



Memory Market Outlook: a Time of Great Change

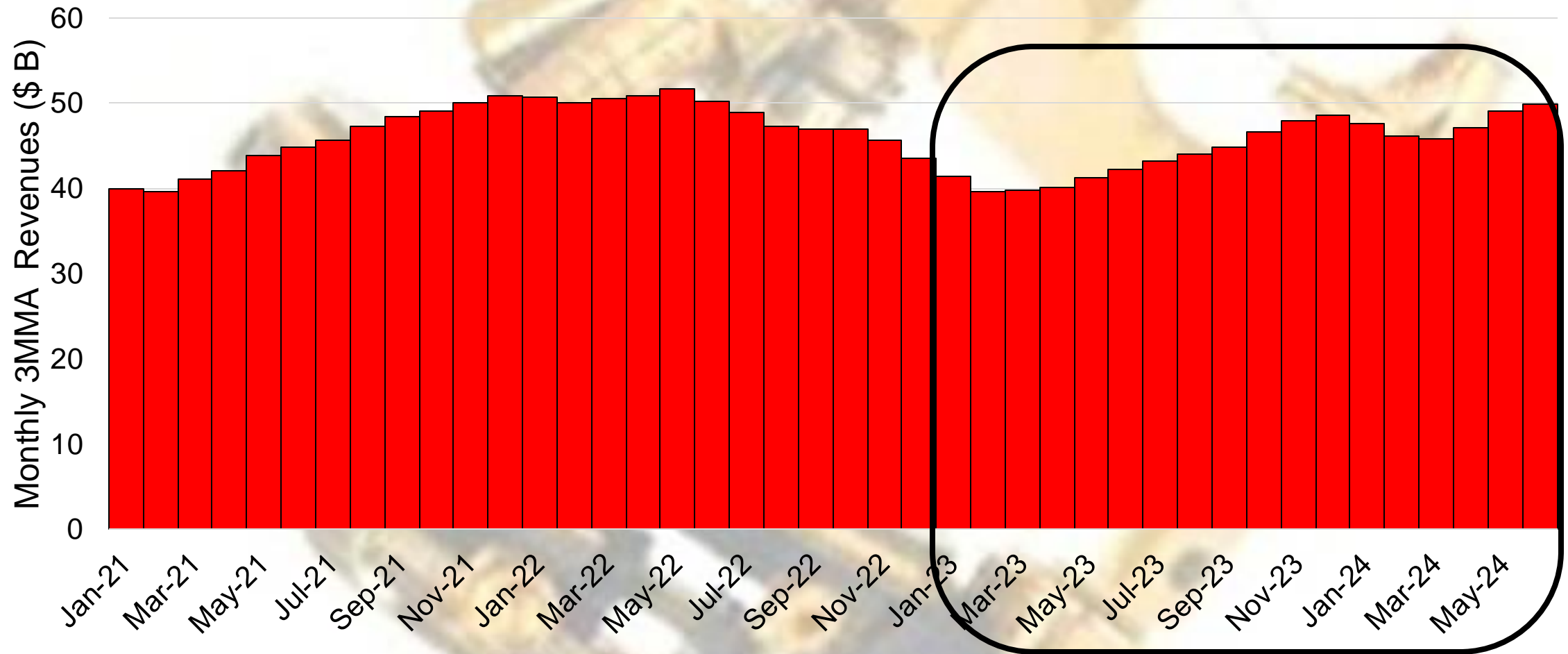
Jim Handy

OBJECTIVE ANALYSIS

