

GLOBAL ELECTRONICS INDUSTRY BUSINESS OUTLOOK

WALT CUSTER
CUSTER CONSULTING GROUP
www.custerconsulting.com
May 2004

Historical Review

2000 - "Bubble demand", double ordering & inventory building

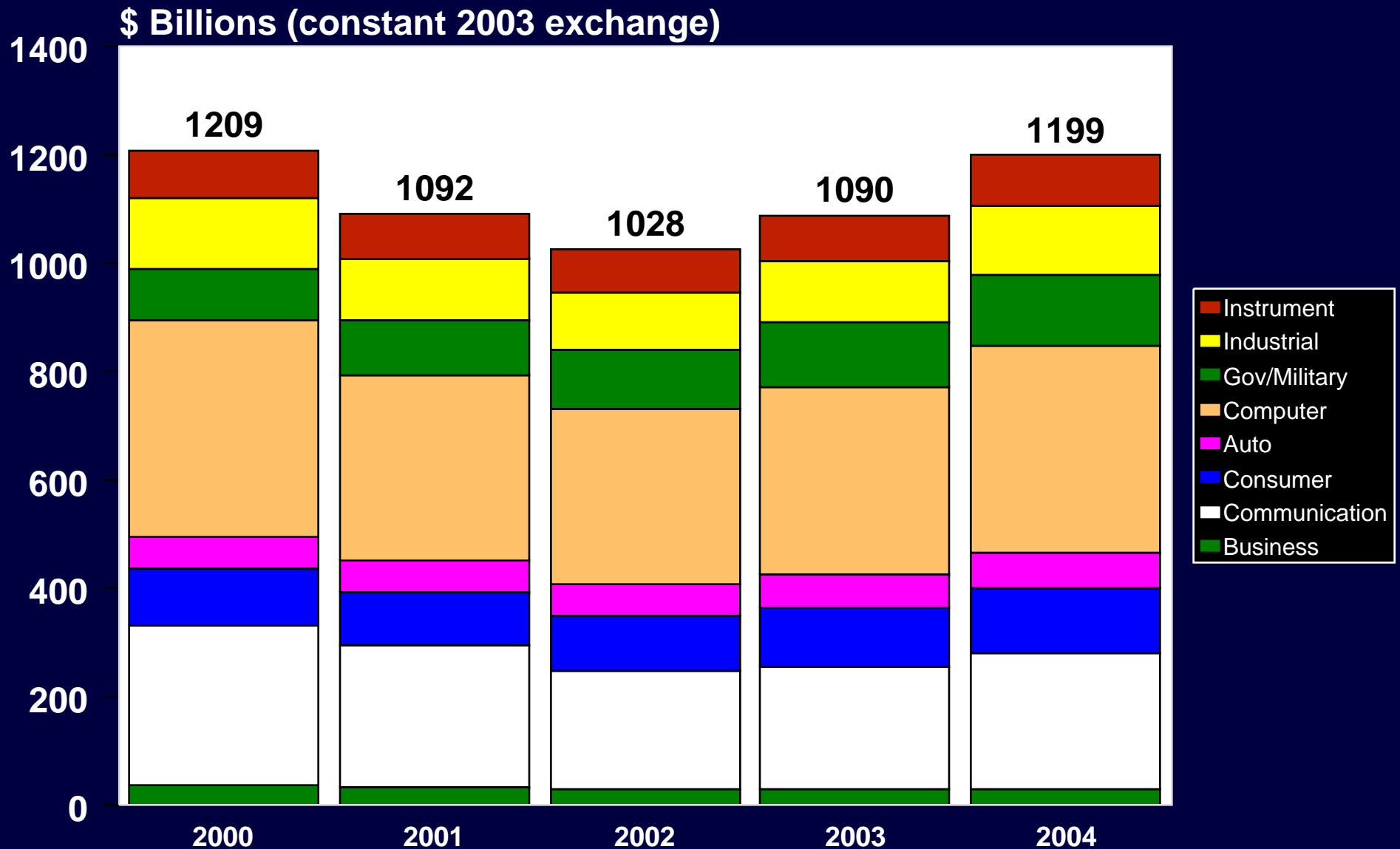
2001 - Dot.com & telecom crash, sharply lower demand, inventory reductions, Sept 11

2002 - declining demand, shift to Asia, N. American & European PCB shutdowns & massive China buildup, overcapacity & price degradation throughout supply chain; strong US\$ vs euro & GBP

2003 - Initial modest improvements slowed by war worries & SARS; recovery accelerated in late 2003; weak US\$; Communications orders drop in Nov/Dec

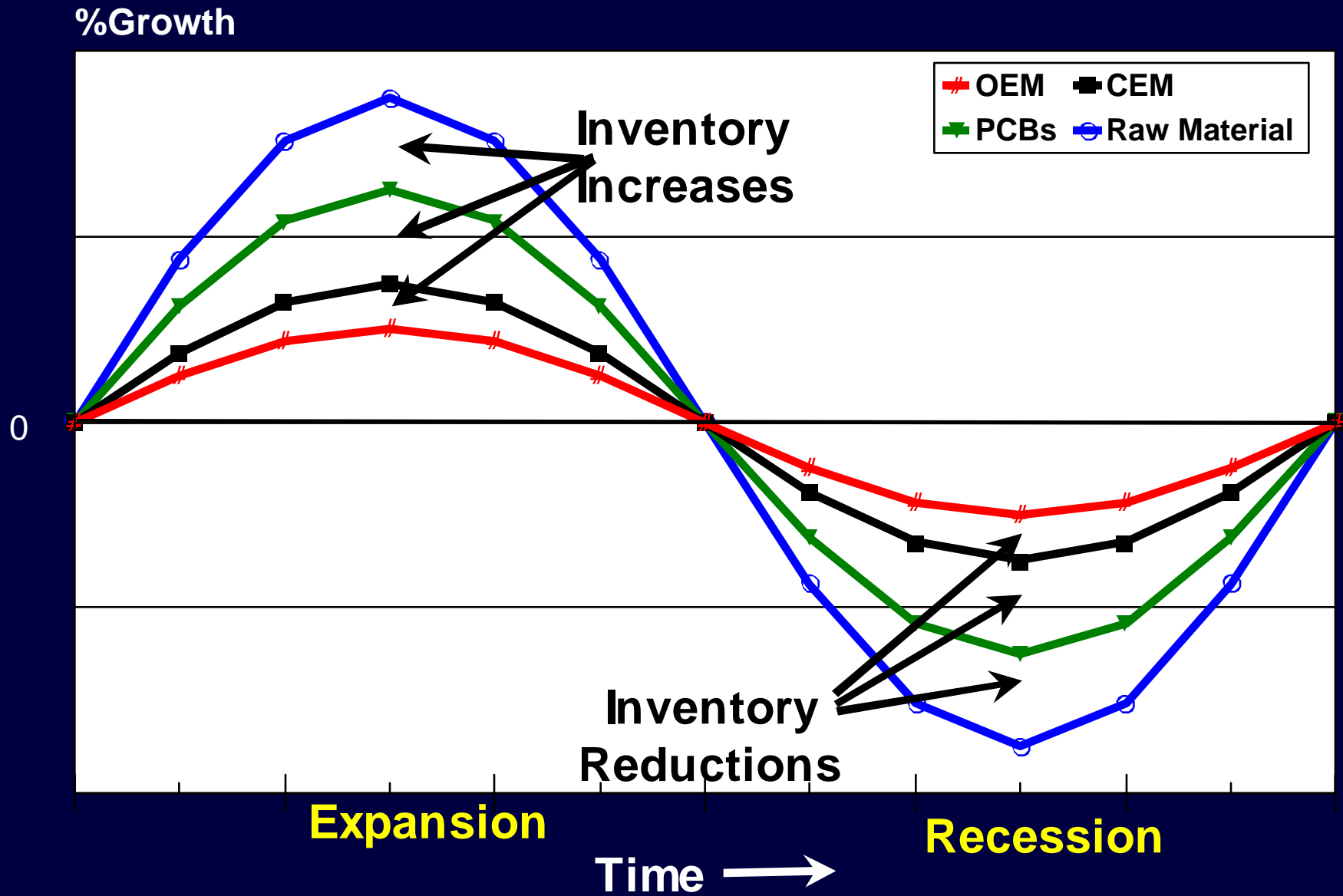
2004 - Communications equipment order recover, growth resumes, instruments & controls and military electronics

World Electronic Equipment Production by Type



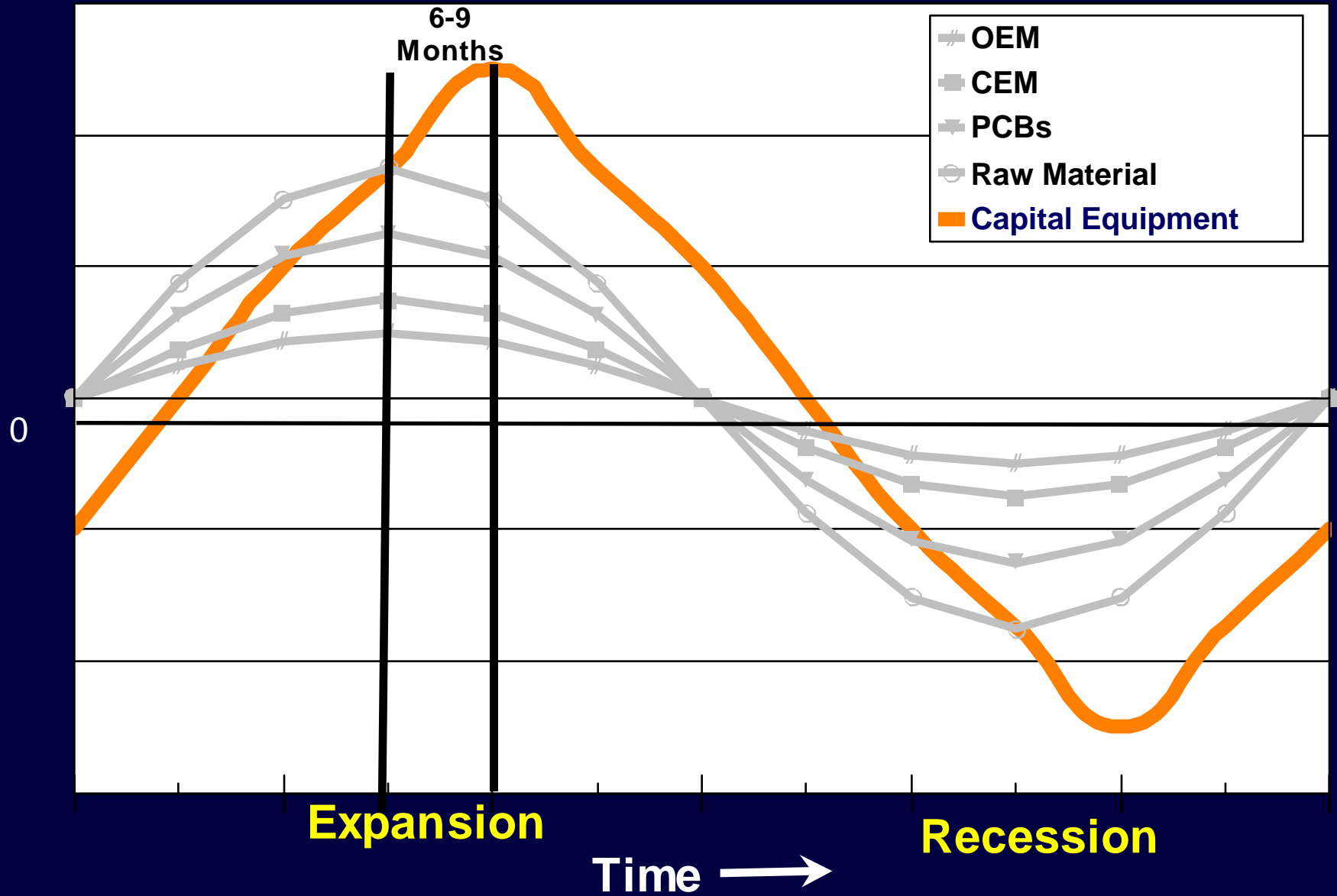
BUSINESS CYCLE

SUPPLY CHAIN EFFECT



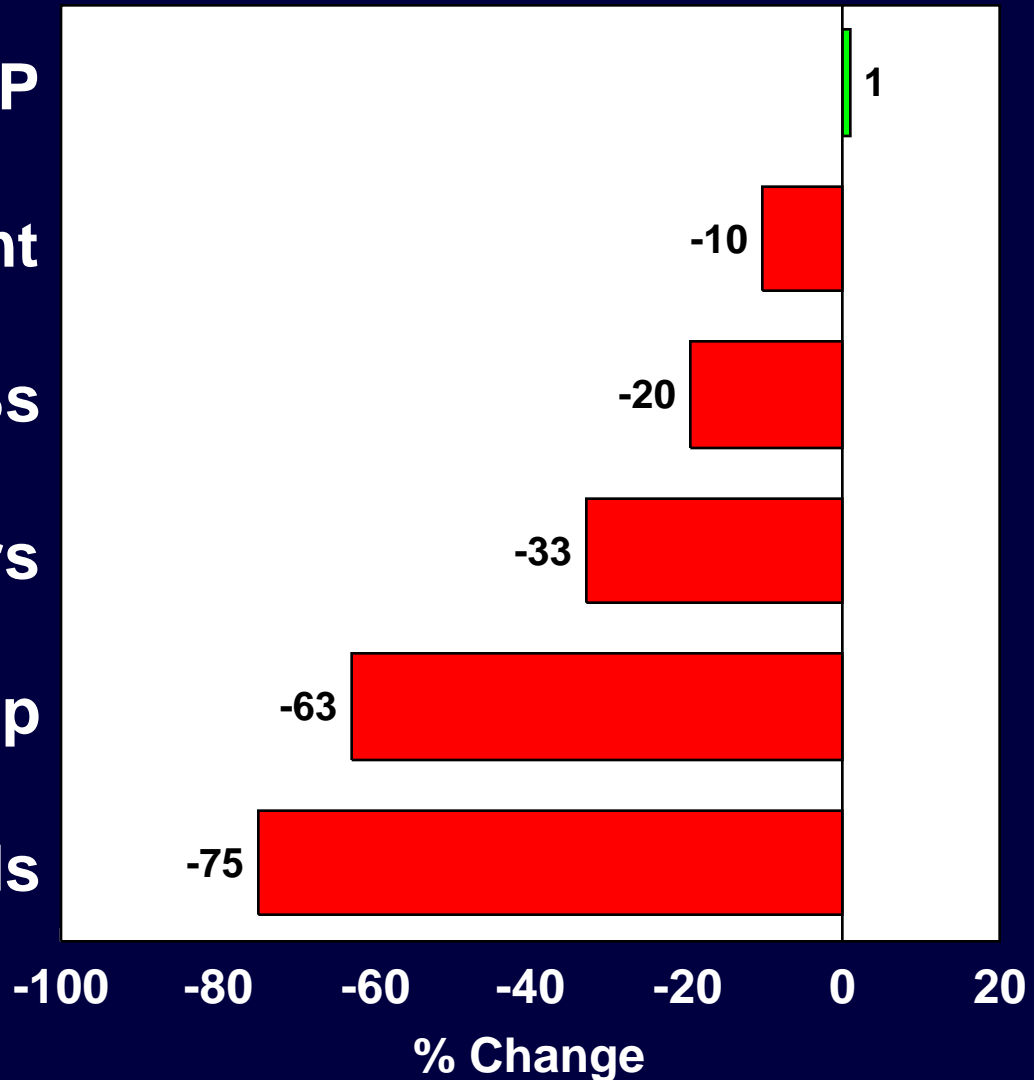
BUSINESS CYCLE

Process Equipment Phase Shift

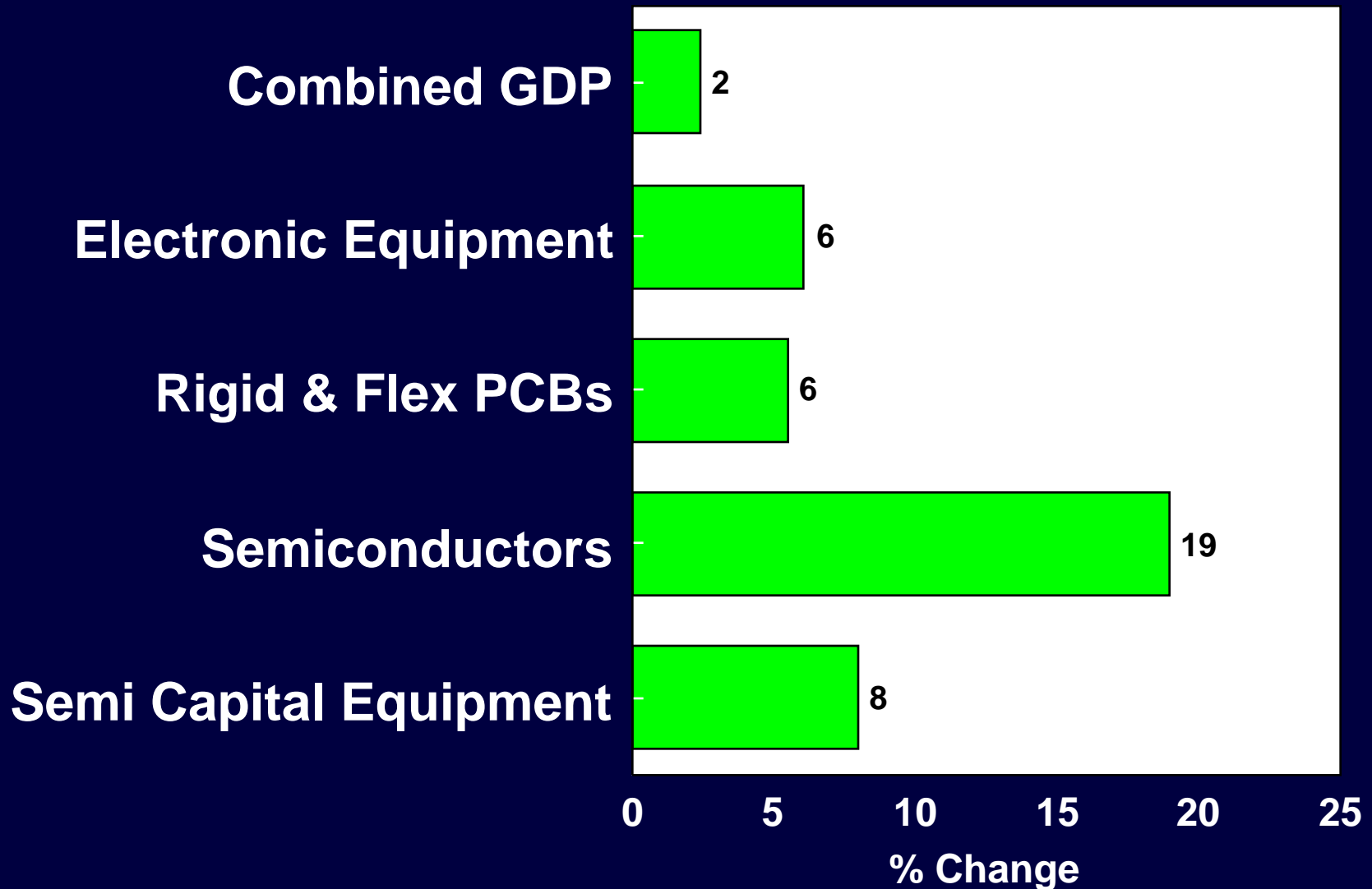


Global Impact 2001 vs 2000

Combined GDP
Electronic Equipment
Rigid & Flex PCBs
Semiconductors
Semi Capital Equip
DRAMs



Global Impact 2003 vs 2002



Current Situation

GDP Growth

Constant \$ Growth Rates Converted @ Constant Exchange Rates

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
World	1.9	2.4	4.0	3.5	2.9
USA	2.2	3.1	4.7	3.9	3.0
W Europe	1.2	0.8	2.0	2.3	2.6
Japan	-0.3	2.7	2.1	2.4	1.9
Four Tigers	4.7	2.6	5.7	5.2	4.7
China	8.0	9.2	8.8	7.1	6.7

Henderson Ventures 5/2004

www.hendersonventures.com

INDUSTRIAL PRODUCTION - WORLD

% CHANGE vs ONE YEAR EARLIER

BRITAIN	-1.3 Feb
CZECH REPUBLIC	+7.1 Feb
FRANCE	+0.9 Feb
GERMANY	+1.8 Feb
ITALY	+0.2 Feb
NETHERLANDS	-2.0 Feb
RUSSIA	+6.6 Mar
SPAIN	+2.0 Feb
EURO area	+0.6 Feb
CANADA	+0.8 Feb
USA	+3.4 Mar
CHINA	+19.4 Mar
MALAYSIA	+11.1 Feb
PHILLIPPINES	0.0 Feb
SINGAPORE	+2.0 Mar
S KOREA	+11.6 Mar
TAIWAN	+15.7 Mar
THAILAND	+16.4 Feb
JAPAN	+7.7 Mar

U.S. "Purchasing Managers" Index

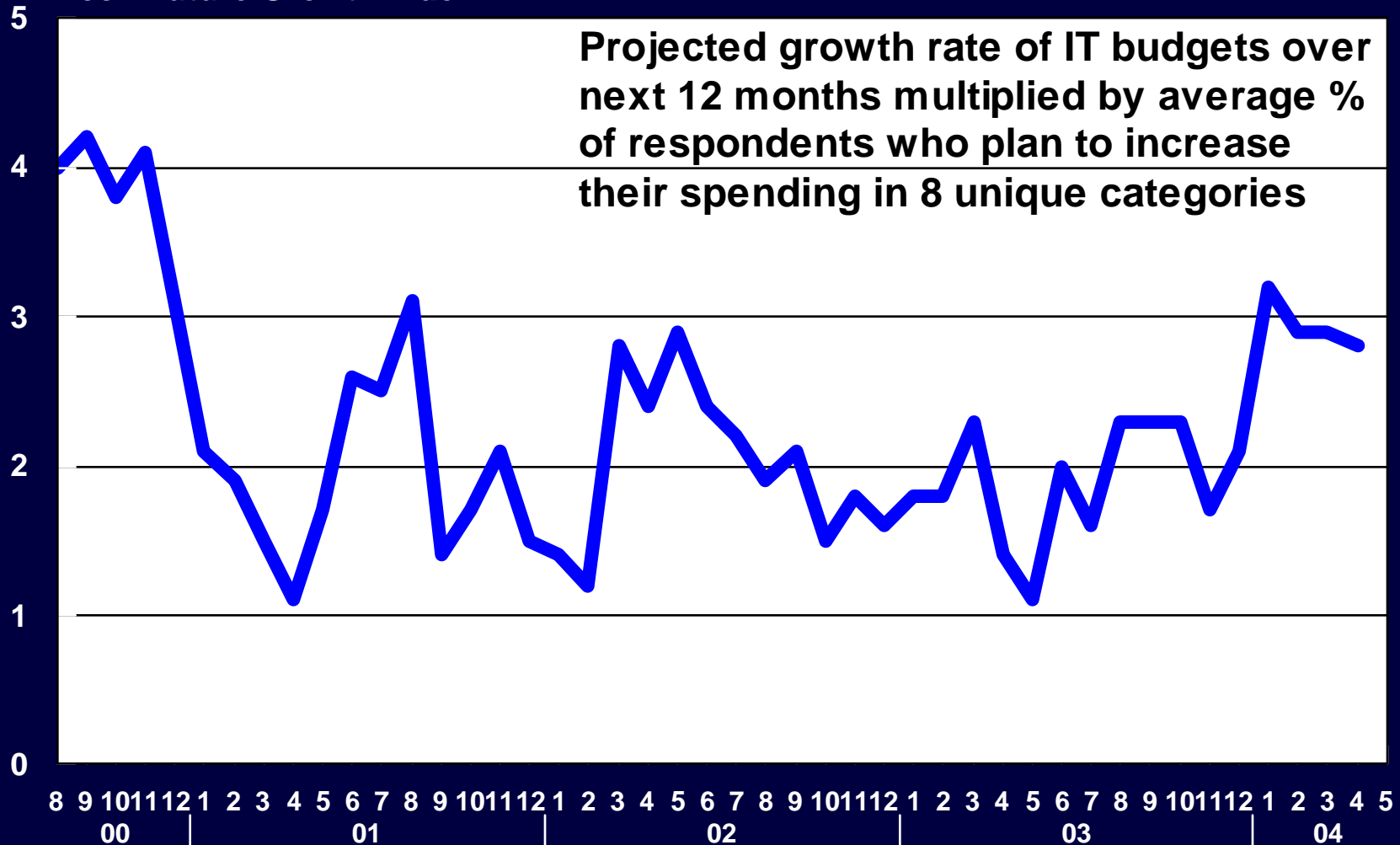
DIFFUSION INDEX



CIO Magazine Tech Future Growth Index

Projects IT spending activity over the next 12 months

Tech Future Growth Index



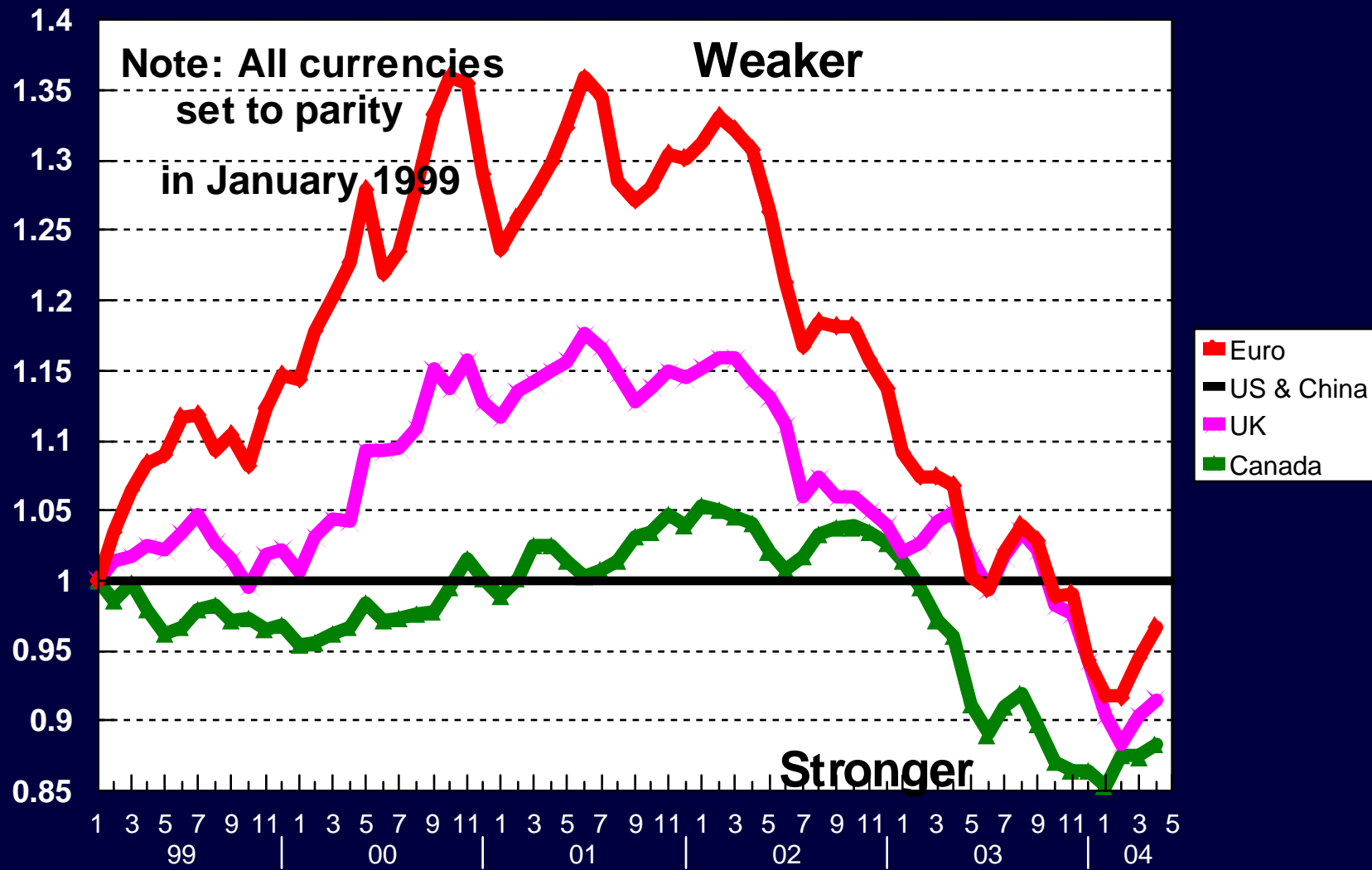
www.cio.com/info/releases/

**Merix sees
fourth-quarter loss
on reduced demand**

Exchange Rates

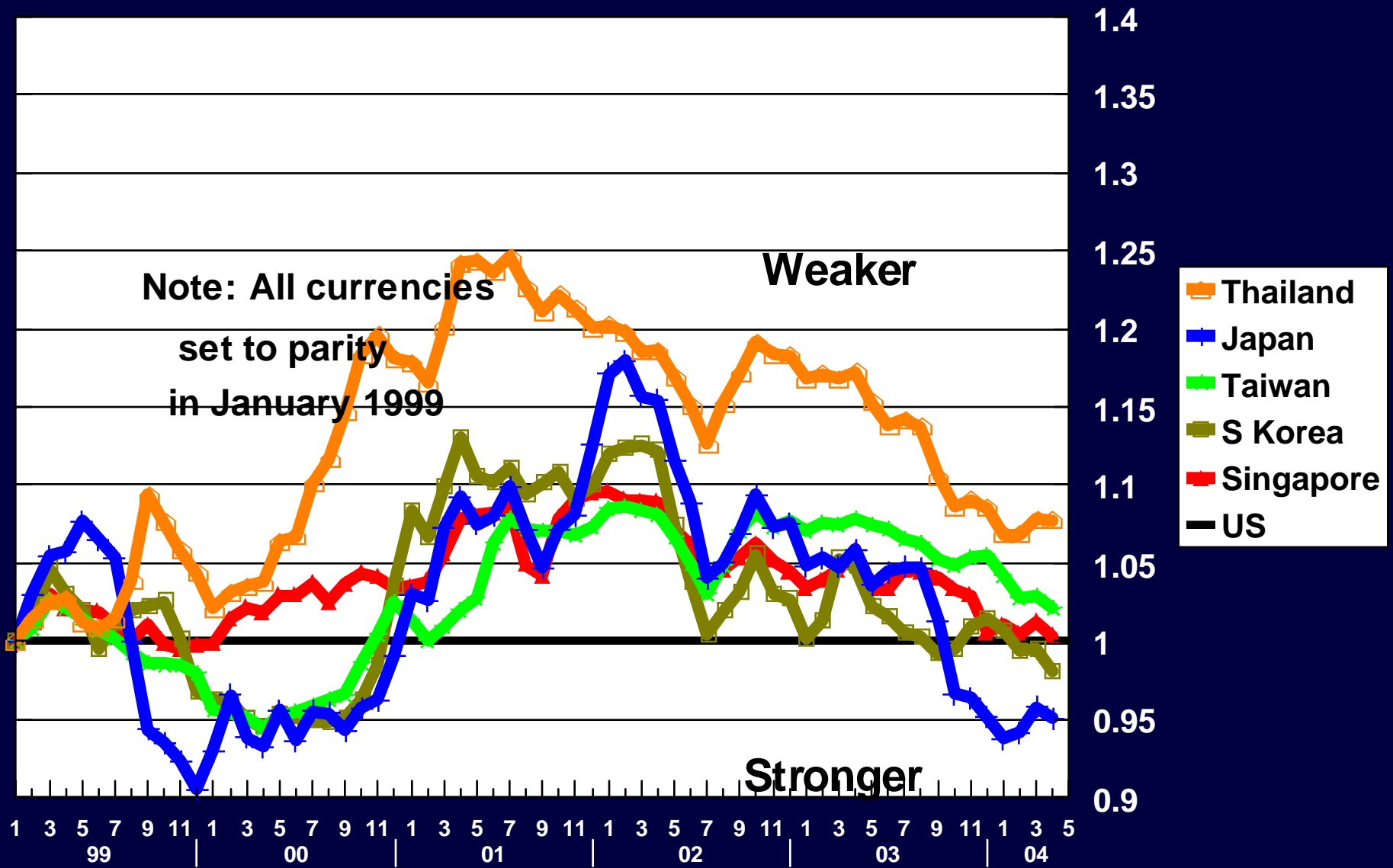
EUROPEAN EXCHANGE RATES vs US, CHINA & CANADA

1/99 = 1.00



ASIAN EXCHANGE RATES vs US \$

1/99 = 1.00

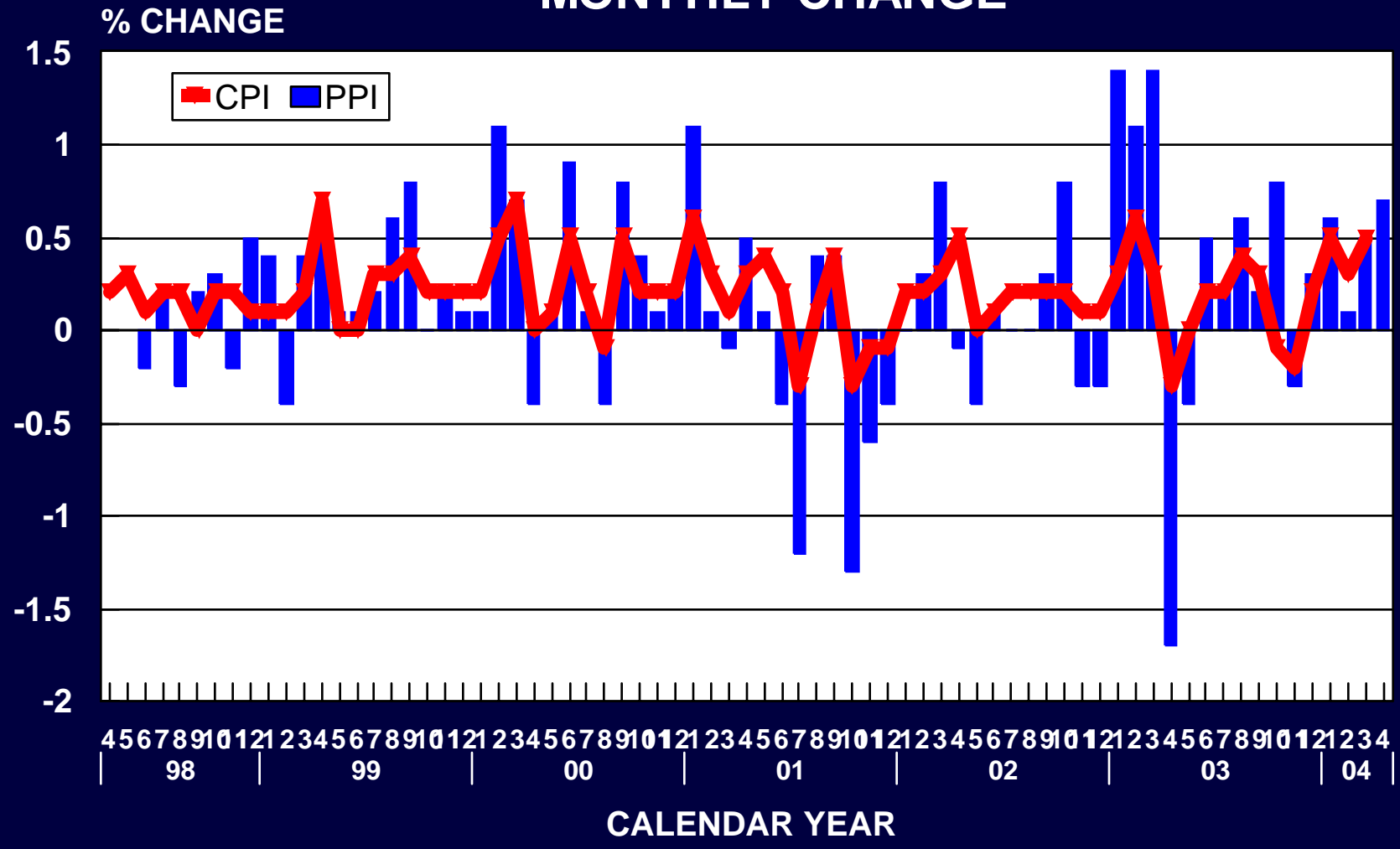


Inflation

Interest Rates

CONSUMER & PRODUCER PRICE INDICES

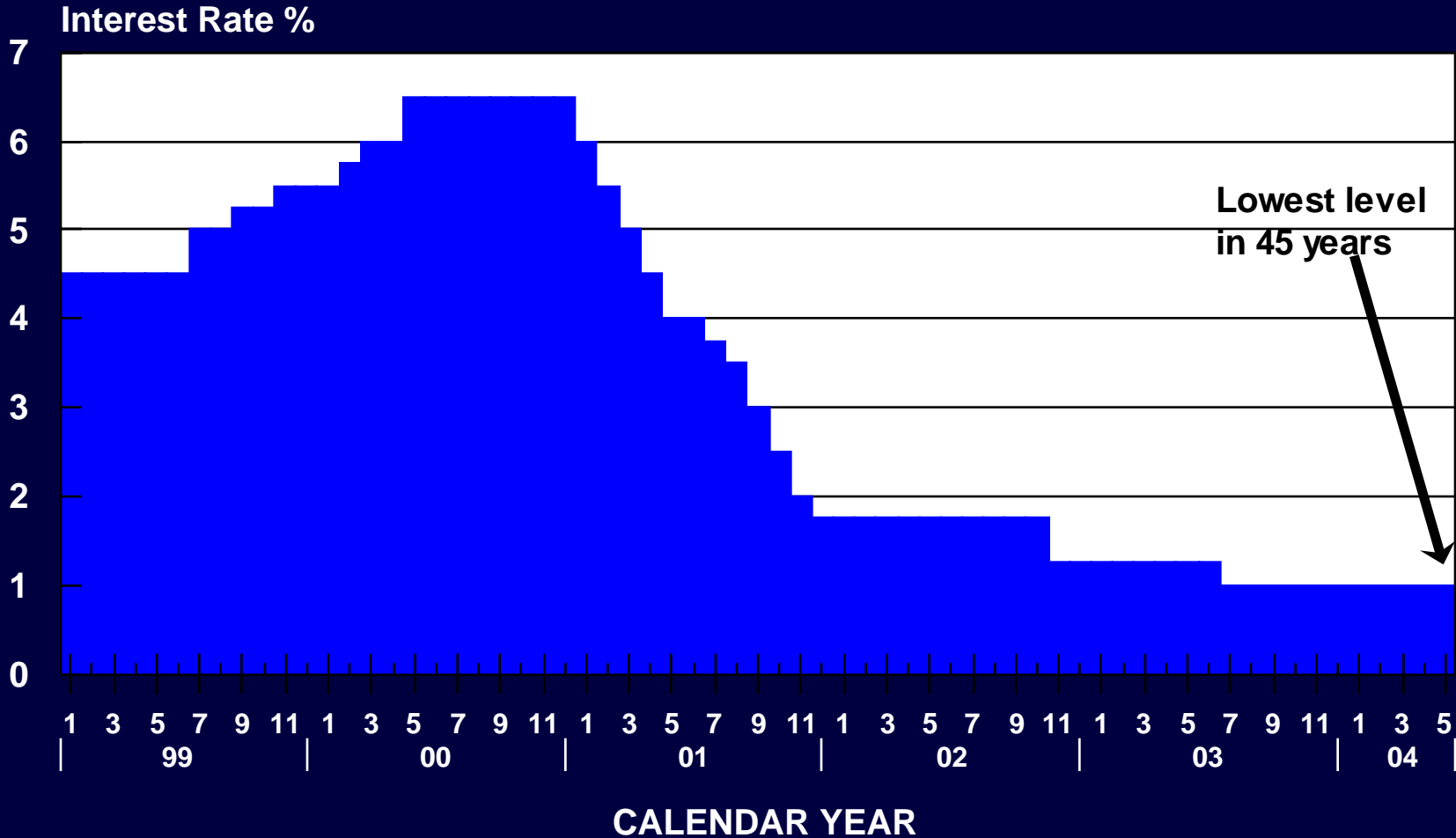
MONTHLY CHANGE



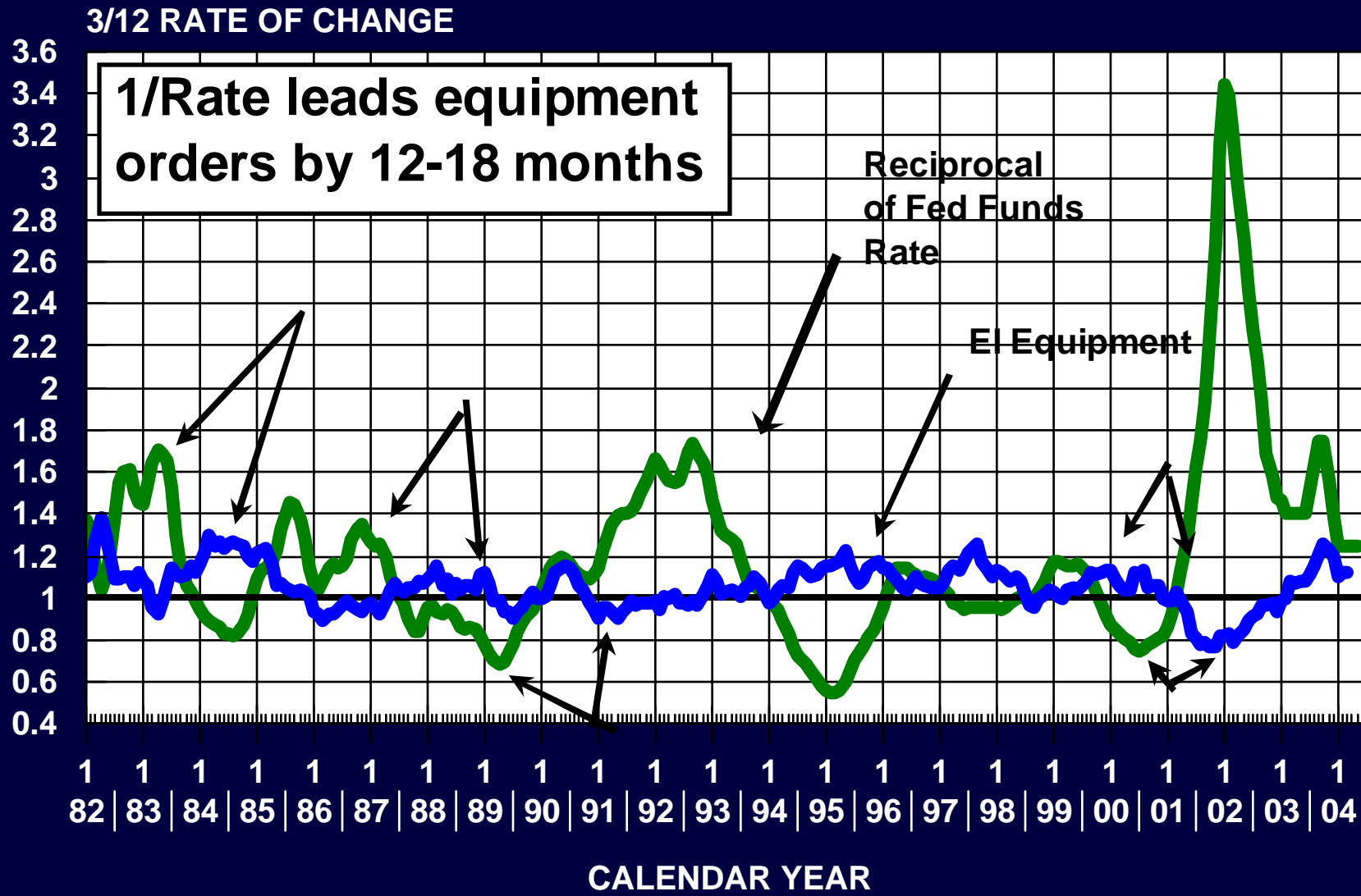
©DANSCARTOONS.COM



U.S. FEDERAL FUNDS RATE



Electronic Equipment Orders vs Interest Rates



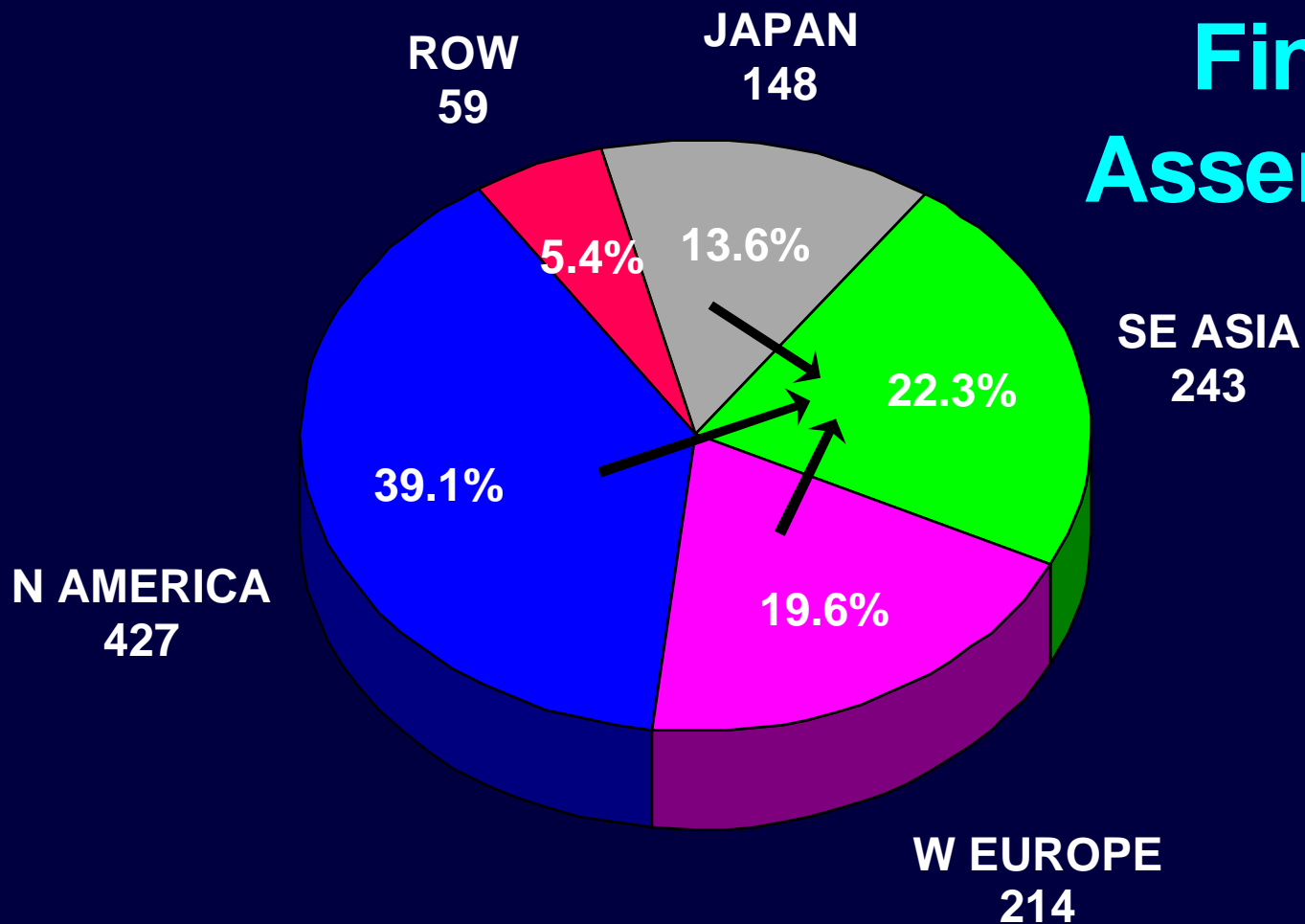
Data: Dept of Commerce & U.S. Federal Reserve Board
<http://www.federalreserve.gov/releases/h15/data.htm>

