

**扫地机器人行业跟踪：2023年拐点将至，
销量、均价、利润率、估值同步触底**
**Robotic Industry Tracking: Inflection Point is Coming, Volume,
Average Price, Profit Margin and Valuation Rebound**

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前言

扫地机器人行业过去两年的行业现象是量减额增，行业增长主要靠价格增长带动。我们看到价格提升的背后是自清洁产品周期的展开，这轮产品周期同时也带来行业竞争格局的一些变化。

而站在当前时点，行业主要有两个讨论。

其一，总量层面：对增长的担忧。经过两年的均价提升，均价目前基本走到瓶颈期。2023年来看，行业均价的贡献作用预计式微，那么后续量增的驱动力何在？行业还能否实现增长？

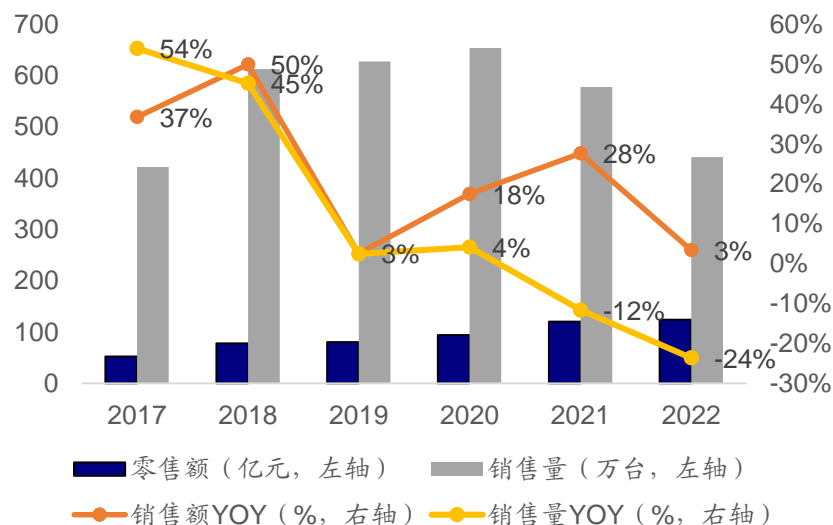
其二，竞争层面：在较为疲软的整体环境与产品创新告一段落时，行业价格走势与竞争走势如何？

本篇行业跟踪，我们主要通过对以上两个问题的讨论，厘清关于行业销量、价格及利润率的问题。

2022年行业持续量减额增，行业增长主要靠价格增长带动

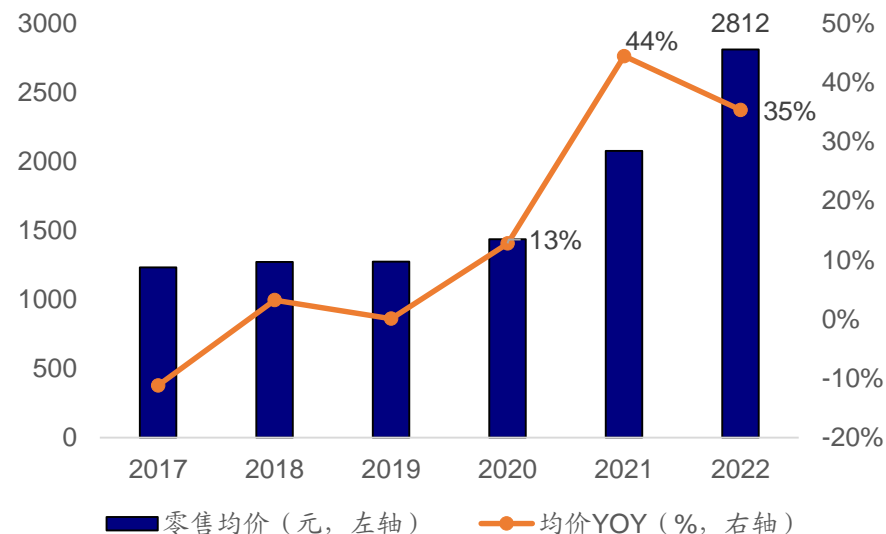
行业过去两年量减额增，行业增长主要靠价格增长带动。从零售量角度看，扫地机器人销量连续两年出现下滑。据奥维云网数据2022年销量同比-24%至441万台。从零售额角度看，2022年实现零售额124亿元同比增长3.4%。量额的增长差异背后是均价的大幅提升：2021年行业均价提升44%，2022年行业均价仍同比提升35%至2812元。

图 扫地机器人行业销售量、销售额及YOY



资料来源：奥维云网，HTI

图 扫地机器人行业零售均价及YOY



均价提升背后是带桩自清洁产品周期的展开

行业均价提升的背后，是产品端的不断创新，带桩产品（自清洁款、自集尘款）快速铺开，行业零售均价大幅提升。从价格结构来看，行业3000元+价格产品占比由2021年的52%上升至2022年的78%；从产品结构来看，单机扫地机器人产品2022年占比从2021年同期的46%下降至14%，带桩产品（自清洁、自集尘、自清洁+自集尘）占比提升至86%。我们认为带桩产品的快速铺开使得行业均价迅速提升。

图 扫地机器人分价格段产品销售额分布（元）

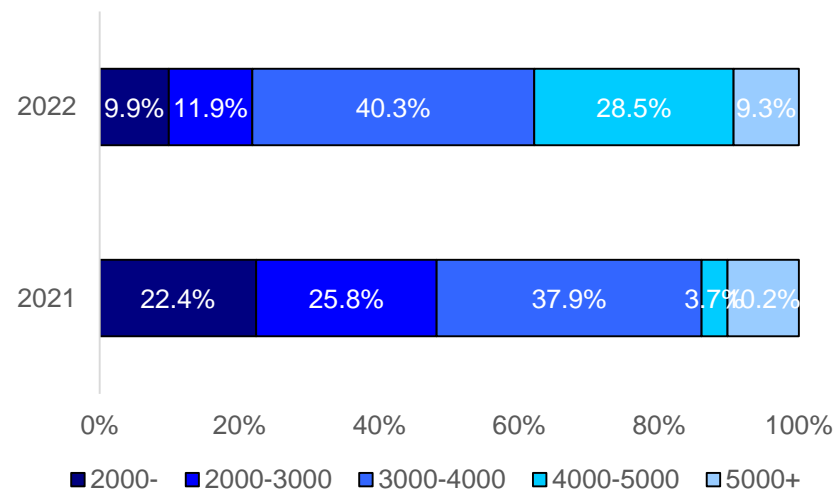
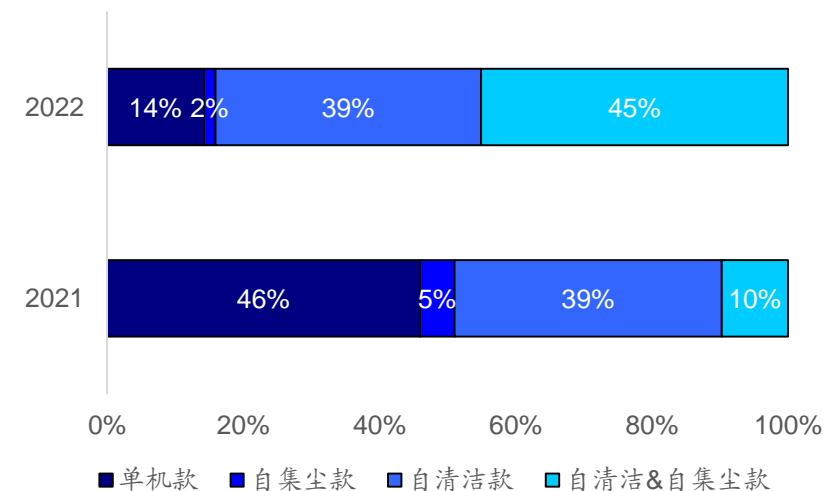