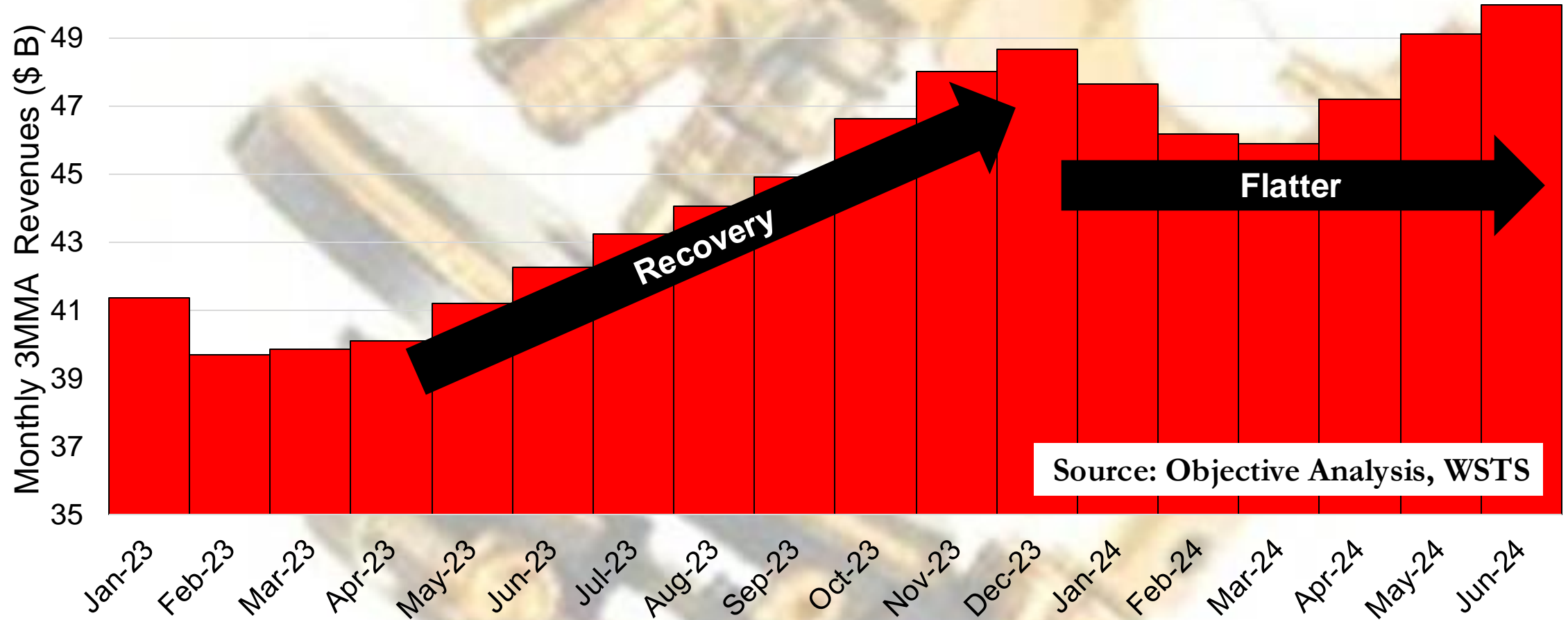


the Future of Memory and Storage

Booming Semiconductor Revenues



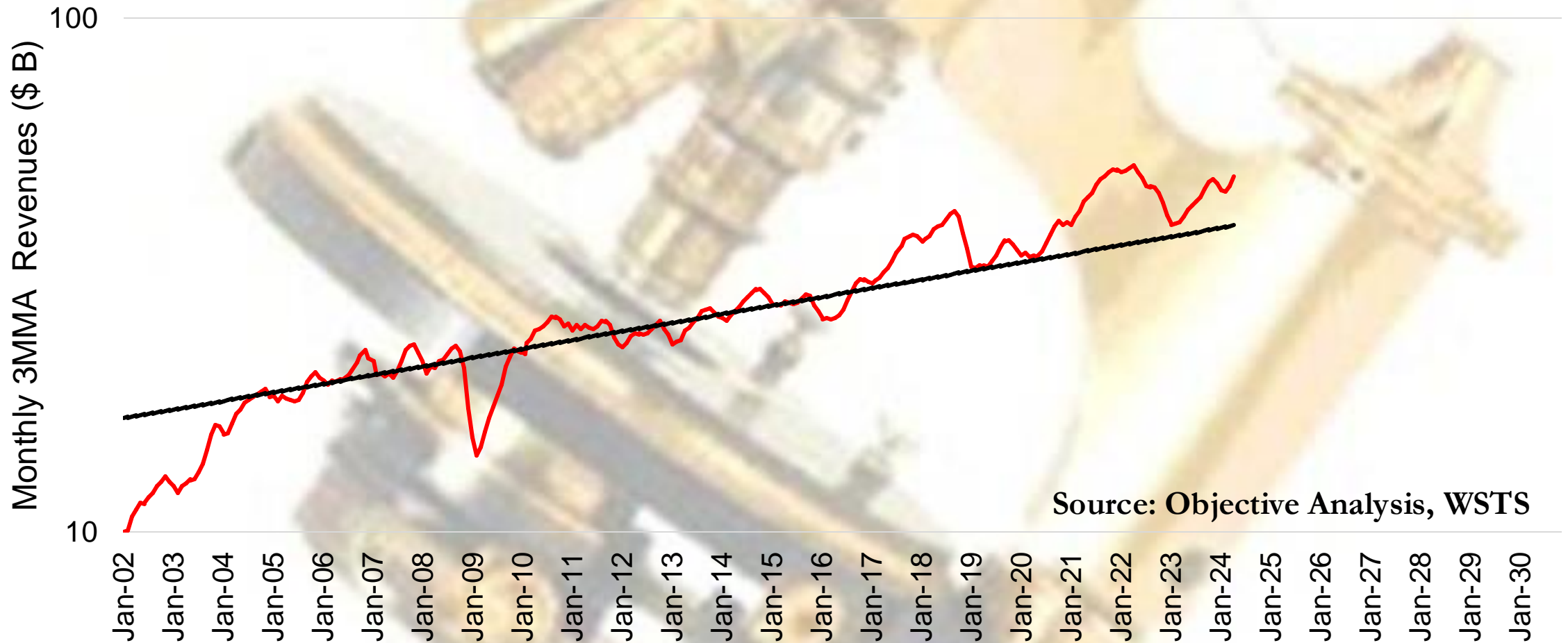
