

CHINA MONTHLY

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AI, Fundamental Analysis and ESG In One Model – The Holy Grail of Investing?

The Big Picture



China connected the world's biggest solar plant to the grid in northwestern Xinjiang in June. The 3.5-gigawatt (GW), 32,947-acre solar farm takes top spot from two operational 3GW capacity solar facilities that are also in western China.

THE BRIEFING

Third Plenum Focus on Tech and Financial Risk

China's highly anticipated Third Plenum gathering the nation's top leaders, often seen as the most important of the seven party gatherings held over the Central Committee's five-year cycle, stressed their commitment to boosting domestic technology and reforms to improve local government balance sheets by better balancing income and expenditures. The meeting also reaffirmed the full year GDP growth target of around 5% for 2024.

China Cuts Loan Prime Rate by 0.1% to 3.35%

Days after the plenum, the People's Bank of China (PBOC) cut the seven-day reverse repo rate to 1.7% from 1.8%, the first cut to the rate since August 2023. The official Xinhua news agency cited unnamed sources close to the PBOC as saying the "decisive" rate cut showed its determination to bolster the recovery and it was in response to the plenum's aims to achieve this year's growth target.

Record China Trade Surplus

China's trade surplus hit a record USD99 billion in June as exports grew at their fastest rate in 15 months. The surplus far surpassed the USD85 bn expected by the financial markets and comes ahead of higher US tariffs on Chinese-made electric vehicles and other hi-tech products that come into force in August, while higher European Union import duties on Chinese electric vehicles came into force earlier in July. The 10 nations of the Association of Southeast Asian Nations remained the largest destination for Chinese products, with exports to ASEAN growing 10.7% year-on-year in the January to June period.

Curbs for Quants

The China Securities Regulatory Commission approved an increase in margin requirements for short selling in July, aimed at curtailing risks that emerged from quant strategies earlier this year. The China Securities Finance Corporation, the country's biggest stock lending provider, will also suspend its business of lending securities to brokerages. Offshore investors can still access short selling via swap arrangements in Hong Kong.

Bond Yields Hit Record Lows

Benchmark 10-year yields hit a record low of 2.18% in July, prompting the PBOC to consider steps to cool the rally. Foreign investors' holdings of onshore Chinese bonds have risen 4.8 times since the Northbound Bond Connect started in July 2017 to USD580 bn in May, marking the ninth consecutive month of net buying.

AI, FUNDAMENTAL ANALYSIS AND ESG IN ONE MODEL – THE HOLY GRAIL OF INVESTING?

By Sun Yue

China has quietly made great strides in Environmental, Social, and Governance (ESG) investing in recent years, closing the gap on developed markets. The early focus of ESG was on improving citizens' quality of life by cleaning up an environment that bore the marks of rapid industrialization, epitomized by the pervasive use of face masks in Beijing in the early 2000s up till the mid-2010s to cope with thick smog. China has come a long way since then, with clear skies on most days in major cities. ESG has extended to Beijing's push for "new productive forces".

ESG has been an integral part of APS's investment process, as depicted in our Four Alpha-Hats® investment framework. To extract more alphas, we decided several years ago to build an ESG system which combines AI and fundamental inputs. We believe ours is the first of its kind in China, or for that matter in the world.

Investing tools must not be backward looking nor general nor ignore local characteristics. For example, most ESG models classify State-Owned Enterprises (SOEs) as having weak governance solely because they are state-owned. But the reality is that not all SOEs are the same, and those that are well run could be under-appreciated. In fact, there are SOE companies that have shown notable improvements. This warrants a tool or model that can pick up the positive ESG factors, in order to avoid throwing the baby out with the bathwater. A powerful tool must also look beyond trendy ESG topics like the energy transition, gender representation, and subjective moral values. For instance, while pushing for new sustainability practices, it's important not to eliminate traditional practices that are still effective and beneficial. Or, when aiming to improve gender representation, not to overlook or undermine the importance of merit and qualifications.

Our efforts went a step further and developed BlackTee®, a proprietary fundamental AI ESG tool that facilitates the full integration of ESG into our investment process by applying a tailored, China-centric approach. We believe our BlackTee® will increasingly help our investment team yield more alphas.

