

# 金融建模 #44

Financial Modeling #44

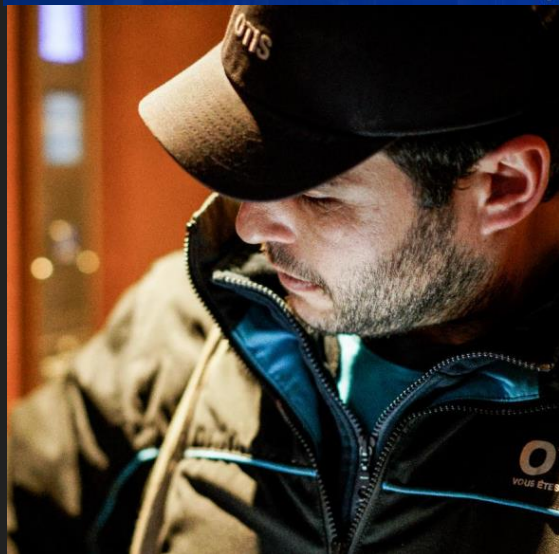
## 财务建模案例展示:

1. AI工具收集整理企业财务数据
2. 通过市场信息建立经营预期
3. 三表联动构建财务预测系统
4. 从无到有, 制作Excel财务模型  
(3-Statement Model)



# 前言

# OTIS



(dollars in millions)	2022	2021
<b>Assets</b>		
Cash and cash equivalents	\$ 1,189	\$ 1,565
Restricted cash	5	1,910
Accounts receivable (net of allowance for expected credit losses of \$152 and \$175)	3,357	3,520
Contract assets	664	552
Inventories	617	622
Other current assets	311	382
Total Current Assets	6,143	8,261
Future income tax benefits	285	335
Fixed assets, net	719	774
Operating lease right-of-use assets	449	526
Intangible assets, net	369	419
Goodwill	1,567	1,667
Other assets	287	297
Total Assets	\$ 9,819	\$ 12,279
<b>Liabilities and Equity (Deficit)</b>		
Short-term borrowings and current portion of long-term debt	\$ 670	\$ 24
Accounts payable	1,717	1,556
Accrued liabilities	1,794	1,993
Contract liabilities	2,662	2,674
Total Current Liabilities	6,843	6,247
Long-term debt	6,098	7,249
Future pension and postretirement benefit obligations	392	558
Operating lease liabilities	315	336
Future income tax obligations	279	267
Other long-term liabilities	556	606
Total Liabilities	14,483	15,263
Commitments and contingent liabilities (Note 22)		
Redeemable noncontrolling interest	135	160
Shareholders' (Deficit) Equity:		
Common Stock and additional paid-in-capital	162	119
Treasury Stock	(1,575)	(725)
Accumulated deficit	(2,865)	(2,256)
Accumulated other comprehensive income (loss)	(592)	(763)
Total Shareholders' Equity (Deficit)	(4,870)	(3,625)
Noncontrolling interest	71	481
Total Equity (Deficit)	(4,799)	(3,144)
Total Liabilities and Equity (Deficit)	\$ 9,819	\$ 12,279