A Closer Look at 2024



Source: Objective Analysis, WSTS

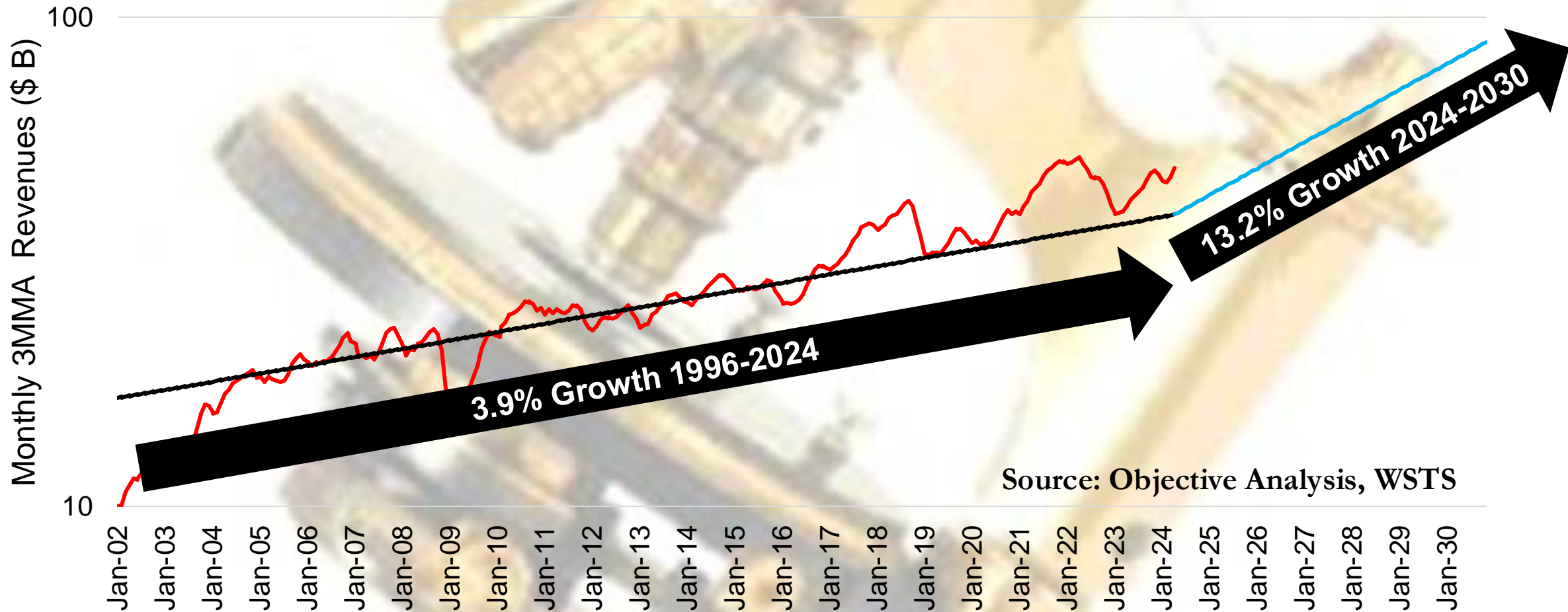
\$1 Trillion by 2030?