Key Ingredients for an ESG Awakening

President Xi's Green Call: It has been 19 years since President Xi Jinping first mentioned the "Two Mountains" theory in August 2005 during his tour in Zhejiang as its Party Committee

Secretary, calling clear waters and lush mountains invaluable assets comparable to the gold and silver of legend (绿水青山就是金山银山).

Today, a green undertone is no longer seen as an impediment to growth but as the foundation of high-quality development. This includes advancements in green science and technology innovation, green manufacturing, green services, and the energy industry, as addressed by Xi at the start of 2024 and which he reiterated during China's Third Plenum in the latter half of July. Yet, in addition to replacing the old paradigm that was akin to “high consumption, high pollution, low benefit”, the current slogan “New productive forces are in itself green productive forces” marks a change in the focus and method of Xi’s economic governance. According to Xi’s speech in an early 2024 Politburo meeting and an article in the Communist Party of China’s leading official theoretical journal and news magazine Qiushi (求是) in June, such endeavors in promoting new productive forces would be characterized by the increase in total factor productivity (TFP), suggesting that this is China’s new paradigm for economic growth.

Longyuan Developed a World First – Combined Floating Wind and Fish Farm

(风渔融合浮式平台)



↑ Integrated floating wind farm and fish farm in Fujian, China →



↑ Underwater robots used for inspecting underwater structures

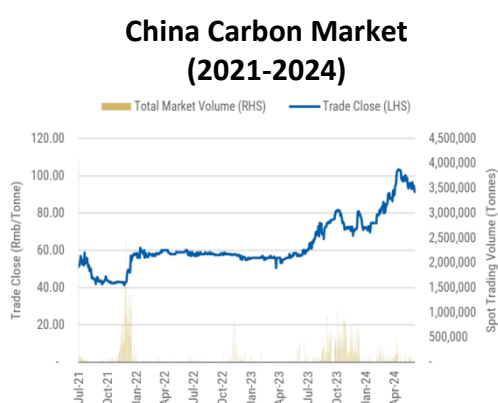
Source: CHN Energy

Evolving Regulations – Down to Earth: It is easy to understand Chinese investors’ disdain for environment-related issues, given China’s historical “control-based” policies like the air pollution action plan in 2013, the water pollution action plan in 2015, and the soil pollution action plan in 2016. In 2017, the State Council issued a comprehensive work plan for energy saving and emission reduction during the 13th Five-Year Plan with a set of regional targets. But such practices were soon ended in 2021, due to local governments’ practices such as complete shutdowns of industrial activities to meet KPIs, which sparked public complaints.

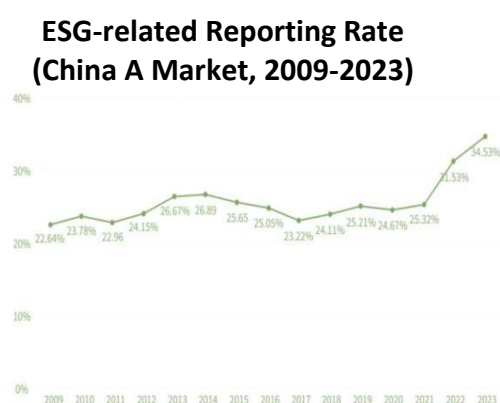
Major changes have been implemented from late 2023. In addition, grid modernization, upgrading of the construction industry, electrification of inland vessels, new data centers, and more untapped opportunities have also been added to the State Council’s 2024-2025 action plan.

On the regulatory front, the China Securities Regulatory Commission updated its Independent Non-Executive Directors (INED) policy early this year to further enhance the accountability and effectiveness of independent directors in listed companies. The regulators also warned listed companies against embezzling cash through financial services companies. Additionally, in the first half of 2024, Chinese regulators took action against 538 listed companies, focusing on fraud, insider trading, dumping, etc.

Carbon Management: China has made significant strides in developing a carbon market and enforcing standards for emissions data. China launched the national emissions trading scheme (ETS) in 2021 and the China Certified Emission Reductions (CCER) market, although trading volumes have been low.



