies provide exposure to critical bottlenecks in semiconductor production, including test systems, photomasks and power infrastructure. For investors with appropriate risk controls, APEX offers a high-beta route into some of the most specialized and difficult-to-replicate segments of the innovation supply chain.

KEYSTONE captures the strategic Asian large-cap builders of the global AI stack and delivers an **attractive G/PS of 4.7**, nearly double that of the BLISS basket. **TSMC** remains expensive, reflecting its dominant position in advanced semiconductor manufacturing and AI packaging. By contrast, **Samsung** has been re-rated over the past year yet still delivers twice the growth efficiency of TSMC (6 versus 3).

SK Hynix is the most profitable company in the basket, generating net margins of 56% from its peak position in high-bandwidth memory, a critical input for AI systems. **Alibaba** is among the cheapest Asian internet platforms, with leading positions in Chinese cloud, e-commerce and digital infrastructure markets. KEYSTONE provides exposure to some of the most important chokepoints in the global technology supply chain, spanning foundry capacity, advanced memory and digital infrastructure. The pattern is striking: **as investors move down the value chain from platforms to specialized suppliers, growth efficiency improves sharply**.

PRISM delivers the highest growth efficiency with a G/PS ratio above 5. UIS offers the cheapest growth (G/PS near 10) as a Taiwan-based contractor specializing in cleanroom, semiconductor and high-technology facilities, with significant exposure to TSMC. **Chenbro** occupies a critical position in AI infrastructure as a supplier of server chassis and hardware platforms used throughout the data-center supply chain, including systems linked to Nvidia. The two small-cap Korean holdings provide exposure to important semiconductor bottlenecks. **Hana Materials** produces high-performance silicon components used in advanced semiconductor manufacturing, while **PSK** supplies strip, ash and process equipment essential to wafer fabrication. Both benefit from close relationships with Korea's leading semiconductor network and occupy specialized niches that are difficult to replicate. Despite strong growth and strategic positions within the AI supply chain, these firms continue to trade at valuations well below those of the platform companies they ultimately support.

The market often rewards the most **visible platforms** while underappreciating **specialized suppliers** whose products are embedded deep within the value chain. As AI, satellite connectivity, industrial automation and advanced manufacturing continue to scale, earnings growth among these suppliers may eventually become too large to ignore. The resulting combination of strong growth and low starting valuations creates the potential for both earnings compounding and multiples re-rating. SpaceX may continue to deliver exceptional operational performance, but the valuation gap between SpaceX and PRISM suggests investors are paying vastly different prices for access to the same underlying innovation cycle.

The first part focused on smart-beta allocation across the innovation ecosystem and reached a simple conclusion: some segments of the value chain offer substantially more growth per unit of valuation than others. Yet identifying the most attractive basket is only half the challenge. **Smart beta decides which pond to fish in; active management decides what you catch**. The next part therefore examines how local networks, disciplined portfolio construction and artificial intelligence can convert market dispersion into sustainable alpha. That is where active management becomes most valuable. Many EM small- and mid-cap companies operate deep within under-the-radar global supply chains and combine unique competitive advantages, superior earnings growth, attractive valuations and unusually high dispersion – fertile ground for alpha. Capturing it depends on four capabilities, developed below: knowing where inefficiencies are largest, building local information networks, applying AI to portfolio construction and risk, and running operations that preserve flexibility.

Active investment managers seek market segments with **higher dispersion** because that is where alpha tends to live and excess returns can be earned. The historical evidence is compelling: active managers have generally delivered their strongest outperformance in smaller-cap and international markets where information is fragmented, and pricing inefficiencies are larger. In these environments, bottom-up research can uncover emerging industry leaders, overlooked technology suppliers and niche businesses that are too small to attract meaningful institutional attention. With more than 12,000 listed emerging-market small- and mid-cap companies — many outside major indices and with little or no analyst coverage — investors face a diffuse market where **disciplined stock selection** matters far more than index construction.

Market dispersion, measured as the standard deviation of stock returns, can reach 40% to 60% for **emerging-market small caps**, compared with roughly 10% to 15% for U.S. large caps. Proprietary manager databases reveal that average small-cap alpha in public emerging markets was approximately 3% over the past five years, rising to 6% for top-quartile managers. Performance was even stronger in more idiosyncratic local markets. For example, active managers in Indian small-cap equities generated approximately 5% alpha, which increased to 10% for top-quartile managers. These results illustrate the magnitude of the opportunity available to skilled investors. The trade-off, of course, is lower liquidity, reduced transparency, higher governance risks and greater transaction costs. Alpha is therefore not risk-free. Successful investing requires local knowledge, disciplined research and effective risk management. In other words, local expertise and proprietary networks are decisive.