Electronic Equipment

WORLD ELECTRONIC EQUIPMENT PRODUCTION

2003

**Final
Assembly**

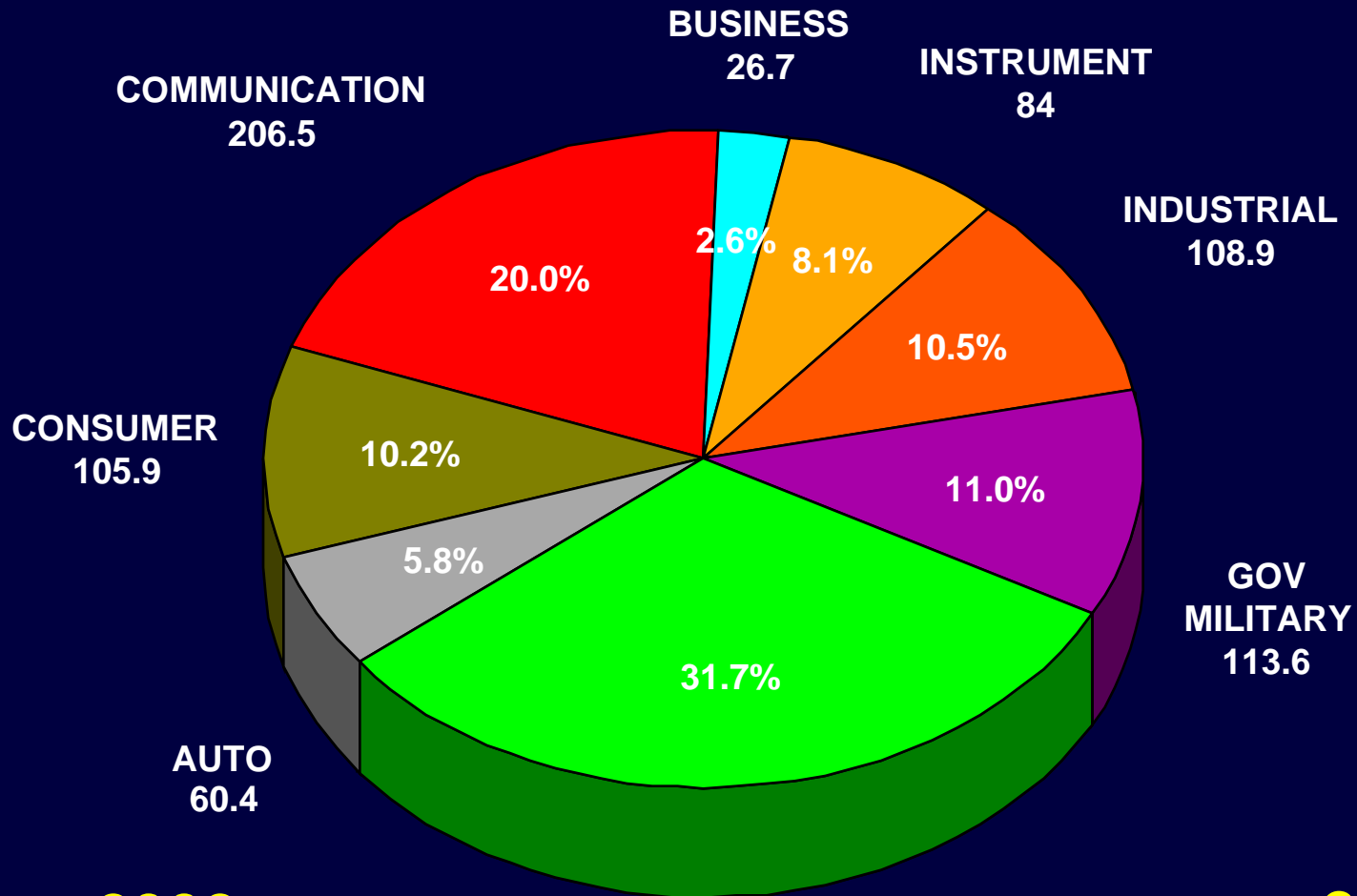


Electronic Outlook
3/04

TOTAL \$1090 Billion

WORLD EQUIPMENT PRODUCTION

2003



2002
\$1027 B

6.1%

COMPUTER
327.6

+10.0%

2004
\$1,199B

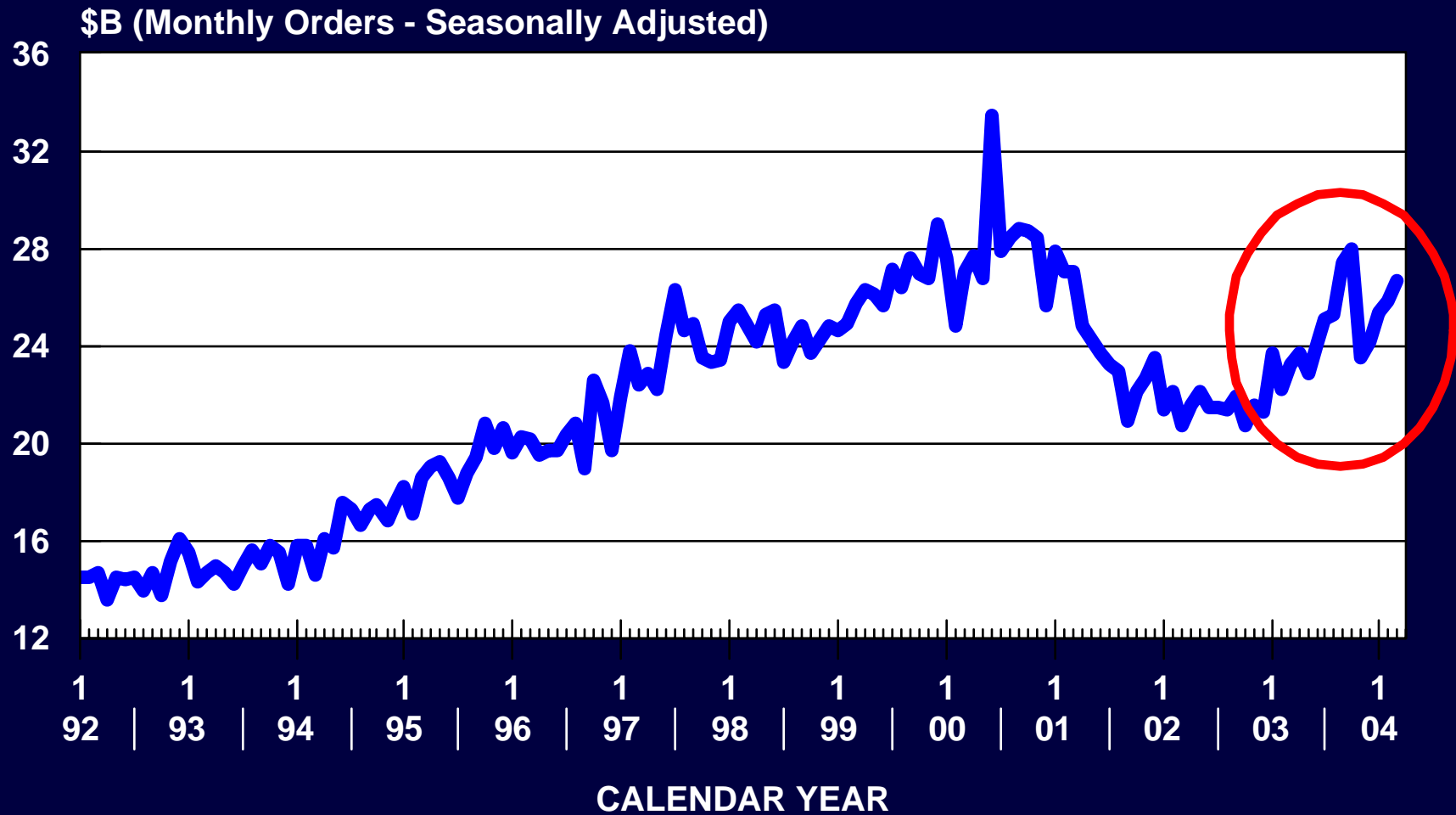
Electronic Outlook 3/04

TOTAL \$1090 B

U.S. Electronic Equipment Orders & Inventories

US ELECTRONIC EQUIPMENT ORDERS

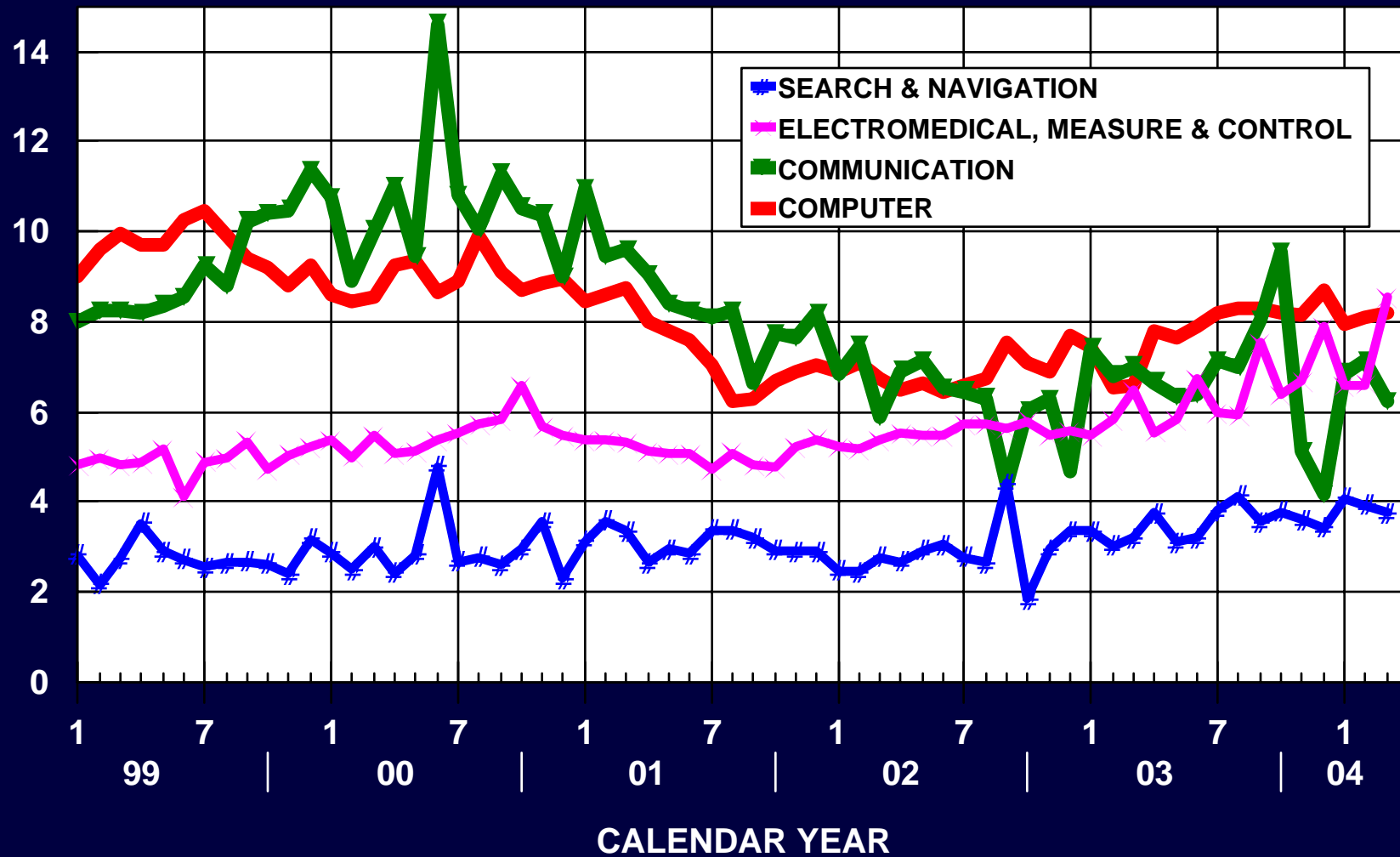
COMMUNICATION, COMPUTER & OFFICE,
MILITARY, INSTRUMENTS



US ELECTRONIC EQUIPMENT ORDERS

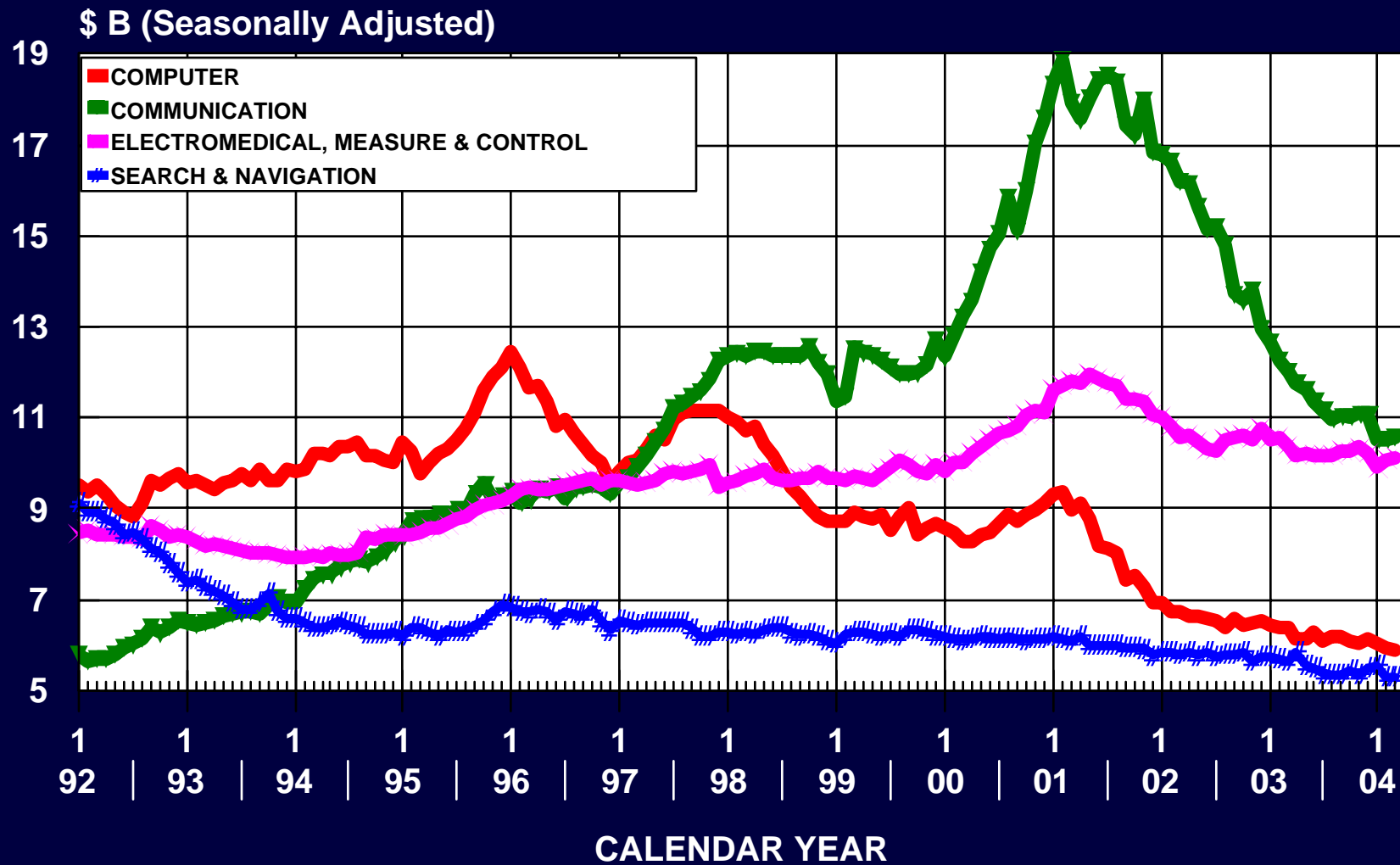
Monthly Data

\$ B (Seasonally Adjusted)



US ELECTRONIC EQUIPMENT INVENTORIES

Monthly Data

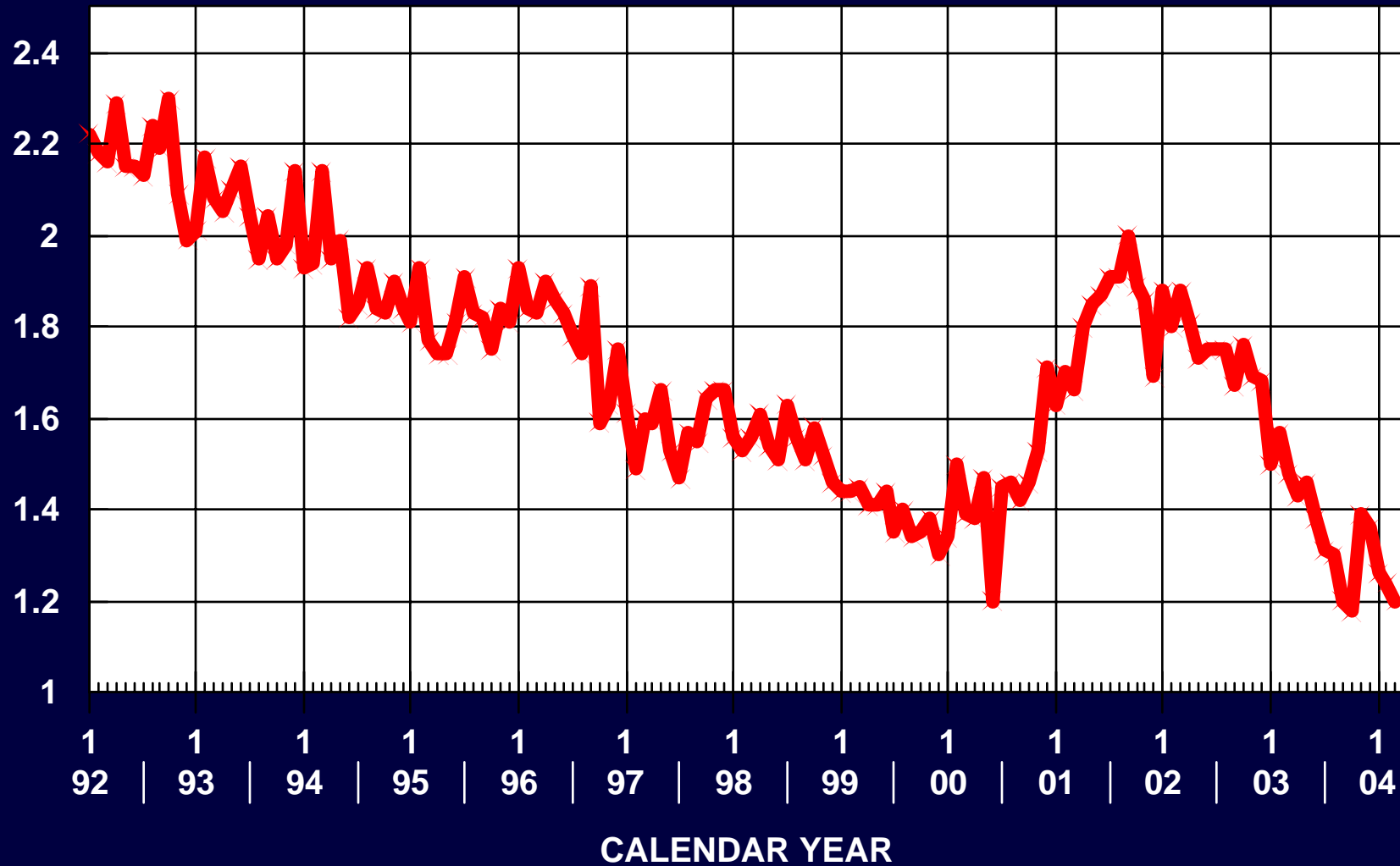


<http://www.census.gov/indicator/www/m3/>

5/04

US Electronic Equipment Inventories

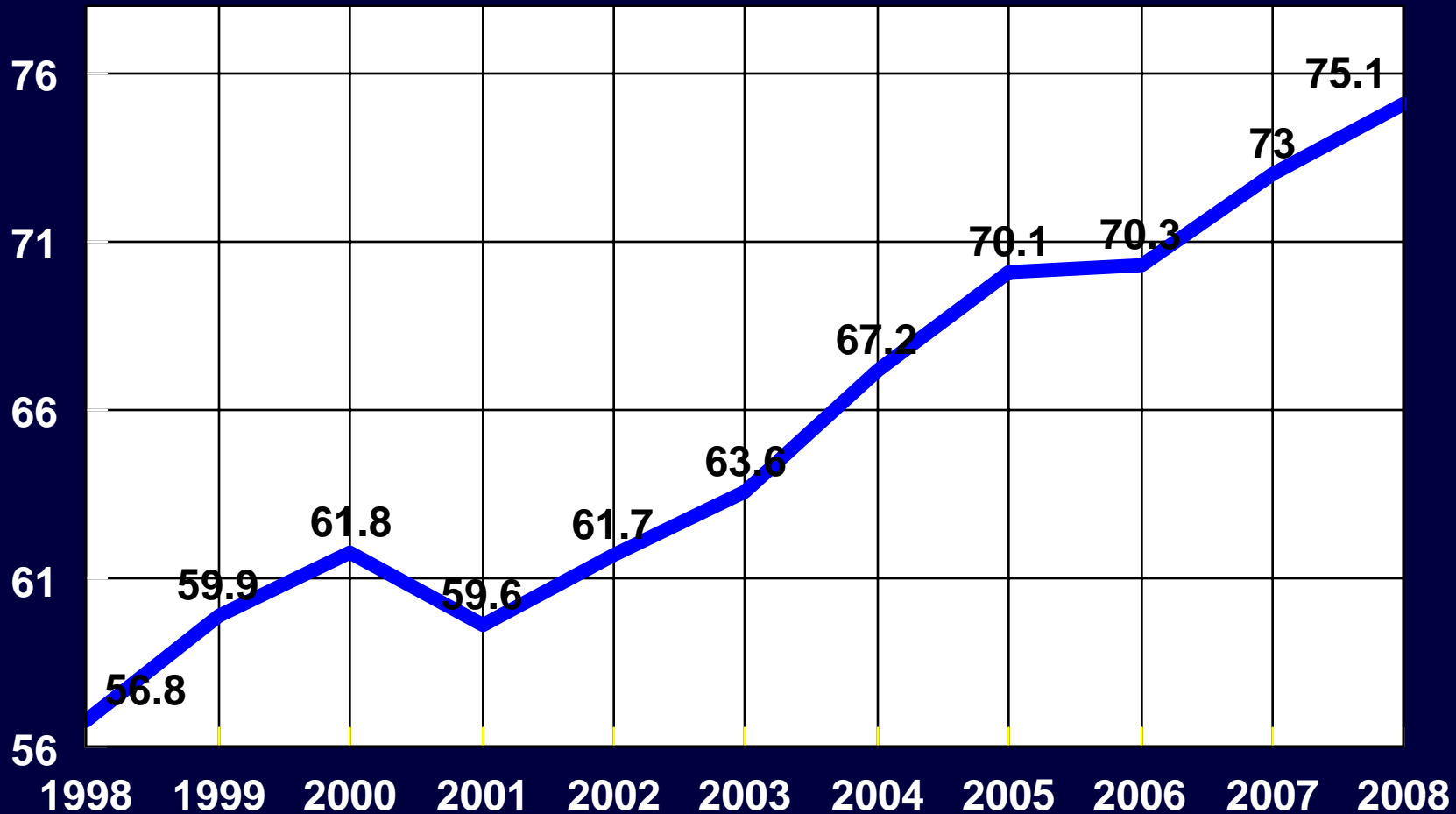
Inventories vs. Orders



Automotive Electronics

World Motor Vehicle & Automotive Production

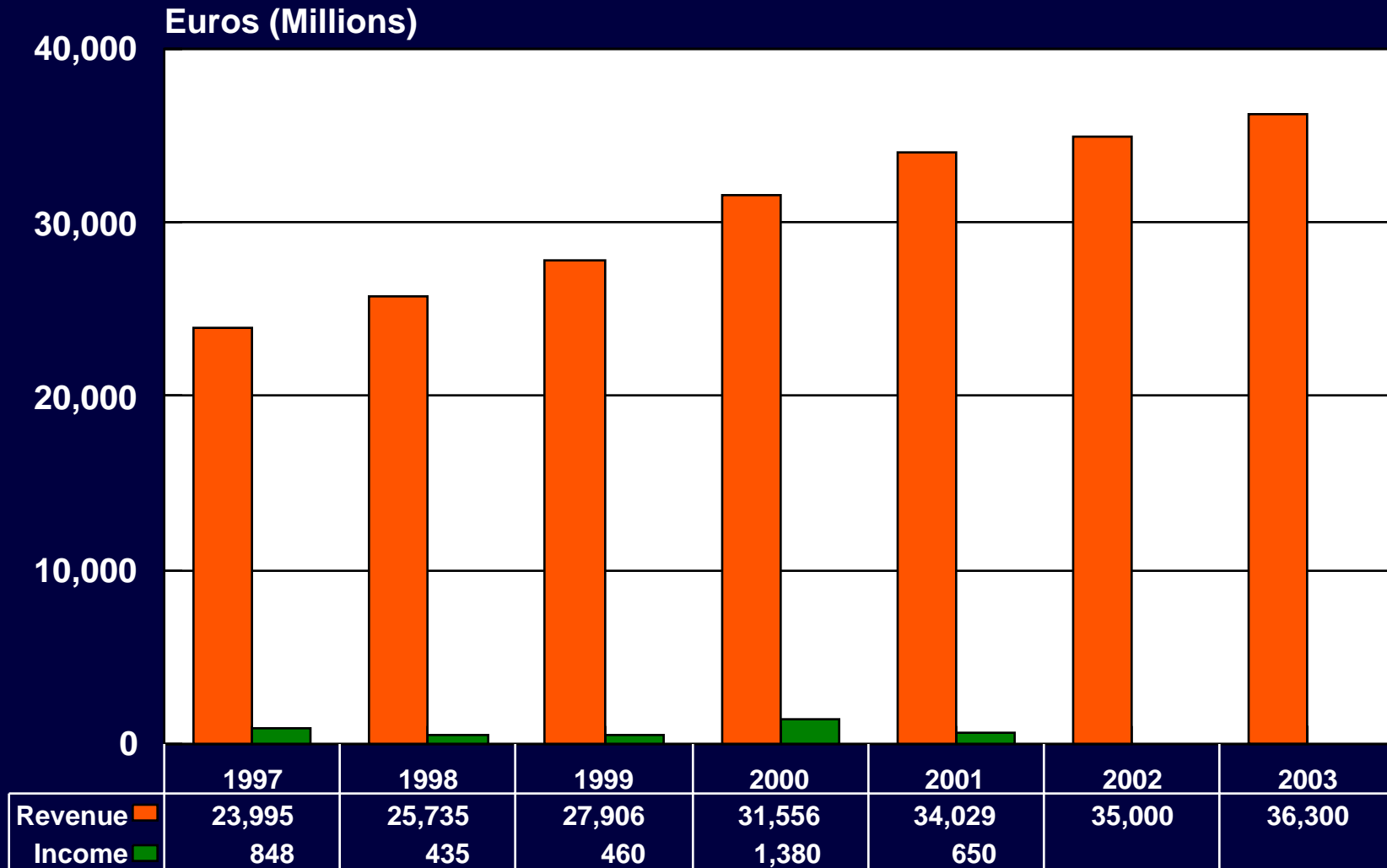
UNITS (Millions)



Robert Bosch GmbH

Revenue & Net Income

"Contrary to last year, business this year is taking off with an economic tail wind. Things are looking up in Asia and America, the economic slump in Europe has now bottomed out." 29 Jan 2004



CY

Government & Military Electronics

MILITARY ELECTRONICS

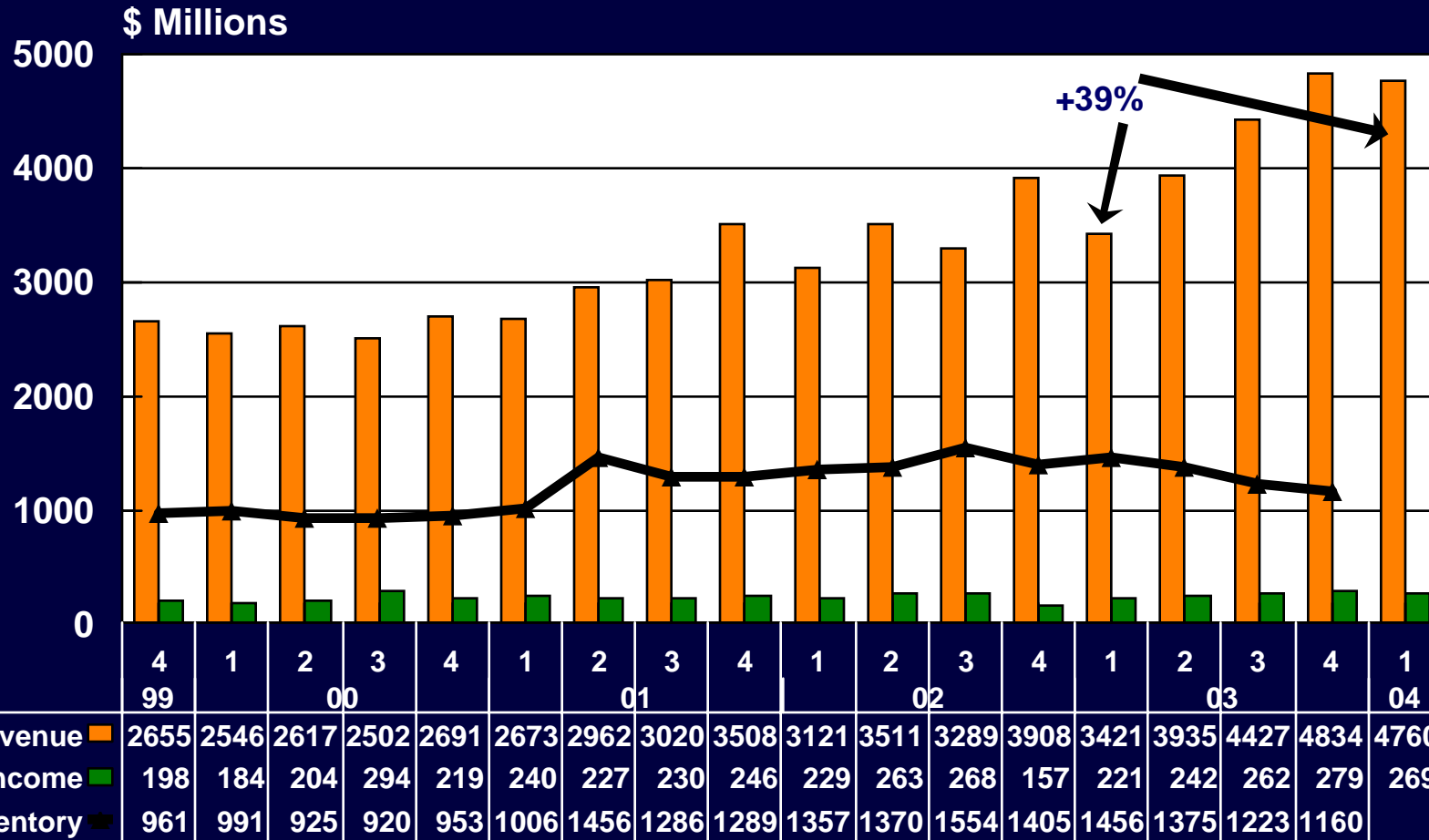
BOOKINGS

Defense Search & Navigation and Communications Equipment



General Dynamics

Revenue, Net Income & Inventory



CY

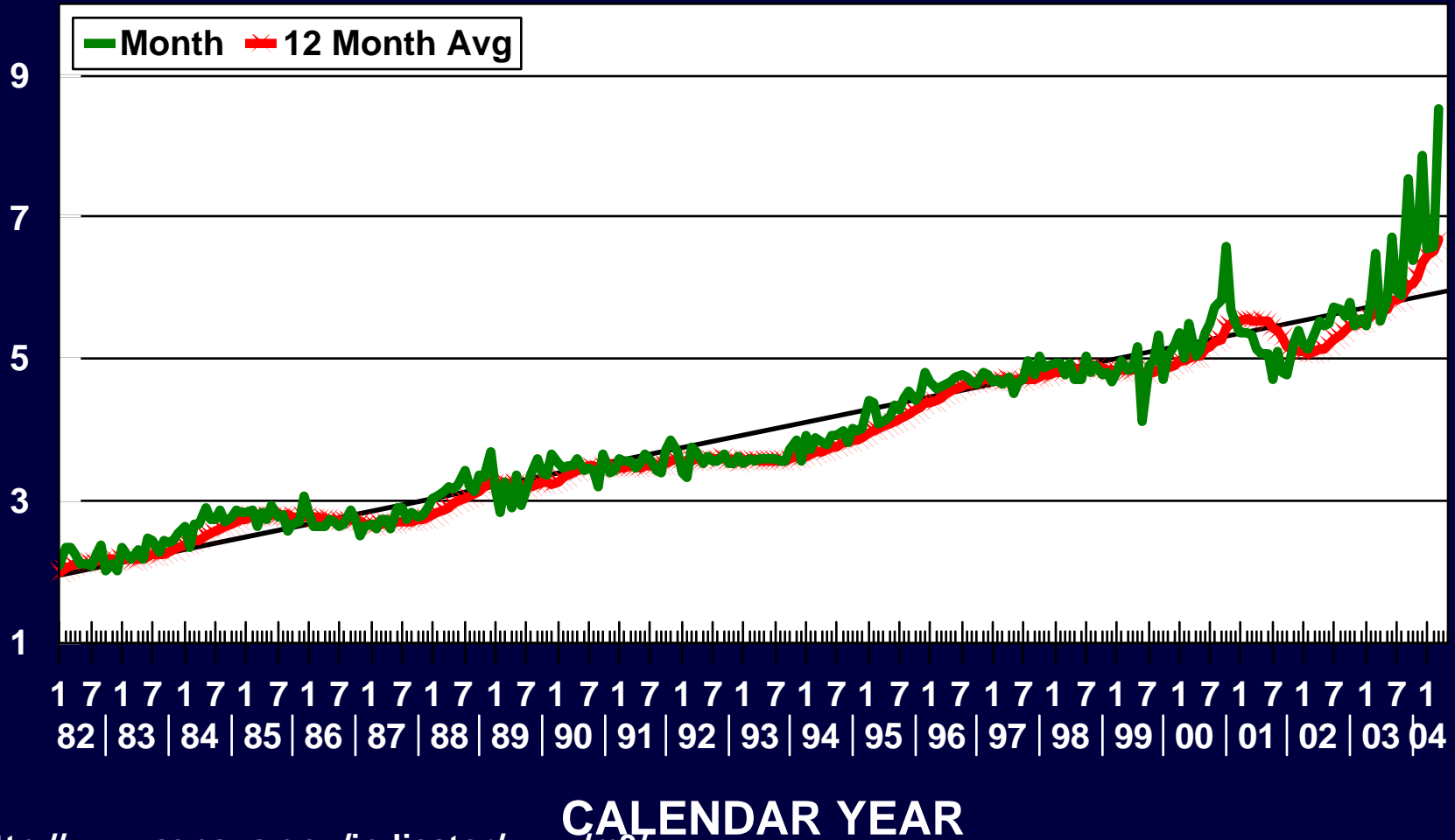
GD

Instruments & Control Equipment

ELECTROMEDICAL, MEASUREMENT & CONTROL EQUIPMENT

BOOKINGS

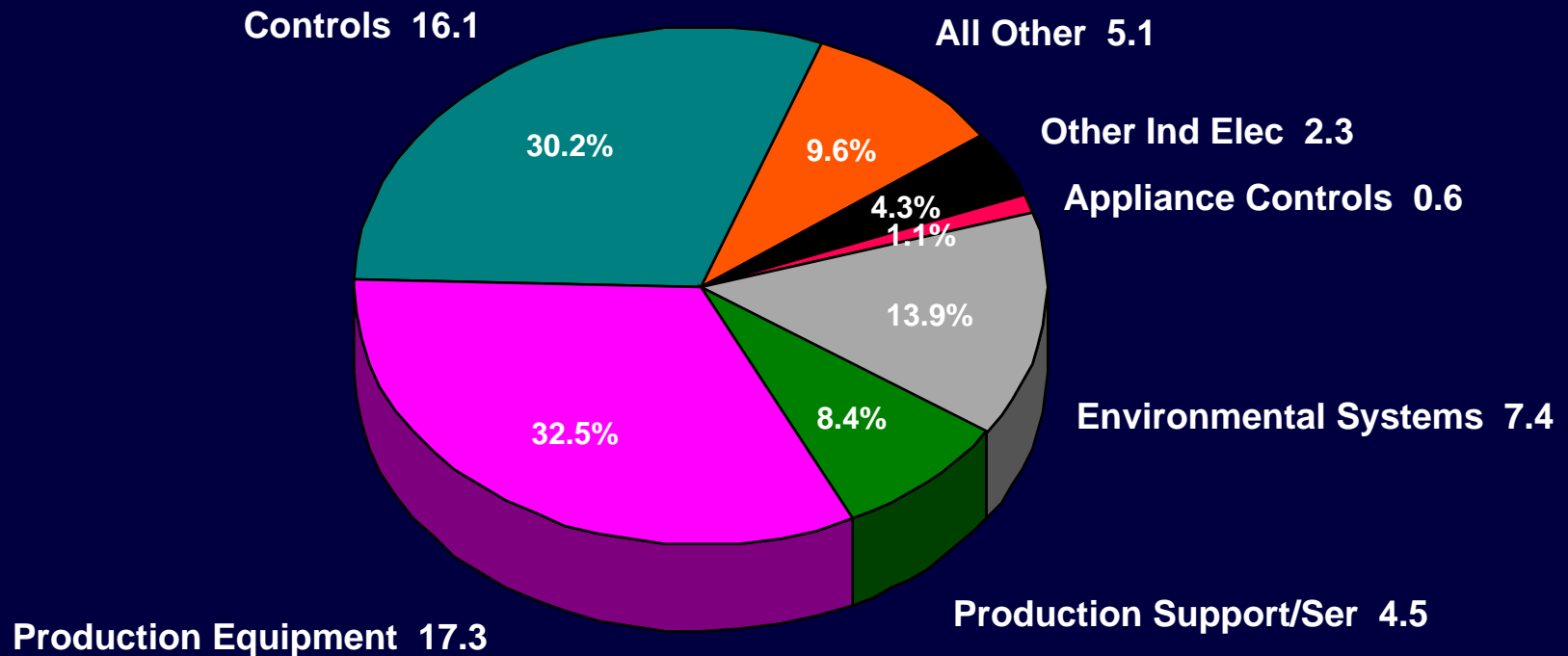
\$B (Seasonally Adjusted)



CALENDAR YEAR

INDUSTRIAL ELECTRONICS PRODUCTION

U.S. - 2003



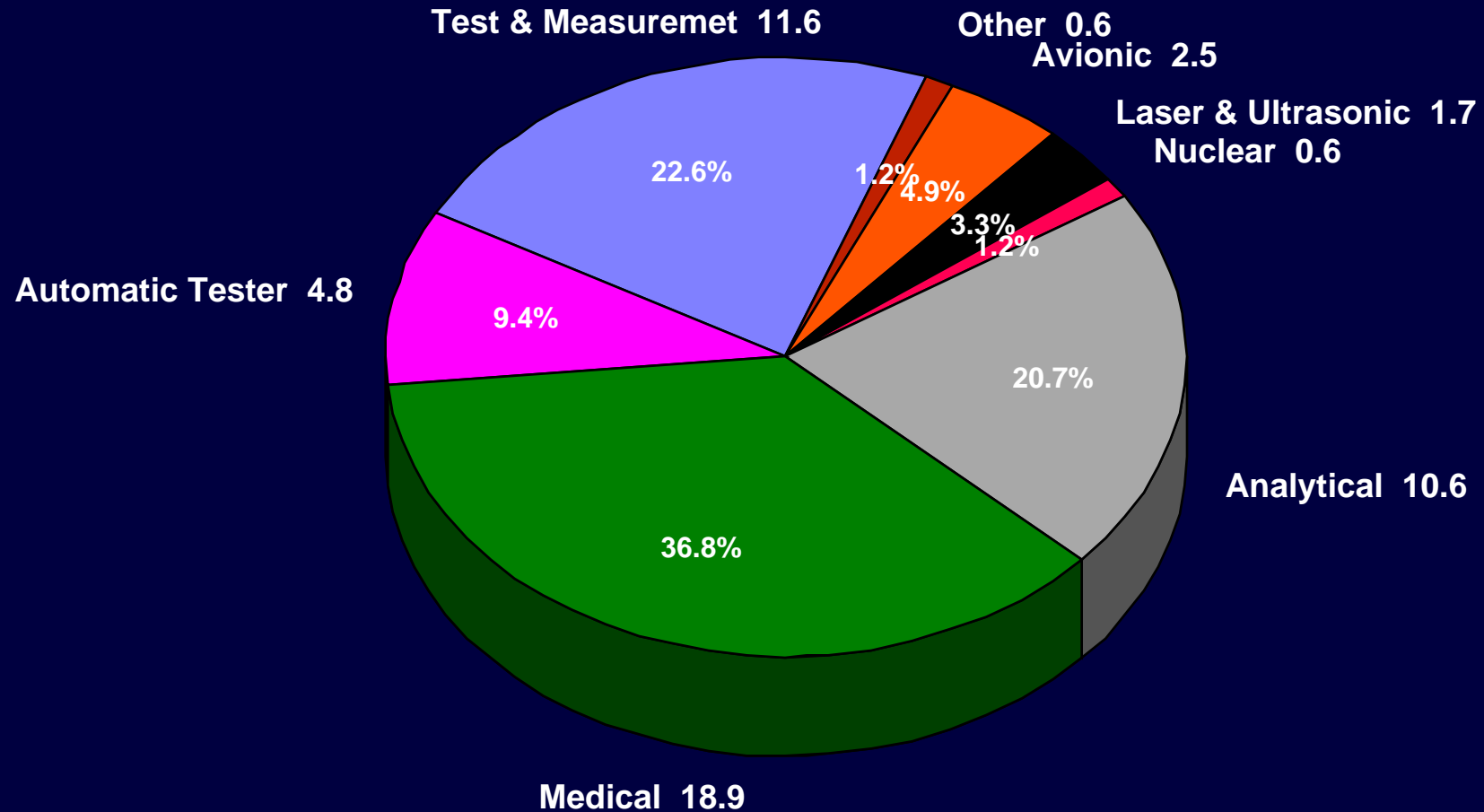
TOTAL: \$53.4 Billion

Electronic Outlook 3/2004

Note: Similar data available for other electronic equipment sectors

INSTRUMENTATION EQUIPMENT PRODUCTION

U.S. - 2003



TOTAL: \$51.3 Billion

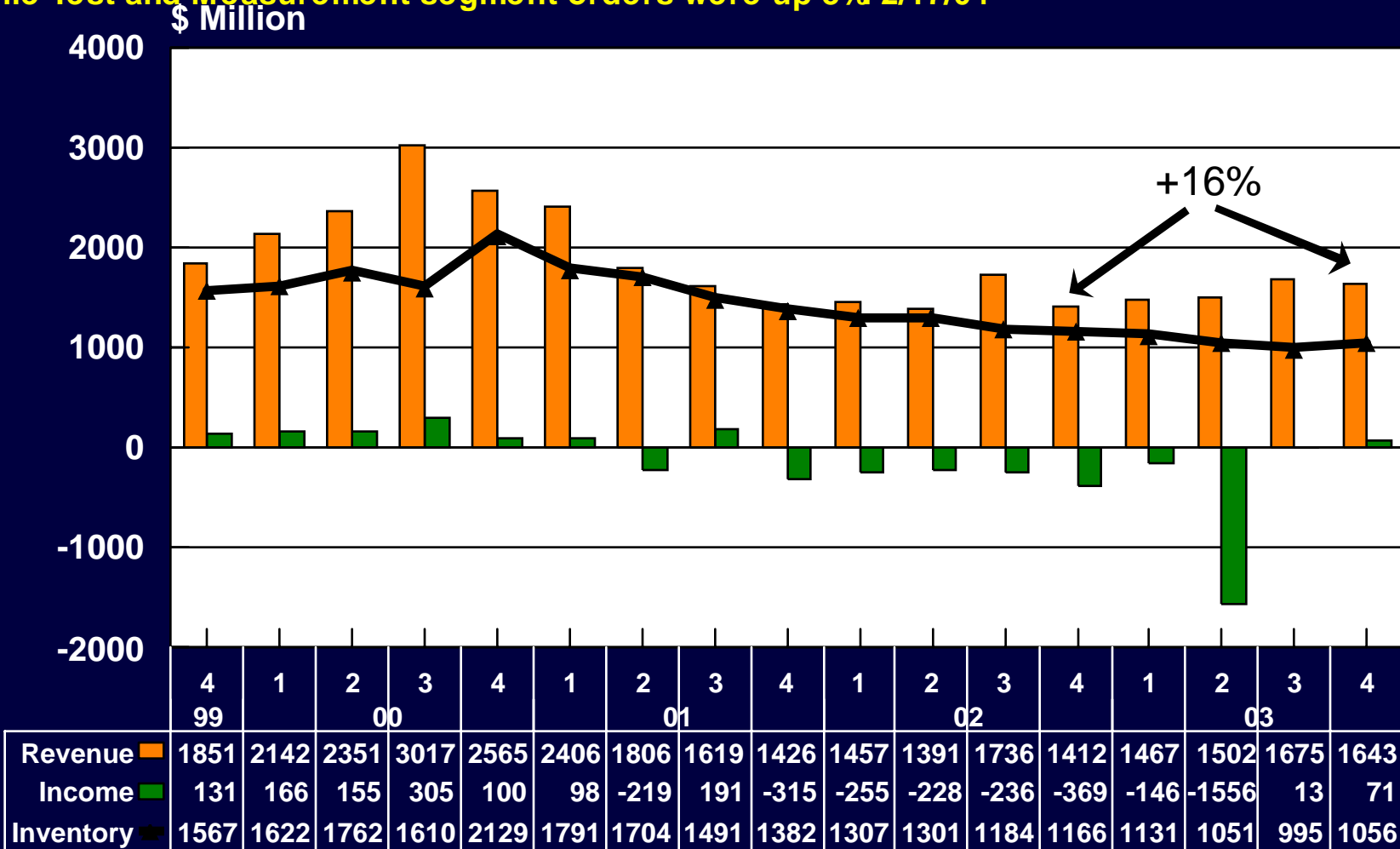
Electronic Outlook 3/2004

Note: Similar data available for other electronic equipment sectors

Agilent Technologies

Revenue, Net Income & Inventory

During the quarter, Semiconductor Products orders were up 53% from last year to the highest levels since year 2000. Automated Test segment orders, while down from the seasonally strong prior quarter, were up 74% from last year. Life Sciences and Chemical Analysis orders were 15% above one year ago, while Test and Measurement segment orders were up 8% 2/17/04

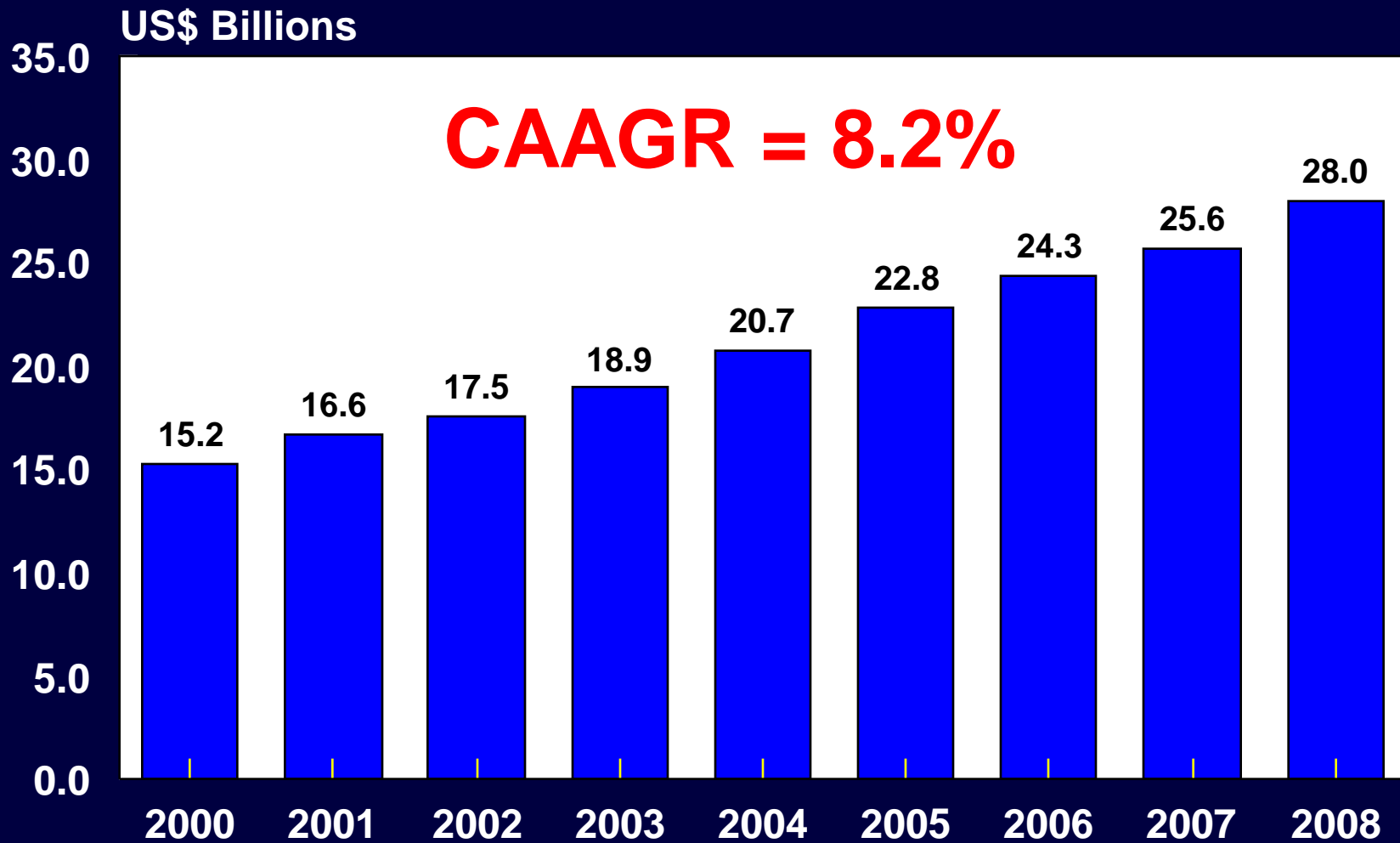


FY ends Oct31

CY

A

U.S. Medical Instrument Shipments

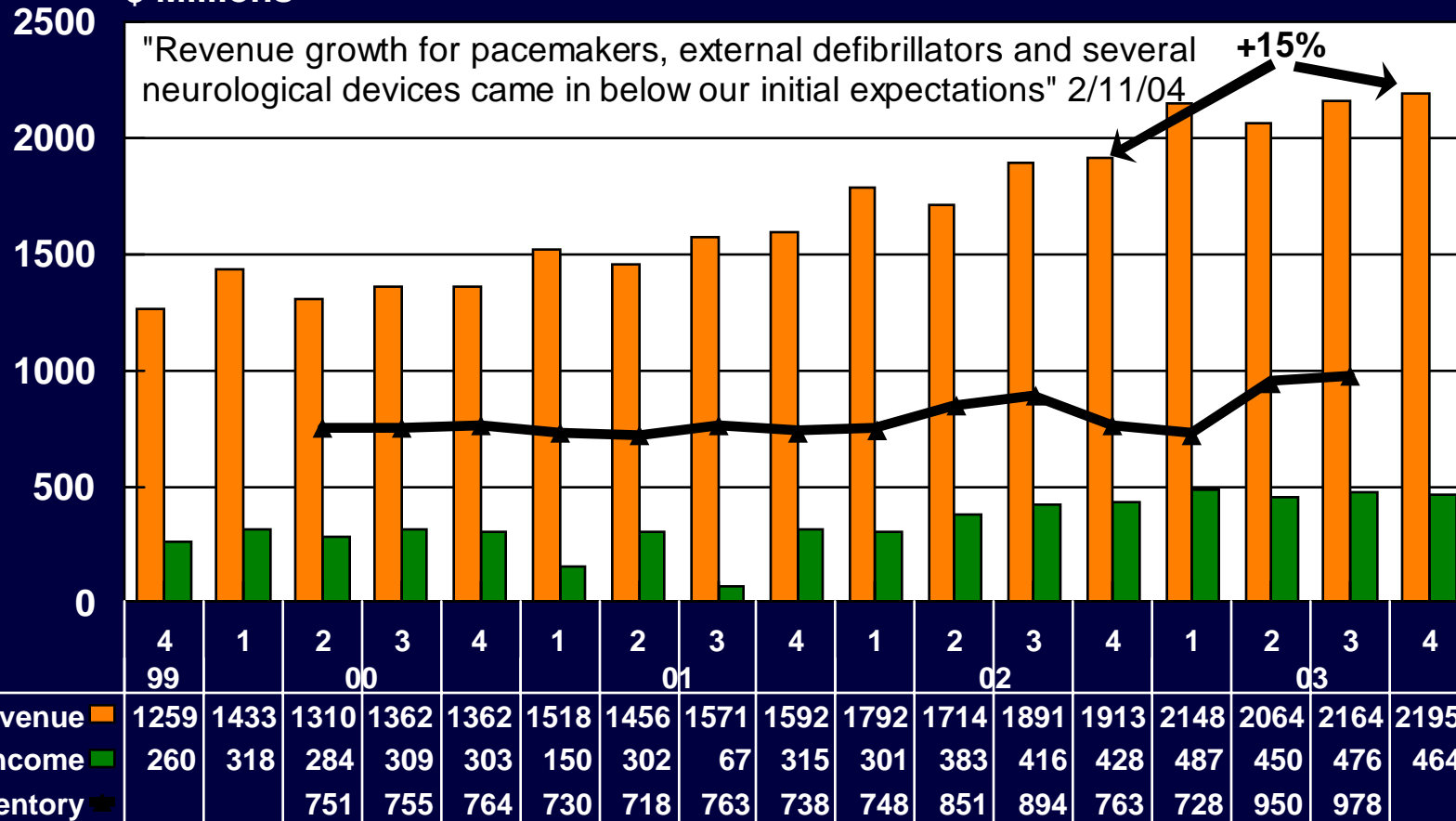


Electronic Outlook 3/2004

Medtronic Inc

Revenue, Net Income & Inventory

\$ Millions



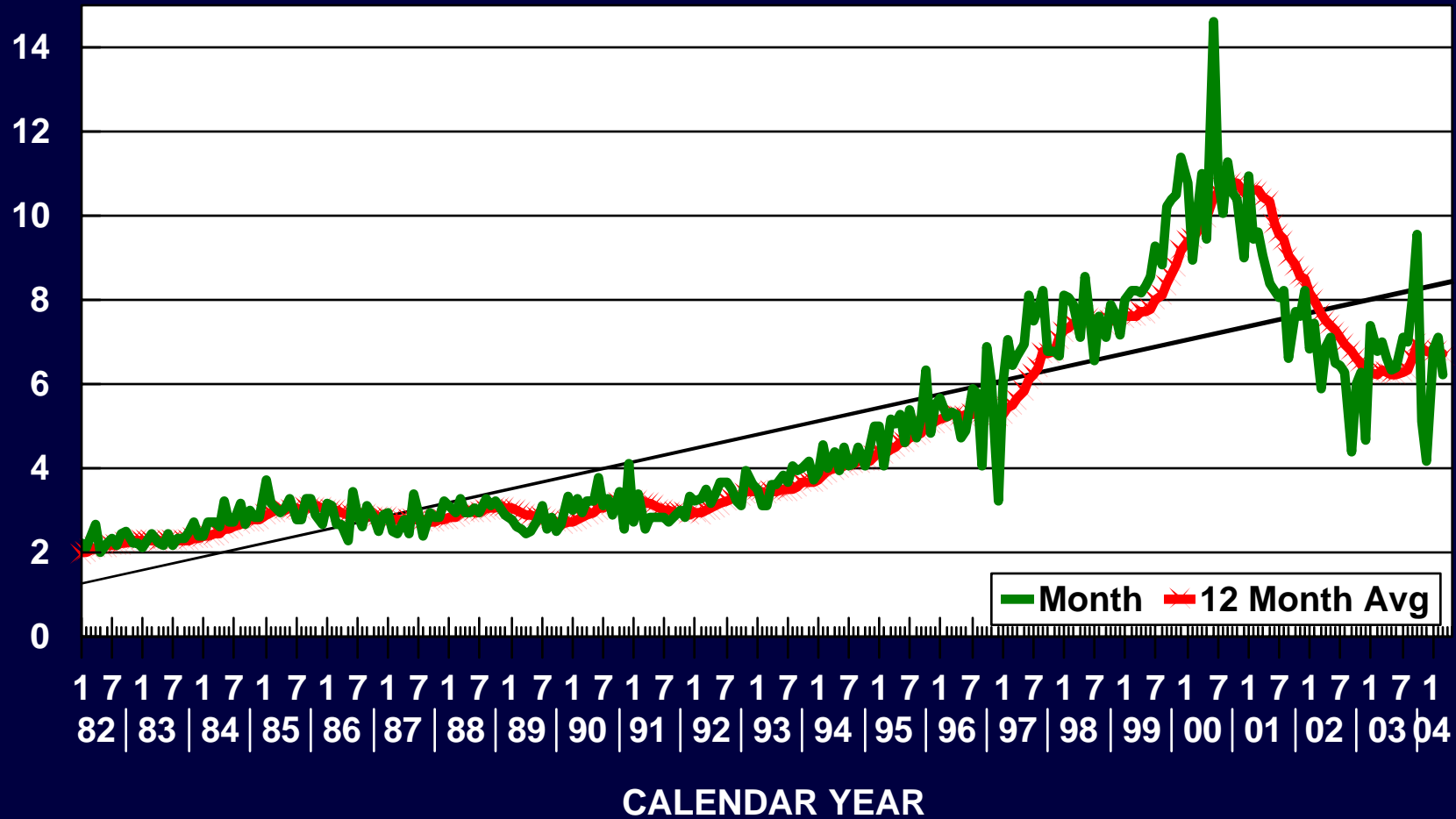
CY

MDT

Communications Equipment

COMMUNICATIONS EQUIPMENT BOOKINGS

\$ B (Seasonally Adjusted)



