Rosefinch Research | 2023 Series # 24

Rosefinch Annual Strategy Session Highlights

The A-share market was born and developed during China's Reform and Opening Up. During this period, the old *modus operandi* was "cannot afford to miss out". A number of watershed events in that period included China's urbanization process, China's entry to the WTO, upgrade in consumption, the rise of internet giants, Apple's supply chain establishment in China, and developments in healthcare, education, etc. The new *modus operandi* has transformed to "indispensable" which involves companies that lead ecological changes and energy security, digital economy/AI and domestic semiconductor industry, grain and livestock farming, food safety, aerospace and defense industry, healthcare and pharmaceuticals, upgrade in consumption patterns, further opening up to the west. As we look forward to 2024, we must remain prudent about asset valuation, seek those companies that embrace the entrepreneurial spirit, while be willing to let go of companies with excessive uncertainties.

In our latest 2024 Strategy Session held in mid-December, we focused on three “indispensable” themes of "Energy Revolution", "Intelligent Era" and "Domestic Demand Drivers. The following are highlights from keynote speeches on specific sub-themes. Please stay tuned for our 2024 research pieces that will dig deeper in these topics. Meanwhile, here are the summaries:

1. Photovoltaic Industry.

- In the absence of external constraints, the photovoltaic industry may enter an oversupply state in 2024.
- From the perspective of P/E ratio, long-term growth rate, supply-side reforms, etc., we actually do

not think the photovoltaic sector needs excessive pessimism now.

- After the launch of new financing policies, some companies have started to terminate IPO and related rights offering plans, which may also mean that the production capacity originally planned to be put into production in 2024-2025 will likely be heavily discounted, and the degree of overcapacity in the industry may not be as severe as widely expected.

- From the perspective of elasticity, we believe that we need to grasp the revolutionary changes brought to the whole industrial chain by the iterative development of photovoltaic cell technology. If we are to follow the path of efficiency enhancement, it will be difficult to avoid developing in the direction of BC structure in order to solve the problem of cost-effectiveness.

- Some general platform technologies will benefit from the iterative development of new battery technologies, including technologies to reduce silver consumption, such as electroplated copper and 0bb. With the development of double-sided poly and BC structure, it will create substantial room for value and quantity enhancement for laser equipment.

- In the next two years, the photovoltaic industry may enter a process of capacity elimination, and this round of capacity elimination may be more severe than in 2018. In this process, a large number of enterprises may face elimination.

- What kind of enterprises really have the ability to cross the cycle? We believe the main conditions are: First, they have stronger technological and cost advantages to ensure self-hematopoietic ability. Second, they have stronger new technology iteration capabilities to keep up with this round of battery technology iteration. Third, healthy balance sheets.

- When the proportion of renewable energy reaches a certain level of overall power generation, the industry's absorption bottleneck will gradually be reflected. For China’s domestic wind and photovoltaic powers, this level is very likely to be reached in the next one or two years. So we can't just focus on the power generation side alone, but also need to see opportunities on the grid side, because the grid side will need a large amount of supporting infrastructure to achieve balance and flexibility between power systems.

- The core of source-load matching power market transactions and power balancing will likely be software, therefore power industry software technologies will become one of the key areas we will focus on in 2024.

2. Hydro-energy and Wind Power

- Academician Ding Zhongli predicts that in the future, photovoltaics and wind power can solve about

70% of energy demand, but there are still industries such as steel, cement, aviation transportation, and overseas cargo ships that rely on fossil fuels. In addition to solving the problem of renewable energy absorption, hydrogen energy can help these industries achieve deep decarbonization in fields where renewable energy cannot reach. In the process of achieving carbon neutrality, green electricity + green hydrogen can solve problems of energy security, economy, and green sustainability, which is the main driving force for the development of hydrogen energy.

- On the cost-reduction path of green hydrogen, based on the experience of photovoltaic development, continuous innovation such as the large-scale development of electrolytic cells must be maintained. Currently, some people in the market believe that traditional, mature alkali water electrolysis route for hydrogen production is not very advanced, but we believe ALK still has innovation potential for the future.