图 扫地机器人细分产品类型销售额占比

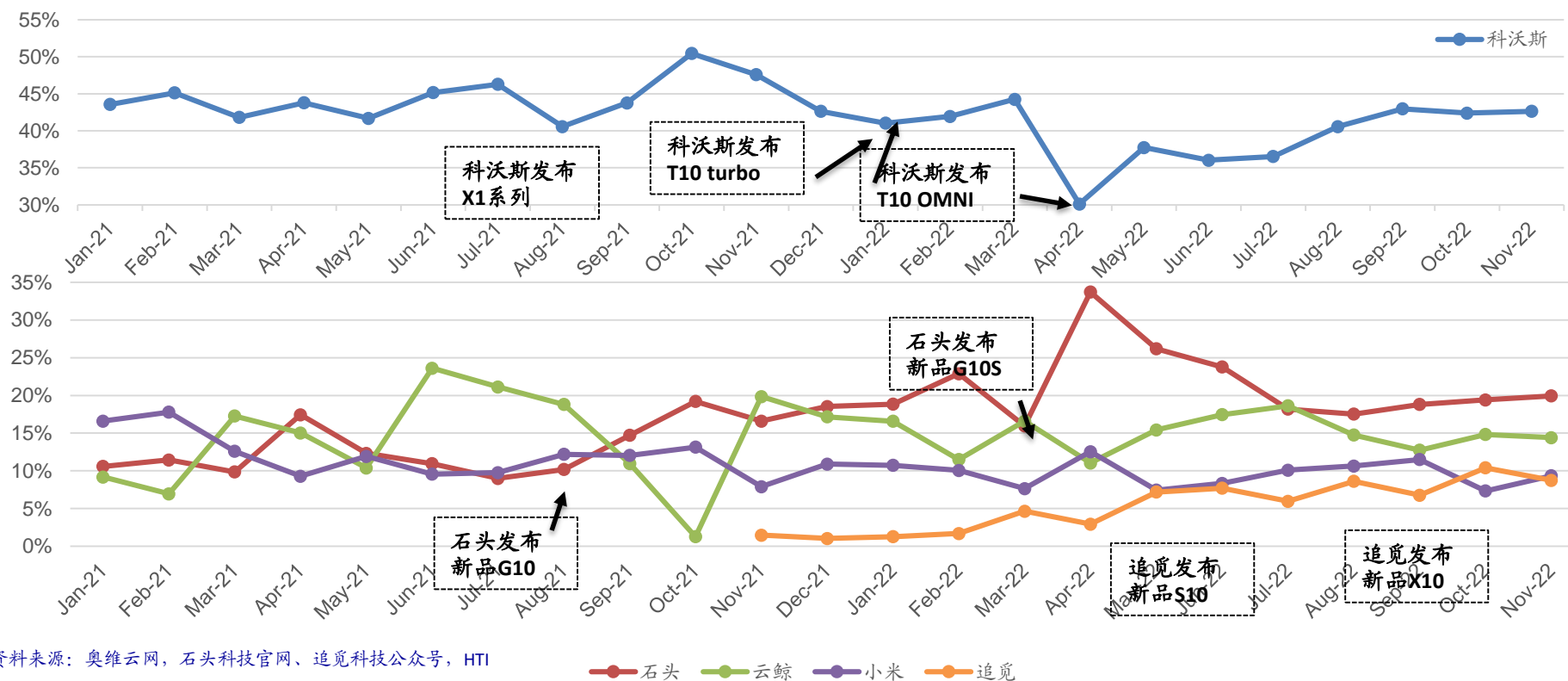


资料来源：奥维云网，HTI

自清洁产品周期的展开带来行业市占率的一轮变化

我们认为自清洁的产品周期同时也带来行业市占率的一轮变化。石头的品牌市占率随着新品上量而有两处台阶式提升：一次是2021年8月发布G10后，一次是2022年3月发布G10S后。追觅在2022年密集发布自清洁扫地机新品：618前发布S10系列，双11前发布X10系列，配合营销动作，追觅份额也进入二梯队。