Source: Morgan Stanley



Source: SynTao

Disclosures – Greater Transparency: In May, China’s Ministry of Finance (MOF) opened a public consultation on the draft of the Chinese Sustainability Disclosure Standards for Businesses, following the announcement of new sustainability reporting guidelines for listed companies by China’s stock exchanges earlier. Such efforts reflect China’s willingness in creating a mandatory International Sustainability Standards Board (ISSB)-aligned sustainability reporting system by 2030, with fundamental sustainability-related and climate-related disclosure standards set to be introduced by 2027. Investors will have a better understanding of companies’ climate strategy, supply chain management, workforce profile, etc. through companies’ formal reporting. In addition, the three stock exchanges also require companies to assess their contributions and support for China’s national development strategies, such as support for rural revitalization, as well as the promotion of scientific and technological innovation.

SOEs – Giants Dancing: The State-owned Assets Supervision and Administration Commission (SASAC) is another force promoting ESG practices. According to SASAC, the concept of ESG aligns with China’s goals for green development, modern governance, and other development requirements. Therefore, SOEs, particularly central SOEs, are expected to lead the way in ESG initiatives both domestically and internationally. This year, some central SOEs — including the CEO of a mega company — have visited our offices in Shanghai and even in Singapore, spurred by SASAC's direction.

Differences and Similarities With the West

Different Values and Stage of Economic Growth: Culture, ideology, economic context, and even religious beliefs collectively shape values. In Western economies today, there is more robust support for individual rights and environmental activism, fostering grassroots movements and consumer demand for sustainable practices.

In contrast, ESG initiatives in China often stem from government policies and large-scale national programs rather than individual activism. The flip side of this collectivist approach can be indifference at the individual level. The lack of demand-driven pressure, in turn, leaves China's manufacturers and service providers less motivated. For instance, some Chinese manufacturers once told us that "energy saving" equipment is very well-received in the US and European markets, unlike in domestic markets.

Externalities aside, Chinese people are far from being homogenous. For example, privacy is not valued as much as a fundamental right by Chinese citizens, for whom collectivism and social stability tends to outweigh individual privacy concerns. Consequently, Chinese people tend to be more accepting of government surveillance and data collection practices, provided it contributes to the larger good, such as peace and order. Some Chinese consumers can readily forfeit personal privacy in exchange for small beer. For example, e-commerce platform Pinduoduo offers discounts of a few cents in return for users' consent to access more personal data than necessary via their phones. However, despite laws prohibiting facial recognition as the sole means of physical control access, many Chinese citizens are unaware of their rights and options. As an investor, we value companies that prioritize data privacy protection and the ethical treatment of customer data, as well as practitioners at the leading edge of confidential computing as we navigate the digital data era.

In terms of the impact of a country's stage of economic growth, an old Chinese saying goes: "When the granaries are full, the people will know propriety and etiquette; when their clothes and food are sufficient, they will know honor and shame ("仓廩实则知礼节，衣食足则知荣辱")." While China is increasingly recognizing the importance of ESG, priorities had been skewed towards economic development in the past decades, given the aspirations of over a billion people to enjoy standards of living closer to that of the West. Until most recently, the statement "New productive forces are in itself green productive forces" underscores ESG's central role in China's shift toward a modern, technologically advanced economy.

Different Stages of Capital Market Development: The awareness of, and standards for, ESG between Western and Chinese capital markets are uneven. Despite facing unprecedented debates today, the set of well-established standards for ESG-focused investment products and reporting frameworks in Western markets, especially in Europe, encourages the adoption of ESG practices by investment managers.

In China's capital market, both reporting and product standards are admittedly at a very nascent stage, given that more than 60% of ESG-related investment products in China were issued after 2021. New energy thematic funds have been the face of ESG investing to the average Chinese investor. Looking at the top positions of ESG-related mutual funds issued

these years, it is easy to understand why Chinese investors have yet to fully embrace ESG investing, as performance has been lackluster.