- Due to the relatively small shipments of alkaline electrolytic cell industry, many components have not been mass-produced, which leads to relatively high costs of some components. In the future, sufficient industrialized scale will further significantly reduce such costs.

- Looking at history of photovoltaic market evolution, there were more than a dozen silicon wafer specifications at one point, which were subsequently standardized to only a few types. Currently in China, each hydrogen project has its own standards for electrolytic cells, and products for different projects are highly customized, with different downstream application scenarios and different designs for electrolytic cell components, sub-chambers, etc. Industry-wide standardization will reduce the difficulty of cost reduction in the supply chain and reduce disorderly investments.

- From the hydrogen production end, the electrolytic cell process is relatively certain and of high value. In the past, the market space was small and many processes were not standardized. In the future, with the expansion of the industry space, electrolytic cells are likely to see development opportunities in areas such as materials, processing methods, and equipment standardization and industrialization. At the same time, it involves multiple scenarios such as power, chemicals and steel, and related instrumentation components will need to be re-designed, creating new opportunities.

- Storage, transportation, as an important infrastructure connecting the upstream hydrogen production end and downstream application end, is likely to be one of the first segments started up. It is also the bottleneck for reducing the terminal hydrogen price. In terms of storage and transportation, short to medium distance gaseous hydrogen storage is likely to be put into large-scale use first. Construction of long-distance pipeline hydrogen transportation projects will gradually start. Technologies such as domestic liquid hydrogen, solid-state hydrogen storage, green methanol and green ammonia will gradually mature.

- As fuel cell technology gradually matures and costs fall rapidly, the latest leading hydrogen energy fuel cell system company indicated in a public interview that the cost of hydrogen energy fuel cell systems

has dropped sharply, and is expected to drop to 1,000 yuan/kW in 2025. Based on a 110kW system, the corresponding engine cost would be 110,000 yuan. The application of hydrogen energy in commercial vehicles may gradually increase and usher in a long-term development space.

- According to BNEF statistics, after more than 10 years of technological progress, the cost of electricity from onshore and offshore wind power has fallen by 70%. Onshore wind power is still the cheapest power generation technology, followed by photovoltaics and offshore wind power. Although the cost of offshore wind power is 76% higher than onshore wind power, it is still lower than the cost of new coal-fired power plants. It is expected that the proportion of wind power in global power generation will reach 36% by 2050.

- Although the 2023 wind power installation scale was lower than expected, with the startup of ultra-high voltage construction in 2023 and the gradual resolution of offshore wind restrictions, wind power demand in 2024 may warm up again. China's offshore wind development potential is nearly 3,000GW, and as of September 2023, China's cumulative offshore wind installation was only 31.89GW, accounting for 1% of available development resources. China still has great potential for offshore wind development.

- Pile foundations are one of the first segments delivered in offshore wind projects, directly benefiting from the rebound in offshore wind demand. Submarine cables are the channels for transmitting electricity generated by offshore wind farms from the sea to onshore substations. With the development of offshore wind projects toward deeper waters and larger capacities, the voltage level and value of submarine cables will increase. In addition, we believe that globalized layout, technology research and development and cost control of integrated equipment manufacturers may experience rapid development driven by overseas demand in the future.

3. Automobiles

- There are two main reasons for price wars in the automotive industry. The first is the transition period from fuel vehicles to new energy vehicles, with the competitive landscape showing a two-polarized pattern, and the market share of second-tier enterprises being squeezed below 5%, so price wars initiated by them are understandable. Second, in the era of new energy vehicles, independent brands in China have shown strong product competitiveness, with market share rapidly increasing to over 50%. Unlike the profit-oriented joint ventures, the primary goal of independent brands is to seize market share, making them more likely to trigger price wars.

- The trend of market share concentration at the top of the new energy vehicle industry has not changed, and the trend of independent brands replacing joint ventures will continue. Therefore, we judge that price wars in the automotive industry may not end in the next 1-2 years.