图 头部品牌销额市占率变化

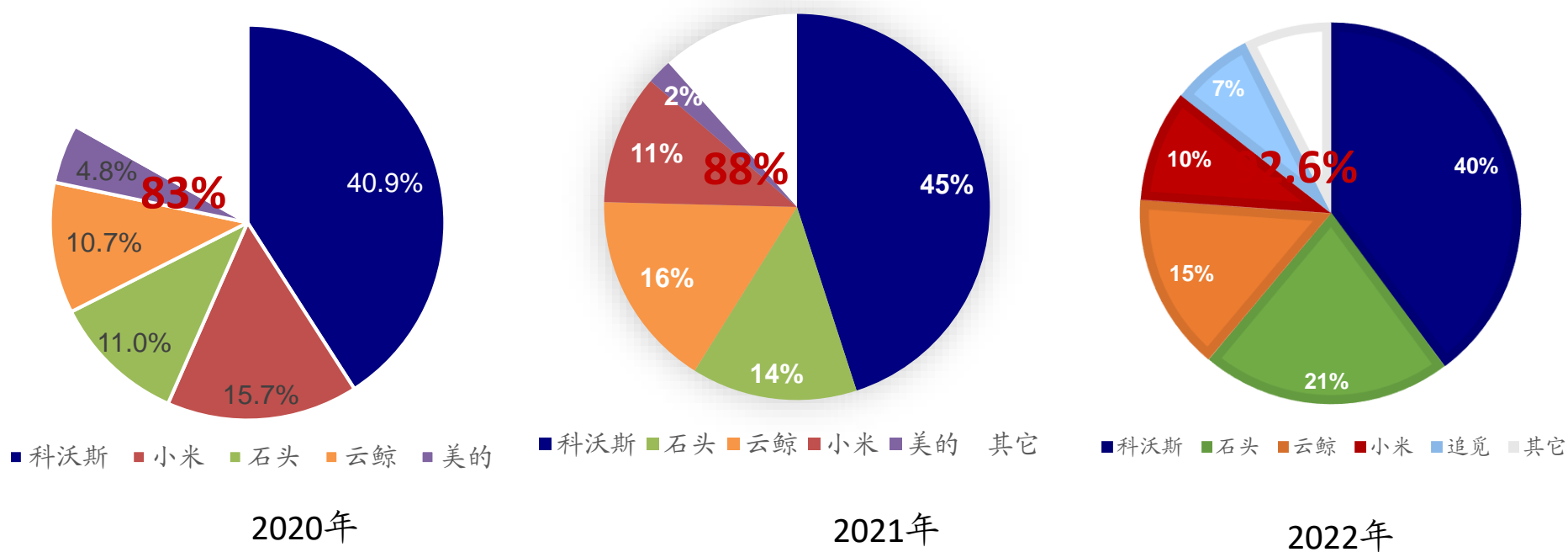


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自清洁产品周期的展开带来行业市占率的一轮变化

从格局来看，2022年行业集中度仍在继续提升，留给新品牌的空间越来越小。据奥维云数据，2022年，TOP5品牌市占率达92.6%，较2021年底同比+4.6pct。其中石头α显著，份额从2021年14%大幅提升至21%；科沃斯份额有所下滑，云鲸与小米维持原有地位，追觅则取代美的进入TOP5阵营。

图 头部品牌市占率变化



资料来源：奥维云网，HTI

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讨论1: 后续增长的驱动力在何处?

目前的行业现象背后隐藏着两个担忧。其一，对增长的担忧。经过过去2年的均价提升，截至**2022年**行业均价已经到达**2800元**，下半年的月度均价几乎均超过**3000元**，我们看到量和额的趋势接近一致，均价走到瓶颈期。**2023年**来看，行业均价的贡献作用预计式微，那么后续量增的驱动力何在？行业还能否实现增长？

图 行业月度销量及销额YOY

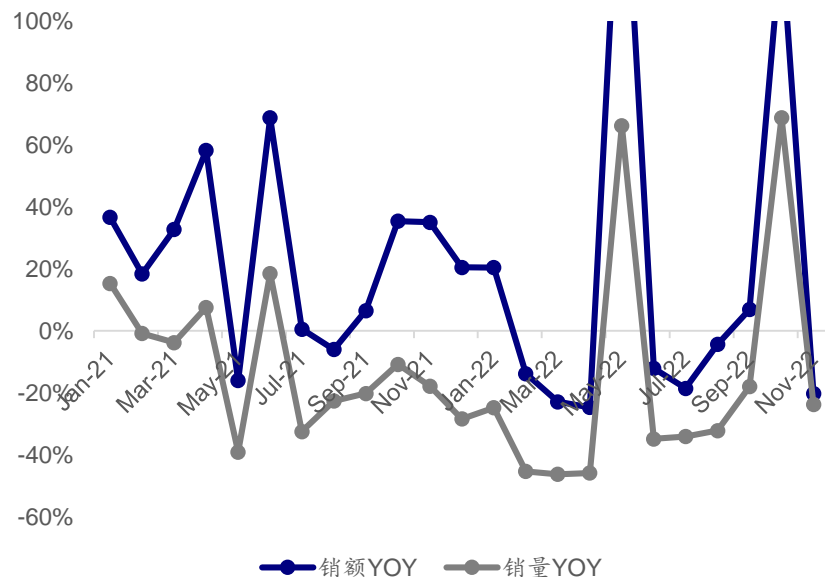
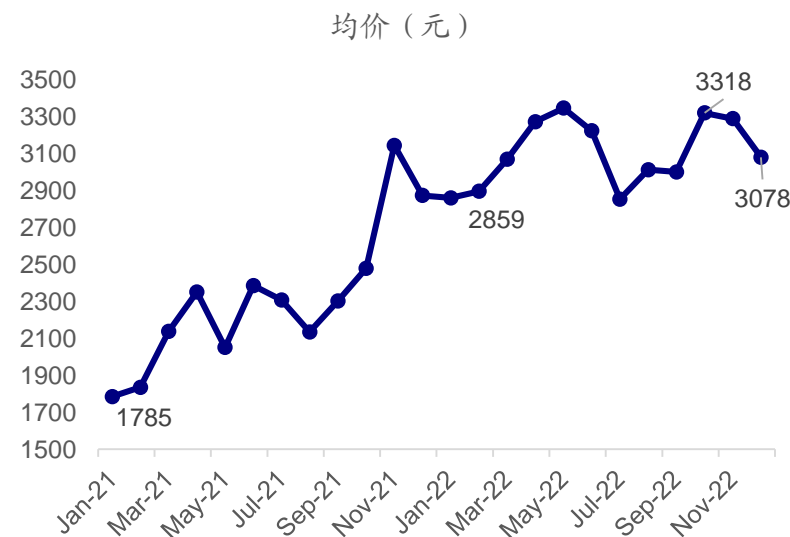


图 行业月度均价变化 (元)



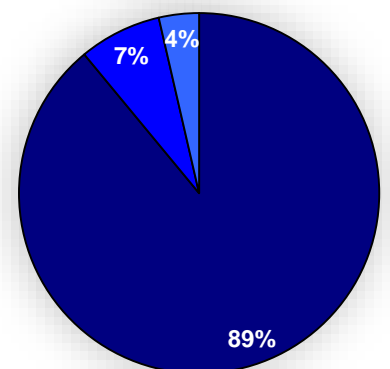
资料来源: 奥维云网, HTI

2023年销量将迎来拐点--降本降价，刺激需求

我们认为，**2023年**正是行业的销量拐点之年。基于这样几个原因。

1. 技术改进与规模提升降低生产成本，带来价格下行空间，部分刺激需求。自清洁产品较高的产品均价或成为行业放量的一个重要制约点。目前来看，龙头公司正在通过不断的技术改进实现产品层面的不断降本，叠加产品生产的规模效应提升，我们预计**2023年**产品层面的降本将给终端价格带来渐进下行空间，从而刺激用户购买需求。假设降本+减配性价比款可以实现20%的成本下降，那么均价有望回到2200元附近，接近2021年行业均价水平。如果按照2021年行业销量578万台估计，则2023年行业有望实现20%-30%的量增。

