Chart 1

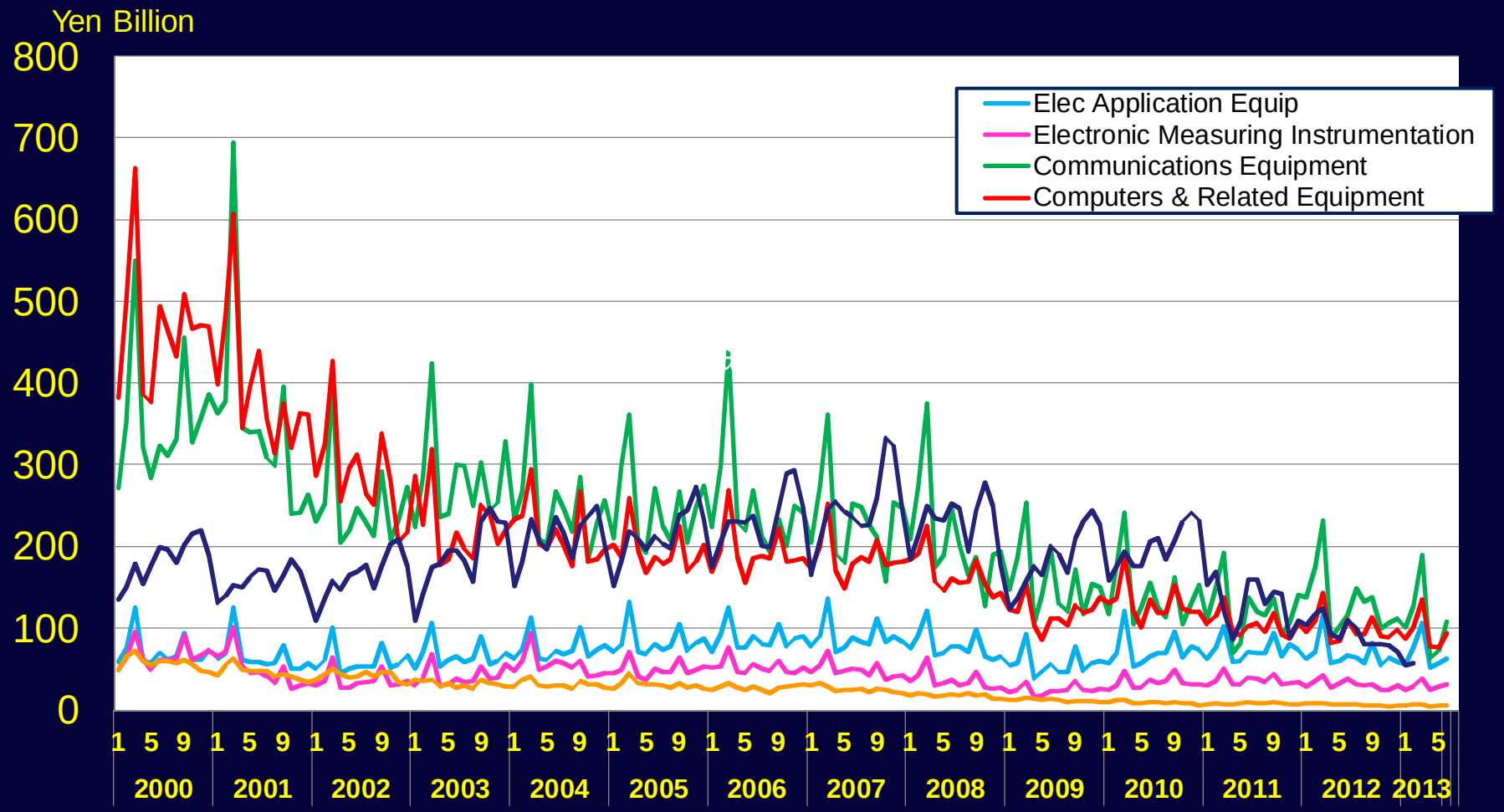
# Purchasing Managers' Indices
# July vs. August 2013 (flash results)