- The smart driving industry has developed for many years, with major manufacturers investing sufficient resources. However, the current penetration rate of high-end intelligent driving is not high. From the perspectives of technological progress, progress of major manufacturers and consumer demand, we believe that there is a higher possibility that the penetration rate will rise rapidly in 2024. Intelligent driving is also likely to enter a period of rapid growth.

- In this technological transformation of intelligent driving, the position of OEMs in the industrial chain will be significantly improved. The key to improving the penetration rate of intelligent driving lies in software and algorithms, and OEMs are one of the most critical links in controlling software and algorithms.

- For OEMs, although price wars have a major impact, some automakers' profitability is still improving. As a typical heavy asset industry, economies of scale are significant. As automakers' sales continue to increase, the impact of price wars on gross and net profits will be weakened.

- The core of intelligent driving algorithms is data. It follows the path of data flow within the system. Important aspects include considering it from the perspectives of increasing quantity and value, competitive landscape, and market space. An important link is the SOC chip, whose performance determines the upper limit of vehicle intelligent driving. In terms of industrial chain position, the SOC chip is basically equivalent to the OEM.

- Tesla introduced BEV+Transformer algorithms, increasing the weight of vision systems in perception. Vision systems include sensor and camera components, which can be further broken down to include lens modules and CIS chips.

- China's new energy vehicle industrial chain shows global competitiveness. While vehicle exports face political risks, component exports abroad are more easily accepted. The improvement of new energy vehicle product strength in Europe and the US requires participation from China's automotive industrial chain.

4. Semiconductors

- As of October 2023, the global semiconductor sales amount decreased by only 0.7% year-on-year, the lowest point year-on-year. The current semiconductor cycle began in June 2019 and ended in March 2023. In the global uncertain environment, the cyclical pattern of semiconductors still continues. An upturn in 2024 is a high probability event. The core driving factors of the last semiconductor cycle were geopolitics and the epidemic, and changes in the supply side increased the volatility of the semiconductor cycle. The core driving factor behind the strength of the upturn in the current semiconductor cycle is very likely to be AI.

- Classified by the downstream application scope of semiconductors, the global semiconductor market scale exceeds US$500 billion, of which about 60% is related to consumption (some PC and data center demands are directly related to consumption). Semiconductors are a typical industry with economies of scale. Only consumption has a large enough base and relatively small product categories and fast-iterating product cycles. With the continuous outbreak of artificial intelligence, data centers will become the largest single market, and the core driving factors of the most demanding still come directly or indirectly from the consumer sector.

- The automotive, industrial and data center directions will have a CAGR of over 20% from 2020 to 2030, with automotive having the fastest growth. We will focus research resources in the above three areas. Consumer electronics, PCs and smartphones can still maintain growth, but their share will decrease from 55% in 2020 to 40% in 2030. Although AI PCs / AI smartphones are discussed more, the core change is the core chip, and the change of products themselves is limited, and the total volume has entered the industry ceiling, and the opportunities for attention are mainly in structural changes and changes in industry competition brought by product innovation.

- We remain confident in our domestic advanced process capabilities. The reason is that we have not yet reached a no-man's land and will continue moving forward along the global semiconductor advancement path. In this direction, as long as we persist in investment and industry regulations, in combination with the active trial feedback from domestic customers, there is no reason for our domestic advanced processes to not continue breakthroughs.

5. AI

- Artificial intelligence is a capital-intensive, labor-intensive, and data-intensive industry. Enterprises that can form a "application-data-model" flywheel effect will be key to the success of artificial intelligence. In the long run, such enterprises will be our focus targets for exploration.

- This round of AI represents a breakthrough from 0 to 1, from the previous rule-based expert systems to the current self-deep learning. Compared with the platform effect of the Internet, AI has two more distinctive features: first, the scale effect; second, the ability to emerge. When the model is large enough and the data is abundant enough, the model's ability will emerge sudden breakthroughs.