Worldwide Telecommunications Equipment Manufacturers (\$B)

	2000	2001	2002	2003	<u>2003/2000 % Change</u>
Nokia	27.9	28.0	28.9	34.0	+21.8
Cisco	23.9	18.3	19.2	19.9	-17.1
Motorola	37.6	30.0	26.7	27.1	-28.0
Alcatel	28.8	22.6	15.9	14.9	-48.2
Ericsson	29.7	20.7	15.3	14.9	-50.0
Nortel	28.0	17.5	10.6	9.8	-64.8
Lucent	26.2	20.5	10.8	8.7	-66.9
Top 7 Total	201.9	157.3	127.3	129.1	-36.0

- Siemens not included due to multiple product lines

Source: Company financial statements

Alcatel & Ericsson calculated @ fluctuating exchange

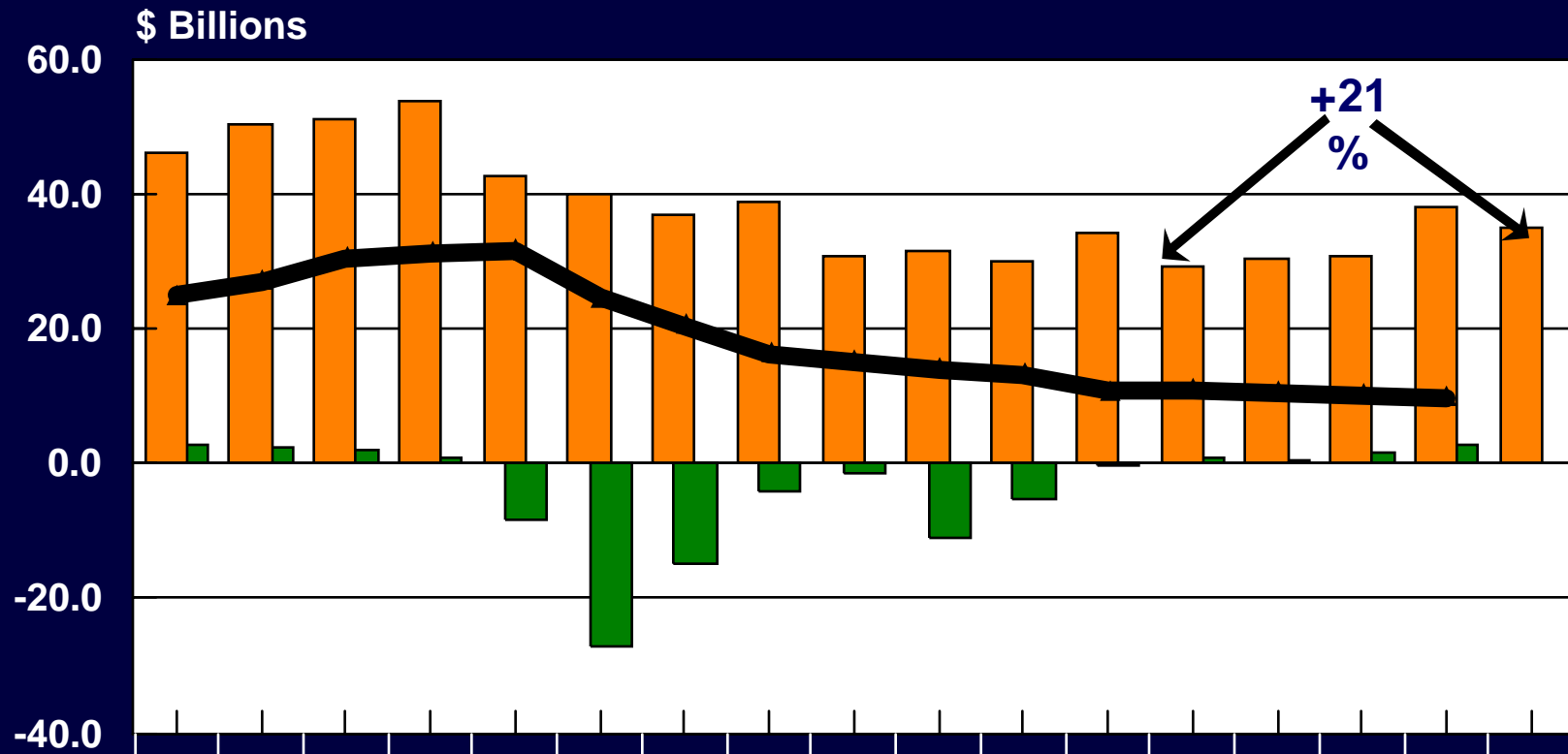
**Growth
Resumes**



Large "Communications" Equipment Suppliers

Composite of 7 Public Companies

Revenue, Net Income & Inventory



	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	00				01				02				03				04
Revenue	45.9	50.3	51.2	53.7	42.6	39.9	36.7	38.9	30.6	31.4	29.9	34.3	29.0	30.4	30.7	37.9	35.0
Income	2.7	2.3	1.8	0.8	-8.4	-27.0	-14.7	-4.1	-1.4	-11.0	-5.2	-0.4	0.9	0.4	1.6	2.8	
Inventory	25.1	27.1	30.4	31.1	31.6	24.4	20.5	16.2	15.0	13.9	13.2	10.7	10.8	10.5	10.1	9.8	

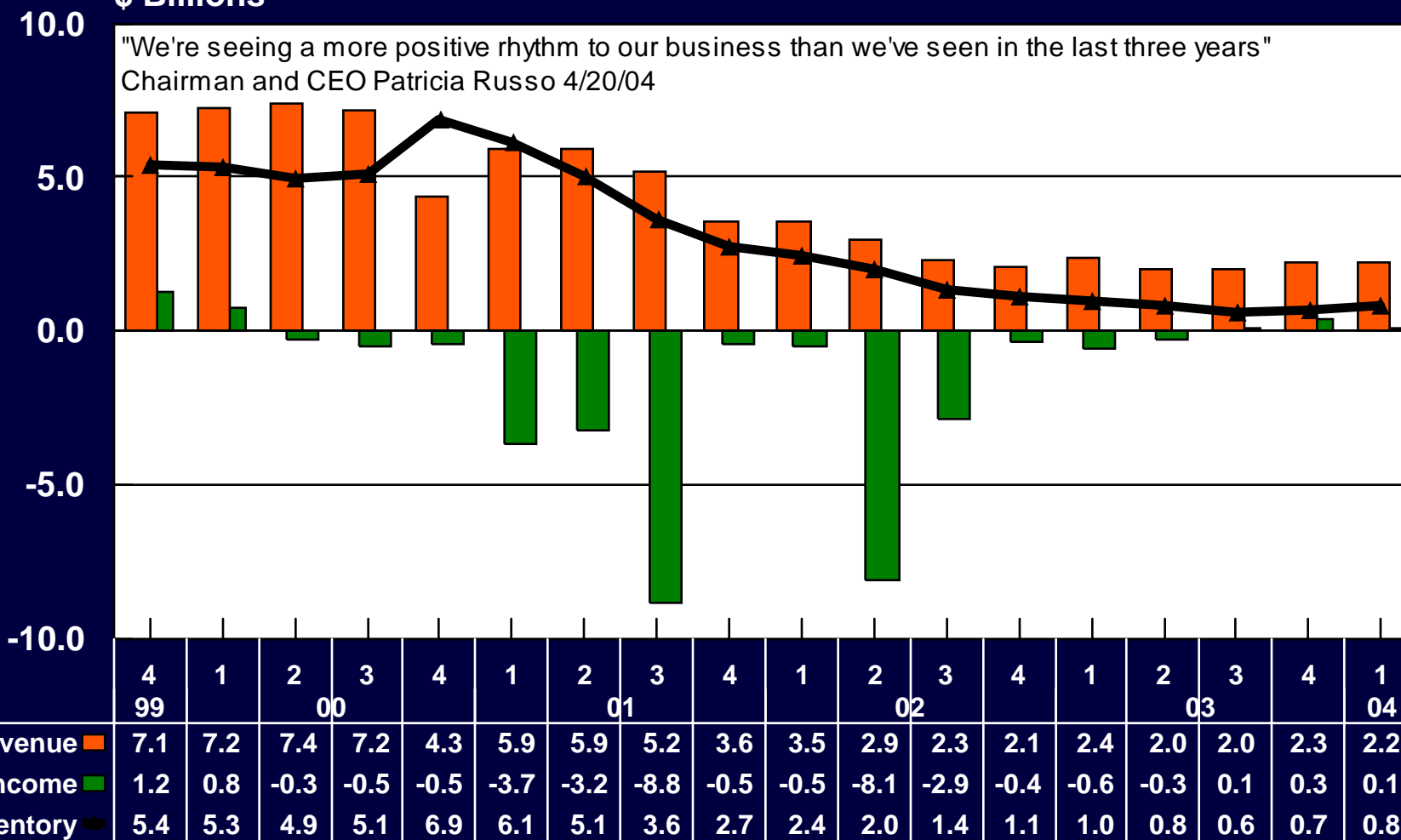
Alcatel, Cisco, Ericsson, Lucent, Motorola, Nokia, Nortel
Euros & Krona converted at fluctuating exchange

Lucent Technologies

Revenue, Net Income & Inventory

\$ Billions

"We're seeing a more positive rhythm to our business than we've seen in the last three years"
Chairman and CEO Patricia Russo 4/20/04



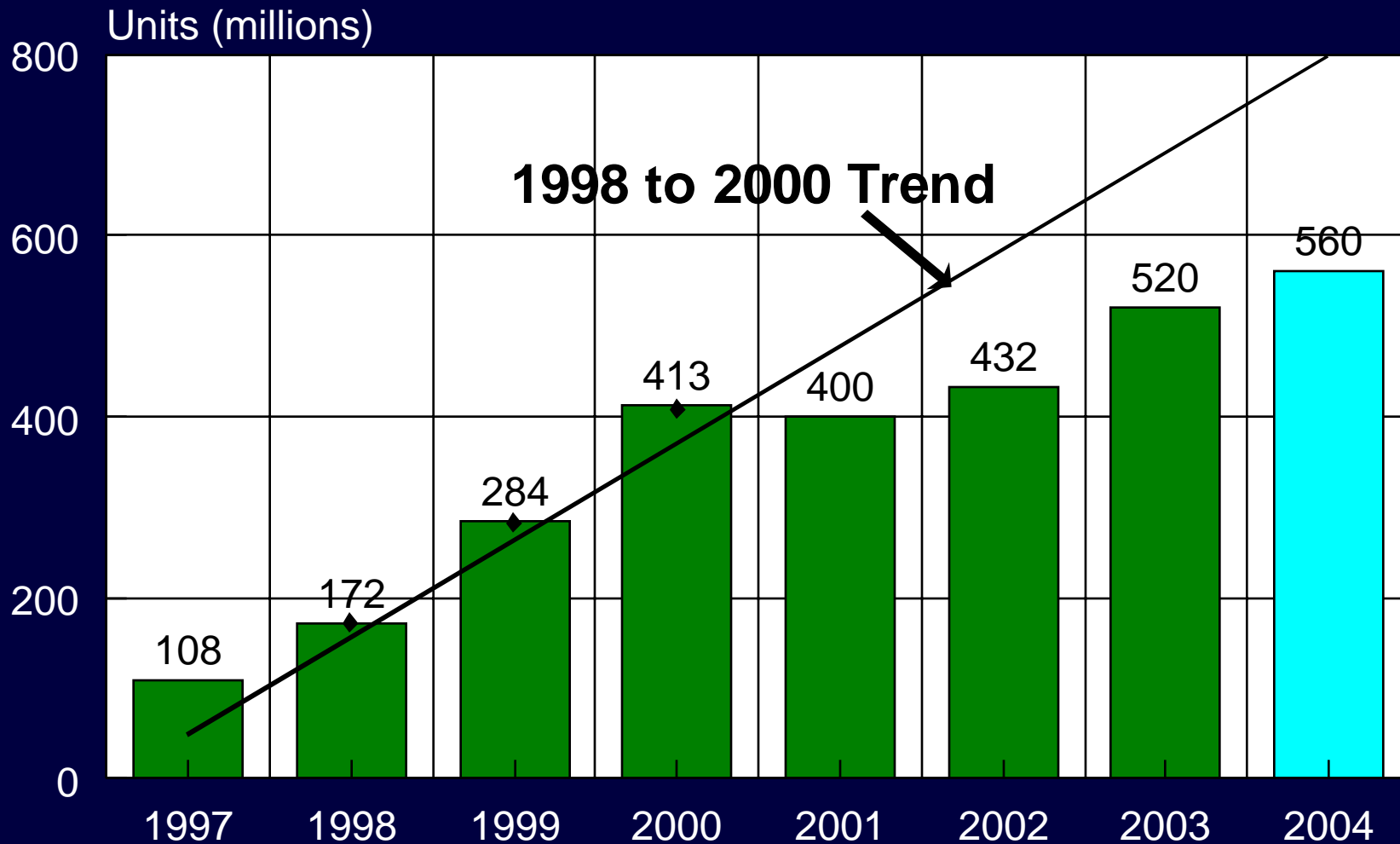
CY

FY ends September

LU

WORLD CELLULAR PHONE GROWTH

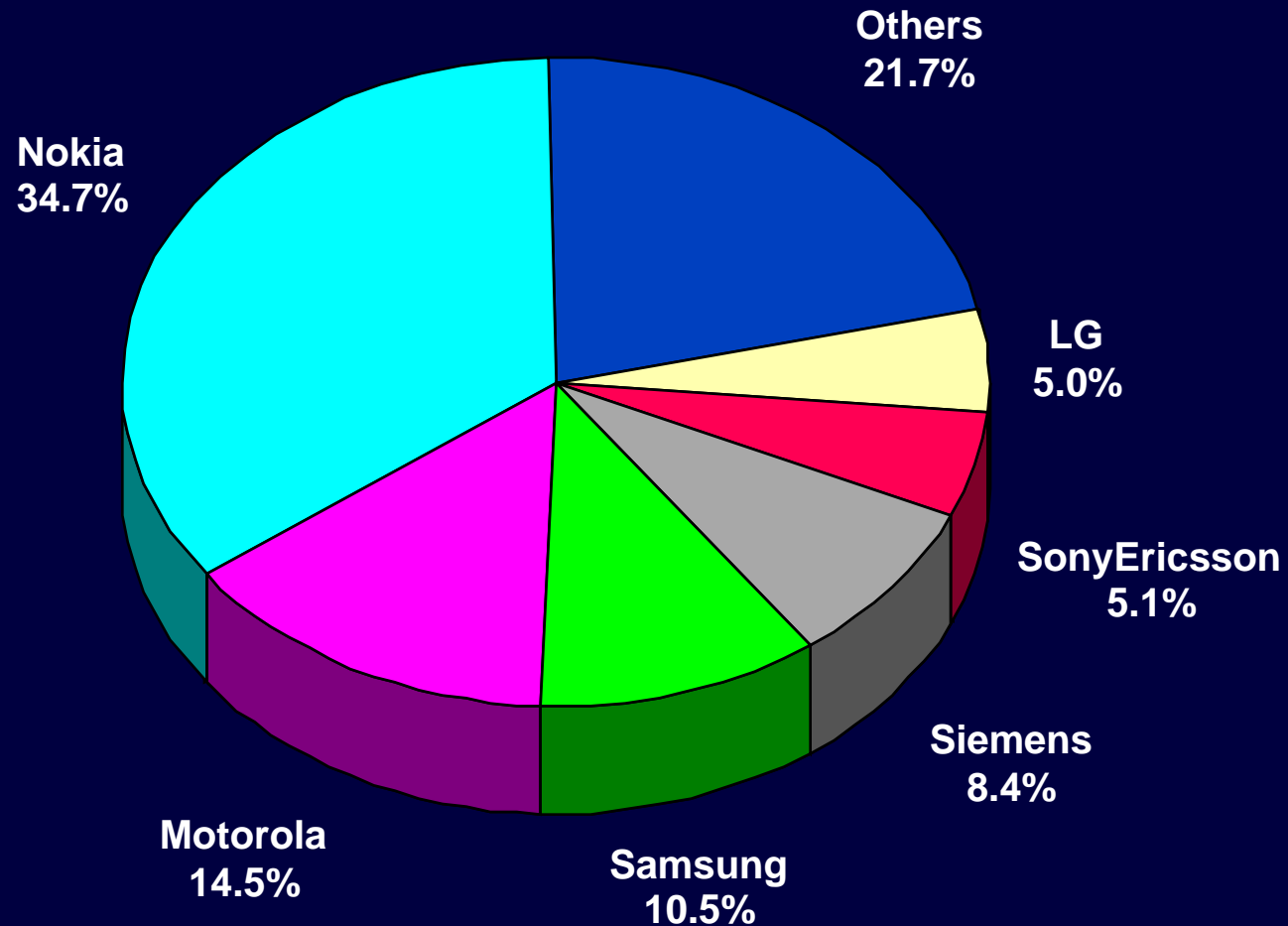
TOTAL SALES - ANALOG & DIGITAL



Dataquest 3/2004

WORLD CELLULAR PHONE SALES

2003



Gartner Dataquest 3/2004

TOTAL: 520 MILLION UNITS

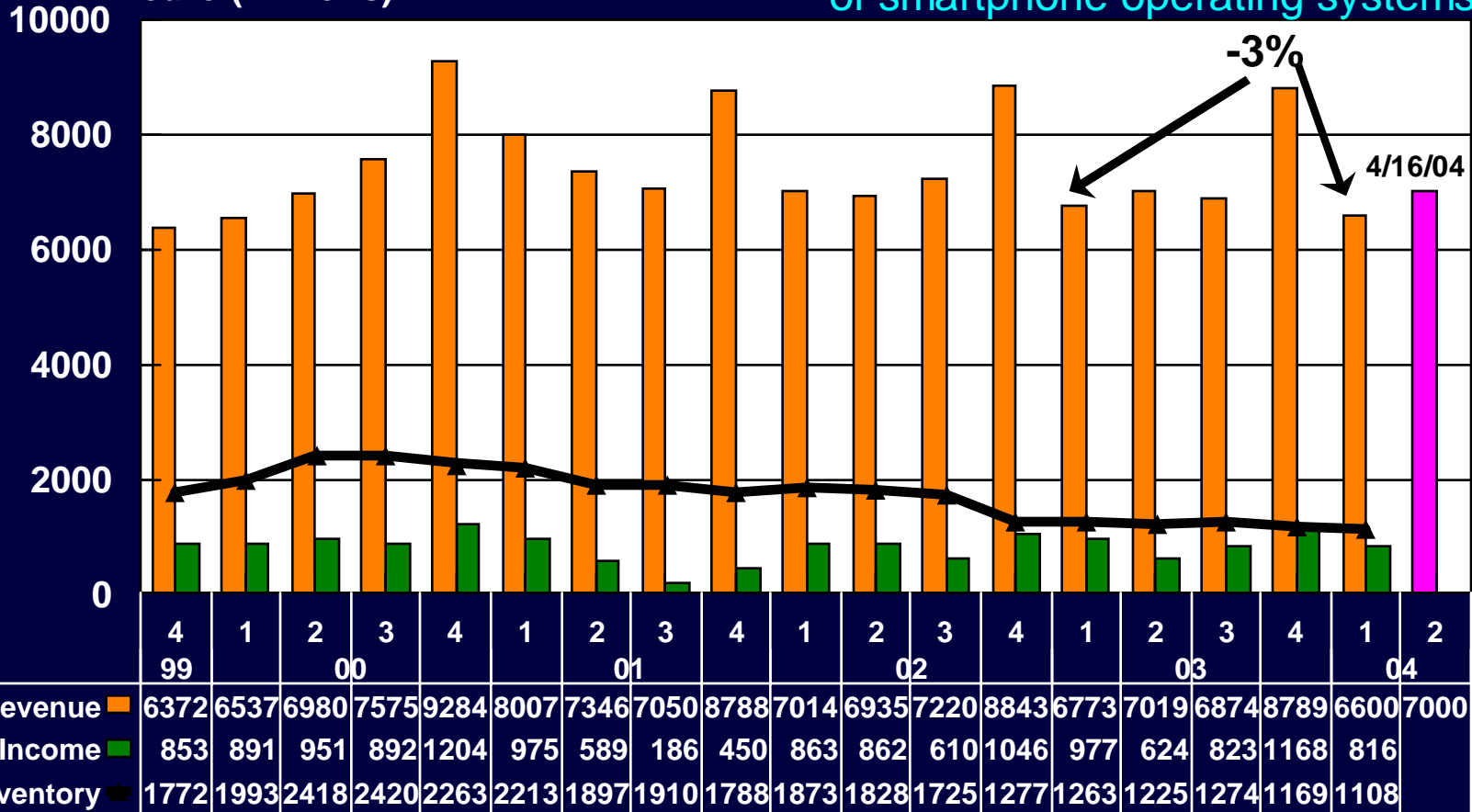
Nokia

Revenue, Net Income & Inventory

"Due to certain gaps in its product portfolio, mainly in the mid range, the company was not able to fully capitalize on positive market developments" March 6, 2004

Holds 63% of Symbian - leading supplier of smartphone operating systems 2/04

euro (millions)



CY

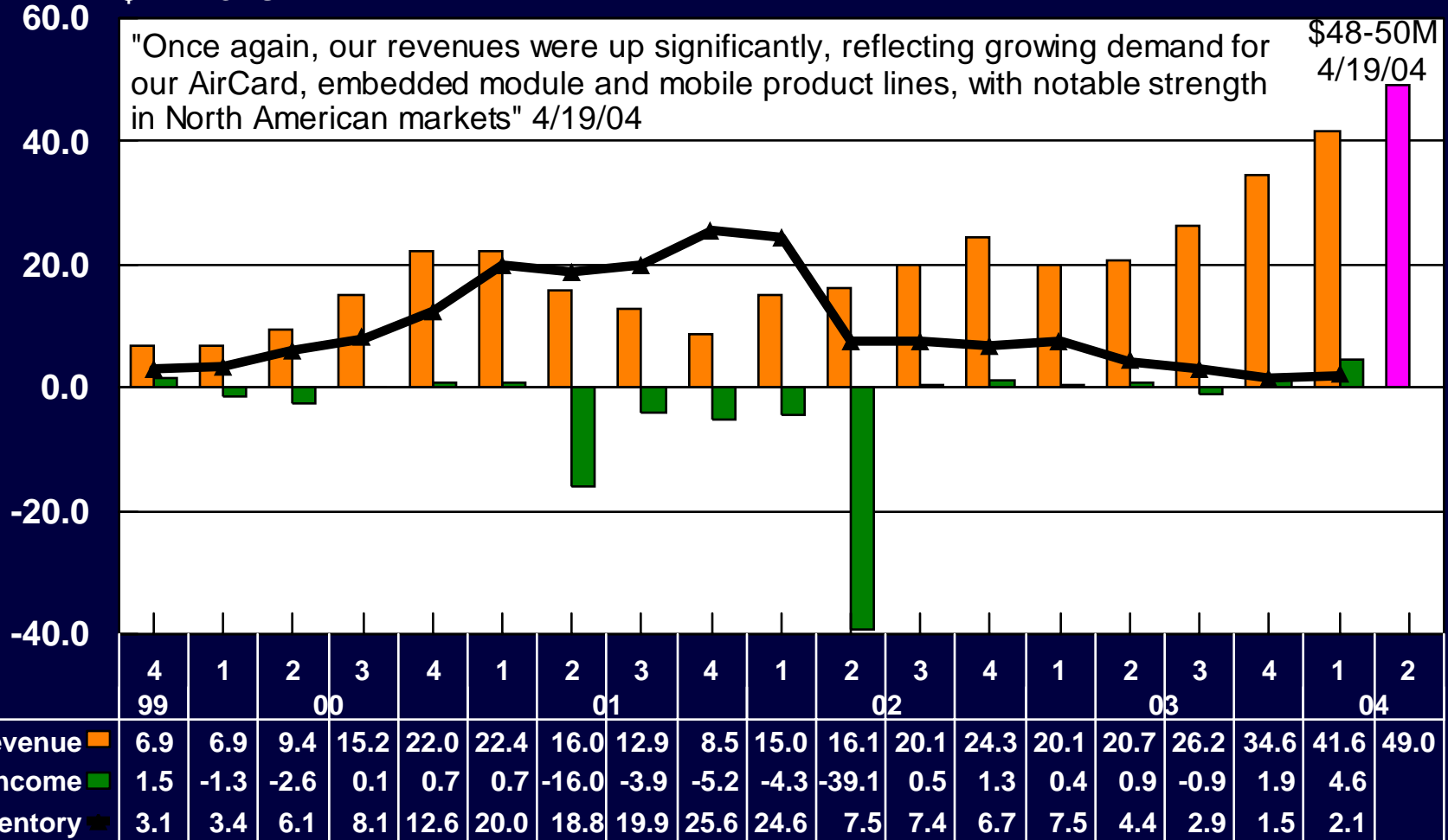
NOK

FY=CY

Sierra Wireless

Revenue, Net Income & Inventory

\$ Millions



CY

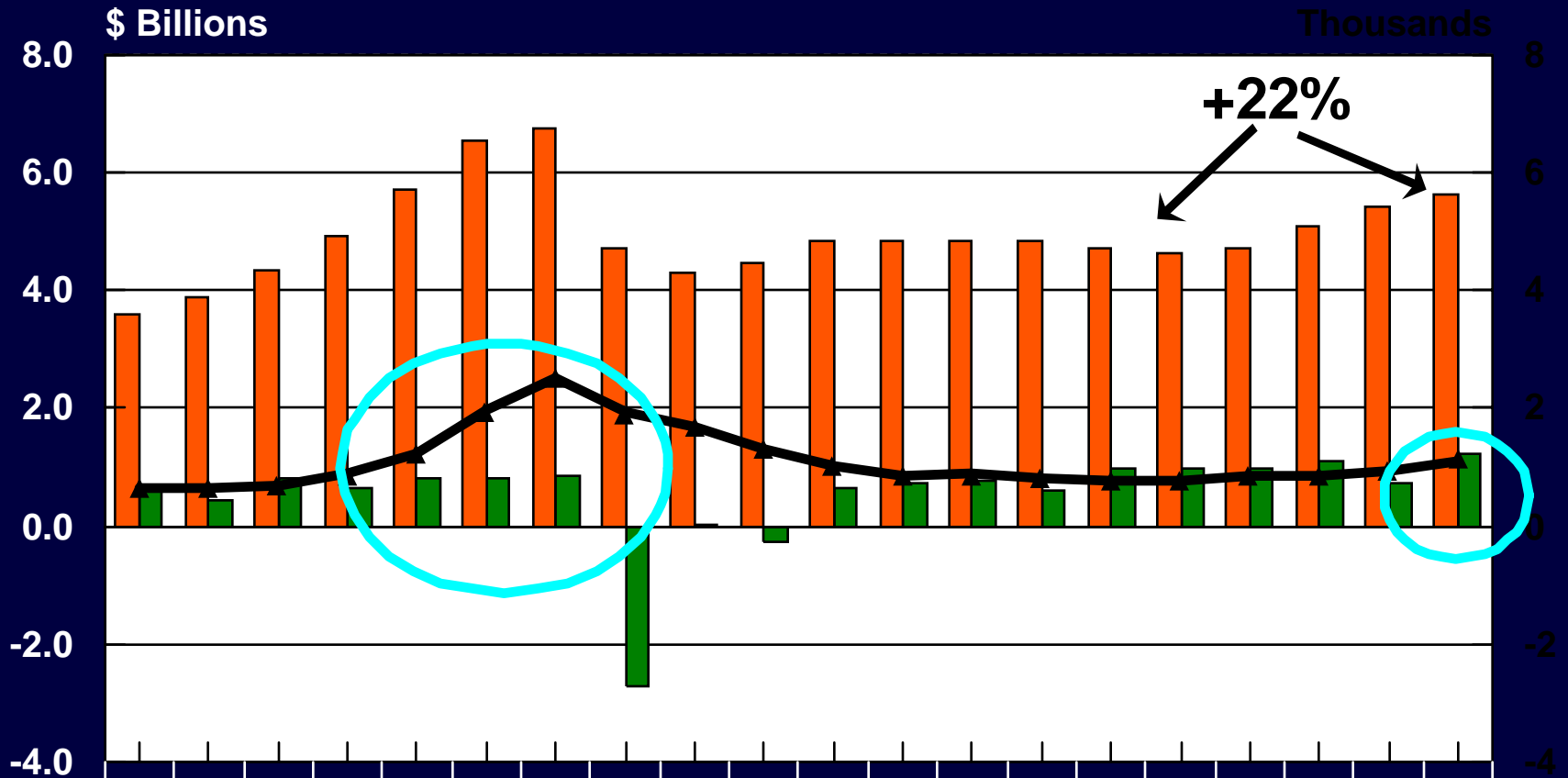
SWIR

Internet Infrastructure

Cisco Systems

Revenue, Net Income & Inventory

"Most of our customer CEOs are beginning to be more optimistic not only about the economy, but also about their own industries and companies." 5/31/04



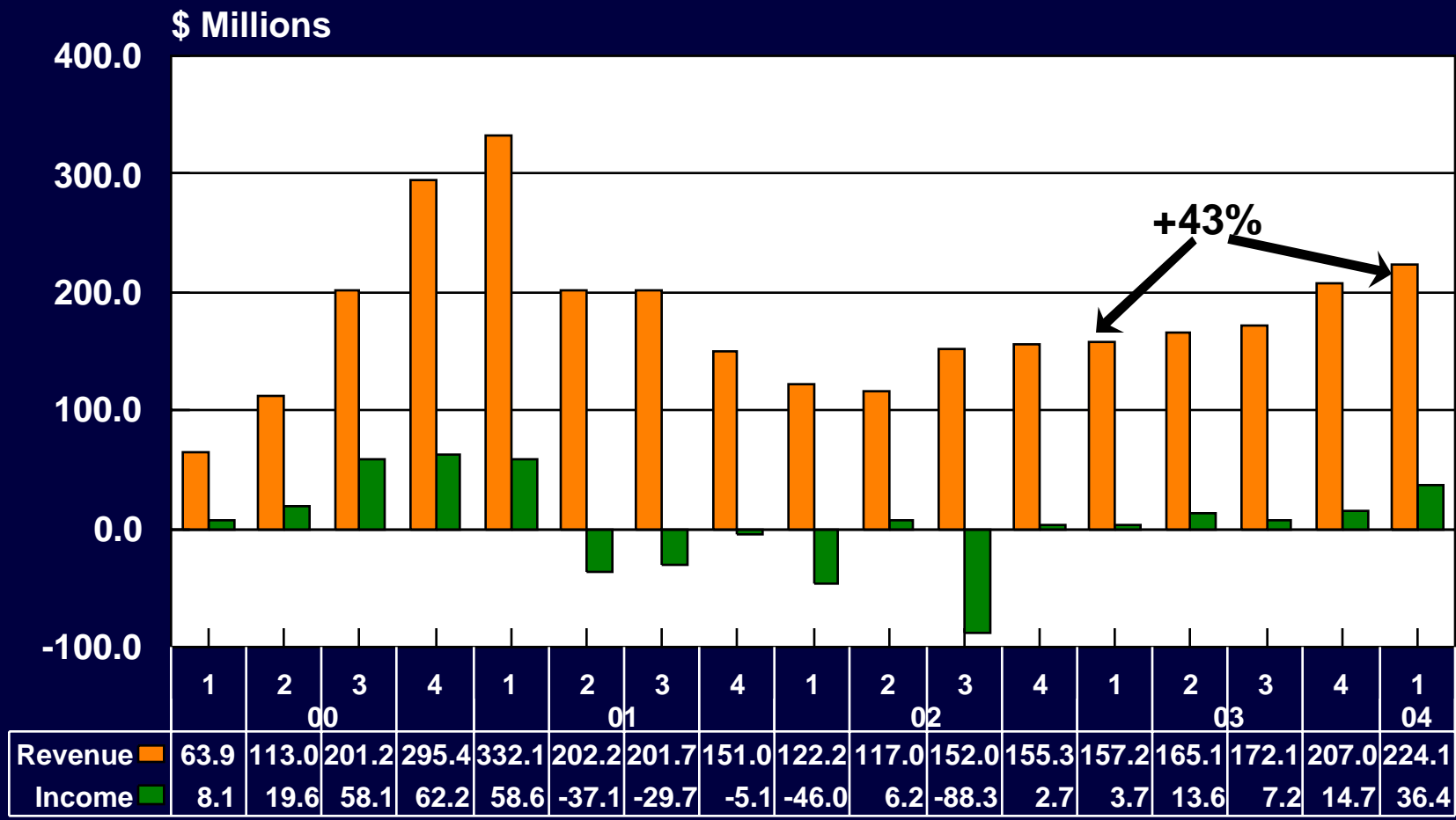
	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	
	99				00				01				02				03				04
Revenue	3.6	3.9	4.4	4.9	5.7	6.5	6.7	4.7	4.3	4.4	4.8	4.8	4.8	4.8	4.7	4.6	4.7	5.1	5.4	5.6	
Income	0.7	0.4	0.8	0.6	0.8	0.8	0.9	-2.7	0.0	-0.3	0.7	0.7	0.8	0.6	1.0	1.0	1.0	1.1	0.7	1.2	
Inventory	0.7	0.7	0.7	0.9	1.2	2.0	2.5	1.9	1.7	1.3	1.0	0.9	0.9	0.8	0.8	0.8	0.9	0.9	0.9	1.1	

CY

CSCO

Juniper Networks

Revenue & Net Income



CY

FY = CY

JNPR

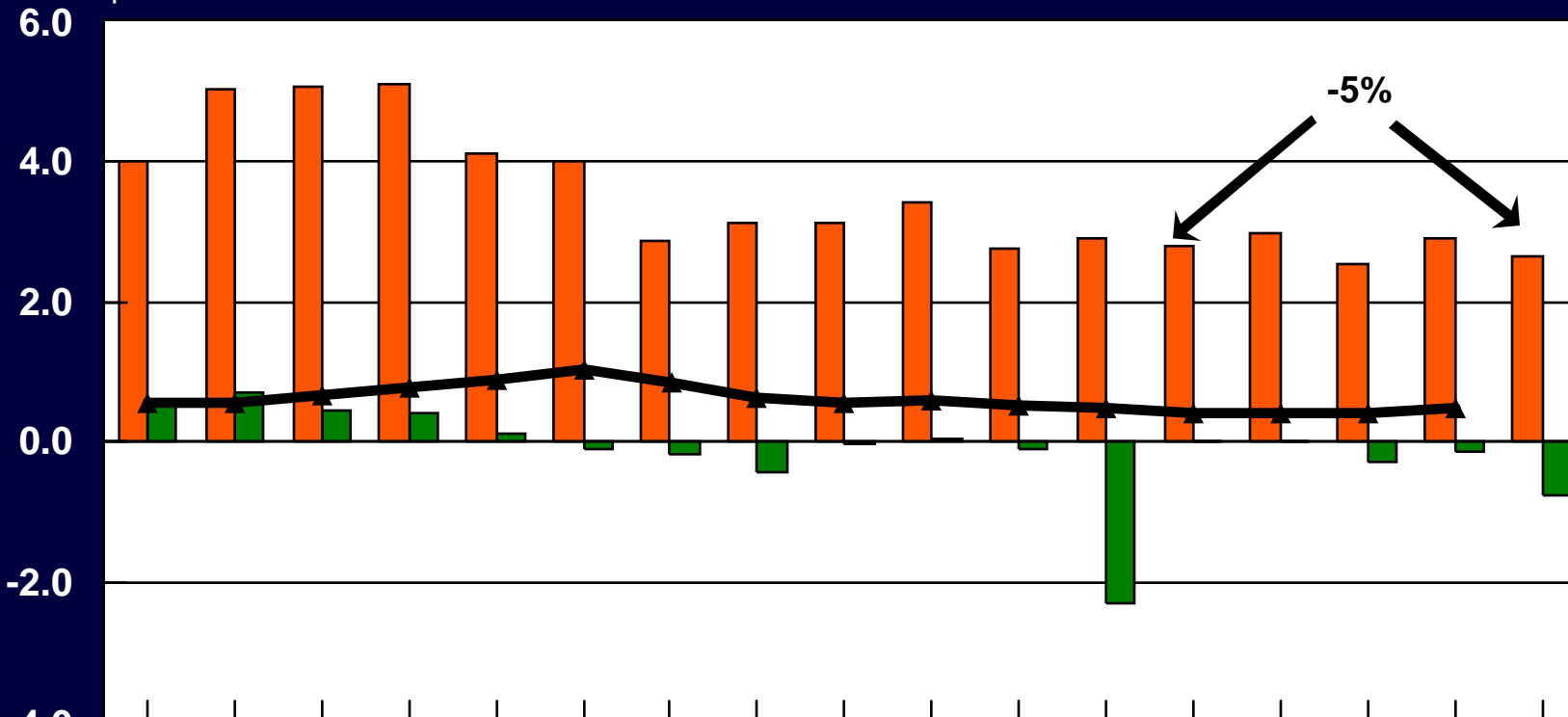
"Inventory" not listed on Balance Sheet

Sun Microsystems

Revenue, Net Income & Inventory

Opens Dallas-Area Facility to Test Radio Tags for Tracking Consumer Products 5/05/04

\$ Billions



	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	00				01				02				03				04
Revenue	4.0	5.0	5.0	5.1	4.1	4.0	2.9	3.1	3.1	3.4	2.7	2.9	2.8	3.0	2.5	2.9	2.7
Income	0.5	0.7	0.5	0.4	0.1	-0.1	-0.2	-0.4	-0.0	0.1	-0.1	-2.3	0.0	0.0	-0.3	-0.1	-0.8
Inventory	0.6	0.6	0.7	0.8	0.9	1.0	0.8	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.5	