The opportunity becomes even more compelling when structural dispersion coincides with **favorable market cycles**. Today, investors may be witnessing two such turning points. First, after more than a decade of U.S. market leadership, relative performance has begun to broaden toward international equities. Valuation gaps remain historically wide: U.S. equities trade near the upper end of their historical valuation range, while many international and emerging markets continue to trade at substantial discounts. Second, after an equally long stretch of underperformance, small-cap equities remain unusually cheap relative to large caps. Historically, smaller companies have generated a long-term return premium, yet much of that premium has disappeared over the past decade. If both international and small-cap cycles are beginning to normalize, emerging-market small caps may offer a rare combination of attractive valuations, improving fundamentals and unusually high dispersion—precisely the conditions under which active management has historically been most successful.

Private-equity markets may help explain why this opportunity persists. Over the past decade, global private equity assets have expanded dramatically while many public small-cap markets stagnated. In the United States, numerous high-growth businesses migrated into private ownership, reducing the opportunity set available to public investors. Emerging markets remain different: many founder-led businesses still access public markets relatively early, preserving an environment where investors can exploit information asymmetries, similar to those traditionally associated with private equity, but with daily pricing, lower fees and better liquidity.

Four **structural advantages** are critical to convert dispersion into sustainable alpha:

Local intelligence networks: Relationships with leading local analysts across emerging and frontier markets are critical sources of differentiated insights. Contacts with brokers, industry specialists, suppliers, customers, research institutes and corporate executives complement traditional due diligence. Access to local alternative data provides an additional edge that is difficult to replicate from London or New York. Such information may include local market structure, capital flows, sentiment indicators, regulatory developments and policy changes. In less efficient markets, informational advantages remain one of the most durable sources of alpha.

Risk management: Academic research has consistently documented the benefits of combining smaller company size with higher quality characteristics. Firms with strong balance sheets, low leverage and consistent earnings growth tend to generate superior returns per unit of risk. Diversification across sectors and countries further improves portfolio resilience by reducing dependence on any single growth theme, industry cycle or policy regime. Smaller allocations to individual countries, combined with credit, liquidity and currency analysis, can reduce downside risk while preserving access to higher-growth opportunities. The results reveal lower portfolio beta, stronger quality metrics and more attractive information ratios.

Integrated AI: Artificial intelligence strengthens the investment process by analyzing large datasets, screening thousands of securities, identifying factor exposures and improving portfolio construction. AI is particularly effective at identifying systematic sources of excess return through disciplined optimization, monitoring and risk control. However, AI remains less effective when evaluating management quality, assessing competitive advantages or interpreting local market developments. The most effective investment processes therefore combine human judgment with machine intelligence, allowing analysts to focus on high-value decisions while AI provides scale, consistency and analytical depth within a framework with clear guardrails.

Operations and capacity: Successful alpha generation requires an investment structure that preserves flexibility and minimizes friction. Capacity in emerging-market small caps is naturally constrained, with concentrated strategies often reaching limits near $1–2 billion in assets. Liquidity can be improved by focusing on companies with market capitalizations between $200m and $8bn and adequate trading volumes while avoiding illiquid micro-caps. Low portfolio turnover helps preserve alpha by reducing transaction costs and market impact. Compared with private equity, public-equity structures provide similar opportunities to exploit information asymmetries often with double-digit alpha – while offering lower fees, greater transparency and significantly enhanced liquidity.

Chart 2 summarizes our **alpha engine**. In high-dispersion markets, the strongest portfolios pair unique competitive advantages and high-quality growth with sensible valuations and disciplined risk control. Local networks identify hidden champions, global benchmarking imposes valuation discipline, and quantitative tools manage risk — together turning dispersion into a repeatable source of excess return.

