

2023年金属投资策略: 看空美元指数, 全面看好金属板块

Metals Investment Strategy 2023:

Bearish on the USD Index, Bullish on the Metals Sector

吴旖婕 YiJie Wu lisa.yj.wu@htisec.com

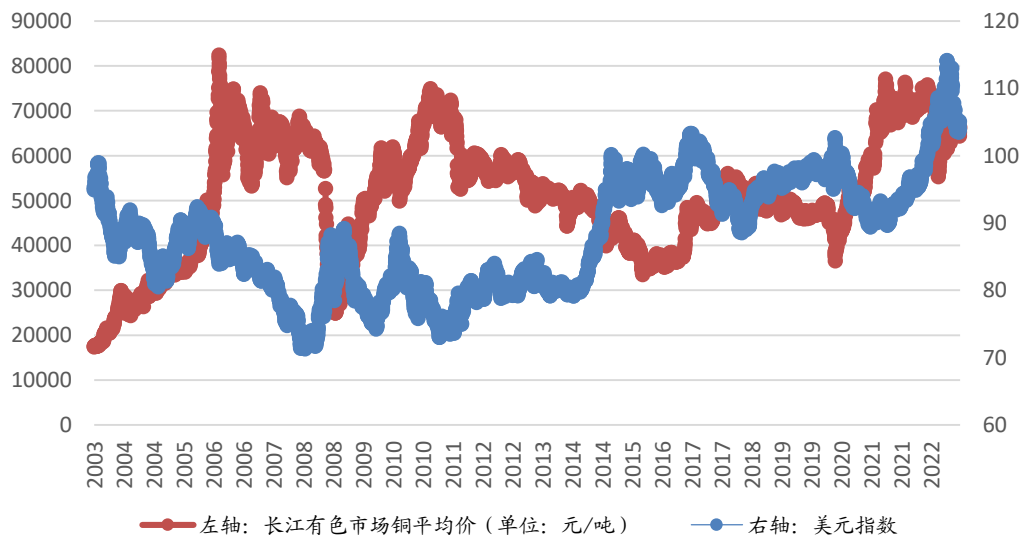
2023年1月19日

2023年看空美元指数，铜价有望缓慢上行

美联储紧缩预期预计于2023年Q1结束，美元吸引力减弱，对应美元指数掉头向下。欧洲能源价格不断下降，欧洲走出冬季能源危机，欧美经济差异收窄，使美元指数承压。同时，中国reopen的经济复苏预期加强，对外资吸引力逐步增加，制造业、航空业、服务业等行业回暖，美元吸引力不再。

美元指数与铜价成负相关关系，22年达到-90%。预计2023年迎来铜慢牛。

图表 美元指数与铜价关系



资料来源: Wind, 海通国际

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2018-2025E 全球主要矿企铜资源权益产量及预测，23年为铜供给释放大年



2022年，29家矿企合计铜产量预计达到973.46万吨，同增4.72%，较2021年增加43.89万吨。2023年，29家矿企合计铜产量预计达到1088.05万吨，同增11.77%，较2022年增加114.59万吨。2024年，29家矿企合计铜产量预计达到1142.15万吨，同增4.97%，较2023年增加54.1万吨。2025年，29家矿企合计铜产量预计达到1185.26万吨，同增3.77%，较2024年增加43.11万吨。

图表 2018-2025E 全球主要矿企铜资源权益产量及预测 (金属量, 万吨)

	2018	2019	2020	2021	2022E	2023E	2024E	2025E
紫金矿业	24.86	32.63	45.34	48.5	70.52	75.46	80.74	86.1
洛阳钼业	16.66	17.1	17.31	19.08	22.2	24.03	50	60
五矿资源	32.39	31.04	26.95	23.23	24.28	25.82	28.13	28.13
江西铜业	20.83	20.92	20.86	20.23	21.02	22	22	22
西部矿业	3.8	4.91	4.75	12.48	14.84	14.84	14.84	14.84
铜陵有色 (未考虑米拉多铜矿注入)	5.37	5.52	5.64	5.26	5.5	5.5	5.5	5.5
云南铜业	6.45	6.58	7.24	5.75	6.44	6.44	6.44	6.44
中国有色矿业	7.5	7.87	8	12.43	12	13.5	13.5	13.5
中国黄金国际	5.5	6.25	8.21	8.64	8.66	8.66	8.66	8.66
Freeport-McMoRan	172.86	147.24	145.33	174.32	180.15	185.49	191.04	196.8
嘉能可	131.64	124.12	115.02	106.52	99.21	121	121	121
必和必拓	113.5	116.06	110.65	108.63	104.75	131.67	131.67	131.67
第一量子	60.59	70.2	77.7	81.7	84.5	87.5	88	96.23
力拓	60.76	57.74	52.79	49.35	52.79	50.64	48.66	46.82
Anglo American plc	42.07	44.38	46.24	46.26	51.66	64.26	64.26	64.26
Antofagasta plc	48.61	52.01	49.22	48.56	45.9	47.4	45.9	47.4
诺镍Nornickel	44.59	46.44	45.34	37.1	38.85	38.85	38.85	38.85
Teck Resources Limited	27.69	28.32	26.46	27.71	27.26	39.53	43.13	47.33
Lundin Mining Corporation	19.96	23.55	23.08	23.25	23.03	23.1	23.8	23.8
巴里克黄金	17.24	19.44	20.57	18.82	20.62	20.62	20.62	20.62
纽克雷斯特矿业	7.8	10.59	13.76	14.2	12	14.5	14.5	14.5
Turquoise Hill Resources Ltd.	10.5	9.66	9.87	10.76	8.58	20.77	22.96	24.16
Capstone Copper Corp.	6.98	6.91	7.06	8.49	11	12.6	14.1	14.1
艾芬豪矿业	-	-	-	4.19	12.47	12.56	16	21.72
Boliden AB	13.22	11.54	12.43	11.37	11.7	12.4	12.4	12.4
Nevada Copper Corp.	-	-	-	-	0.91	3.18	9.53	12.7
PolyMet Mining Corp.	-	-	-	-	-	3.13	3.31	3.1
PT Merdeka Copper Gold Tbk	1.71	1.68	0.54	1.9	2	2	2	2
Pan American Silver	0.98	0.87	0.52	0.83	0.63	0.63	0.63	0.63
合计	904.05	903.56	900.87	929.57	973.46	1088.05	1142.15	1185.26