Markit Economics, JPMorgan and ISM

Chart 2

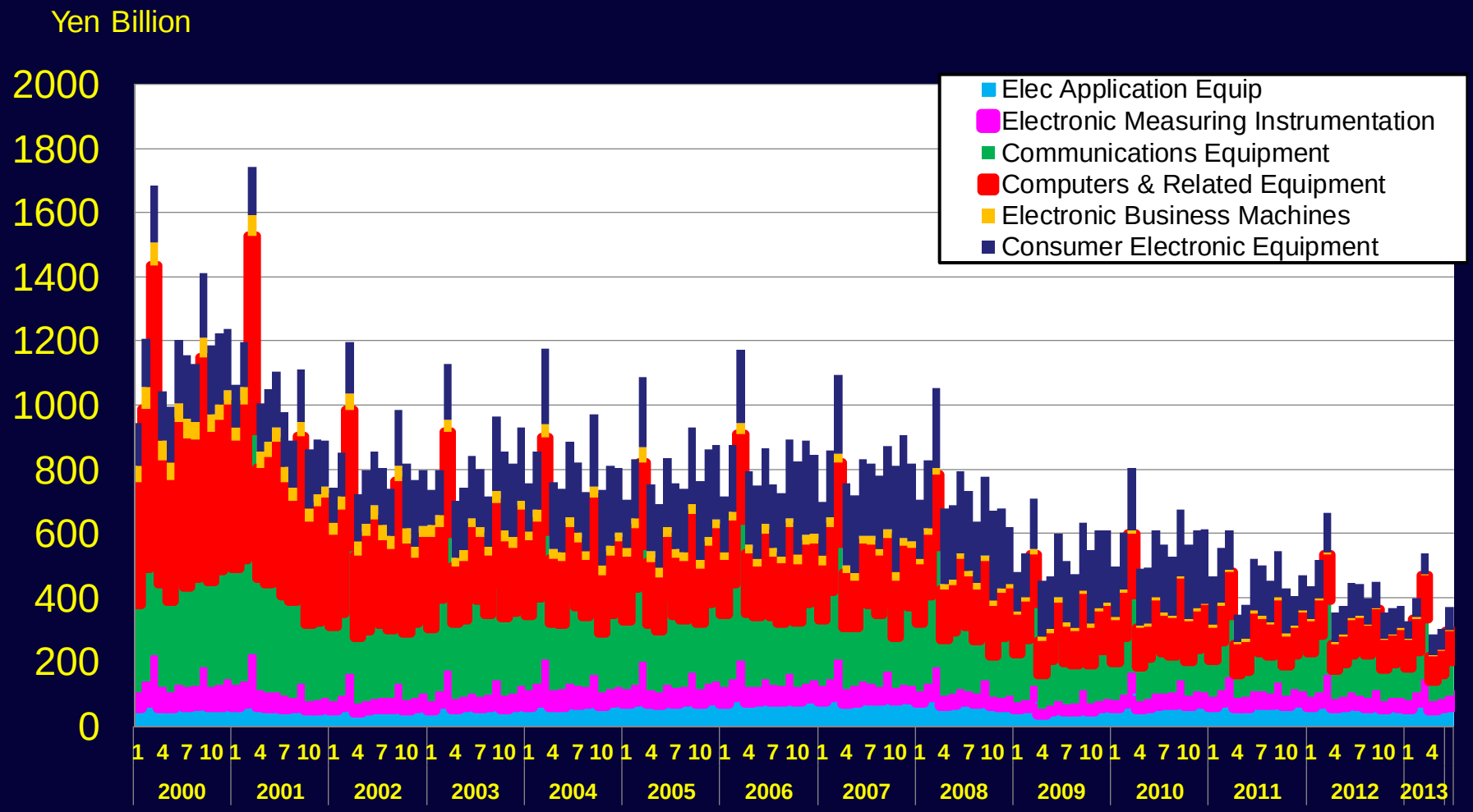
# Japan Electronic Equipment Production by Month 2000 to Present