图 成本结构中接近90%为材料成本



■ 材料成本 ■ 制造费用 ■ 直接人工

注：本图为2017年科沃斯招股说明书数据

资料来源：科沃斯招股说明书，HTI

图 产品降本估算

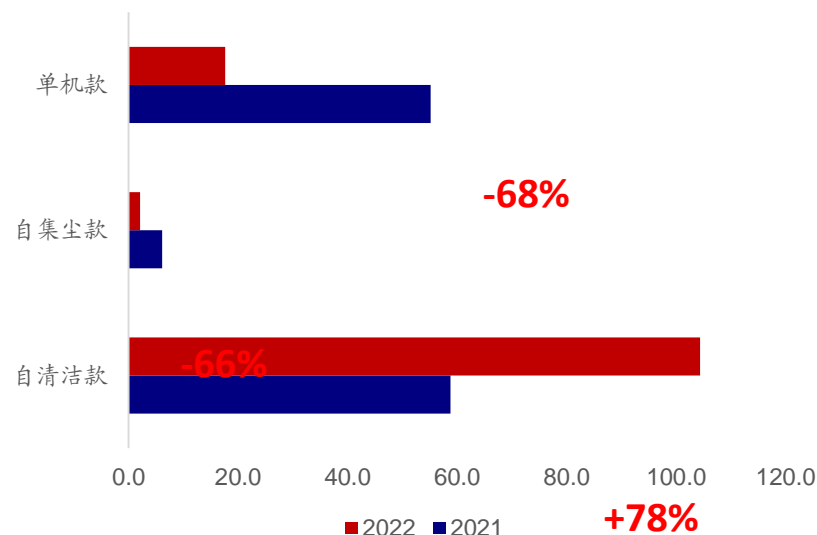
成本降幅假设		5%	10%	15%	20%
成本均价（元）	1428	1357	1285	1214	1142
毛利率假设	49%	49%	49%	49%	49%
出厂均价（元）	2800	2660	2520	2380	2240

注：本计算中对于出厂价的假设为估算，取目前行业均价为出厂均价假设，毛利率参考石头科技2020-2022年财报数据

2023年销量将迎来拐点--自清洁产品周期

2.行业产品结构转化完成，基本过渡到自清洁产品。2023年行业层面有望实现增长。自清洁产品本身的产品周期是非常显著的。我们拆分结构来看，奥维云数据显示的普通款产品2022年的销额下滑68%，自清洁款销额增速达78%。而截至2022年，自清洁产品占比已经上升至84%。行业整体向自清洁产品的大幅切换，也有助于2023年我们在行业层面看到整体增长。

图 分类型产品销售额及增速对比（亿元）



资料来源：奥维云，HTI

图 销量前十机型中有8款为自清洁产品（2022.11）

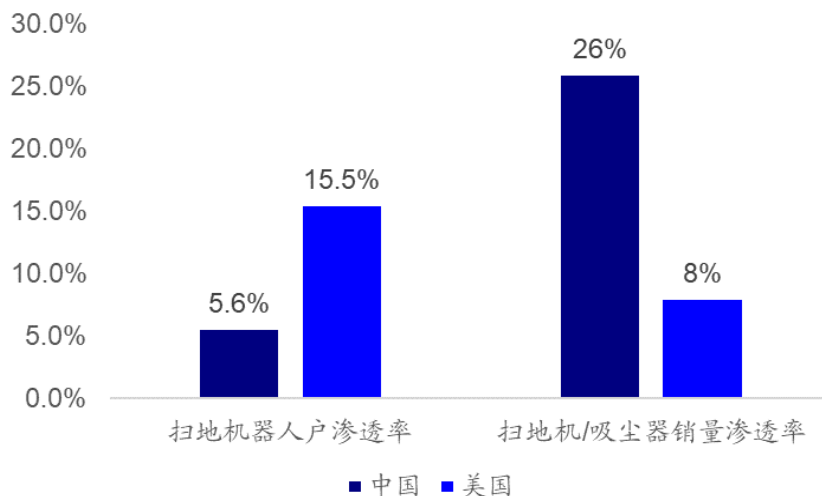
机型	品牌	均价(元)	类型
T10 OMNI	科沃斯	3709	自清洁
G10S	石头	4283	自清洁
X1 OMNI	科沃斯	4746	自清洁
J3	云鲸	4619	自清洁
米家扫拖机器人3C	小米	1004	普通
J2	云鲸	3005	自清洁
S10	追觅	3661	自清洁
米家免洗扫拖机器人	小米	1986	自清洁
N8	科沃斯	1417	普通
T10 TURBO	科沃斯	3195	自清洁

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行业后续的增长驱动力？---复苏带来的消费需求改善

3.疫情政策调整，经济复苏，有望带来的消费需求改善。长周期而言，低渗透率，高成长空间的大单品属性决定了扫地机器人仍有较大空间。从渗透率数据及从扫地机器人与直立吸尘器的年销量对比来看，扫地机器人的普及确实仍有较大空间。短周期而言，作为可选消费品，经济周期与产品周期影响短期行业增速表现。产品周期而言，我们认为**2023年**应当仍然处于自清洁的产品周期中。经济周期而言，在收入水平及消费意愿均受到影响的情况下，高端可选消费品在需求端面临较大压力。后续来看，随着疫情放开与经济复苏，高端可选消费整体或有需求改善，成为扫地机器人行业增长的助推力。