资料来源：各公司公告，海通国际整理

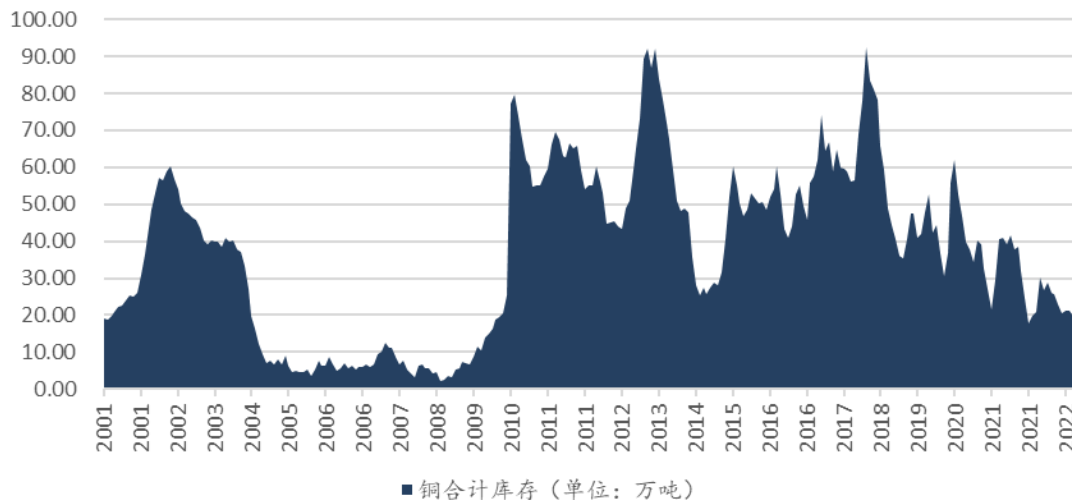
注：各公司铜矿每年产量预测依据公告等公开信息，无公告信息年份基于2018-2020或2019-2021年均复合增速预测，考虑到铜矿项目实际达产情况可能不及规划预期，我们认为真实供给数字会有所减少。

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铜库存处于历史低位，给予铜价支撑

近十年来，铜三地合计库存量于2018年3月达到高峰，超过90万吨，于2021年11月跌至最低点17.7万吨左右。从2018年起，总体上看铜库存呈下降趋势。截至2023年1月13日，铜三地总库存量为21.96万吨，低库存给予铜价支撑。

图表 LME+COMEX+SHFE 铜库存 (单位: 万吨)



资料来源: Wind, 海通国际

铝价十年来波动幅度大，近年整体上涨

铝的现货价在过去十年经历了巨大的波动。铝的现货价格自2011年起持续走低，在2015年更是跌破万元大关，低至9710元/吨，创下多年新低，其原因在于2015年宏观经济前景恶化，市场需求不振，美元指数强势攀升给全球经济带来巨大的不确定性，且中国铝企未出现大幅减产，铝市供大于求，导致价格下降。随着市场调节和国家政策控制，铝价稳中有升，在2020年开始强劲上涨，在2021年达到顶点，高达24240元/吨。

图表 2011-2022 年现货铝价格（单位：元/吨）



资料来源：wind，海通国际

铝供给：铝资源分布较为集中

铝土矿资源较为集中，前三大资源量国家占比超50%。截至2021年底，全球铝土矿的储量约为320亿吨，主要集中在几内亚、越南和澳大利亚三个国家，分别占全球总资源的23%，18%和17%，合计占比超50%。

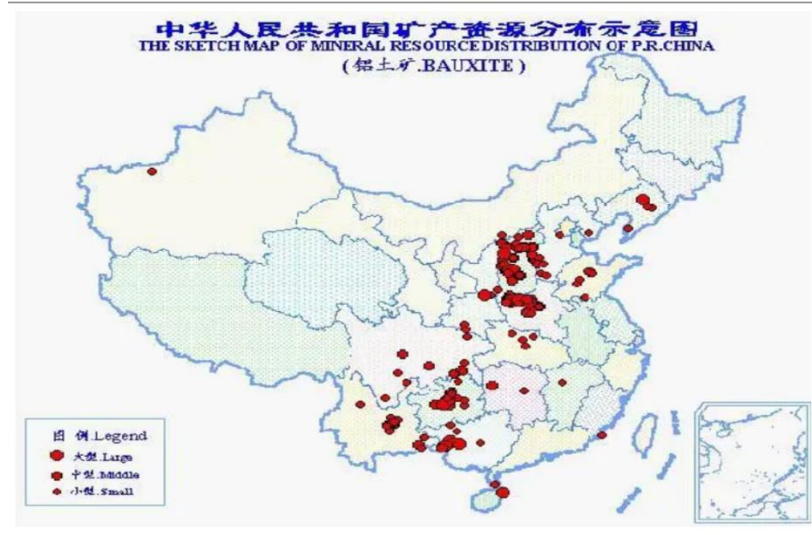
中国铝土矿资源储量少，其中山西铝土矿储量位居全国第一。中国铝土矿储备约10亿吨，仅占全球3.13%，铝土矿储量少。我国铝土矿资源集中分布在山西、河南、贵州、山东和重庆等地，以上地区占据我国铝土矿总储量的93.5%，其中，山西位居全国第一，其储量占比高达42.1%。

图表 2021 年各国铝资源储量（单位：千吨）

国家	储量	占全球的百分比
美国	20,000	0.06%
澳大利亚	5,300,000	16.56%
巴西	2,700,000	8.44%
中国	1,000,000	3.13%
几内亚	7,400,000	23.13%
印度	660,000	2.06%
印度尼西亚	1,200,000	3.75%
牙买加	2,000,000	6.25%
哈萨克斯坦	160,000	0.50%
俄罗斯	500,000	1.56%
沙特阿拉伯	180,000	0.56%
越南	5,800,000	18.13%
其他	5,100,000	15.94%
全球	32,000,000	100.00%