JEITA www.jeita.or.jp/

Chart 3

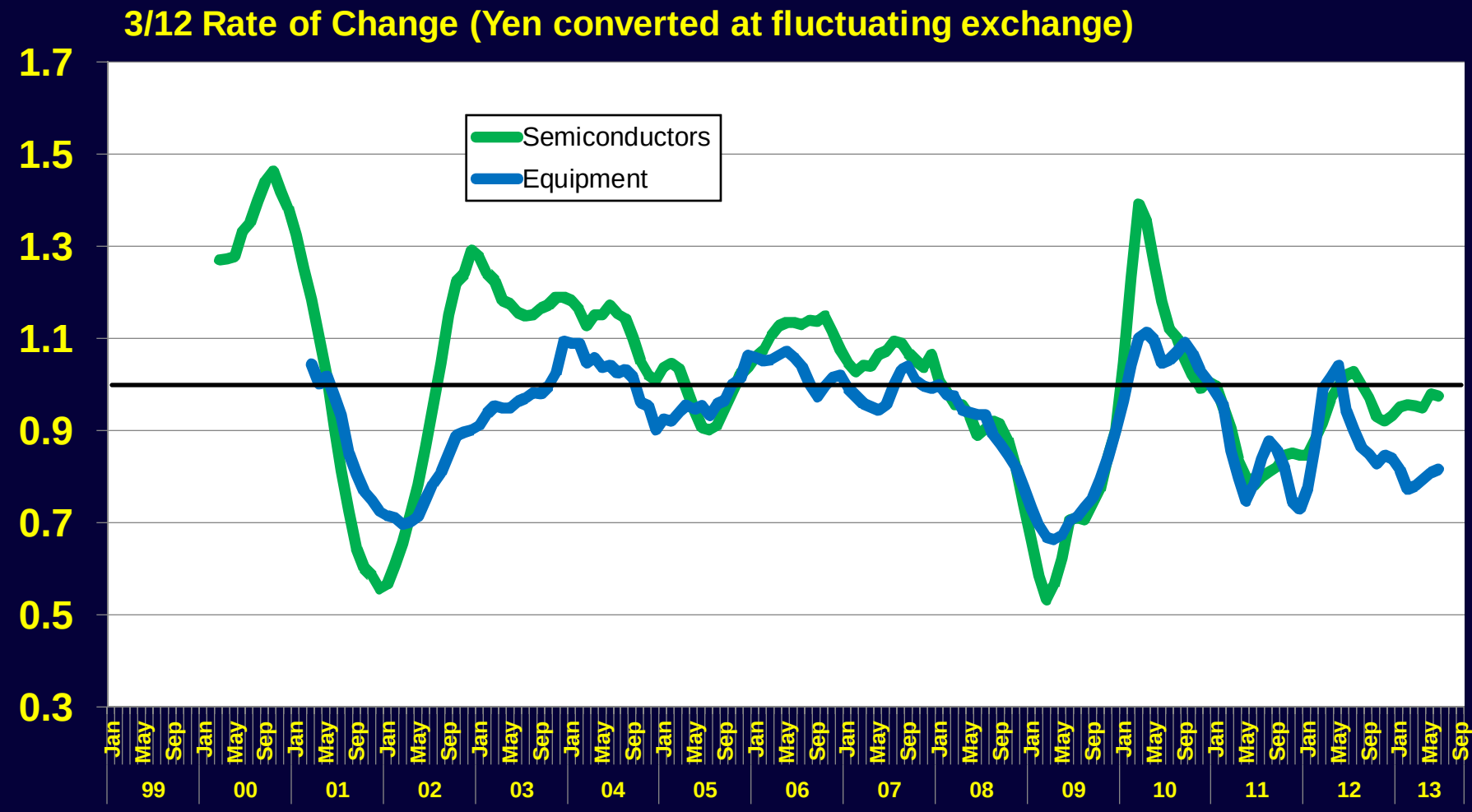
# Japan Electronic Equipment Production by Month 2000 to Present