Income Statement (USD million)	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27
Products	5,371.00	6,428.00	5,964.00	6,668.00	6,789.00	7,012.00	7,260.00	7,390.00
Services	7,895.00	7,870.00	7,811.00	8,499.00	8,901.00	10,498.00	11,248.00	11,248.00
Total Revenues	13,266.00	14,298.00	13,685.00	15,167.00	15,590.00	17,510.00	17,510.00	18,638.00
Cost of Products	(4,430.00)	(5,230.00)	(4,349.00)	(5,123.00)	(5,207.00)	(5,602.00)	(5,839.00)	(6,035.00)
Cost of Services	(4,598.00)	(4,610.00)	(4,610.00)	(5,193.00)	(5,398.00)	(6,002.00)	(6,446.00)	(6,506.00)
Total COGS	(9,028.00)	(9,840.00)	(8,959.00)	(10,316.00)	(10,605.00)	(11,604.00)	(12,285.00)	(12,541.00)
Gross Profit	3,778.00	4,193.00	3,920.00	4,305.00	4,604.00	4,912.00	5,235.00	5,563.00
Gross Margin %	28.5%	29.3%	28.6%	28.4%	29.5%	27.9%	29.9%	30.0%
Operating Expenses	(2,479.00)	(2,487.00)	(2,487.00)	(2,487.00)	(2,487.00)	(2,487.00)	(2,487.00)	(2,487.00)
Operating Income	1,299.00	1,706.00	1,433.00	1,818.00	2,117.00	2,425.00	2,748.00	3,076.00
Other income (expense), net	6.00	21.00	18.00	14.00	14.00	14.00	14.00	14.00
Operating Profit	1,305.00	1,727.00	1,451.00	1,832.00	2,131.00	2,439.00	2,762.00	3,090.00
Non-service pension cost (benefit)	(4.00)	(11.00)	(2.00)	(4.00)	(4.00)	(4.00)	(4.00)	(4.00)
Interest expense (income)	(10.00)	(10.00)	(10.00)	(10.00)	(10.00)	(10.00)	(10.00)	(10.00)
Pre-Tax Income	1,291.00	1,696.00	1,439.00	1,818.00	2,117.00	2,425.00	2,748.00	3,076.00
Income Tax	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)
Net Income	1,246.00	1,651.00	1,394.00	1,773.00	2,072.00	2,380.00	2,703.00	3,031.00
Net Income to Parent	906.00	1,246.00	1,253.00	1,240.00	1,376.00	1,470.00	1,568.00	1,702.00
<b>Balance Sheet (USD million)</b>	<b>FY 20</b>	<b>FY 21</b>	<b>FY 22</b>	<b>FY 23</b>	<b>FY 24</b>	<b>FY 25</b>	<b>FY 26</b>	<b>FY 27</b>
<b>Assets</b>								
Cash	1,799.00	3,478.00	1,184.00	3,009.00	3,000.00	3,000.00	3,000.00	3,000.00
Accounts Receivable	3,148.00	3,220.00	3,287.00	3,500.00	3,720.00	3,969.00	4,101.00	4,400.00
Inventories & Other	1,564.00	1,554.00	1,592.00	1,681.00	1,784.00	1,884.00	2,001.00	2,109.00
Net PP&E, Goodwill & Intangibles	3,031.00	2,880.00	2,935.00	2,985.00	2,939.00	2,957.00	2,452.00	2,389.00
On Lease Assets	542.00	526.00	449.00	544.00	563.00	586.00	639.00	671.00
Other Assets	664.00	600.00	627.00	664.00	693.00	709.00	709.00	709.00
Total Assets	10,710.00	12,279.00	9,819.00	11,909.00	12,381.00	12,491.00	12,794.00	13,084.00
<b>Liabilities &amp; Equity</b>								
Accounts Payable	1,453.00	1,556.00	1,717.00	1,690.00	1,789.00	1,905.00	2,019.00	2,120.00
Accrued Liabilities	1,977.00	1,993.00	1,794.00	2,088.00	2,182.00	2,137.00	2,493.00	2,584.00
Contract Liabilities	2,662.00	2,674.00	2,662.00	2,662.00	2,662.00	2,662.00	2,662.00	2,662.00
Total Debt	5,863.00	7,249.00	6,768.00	7,227.00	6,988.00	6,672.00	6,868.00	6,672.00
On Lease Liabilities	387.00	336.00	333.00	420.00	420.00	462.00	505.00	537.00
Other Liabilities	1,490.00	1,451.00	1,477.00	1,518.00	1,591.00	1,608.00	1,608.00	1,608.00
Total Liabilities	13,913.00	15,263.00	14,483.00	15,792.00	15,964.00	16,243.00	16,518.00	16,738.00
Common Shareholders' Equity	(3,862.00)	(3,625.00)	(4,870.00)	(4,054.00)	(4,001.00)	(3,974.00)	(3,946.00)	(3,890.00)
Noncontrolling Interest	(81.00)	(81.00)	(81.00)	(81.00)	(81.00)	(81.00)	(81.00)	(81.00)
Total Equity	(3,943.00)	(3,706.00)	(4,951.00)	(4,135.00)	(4,082.00)	(4,055.00)	(4,027.00)	(3,971.00)
Total Liabilities + Equity	10,710.00	12,279.00	9,819.00	11,909.00	12,381.00	12,491.00	12,794.00	13,084.00
Balance Check	OK	OK	OK	OK	OK	OK	OK	OK
<b>Cash Flow Statement (USD million)</b>	<b>FY 20</b>	<b>FY 21</b>	<b>FY 22</b>	<b>FY 23</b>	<b>FY 24</b>	<b>FY 25</b>	<b>FY 26</b>	<b>FY 27</b>
<b>Cash Flow from Operations</b>								
Net Income to Parent	906.00	1,246.00	1,253.00	1,240.00	1,376.00	1,470.00	1,568.00	1,702.00
(+) Tax relief of R&D Net Income	120.00	174.00	116.00	162.00	182.00	204.00	204.00	204.00
(+) D&A	101.00	103.00	101.00	102.00	103.00	103.00	103.00	103.00
(+) Pensions/Other Items	156.00	(30.00)	96.00	82.00	87.00	90.00	96.00	104.00
(+) Change in R&D & Intang.	(77.00)	(80.00)	(85.00)	(85.00)	(85.00)	(85.00)	(85.00)	(85.00)
Cash Flow from Operations	1,405.00	1,750.00	1,560.00	2,178.00	2,008.00	2,176.00	2,317.00	2,467.00
<b>Cash Flow from Investing</b>								
(-) Cash	(183.00)	(183.00)	(118.00)	(184.00)	(174.00)	(189.00)	(188.00)	(187.00)
(-) Acquisitions & Others	(23.00)	(23.00)	(23.00)	(23.00)	(23.00)	(23.00)	(23.00)	(23.00)
Cash Flow from Investing	(206.00)	(206.00)	(141.00)	(207.00)	(207.00)	(212.00)	(211.00)	(210.00)
<b>Cash Flow from Financing</b>								
(+) Change in Debt	5,947.00	1,276.00	(397.00)	458.00	(398.00)	(398.00)	(394.00)	(393.00)
(-) Common Dividends	(260.00)	(260.00)	(465.00)	(434.00)	(523.00)	(585.00)	(627.00)	(684.00)
(-) Stock Repurchases	0.00	(720.00)	(850.00)	0.00	(807.00)	(885.00)	(910.00)	(964.00)
(-) Dividends to NCI	(181.00)	(181.00)	(181.00)	(181.00)	(181.00)	(181.00)	(181.00)	(181.00)
(+) Other Items	(5,902.00)	(44.00)	(1,612.00)	0.00	0.00	0.00	0.00	0.00
Cash Flow from Financing	(484.00)	90.00	(3,000.00)	(123.00)	(1,768.00)	(1,919.00)	(2,045.00)	(2,194.00)
Free Cash Effects	59.00	(43.00)	(157.00)	0.00	0.00	0.00	0.00	0.00
Net Changes in Cash	342.00	1,676.00	(2,392.00)	1,815.00	(19.00)	0.00	0.00	0.00