资料来源：USGS，海通国际

图表 中国铝矿分布图



资料来源：宜昌市安全生产协会，海通国际

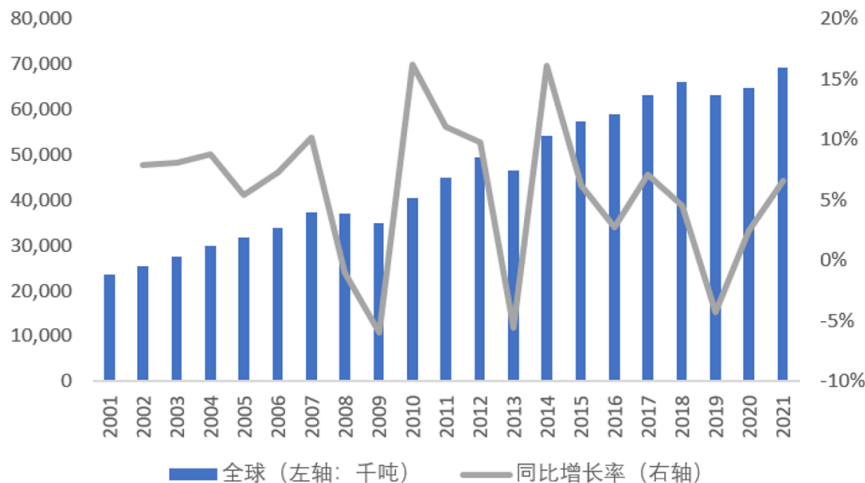
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铝需求：新能源板块持续发力

2002至2021年，全球电解铝消费量稳中有进。二十年来，随着全球经济的快速增长，经济基本面表现较好，建筑和房地产行业等行业也随之发展。铝行业下游对口应用领域广泛，下游领域的发展导致其对于铝消费量的快速增长，全球铝需求增加，铝消费量增长。2021年全球铝消费量合计6906万吨，同比增速为6.6%。

2022年全球需求预期转弱，中国同比增速仍为正。长期来看，我们认为铝需求量有望回升，其增长主要来源于汽车领域和能源领域的快速发展。

图表 2002-2021 全球铝消费量



资料来源：WBMS，海通国际

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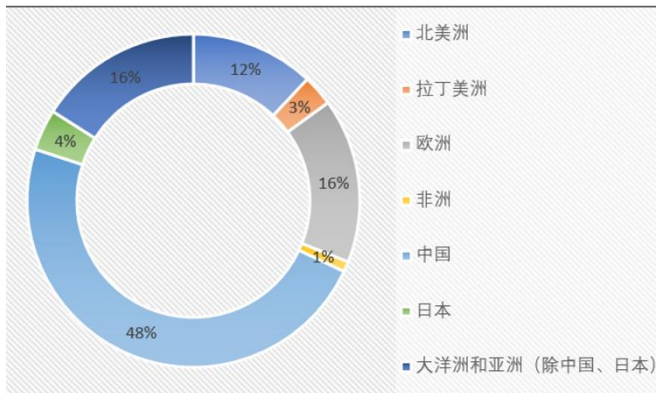
中国为铝消费大国，终端需求结构主要为建筑和交通运输业

2021年全球铝消费主要集中在中国，占比约为**48%**。全球铝消费主要集中在亚洲，其次为欧洲，占比为16%，非洲对铝的消费最少，占比仅为1%。亚洲对铝的消费主要集中在**中国和日本**，分别占全球铝消费的**48%和4%**。

2021年中国铝主要应用于建筑地产和交通运输行业。建筑地产行业在整个国民经济体系中具有十分重要的地位，是中国的支柱产业。铝作为建筑地产行业不可或缺的原料之一，其重要性不言而喻。建筑地产行业对铝的需求占比高达**29%**，其次是交通运输业，对铝的需求占比为**26%**。铝由于自身重量轻的特性，能够使汽车更加节能，因此被广泛应用于不断增长的交通运输业。

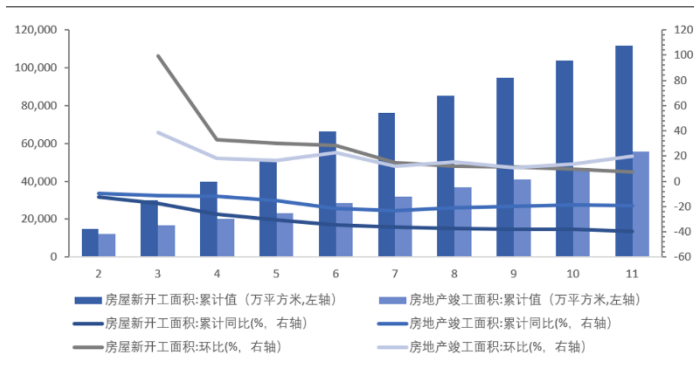
地产政策边际改善，建筑用铝需求回暖。2022年1—11月中国房屋新开工累计面积和竣工累计面积分别为**111632.04**万平方米和竣工面积为**55,708.82**万平方米，同比下降**38.9%**与**19.0%**，环比上升**7.6%**与**19.6%**。一系列地产利好政策的频繁发布，提升了市场对于地产需求恢复的信心，竣工面积同比下降速度放缓，开工面积降速较为温和，且绝对值仍处高位，为未来短期竣工面积提供一定支撑；我们认为，地产行业有望回暖，建筑用铝需求提升预期较强。

图表 2021 年全球铝消费分布占比



资料来源：HULAMIN，海通国际

图表 2022 年 2-11 月中国房地产开工竣工面积



资料来源：wind，海通国际

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新能源汽车：轻量化需求明显，单车用铝量上升

铝在新能源汽车上优势明显，应用广泛。铝相较于钢铁来说，质量较轻，减重效果明显，相应用油量减少，利于节能减排，同时铝由于自身特性，可回收性强，能够多次循环使用，因此被广泛使用于新能源汽车的各个部件。

新能源汽车发展前景广阔，单车用铝量上升。新能源汽车产量在2019年至2022年高速增长，我们预计2025年，全球新增BEV和PHEV将达到近2000万辆和500万辆。在汽车轻量化的大趋势下，BEV和PHEV的单车用铝量逐年增加，预计将由2019年的143kg和188.8kg增至2025年的226.8kg和238.3kg，共带动新能源汽车行业铝需求量578.88万吨。