JEITA www.jeita.or.jp/

Chart 4

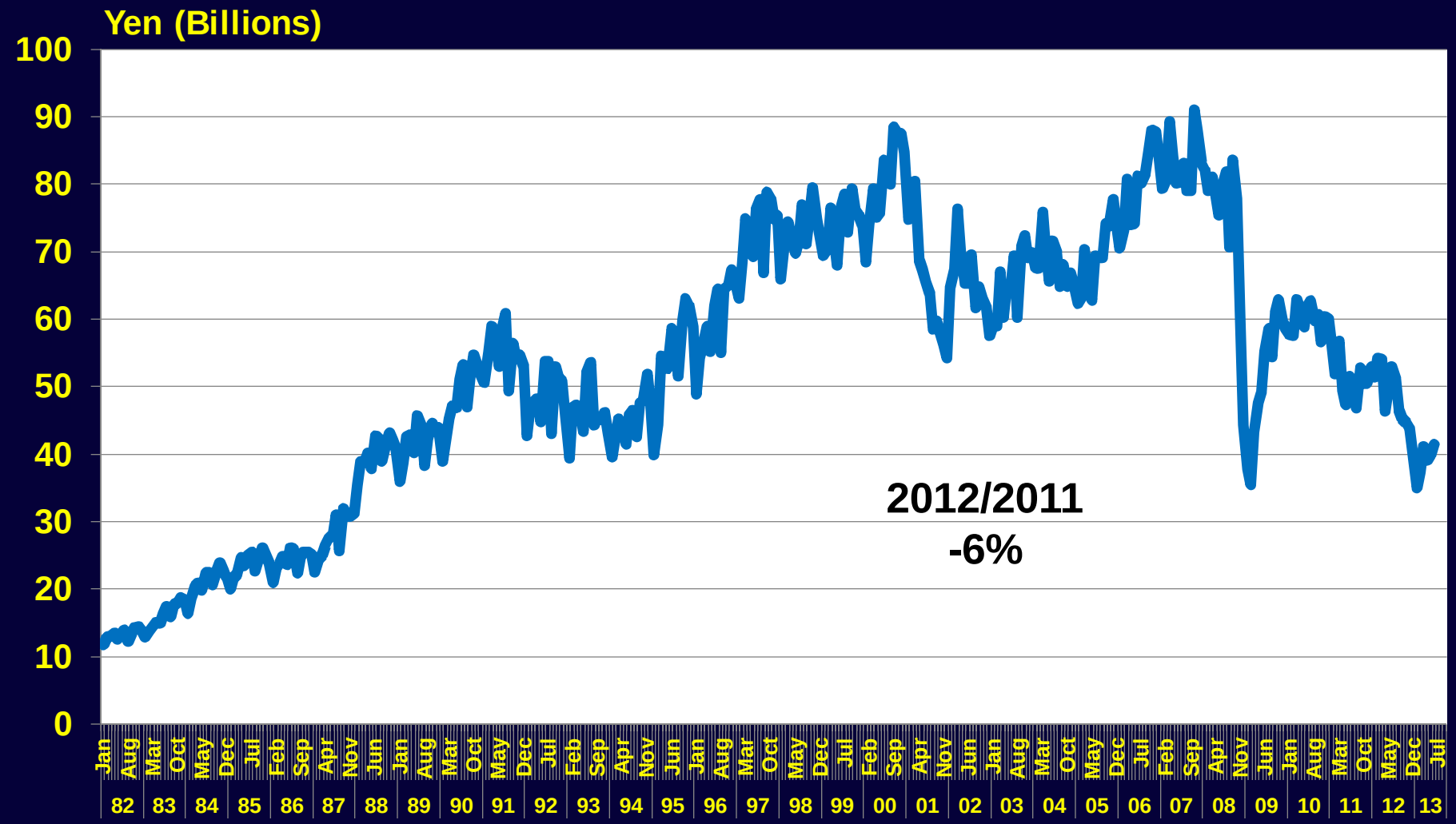
# Semiconductor Shipments to Japan vs. Japanese Electronic Equipment Production




Total $ Semiconductor Shipments from All Countries to Japan www.sia-online.org/, JEITA www.jeita.or.jp/