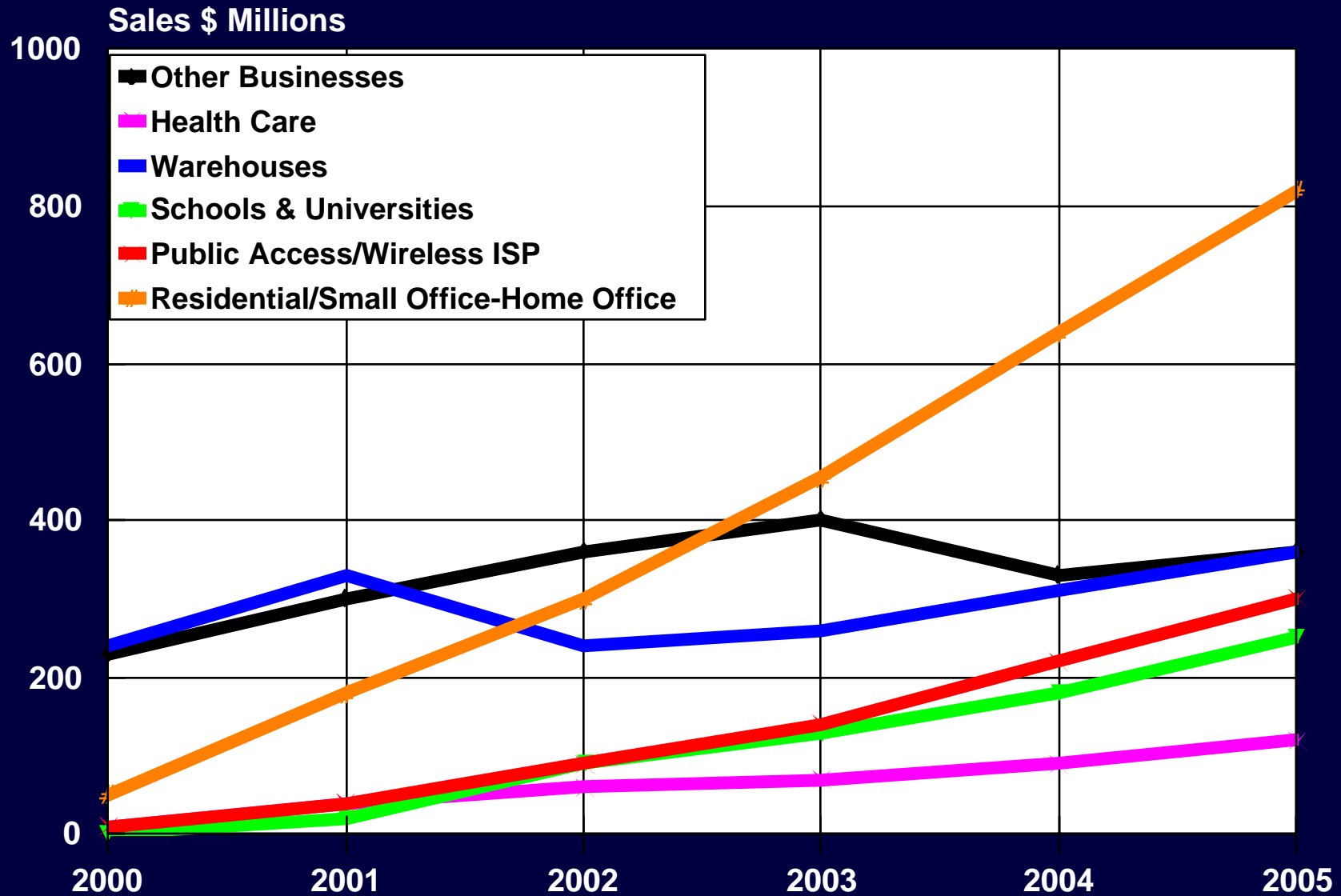
CY

SUNW

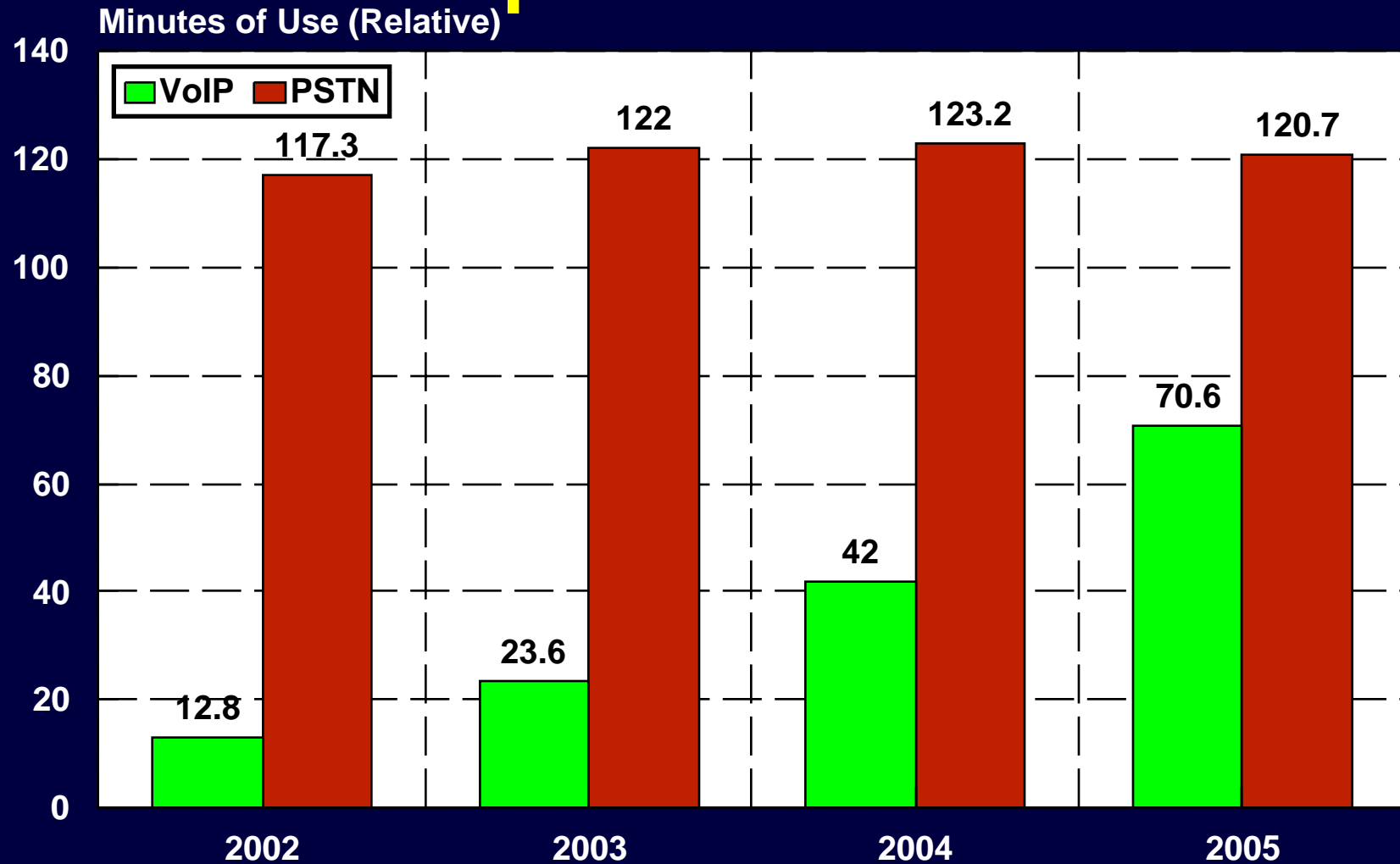
FY ENDS 6/30

**What's really
driving
router sales?**

Growth of Wi-Fi at Home & Work

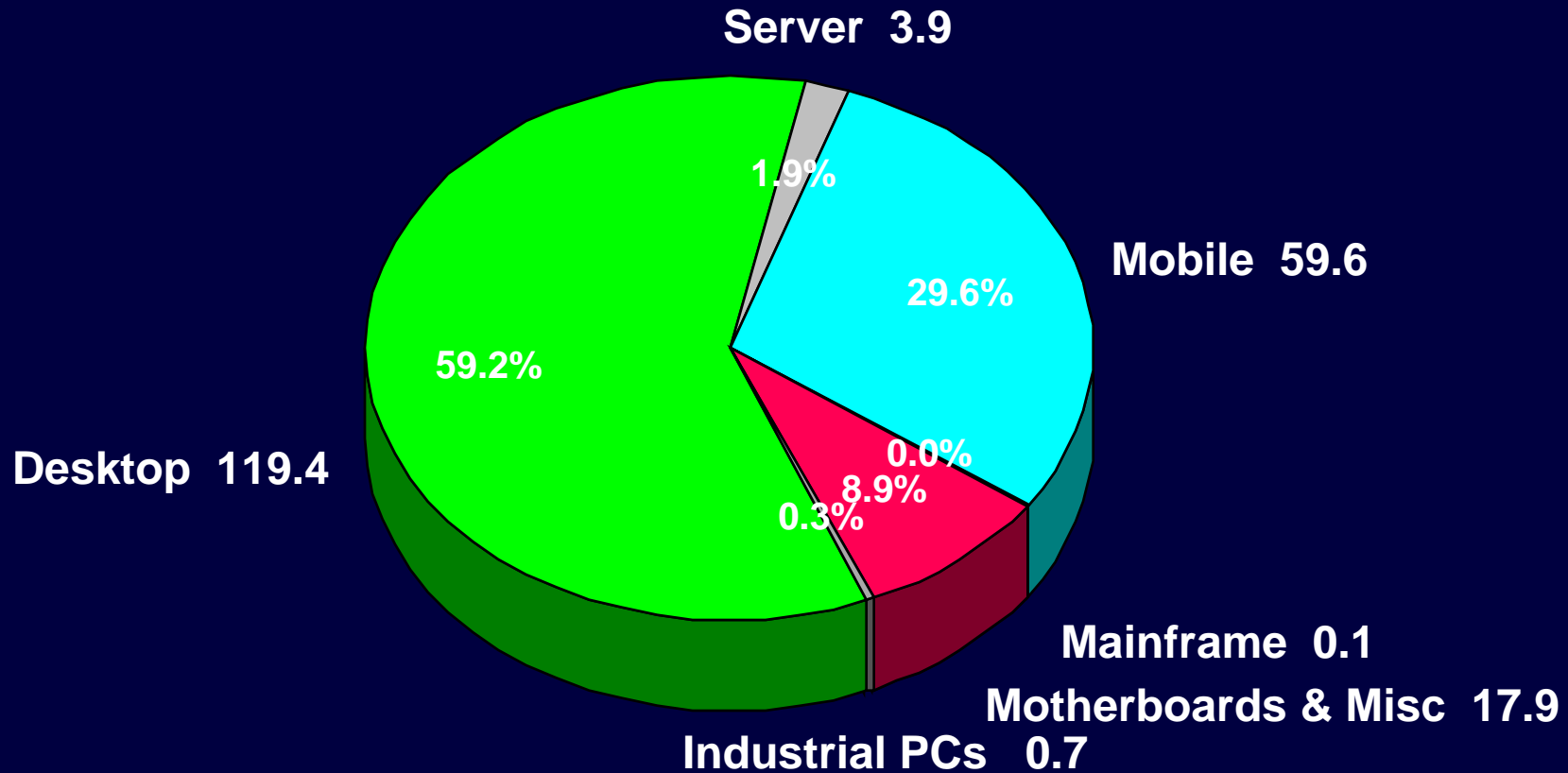


Voice over IP vs. Public Switched Telephone Network



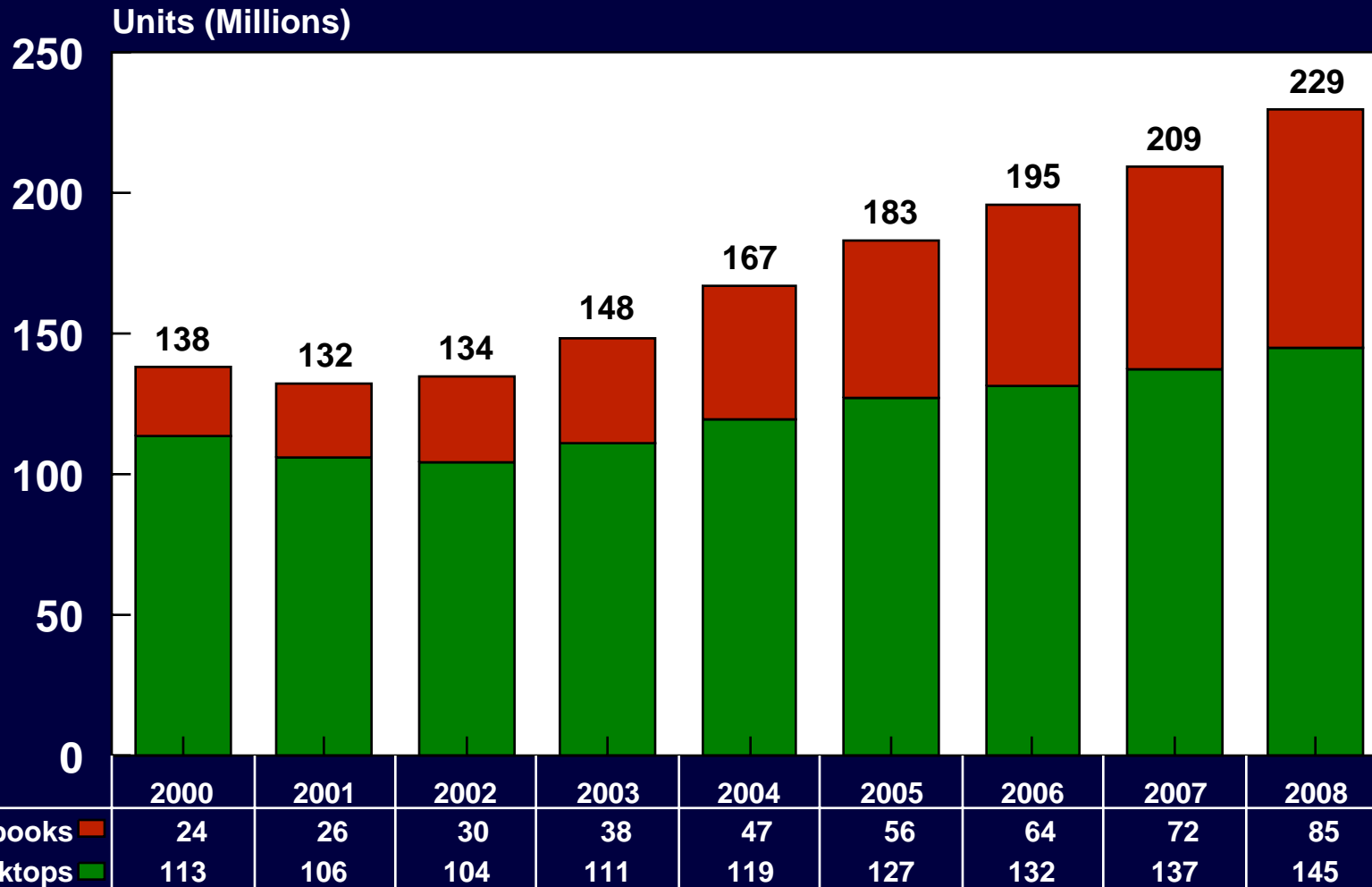
**Computers
&
Related
Products**

World Computer Equipment Market 2004



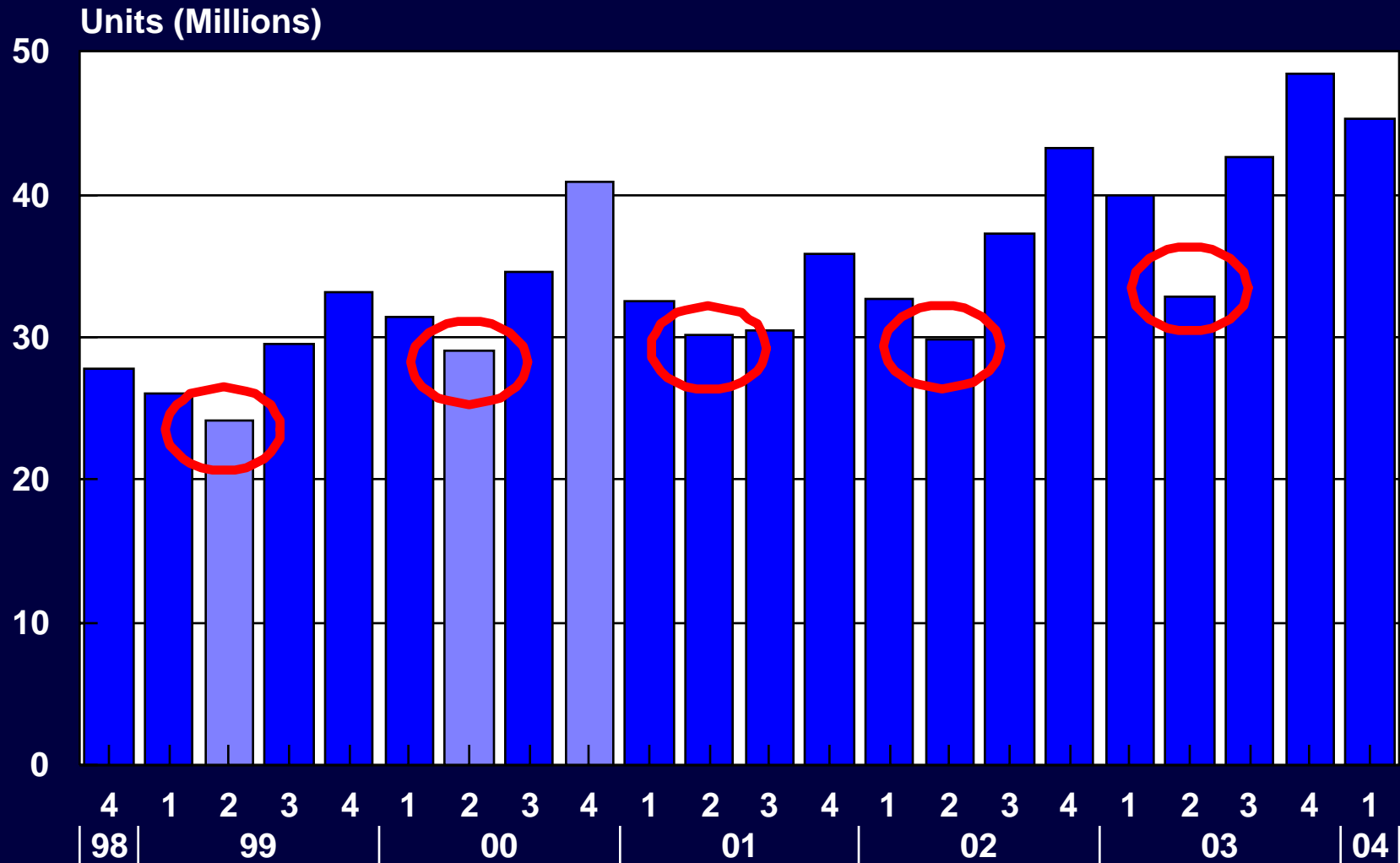
Total: 201 Million Units

World Computer Shipments Desktops vs. Notebooks



Digitimes 11/2003

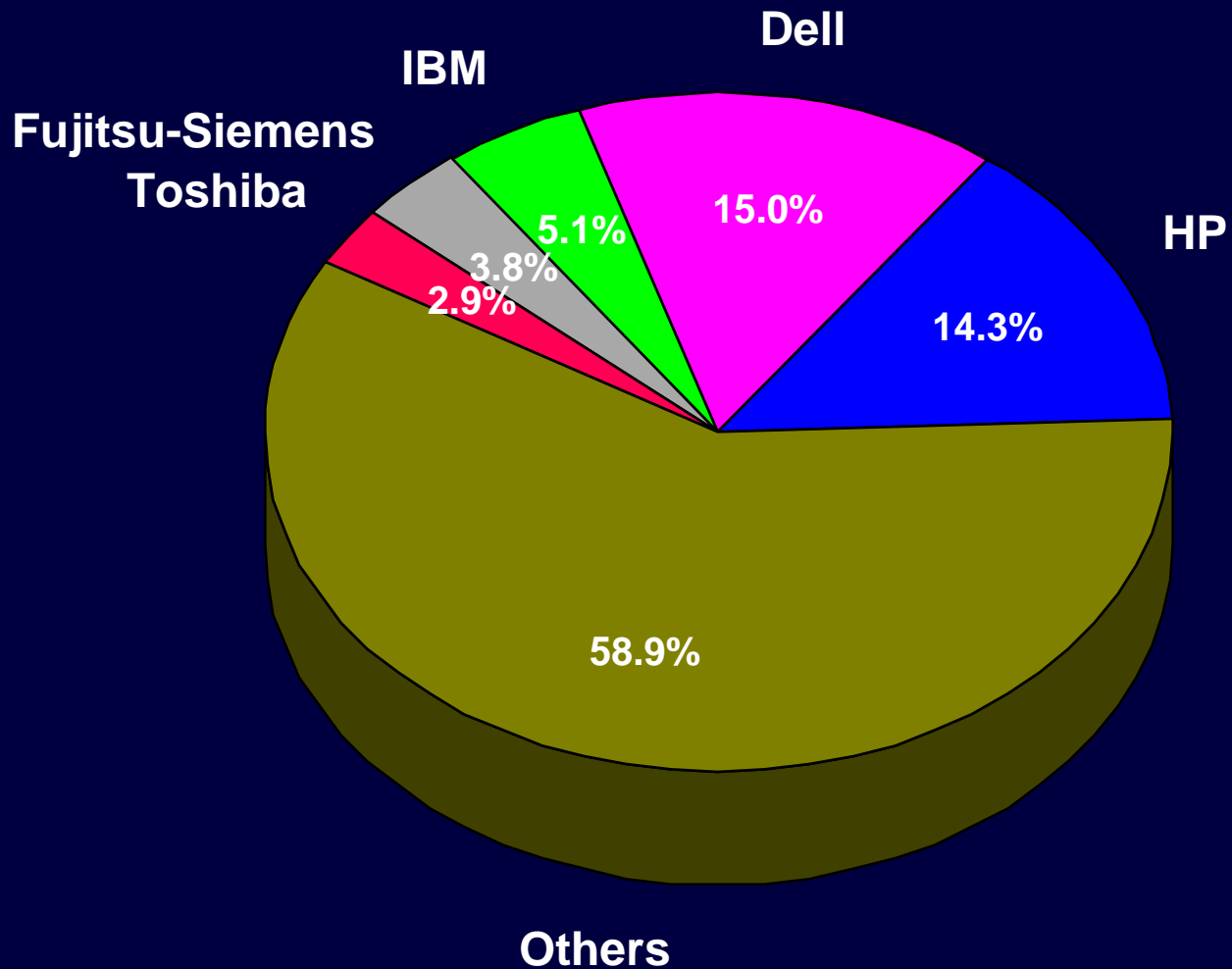
Personal Computer Unit Shipments World



DataQuest 4/04 & Custer estimates (light blue)
Servers not included

WORLD PERSONAL COMPUTER MARKET

2003



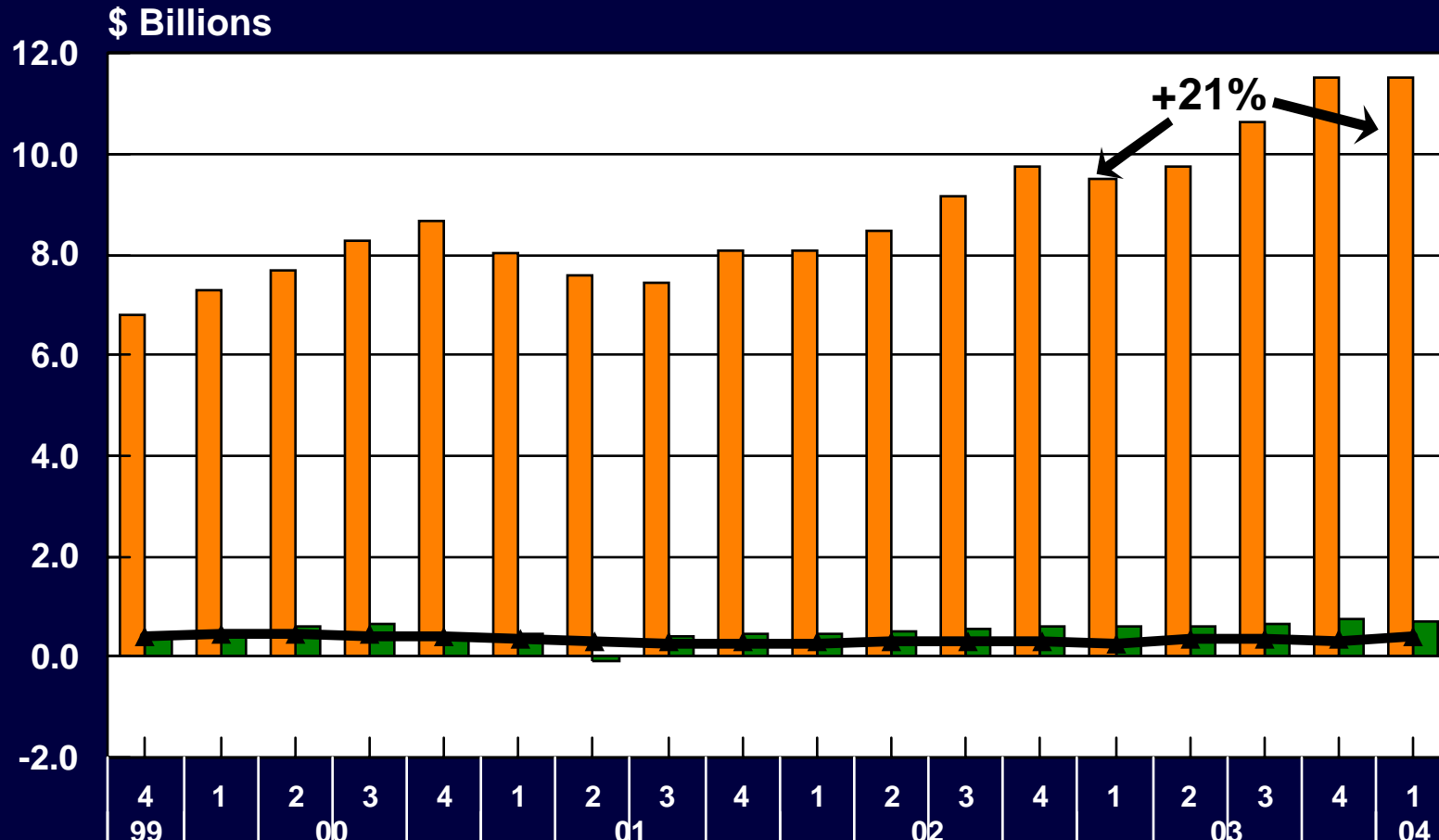
DATAQUEST 1/2004

TOTAL: 169 M UNITS

Preliminary, includes desk-based PCs, mobile PCs and IA-32 servers

Dell Computer

Revenue, Net Income & Inventory



SALES	6.8	7.3	7.7	8.3	8.7	8.0	7.6	7.5	8.1	8.1	8.5	9.1	9.7	9.5	9.8	10.6	11.5	11.5
PROFITS	0.4	0.5	0.6	0.7	0.4	0.5	-0.1	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7
Inventory	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.4

CY

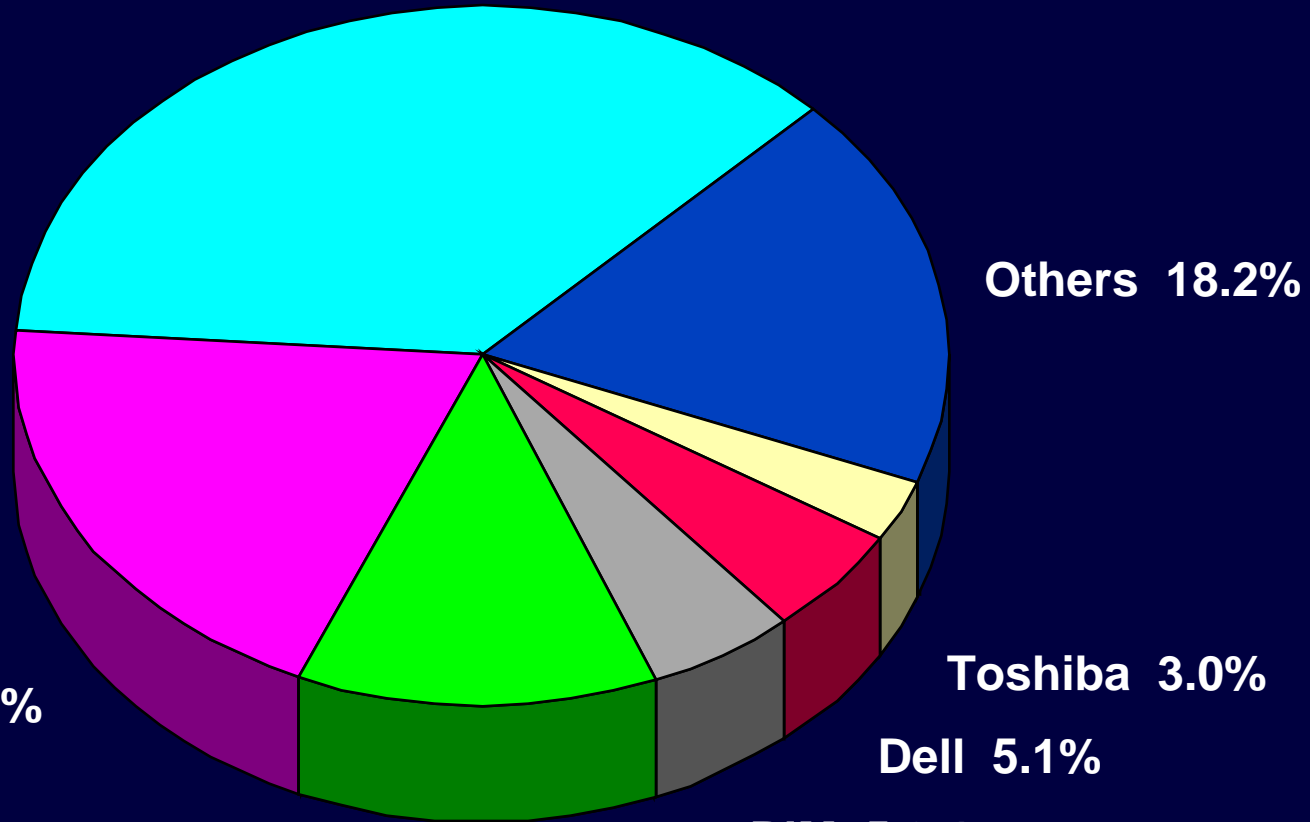
FY ends October

DELL

World PDA Vendor Unit Shipments

2003

palmOne 36.4%



Others 18.2%

Toshiba 3.0%

Dell 5.1%

RIM 5.3%

Sony 12.2%

HP 19.9%

2002

12.1 million

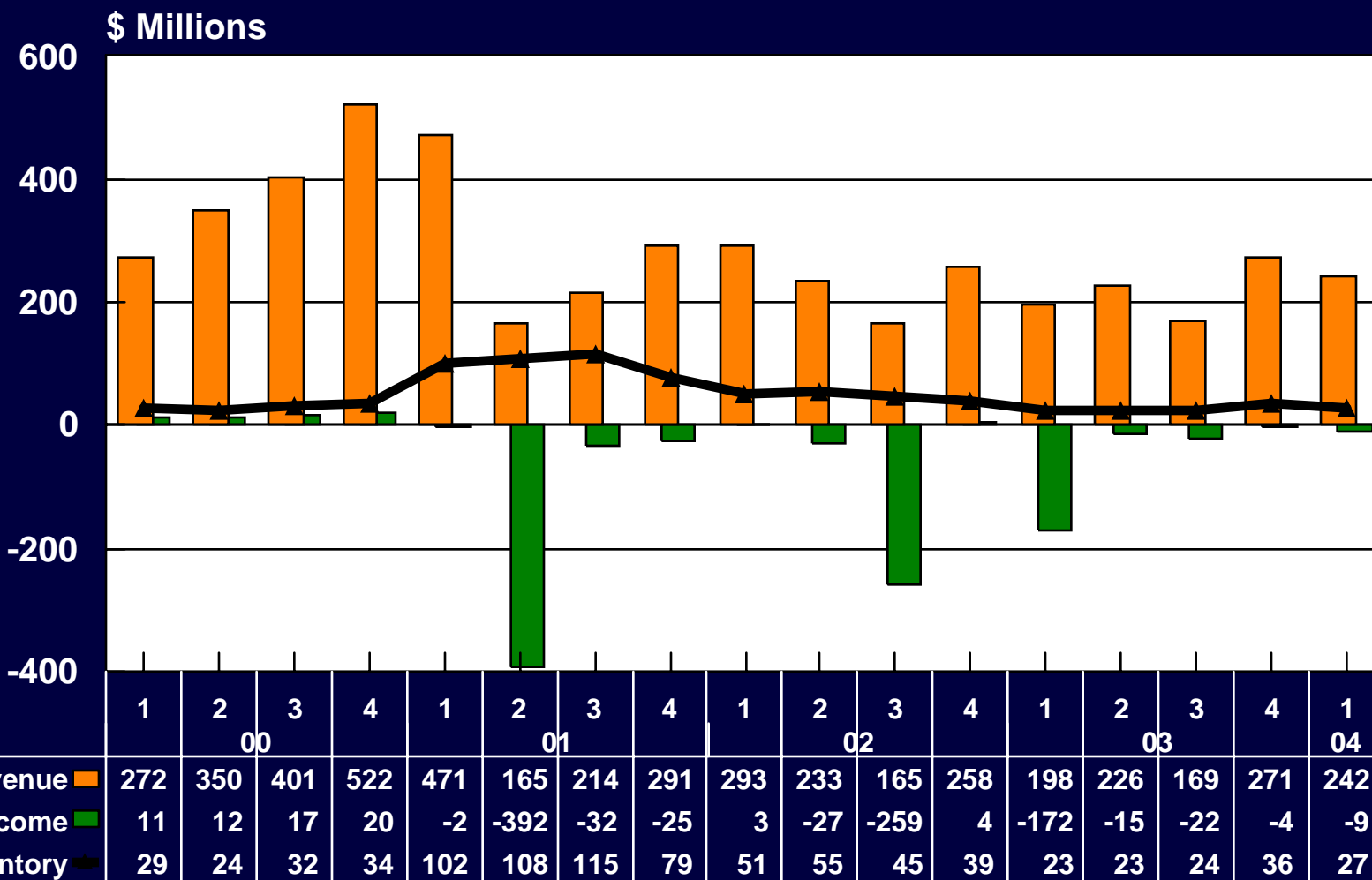


Total 11.5 million units

Dataquest 1/2004

palmOne Inc

Revenue, Net Income & Inventory

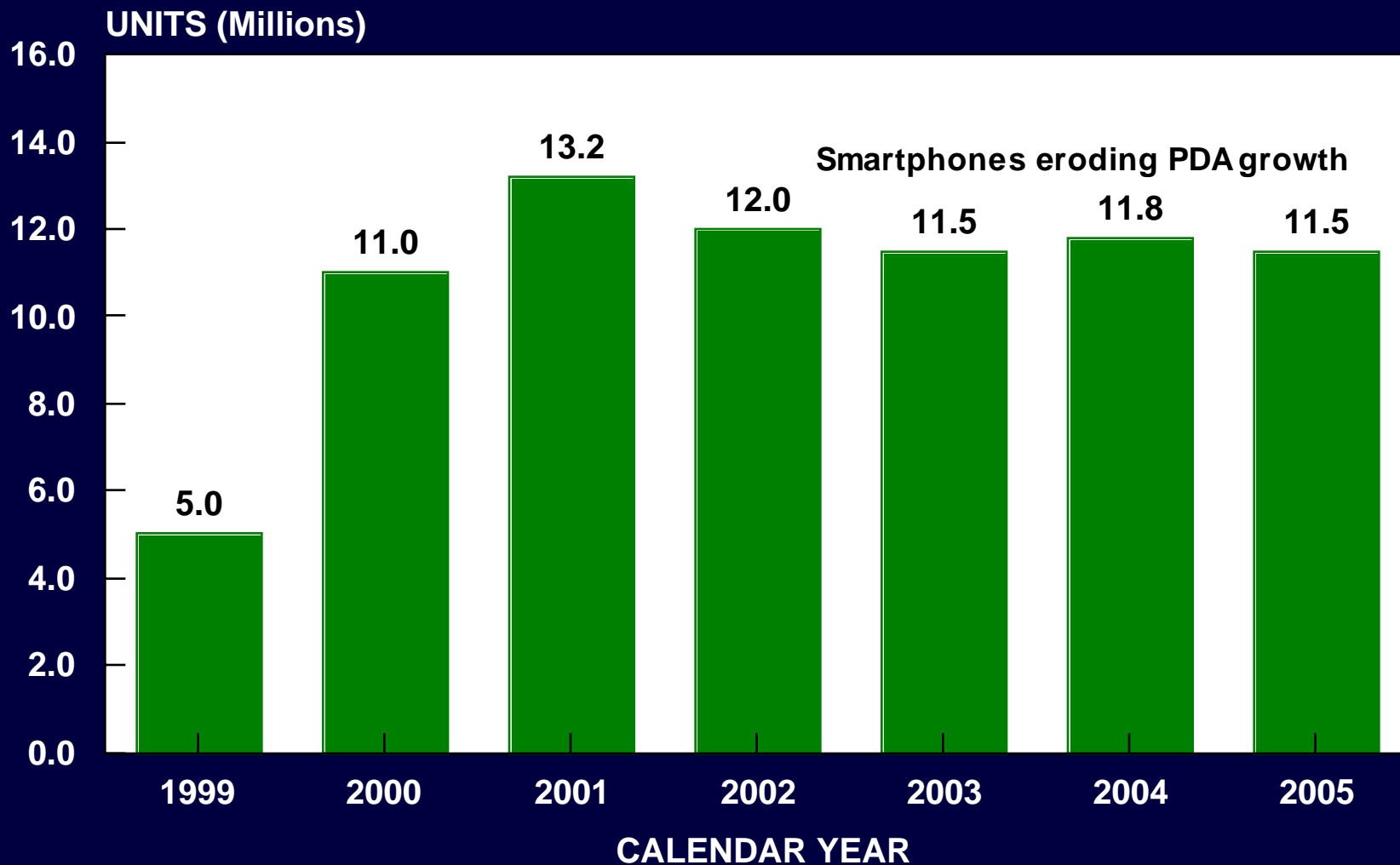


CY

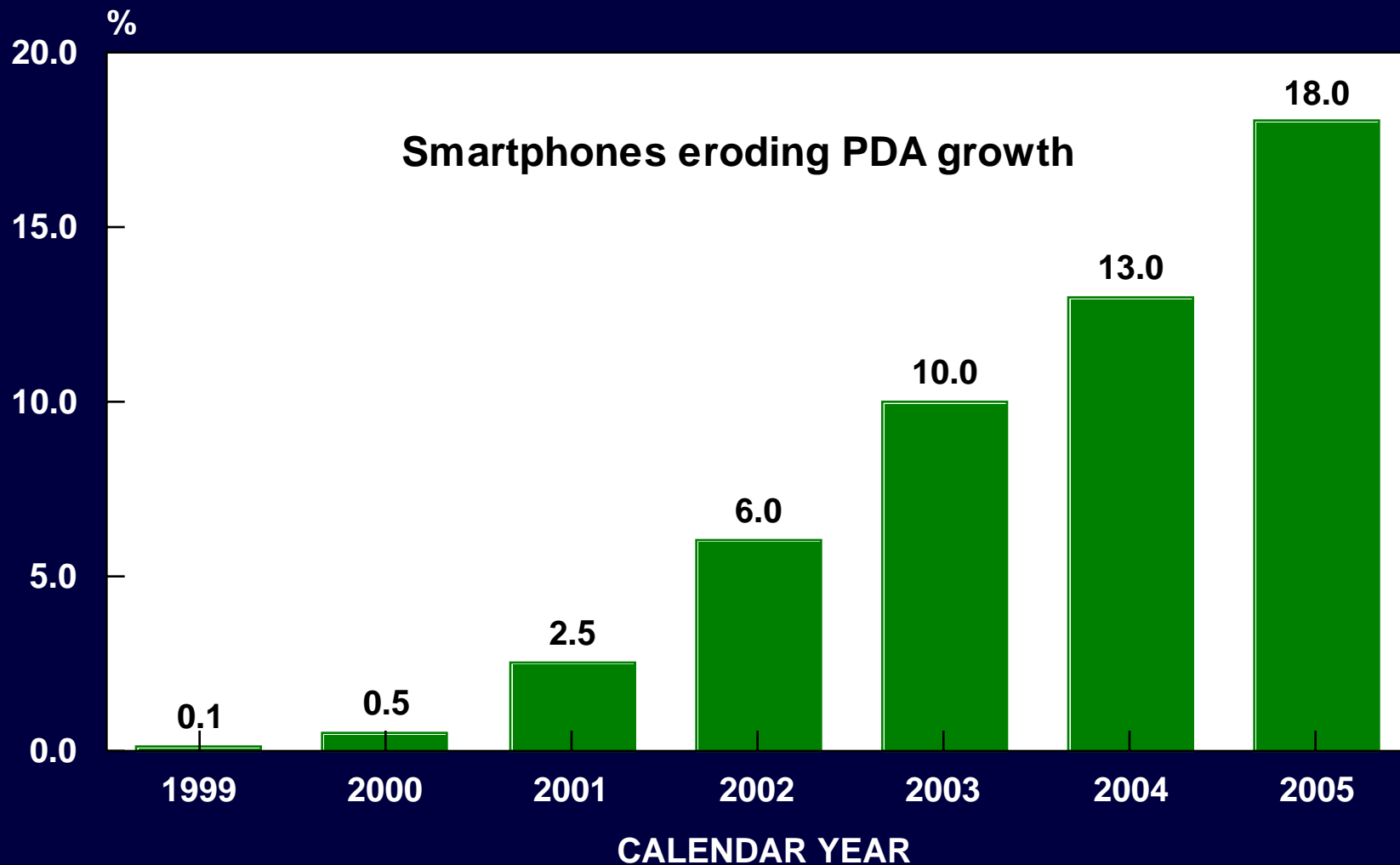
PLMO

FY ends May

World PDA Unit Shipments



Smartphone Market Share of Mobile Phone Market

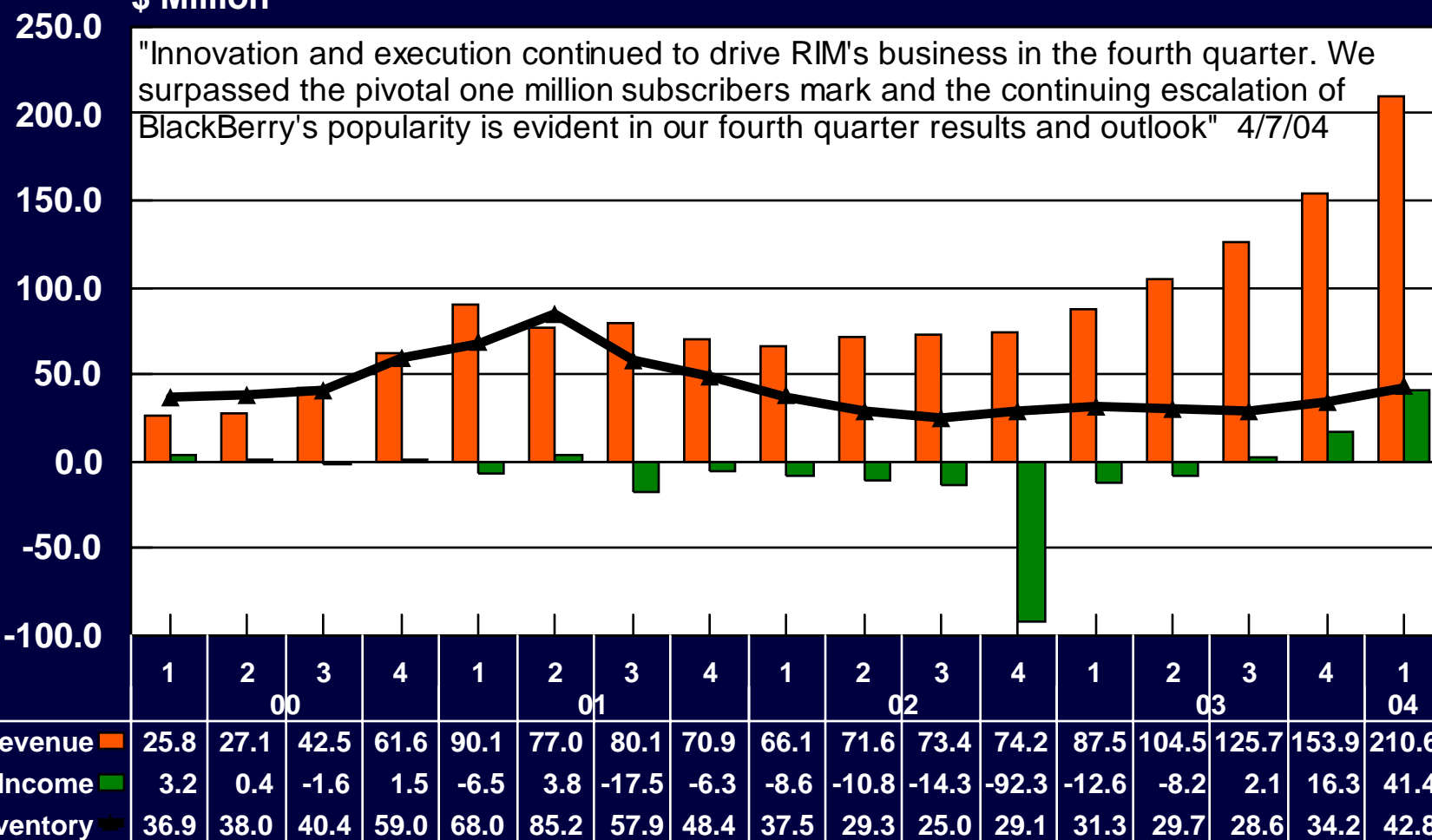


Research in Motion (RIM)

Revenue, Net Income & Inventory

\$ Million

"Innovation and execution continued to drive RIM's business in the fourth quarter. We surpassed the pivotal one million subscribers mark and the continuing escalation of BlackBerry's popularity is evident in our fourth quarter results and outlook" 4/7/04



CY

RIMM

Semiconductors

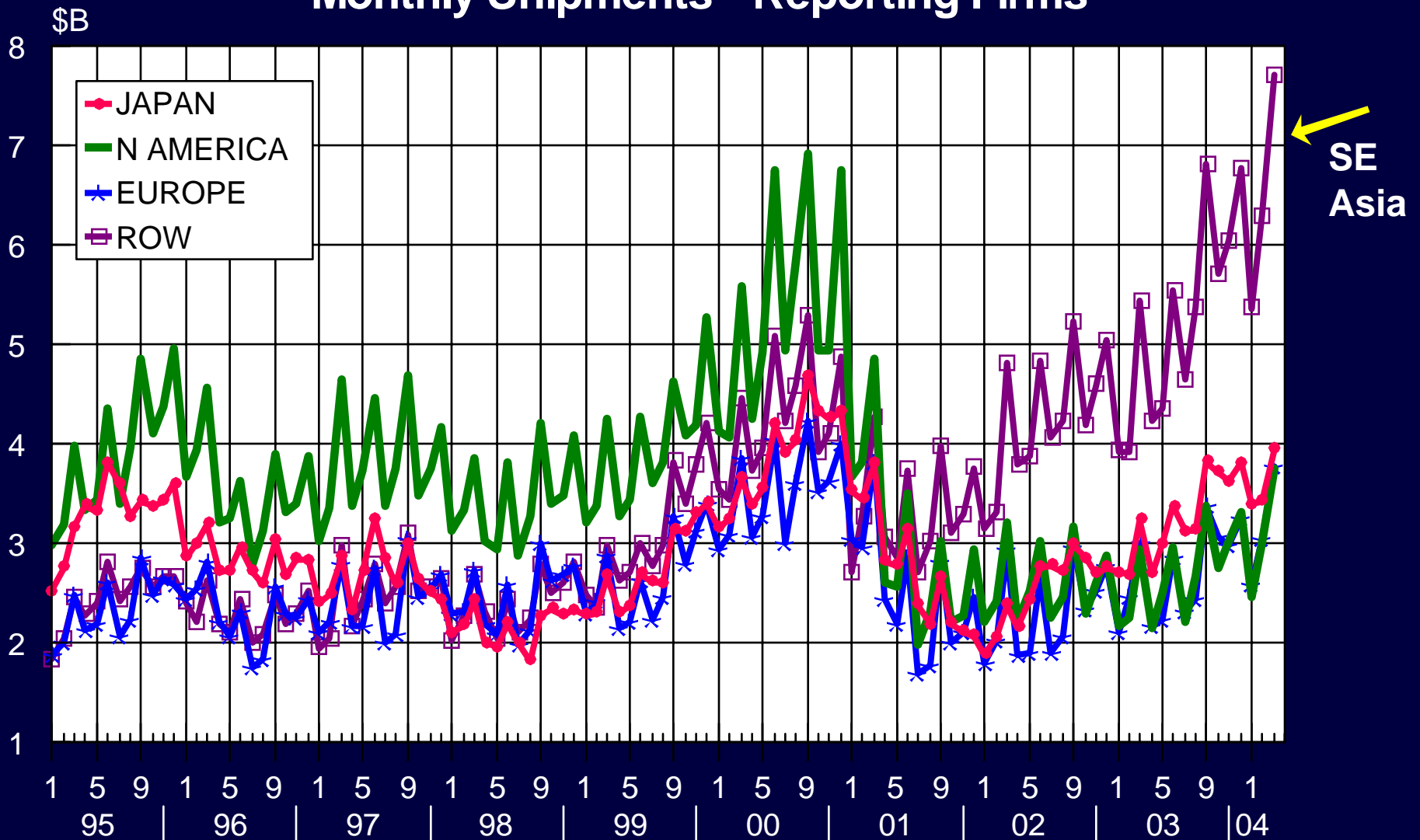
MONTHLY SEMICONDUCTOR SHIPMENTS

\$ Billions

	<u>3/03</u>	<u>3/04</u>	<u>% CH</u>
Americas	2.46	3.08	+ 25.1%
Europe	2.53	3.14	+24.4 %
Japan	2.88	3.59	+24.7 %
Asia Pacific	4.43	6.46	+45.8 %
Total	12.30	16.28	+32.3%

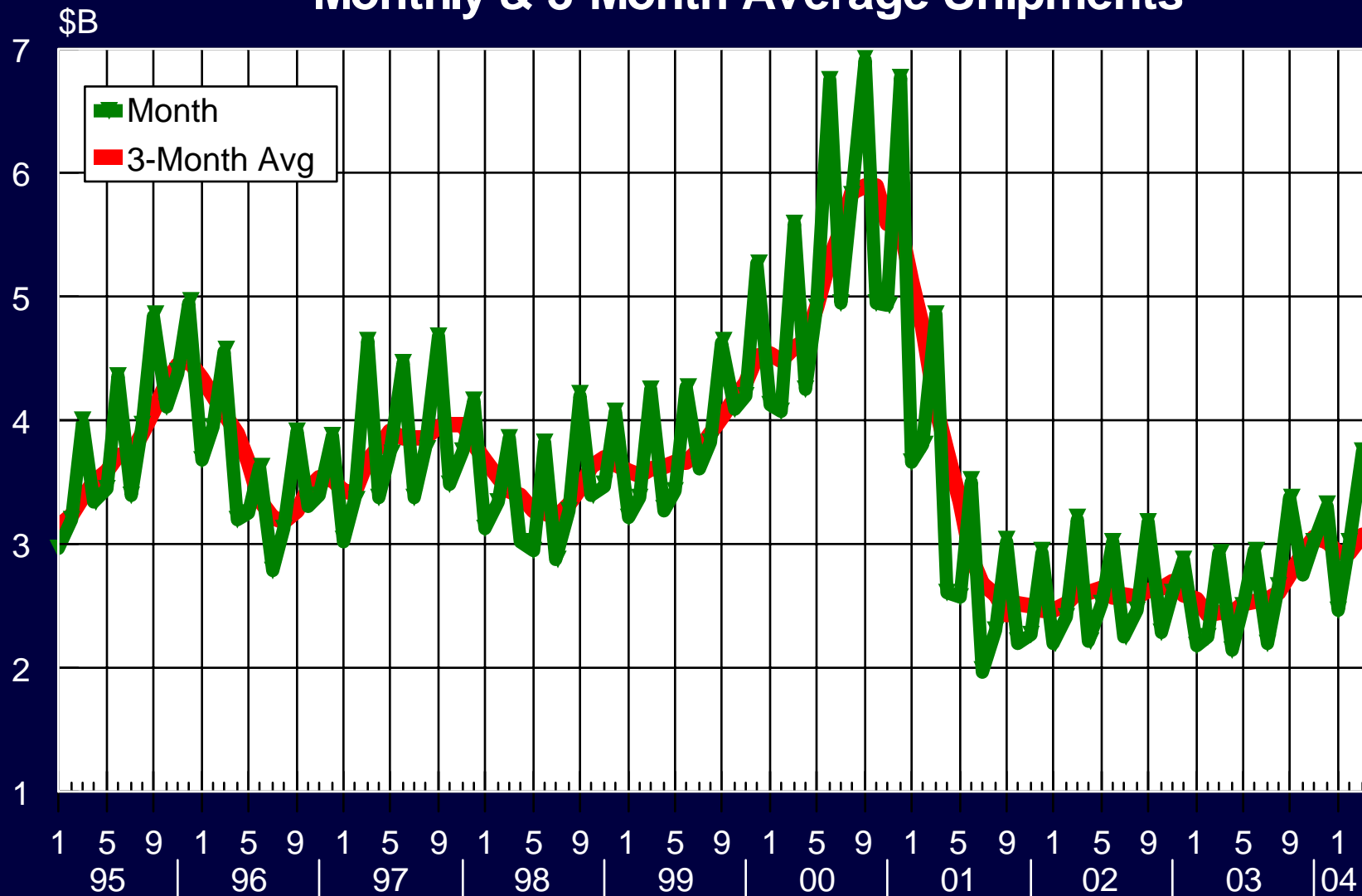
TOTAL SEMICONDUCTOR \$ SHIPMENTS TO AREA

Monthly Shipments - Reporting Firms



N AMERICAN SEMICONDUCTOR SHIPMENTS

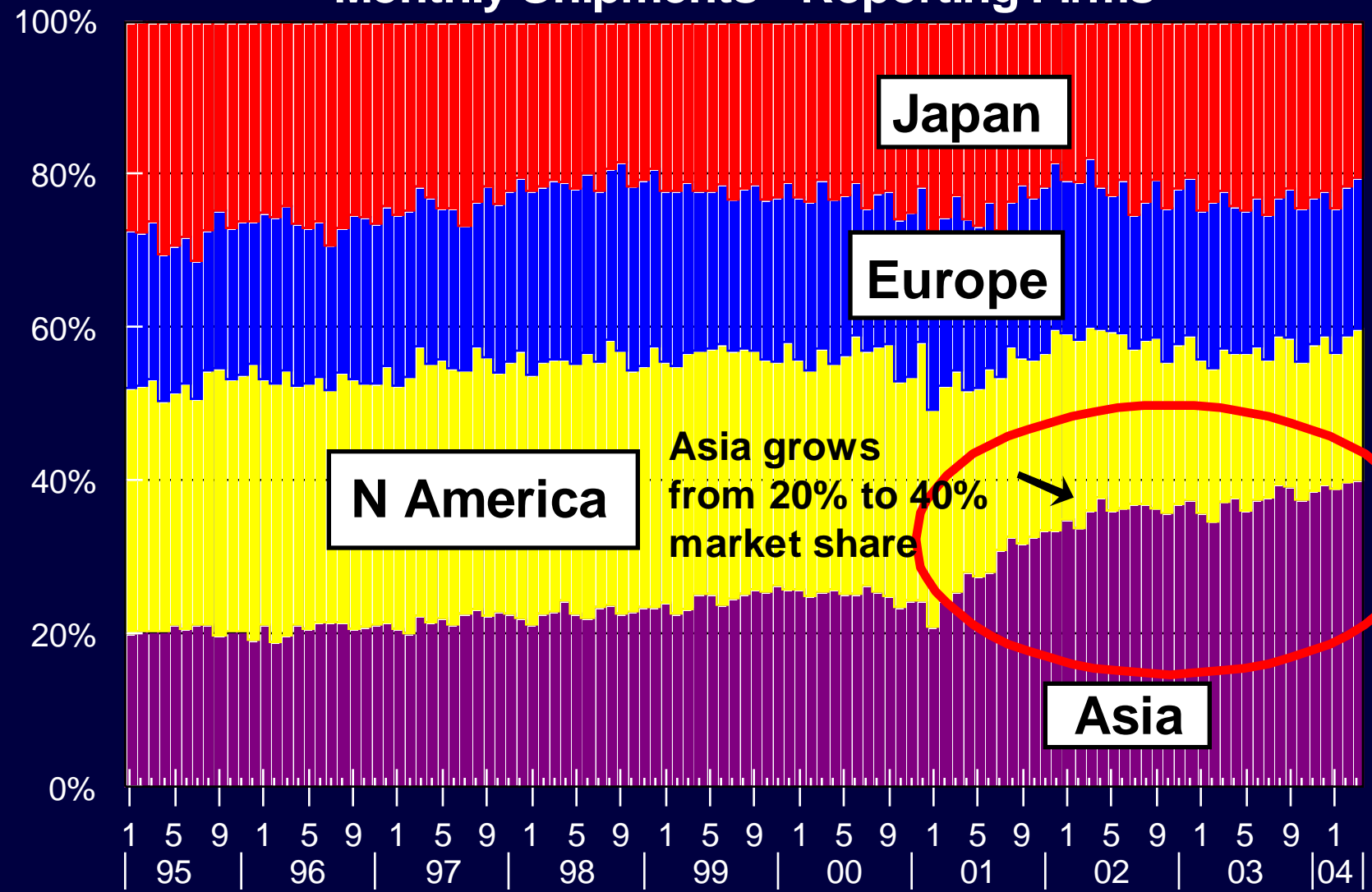
Monthly & 3-Month Average Shipments



SIA website: www.semichips.org/

TOTAL SEMICONDUCTOR \$ SHIPMENTS TO AREA

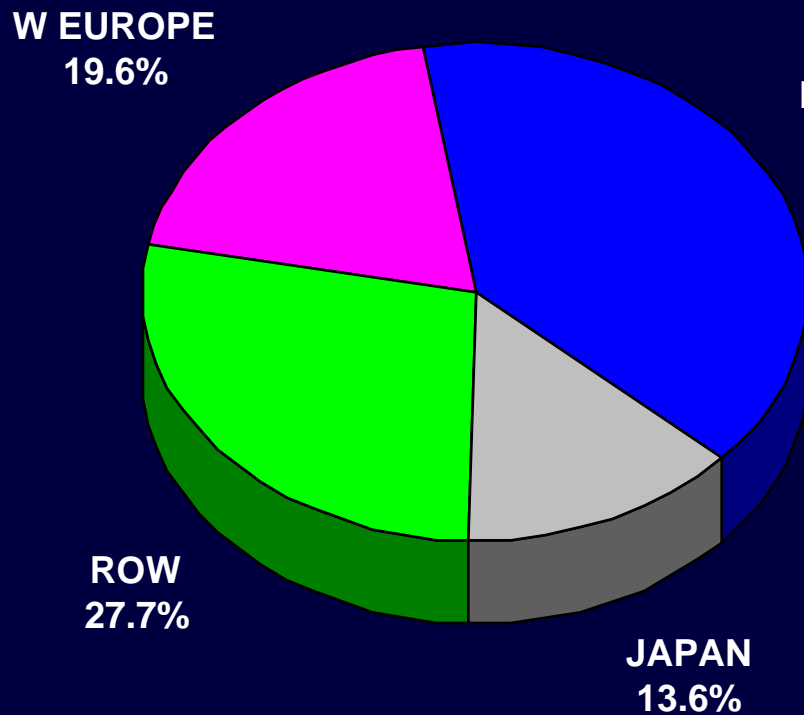
Monthly Shipments - Reporting Firms



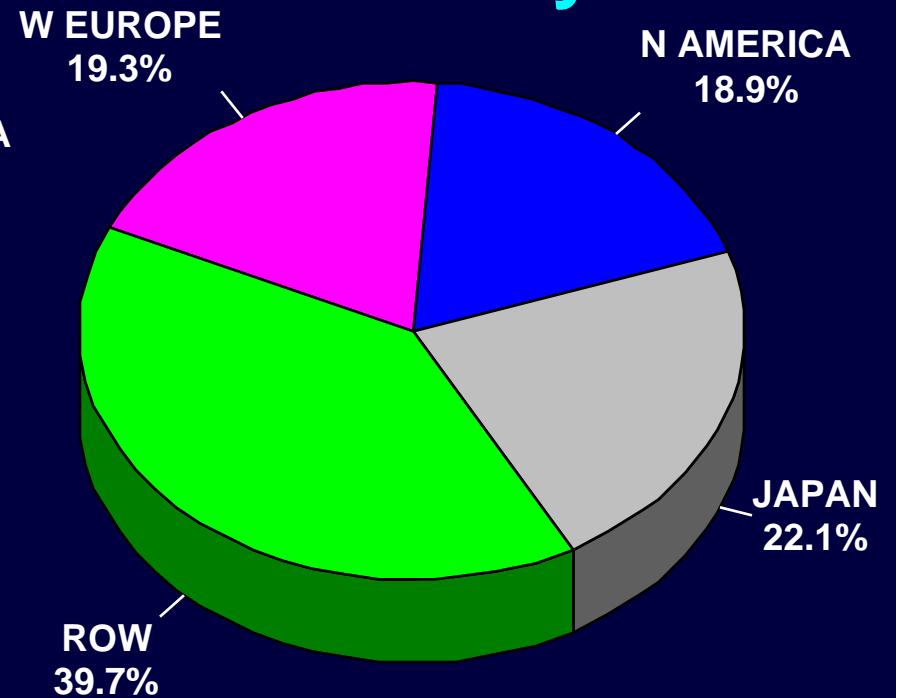
WORLD ELECTRONIC EQUIPMENT PRODUCTION

2003

Final Assembly



Electronic Assembly



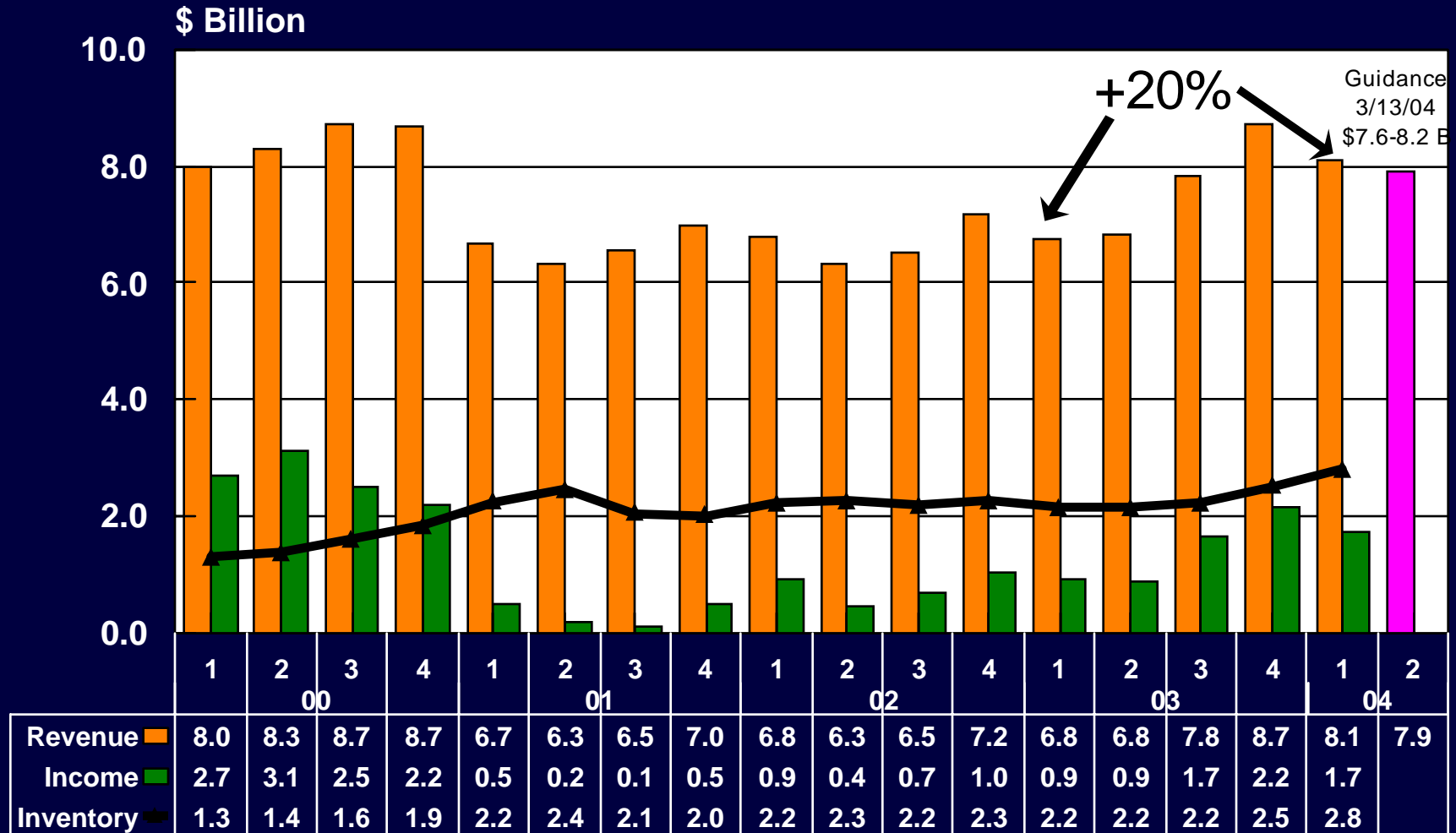
TOTAL \$1090 Billion

Custer Consulting based on Electronic Outlook & SIA data 3/2004

Intel

Revenue, Net Income & Inventory

"Intel's first quarter results showed healthy growth in both revenue and earnings compare to a year ago, led by improvement in worldwide IT spending" 3/13/04