Don't Count on it!



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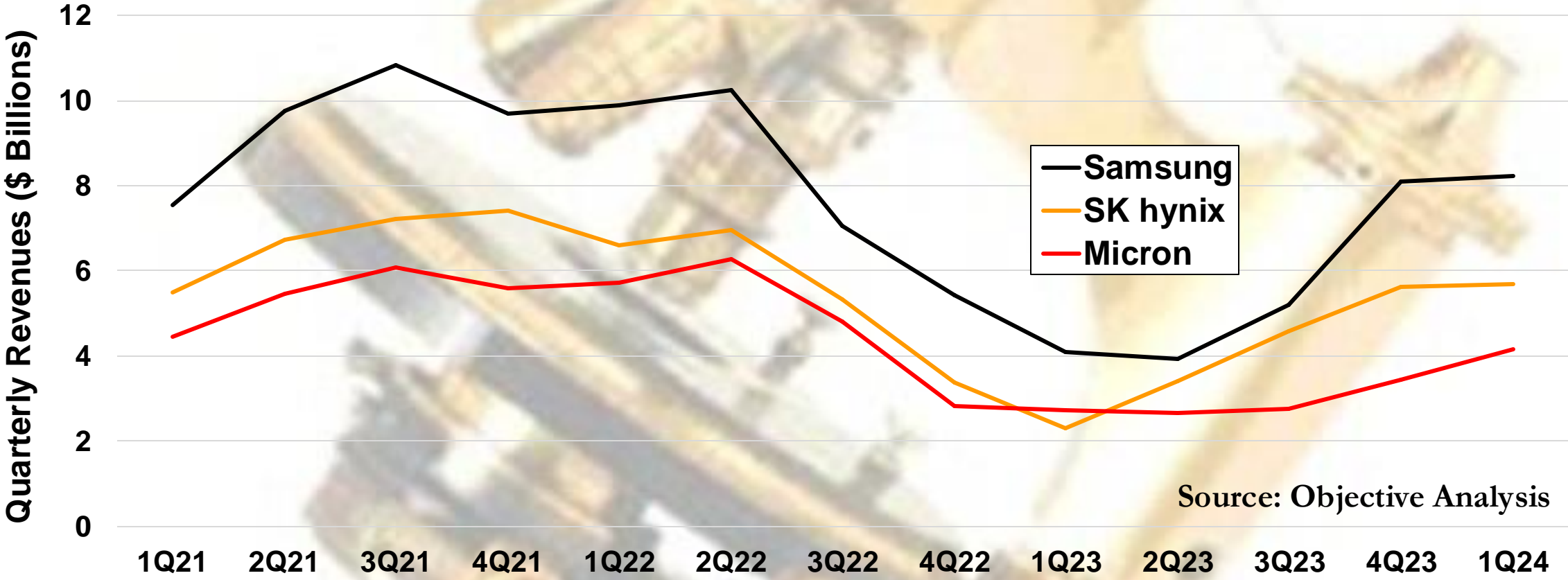
Source: Objective Analysis, WST'S

But What About AI???