Chart 5

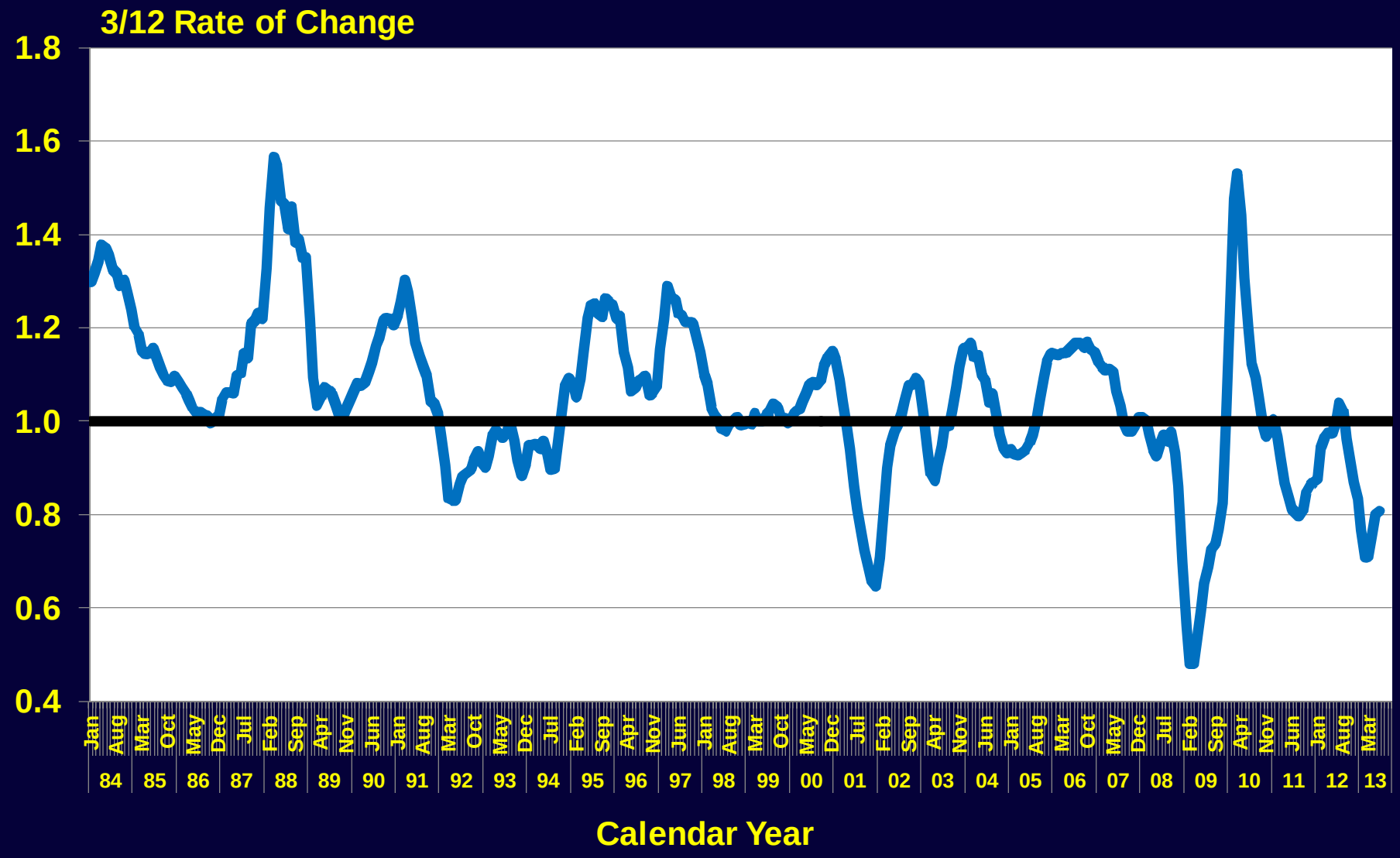
# Japan PCB Shipments




www.jpca.org/kikaitoukei/kikai2012.xls