- The AI industry chain consists of algorithms, computing power, data and applications. Computing power is the infrastructure of AI, and its demand benefits from the increase in capital expenditures of cloud companies. On the demand side, we see a high probability of deterministic growth, while continuously paying attention to the performance improvement of domestic GPU enterprises with the upgrade of restrictions on overseas GPU exports.

- With the open source of algorithms and the improvement of computing infrastructure, the industry chain value will gradually shift to the application segment. On one hand, we focus on software and

small-segment champions in the Internet era. Because these companies have clear market positioning and competitive landscapes, with extremely strong user stickiness. Adding AI functions will increase paying rates and ARPU. On the other hand, we also focus on "new native AI applications" and iterations of new hardware carriers such as intelligent vehicles and robots.

- "Industrial intelligence" is also worth paying attention to, because after experiencing information-ization and Internet-ization, enterprises will further enhance their competitiveness in various industry segments through AI in the future.

6. Humanoid Robotics

- AI large models have the ability to integrate multi-disciplinary knowledge, making embodied intelligence possible. Embodied intelligence is an AI with a physical carrier that can interact with the real world in a multimodal way, perceive and understand the environment like humans, and complete complex tasks through autonomous learning. The emergence of large models makes the integration of multiple disciplines possible, and AI is expected to enter the era of embodied intelligence.

- There is a high degree of similarity between humanoid robots and intelligent vehicles. Their functionality depends on AI capabilities. Mass production depends on the cost reduction capabilities of the industrial chain. Automakers strong in intelligent driving capabilities have inherent advantages in the field of humanoid robots.

- Humanoid robots move slowly, with light perception and heavy reasoning. The additional demands of the sensing module, such as force sensors, position and posture sensors, have a large increase. The core of the decision-making module is still the SOC chip. At present, intelligent driving chip manufacturers in the robot field are actively laying out, and products have high similarity.

- The cost of humanoid robot motion control accounts for a relatively high proportion, which is also an area where China's manufacturing industry has industrial chain advantages. Joint core components are worth paying attention to. Planetary gear trains replacing harmonic gear trains once became the mainstream voice in the market, but we are more inclined to support the harmonic gear train approach, because: 1) The first application scenario of Tesla's humanoid robot is the manufacturing plant, which has higher requirements for output torque and motion accuracy; 2) The structure of harmonic gear trains is simple and there is more room for cost reduction; 3) Harmonic gear trains have innovative potential in structure to match the payload, spatial layout and other special requirements of humanoid robots.

- Humanoid robots require higher motor power density and the production process of innovative rotor design becomes more complicated, with a significant increase in the amount of magnetic materials and the value of rotor modules. Humanoid robots have high requirements for lightweight. 3D printing and

composite materials are focused.

- Looking ahead to 2024, humanoid robots will soon enter the pre-mass production stage after the theme stage, with two features different from the typical maturity curve of emerging technologies: 1) Mass production will come faster, because there are no absolute barriers to humanoid robot production, and cost problems will gradually be resolved during the capacity ramp-up process; 2) The bright period of steady growth and the peak period of substantive production will be more gentle, mainly restricted by the iteration speed of motion control and AI technologies, and the progress of application scenario expansion. In the initial stage of mass production, we will pay attention to core components from the perspectives of technical barriers, competitive landscape, and market space, and dynamically evaluate earnings elasticity and valuation.

7. Consumption

- We need to recognize and accept one reality: the past patterns of economic, population and consumption growth have undergone irreversible changes. The growth dividends brought by the past common user growth * income growth have reached a certain ceiling, the industry as a whole has a positive Beta, and the market tends to spread its net more towards tracks with faster growth.

- Corresponding to the market changing from incremental to stock, what the past consumption layout emphasized, such as penetration rate, sustainable growth rate, PEG, needs to consider ceiling, pattern and end state more. The changes of market pattern and clearance have begun to accelerate gradually, and we also need to shift from wide spreading net to more selective refinement and focus concentration within our own ability range. We believe that even within a huge stock and complex economic entity, we can still find high-quality companies in different stages.