图表 全球新能源汽车耗铝量

	2019	2020	2021	2022	2023E	2024E	2025E
全球 BEV 新增(million)	1.51	2.11	4.30	7.53	11.29	16.93	20.32
全球 PHEV 新增(million)	0.55	1.42	2.00	2.74	3.75	4.50	4.96
BEV 单车耗铝量 (kg)	143	157.9	173.1	188.2	201.9	215.5	226.8
PHEV 单车耗铝量 (kg)	188.8	198.1	206.8	215.5	224.2	232.9	238.3
BEV 新增耗铝量 (万吨)	21.59	33.32	74.43	141.62	227.89	364.87	460.80
PHEV 新增耗铝量 (万吨)	10.38	28.13	41.36	59.05	84.16	104.91	118.08
总计耗铝量 (万吨)	31.98	61.45	115.79	200.67	312.05	469.78	578.88

资料来源：IEA, IAI, CM Group, 海通国际

图表 铝供需平衡表 (单位：万吨)

	2015	2016	2017	2018	2019	2020	2021	2022E	2023E	2024E	2025E
总供给	5692	5773	5840	5979	6275	6659	6746	7213	7599	7935	8293
总需求	5684	5799	5922	5986	6218	6426	6906	7224	7660	8004	8335
供需平衡	9	-25	-82	-7	56	233	-160	-11	-61	-69	-42

资料来源：IEA, 百川, 中国稀土网, HTI

复盘历史上的黄金价格

1968年至今，黄金价格经历过三次大涨，第一轮主要受货币体系更迭影响，后三轮主要受黄金市场消费和全球经济衰退影响。

【第一轮】1975-1980年：布雷顿森林体系瓦解

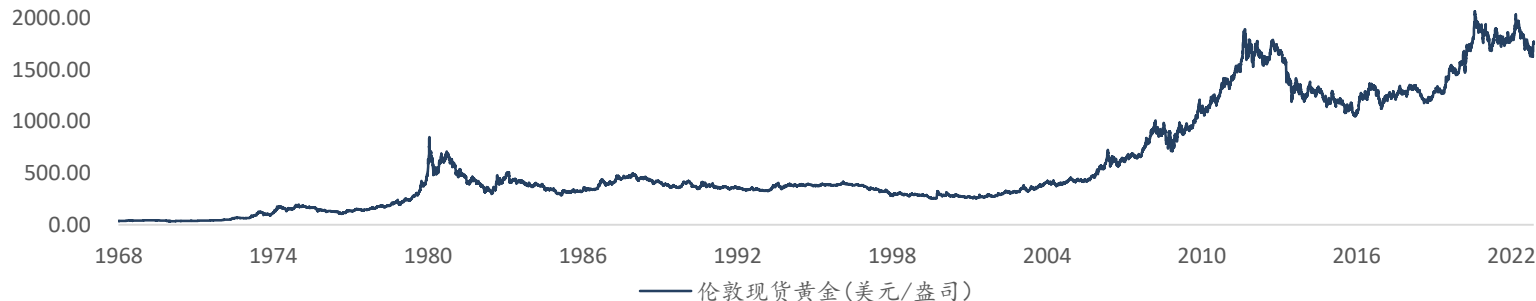
1971年，美国尼克松政府违约导致美元与黄金脱钩，布雷顿森林体系瓦解。自此后黄金价格开始上涨，直至1980年达到700美元/盎司。

【第二轮】2000-2012年：世界经济衰退

以2000年互联网为代表的新经济泡沫破裂和“9.11事件”的冲击为代表，拉开了世界经济不稳定的序幕，各国政府通过储备黄金对冲风险，价格从2001年的300美元/盎司上涨至2011年的1400美元/盎司，涨幅超3倍。

【第三轮】2019年9月-2020年12月：新冠疫情对全球经济的冲击

2020年3月，美股受疫情冲击接连熔断，且全球疫情始终没得到有效控制，使得买入黄金进行避险的需求有增无减。全球最大的黄金ETF资金流入创新高，政府和投资者为规避全球流动性宽松和潜在通胀的风险，选择配置黄金，使黄金市场大涨。



资料来源：Wind，海通国际

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回顾2022年黄金价格走势

2022年，受俄乌冲突引发的地缘政治紧张局势推动，黄金价格在一季度接近历史记录高位。但此后，随着以美联储为首的全球央行开启紧缩周期，加息提高了持有美国国债的收益，降低了黄金的吸引力。

进入7月份，黄金价格呈现小幅反弹状态，2022年11月初以来，由于全球资本市场动荡、美联储放缓加息预期和全球经济衰退预期上升以及各国央行加大黄金购买力度支撑了需求，黄金价格一路上涨。



资料来源: Wind, 长江有色网, 海通国际

2022年美元指数与黄金的负相关性为-80.4%

黄金和美元的负相关性极强，2022年负相关系数为-80.4%。

美元作为国际货币体系的柱石，与黄金同为重要的储备资产，美元的坚挺会削弱黄金作为储备资产和保值功能的地位。预计23年随着美联储加息停止，美元相较于其他各国的资产吸引力相对减弱，美元指数下跌，利好黄金的表现。



资料来源: Wind, 海通国际

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实际利率下行，利好黄金

黄金的属性包括主要资产属性、货币属性与商品属性，从资产属性看，黄金属于最典型的无息资产，是其他风险资产的重要替代品。作为无息资产，实际利率常常被认为持有黄金作为资产配置的机会成本，当实际利率高时，持有黄金的成本高，投资者倾向于投资债券等付息资产，而对黄金的需求下降，黄金价格有走弱的趋势。从实际利率的角度出发，以美国十年期通胀国债指数（TIPS）为代表的实际利率水平指标与黄金价格显示出明显的负相关。