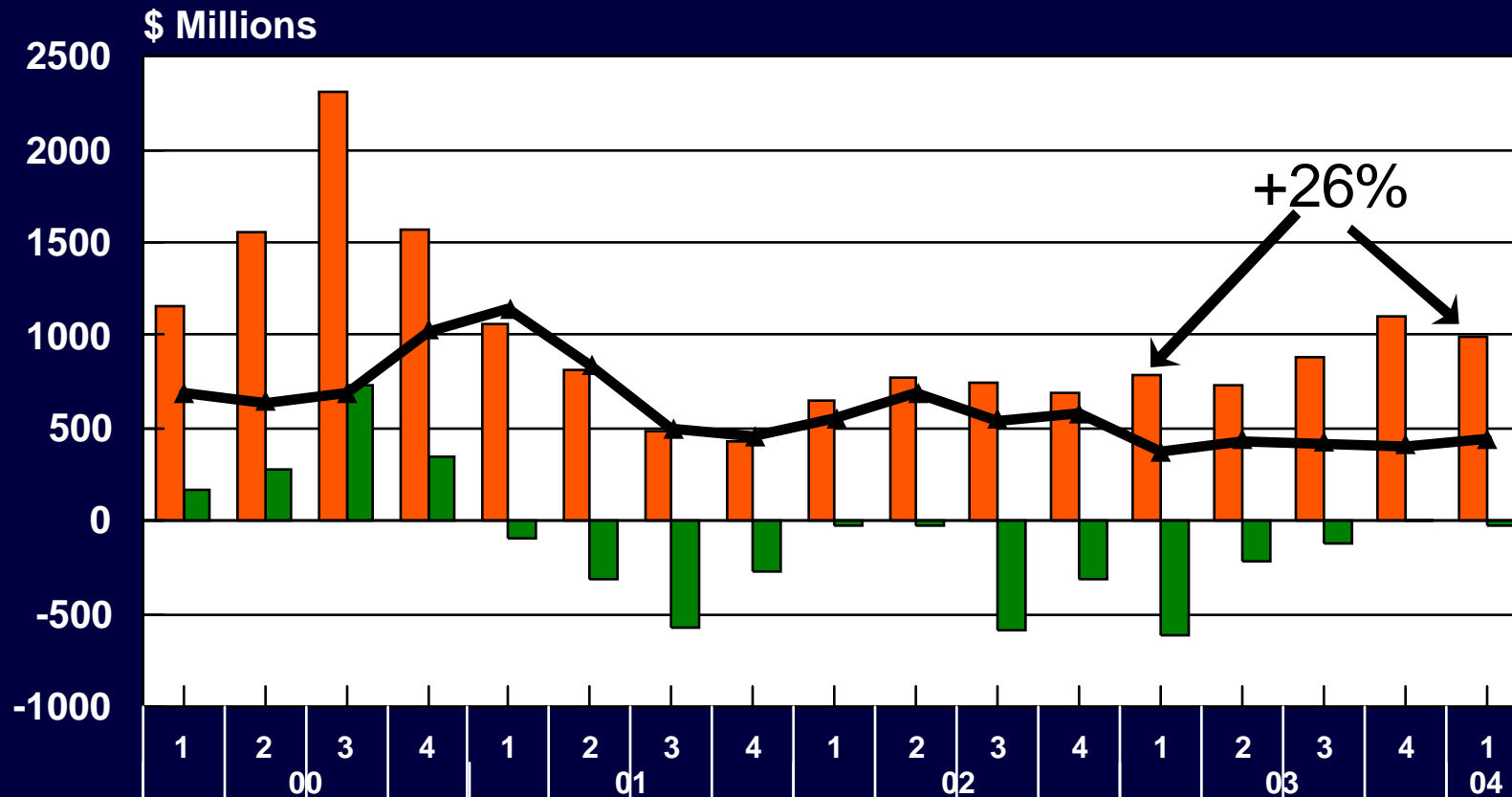
FY=CY

CY

INTC

MICRON TECHNOLOGY

Revenue & Net Income



+26%

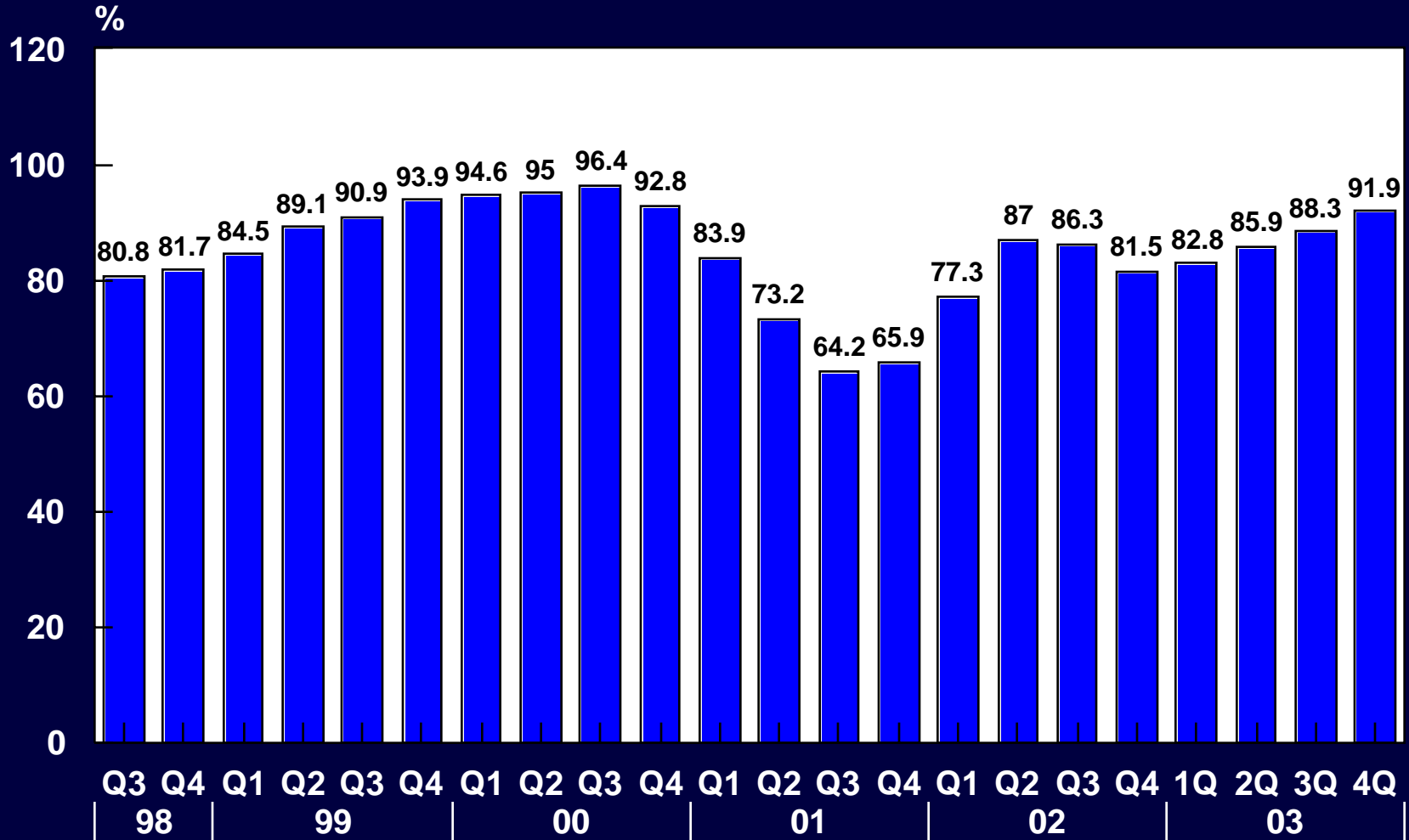
MU

CY

Semiconductor Fab, Test & Measurement

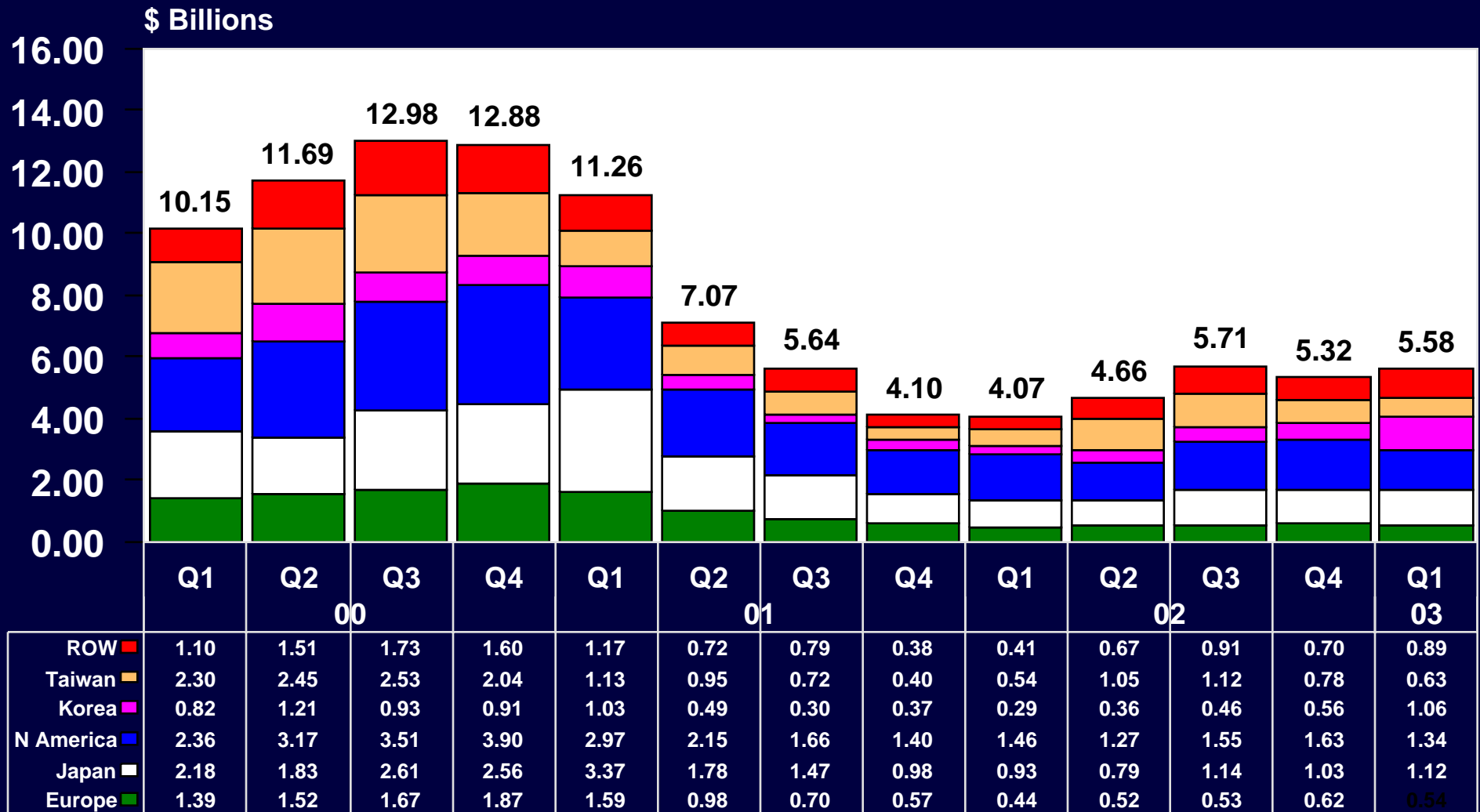
Wafer Fab Utilization Rates

Estimated % of World Chip Capacity Used



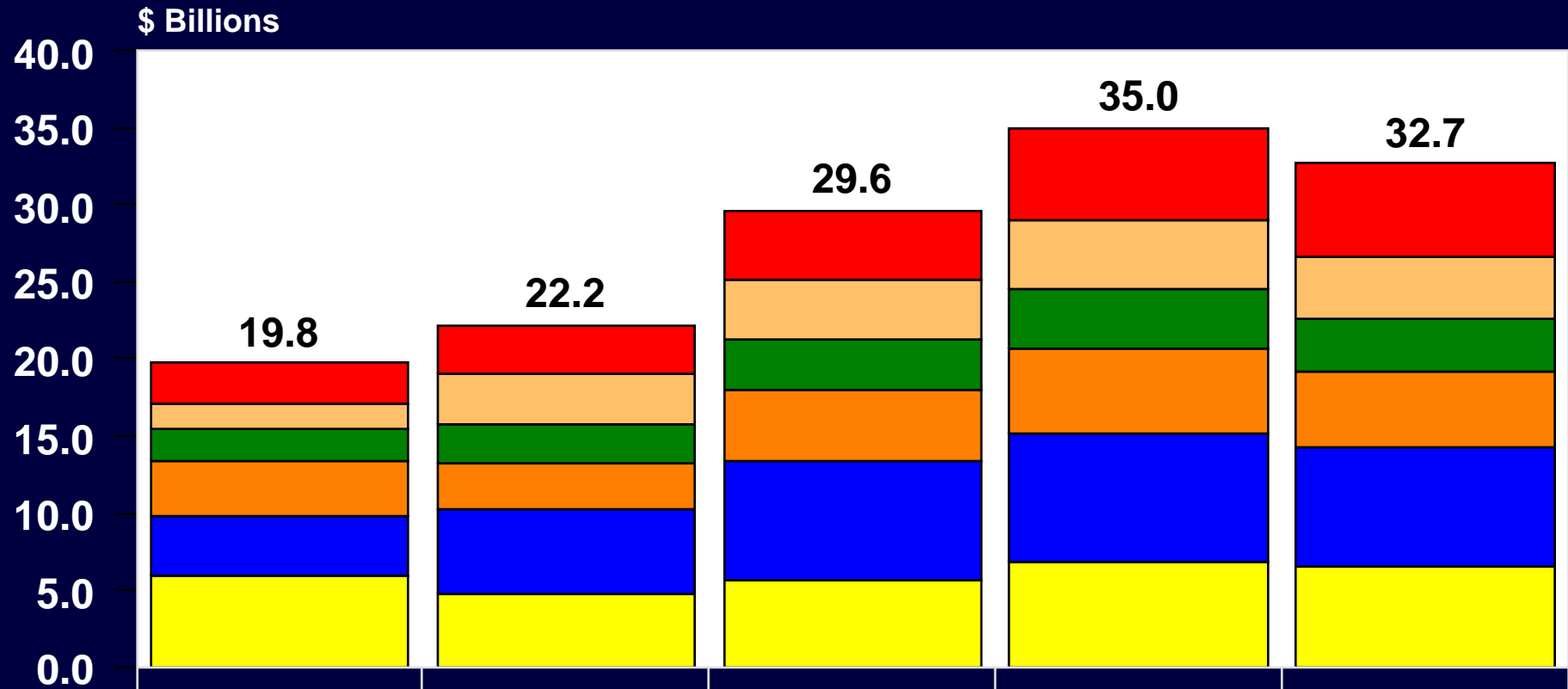
www.sia-online.org, www.eeca.org/
Semiconductor International Capacity Statistics (SICAS)

Semiconductor Capital Equipment Shipments by Area



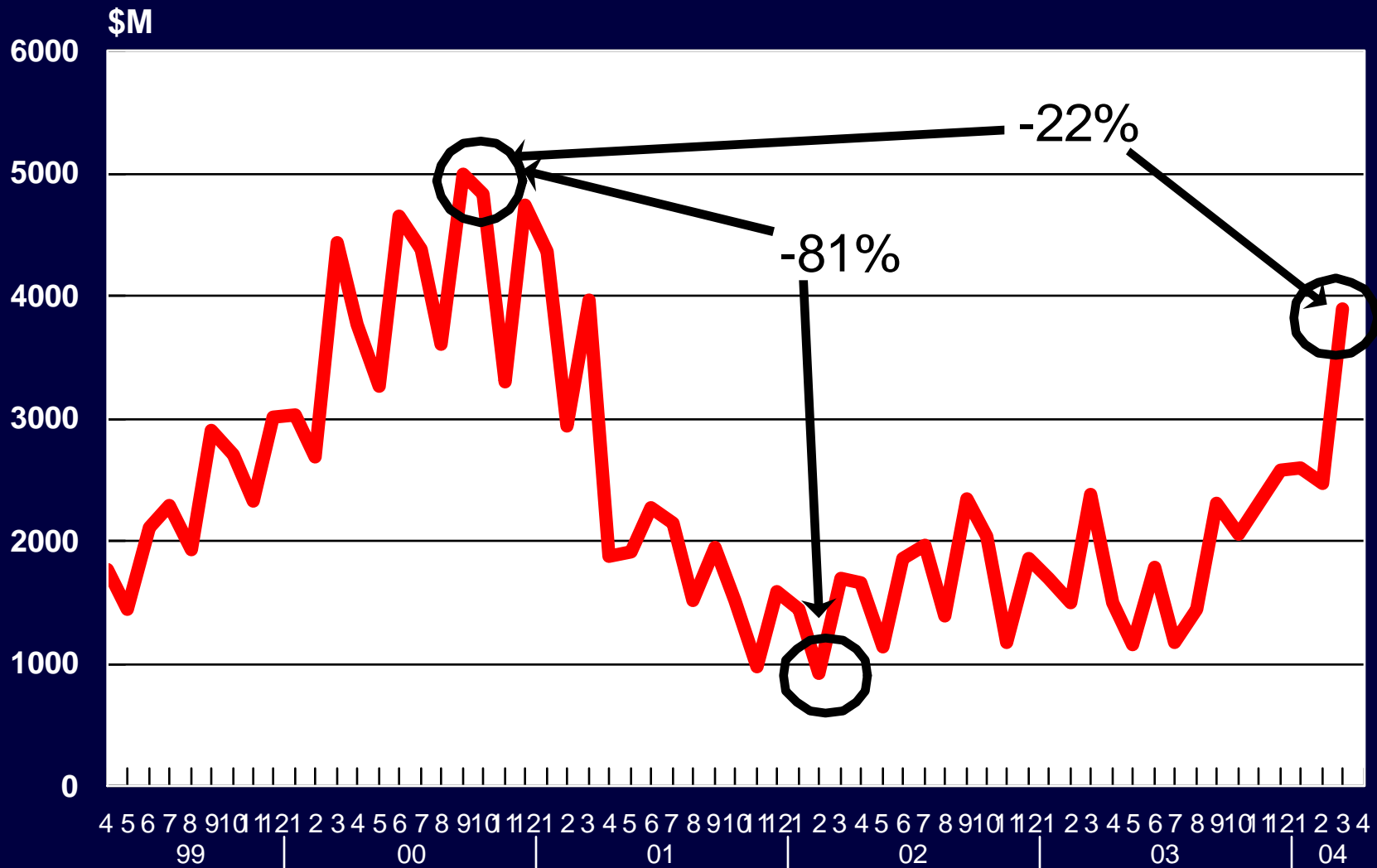
www.semi.org 4/2003, Custer estimate for 1Q'03 based upon multiple data sources 7/03

Worldwide Semiconductor Capital Equipment Market by Geography



	2002	2003	2004	2005	2006
ROW	2.7	3.3	4.4	5.9	6.1
S Korea	1.7	3.2	4.0	4.5	3.9
Europe	2.1	2.6	3.3	3.8	3.5
Taiwan	3.5	2.9	4.6	5.6	5.0
Japan	3.9	5.6	7.7	8.3	7.7
N America	5.9	4.7	5.6	6.8	6.5

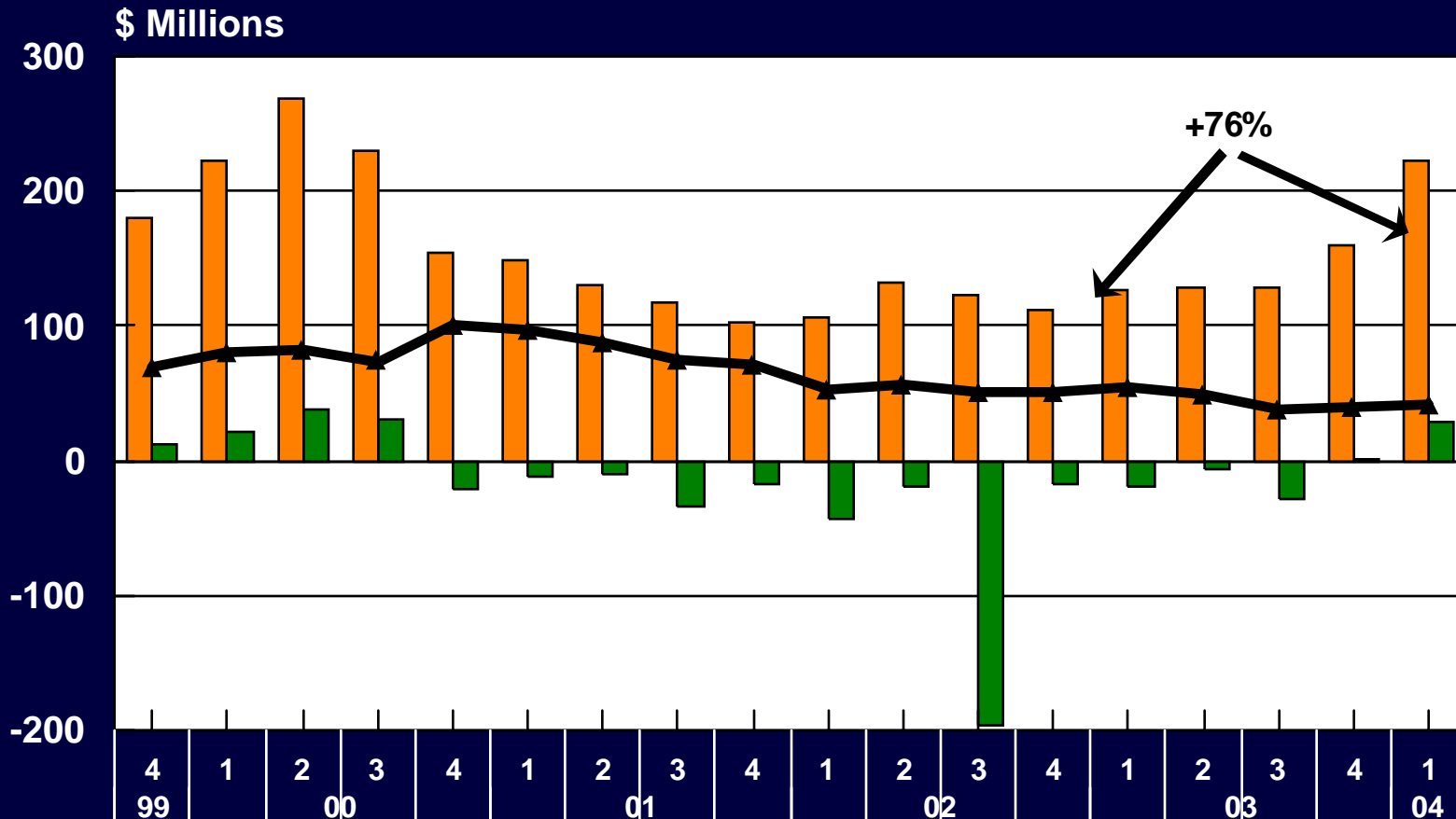
World Semiconductor Equipment Industry Shipments



SOURCE Semiconductor Equipment Association of Japan

Kulicke & Sofa

Revenue, Net Income & Inventory



Revenue	180	222	268	229	153	149	131	118	103	107	132	122	111	126	128	129	160	222
Income	13	22	38	30	-20	-12	-9	-33	-17	-44	-18	-195	-18	-19	-6	-28	1	29
Inventory	70	80	82	74	101	97	87	74	71	53	56	51	51	55	49	38	40	42

CY

KLIC

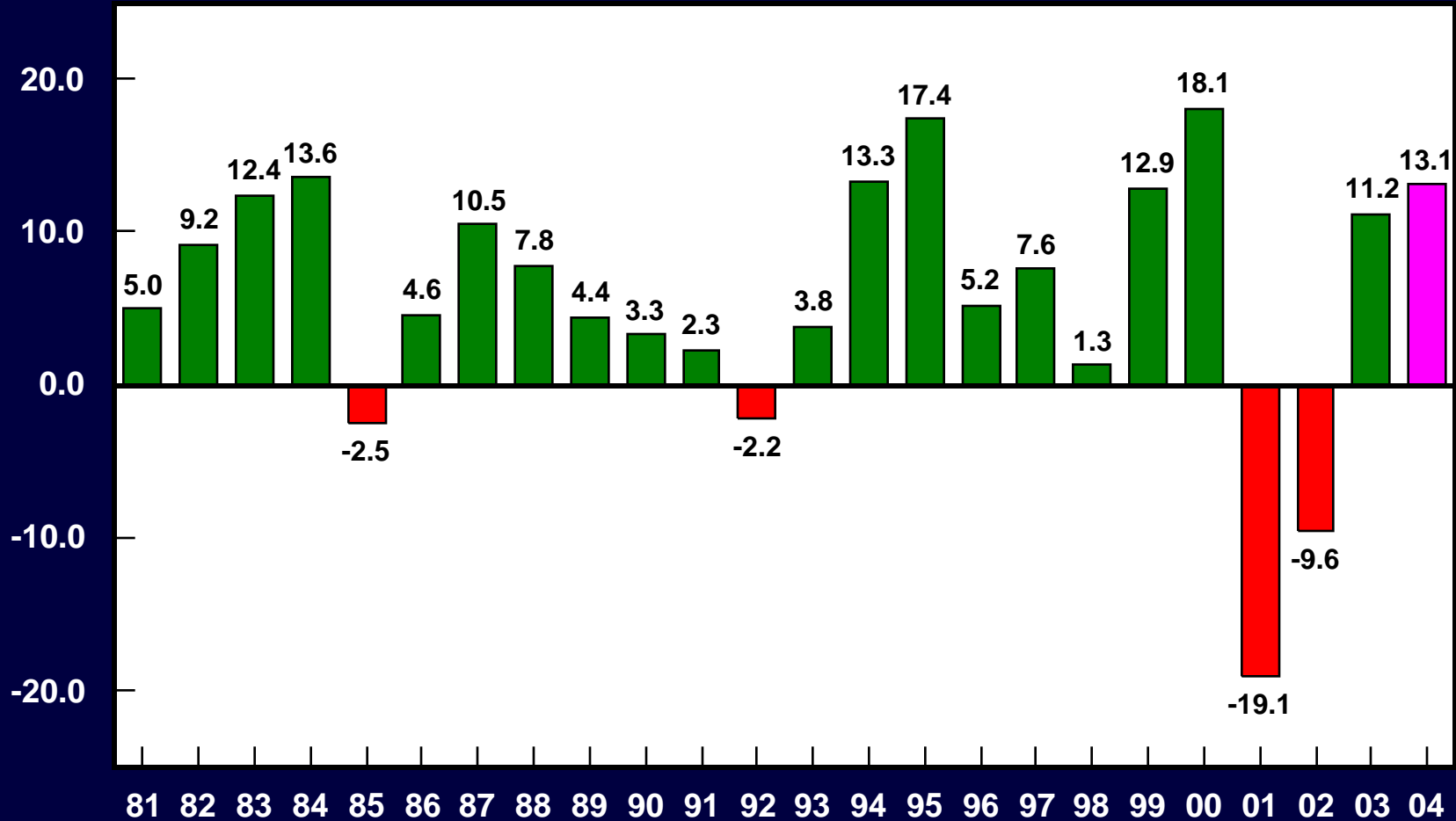
FY ends September

Connectors

WORLD CONNECTOR MARKET

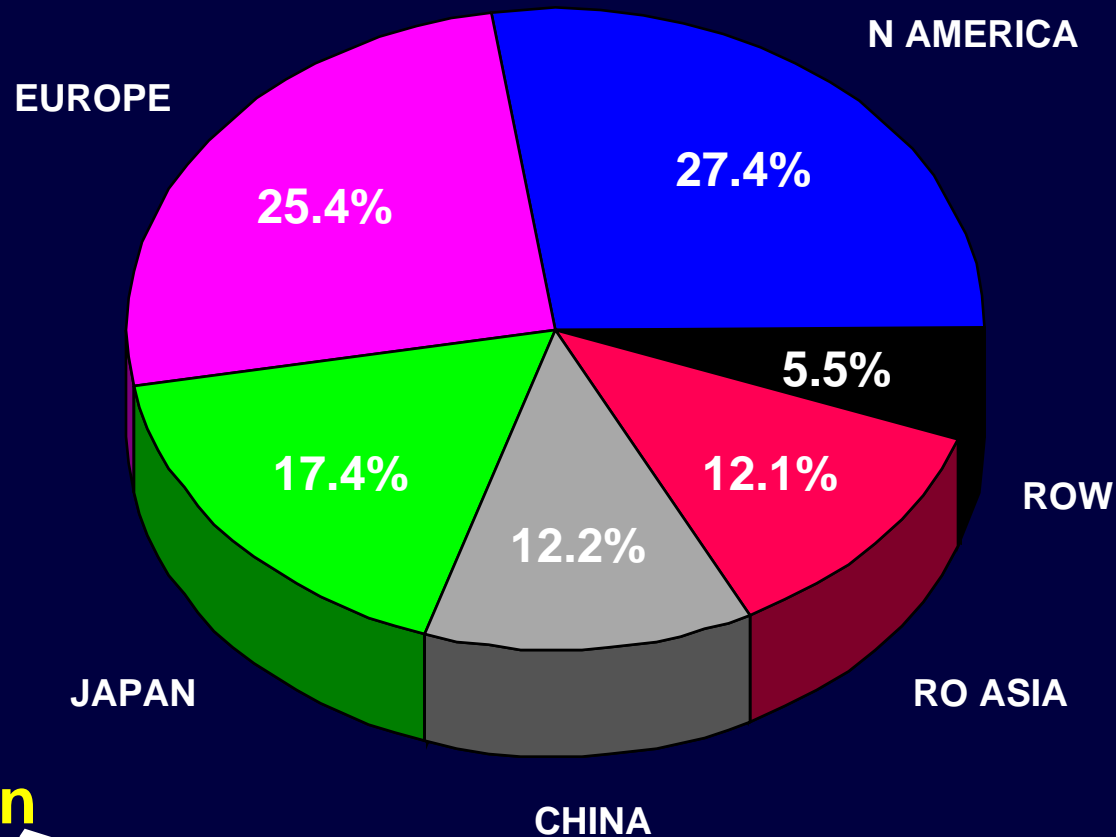
YEAR-TO-YEAR %CHANGE

% \$ CHANGE



2004 CONNECTOR MARKET

MARKET SHARE %



2003
\$28.4 Billion

+13.1%

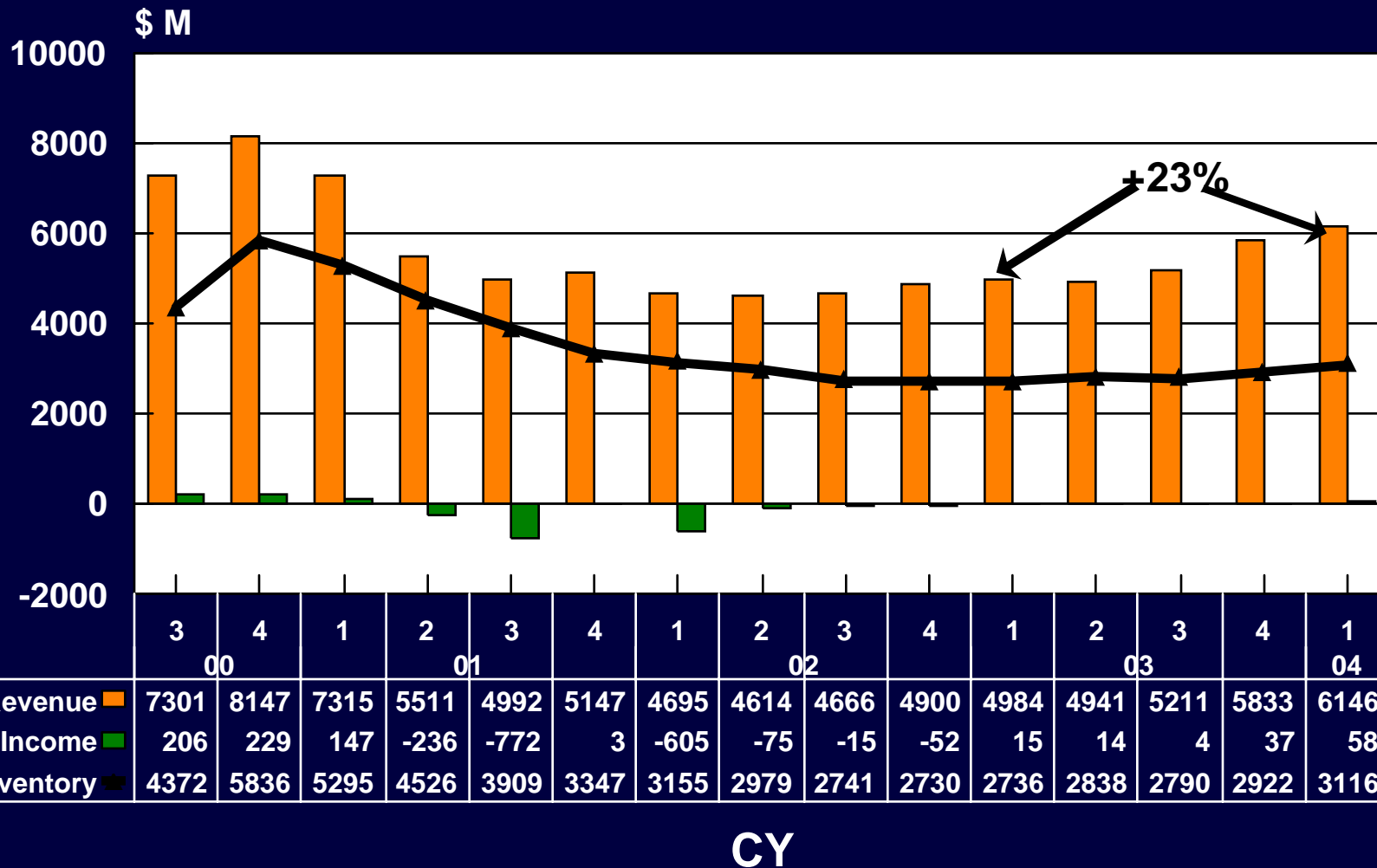
WORLD
\$32.1 Billion

Market Growth for Connectors in 2004

	2004E % Change
Computers & Peripherals	15.5%
Business & Office Equipment	16.8%
Consumer	19.5%
Automotive	10.7%
Transportation (non-auto)	9.6%
Military	11.2%
Telecom/Datacom	11.2%
Industrial	13.9%
Medical Equipment	19.5%
Instrumentation	13.6%
All Other	13.9%
Total	13.1%

Component Distributors

Electronic Component Distributors Composite of 6 US Public Companies Revenue, Net Income & Inventory



All American, Arrow, Avnet, Bell Micro, JACO, Nu Horizons

Electronic Manufacturing Services

Top World EMS Providers

2002 vs 2003

			<u>2002</u>	<u>2003</u>	<u>Grow %</u>
Flextronics	FLEX	Singapore	13,615	13,822	+2
Solectron	SLR	USA	12,261	11,144	-9
Sanmina-SCI	SANM	USA	10,168	10,795	+6
Hon Hai (Foxconn)	2317	Taiwan	7,251	9,705	+34
Celestica	CLS	Canada	8,272	6,736	-19
Jabil Circuit	JBL	USA	3,729	5,170	+39
Elcoteq Network	Y.ELC	Finland	1,749	2,564	+47
Benchmark Electronics	BHE	USA	1,630	1,840	+13
Plexus	PLEX	USA	889	841	-5
Manufacturers' Services Ltd	MSV	USA	854	826	-3
Total Top 10			61,338	63,789	+4%

Viasystems not listed, financials are no longer publicly disclosed

Sources: Company Data

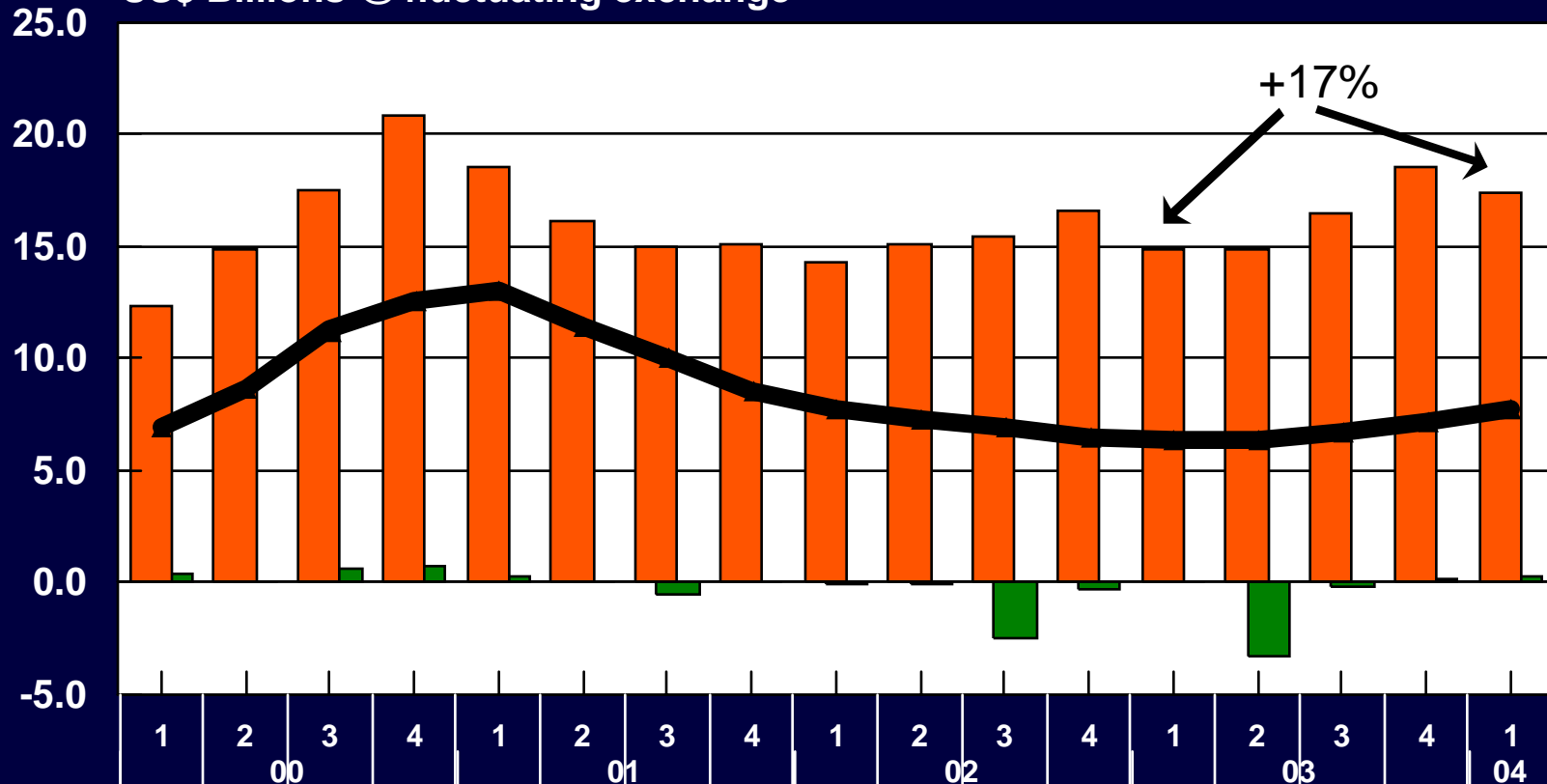
\$US Millions converted at fluctuating exchange

Large EMS Providers

Composite of 12 Public Companies

Revenue, Net Income & Inventory

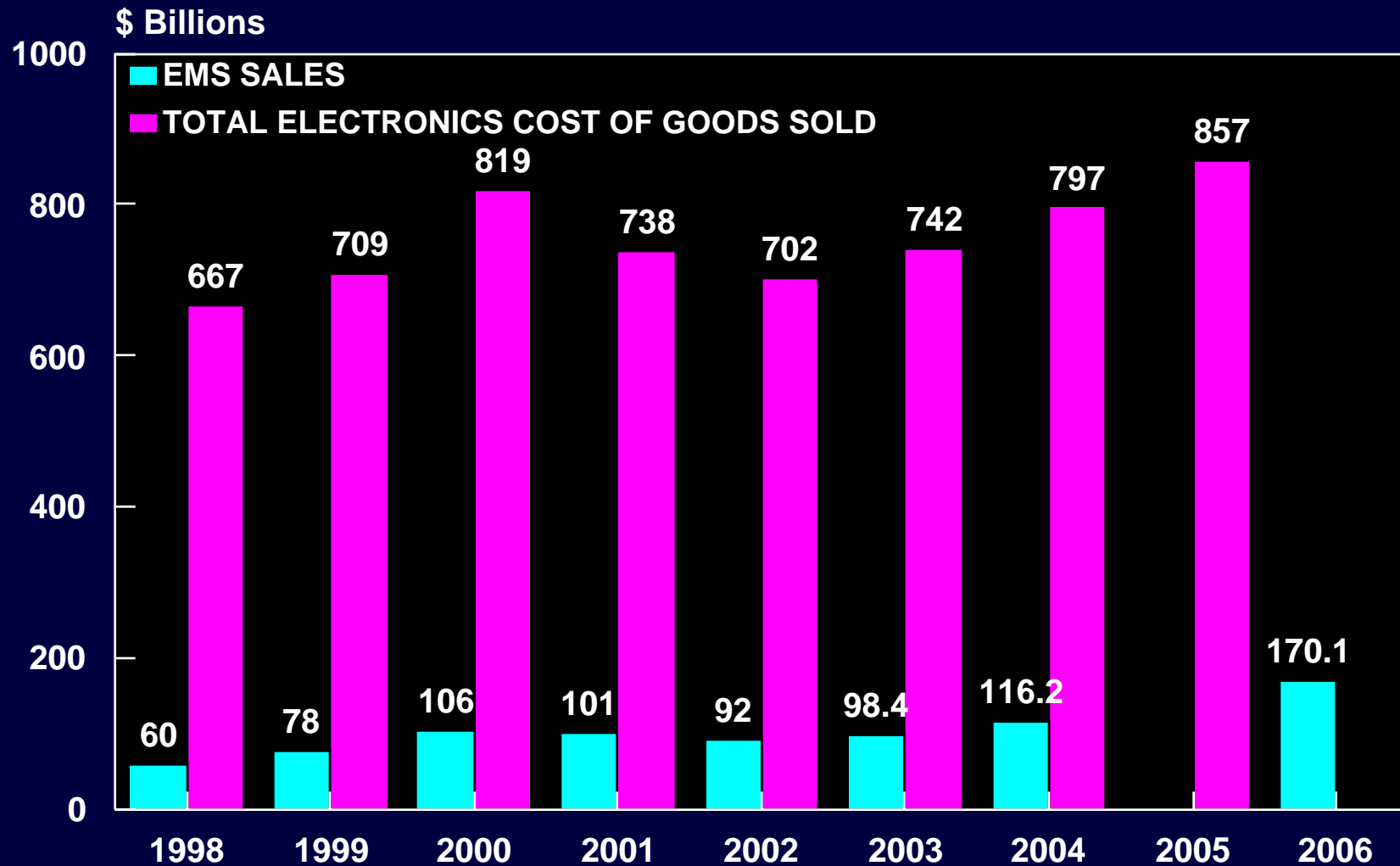
US\$ Billions @ fluctuating exchange



	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	00				01				02				03				04
Revenue	12.3	14.9	17.5	20.8	18.5	16.1	14.9	15.1	14.2	15.0	15.4	16.5	14.9	14.8	16.5	18.5	17.4
Income	0.4	-0.0	0.6	0.7	0.3	0.0	-0.6	0.0	-0.1	-0.1	-2.6	-0.3	0.1	-3.3	-0.2	0.1	0.3
Inventory	6.9	8.6	11.2	12.5	13.0	11.4	10.0	8.5	7.7	7.2	6.9	6.4	6.4	6.4	6.7	7.1	7.7

Benchmark, Celestica, Elcoteq, Flextronics, Foxconn, Jabil, MSL, Pemstar, Plexus, Sanmina-SCI, Solectron, Sypris

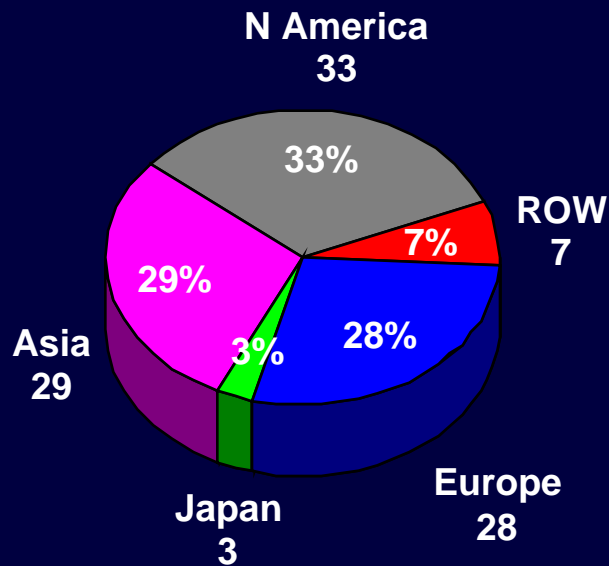
EMS Estimated Revenue & OEM Penetration Rate



EMS Revenues by Region

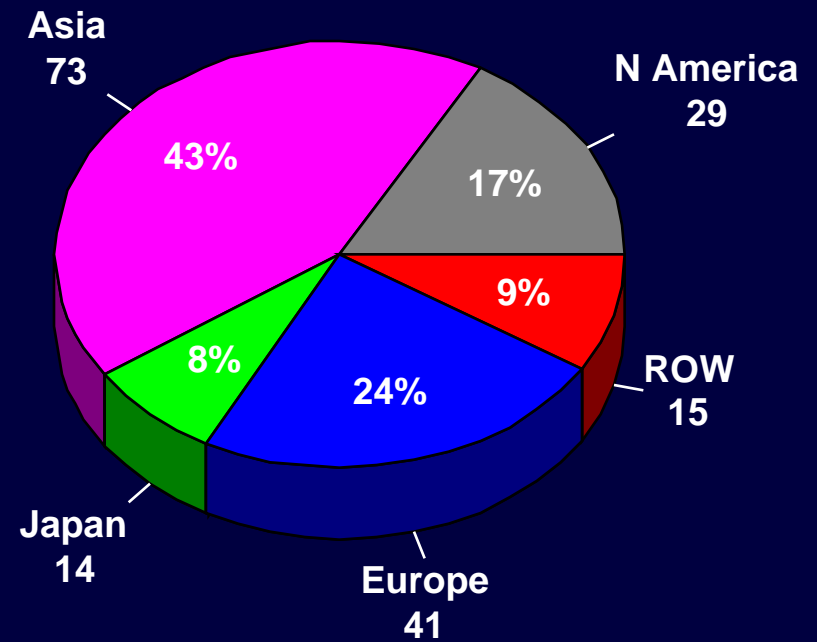
% Share

2001



\$101 B

2006

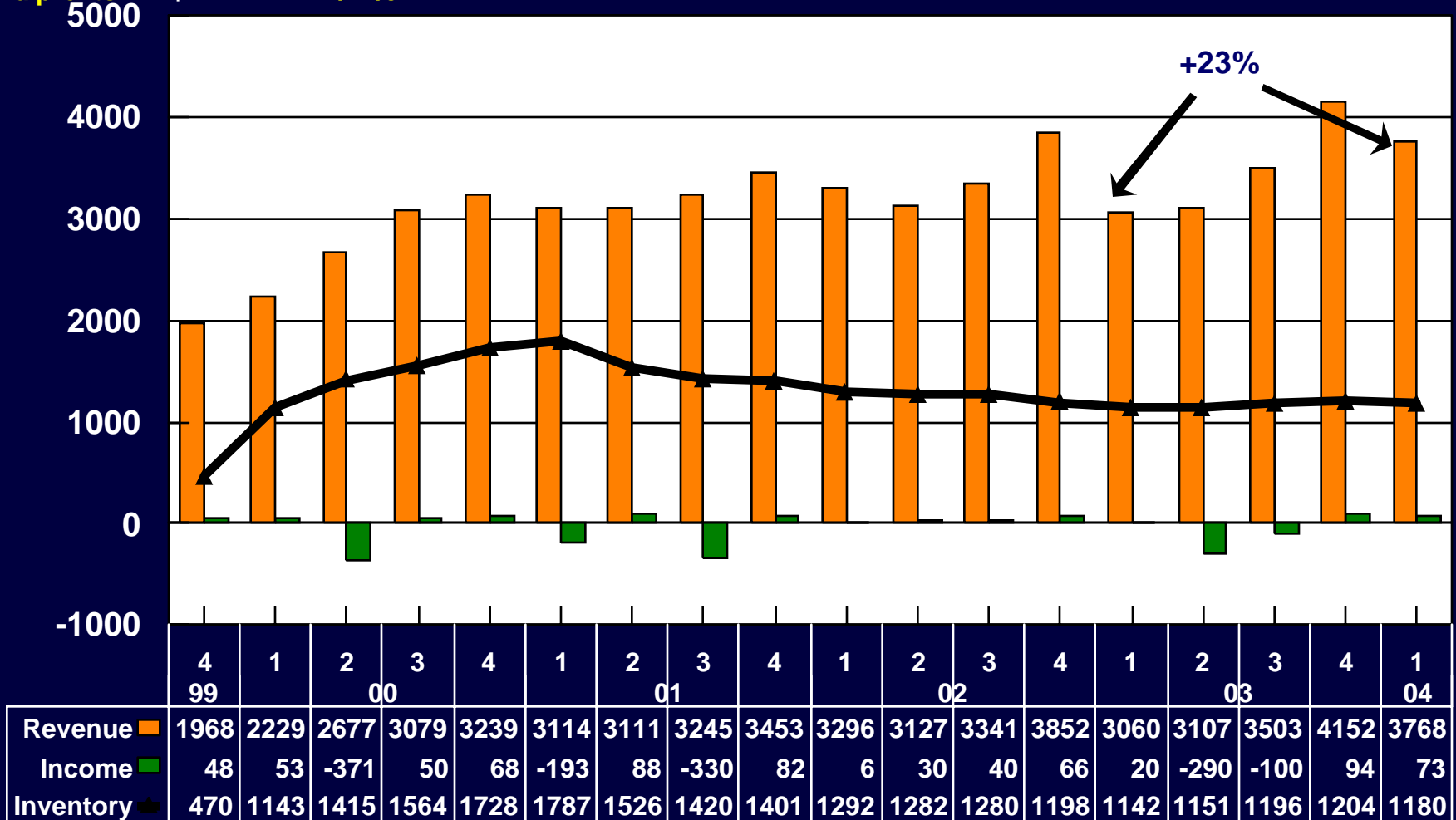


\$170 B

Flextronics

Revenue, Net Income & Inventory

Our pipeline is solid and we are winning business from new and existing customers across many end markets. The combination of improving demand, better pricing trends, and strength in higher value-add supply chain services, including our ODM business, should continue to drive momentum in our operating leverage, leading to increased margins and profits." \$ Millions 4/27/04