# 前言

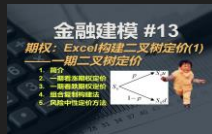
## 金融建模

### 产品建模

### 财务建模

债券  
股票  
期权  
衍生

财务预测  
估值分析  
融资方案制定  
还款能力分析



# 前言

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- **#1：更好地学习会计：**作为最通用的会计语言，教材中的会计是静态的，枯燥的。但是，财务建模所体现的会计是动态的、联动的。通过财务建模，可以更深入了解企业财务报表的结构和联动关系。
- **#2：更深入的研究行业：**行业最终经营的最终情况，都会在一定程度上通过其财务数据体现。在构建企业财务模型的过程中，会让我们像一个侦探一样去抽丝剥茧地去阅读企业的财务信息或者行业信息，让我们在阅读行业信息、报告的时候更加主动地去捕获关键内容，从而更加深入理解行业。
- **#3：更加熟练地用Excel构建系统：**财务建模的核心，是通过Excel作为工具，用会计原则作为理论依据，构建企业的财务预测系统。这个是Excel的精髓所在，为日后我们通过Excel构建复杂系统分析问题打好了基础。
- **#4：数量掌握Excel快捷键：**通过财务建模的过程，熟练掌握Excel的基本的快捷键操作，夯实了金融岗位工作人员的Excel数据能力基础，提高日后工作效率。

# 什么是三表联立的财务模型 (3-Statement Financial Model)

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三表联立的财务建模：

- #1：以公司财务为历史数据
- #2：以会计记账规则为体系原则
- #3：以研究人员行业经验及判断作为分析基础
- #4：以Excel作为数据整理及预测分析工作

而构建的，预测企业未来经营财务情况的**金融模型**。

通常用于，企业估值、融资方案、信用分析等内容。

# 建立财务模型的主要步骤

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- #1：整理并录入财务历史数据
- #2：利润表的财务预测
- #3：资产负债表基本事项预测
- #4：现金流量表的预测
- #5：建立三表的勾稽关系
- #6：根据现金流情况预测资本工具的发行及赎回
- #7：其他财务费用预测

# 财务建模过程中的主要快捷键

快捷键	效果
Alt + W + V + G	将Excel网格线去除
Alt + E + S	选择性黏贴
Ctrl + 1	单元格属性
F4	重复上一步
Ctrl + R	将内容向右复制
Ctrl + D	将内容向下复制
Alt + H + B + O	增加底部边框线
Ctrl + B	加粗字体
Alt + O + C + A	自动调节列宽