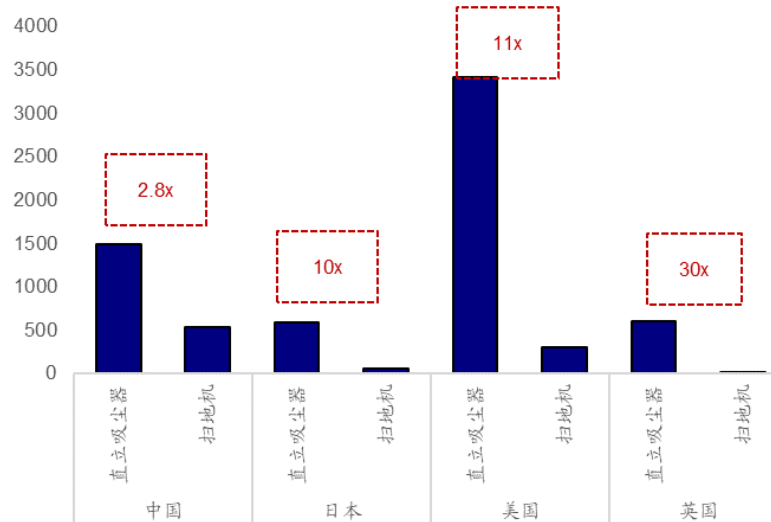
图 扫地机器人渗透情况



注：渗透率计算数据为2011年-2021年，年销量数据使用2021年数据

资料来源：euromonitor，海通证券研究所测算

图 扫地机器人与直立吸尘器的年销量对比（万台）



行业后续的增长驱动力？---更新周期到来

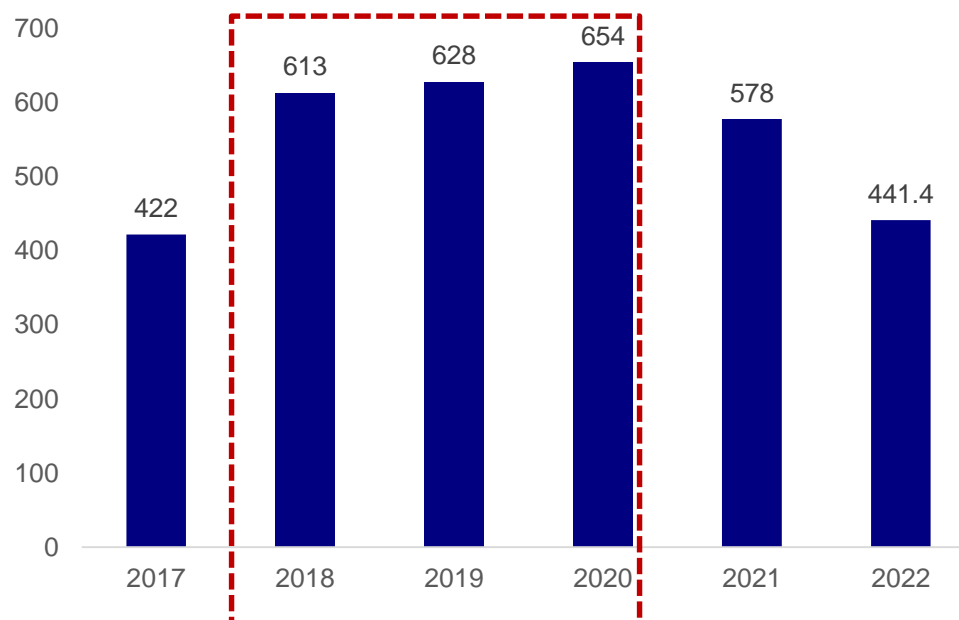
4.更新周期到来。扫地机器人从机身设计寿命和技术迭代周期来看，我们判断约3-5年时间。目前作为产品主流的自清洁产品和3年前的扫地机器人产品已经不可同日而语。本身的机器使用寿命和产品的更新迭代，都有希望让我们在近一两年看到前期销量的更新周期的到来。而**2018-2020年**从销量角度来看是行业的高峰时期，年销量超过600万台。我们认为更新周期会成为行业的助推动力。

图 不同时期扫地机旗舰机型功能对比

	2020年	2022年
图例		
产品名称	石头T7 Pro	石头G10S
吸力	2500Pa	5100Pa
导航	双目视觉避障	Reactive AI识别避障
自主升降拖布	无	有
集尘功能	无	有
自清洁功能	无	有
烘干/上下水选配	无	有

资料来源：奥维云网，石头京东官方旗舰店，HTI

图 扫地机器人行业年度销售量（万台）



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讨论2：行业会否陷入价格竞争？

首先我们对价格走势的判断是，**2023年行业将处于降价趋势当中。而对行业的另一重担忧是，在较为疲软的整体环境与产品创新告一段落时，是否会陷入恶性的价格竞争？**

我们观察价格走势数据，从品牌维度来看，头部品牌的月度均价暂且没有走低趋势，甚至稳中有升，我们认为主要因为品牌内部的销售结构仍在向高端自清洁产品升级。而观察重要机型**T10 OMNI（科沃斯）**、**G10S（石头）**、**X1 OMNI（科沃斯）**的价格走势，则可见到单品均价均有下行。**T10 OMNI**经历过2022年7-8月一轮幅度超过10%的降价后均价继续缓慢下行，至2022年12月均价较6月下降了20%；**G10S**在**T10 OMNI**降价后也进行了平缓降价，较2022年6月降幅10%；2021年上市的**X1 OMNI**截至2022年12月则从2022年6月以来降价累计15%。

图 品牌月度价格走势（元）

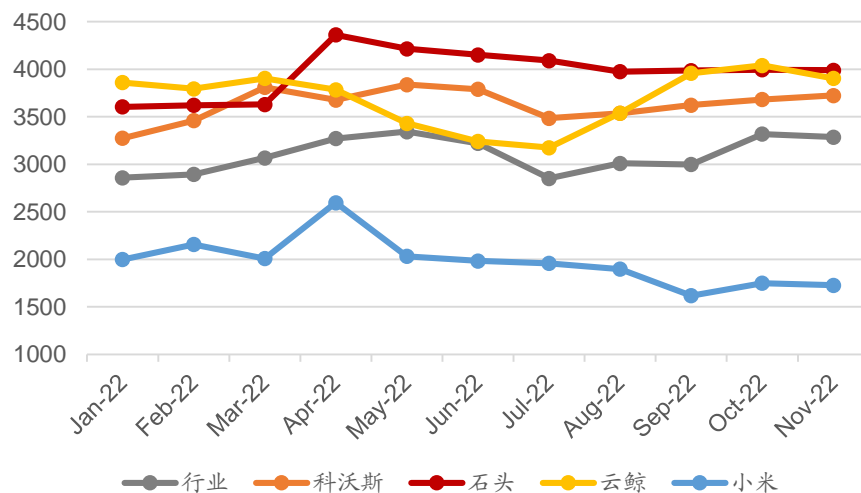
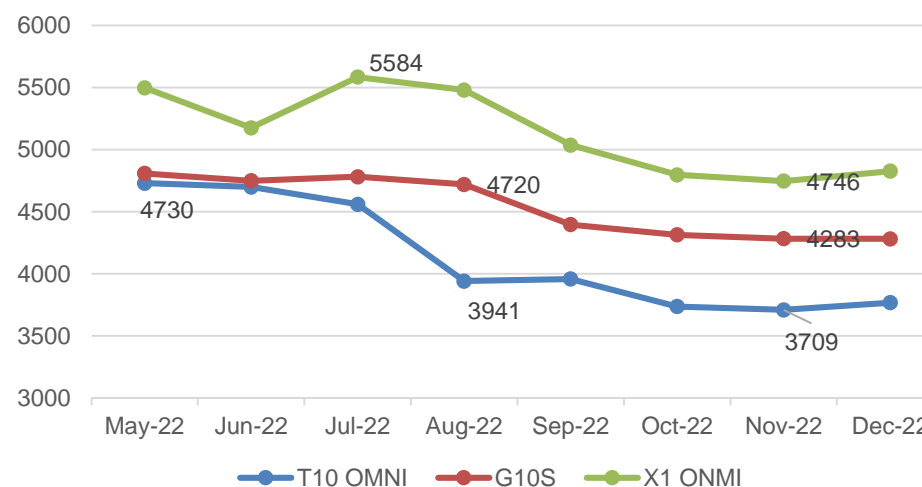