Top 15 Positions Among ESG-related Mutual Funds in China (2019-2023)

FY2019	Return	FY2020	Return	FY2021	Return	FY2022	Return	FY2023	Return
KWEICHOW MOUTA-A	103%	KWEICHOW MOUTA-A	71%	CONTEMPORARY A-A	68%	CONTEMPORARY A-A	-33%	CONTEMPORARY A-A	-25%
CHINA MERCH BK-A	53%	CONTEMPORARY A-A	230%	BYD CO LTD -A	38%	BYD CO LTD -A	-4%	BYD CO LTD -A	-23%
PING AN INSURA-A	56%	WULIANGYE YIBI-A	122%	YUNNAN ENERGY-A	77%	EVE ENERGY-A	-26%	SHENZHEN INOVA-A	-9%
MIDEA GROUP CO-A	62%	GANFENG LITHIU-A	192%	TIANQI LITHIUM-A	172%	ZHEJIANG HUAYO-A	-34%	KWEICHOW MOUTA-A	3%
LUXSHARE PRECI-A	238%	PING AN INSURA-A	5%	GANFENG LITHIU-A	41%	TIANQI LITHIUM-A	-26%	ZHEJIANG SANHU-A	40%
SHANG INTL AIR-A	56%	EVE ENERGY-A	210%	ZHEJIANG HUAYO-A	39%	KWEICHOW MOUTA-A	-14%	EVE ENERGY-A	-52%
WULIANGYE YIBI-A	166%	CHINA TOURISM-A	219%	EVE ENERGY-A	45%	SHENZHEN INOVA-A	2%	ZHEJIANG HUAYO-A	-41%
CONTEMPORARY A-A	44%	LONGI GREEN EN-A	275%	KWEICHOW MOUTA-A	4%	YUNNAN ENERGY-A	-47%	TIANQI LITHIUM-A	-26%
GREE ELECTRIC-A	92%	WUXI APTEC CO-A	105%	LONGI GREEN EN-A	31%	GUANGZHOU TINC-A	-23%	GUANGZHOU TINC-A	-42%
CHINA VANKE CO-A	41%	TENCENT	51%	SHANGHAI PUTAI-A	101%	GANFENG LITHIU-A	-32%	SHENZHEN CAPCH-A	10%
INDUSTRIAL BAN-A	38%	MIDEA GROUP CO-A	74%	GUANGZHOU TINC-A	88%	SHANGHAI PUTAI-A	-35%	SHANGHAI PUTAI-A	-41%
LUZHOU LAOJIAO-A	117%	GUANGZHOU TINC-A	402%	LUXSHARE PRECI-A	-12%	SUNGROW POWER -A	-23%	SUNGROW POWER -A	-21%
SANY HEAVY IND-A	108%	LUZHOU LAOJIAO-A	164%	BEIJING EASPRI-A	34%	LONGI GREEN EN-A	-31%	CHINA YANGTZE-A	15%
HANGZHOU HIKVI-A	30%	SHANXI XINGHUA-A	321%	EAST MONEY INF-A	44%	BEIJING EASPRI-A	-35%	LUXSHARE PRECI-A	9%
AIER EYE HSPPTL-A	97%	SHENZHEN INOVA-A	206%	HANGZHOU HIKVI-A	9%	TENCENT	-24%	GANFENG LITHIU-A	-37%
New issuance of the year	24		44		140		103		66

Source: Wind Financial

Common Goals

There are key common interests behind ESG considerations, as all ESG efforts contribute towards Sustainable Development Goals (SDGs) as espoused by the United Nations. Consequently, apart from the potential growth driven by China’s strategic focus on green tech and manufacturing to tackle climate change, we also noticed a broader shift in attitude within China towards the integration of ESG into business processes. For example, entrepreneurs looking to venture abroad are finding that ESG considerations are no longer merely a cost, in terms of generating standardized reporting or making changes for the sake of obtaining higher ESG ratings from rating agencies. Instead, they are becoming essential for expanding a company's global presence. It is heartening to note that companies which value the voices of local employees enjoy great success in gaining local market share. Conversely, we have also witnessed delays in projects due to difficulties in meeting local environmental requirements. All in all, while ESG considerations might be new and emerging in China, they are now an essential part of a fundamental investor’s toolkit.

Various Industry-Level ESG Forums in China

Industry-wide ESG Forum: Logistics



Industry-wide ESG Forum: Automotive



ESG Mispricings

We believe that ESG investing is still misunderstood and hence unappreciated by investors, which makes it a rich seam to mine for investment alphas.

First and foremost, **ESG investing is neither purely investing in clean energy or electric vehicles, nor simply through picking stocks with the highest ESG scores from the two or three mainstream ESG rating providers — these factors could be already priced in by the market.** Developing a deeper understanding to identify the enablers, adopters, and innovators who drive progress in ESG is likely to yield much greater value.