FY ends 3/31

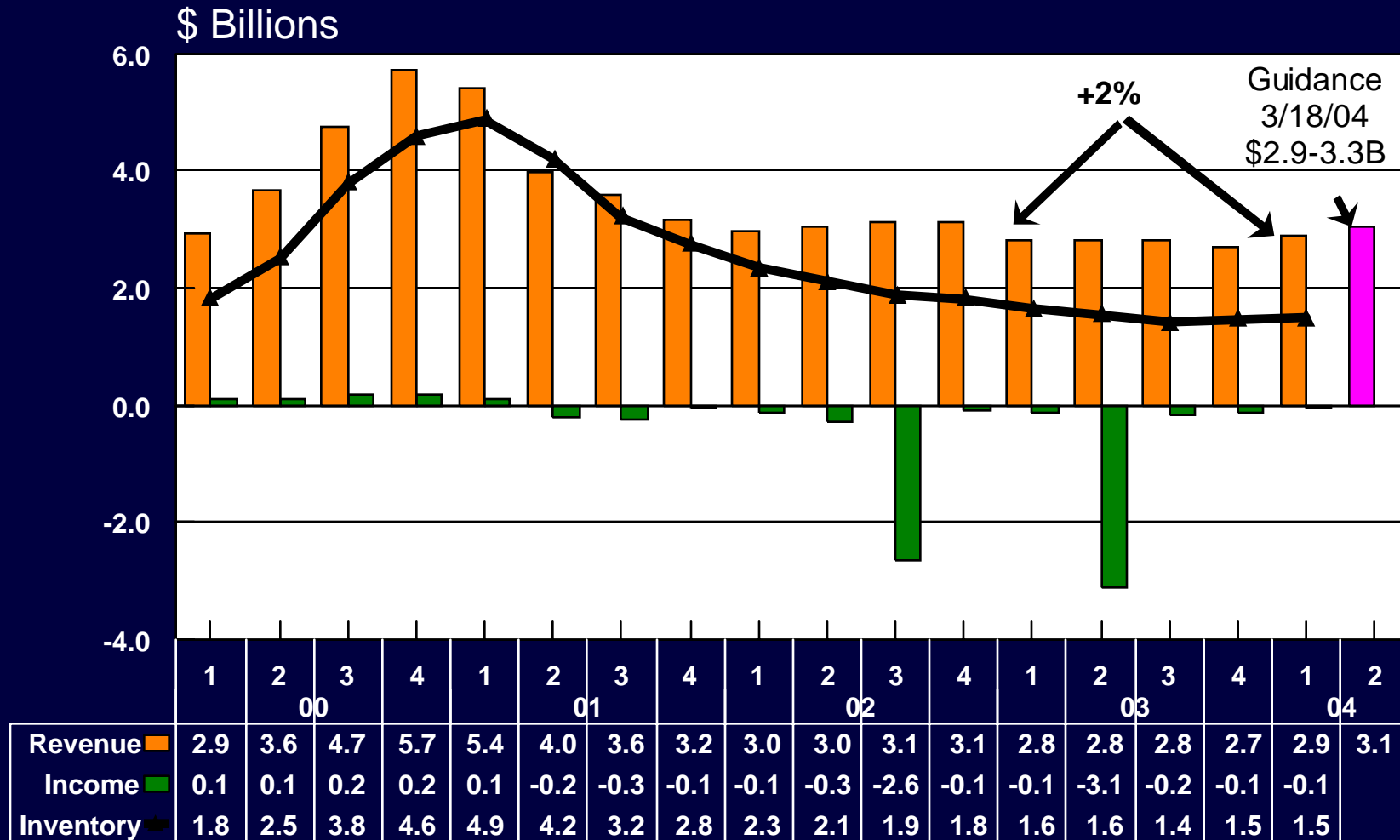
CY

FLEX

Solectron

Revenue, Net Income & Inventory

"We are very pleased with the strong growth in several of our end-markets, including communications, networking and consumer. The consumer market revenue growth was driven by the continued ramp-up of our 3G mobile handset program. Overall, our business reflects strength across most end-markets, resulting in growth from eight of our 10 largest customers. 3/18/04



FY ends in August

SLR

Sanmina-SCI Corp

Revenue, Net Income & Inventory

\$ Millions

5000

4000

3000

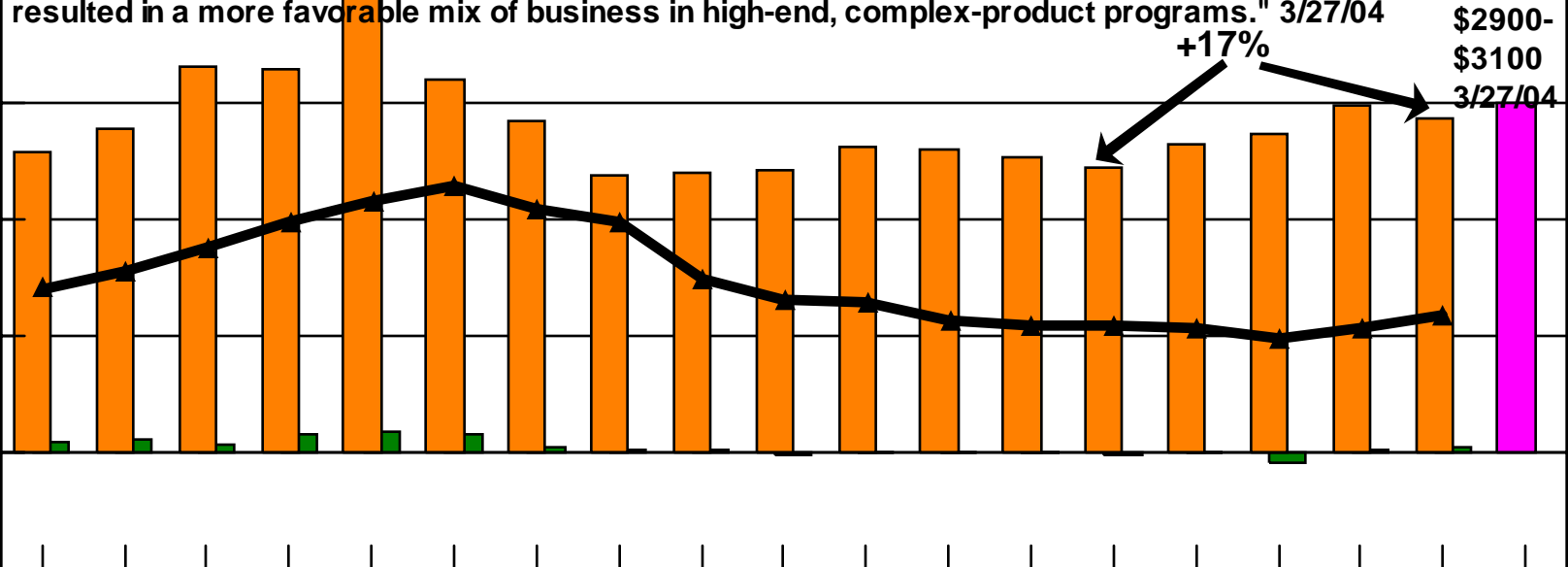
2000

1000

0

-1000

"In reviewing this quarter, which traditionally is a seasonally slow time for the EMS industry, we are encouraged by the improved revenues we are seeing in our target markets of communications infrastructure, medical, defense and industrial. The revenue increase in these faster growing markets resulted in a more favorable mix of business in high-end, complex-product programs." 3/27/04



\$2900-
\$3100
3/27/04

+17%

	4 99	1 00	2 00	3 00	4 00	1 01	2 01	3 01	4 01	1 02	2 02	3 02	4 02	1 03	2 03	3 03	4 03	1 04	2 04
Revenue	2575	2772	3307	3300	4068	3208	2842	2366	2406	2411	2618	2602	2537	2444	2649	2732	2970	2862	3000
Income	85	94	59	147	177	157	30	22	7	-39	-5	3	1	-32	-12	-86	16	27	
Inventory	1406	1552	1759	1980	2151	2297	2096	1971	1480	1303	1273	1123	1084	1092	1059	978	1070	1165	

CY

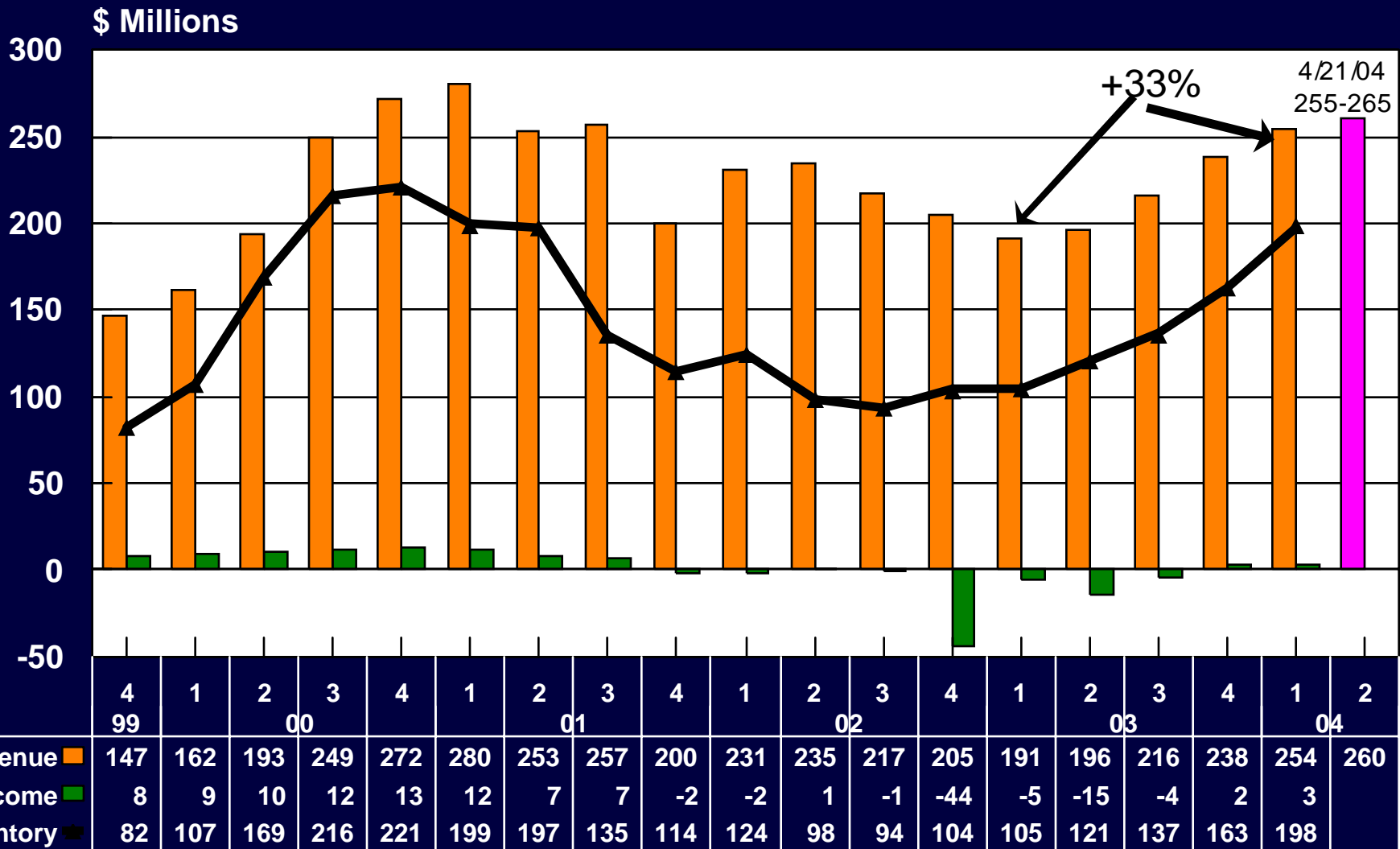
SANM

FY ends 9/30

(historical data = combined Sanmina & SCI)

Plexus Corp

Revenue, Net Income & Inventory



FY ends September

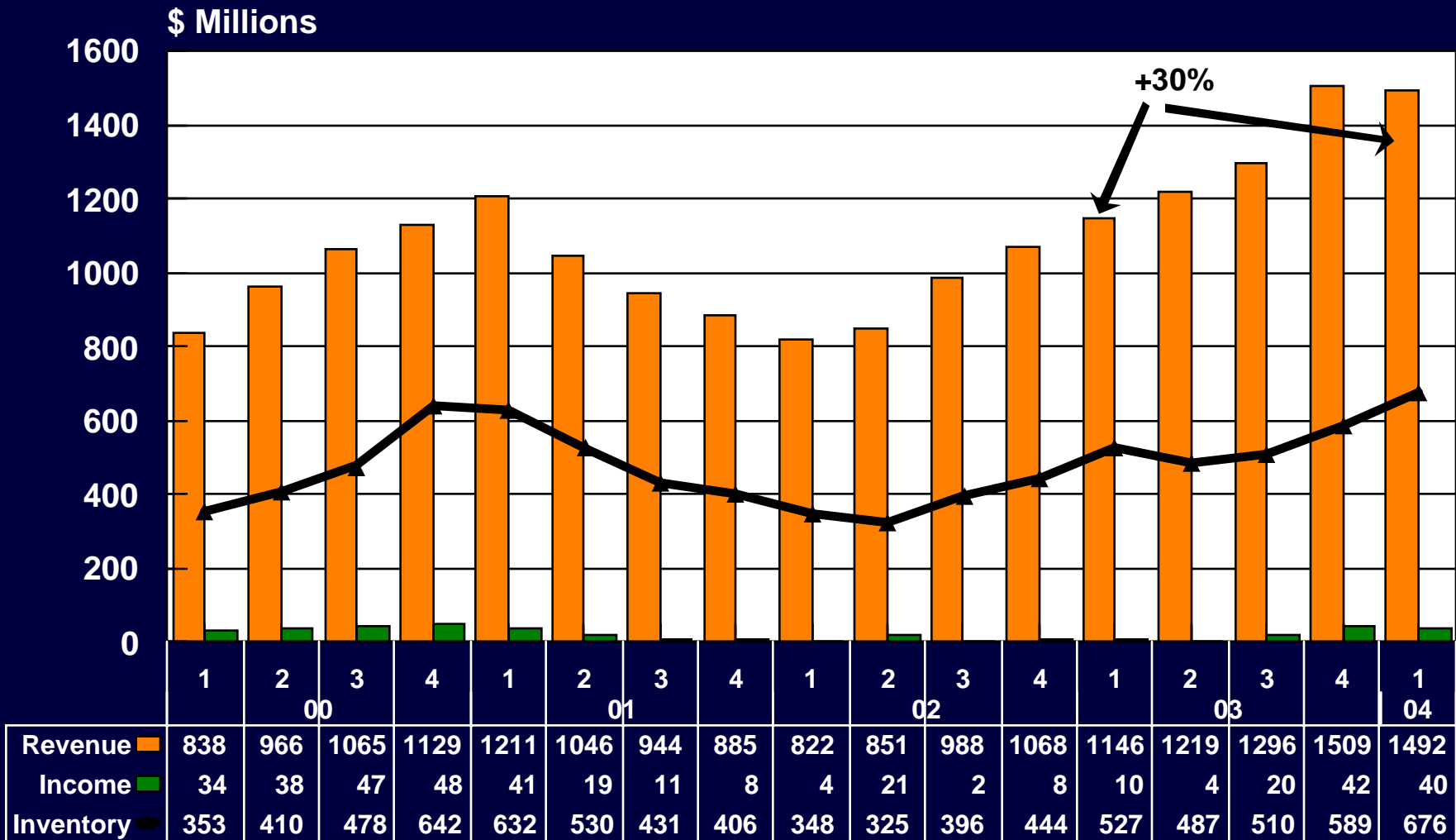
CY

PLXS

Jabil Circuit Inc

Revenue & Net Income

"We were delighted that business strength across a broad range of customers and sectors substantially offset seasonal weakness in our consumer business. We expect the second half of fiscal 2004 will continue to reflect broad-based organic growth." 3/17/04



CY

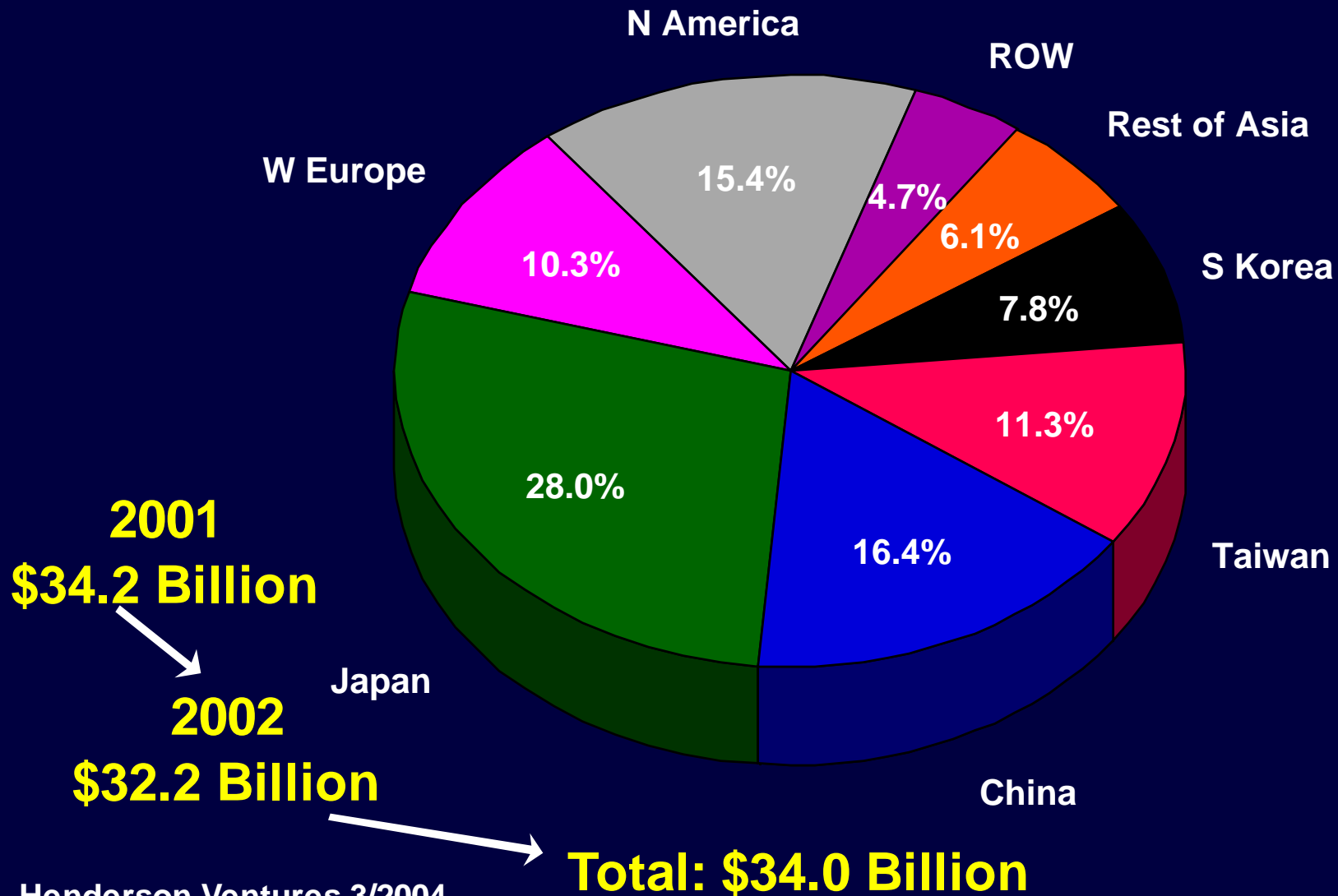
JBL

FY ends August

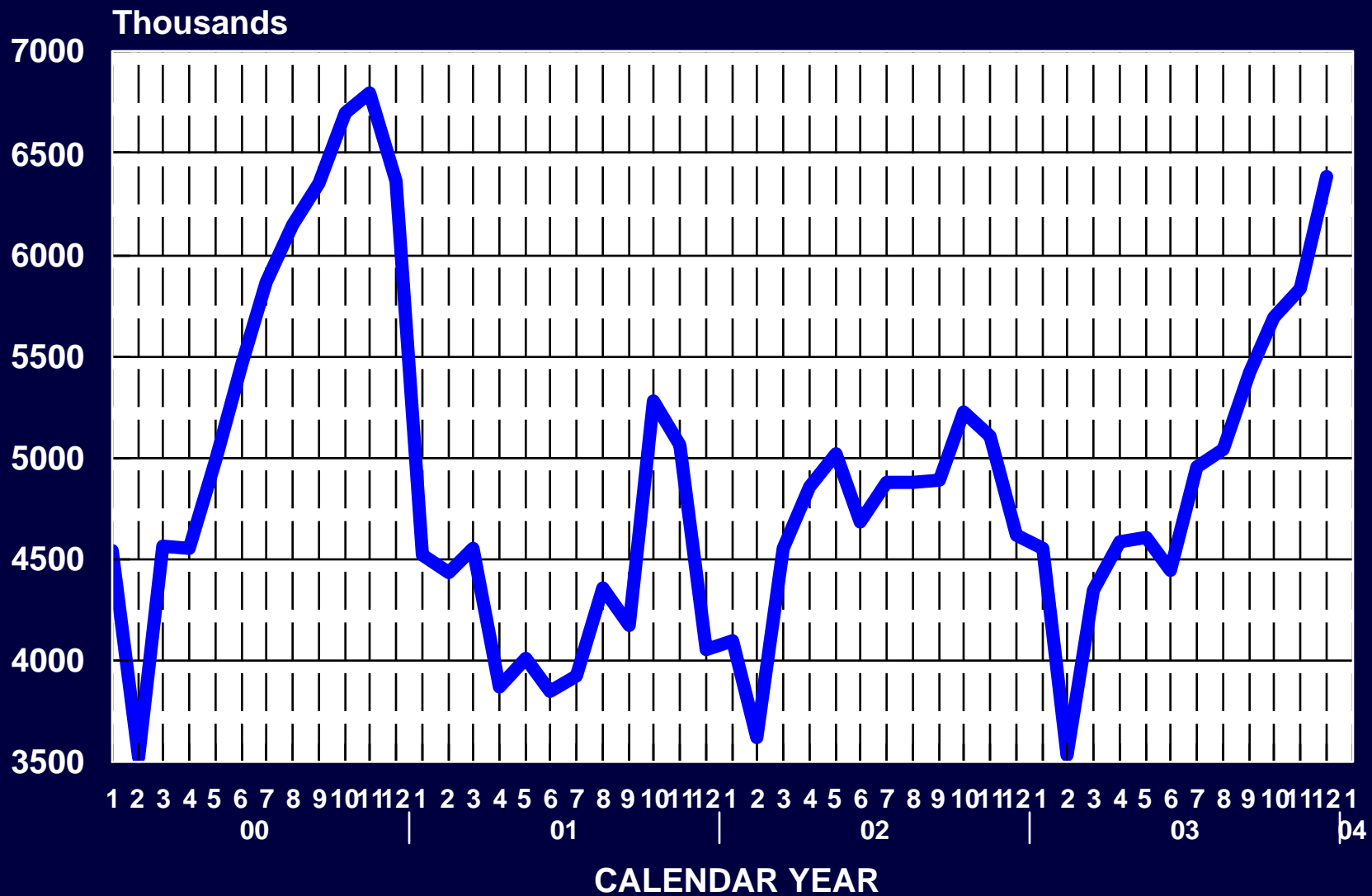
PCB Fabrication

2003 WORLD RIGID & FLEX PCB PRODUCTION

BY GEOGRAPHICAL AREA (US\$ M @ Constant 2003 Exchange)



Taiwan PCB Shipments Composite of 8 Large Manufacturers

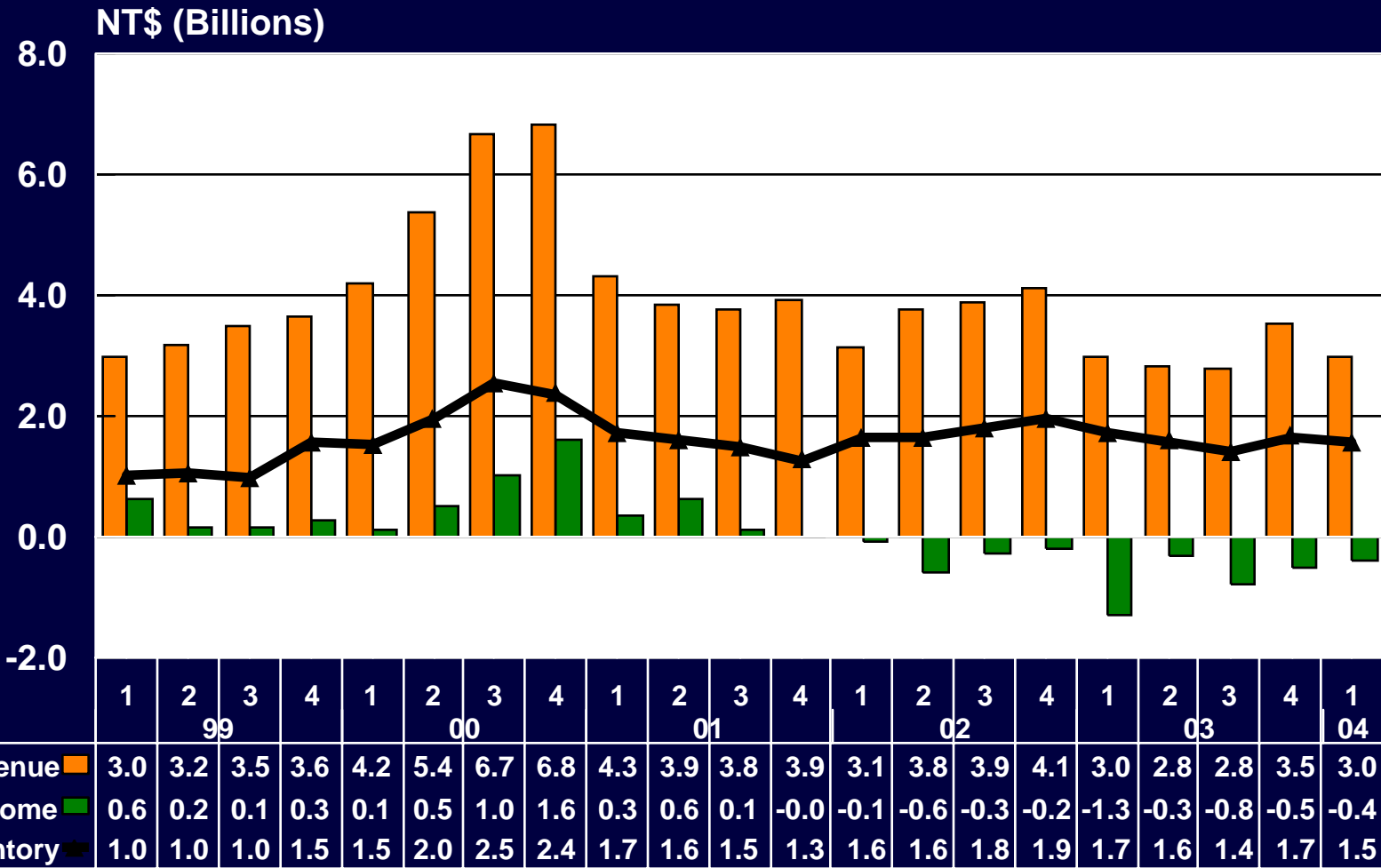


Company Financial Releases

Chin Poon, Compeq, Gold Circuit, Tripod, Unimicron, Unitech, Vertex, Wus

Compeq, Taiwan

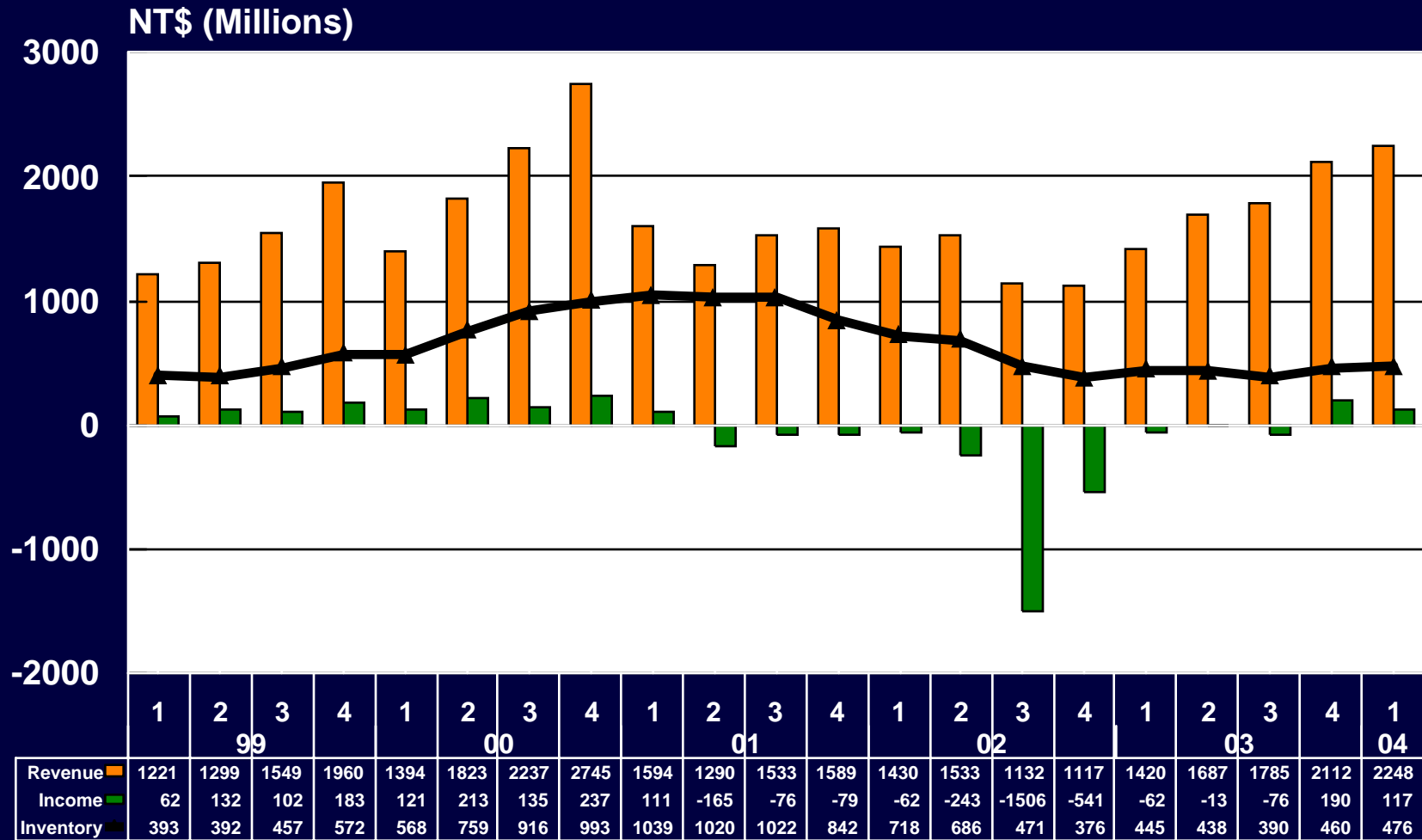
Revenue & Net Income



CY

Gold Circuit Electronics, Taiwan

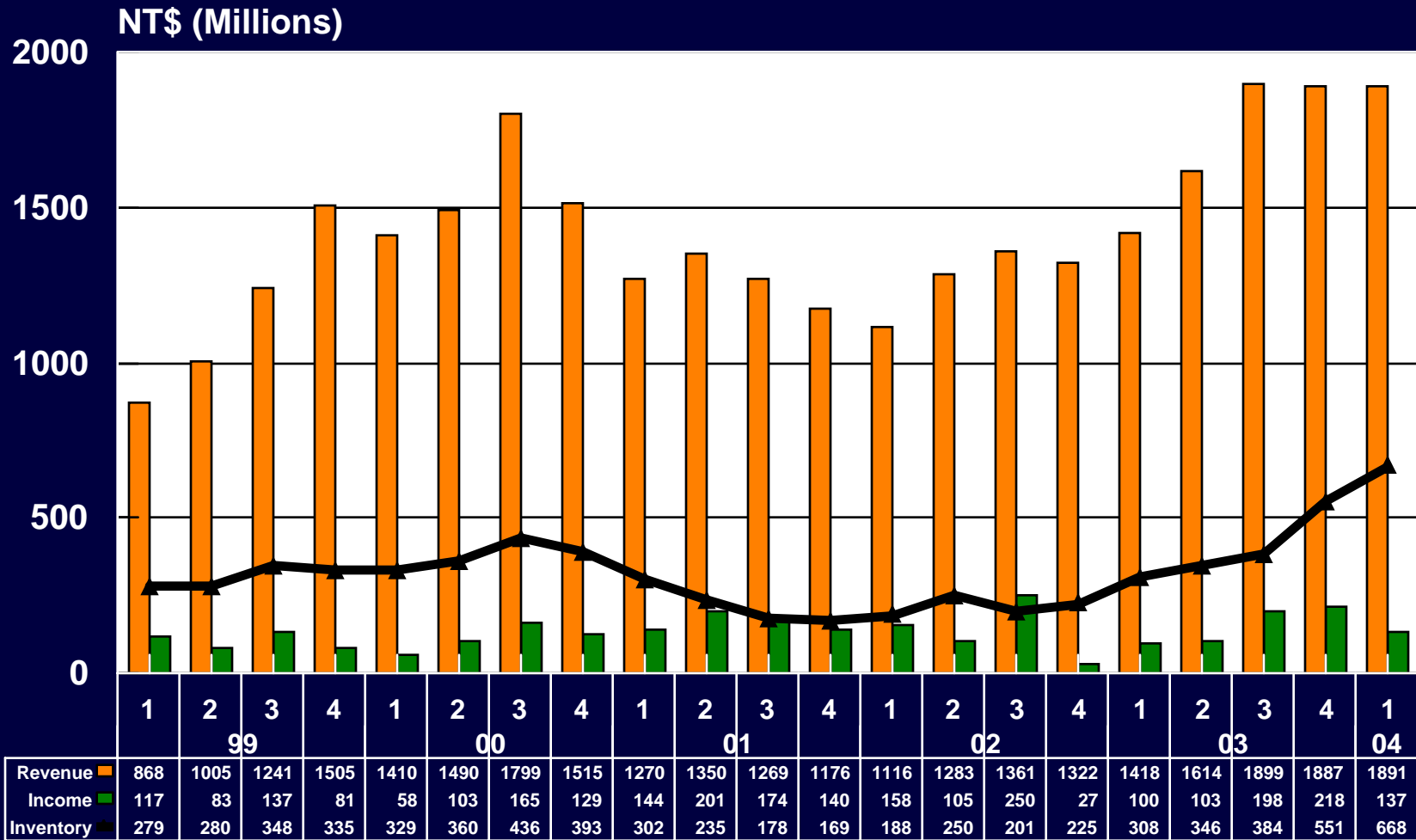
Revenue, Net Income & Inventory



CY

Chin-Poon Industrial, Taiwan

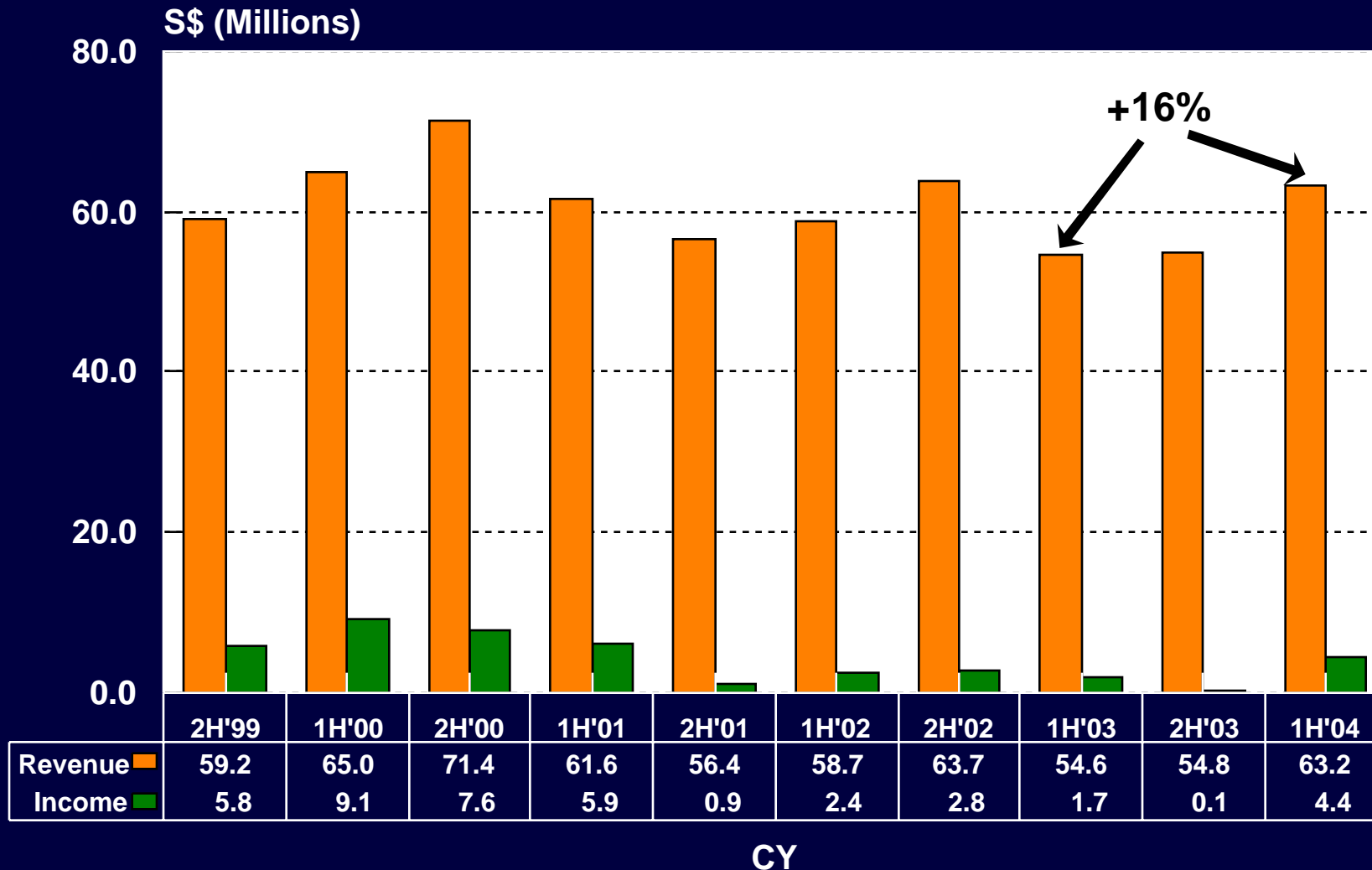
Revenue, Net Income & Inventory



CY

Pentex-Schweizer Circuits Ltd

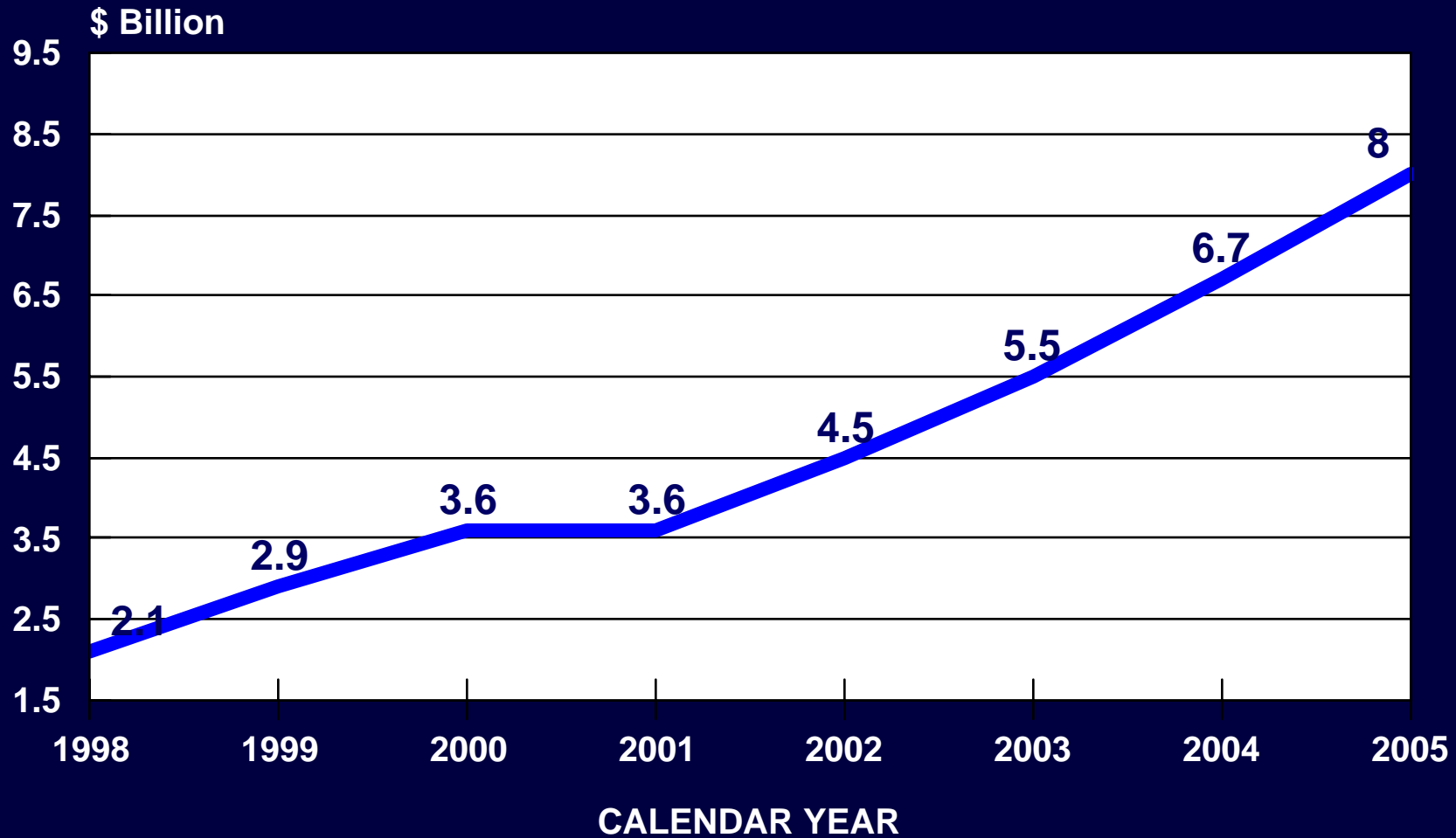
Revenue & Net Income



1.69 S\$ = 1 US\$

PCB Production in China

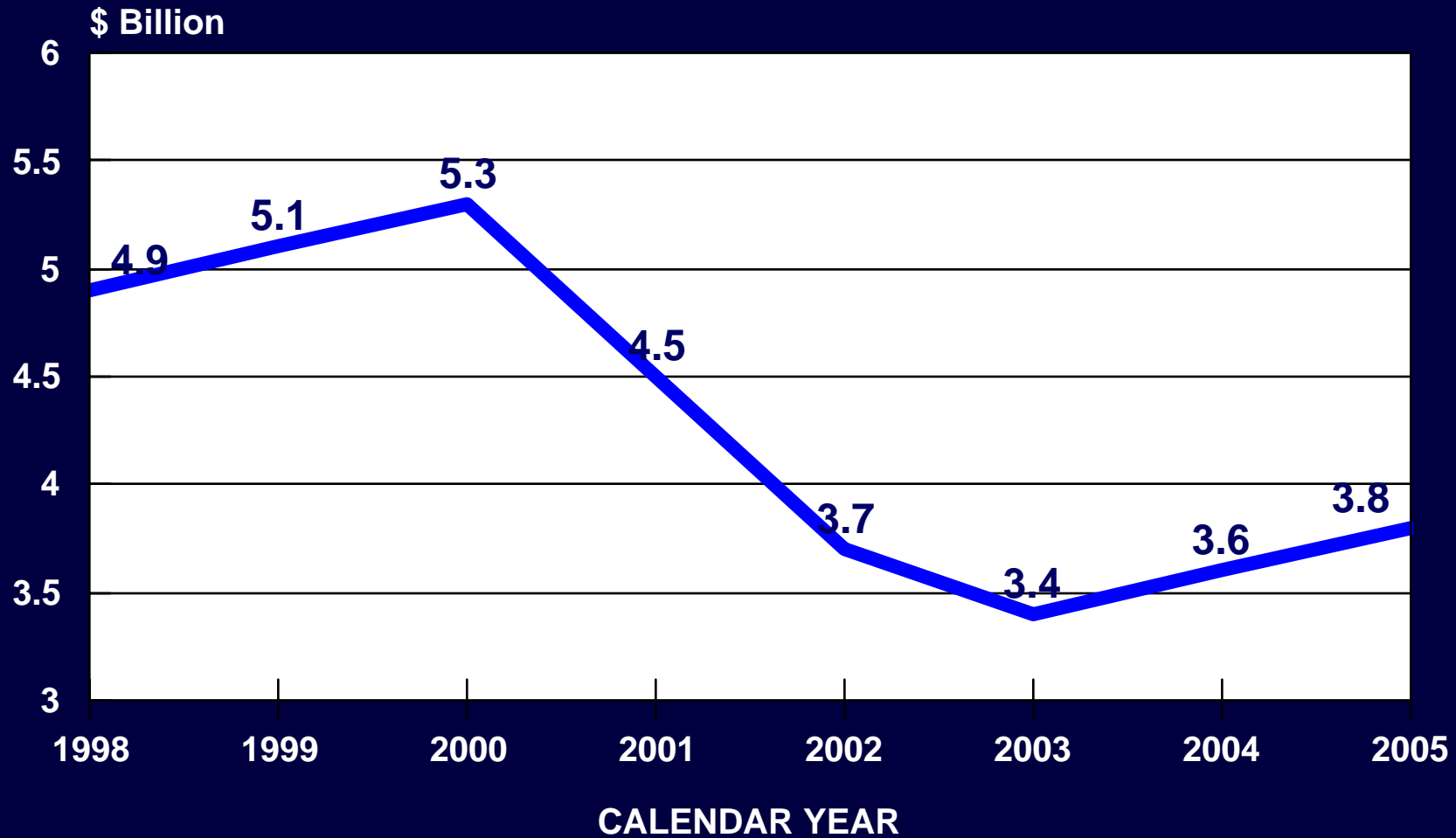
\$ Billion (constant exchange)



PCB-Network (Hans Friedrichkeit), NTI (Hayo Nakahara) 12/03

PCB Production in Europe

\$ Billion (constant exchange)



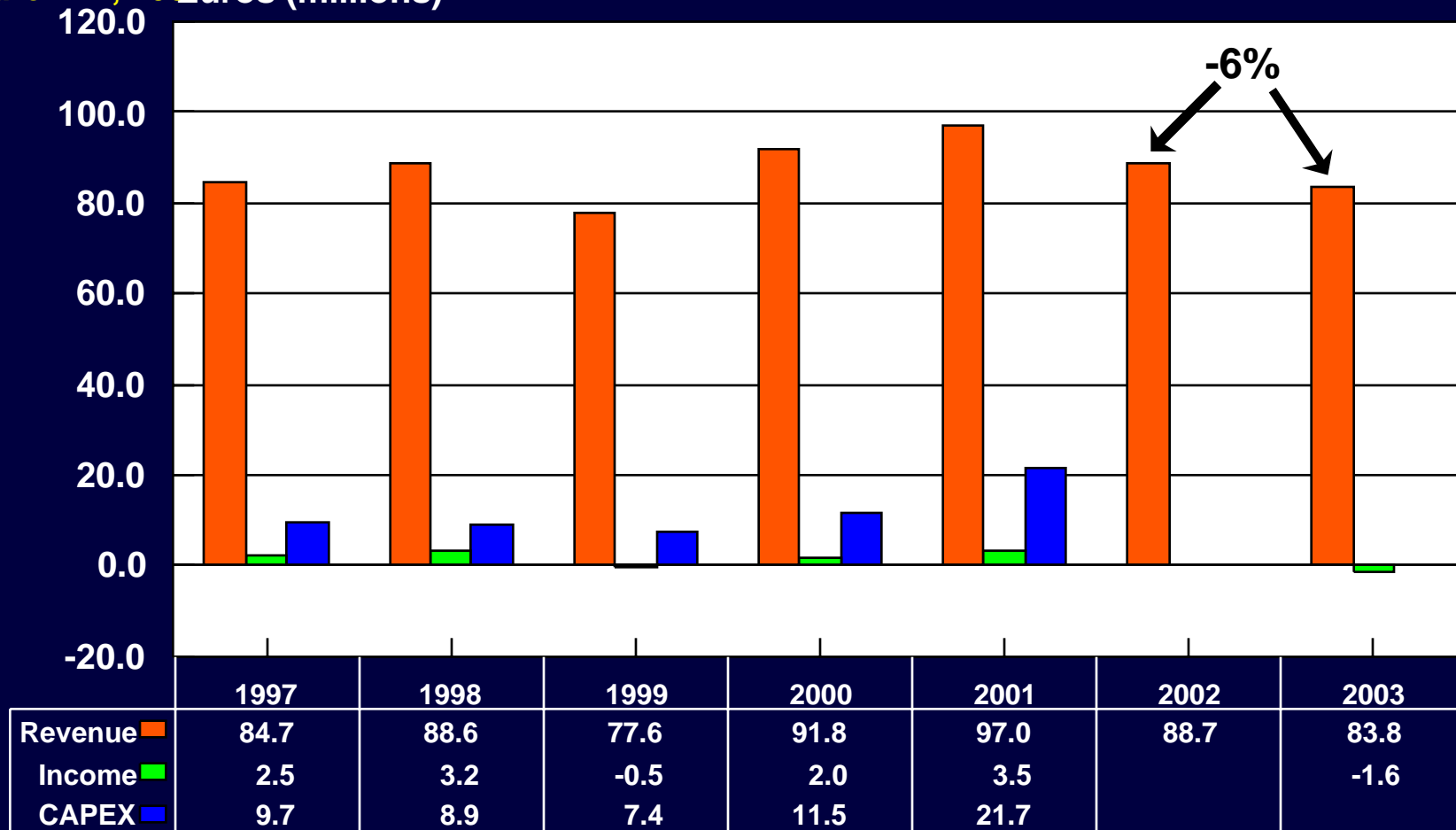
PCB-Network (Hans Friedrichkeit), NTI (Hayo Nakahara) 12/03

Schweizer Electronic AG

Revenue, Net Income & Capital Expenditure

The 2003 business year was characterized by an ongoing weak demand, tough competition, and a strong revaluation of the Euro. As a consequence, prices for printed circuit boards continued to drop, and the weak dollar caused an additional decline in sales revenues of the products invoiced in USD.