Our objective is to identify local champions that feed the global innovation economy. **PRISM** illustrated four compelling SMID-cap companies in AI and semiconductor supply chains. **ATLAS** adds a complementary set of innovation leaders focused on knowledge-intensive services and intellectual property, spanning digital services (Systems Ltd in Pakistan and FPT in Vietnam) and life sciences (Sai Life Sciences in India and 3SBio in Hong Kong). Valuations are attractive, with price-to-sales multiples generally below 5x, while growth efficiency exceeds that of PRISM with G/PS ratios above 6 and revenue growth approaching 30%. If PRISM represents the physical infrastructure of innovation—equipment, materials and manufacturing bottlenecks—ATLAS represents the brains: software, engineering talent, scientific research and intellectual property.

These companies occupy critical positions within global innovation networks. **Systems Ltd** provides enterprise software and digital-transformation services to multinational clients through ecosystems such as Microsoft. **FPT** combines Vietnam's engineering talent with global demand for AI, cloud and software services, supported by partnerships including Nvidia and SAP. **Sai Life Sciences** enables pharmaceutical innovation through outsourced discovery, development and manufacturing services for global biotech and pharmaceutical companies. **3SBio** provides exposure to biologics innovation and global licensing opportunities through partnerships including Pfizer.

The distinction between beta and alpha is ultimately what ties the entire framework together. Investors can earn beta by choosing the right segment of the innovation ecosystem— whether BLISS, KEYSTONE, PRISM or ATLAS. Alpha emerges from selecting the right companies within those segments before the market fully recognizes their value. In this framework, smart-beta determines the opportunity set; local research, disciplined risk management and AI-enhanced analytics determine the real outcome.

These examples illustrate the opportunities across emerging markets, from technology and healthcare to industrials, robotics, fintech and cybersecurity. Here, investors can access innovation through the platforms themselves or through the companies that enable them. The greatest investment opportunities often emerge not where innovation is most visible, but where it is most essential. In EM SMID-caps, where information asymmetries are large and valuations are attractive, active management retains a unique ability to convert local knowledge into sustainable alpha, capturing many of the private equity advantages without excessive fees, leverage or lockups.

Oliver Fratzscher is founder and portfolio manager of EM Leaders LLC, an investment firm focused on emerging-market equities. His research combines local intelligence networks, quantitative analysis and fundamental stock selection across global innovation supply chains.

http://www.emleaders.com/pdf/EML-local-alpha.pdf

Four Attractive Supply Chain Baskets - compared to the Rocket:

BLISS — US mega-cap | AI compute, cloud and consumer platforms (MAG-7)

BLISS represents the compute-and-platform layer most global investors already own. These companies have exceptional margins, scale advantages and ecosystem lock-in, but they also sit at the expensive end of the AI chain.

NVIDIA (NVDA) — AI compute. Key accelerator platform for the AI stack, supported by CUDA, GPU architecture and customer lock-in across hyper-scalers, AI labs and enterprise infrastructure. Suppliers include TSMC, SK Hynix, Samsung, Micron and server OEM/ODM partners.

Apple (AAPL) — Consumer silicon. Premium consumer-device demand layer. Its moat is the iOS ecosystem with 2bn clients, device installed base and custom silicon strategy. Its supply chain pulls through TSMC, Hon Hai, Samsung, Sony and other component suppliers.

Microsoft (MSFT) — Cloud and AI distribution. Enterprise software lock-in, Azure cloud scale and AI distribution through Office, GitHub and OpenAI-related exposure. Its AI supply chain includes NVIDIA, TSMC, memory suppliers and data-center infrastructure.

Alphabet (GOOG) — Cloud, search and AI silicon. Search, advertising, Gemini, cloud and custom TPU infrastructure. Its supply chain includes NVIDIA, TSMC, Broadcom, MediaTek, Wistron and other AI infrastructure partners.

BLISS is the quality anchor, but it is less diversifying. It captures the obvious AI winners at high margins and high valuations.

APEX — US SMID | metrology, testing, masks and power (US quality specialists)

APEX captures U.S.-listed specialist suppliers that feed fabs, test systems, masks and power infrastructure. APEX is higher-beta and more valuation-sensitive than PRISM or KEYSTONE, but it offers exposure to critical bottlenecks in semiconductor production.

Nova (NVMI) — Metrology and process control. Optical, X-ray and chemical metrology tools used to measure and control advanced semiconductor manufacturing. Supplier for TSMC, as more AI chips and advanced packaging require tighter process control at leading fabs.