Chart 6

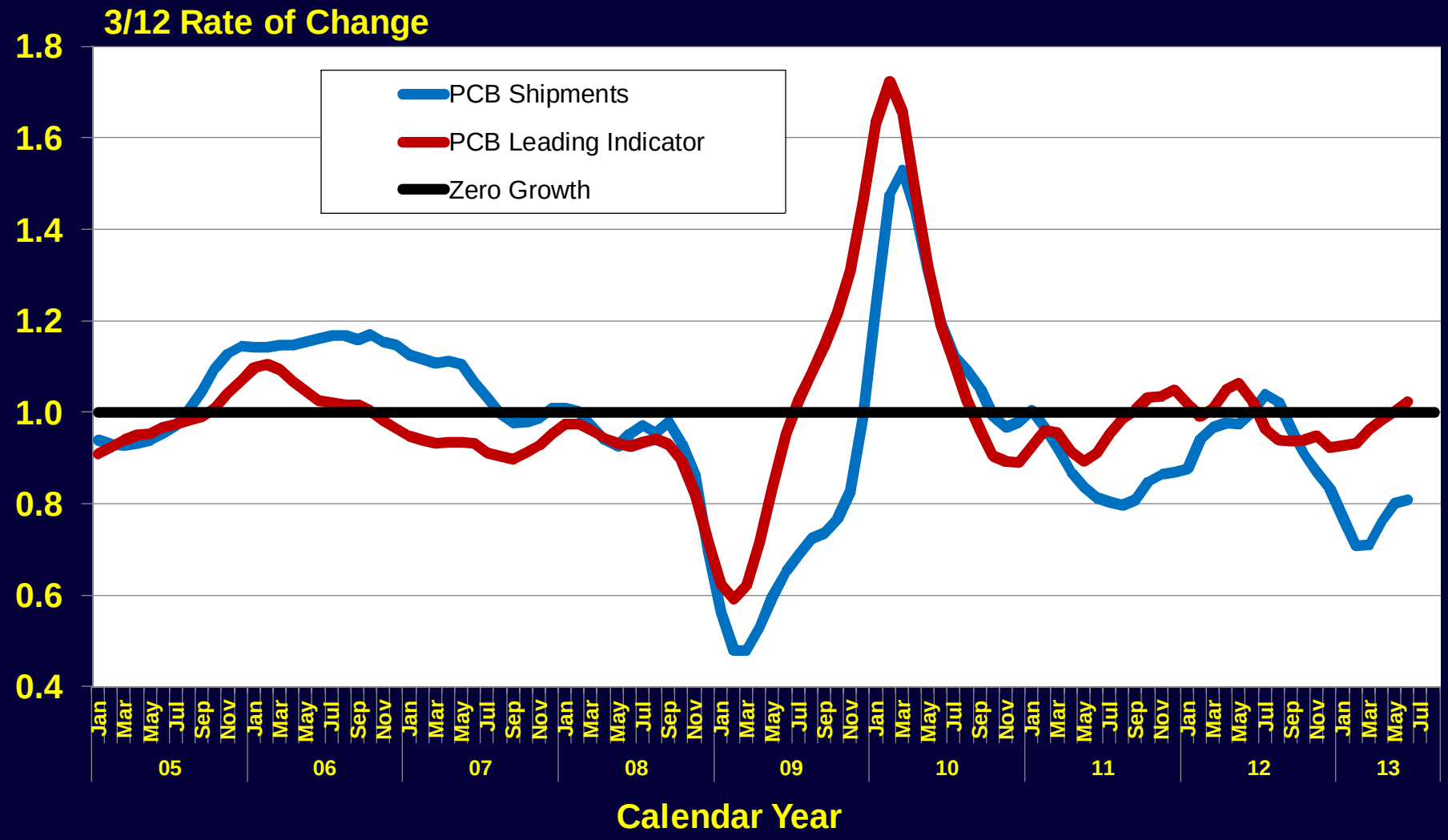
# Japan PCB Shipments




www.jpca.org/kikaitoukei/kikai2011.xls