March 12, 2004 Euros (millions)



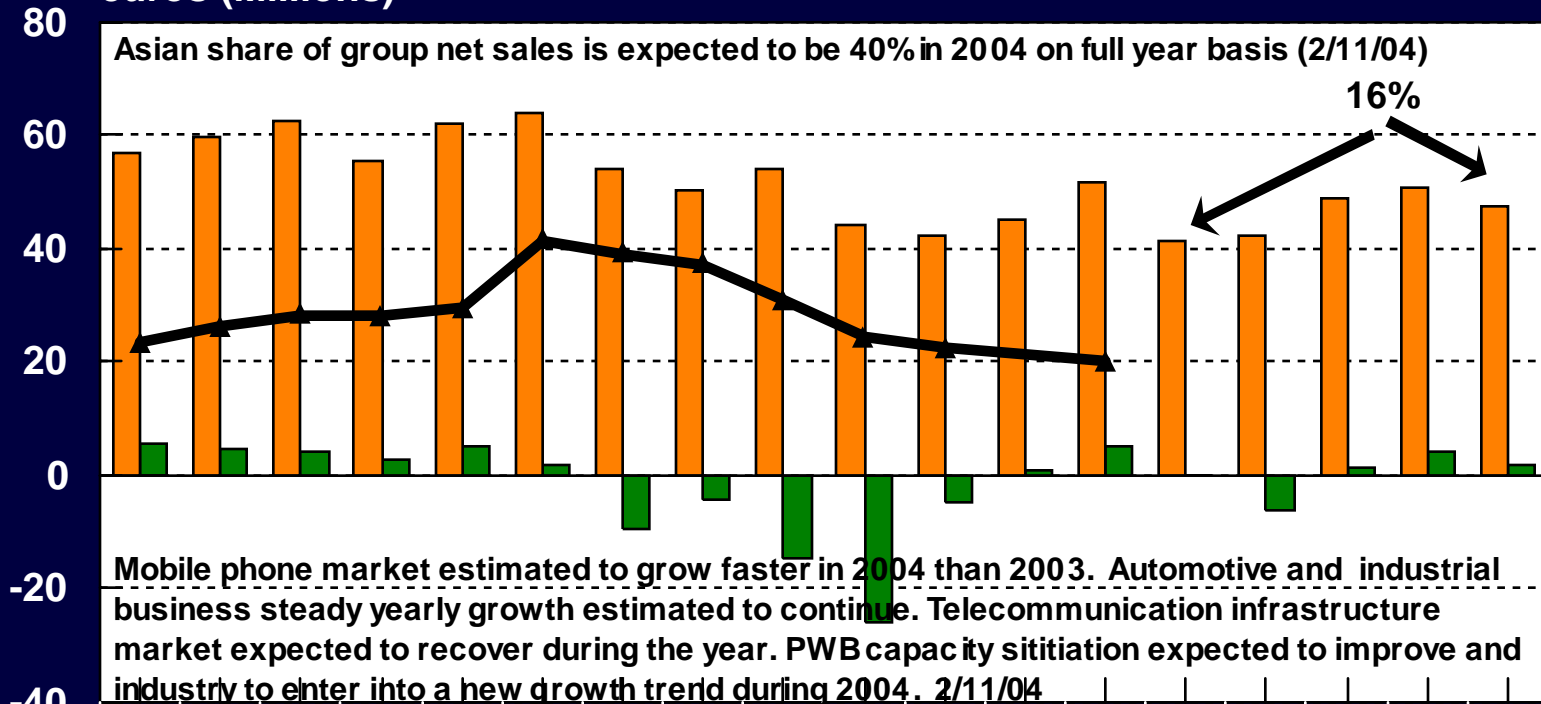
CY

SEAG

Aspocomp, Finland

Revenue, Net Income & Inventory

euros (Millions)



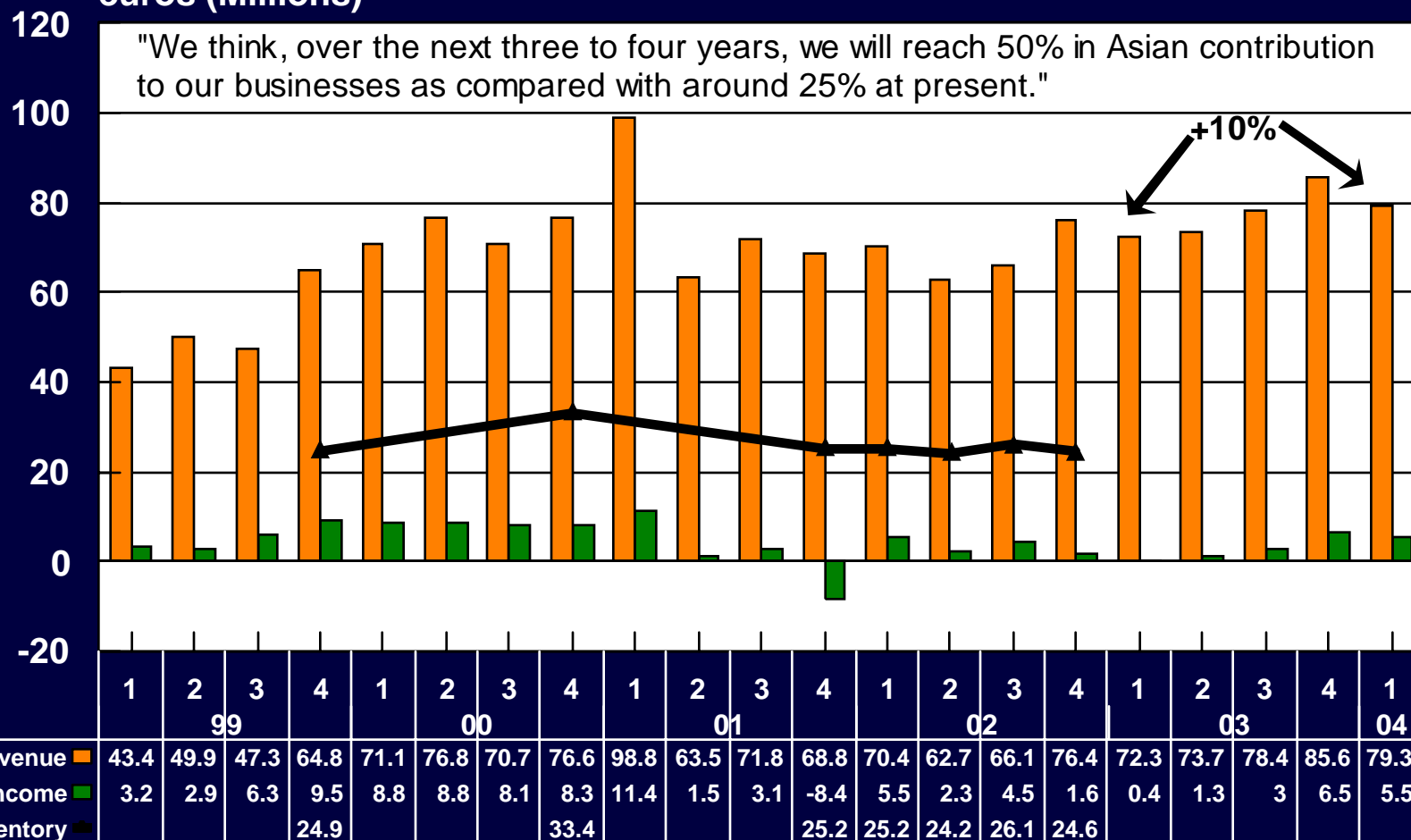
	4 99	1	2 00	3	4	1	2 01	3	4	1	2 02	3	4	1	2 03	3	4	1 04
Revenue	56.9	59.6	62.6	55.6	62.1	63.7	53.8	50.3	54	44.3	42.2	44.8	51.6	41.1	42.1	48.6	50.5	47.6
Income	5.4	4.7	3.9	2.7	4.9	1.8	-9.5	-4.6	-14.6	-26.2	-5	0.9	5.1	-0.4	-6.3	1.4	3.9	1.7
Inventory	23.4	26	28.2	27.9	29.3	41.5	39	37.2	30.7	24.1	22.3		20					

AT&S, Austria

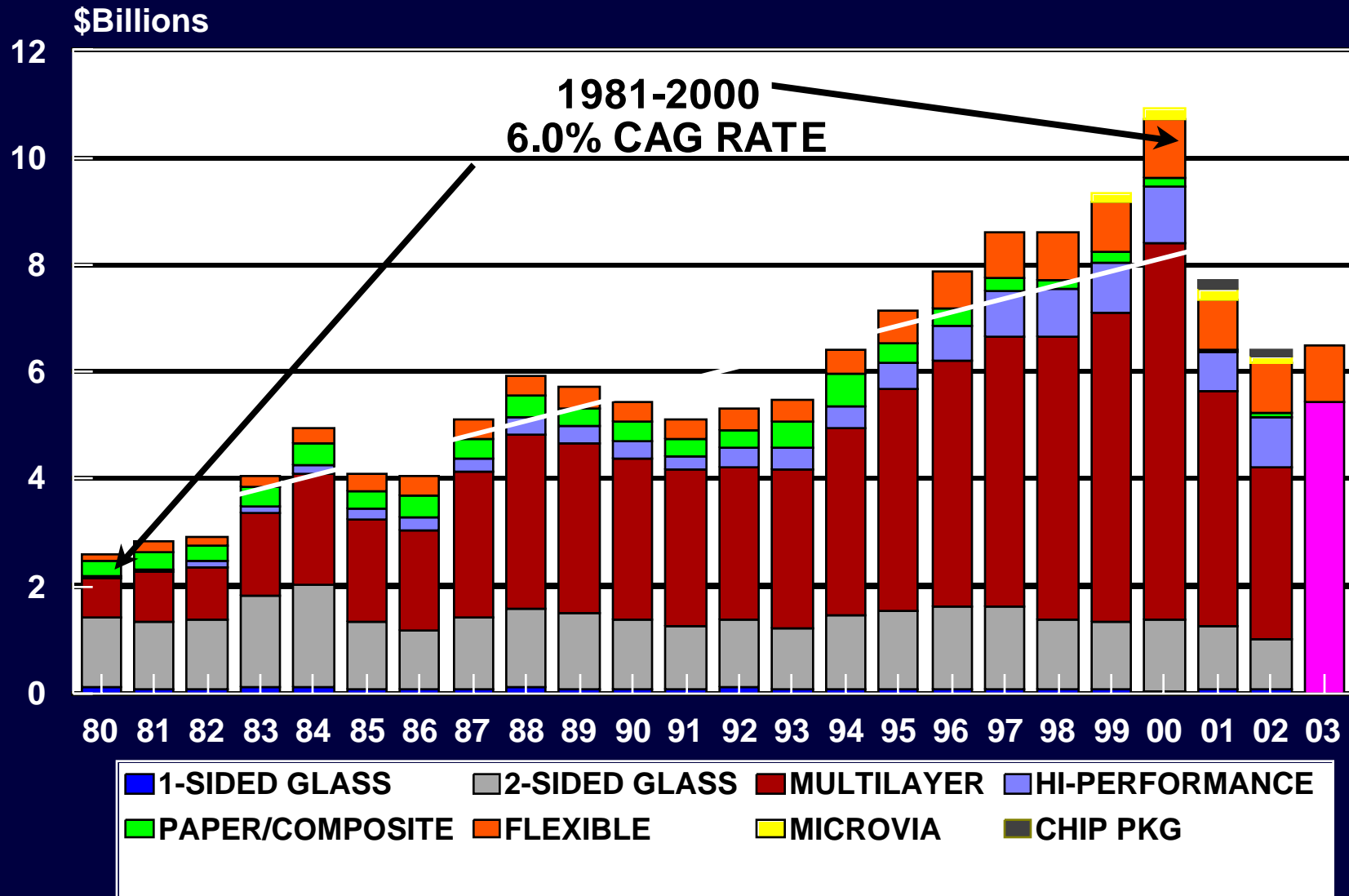
Revenue, Income & Inventory

With its strategy of a flexible international distribution of its production between the sites in Austria and those in Asia (Nanjangud/India and Shanghai/ China), AT&S was able to create optimum conditions for the demands of the markets. Customers trading internationally can now be supplied from Europe and increasingly from Asia because the second production line in Shanghai has full delivery capacity earlier than expected. 10/23/03

euros (Millions)

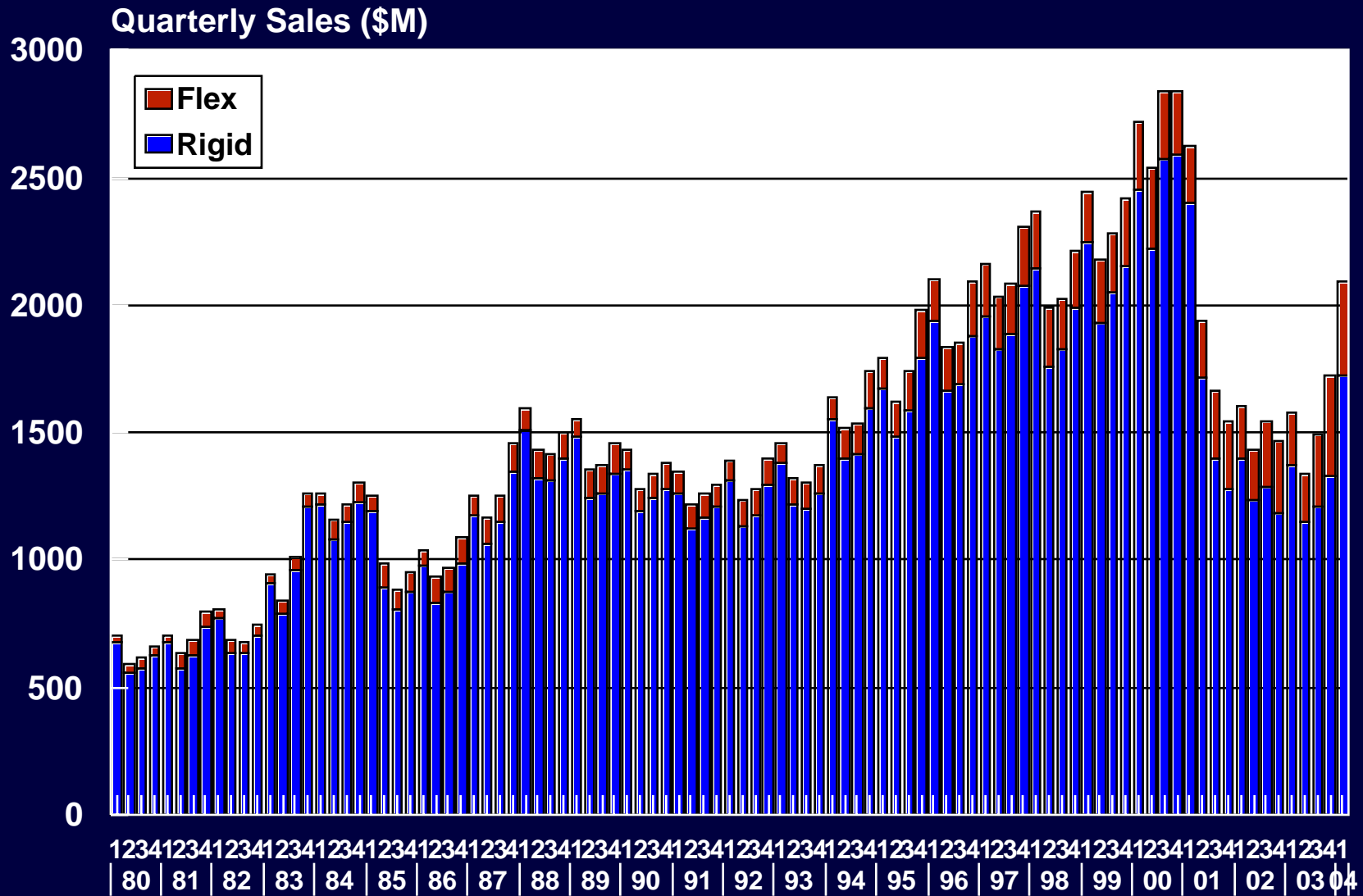


N. AMERICAN PCB SHIPMENTS



IPC T/MRC 7/2003, Custer estimate of 2003 based upon rigid & flex 2003 growth

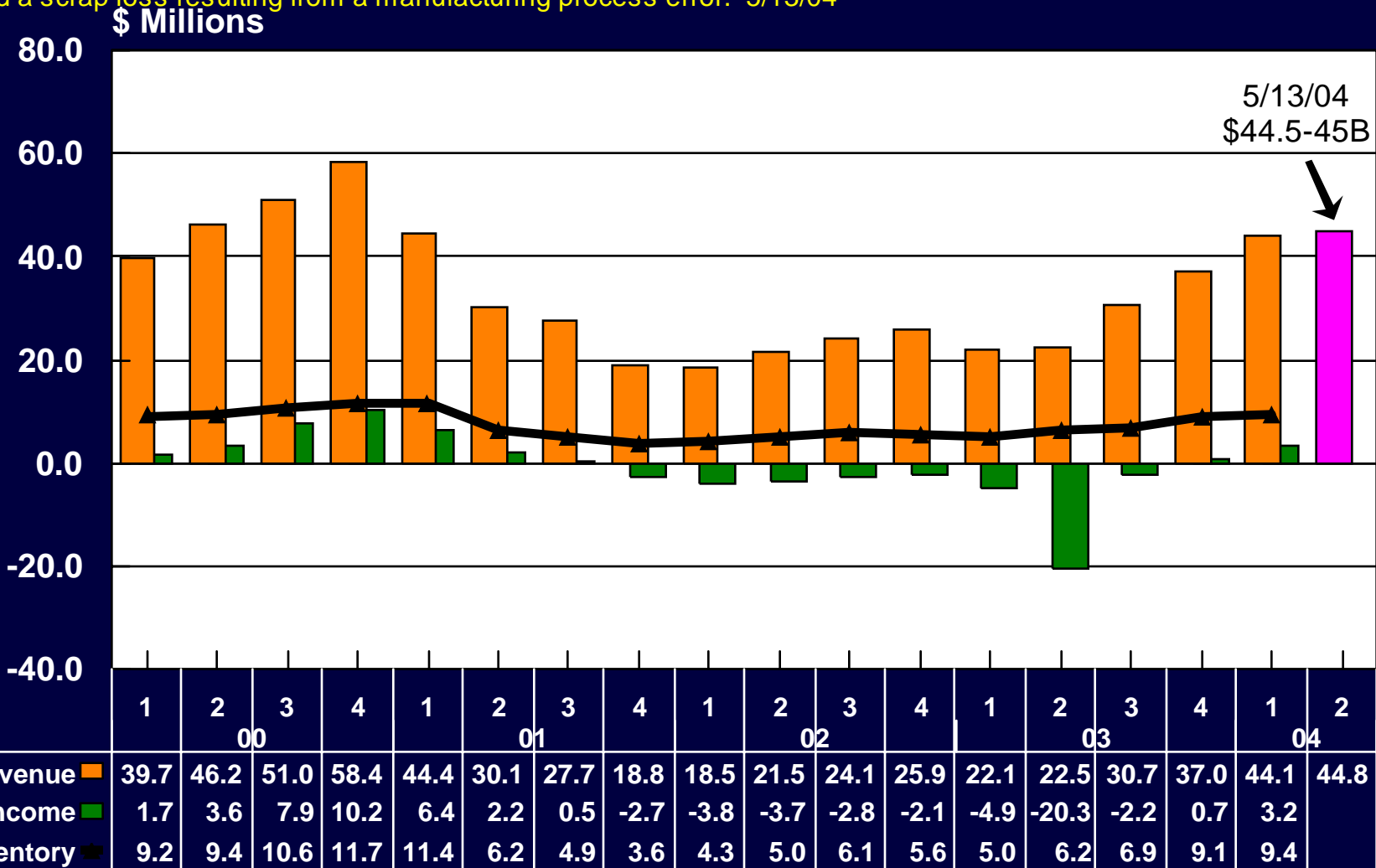
N. AMERICAN TOTAL PCB SHIPMENTS



IPC T/MRC data with Custer interpretation

Merix Revenue, Net Income & Inventory

"The change in expectations is caused by a lower level of premium services business attributed to reduced demand by customers for expedited volume orders and reduced orders from a major customer, which the Company understands results from decreased demand for certain of the customer's products and increased inventory levels in their supply chain. A portion of the sales shortfall has been backfilled, but with a significantly less profitable mix of products. In addition, the Company expects a further reduction in sales and a scrap loss resulting from a manufacturing process error." 5/13/04



FY ends May

MERX

Merix sees fourth-quarter loss on reduced demand

May 13 (Reuters) - Merix Corp. on Thursday lowered its forecast for the fiscal fourth quarter ending May 29 and said it expects a loss of 3 cents to 6 cents a share compared with its earlier forecast for a profit of 19 cents to 22 cents a share.

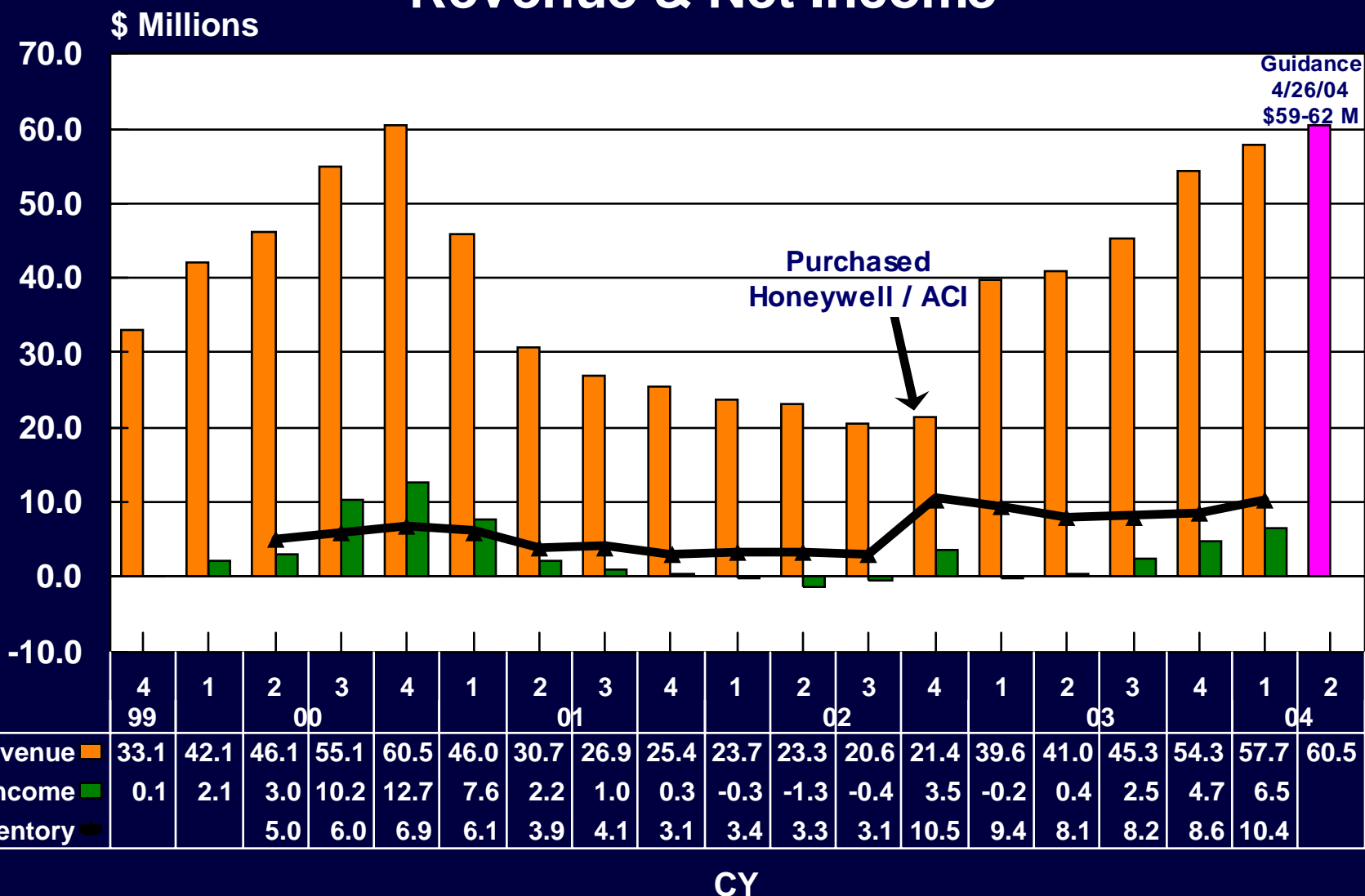
It said the lowered forecast was due to reduced demand and lower orders from a major customer. Merix also cited lower sales and scrap loss from a manufacturing error.

Sales for the fourth quarter now are forecast between \$44.5 million and \$45 million, down from a March 24 forecast of \$46 million to \$48 million, Merix said.

Merix said that the manufacturing mishap discovered this week at its Forest Grove plant "affected three high volume part numbers with significant quantities scheduled for shipment in the fourth quarter."

The error was corrected and replacement parts are being built, but Merix said it will result in a \$1.2 million sales reduction in the fourth quarter.

TTM Technologies Revenue & Net Income



"We also anticipate favorable market conditions to continue in the second half of 2004. Based on input from customers, we expect second-half volumes to exceed first-half levels." 4/26/04

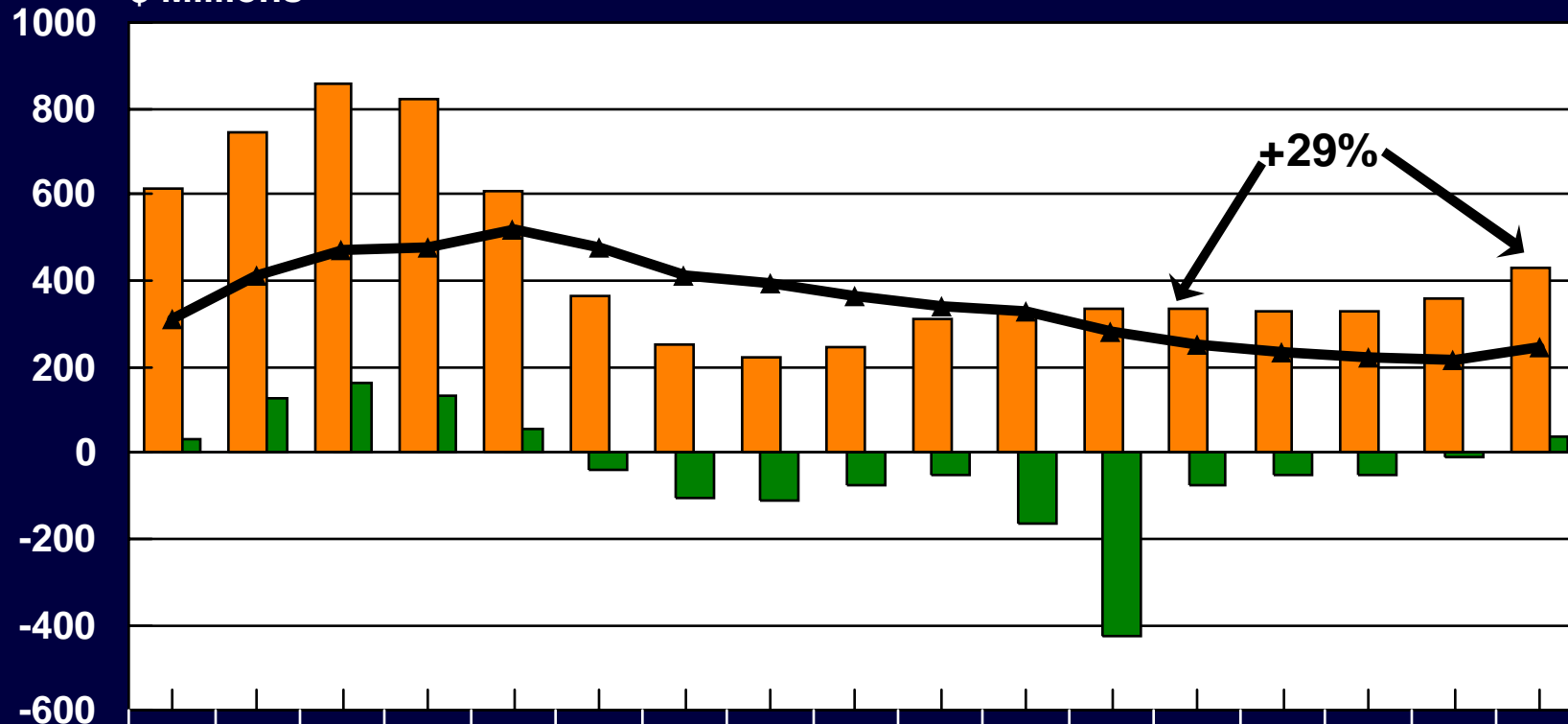
TTMI

FY=CY

Teradyne

Revenue, Net Income & Inventory

\$ Millions

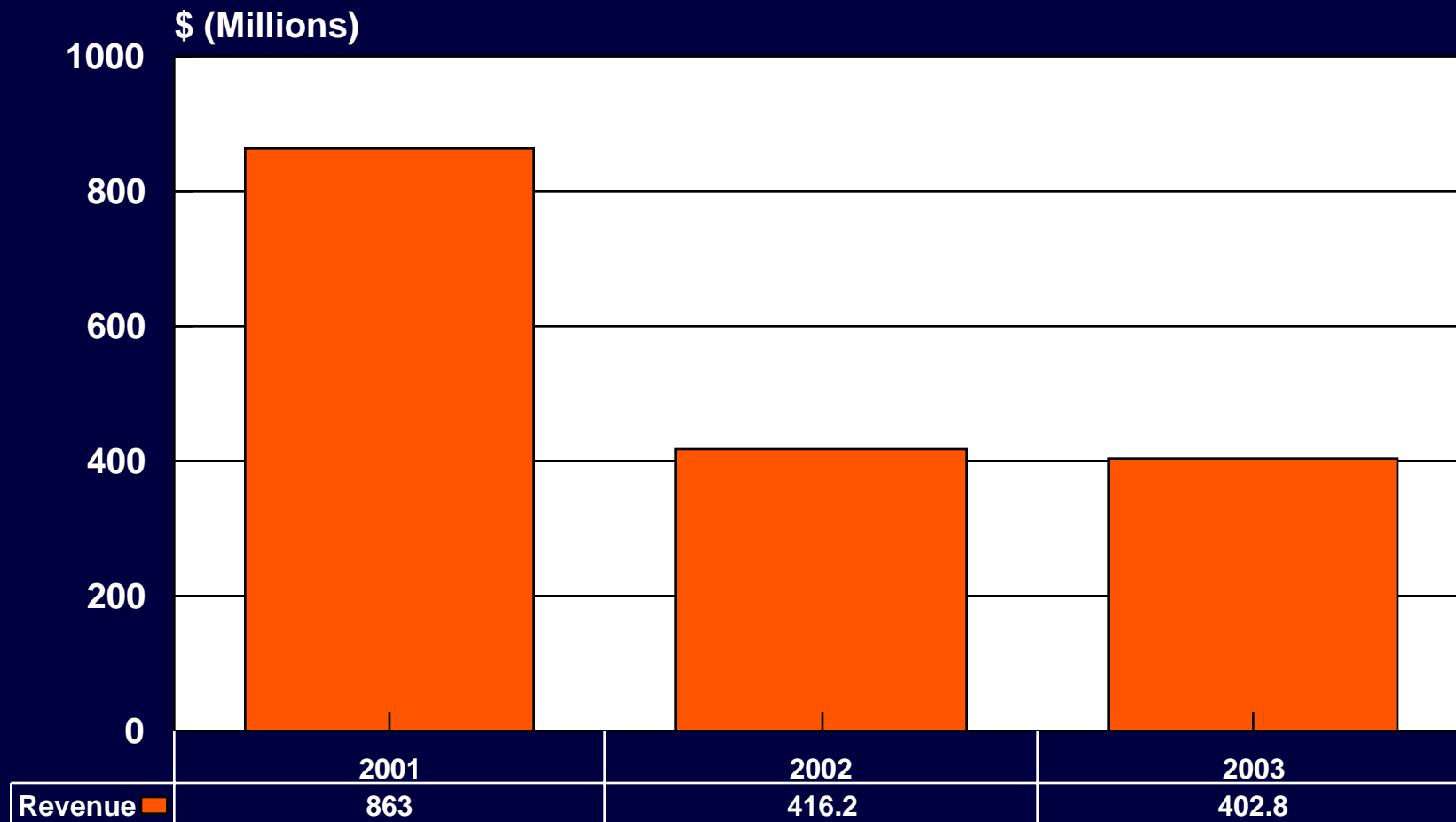


	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	00				01				02				03				04
Revenue	615	747	859	822	605	366	249	220	248	310	331	334	335	332	329	358	431
Income	29	129	163	132	54	-40	-103	-113	-77	-51	-167	-424	-76	-52	-54	-11	40
Inventory	308	412	473	478	520	475	413	395	364	342	327	280	252	234	221	215	248

CY

TER

Tyco Electronics PCB Group Revenue



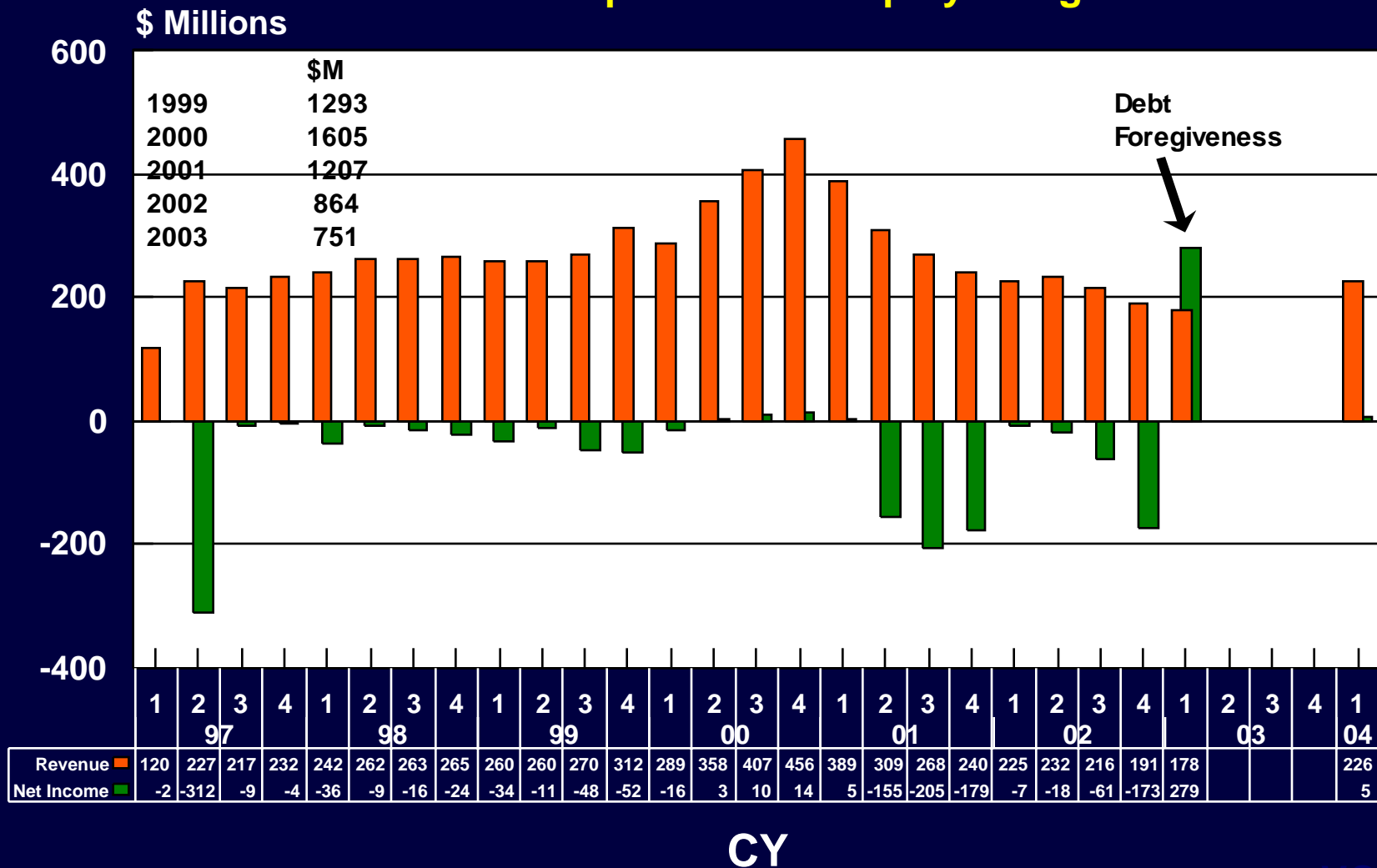
CY

10K annual report

TYC

Viasystems Revenue & Income

1/2003 Chapter 11 bankruptcy reorganization

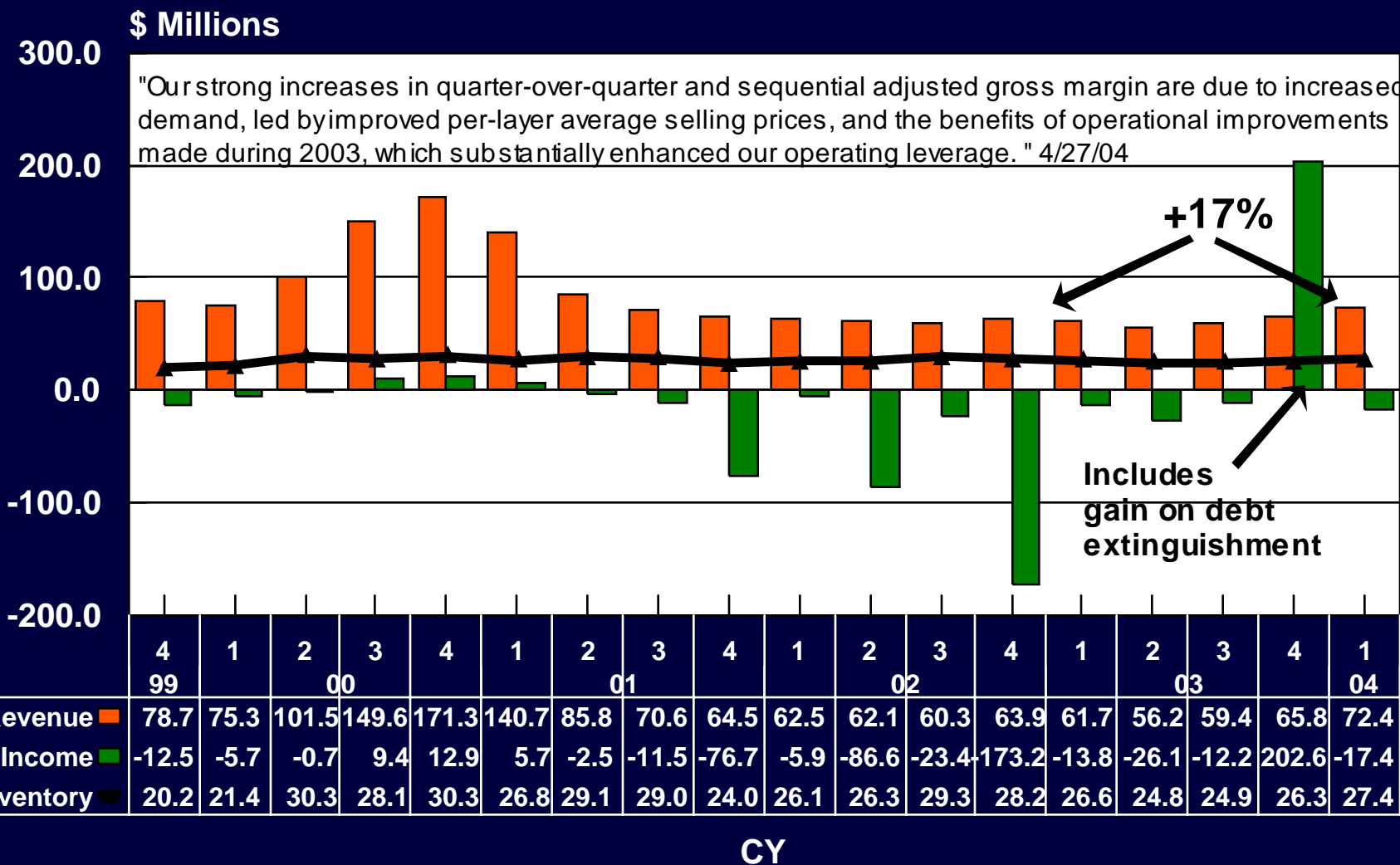


Sources: 10Q & 10K reports and company press releases

VSGI

DDi Corp

Revenue, Net Income & Inventory



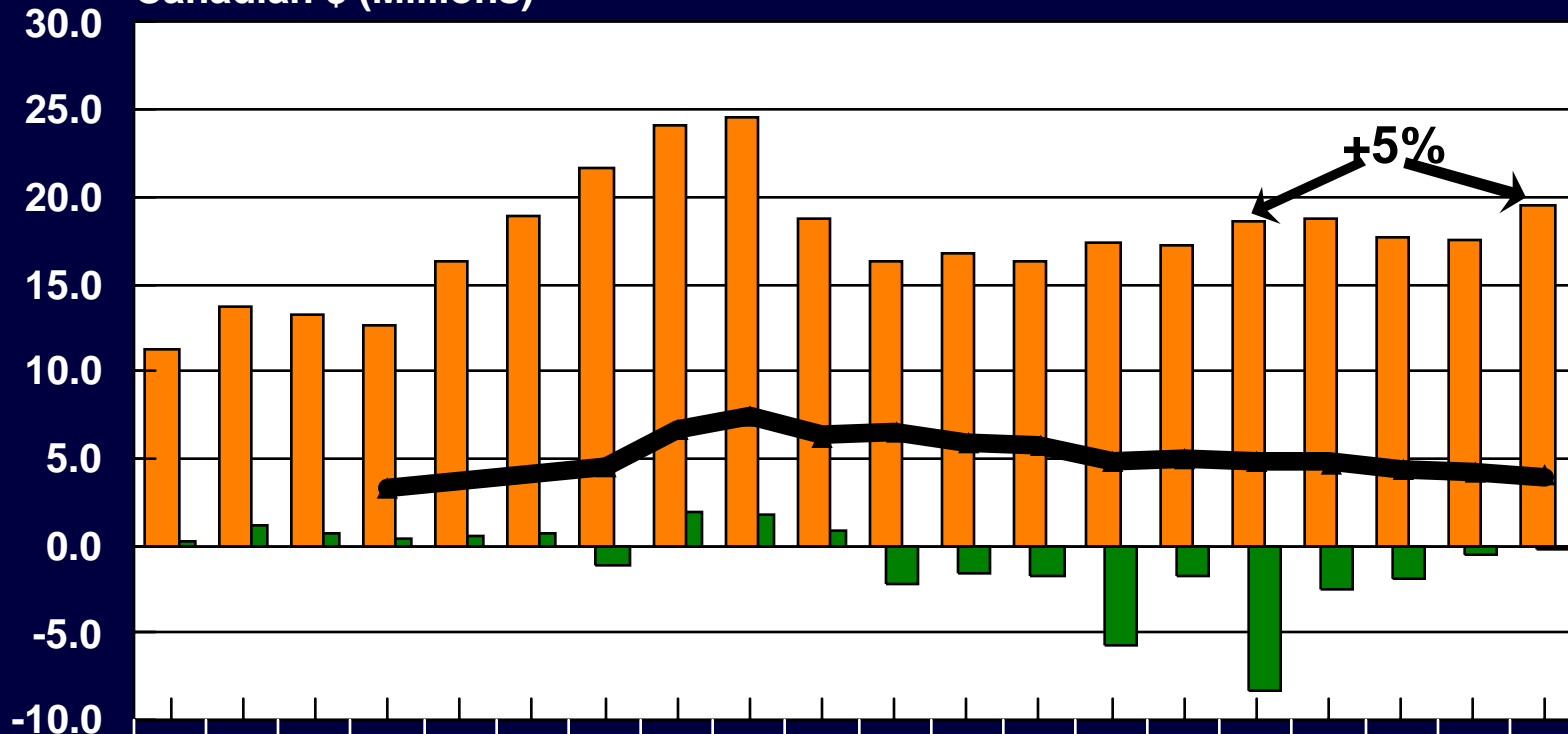
FY=CY

DDIC

Coretec Inc

Revenue, Net Income & Inventory

Canadian \$ (Millions)



	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	99				00				01				02				03			
Revenue	11.3	13.7	13.2	12.6	16.4	18.9	21.6	24.1	24.6	18.8	16.3	16.7	16.3	17.3	17.2	18.6	18.7	17.7	17.5	19.5
Income	0.3	1.1	0.7	0.3	0.6	0.8	-1.0	1.9	1.8	0.8	-2.2	-1.6	-1.7	-5.7	-1.7	-8.3	-2.5	-1.9	-0.5	-0.2
Inventory				3.3			4.6	6.7	7.4	6.3	6.6	5.9	5.7	4.9	5.1	4.9	4.8	4.4	4.3	4.0

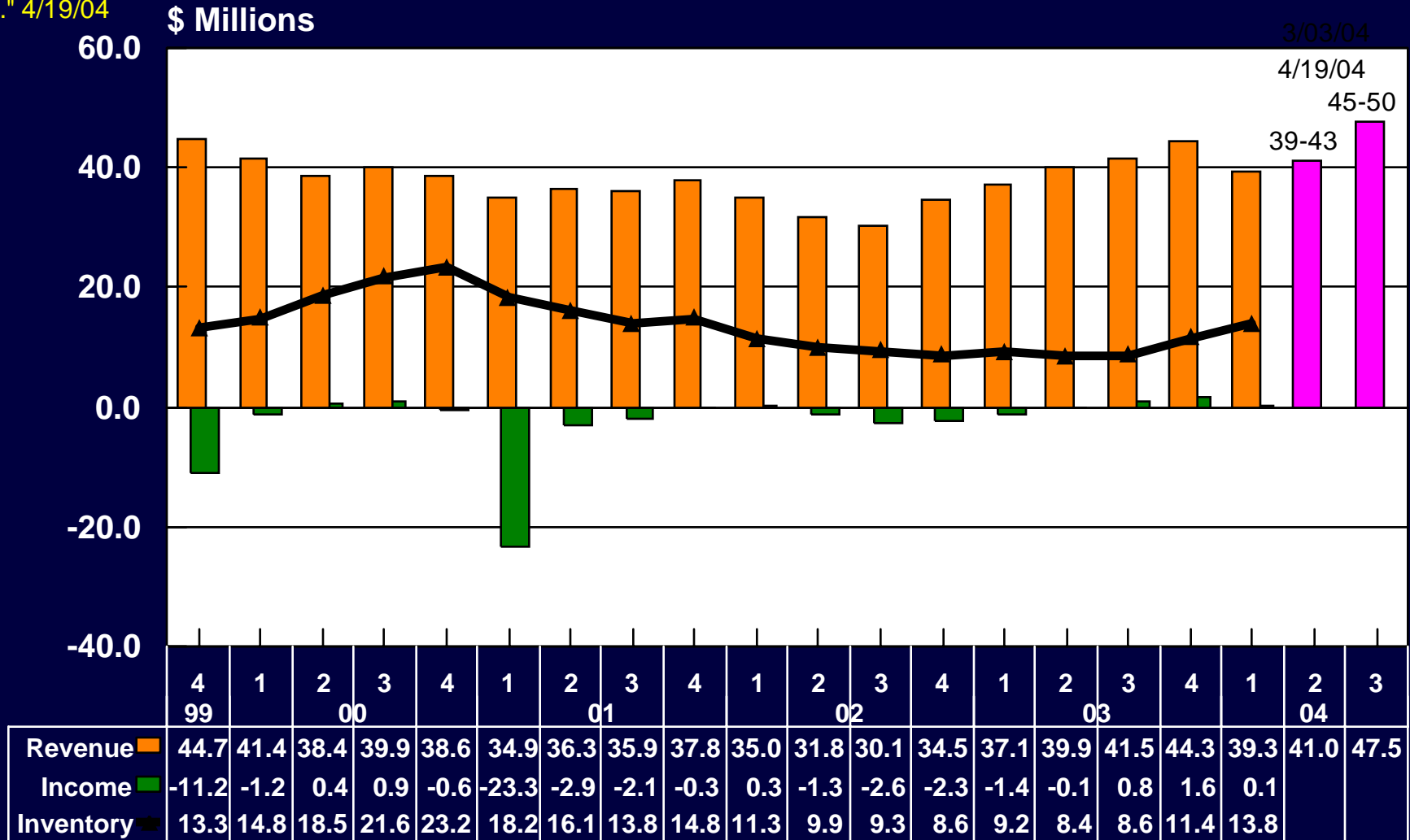
FY=CY

T:CY

Innovex

Revenue, Net Income & Inventory

"The March quarter was a challenging one because of build plan reductions caused by excess channel inventory in the HDD sector and capacity expansion start-up problems encountered during the quarter. We have successfully worked through our capacity installation problems and we are cautiously optimistic that the HDD industry resolved its channel inventory problems during the quarter." 4/19/04



FY ends September

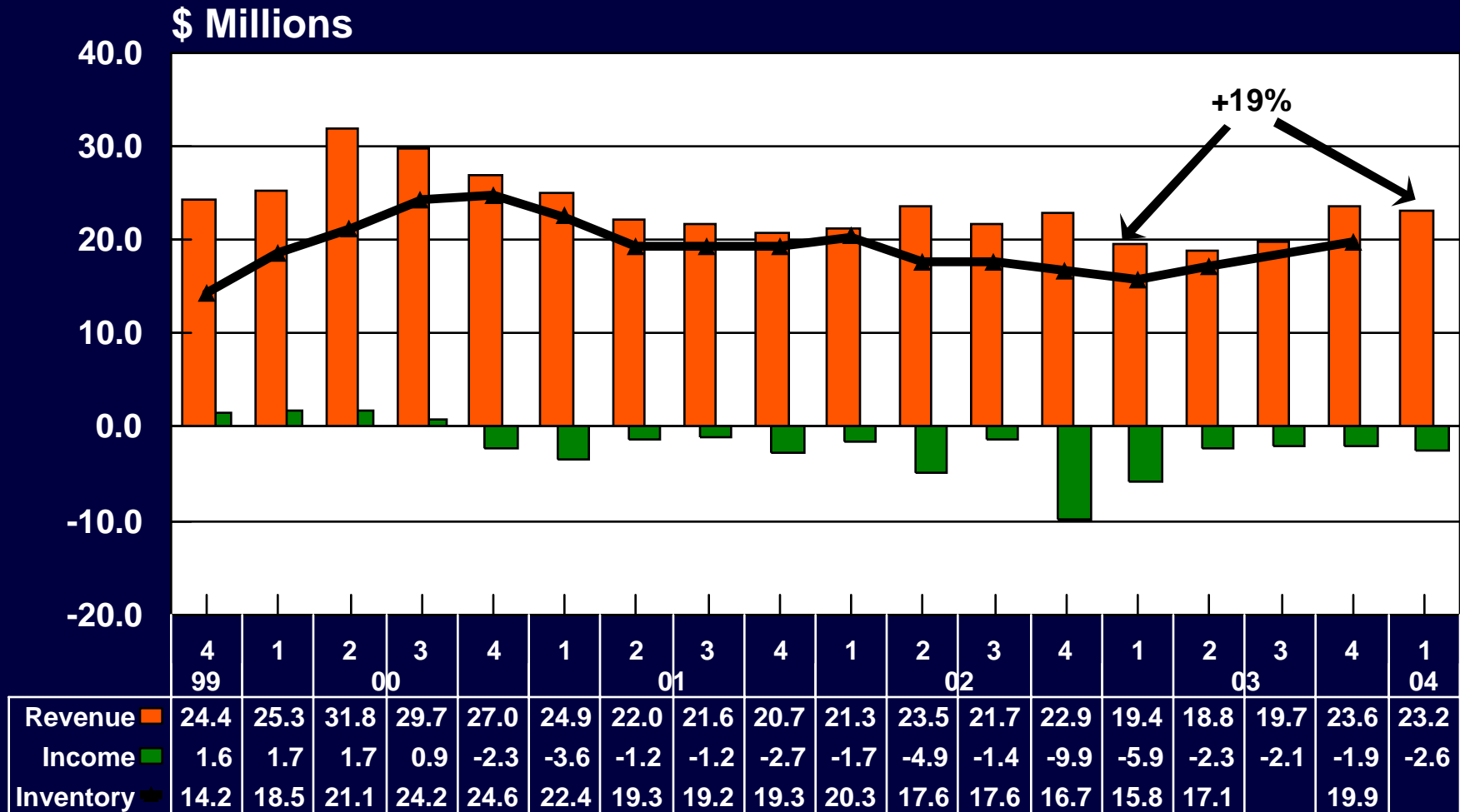
CY

INVX

Parlex

Revenue, Net Income & Inventory

"We believe that our increase in revenue reflects a stronger business climate aided by new product introductions. For the first time in our history, non U.S. revenues exceeded 50% led by China's \$9.4 million. Our U.S. business also recorded increased revenues although our multilayer operation remains well below a breakeven level. Our U.S. laminated cable and polymer thick film operations remained profitable." Peter Murphy 2/11/04