For instance, we invested in a financial leasing company which has segment-leading practices in comprehensively managing the risk from its underlying assets, especially from extreme weather events. We also value companies that reinforce its cost advantage and other core competitive advantages through re-using of byproducts or intermediates, and the synergies from circular processes.

Secondly, **company disclosures can be a double-edged sword.** Despite the encouragement for more standardized ESG reporting today, inevitably, there will be misrepresentation, distortions, and even data fabrication. At APS, we put on the APS Sherlock Holmes Hat to investigate the “truth” behind the metrics. Many auto companies, for instance, use good public relations (PR) strategies to mask ESG deficiencies. Strong PR teams discredit their peers or “bury negative news” in media channels, including discussions in social media platforms started by individual consumers exposing shoddy quality or manufacturing defects. Investors must thus be able to discern between the truth and falsehoods of ESG factors.

Thirdly, **what ESG issues are already priced in?** Based on our decades of experience in investing in China equities, simply identifying the environmental, social, and governance factors, as well as company fundamentals is not sufficient. One example of risk that was already priced in is the air conditioner and home appliances maker Gree Electric, which is widely known by investors to have poor corporate governance. However, early this year, markets started aggressively rerating the stock higher, cheering its growth potential from Beijing’s recent stimulus focused on equipment renewal. Another reason cited was its value as a high-dividend-yield name, given its 45% payout ratio and 6% dividend yield. An example of risk not yet appreciated by the markets is from companies that produce per- and polyfluoroalkyl substances (PFAS), which are chemicals with potential links to various hazardous effects. However, the industry remains largely unregulated as standards and guidelines vary widely across provinces and countries. The stock market is currently ignoring the environmental risks for now, but we believe this is a risk and a major obstacle for sustainable growth.

APS ESG Framework

At APS, we believe that companies which manage broader sustainability considerations well will continue to create value for shareholders. We believe sustainable alphas can be generated through a “bottom-up” stock selection process based on detailed company research and financial analysis, including the consideration of ESG factors. These

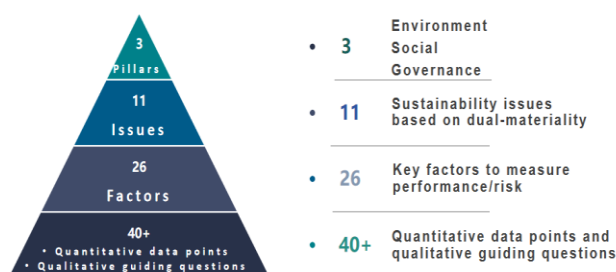
considerations have constituted an integral part of our Four Alpha-Hats® investment process, enhancing our understanding of a company's long-term business model and its future.

To better integrate ESG considerations into our investment process, we built a systematic, proprietary ESG framework using also AI and self-learning to make it even more powerful. In this framework, weights are assigned to selected ESG issues in each sector, based on their materialities as guided by the Sustainability Accounting Standards Board (SASB), now the International Sustainability Standards Board (ISSB), and our three decades of experience investing in China. We use both quantitative and qualitative factors when we score each ESG criteria. We then determine whether the ESG factors are priced into share prices which affects position sizing.

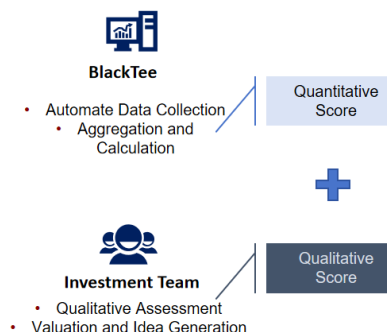
Our proprietary ESG framework accounts for a range of ESG factors that are measurable in the respective markets where the target companies are operating, including but not limited to:

- I. Environment: Climate change, ocean and water management, pollution, etc.
- II. Social: Human capital, sensitivity towards human rights, abuse of child labor, social responsibility, bribery and corruption, privacy and data security, etc.
- III. Governance: Corporate and accounting transparency, etc.

APS ESG Framework



ESG Considerations in Our Investment Process



Since 2022, we have integrated our proprietary ESG framework within our investment process via BlackTee®, our bespoke AI-enabled fundamental ESG system. It is an integrated, scalable, cloud-based Fundamental AI ESG system to facilitate our ESG research and ESG scoring. Before dedicating considerable resources to build our own system, we considered using ESG rating providers but found their research methods often apply existing developed market-rooted paradigms in an undifferentiated way, which is not effective in assessing an investment target in an emerging market.