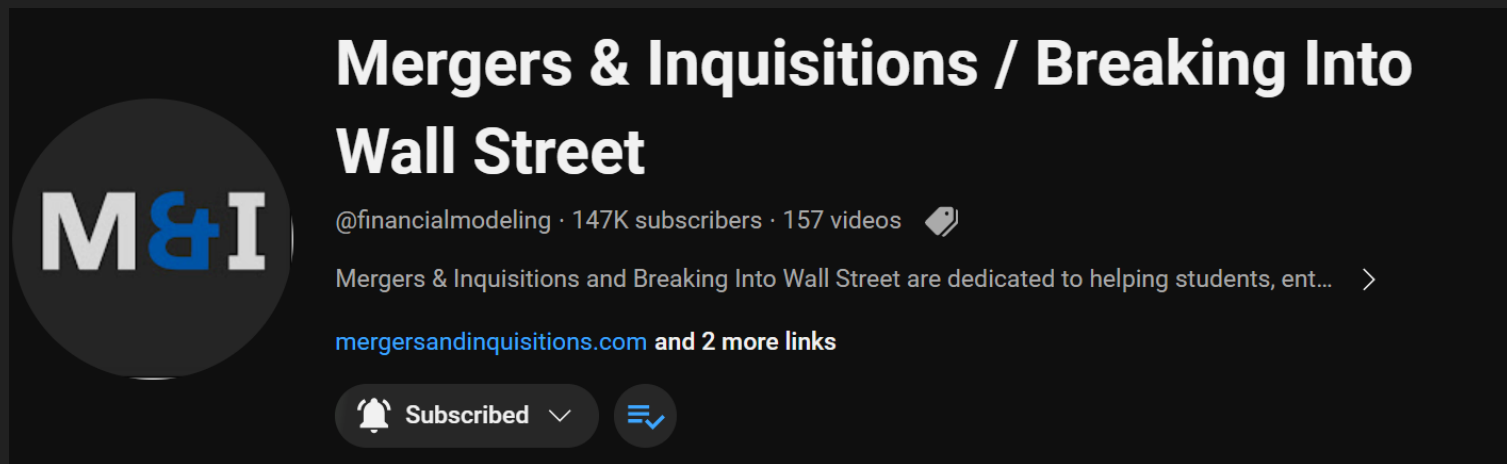
# 财务建模过程中的主要快捷键

快捷键	效果
Ctrl + Shift + ↓ or →	区域向下或向右选中
Ctrl + Shift + 1	将单元格格式调整为数字
Alt + H + 0	增加小数点位数
Alt + H + 6	将单位格内容进位
Ctrl + Backspace	在全选后，回到最初光标位置
Ctrl + G	Go to
Ctrl + Enter	同时在多个单元格输入相同的值



# 本次视频借鉴的Youtuber

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# 第一步：录入公司财务数据

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- **#1：搜集资料。**通过企业或交易所官网下载财务数据（最好是CSV或者是Excel），企业对投资者的定期演示资料，各家券商对企业的研究报告。
- **#2：录入数据。**将企业的财务数据录入到Excel表中，以便进一步整理。如果财务数据格式是PDF、图片等非结构化数据格式，不便于直接拷贝复制的，建议使用ORC图形识别软件或AI工具，这里推荐UiPath Clipboard AI。
- **#3：正负符号。**在整理利润表时，注意收入项目都调整成正数，将费用项目都使用负数。这样，后面所有的汇总都可以SUM()公式，方便操作和后续数据检验。



# 第一步：录入公司财务数据

- **#4：项目归集。**在录入财务模型历史数据时，需要将原始的科目尽可能汇总归集在一起（尤其是中国的财务报表），比如将“R&D”以及“SG&A”费用归集在一起。控制模型的项目数量将有利于我们后续预测工作，做到化繁为简。
- **#5：资产负债。**对于资产负债表科目，不管是资产、负债，还是所有者权益，尽量将每一组控制在5个科目左右，对于比较复杂的大型集团公司，也不要将科目控制在10个以内，否则后续的预测将及其复杂。
- **#6：现金流量。**首先，使用间接法下的现金流量表。对于CFI的项目，除了CapEx项目，将其他内容汇总在一起；对于CFF的项目，对于债务工具变动设置一个科目，对于分红以及股票发行/回购各设一个科目，其他类别设置一个科目。



# 第一步：录入公司财务数据

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在第一步的工作中，最重要的是收集相关信息，尽可能阅读公司的信息，厘清公司核心业务，有效录入原始财务数据，并根据对公司核心业务的理解，合并整理财务数据，做到化繁为简。


*宁要模糊的正确，不要精确的错误*


*would rather be vaguely right than precisely wrong*



# 第一步：录入公司财务数据

 Platform Solutions Resources About





## It's AI for the rest of us. To free up the best in us.

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Best of all, Clipboard AI is completely free!

OTIS WORLDWIDE CORPORATION  
CONSOLIDATED STATEMENTS OF OPERATIONS

(dollars in millions, except per share amounts; shares in millions)


	2022	2021	2020
Net sales:			
Product sales	\$ 5,864	\$ 6,428	\$ 5,371
Service sales	2,821	2,870	2,385
	13,685	14,298	12,756
Costs and expenses:			
Cost of products sold	4,949	5,293	4,439
Cost of services sold	4,816	4,812	4,538
Research and development	158	159	152
Selling, general and administrative	1,763	1,948	1,924
	11,678	12,212	11,053
Other income (expense), net	26	22	(64)
Operating profit	2,833	2,108	1,639
Non-service pension cost (benefit)	2	11	6
Interest expense (income), net	143	136	122
Net income before income taxes	1,888	1,961	1,511
Income tax expense	519	541	455
Net income	1,369	1,420	1,056
Less: Noncontrolling interest in subsidiaries' earnings	116	174	150
Net income attributable to Otis Worldwide Corporation	\$ 1,253	\$ 1,246	\$ 906
Earnings per share (Note 3):			
Basic	\$ 2.98	\$ 2.91	\$ 2.09
Diluted	\$ 2.96	\$ 2.89	\$ 2.08
Weighted average number of shares outstanding:			
Basic shares	420.8	427.7	433.2
Diluted shares	423.8	431.4	434.6

See accompanying Notes to Consolidated Financial Statements.


Copy region

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Paste in form

 Clipboard AI

Your choice: **Tables and name-value pairs** [Change](#)

Pasting to:  Book2 - Excel

**Table items (4 columns)**


(dollars in millions, except per share amounts; shares in million...  
[Net sales; ; Product sales; Service sales; ; Costs and expenses:...