FormFactor (FORM) — Probe cards and semiconductor testing. Probe cards and wafer-test systems used in logic, DRAM and HBM testing. The strongest AI link is through HBM and memory suppliers that support NVIDIA-class accelerators.

American Superconductor (AMSC) — Power quality and grid resilience. Power electronics, grid-resiliency systems and naval power-protection technologies. Supplier to military, AI data centers, and fabs that require more stable and resilient power infrastructure.

Photronics (PLAB) — Photomasks. Leading independent photomask supplier. Photomasks are upstream consumables in semiconductor production, giving broad fab exposure, though direct customer links should be treated as industry-level rather than single-customer proof.

APEX offers U.S. specialist tactical exposure. It has attractive bottleneck assets, yet its valuation and beta require active risk control.

KEYSTONE — EM large-cap | foundry, memory, and Asian AI infrastructure

KEYSTONE captures the strategic Asian large-cap layer that physically builds the AI stack: foundry, memory, HBM and regional cloud infrastructure. It is the core supplier-chain basket because it owns the chokepoints that mega-cap AI platforms depend on.

TSMC — Foundry and advanced packaging. Critical manufacturing node for leading-edge AI silicon. Its moat is process leadership, ecosystem depth and advanced-packaging capacity. It turns NVIDIA, Apple, AMD and other chip designs into physical silicon.

Samsung — Memory, foundry and devices. Memory, foundry, logic, devices and component scale. Its AI relevance comes through DRAM, HBM, foundry capacity and broad electronics infrastructure. Supplies most of MAG-7 leaders.

SK Hynix — HBM memory. Leading supplier of high-bandwidth memory for AI accelerators. Its role is central because HBM is one of the major constraints in scaling AI compute, an oligopoly in current supercycle.

Alibaba — China cloud and AI platform. Leading Chinese and Asean cloud-platform exposure through cloud infrastructure, enterprise AI services and open model ecosystems. It adds regional platform diversification to the physical supply-chain names.

KEYSTONE is the AI supplier-chain basket with exposure to foundry and memory chokepoints that enable NVIDIA-class AI compute.

PRISM — EM SMID | fab build-out, materials, equipment and AI server hardware

PRISM captures the under-owned EM small and mid-cap supplier layer. These companies provide cleanrooms, server hardware, process consumables and specialized fab equipment. This is the highest-alpha basket if growth persists and valuations remain disciplined.

United Integrated Services (UIS) — Fab build-out. Taiwan-based cleanroom and high-tech facility contractor tied to semiconductor fab expansion. Its strongest link is to TSMC and other advanced manufacturing capacity additions.

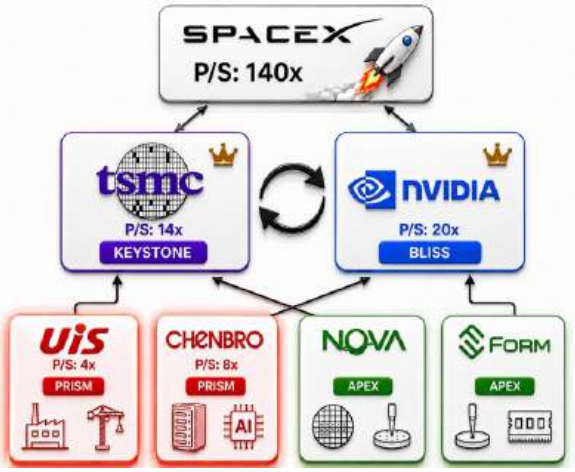
Chenbro — AI server hardware. Taiwan's leading provider of server chassis and enclosure infrastructure, including AI-server and rack-scale hardware. Its strongest link is to NVIDIA-platform server ecosystems and AI data-center build-out.

Hana Materials — Semiconductor consumables in Korea. Supplies high-purity silicon and silicon-carbide components used in semiconductor etch processes. Its relevance comes through Samsung, SK Hynix and the memory/HBM production chain.

PSK Inc. — Semiconductor process equipment. Korean leader for strip, ash and related process tools used in semiconductor manufacturing. Its exposure is tied to Korean memory and logic capex, especially Samsung and SK Hynix.

PRISM is the active alpha sleeve with best growth efficiency, lower valuations and indirect AI-chain exposure, but smaller-cap risks.