Nvidia Revenues by Division

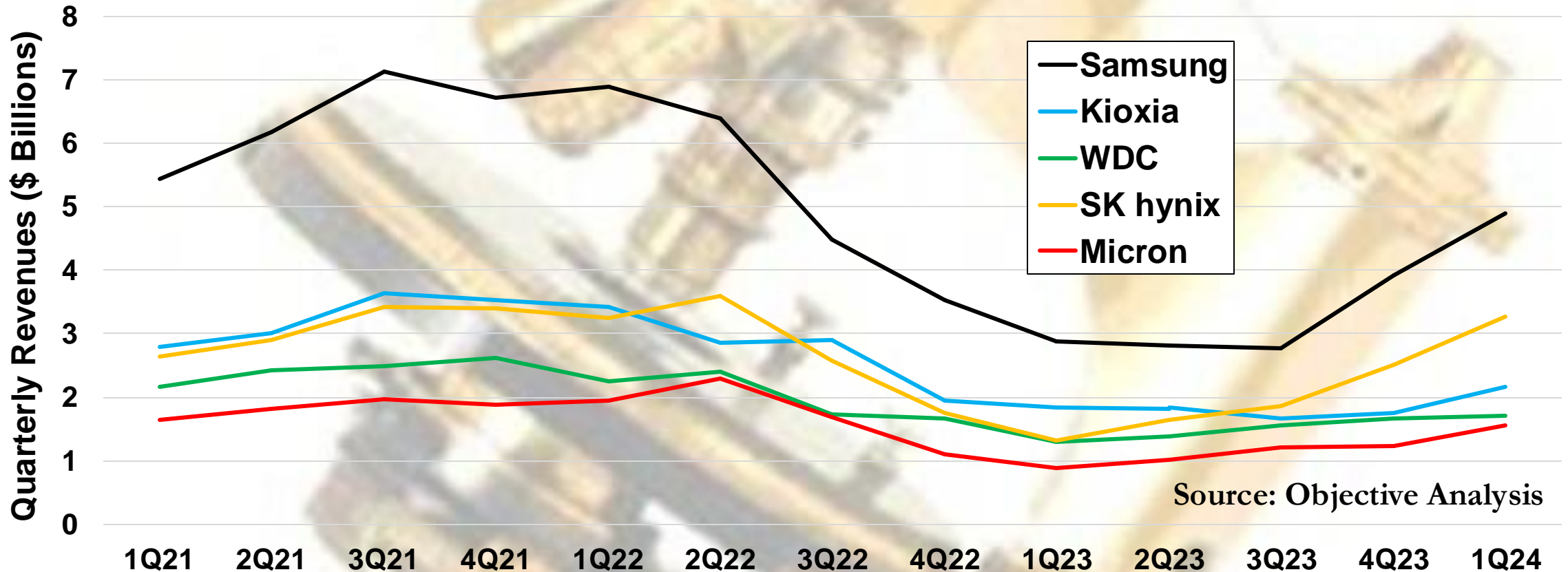


DRAM Recovered but Flattening



Source: Objective Analysis

NAND Still in Recovery



Source: Objective Analysis

Take-Aways

- Semis doing well, but 2024 is flattening
- AI surge is real... for now
 - A pause could cause a downturn
- DRAM & NAND have recovered
 - Expect modest 2H24 growth
 - The business remains cyclical

Thank You!

Jim Handy



**OBJECTIVE
ANALYSIS**

Semiconductor Forecast Accuracy

Year	Forecast	Actual
<u>2008</u>	Zero growth at best	-3%
<u>2009</u>	Growth in the mid teens	-9%
<u>2010</u>	Should approach 30%	32%
<u>2011</u>	Muted revenue growth: 5%	0%
<u>2012</u>	Revenues drop as much as -5%	-2.7%
<u>2013</u>	Revenues increase nearly 10%	4.9%
<u>2014</u>	Revenues up 20%+	9.9%
<u>2015</u>	Revenues up ~10%	-0.2%
<u>2016</u>	Revenues up ~10%	1.1%
<u>2017</u>	Revenues up ~20%	22%
<u>2018</u>	Strong start supports 10+% growth	14%
<u>2019</u>	Semiconductors down -5%	-12.5%
<u>2020</u>	Zero growth at best	6.8%
<u>2021</u>	Revenues grow 6% by remaining flat	26.2%
<u>2022</u>	Total semi still grows 6%	3.2%
<u>2023</u>	Semiconductors decline 19%	-8.3%
<u>2024</u>	Total semi growth under 5%	TBD