图 重要机型月度价格走势（元）



资料来源：奥维云网，HTI

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讨论2: 行业会否陷入价格竞争?

重要机型的均价与销量市占率基本呈负相关，证明降价策略对市占率的提升一定程度上是有效的。对公司而言，头部重要SKU的市占率趋势基本决定了公司整体的市占率情况。例如科沃斯的两款OMNI在2022年11月合计销量市占率达26%，占到公司当月整体销量的70%；石头G10S的11月市占率11%，占公司当月整体销量的68%。我们从几个重要机型的均价与市占率的月度变化来看，基本呈现负相关，可见降价策略对于市占率的提升是有一定效果的。

图 主要SKU的均价与市占率月度变化图

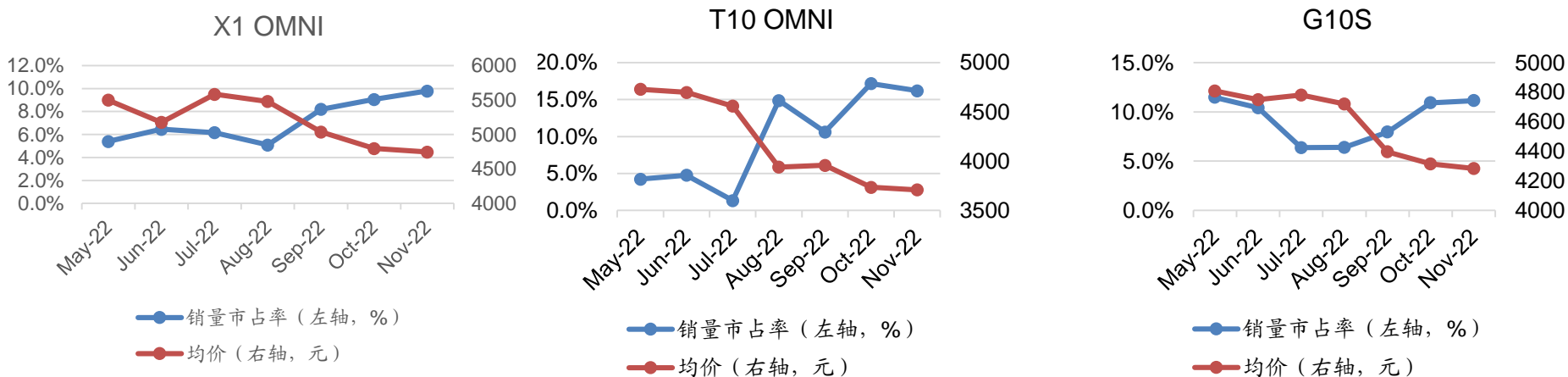


表 品牌月度销量市占率

	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22
科沃斯	35.8%	35.1%	35.6%	26.8%	32.9%	30.6%	29.9%	34.5%	35.6%	38.2%	37.6%
环比 (+/-pct)		(0.72)	0.53	(8.84)	6.09	(2.26)	(0.73)	4.64	1.03	2.65	(0.58)
石头	14.9%	18.3%	13.5%	25.3%	20.8%	18.4%	12.7%	13.3%	14.2%	16.1%	16.4%
环比 (+/-pct)		3.34	(4.80)	11.79	(4.50)	(2.33)	(5.76)	0.60	0.87	1.97	0.30

资料来源: 奥维云网, HTI

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讨论2：行业会否陷入价格竞争？

而对于降价问题，我们认为可以做“良性的降价”与“恶性的降价”的区分。

“良性的降价”我们定义为不对盈利产生影响的降价：即通过产品成本的下行实现终端的让利。手段包括技术改进，人工成本降低，材料成本压缩等等。“恶性的降价”我们定义为对盈利产生影响的降价：通过压缩利润空间实现终端的让利，本质是行业环境变化带来的短期竞争手段，“伤敌一千，自损八百”。

2022年我们看到的产品价格的下行，我们认为是两种要素混杂的。科沃斯T10 OMNI通过在2022年8月份的一次性降价，实现了对行业最优价位段的抢夺。在产品站稳3500-4000元价位段的核心位置后，科沃斯并没有对其他产品进行大规模降价。而后我们看到行业主要SKU小幅的价格下行，我们认为与产品降本的过程及消费电子新品的价格规律是基本匹配的。

我们认为，扫地机器人并非是规模优势非常显著的行业，无法像白电龙头一样通过极致压缩利润率挤走竞争对手，所以恶性降价竞争的策略长期并不可行。

由于产品创新的阶段性瓶颈与宏观消费环境的疲软，无可否认的是产品的降价压力是持续存在的。结合行业特征与当下的竞争格局，我们期待龙头2023年继续通过规模化、模块化等形式实现逐步降本，扩大客群；同时加快研发步伐，继续通过产品创新驱动消费需求。

利润率基数前高后低，全年有望触底回升

利润率基数前高后低，我们判断全年有望触底回升。我们判断行业的降价趋势将持续，但目前格局基本稳固，竞争层面难以再继续恶化，龙头有望继续蚕食老旧品牌份额，因此我们判断全年整体利润率有望触底回升。

季度节奏来看利润率的基数前高后低，上半年基数压力仍大，下半年步入低基数期，从二季度开始即是非常好的观察期。

图 石头科技及科沃斯分季度收入增速及利润率

季度收入增速							
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22
石头科技	82.0%	6.1%	22.9%	29.6%	22.3%	26.5%	-0.6%
科沃斯	131.0%	117.8%	65.8%	56.6%	43.9%	15.5%	14.4%
季度毛利率							
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22
石头科技	49.6%	51.7%	48.5%	44.7%	47.5%	48.8%	49.2%
科沃斯	46.8%	52.8%	48.0%	54.7%	49.5%	52.3%	47.2%
季度净利率							
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22
石头科技	28.4%	27.2%	24.6%	19.2%	25.2%	17.5%	16.2%
科沃斯	15.0%	16.5%	16.6%	14.0%	13.2%	12.5%	7.4%