Chart 7

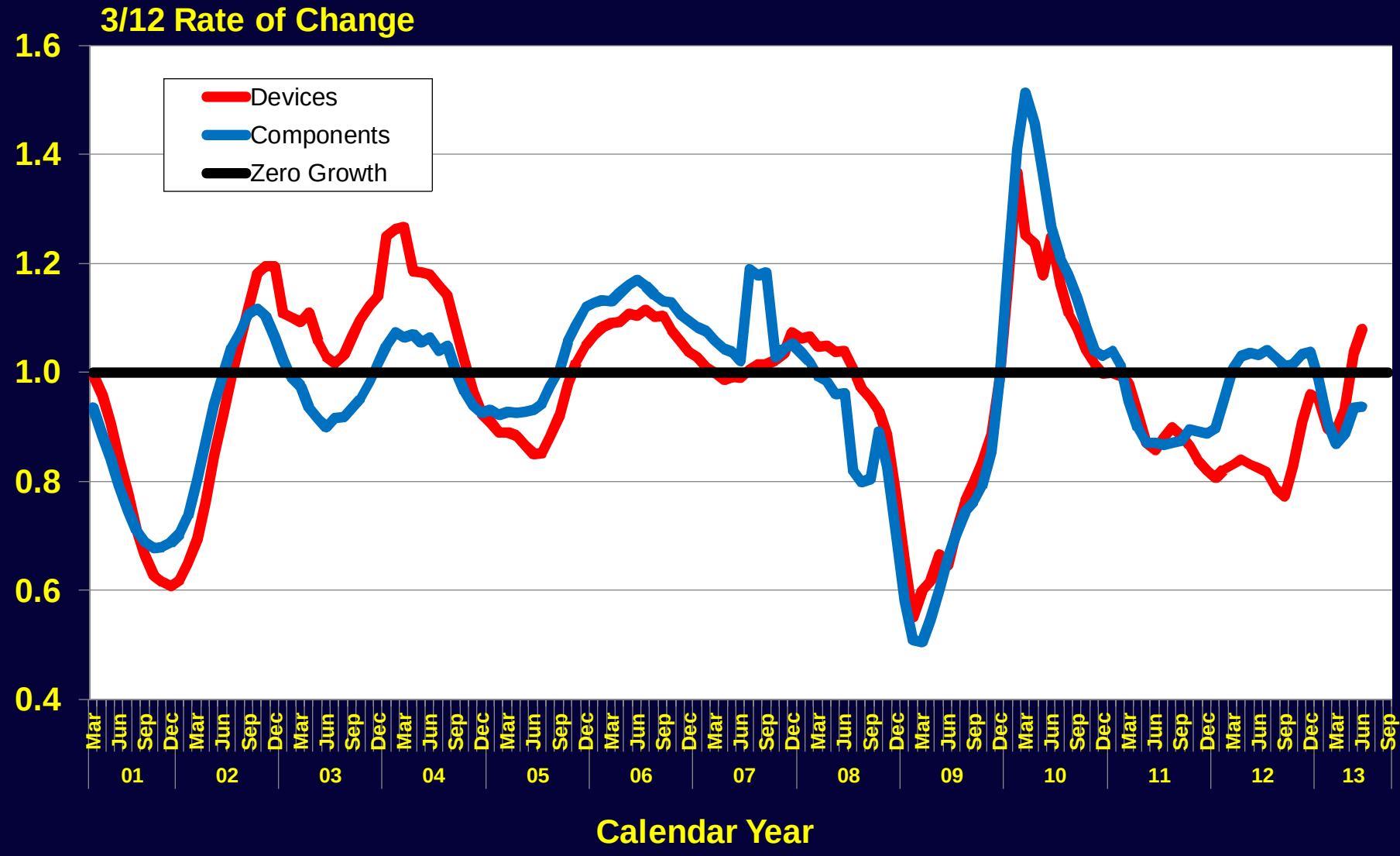
# Japan PMI PCB Leading Indicator vs. Japan PCB Shipments