**2022**  
[; \$ 5,864; 7,821; 13,685; ; 4,949; 4,816; 150; 1,763; 11,678; ;...


**2021**  
[; \$ 6,428; 7,870; 14,298; ; 5,293; 4,812; 159; 1,948; 12,212; ;...

**2020**  
[; \$ 5,371; 7,385; 12,756; ; 4,439; 4,538; 152; 1,924; 11,053; ;...

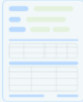
**Specific documents**  
The most common document types.

 Invoice Passport  
Receipt ID Card  
W-2 Form Utility bill  
Purchase order  
Web/desktop forms


**Plain-text** [recommended](#)  
Content with no inherent format.

 **Great for:**  
• Articles • Contracts  
• Research papers • E-mail  
• Code • Any free-form text

**Tables and name-value pairs**  
Content with tabular data and key-value pairs

 **Great for:**  
• Financial statements  
• Reports • Research papers  
• Resumes/CVs  
• Product catalogs  
• Inventory documents  
• Medical records

**Semi-structured**  
Predictable set of info, somewhat-variable layout.

 Check the data and how it will be pasted and change how we read it if results aren't good.

[Paste data](#)

# 第一步：录入公司财务数据

Products
Services
<b>Total Revenues</b>
Cost of Products
Cost of Services
<b>Total COGS</b>
<b>Gross Profit</b>
<i>Gross Margin %</i>
Operating Expenses
<b>Operating Income</b>
Other Income (expense), Net
<b>Operating Profit</b>
Non-service pension cost (benefit)
Interest expense (Income)
<b>Pre-Tax Income</b>
Income Tax
<b>Net Income</b>
(-) NCI Net Income
<b>Net Income to Parent</b>

## 利润表的主要结构

# 第一步：录入公司财务数据

## Assets

Cash  
Accounts Receivable  
Inventory & Other  
Net PP&E, Goodwill & Intangibles  
Op Lease Assets  
Other Assets

## Total Assets

## Liabilities & Equity

Accounts Payable  
Accrued Liabilities  
Contract Liabilities  
Total Debt  
Op Lease Liabilities  
Other Liabilities

## Total Liabilities

Common Shareholders' Equity  
Noncontrolling Interest

## Total Equity

## Total Liabilities + Equity

## Balance Check

# 资产负债表的主要结构

# 第一步：录入公司财务数据

## Cash Flow from Operations

### Net Income to Parent

(+/-) Reversal of NCI Net Income

(+) D&A

(+/-) Pensions/Other Items

(+/-) Change in WC & Leases

## Cash Flow from Operations

## Cash Flow from Investing

(-) CapEx:

(-) Acquisitions & Others

## Cash Flow from Investing

## Cash Flow from Financing

(+/-) Change in Debt

(-) Common Dividends

(-) Stock Repurchases

(-) Dividends to NCI

(+/-) Other Items

## Cash Flow from Financing

## Fx Rate Effects

## Net Changes in Cash

# 现金流量表的主要结构 间接法



## 第二步：利润表的预测

- #1: 设备收入增长。通过两个维度去预测:

- 预计市场新增设备规模
- 公司在新设备订单的市占率

New Equipment Market Size

31,594.12

35,711.11

30,863.16

Growth Rate

13.03%

-13.58%

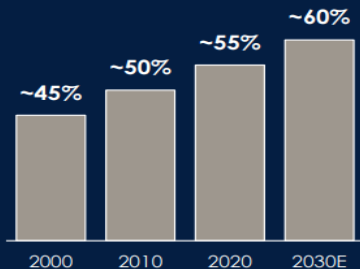
New Equipment Market Share

17.00%

18.00%

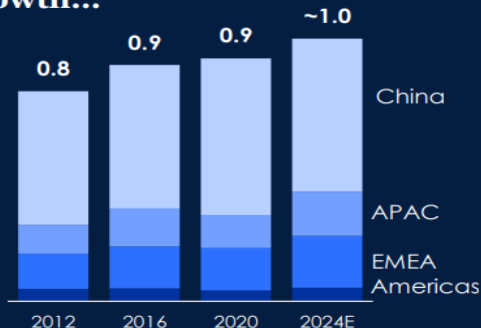
19.00%

### Strong urbanization trend



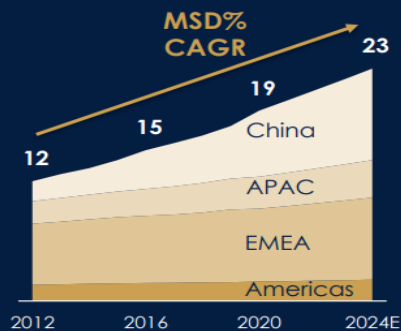
Global urban population (%)

### LSD New Equipment market growth...



Global NE units (millions)

### ...Compounding Service base



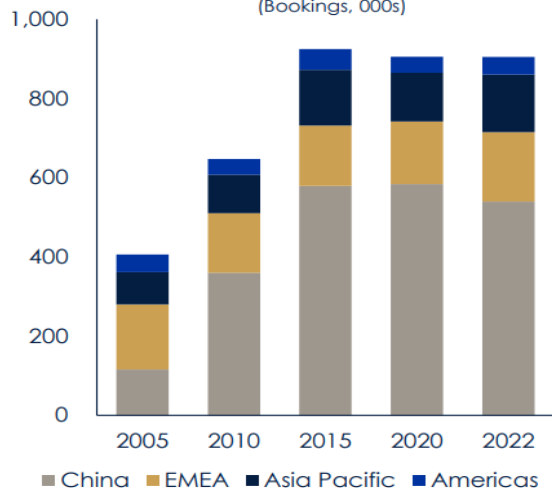
Global installed units (millions)