- Some sub-tracks in the catering supply chain (such as new frozen rice noodles, pre-prepared ingredients, etc.) still maintain relatively good growth, meeting the needs of industrialized efficiency mining and profit improvement of the food industry. With the improvement of industry standards, there is greater substitution and expansion space, and there is a centralization trend.

- Chinese manufacturing serves global brands, but brand building and channel penetration are not yet mature. If future consumption environment is more inclined to internal circulation, domestic brand further penetration enhancement and merger and acquisition will also likely produce larger food type enterprises. We have seen such situation in sports goods where domestic brands still stand firmly on their feet with technology and product strength after national fervor subsided to some extent.

- Slow down to respect individual experience, focus on social interaction and green sustainable development needs, from material desires to the inner heart, service consumption is also a possible future direction, with great space combining with digital economy and AI. In the first three quarters

of this year, the per capita service consumption expenditure of Chinese residents increased by 14.2% year-on-year, accounting for 46.1% of consumption expenditure, an increase of 2 percentage points over the same period last year. Although this service consumption recovery may be due to the retaliation effect of holidays, performances and other activities after the epidemic, we believe it is highly likely to be sustainable under limited income for marginal consumers.

8. Agriculture

- Demand side looking, in recent years, the decrease of population birth rate, improvement of dietary structure and relative softness of catering consumption have brought certain potential impact to the demand side of agricultural and pastoral fine segmentation fields. From the supply side looking, weaknesses in cost control, capital pressure, and lagging research and development have led many fine segmentation fields' supply side pattern to continue improving, as in recent years there has also been seen cases of leading agricultural and pastoral enterprises gradually withdrawing from the market step by step, and the supply side clearance speed is very fast in some fields.

- Technology breakthrough is the key dimension to help agricultural and pastoral enterprises improve efficiency, and R&D investment is an important means for advantage enterprises to continuously shape barriers to cope with industry impacts, and it is also our important observation point.

- Currently we mainly focus on three dimensions: 1. Fields where demand is still growing: such as pet food industry, especially pet food companies with operational capabilities of high-end brands, seizing overseas brand market shares, and able to bind young customer groups. 2. Fields with rapid supply side clearance: such as feed, pesticides and pig farming industries. 3. Fields with technological progress: such as genetically modified seed, biomass energy industries.

- Feed industry's overall demand is stable. In terms of structure, next year's overall demand for poultry and livestock feed is expected to be relatively stable, while total amount of aquatic feed may slide down a bit. With relatively stable total amount, changes in industry pattern becomes especially important.

- Price of pesticide active ingredients has now returned to historical low levels and continued grinding lower. From the supply side, choosing varieties with small production increase or no production increase, and varieties where advantage companies have absolute speaking rights; from the demand side, the recovery situation of orders in the first half of next year is considered the core contradiction dominating pesticide price trends.

- Supply side logic is more important than demand side logic in pig farming industry. We will focus on: 1. Companies with ample capital flow and better cost control capabilities. 2. Overall progress of industry overcapacity elimination. The more thorough the industry's overcapacity elimination, the greater the price elasticity will be when the next pig cycle comes.

9. Cosmetics

- Two years ago, the pharmaceutical group focused its research on the medical aesthetics track, but the overall valuation was relatively high at that time. We paid more attention to the recombinant collagen protein field, which was not mainstream at that time, but now the attention has become very high, which has been verified through forward-looking deployment.

- Although many medical aesthetics and skincare targets pulled back this year, this field can still grasp tracks and companies with α qualities and cross cycles - we found that recombinant collagen protein skincare products performed relatively outstanding this year; in the medical aesthetics terminal this year, recombinant collagen protein injection fillers also had relatively fast growth.