资料来源：wind，HTI

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小结

1. 量增层面:

(1) 技术改进与规模提升降低生产成本,带来价格下行空间,部分刺激需求。(2) 行业产品结构转化完成,基本过渡到自清洁产品。2023年行业层面有希望实现增长。(3) 疫情政策调整,经济复苏,有望带来消费需求改善。(4) 更新周期到来,推动行业量增。

2. 价格层面:

我们判断2023年行业将处于降价趋势当中,但主要为产品降本+减配版推出带来的价格下降。单品的降价策略对市占率的提升一定程度上是有效的,但扫地机器人并非是规模优势非常显著的行业,无法像白电龙头一样通过极致压缩利润率挤走竞争对手,所以恶性降价竞争的策略长期并不可行。基于宏观环境与产品周期,今年产品的降价压力是持续存在的,我们期待龙头继续通过规模化、模块化等形式实现逐步“良性的降价”,扩大客群;同时加快研发步伐,继续通过产品创新带动消费需求。

3. 利润率层面:

目前行业格局基本稳固,竞争层面难以再继续恶化,龙头有望继续蚕食老旧品牌份额。我们判断全年整体利润率有望触底回升。

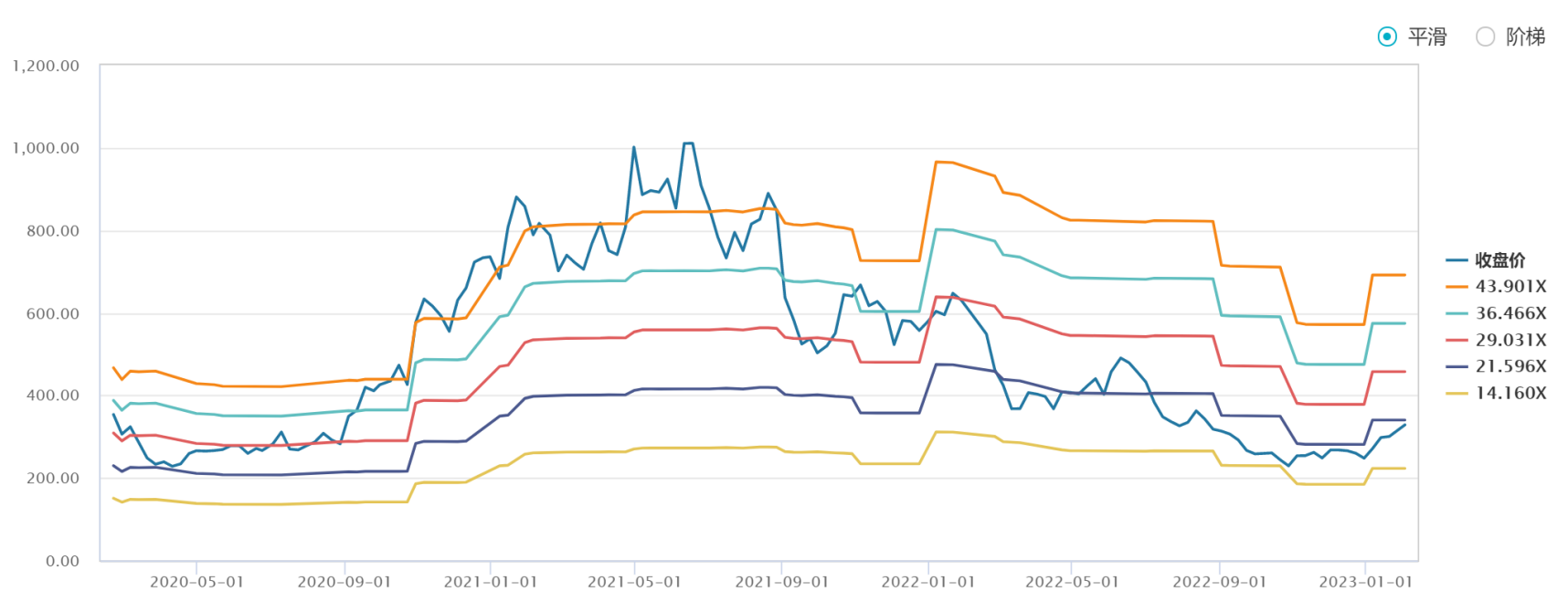
我们认为,行业后续应重点关注的是:(1) 自清洁类型产品的增速变化,行业销量增速的拐点;(2) 产品降本速度,产品终端价格。

石头科技：深挖国内增长潜力，海外有待恢复

石头科技：公司国内市场份额持续提升，相较行业 α 显著；海外2022年推出高端机型S7maxV系列以来继续推出S8系列，逐步站稳海外高端品牌形象。目前扫地机行业经过近年产品的快速迭代，头部产品性能已达令人满意的工况，市场份额亦明显向头部集中，产品口碑相较过去几年有了显著提升，渗透率提升仍有广阔空间。2023年来看，我们预计在行业 β 及公司自身 α 的共同推动下，公司国内有望继续提升市占率，海外有待进一步恢复，整体利润率实现触底回升。