FY ends June 30

CY

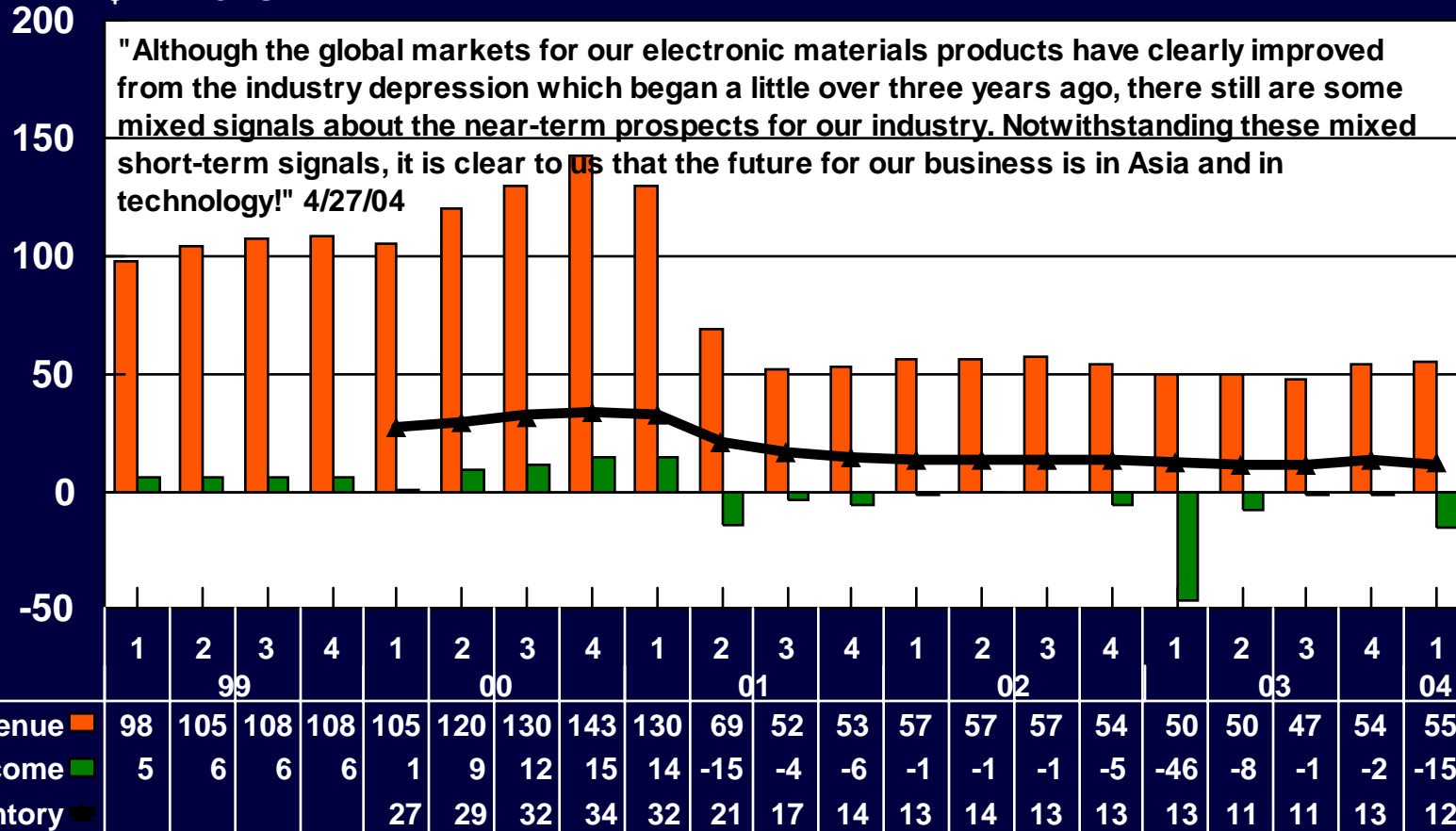
PRLX

**Materials
&
Process
Equipment
Suppliers**

Park Electrochemical Corp

Revenue, Net Income & Inventory

\$ Millions



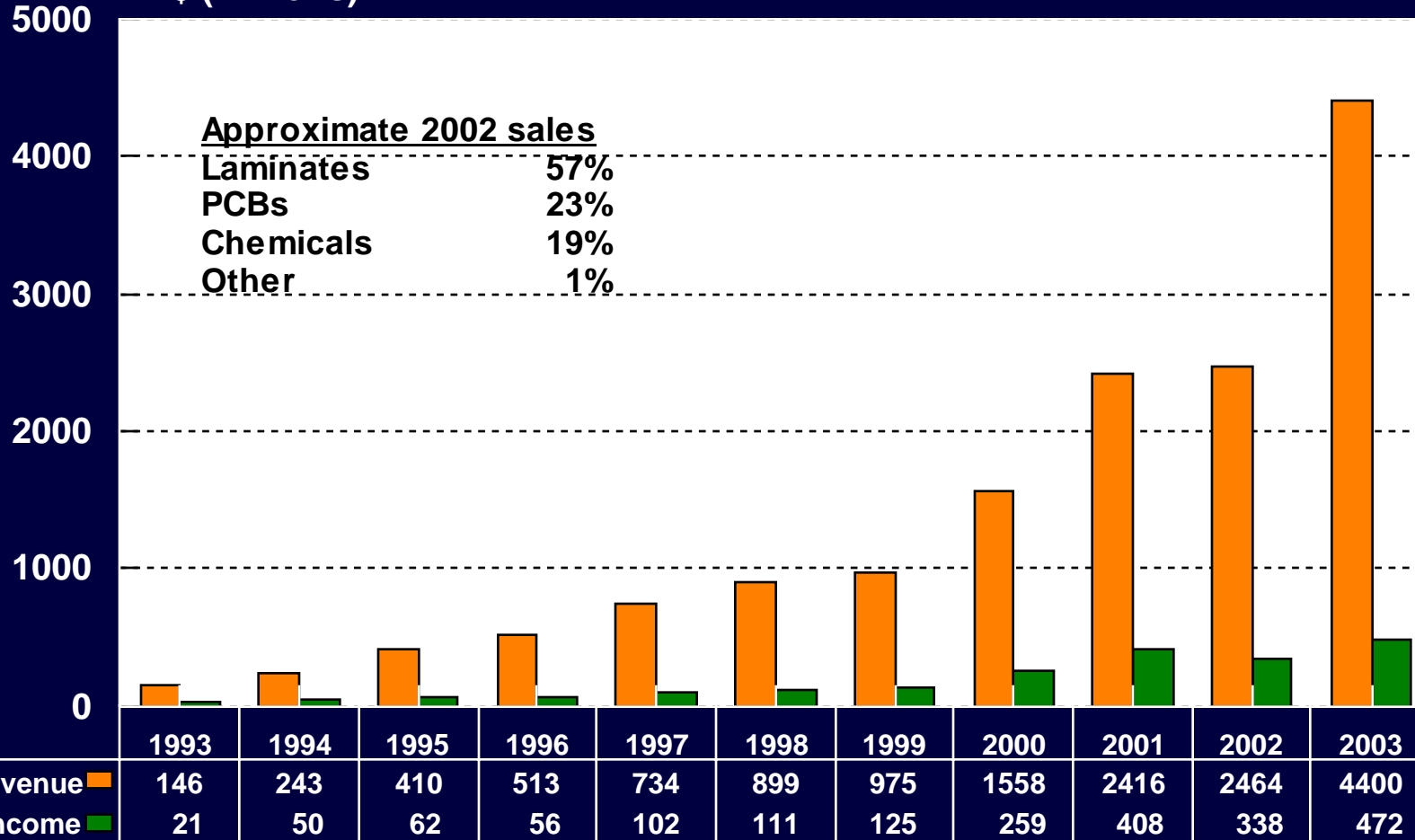
CY

PKE

Kingboard Chemical Holdings

Revenue & Net Income

HK\$ (Millions)

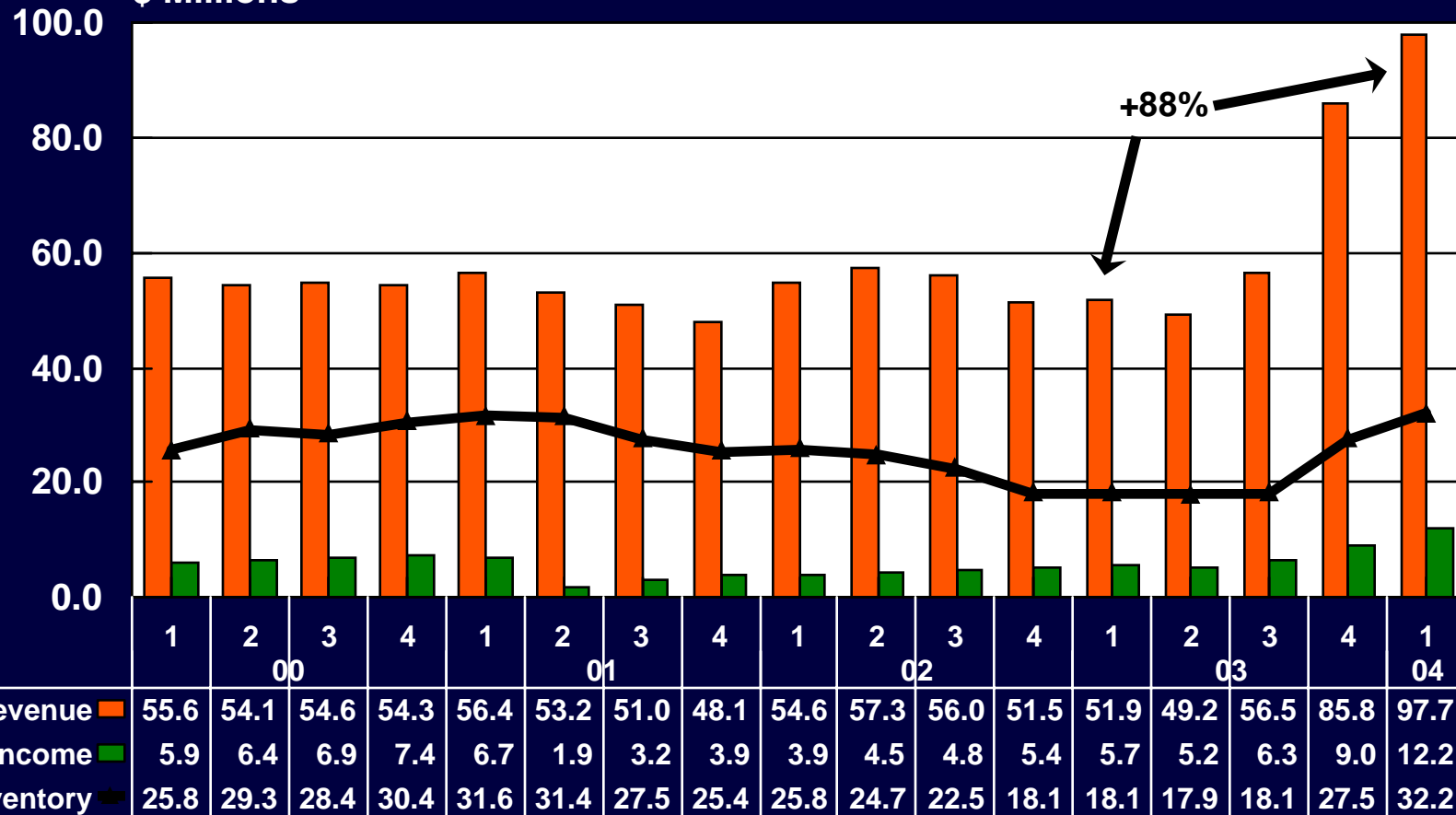


CY

Rogers Corp

Revenue, Net Income & Inventory

\$ Millions



CY

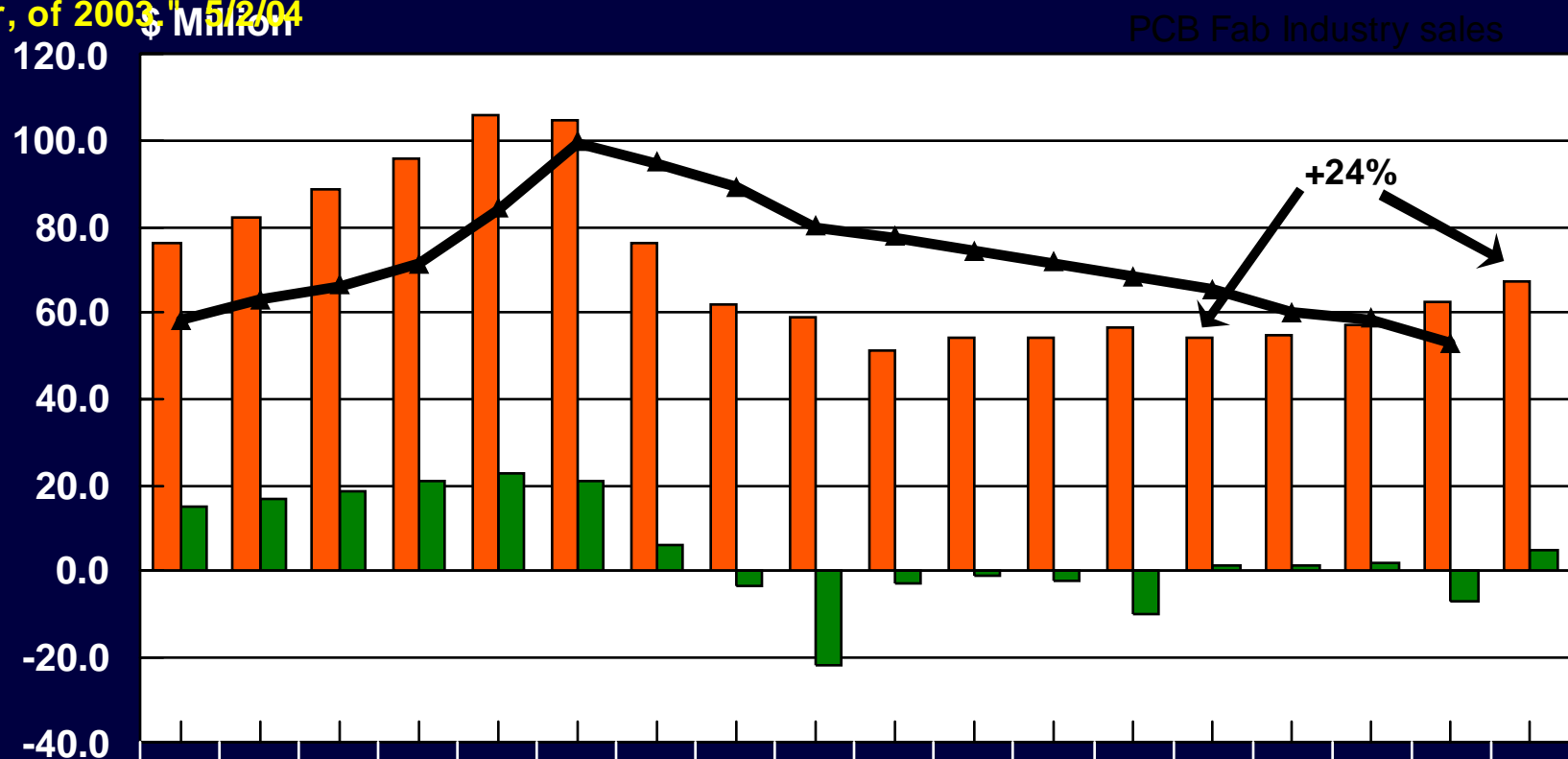
"We remain agile and on track to take advantage of the emerging opportunities both geographically and in our top growth markets, namely wireless infrastructure, cellular handsets, satellite television, computers, and transportation." 4/21/04

ROG

Orbotech

Revenue, Net Income & Inventory

"Sales of equipment to the printed circuit board ("PCB") industry relating to bare PCBs were \$23.3 million in the first quarter of 2004, compared to \$23.7 million in the fourth quarter, and \$17.6 million in the first quarter, of 2003." 5/2/04



	4 99	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	00				01				02				03				04	
Revenue	76.2	82.3	88.4	95.7	105.9	104.9	76.5	61.7	58.9	51.1	54.2	54.2	56.9	54.2	54.6	57.3	62.3	67.2
Income	15.2	16.6	18.7	21.0	22.7	21.0	6.1	-3.6	-21.7	-2.7	-1.2	-2.0	-9.8	1.0	1.2	2.0	-7.3	5.1
Inventory	58.2	62.9	66.4	71.3	84.1	99.6	94.8	89.3	80.1	77.7	74.2	71.7	68.4	65.5	60.2	58.5	53.0	

CY

ORBK

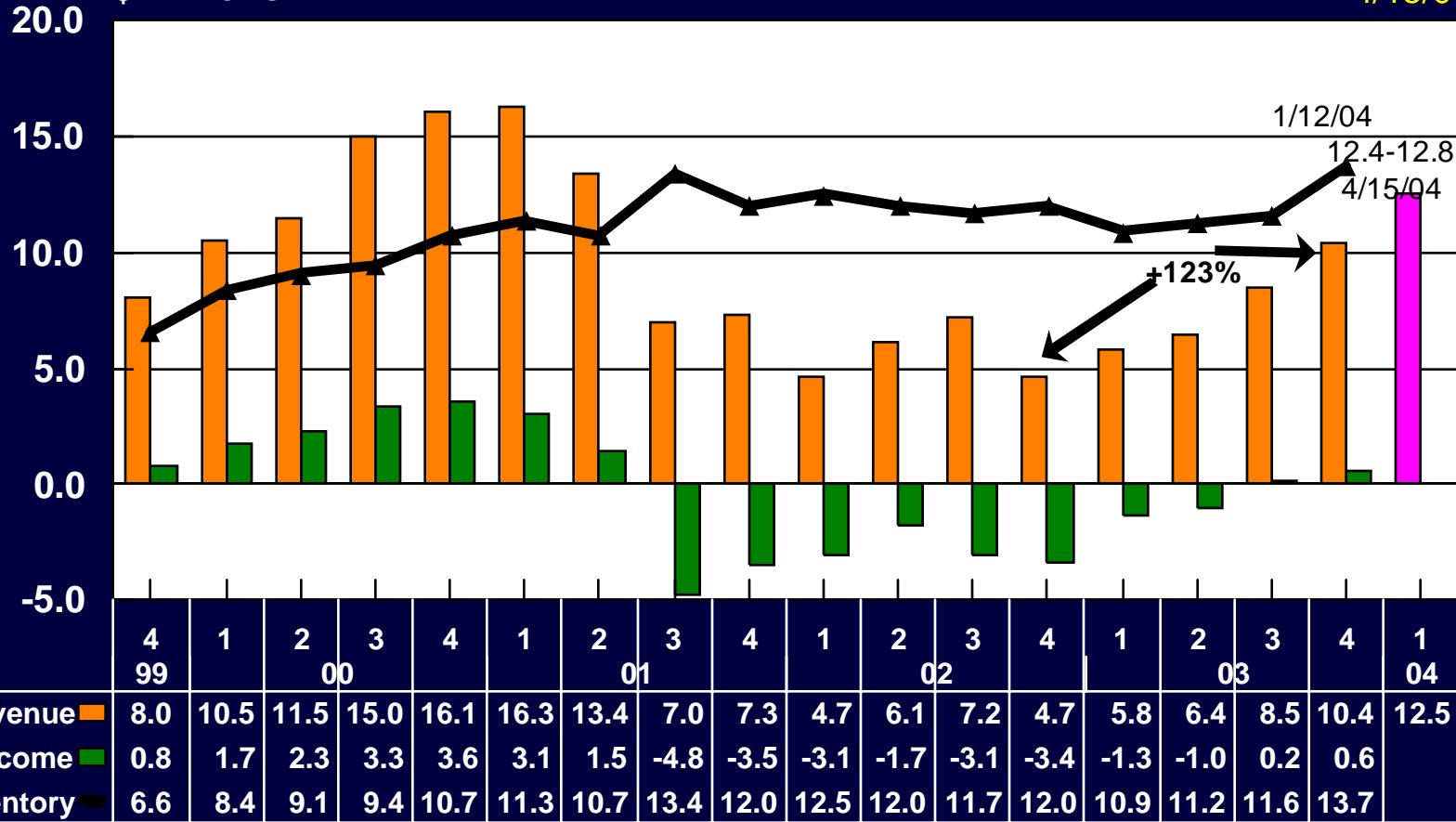
Camtek Ltd

Revenue, Net Income & Inventory

"This is our fifth sequential quarter of growth in revenues, following the trends we have witnessed since the first quarter of 2003. This growth is in line with our expectations. It reflects the continuing upturn in our served industries, and the resulting rise in demand for our PCB and HDI-S automated optical inspection products."

\$ Millions

4/15/04



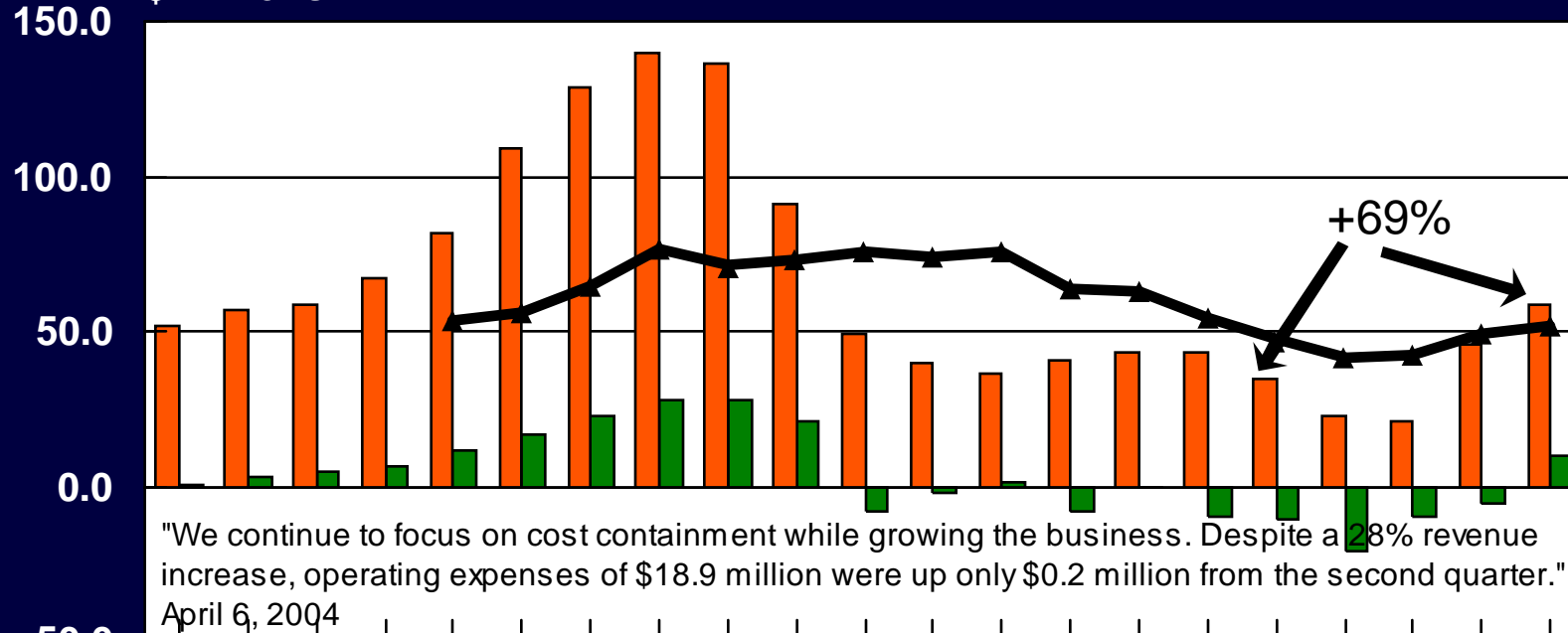
CY

CAMT

Electro Scientific Industries

Revenue, Net Income & Inventory

\$ Millions



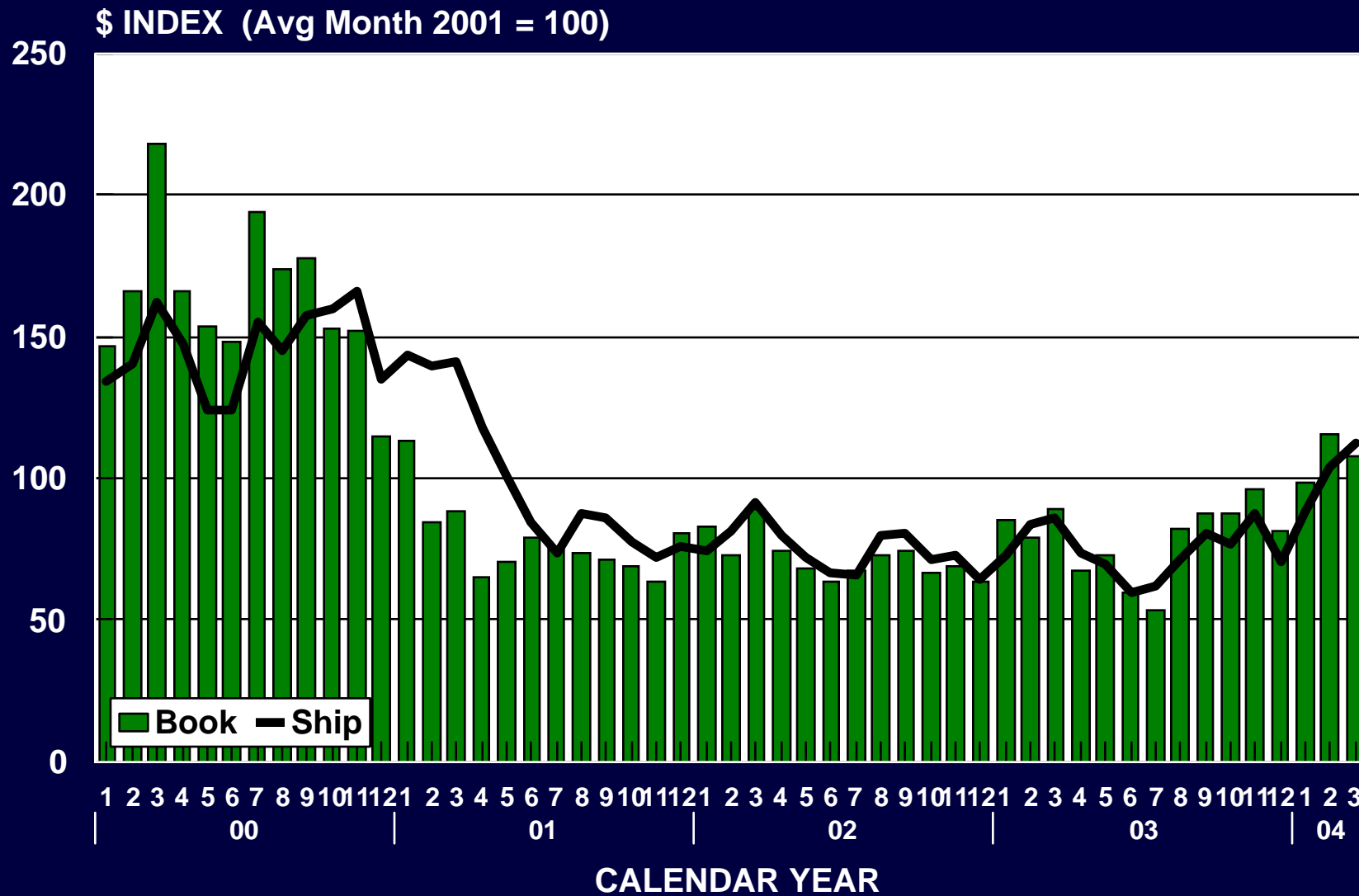
"We continue to focus on cost containment while growing the business. Despite a 28% revenue increase, operating expenses of \$18.9 million were up only \$0.2 million from the second quarter."
April 6, 2004

	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	99				00				01				02				03				04
Revenue	51.5	57.3	59.0	66.9	82.1	88.9	28.5	39.6	36.6	91.4	49.5	40.2	36.4	41.1	43.0	43.3	34.7	22.5	20.9	45.8	58.8
Income	0.9	2.9	4.8	6.9	11.9	17.2	23.3	27.7	27.8	21.1	-8.0	-1.5	1.7	-8.2	0.2	-9.5	-10.3	-20.8	-9.4	-4.9	10.0
Inventory					53.2	56.3	64.7	76.7	71.1	73.3	75.9	74.3	75.7	63.7	63.0	54.4	47.2	42.1	42.4	49.1	51.5

CY

ESIO

U.S. RIGID PCB BOOKINGS & SHIPMENTS

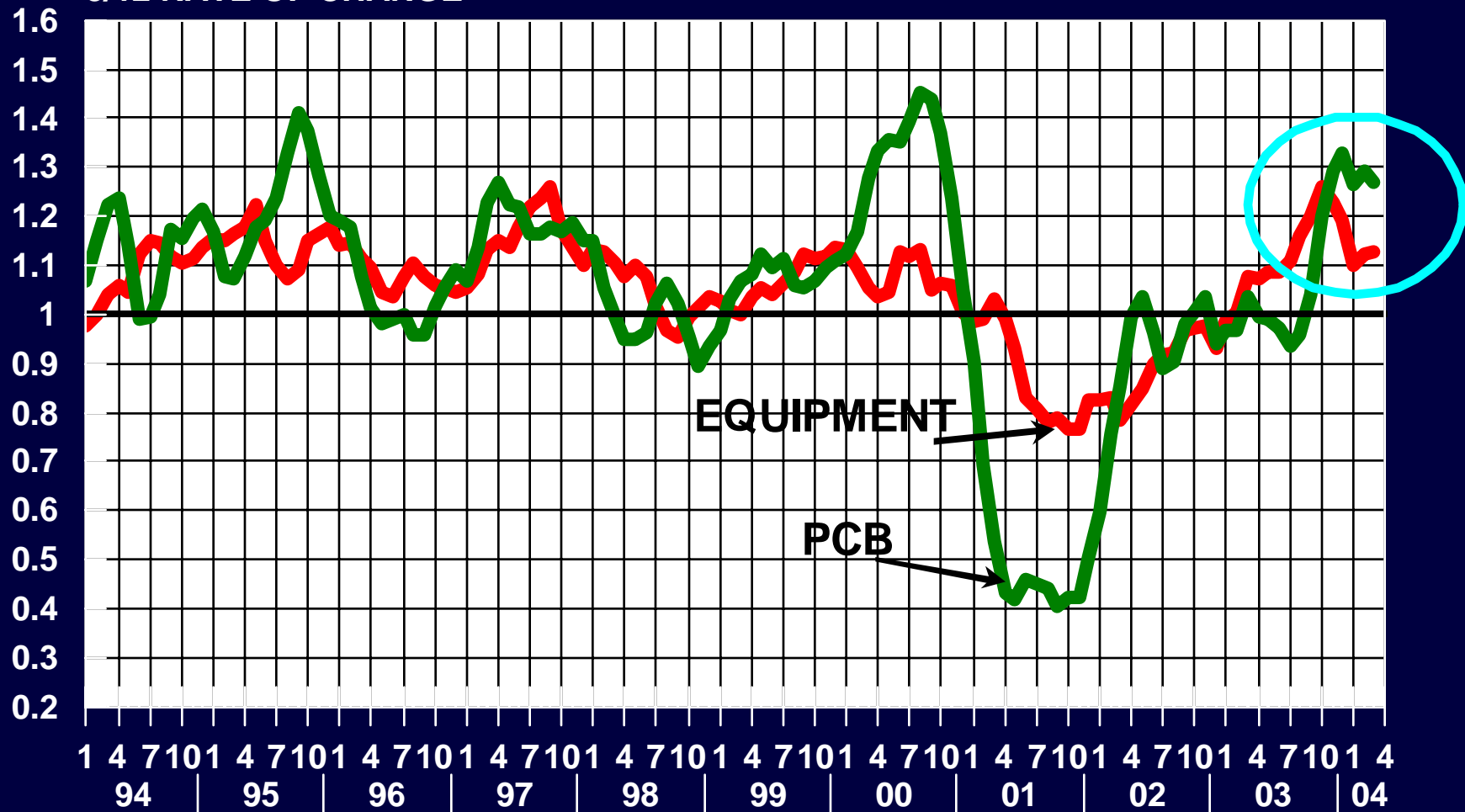


Growth Rates & Future Outlook

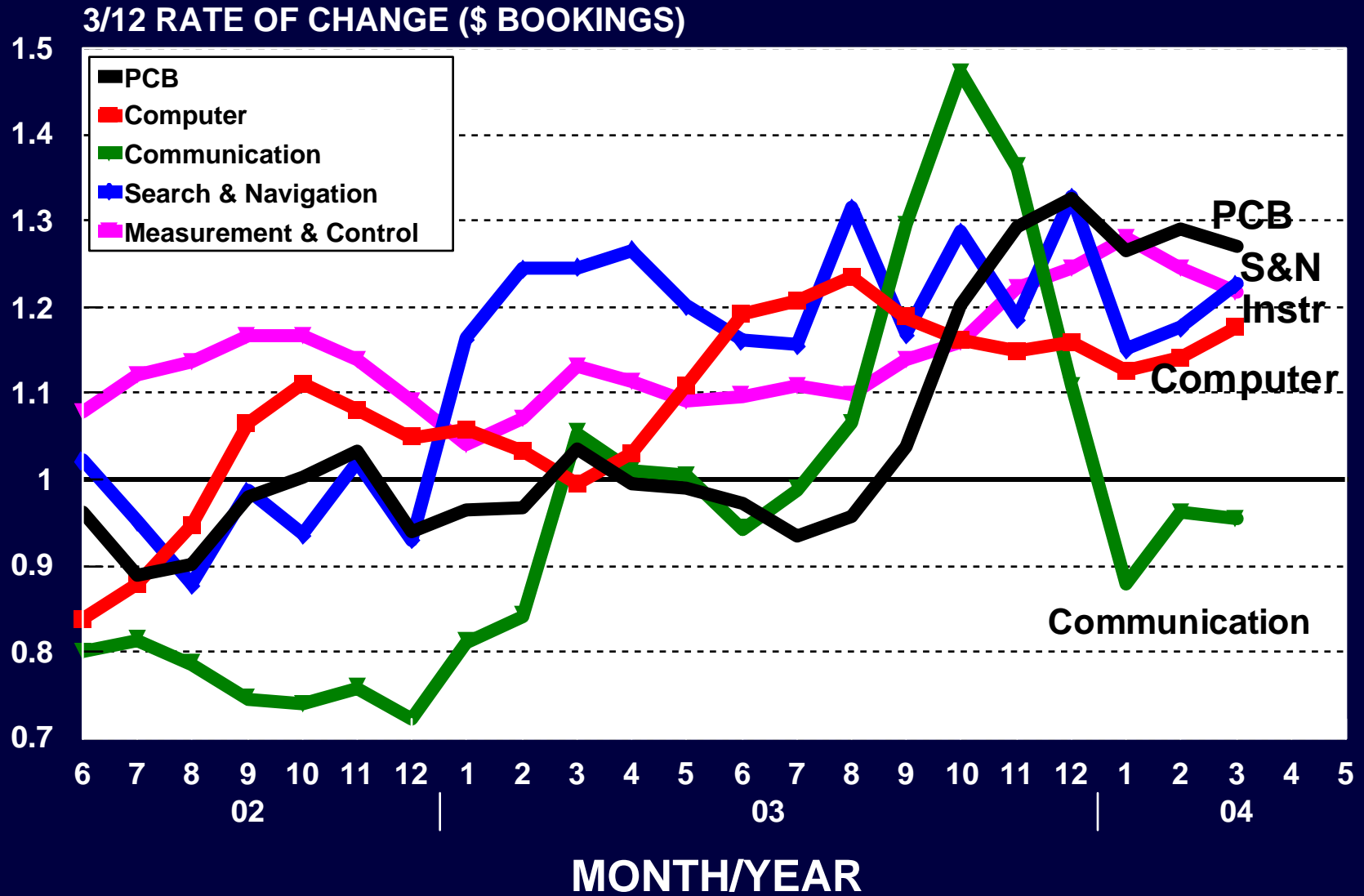
U.S. ELECTRONIC EQUIPMENT vs PCBs

\$ BOOKINGS GROWTH

3/12 RATE OF CHANGE

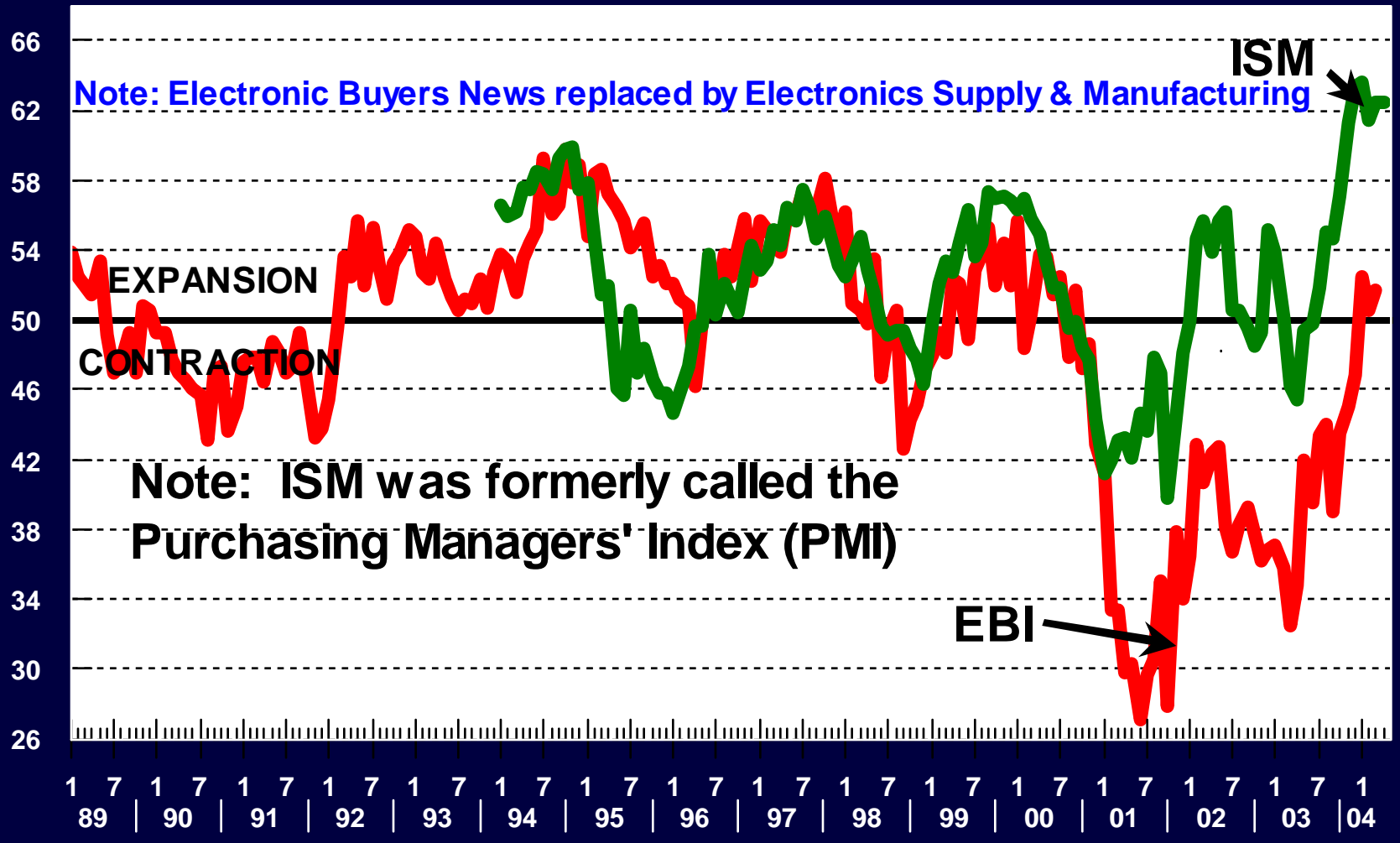


US RIGID PCB vs ELECTRONIC EQUIPMENT BOOKINGS



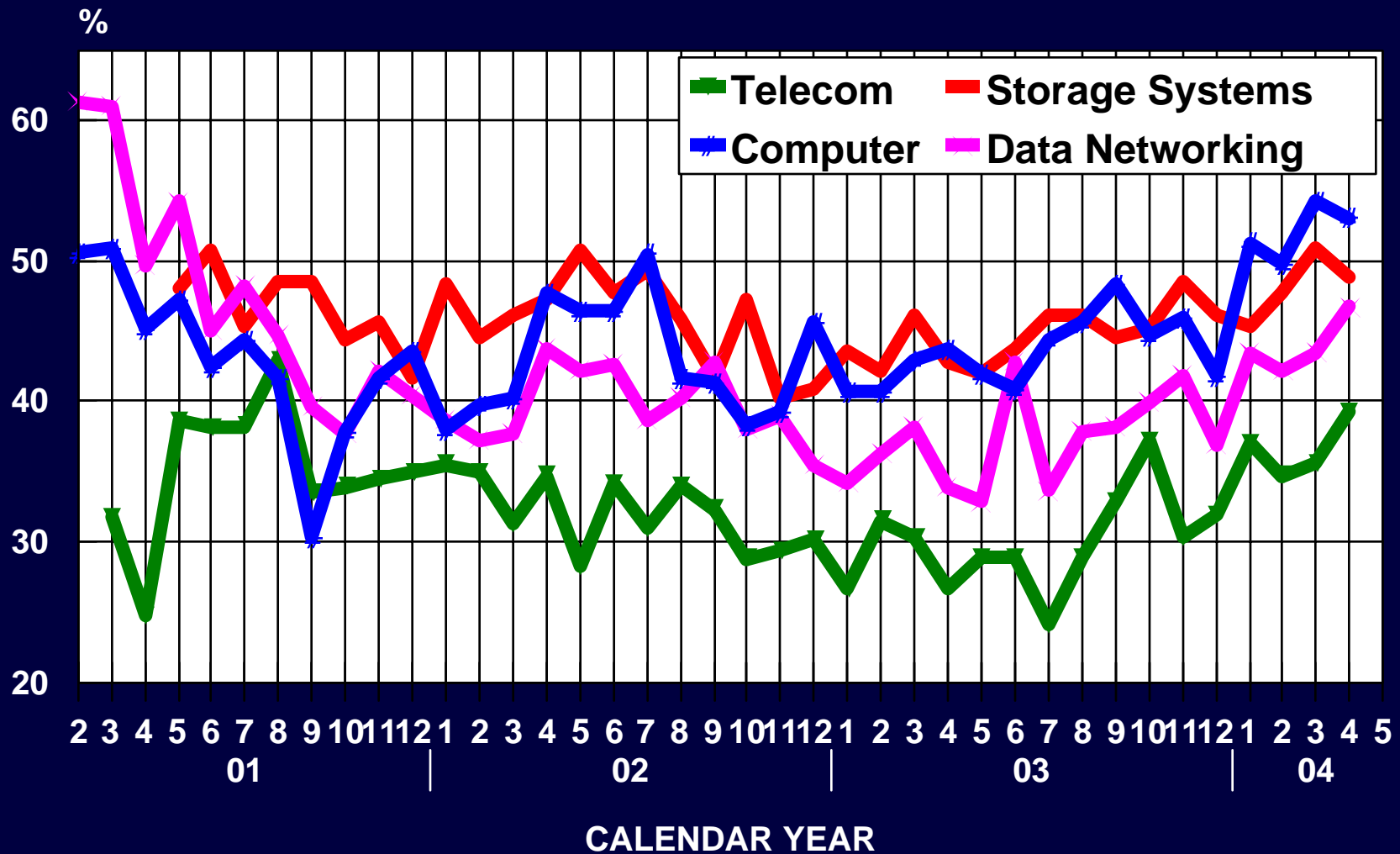
ISM vs EBI "QUEST" ELECTRONIC BUYERS' INDEX

DIFFUSION INDEX



IT Future Hardware Spending

% of Companies That Plan to Increase Spending



CIO Magazine Tech Poll
www.cio.com/info/releases/

PRESENT GROWTH RATES (%)

U.S. ECONOMY & ELECTRONICS INDUSTRY

	LATEST MONTH	ANNUAL GROWTH RATE	3-MONTH GROWTH RATE
RIGID PCB ORDER \$	3/04	115.5	127.0
RIGID PCB SHIPMENT \$	3/04	106.6	125.8
FLEX CIRCUIT ORDER \$	3/04	163.7	207.7
FLEX CIRCUIT SHIPMENT \$	3/04	131.2	180.1
LAMINATE+PREPREG ORDERS SF	2/04	92.5	119.6
SEMICONDUCTOR SHIPMENT \$	3/04	119.8	118.4
ELECTRONIC EQUIPMENT ORDER \$			
COMPUTER & RELATED	3/04	117.8	117.6
COMMUNICATIONS	3/04	106.2	95.4
MEDICAL, MEASUREMENT & CONTROL	3/04	117.6	121.8
SEARCH & NAVIGATION	3/04	121.8	122.7
TOTAL ELECTRONIC EQUIPMENT	3/04	115.0	112.6
INDUSTRIAL PRODUCTION	3/04	100.8	102.9

NOTE: 3 month growth rates compare most recent

Conclusions

Summary

- **Post-2000 "implosion" is behind us and global growth has resumed.**
- **Electronic component manufacturing "center of gravity" has shifted to SE Asia (Especially China).**
- **2004 is a year of broad recovery with double-digit growth in all geographical areas.**
- **Corporate replenishment cycles, strong global consumer electronics demand (including mobile phones & PCs), military (USA), medical, semiconductor test & measurement and instruments & control electronics are all driving the recovery.**
- **Extended leadtimes and selective component outages may lead to over-ordering and inventory building.**

Local Market Strengths

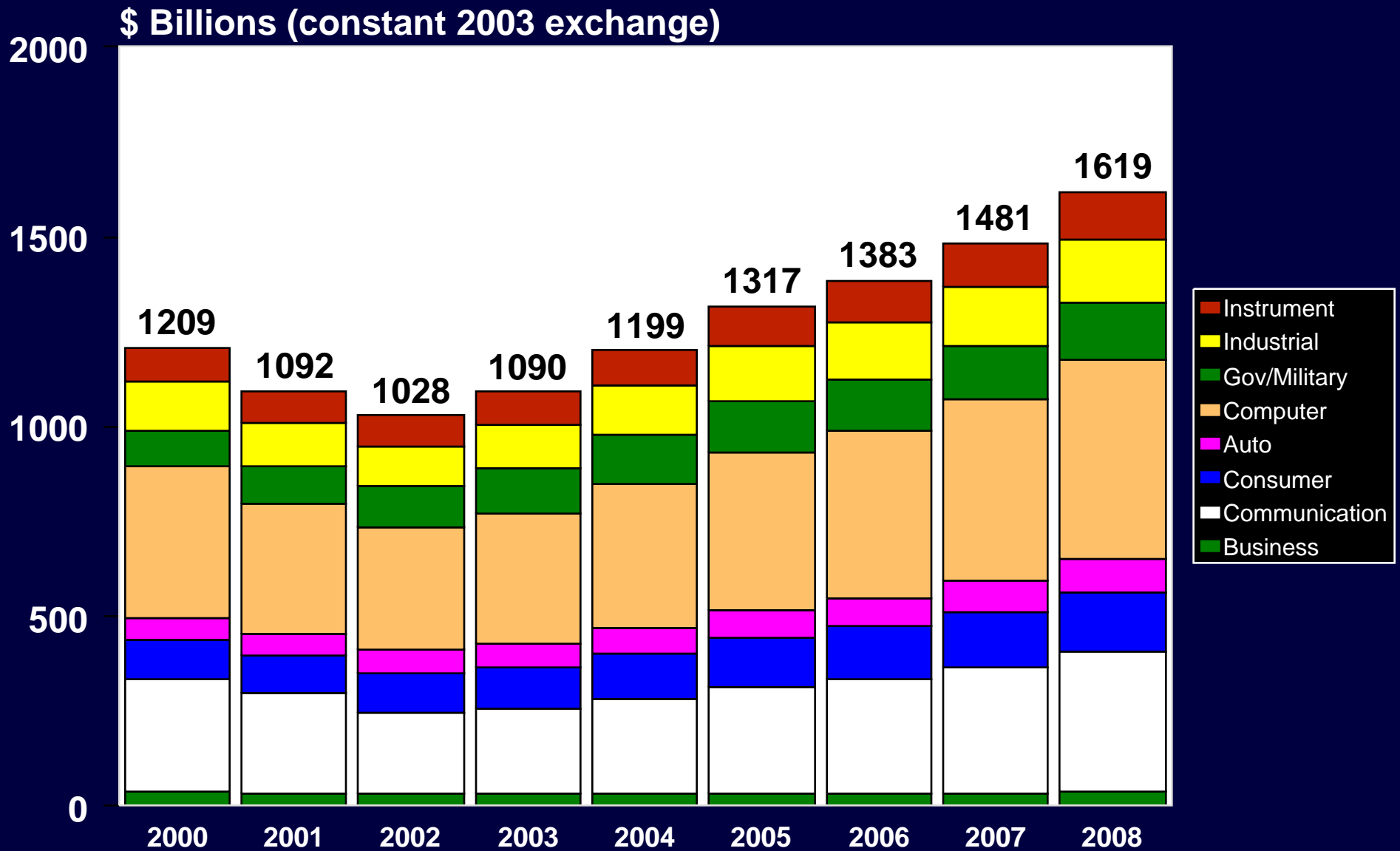
- **Military, security & medical electronics**
- **Intellectual property & "sensitive" content issues**
- **Quick turn & prototype**
- **High product mix; shorter run**
- **Global diversity - spread production over multiple continents**
- **Local support - engineering, collaboration**
- **Assurance of continuity of local suppliers**

Longer Term Outlook

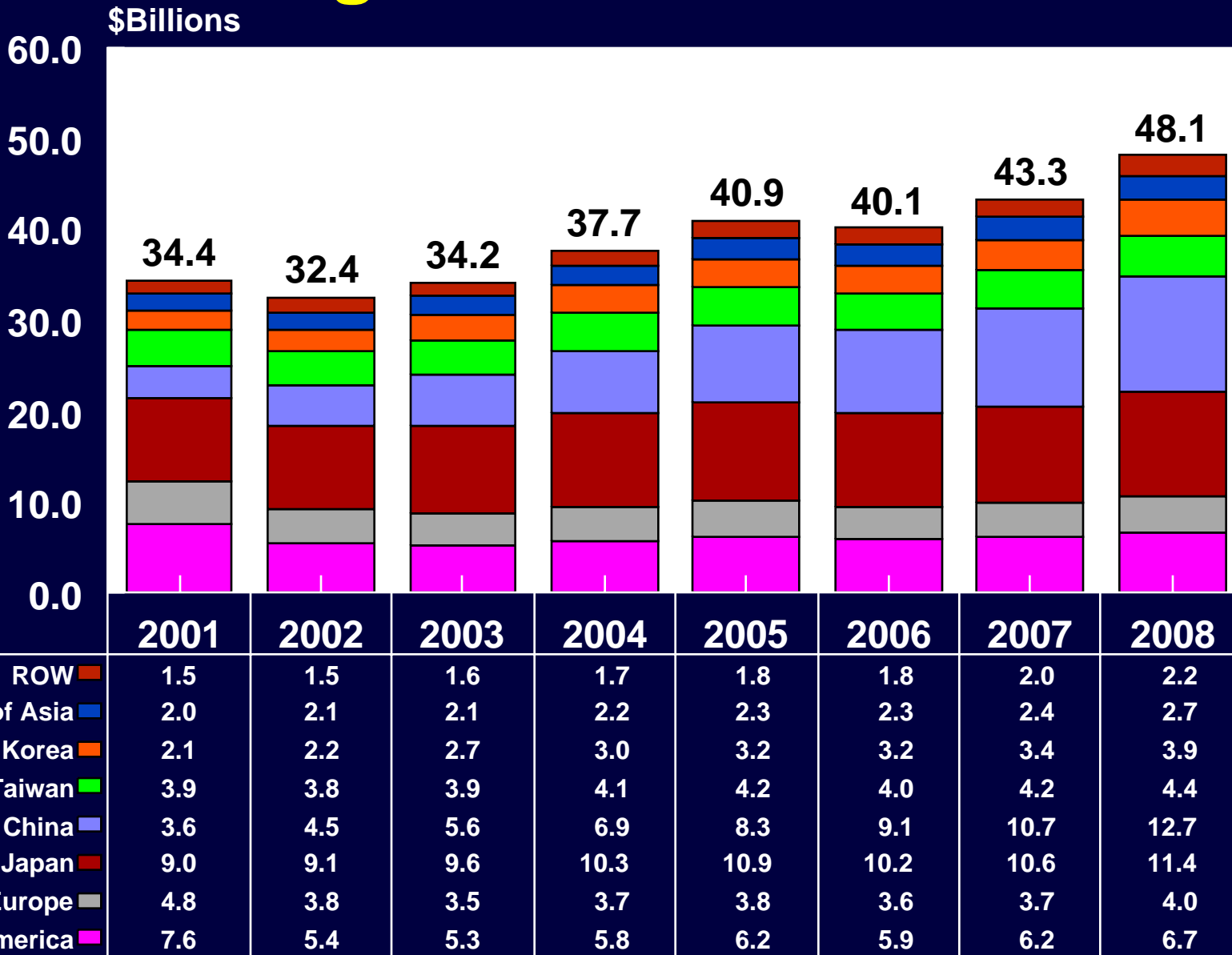
- Higher interest rates will eventually (12-18 months) temper growth
- Geopolitical situation remains fragile
- Military spending is "administration" dependent
- Telecom/datacom growth is should accelerate
- Barring a global upheaval 2005 should also be a good year.
- USA will focus on niche and "protected" markets, much "volume" production has shifted to "low cost" areas.

In Summary

World Electronic Equipment Production by Type



World Rigid & Flex PCB Production



Henderson Ventures 3/04 (constant 2003 exchange rates)

Electronic Equipment Production Growth

Current \$ Growth Rates Converted @ Constant Exchange Rates

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
World	-5.8	6.1	10.7	9.0	5.1
USA	-9.5	6.0	12.2	8.1	2.2
W Europe	-7.5	-2.1	4.5	6.7	5.3
Japan	-14.3	8.1	9.7	7.0	3.5
Four Tigers	0.9	3.9	8.6	7.9	6.0
China	12.1	26.1	21.7	18.1	13.3

Global "Electronic Foodchain" Outlook 2004 vs 2003