- In the fine segmentation of recombinant collagen protein tracks, there is still much room for exploration in the raw material end, with more skincare brands putting efforts, we can jointly promote and expand the recombinant collagen protein market, and there is still great growth potential for this track. Domestic companies lead internationally in both raw materials and branding in the medical field. With new approved indications and better products, the potential of recombinant collagen proteins is just beginning to be released.

- Beauty care is a long gradual track, the overall valuation level has gradually entered the area of cost effectiveness, continue to mine varieties with α quality and high certainty.

- After Spring Festival 2023, post-epidemic medical demand will recover, and from the second half it will start to be affected by macroeconomic factors, in particular the slowdown of consumption-type medical recovery, compared to optional projects such as refractive surgery, ophthalmology, dentistry. Necessary medical recovery is more stable.

- In the past 2 years until December, the Shenwan Hospital Index fell by more than 35%. The medical services sector has experienced a deep adjustment. Currently, the P/E valuation (TTM) of hospital stocks has fallen to a historical low. In 2024, we will focus on necessary fields in medical services, including comprehensive hospitals, neurology, oncology specialty hospitals.

- The medical device index has continued to fall since June 2021, during which it was affected by negative factors such as epidemic control, bulk procurement of consumables, and IVD procurement. Most targets continued to set new lows in stock prices, and the sector's valuation was below the average level. Next year, with the recovery of performance and the gradual elimination of anti-corruption impact.

- For the medical device sector, our internal forward-looking research methodology establishes product

competitiveness as the core. Driven by aging and new medical infrastructure construction in the future 5-10 years, the medical device industry can still maintain stable growth. According to different products, there will be different stages of import substitution. We select fields that still have relatively large substitution space and companies with export capabilities, taking product competitiveness as the core research methodology.

10. Macro and Fixed Income

- Currently, macroeconomic problems have a state of overlapping structural and cyclical problems. Enterprises mainly face cyclical problems, while government and resident departments face more deleveraging and stabilizing leverage issues. The decline in residents' income and corporate profits jointly lead to the gradual conservatism of the private sector's behavior and the continuous increase of demand-side pressure.

- The cyclical factors have begun to enter an easing stage. Although residents' investment momentum is still insufficient due to the long-term expectations impact, there is a certain strengthening momentum in terms of marginal consumption; The improvement of enterprises' profit growth rates is more obvious, and the accumulated inventories in the previous period are basically stable, starting to show signals of gradual transition from accumulated to depleted, and the increase in the number of loss-making enterprises is also slowing down marginally. enterprises' signs of supply-side clearance have also begun to emerge initially, while enterprises' deleveraging in the previous period was more substantial, asset-liability ratios are gradually improving, which is conducive to future expansion.

- There are still some signs of marginal improvement in the negative impact of real estate on the economy. Tightening supervision of pre-sale funds since 2022 is conducive to enhancing the confidence of home buyers. Although the fall in housing prices may have negative wealth effects, it may also have positive incentives for consumption. Since 2016, the impact of housing prices on consumption has gradually shown the characteristics of crowding-out effects in addition to pure wealth effects.

- The signals of increased leverage by the central government are also quite obvious. Currently, China's moderate increase in leverage within the framework of mainly internal debts is acceptable to the system.

- In the short term, the probability of an interest rate cut by the Fed is relatively low. Currently, market sentiment mainly drives the stage, but US bond yields are likely to fluctuate widely.

- From the perspective of listed companies on the A-share market, most listed companies are in a state of declining profits and deleveraging after the epidemic. The median ROE fell by more than 2 percentage points, but profit differentiation has intensified. The scarcity of high-quality companies has become more prominent.

- Currently, the yield curve is relatively flat. Short-term assets such as 1-year national bonds and AAA certificates of deposit have reached the highest levels since 2021.

- The core risks faced by tier-2 bonds include but are not limited to the duration risk of bonds, credit risk and equity volatility risk. We will not over-participate in the market's betting on macroeconomic environment and policy expectations, will not sink into credit and maintain the liquidity of assets. We adhere to the combination of macro and micro perspectives and objective analysis to strive for a relatively stable trend in net value growth of products.

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