~1M annual NE units added to ~20M global installed base = ~5% growth

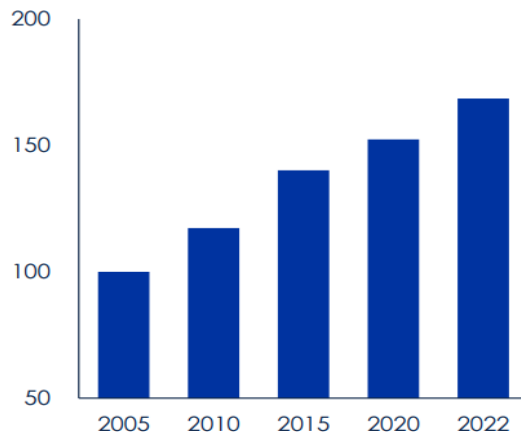
## 第二步：利润表的预测

### Gaining share in New Equipment

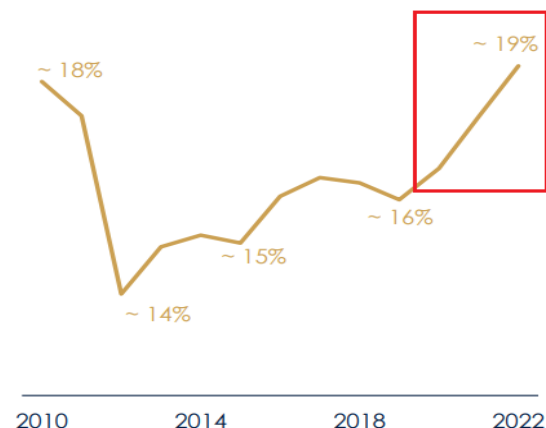
Global New Equipment units  
(Bookings, 000s)



Otis New Equipment units  
(Bookings unit index, 2005 = 100)



New Equipment Share %<sup>1</sup>



Otis New Equipment outperforming...gained ~3pts of share since spin

Otis internal analysis. 2005-2020 data includes Russia, 2022 data excludes Russia.

<sup>1</sup> Based on Otis internal analysis and public company disclosures.

## 第二步：利润表的预测

### Medium-term outlook<sup>1</sup>

From February 2022

**Organic sales  
CAGR**

**Up low to mid single digits**

**New Equipment**

Up low single digits

**Service**

Up mid single digits

**Average adjusted  
operating profit  
margin expansion**

**~40 bps**

**New Equipment**

10 to 20 bps

**Service**

40 to 50 bps

**Adjusted EPS  
CAGR**

**Up 10%+**

**Free  
cash flow**

**100 to 110% Conversion**

## 第二步：利润表的预测

### ● #2: 服务收入增长

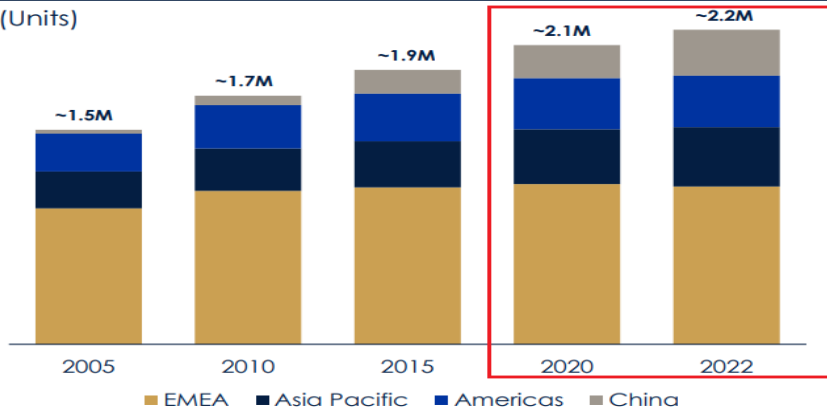
- 服务设备规模
- 单个设备服务费用收入

Service Units (Maintenance)	2.10	2.11	2.20
Growth Rate		0.48%	4.27%
Revenue per Service Unit	3,516.67	3,729.86	3,555.00
Growth Rate		6.06%	-4.69%

## Otis Service overview

### Geographically balanced service portfolio<sup>1</sup>

(Units)



### Largest service portfolio globally<sup>2</sup>

2022 Results

**~\$6.4B**

Maintenance & repair sales

**#1**

Service share

**~4Yrs**

Average contract length with  
inflation adjustments

**~94%**

Retention rate

**64%**

Conversion Rate

## 第二步：利润表的预测



## 第二步：利润表的预测

### ● #3: COGS以及OpEx金额预测

- 计算历史数据，COGS以及OpEX占Revenue的比例
- 用过去的一个平均值来估计未来趋势

Product - COGS % Revenue	82.65%	82.34%	84.40%
Service - COGS % Revenue	61.45%	61.14%	61.58%
OpEx - % Revenue	16.27%	14.74%	13.98%