Comparison across four baskets versus SpaceX



	% 3M	P/S	G / PS	G1 - G3	Net Margin	FCF Yield	Beta
SpaceX	48	140	0.25	…	…	…	…
BLISS (avg)	14	12	2.5	-2	42	2.3	1.3
APEX (avg)	35	11	1.6	9	25	1.8	2.0
KEYSTONE (avg)	53	8	4.7	24	34	2.7	0.9
PRISM (avg)	72	7	5.1	25	16	4.5	0.4

SpaceX new listing, Bliss and Apex are US baskets, Keystone and Prism are EM baskets. %3M total return to 6/16/26; P/S price to current year sales; G / PS current revenue growth efficiency; G1-G3 one-year minus three-year growth; Beta versus S&P500.

Chart 1: Comparison of four stylized supply chain baskets

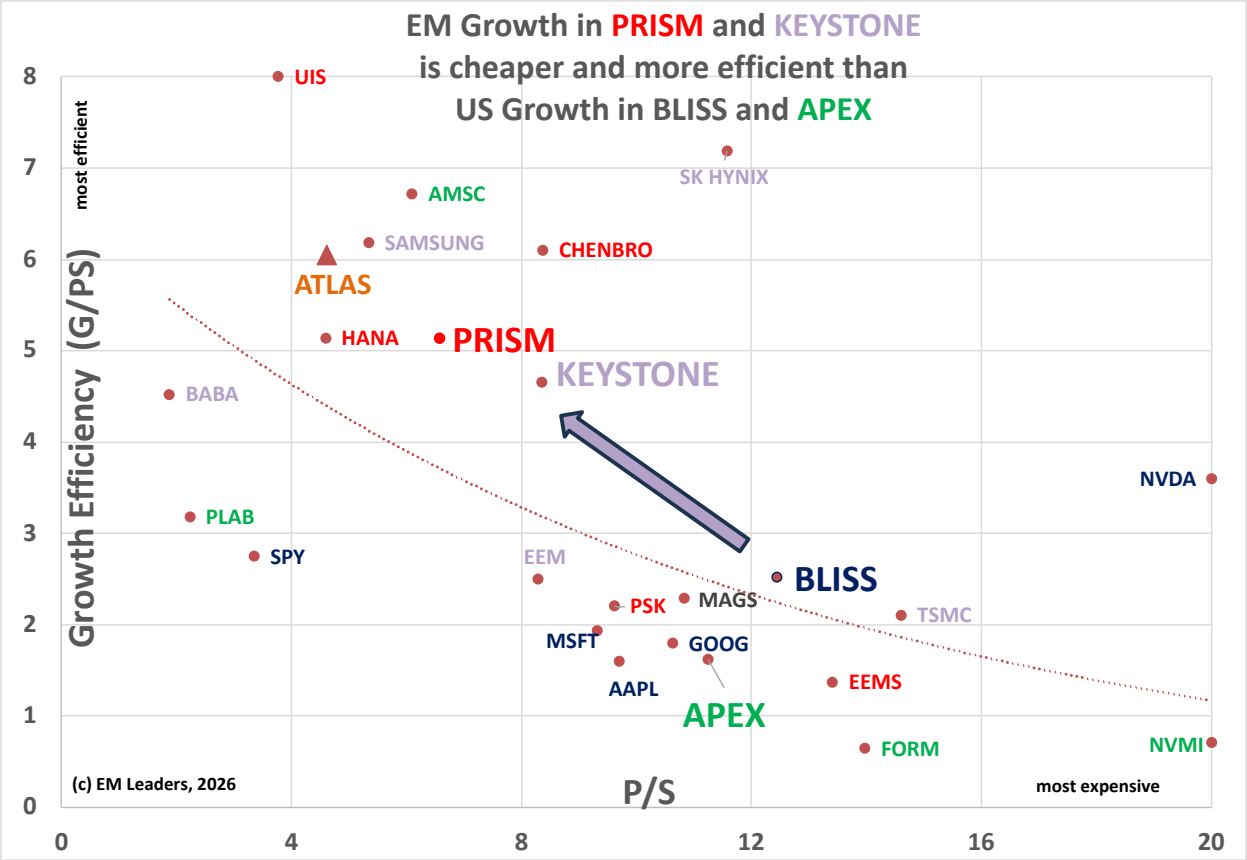


Chart 2: Opportunities in EM small-caps: smart beta PLUS local alpha