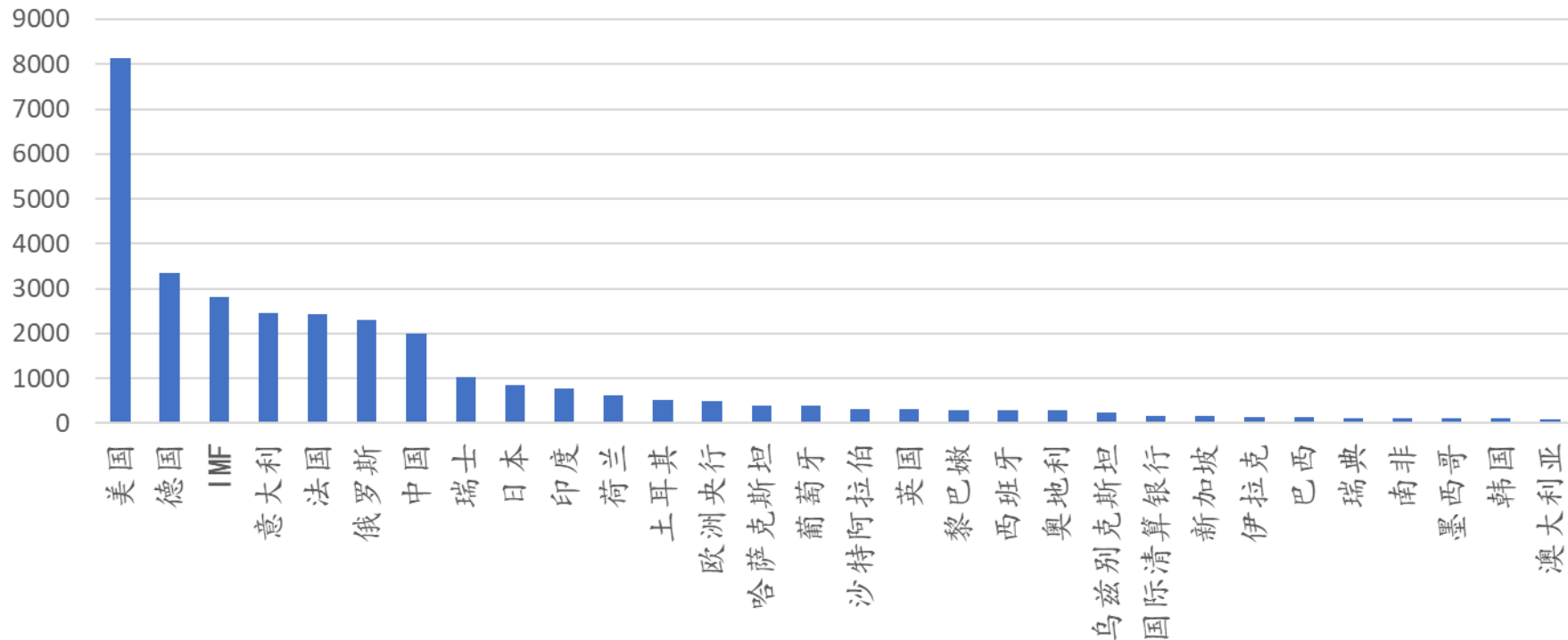
黄金作为一种抗通胀的资产，一般而言其价格往往与通胀率以及通胀预期正相关。截止目前，2022年美联储已连续六次加息，高额的利息压力加重了美国债务负担。实际利率=名义利率-通货膨胀率，通胀和加息放缓利使得金价有充足的上升空间，实际利率下行，利好黄金。

美国10年期通胀指数国债与黄金价格相关关系



资料来源：Wind，海通国际

最新各国央行储备金量(单位: 吨, 数据截止于2022.12)



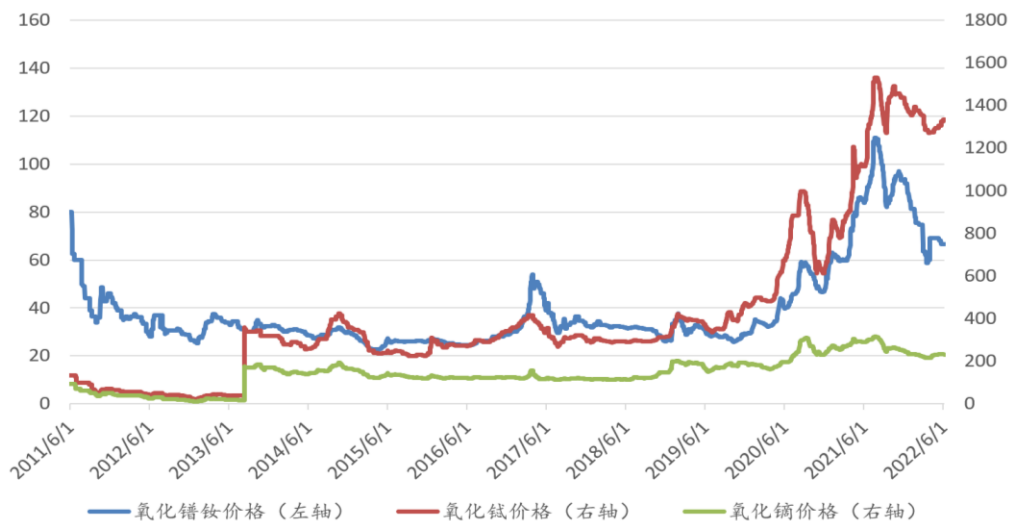
资料来源: 全球经济数据, 海通国际

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稀土价格中枢上行，由政策驱动转为需求推动

自2011年至今，稀土价格总计经历过三次大涨，前两轮为政策收紧与调整带来的价格涨幅，而本轮更多为需求推动。2022年氧化镨钕价格创下十年来新高，近月来价格略有下移，不过总体企稳，全年看，稀土价格中枢上移。

图表 2011年-2022年氧化镨钕、氧化铽和氧化镱价格（单位：万元/吨）



资料来源：百川，亚洲金属网，海通国际

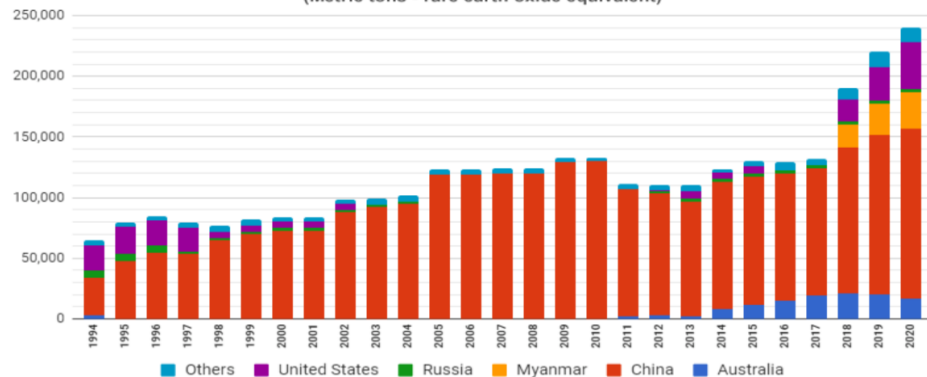
我国占全球稀土供给主导地位，未来增量受制于配额

我国在稀土生产方面占据主导地位。20世纪90年代美国一直是重要的生产国之一，然而中国出售低价稀土使得美国和其他国家经营受阻而停止生产。随着中国限制出口，稀土价格自2010年起迅速上涨，澳大利亚和美国的稀土生产商又活跃了起来。目前全球主要稀土生产国为中国、美国、缅甸和澳大利亚。