### ● #4: 用历史平均数预测（金额很小，不值得用很大精力预测）：

- Other Income (expense)
- Non – service pension cost (benefit)



### ● #5: 预测Tax Rate以及NCI Net Income

Tax Rate	30.11%	27.59%	27.49%
NCI Net Income % Total Net Income	14.20%	12.25%	8.47%



## 第三步：资产负债表的预测

- **#1：运营资金项目预测。** 1) **项目：**这一部分主要包括：应收账款、存货、其他应收款、应付账款、应计负债等和公司运营相相关的资产负债。 2) **预测方式：**预测这一部分的内容，可以按照与收入、成本、运营费用、总费用等的百分比来进行预测，只要保证和历史均值一致即可； 3) **与现金流量表的勾稽：**资产负债表的运营项目后续可以关联到现金流量表中运营资资本项目的变化，在建模的过程中可以与现金流量表形成勾稽关系。



Accounts Receivable % Revenue	24.68%	22.60%	24.53%
Inventory & Other % COGS	17.22%	15.38%	16.30%
Op Lease Assets % OpEx	26.11%	24.96%	23.47%
Accounts Payable % COGS	16.19%	15.40%	17.58%
Accrued Liabilities % Total Expense	17.89%	16.32%	15.36%
Contract Liabilities % Total Expense	23.00%	21.90%	22.79%
Other Liabilities % Total Expense	14.56%	11.72%	10.51%

## 第三步：资产负债表的预测

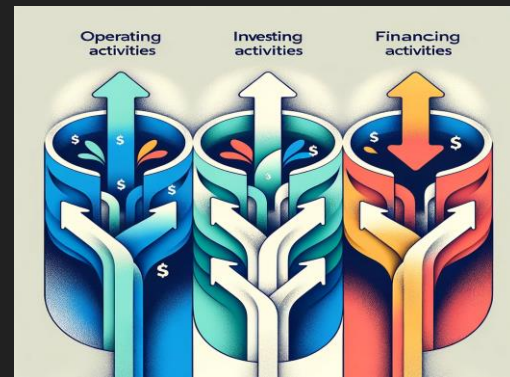
- **#2: Op Lease Liabilities:** 对这一项目的预测进行简化处理, 假设和Op Lease Asset的增加幅度类似。
- **#3: 与现金流量表关联:** 在完成上述项目的预测之后, 就可以和现金流量表的Change in WC&Lease项目进行该关联。
  - **资产项目科目,** 一般用前一年的余额减去后一年的金额, 因为运营资产项目的增加, 会减少公司的运营现金流;
  - **负债项目科目,** 一般是用当年的余额减去前一年的余额, 因为运营负债项目的增加, 会增加企业的运营现金流。





## 第四步：现金流量表的预测

- **#1：主要部分预测。**主要部分的预测，都可以通过和总收入和净收入部分的百分比进行预测；



CapEx % Revenue	-1.43%	-1.09%	-0.84%
D&A % Revenue	1.50%	1.42%	1.40%
Pensions/Other Items % Revenue	1.22%	-0.23%	0.70%
Acquisitions & Others	-170.00	67.00	82.00
Common Dividends % Net Income	-28.70%	-31.54%	-37.11%
Dividends to NCI % NCI Net Income	99.33%	89.08%	101.72%
Fx Rate Effects % Revenue	0.46%	-0.30%	-1.15%

## 第四步：现金流量表的预测

- **#2: Acquisitions and Others.** 这一部分的预测信息，主要通过公司投资者沟通PPT中的信息进行推断。

### Capital allocation

#### Medium-term priorities

##### Debt repayment

\$500M completed in Q1 2022

##### Dividend

~35 - 40% Payout ratio<sup>2</sup>

##### Bolt-on M&A

\$50 - \$100M annually

##### Excess cash

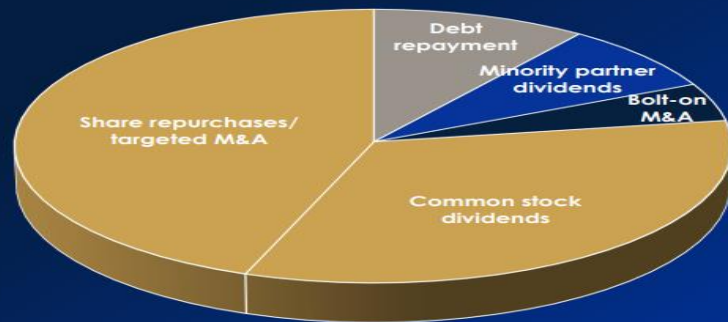
Share repurchases & targeted M&A

1 See appendix for additional information regarding these non-GAAP financial measures.

2 As a percentage of GAAP net income

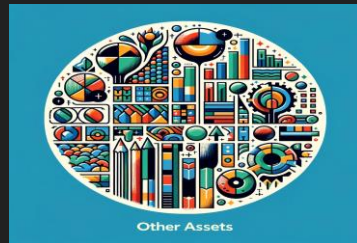
**OTIS** © 2022 OTIS WORLDWIDE CORPORATION.