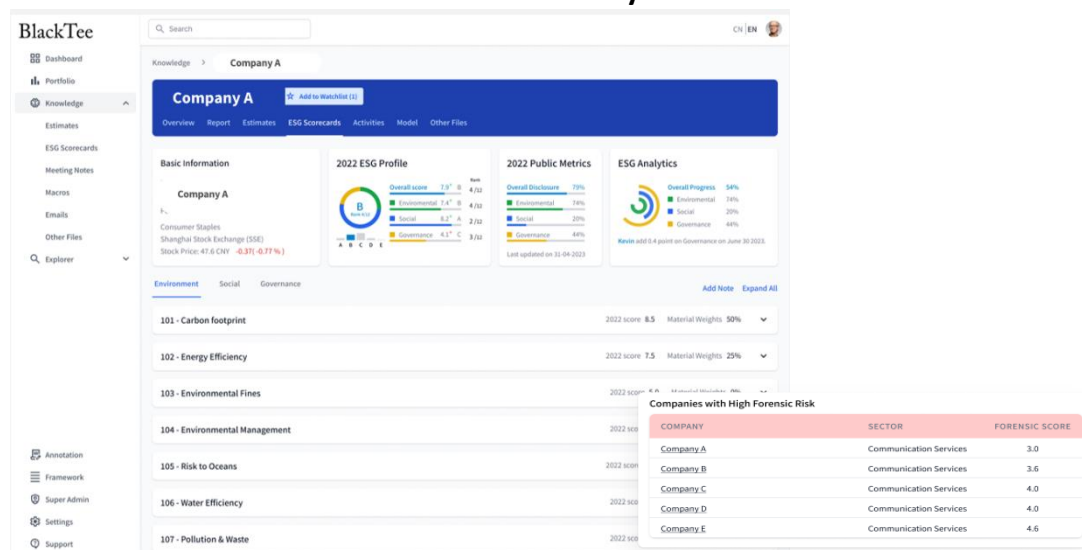
We customized BlackTee® to balance two kinds of inputs — the quantitative data from public reporting and our investment team’s qualitative assessments, with weights of 30% and 70% respectively. The 30% weight from quantitative reporting provides us with knowledge of publicly available information from listed companies across China’s equities market. The

qualitative inputs for BlackTee® ESG ratings come from our in-depth, fundamental understanding of the company.

For instance, in assessing the credibility of senior management through our “Management Experience and Past Records” metric, we do not take what they say at face value but monitor their actions. The same goes for the growth potential from the green transition, as such potential cannot be simply quantified by a “Yes or No answer” to “whether the company has a plan for addressing climate change risks and opportunities”. A qualitative scoring here can do a better job.

Integrating the Sherlock Holmes Hat into BlackTee® was essential. Building in a set of parameters, the system systematically searches for and flags potential accounting issues. Unique forensic accounting tools in BlackTee® help us detect fraudulent practices early, avoiding landmines.

The BlackTee® System



Sources: APS, BlackTee®

The Results

BlackTee® has also greatly improved our investment team’s productivity by saving significant time and effort in putting together a company’s ESG profile along with its financial information. We estimate that the system has saved 75% of the time normally required, leaving more valuable resources for independent thinking and generating attractive investment ideas.

One case study was conducted on the system’s detection of employee turnover rate. Last year, BlackTee® showed that two companies operating similar businesses had rather different employee turnover rates (6% versus 25%). Employee turnover rate by itself says little, so we took a deeper dive into the reasons and conducted interviews with employees

from both companies, to understand the respective working conditions and corporate ethos before making an investment decision.