中国稀土储量占全球的37%。根据2020年美国地质调查局的统计，目前全球稀土资源储量1.2亿吨，其中中国4400万吨，占比37%，位列第一，巴西和越南各有2200万吨，占比均为18%，澳大利亚和美国各占3%和1%。

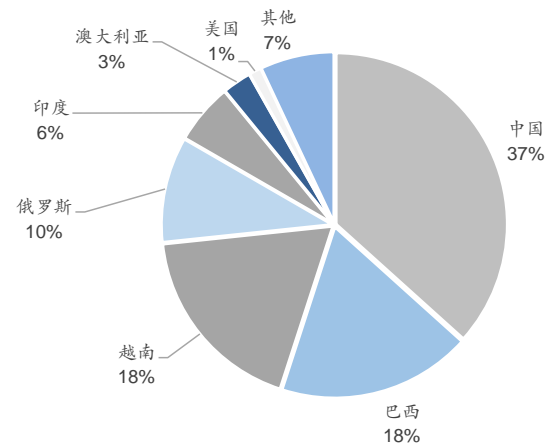
图表 1994-2020 年各国稀土产量图

Rare Earth Element Production (Metric tons - rare earth oxide equivalent)



资料来源: Geology, 海通国际

图表 全球稀土资源分布



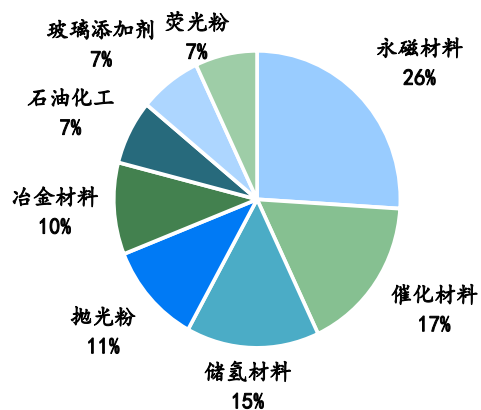
资料来源: USGS, 海通国际

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稀土下游应用广泛

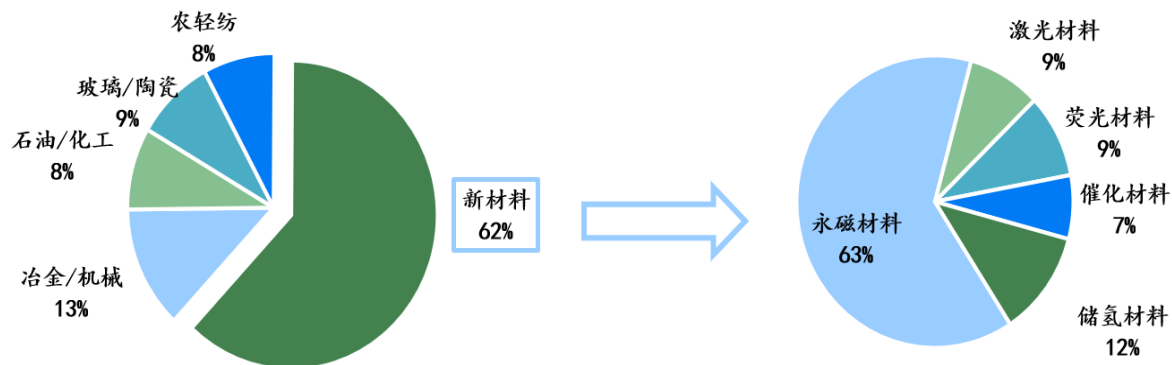
稀土是我国重要的战略资源，在新材料、冶金、石油化工等领域拥有广阔的应用前景。据中国稀土协会，2020年全球稀土消费量在25万吨以上，其中永磁材料占比为26%；2020年中国稀土消费量在18万吨以上，占全球总量的70%以上，其中新材料领域占比超过60%，由于受到新能源汽车、风电等高速发展的新兴行业带动，在中国稀土消费结构中，永磁材料占比达到39.21%。

图表 2020 年全球稀土消费结构图



资料来源：USGS，前瞻产业研究院，海通国际

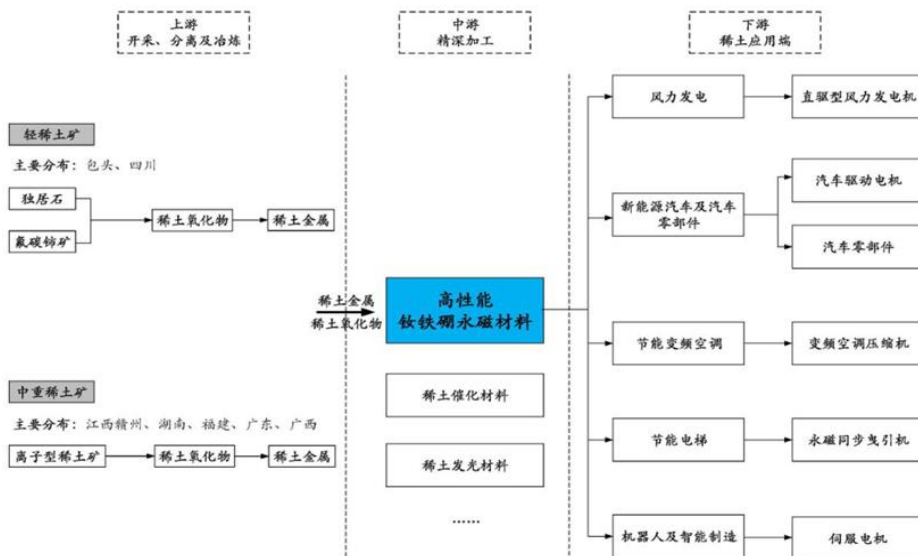
图表 2020 年中国稀土消费结构图



资料来源：Geology，海通国际

永磁材料成为稀土下游应用的重要增长领域。高性能钕铁硼材料是第三代稀土永磁材料，同其他永磁材料相比，其具有高剩磁、高磁能积、高内禀矫顽力的特点，被广泛应用于新能源汽车驱动电机、风力发电机、节能电梯和变频空调压缩机以及消费电子等领域。据中国稀土行业协会，2021年中国烧结钕铁硼毛坯产量20.71万吨，同增16%。