风险提示。行业竞争加剧，海外需求波动。

图 石头科技历史PE-band



资料来源：wind, HTI

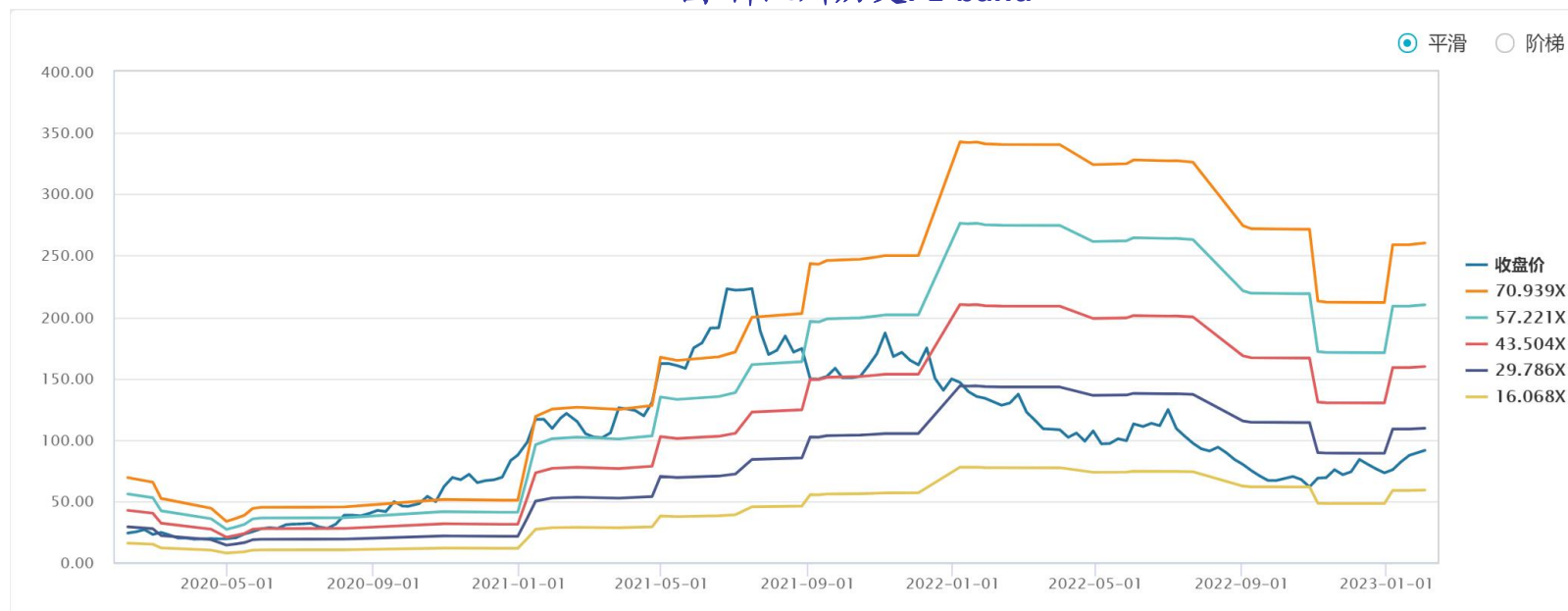
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科沃斯：扫地机洗地机双轮驱动，积极布局多元化渠道

科沃斯：产品结构继续升级叠加积极布局多元化渠道，我们预计公司2022年在较为艰巨的外部环境下依然可取得收入的稳健增长。短期看，在可选消费整体乏力的背景下，清洁电器整体行业都存在着景气度与竞争环境的不确定性。长期来看，扫地机与洗地机仍是有望不断上提渗透率的大单品，公司已经实现扫地机与洗地机的双条腿并重走路。

风险提示。行业需求波动，行业竞争加剧。

图 科沃斯历史PE-band



资料来源：wind, HTI

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海外需求波动;

行业竞争加剧。

Over the past 3 years we witnessed the increase in industrial average price caused by continuous innovation and slip in sales volume caused by weak demand, with the industrial average price now in the bottleneck, market is now concerned about the industry's continuous growth, however we believe that 2023 will be the pivot point for sales for the following reasons:

- Matured technologies will lower production costs, which leads terminal price into a downward trend and effectively opens up space for more demand

- Previous price surge was lead by self-cleansing products' new cycle, with the whole industry actively swifts to self-cleansing products, full growth will be witnessed in the near future

- As a high-end optional consumer good, the industry will benefit from recovery of the general economy, which will improve consumption.

- The 20 million products sold during 2018-2020 now comes to the end of their life cycle which brings replacing needs.

Market is also concerned about cutthroat price competition, our point of view is, undoubtedly lowering price improves market share, the sweeping robot industry is different from white goods industry, in which market shares are gained through all-out price war. The minor decrease of price in the industry's main SKUs basically fits the decrease in production cost and price trend of new products.

In short, with the industry's competitive landscape basically stabilized, leading companies will continue to takeover market share of old brands. The overall profit margin for the year will rebound.

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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。

弱于大市，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

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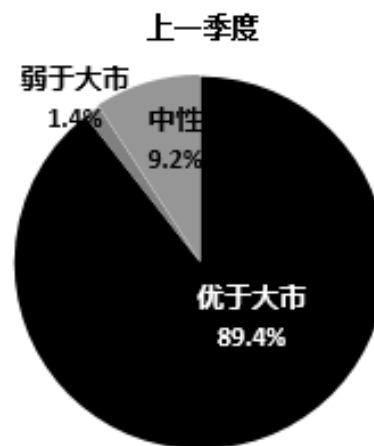
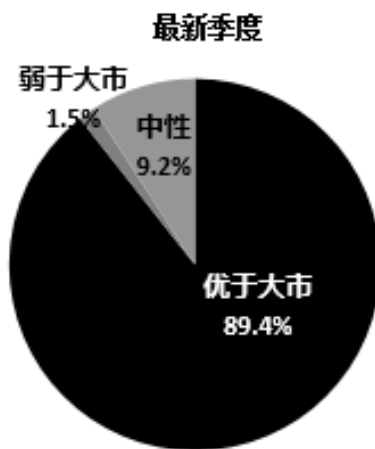
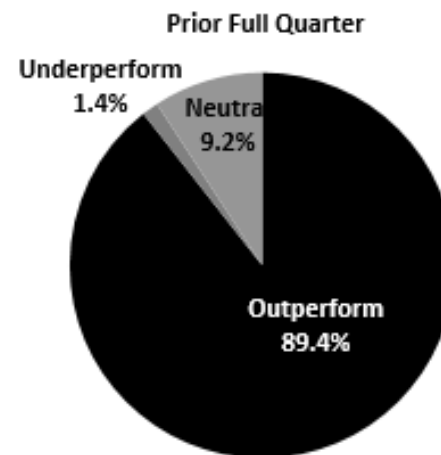
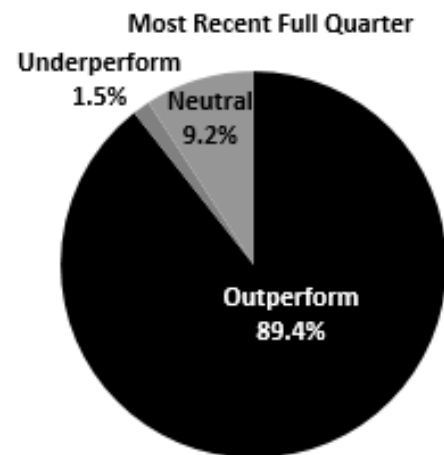
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评级分布 Rating Distribution



截至2022年12月31日海通国际股票研究评级分布

优于大市 (持有) 中性 弱于大市

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*在每个评级类别里投资银行客户所占的百分比。

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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.

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Outperform (hold) Neutral Underperform

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IB clients*	5.2%	7.3%	8.3%

*Percentage of investment banking clients in each rating category.

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