Comparison of Employee Turnover Rate on BlackTee®

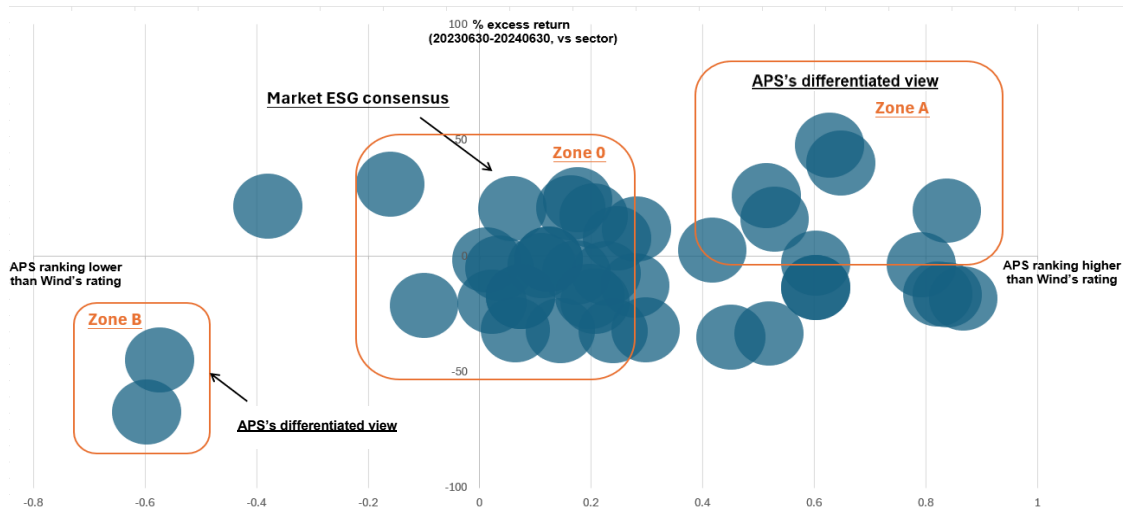
QUANTITATIVE		Score		Score		Score		Score 3	Quant weight 30%
Metric	2020	Score	2021	Score	2022	Score	Weights		
Turnover rate of senior/middle/lower management	-	-	-	-	-	-	-	-	-
Turnover rate of general workforce (FTE)	24.1 %	-	23.34 %	-	24.59 %	-	-	-	-
Turnover rate of employees	22.02 %	-	-	-	-	-	-	-	-
Turnover rate of employees1	-	-	22.02 %	-	-	-	-	-	-
The turnover rate of employees	-	-	-	-	22.02 %	-	-	-	-
Factor Quantitative Score	3		3		3				

QUANTITATIVE		Score		Score		Score		Score 3	Quant weight 30%
Metric	2020	Score	2021	Score	2022	Score	Weights		
Turnover rate of senior/middle/lower management	-	-	-	-	-	-	-	-	-
Turnover rate of general workforce (FTE)	-	-	3 %	-	6 %	-	-	-	-
员工流失率	-	-	3 %	-	6 %	-	-	-	-
Employee turnover rate	-	-	-	-	3 %	-	-	-	-
Factor Quantitative Score	3		3		3				

Sources: Company Report, BlackTee®

We have done a comparison of BlackTee®'s scores versus the consensus and observed that BlackTee®'s scores produce favorable outcomes in terms of returns, suggesting APS's potential alpha from ESG factors. The following chart uses ESG scores from Wind Financial as proxies for the market ESG consensus, comparing them with our in-house view. The levels of difference are on the X-axis. Zone 0 includes companies where BlackTee®'s scores are similar or close to the consensus. Companies in Zone A represent instances where BlackTee®'s scores are higher than the consensus, where excess returns are observed. The alpha driver could be the lack of sufficient structured data being available, or the market not yet discounting a company's green transition. Companies in Zone B represent instances where our scores are lower than the consensus, where we have observed underperformance.

Alpha From ESG Considerations



Sources: APS, BlackTee®

The Path Forward...

Given China's consistent emphasis on green productive forces and a shift towards a broader green transition, ESG factors will become even more important in determining a company's fortune and hence its stock return. We are convinced more than ever that investors taking it seriously will garner more alphas. When combined with in-depth research of industry and company fundamentals, as well as robust valuation work, the odds of success would be favorable.

Ms. Sun Yue is the ESG Analyst at APS Asset Management. She holds a Bachelor of Finance from Renmin University of China and a Master's in Management from Kedge Business School in France. She began her career as an Associate Auditor at Mazars Group, then joined Taikang Asset Management, where she became involved in ESG research as an Assistant Portfolio Manager. Most recently, she worked as an ESG Analyst at China Industrial Securities.

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