图表 稀土产业链全景图



资料来源：金力永磁 A 股招股说明书，海通国际

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新能源车成为稀土永磁的最大增长点。高性能钕铁硼在新能源汽车领域主要应用于发动机与辅助电机，每台新能源汽车大约消耗3kg钕铁硼，而传统车仅需0.3-0.4kg钕铁硼。新能源汽车的普及将提高对稀土永磁材料的需求。根据IEA，2015-2019年全球BEV+PHEV产量增速CAGR接近40%，其中新增BEV的 CAGR为47%，新增PHEV 的 CAGR为26%；我们预计到2025年全球BEV+PHEV产量为2300万辆，带动钕铁硼需求约7万吨。

碳中和背景下风力发电更具有潜能。目前风电机型分为直驱、半直驱和双馈。其中，直驱和半直驱机型需要使用钕铁硼。我们测算1MW直驱机型对应的钕铁硼用量为 600-800kg，而半直驱减少2/3钕铁硼用量，1MW约为200-270kg。目前我国每年新增装机量，直驱与半直驱风电机型占比达到1/3以上，未来海上风电发展主要依赖直驱与半直驱，因此渗透率有望逐步提高。我们预计，到2025年全球风电领域新增装机量为160GW，带动钕铁硼需求达到约6万吨。

图表 全球新能源汽车领域耗稀土量 (吨)

	2019	2020	2021	2022E	2023E	2024E	2025E	2021-2025E, CAGR
全球新增新能源汽车总计 (百万辆)	2.06	3.13	6.50	9.50	13.3	18.24	23.00	37%
钕铁硼需求量 (吨)	6180	9390	19500	28500	39900	54724	69000	
氧化镨钕需求量 (吨)	2225	3380	7020	10260	14364	19701	24840	

资料来源: IEA, 百川, 中国稀土网, HTI

图表 全球风电领域耗稀土量

	2019	2020	2021	2022E	2023E	2024E	2025E	2021-2025E, CAGR
全球风电新增装机量 (GW)	60.4	93.0	93.6	121.9	135.0	148.0	160.0	14%
直驱电机渗透率	0.4	0.4	0.5	0.5	0.6	0.6	0.6	7%
钕铁硼需求量 (吨)	12684.0	22320.0	25272.0	36570.0	44550.0	53280.0	57600.0	23%
氧化镨钕需求量 (吨)	4566.2	8035.2	9097.9	13165.2	16038.0	19180.8	20736.0	23%

资料来源: GWEC, 百川, 北极星, 海通国际

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政策推动高端变频空调渗透率提升。目前主流变频空调的压缩机所使用的磁体分为铁氧体永磁材料和高性能钕铁硼永磁材料两种。在“国家要求降能耗，空调压缩机一律升级改用稀土永磁电机”的标准下，高性能钕铁硼永磁电机渗透率不断提升，稀土需求大幅增加，我们预计未来5年钕铁硼需求CAGR为37%。

据百川，每台高端变频空调平均需要使用高性能钕铁硼永磁材料约0.07kg。我们预计2021年-2025年空调产量CAGR为18%；根据现在的空调能效标准，定频空调和铁氧体变频空调都会逐步退出市场，因此未来高端变频空调渗透率将从40%提升至90%，据此计算2025年空调领域带动钕铁硼需求达到约1.3万吨。

3C产品为磁材需求的新增发力点。

图表 空调领域耗稀土量（吨）

	2019	2020	2021	2022E	2023E	2024E	2025E	2021-2025E, CAGR
我国变频空调产量（万台）	6940.50	8336.40	10700	12626	14898.68	17580.44	20744.92	18%
高端变频渗透率	40%	40%	50%	60%	70%	80%	90%	16%
钕铁硼需求量（吨）	1943.34	2334.19	3745	5302.92	7300.35	9845.05	13069.30	37%
氧化镨钕需求量（吨）	699.60	840.31	1348.2	1909.05	2628.13	3544.22	4704.95	37%

资料来源：Wind，百川盈孚，海通国际预测

3C产品为磁材需求的新增发力点。3C产品方面，手机、电脑、平板和智能音箱等智能产品的需求越来越高。其中手机与智能音箱需求增长较为明显。

手机在3C产品中贡献了主要的磁材需求，IDC预计全球手机销量2025年有望达到1550百万台。另一项需求增长明显的智能音箱2015年销量仅为2200万台，2025年有望达到409400万台。

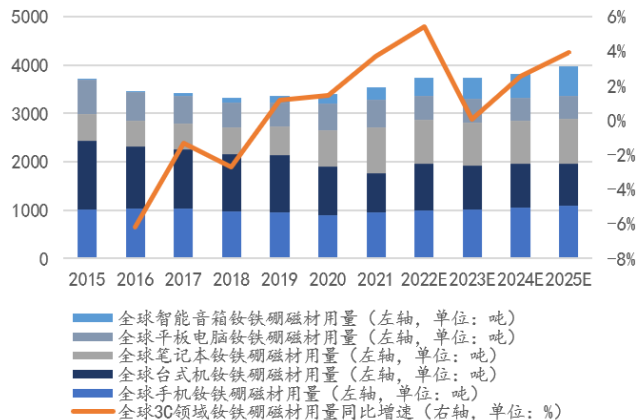
我们测算，每台手机钕铁硼磁材消耗量为0.0007kg，每台台式机钕铁硼消耗量为0.0125kg，每台笔记本电脑和平板电脑的钕铁硼消耗量均为0.0034kg，每台智能音箱钕铁硼消耗量为0.0015kg。我们预计2022年3C领域钕铁硼需求量约3700吨，2025年将达到约4000吨。

图表 全球手机与智能音箱销量



资料来源：IDC, statista, 海通国际

图表 全球3C产品钕铁硼磁材用量



资料来源：IDC, statista, pubs. acs, 海通国际

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图表 全球 3C 领域耗稀土量 (吨)