Free cash flow<sup>1</sup> of ~\$5B generated  
between 2022 to 2024



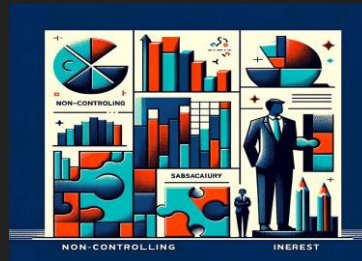
## 第五步：三表勾稽关系建立

- **#1: Cash。** 资产负债表的Cash = 上一年的余额 + 现金流量表的本期发生额
- **#2: PP&E/GoodWill/Intangibles。** 资产负债表本期余额 = 上一年的余额 - 现金流量表本期CapEx以及D&A的发生额
- **#3: Other Assets。** 资产负债表本期余额 = 上一年余额 - 现金流量表本期Acquisitions and Pension/other的发生额



## 第五步：三表勾稽关系建立

- **#4: Total Debt.** 资产负债表的内容与现金流量表的Change In Debt项目进行关联（虽然后面才建模债务情况）
- **#5: NCI.** 本期余额 = 上一期余额 + 现金流量表 (NCI Net Income + NCI Dividends)
- **#6: Shareholder's Equity.** 本期余额 = 上一期余额 + Net Income + Dividends + Stock Repurchases + Other Items + FX Rate Effects



# 第六步：债务工具及股票回购情况预测

## ● #1：确定剩余现金使用假设条件。

- Common Dividend以及NCI Dividend之前已经计算过了，这部分就省略了
- **假设一：**根据PPT的内容，我们假定未来有现金富裕的情况下，使用25%的剩余现金进行偿债，使用剩余75%的部分进行股票回购。
- **假设二：**预计未来公司账面的现金规模必须维持在USD 3 bn的水平，超过的3 bn的部分，就进行如上比例的分配，如果不足3 bn，那么需要发债补足资金缺口

### Capital allocation

#### Medium-term priorities

##### Debt repayment

\$500M completed in Q1 2022

##### Dividend

~35 - 40% Payout ratio<sup>2</sup>

##### Bolt-on M&A

\$50 - \$100M annually

##### Excess cash

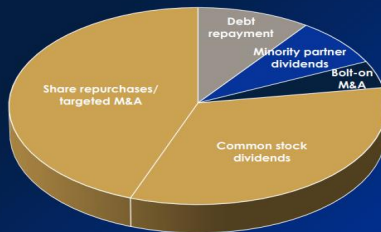
Share repurchases & targeted M&A

<sup>1</sup> See appendix for additional information regarding these non-GAAP financial measures.

<sup>2</sup> As a percentage of GAAP net income.

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Free cash flow<sup>1</sup> of ~\$5B generated  
between 2022 to 2024



Minimum Cash  
Excess Cash Flow  
% Stock Repurchase  
% Debt Repayment  
Change in Debt

## 第六步：债务工具及股票回购情况预测

- #2: Other Item

- 虽然实际财务报表中，Other Item中混合了很多东西，包括公司的一些回购内容。这里处于简化的考虑，我们假设Other Item主要是公司发行债务的相关费用
- 所以，如果假设后面公司发行债务，那么Other Item有相应的支出，但是如果公司没有债务发行，那么费用就是0。

Other Items % Debt Issuance	-107.31%	-3.20%	473.39%
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# 第六步：债务工具及股票回购情况预测

## ● #3: Interest Expense

- 计算：历史上公司的财务费用 / 当年公司年末债务余额
- 通过会计报表看一下公司目前的债务结构，预计未来债务成本情况
- 做未来预测的时候，通过上一年的余额 × 预测利率情况。避免循环引用

Interest Expense % Debt

(dollars in millions)	2022	2021
LIBOR plus 45 bps floating rate notes due 2023 <sup>1,2,3</sup>	\$ —	\$ 500
0.000% notes due 2023 (€500 million principal value) <sup>2</sup>	531	565
2.056% notes due 2025 <sup>2</sup>	1,300	1,300
0.37% notes due 2026 (¥21.5 billion principal value) <sup>2</sup>	163	189
0.318% notes due 2026 (€600 million principal value) <sup>2</sup>	638	677
2.293% notes due 2027 <sup>2</sup>	500	500
2.565% notes due 2030 <sup>2</sup>	1,500	1,500
0.934% notes due 2031 (€500 million principal value) <sup>2</sup>	531	565
3.112% notes due 2040 <sup>2</sup>	750	750
3.362% notes due 2050 <sup>2</sup>	750	750
Other (including finance leases)	8	4
Total principal long-term debt	6,671	7,300
Other (discounts and debt issuance costs)	(42)	(51)
Total long-term debt	6,629	7,249
Less: current portion	531	—
Long-term debt, net of current portion	\$ 6,098	\$ 7,249

# 回顾及总结

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- #1：整理并录入财务历史数据
- #2：利润表的财务预测
- #3：资产负债表基本事项预测
- #4：现金流量表的预测
- #5：建立三表的勾稽关系
- #6：根据现金流情况预测资本工具的发行及赎回
- #7：其他财务费用预测