	2019	2020	2021	2022E	2023E	2024E	2025E	2021-2025E, CAGR
全球手机销量(百万)	1371.1	1280	1350	1430	1450	1500	1550	4%
全球手机钕铁硼磁材用量(吨)	960	896	945	1001	1015	1050	1085	
全球台式机销量(百万)	94	79.8	66	77	73.1	72.1	69.6	1%
全球台式机钕铁硼磁材用量(吨)	1175	998	825	963	914	901	870	
全球笔记本销量(百万)	173	222.5	275	263.4	260.8	261.6	272.4	0%
全球笔记本钕铁硼磁材用量(吨)	588	757	935	900	887	889	926	
全球平板电脑销量(百万)	145	163.5	168	148	142.1	142.9	141.5	-4%
全球平板电脑钕铁硼磁材用量(吨)	493	556	571.2	503	483	486	481	
全球智能音箱销量(百万)	98.1	136.9	174	240.9	287.9	332.7	409.4	24%
全球智能音箱钕铁硼磁材用量(吨)	147	205	261	361	432	499	614	
全球 3C 领域钕铁硼磁材用量(吨)	3363	3411	3537.2	3724	3730	3826	3976	3%
氧化镨钕需求 (吨)	1211	1228	1274	1342	1343	1377	1431	

资料来源: IDC, statista, pubs.acs, 海通国际

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全球经济增长不确定性；新能源车销量不及预期。

Summary

The U.S. dollar index has a negative correlation with copper prices, reaching -90% in FY22. In 2022, the 29 miners' combined copper production is expected to reach 9,734,600 tons, up 4.72% from the same period, and 438,900 tons more than in 2021. Over the last decade, combined copper inventories peaked at over 900,000 tons in March 2018 and fell to a low of around 177,000 tons in November 2021. The spot price of aluminum has experienced tremendous volatility over the past decade. The spot price of aluminum has been consistently low since 2011, and in 2015 it fell below the 10,000 yuan mark to a multi-year low of 9,710 yuan per ton. Bauxite resources are more concentrated, with the top three resource countries accounting for more than 50% of the total. China's bauxite resources reserves are small, of which Shanxi bauxite reserves rank first in the country.

Since 1968, the price of gold has experienced three big rises, the first round was mainly affected by the change of monetary system, the last three rounds were mainly affected by gold market consumption and global economic recession. The negative correlation between gold and the U.S. dollar is extremely strong, with a negative correlation coefficient of -80.4% in 2022. China has 37% of the world's rare earth reserves. According to the U.S. Geological Survey in 2020, the current global reserves of rare earth resources are 120 million tons, of which China ranks first with 44 million tons, or 37%, Brazil and Vietnam each have 22 million tons, or 18%, and Australia and the U.S. each have 3% and 1%.

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中性，未来12-18个月内预期相对基准指数变化不大，基准定义如下。根据FINRA/NYSE的评级分布规则，我们会将中性评级划入持有这一类别。

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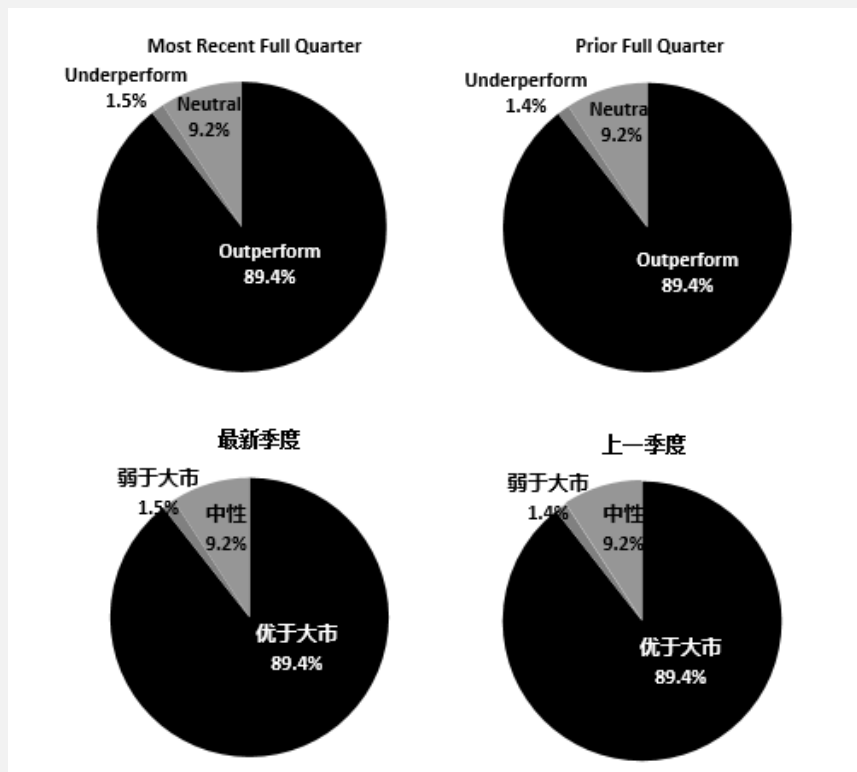
Outperform: The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

Neutral: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

Underperform: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100, US – SP500; for all other China-concept stocks – MSCI China.

评级分布 Rating Distribution



截至2022年12月31日海通国际股票研究评级分布

	优于大市	中性 (持有)	弱于大市
海通国际股票研究覆盖率	89.4%	9.2%	1.5%
投资银行客户*	5.2%	7.3%	8.3%

*在每个评级类别里投资银行客户所占的百分比。

上述分布中的买入，中性和卖出分别对应我们当前优于大市，中性和落后大市评级。

只有根据FINRA/NYSE的评级分布规则，我们才将中性评级划入持有这一类别。请注意在上表中不包含非评级的股票。

此前的评级系统定义（直至2020年6月30日）：

买入，未来12-18个月内预期相对基准指数涨幅在10%以上，基准定义如下

中性，未来12-18个月内预期相对基准指数变化不大，基准定义如下。根据FINRA/NYSE的评级分布规则，我们会将中性评级划入持有这一类别。

卖出，未来12-18个月内预期相对基准指数跌幅在10%以上，基准定义如下

各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100; 其他所有中国概念股 – MSCI China.

Haitong International Equity Research Ratings Distribution, as of Dec 31, 2022

	Outperform	Neutral (hold)	Underperform
HTI Equity Research Coverage	89.4%	9.2%	1.5%
IB clients*	5.2%	7.3%	8.3%

*Percentage of investment banking clients in each rating category.

BUY, Neutral, and SELL in the above distribution correspond to our current ratings of Outperform, Neutral, and Underperform.

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Previous rating system definitions (until 30 Jun 2020):

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NEUTRAL: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below.

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SELL: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

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