Source: Custer Consulting Group

Chart 8

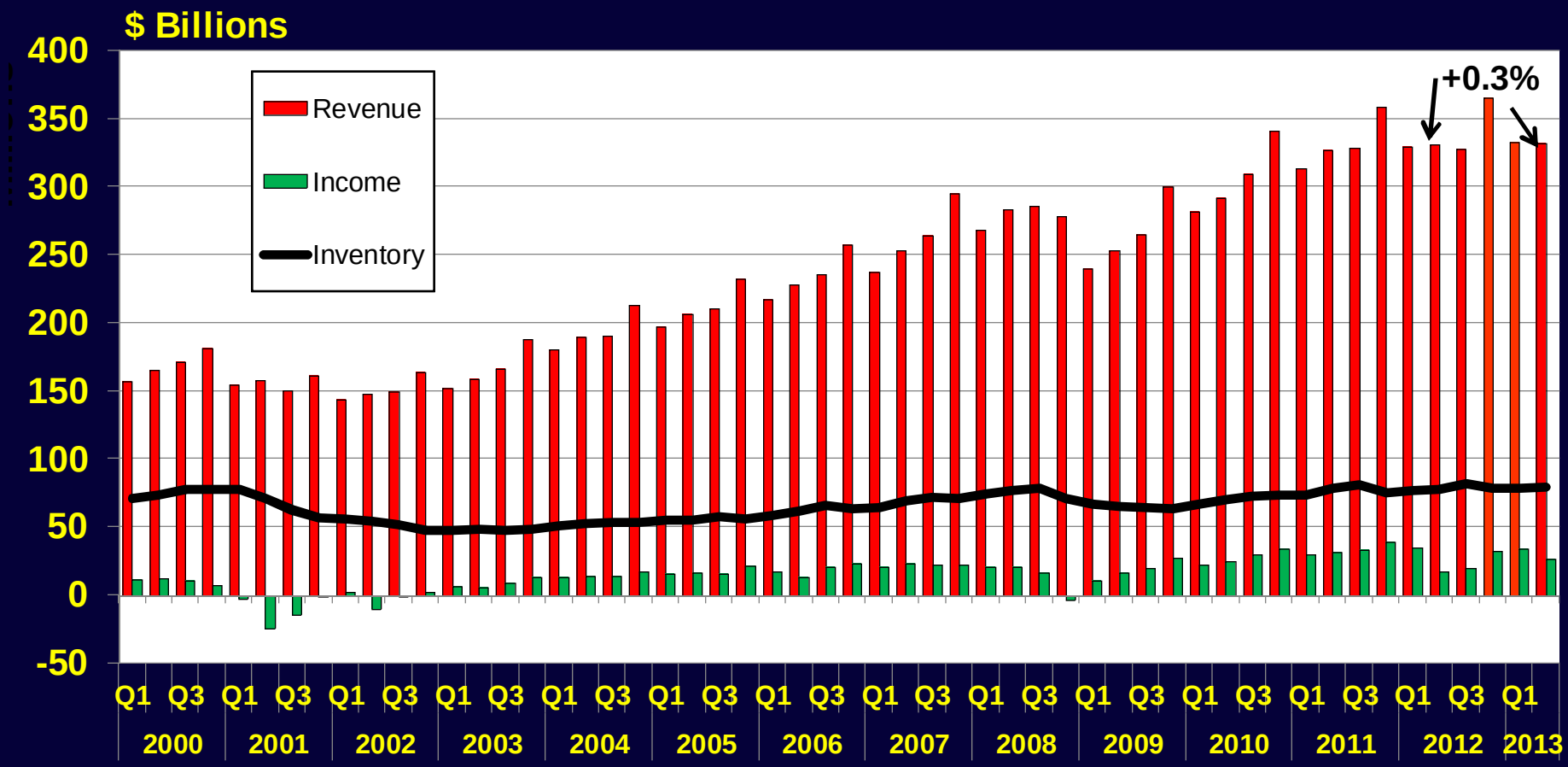
# Japanese Electronic Component & Device Production




JEITA www.jeita.or.jp/

Chart 9

# Electronic Equipment Suppliers
# Composite of 115 Public Companies
## Revenue, Net Income & Inventory

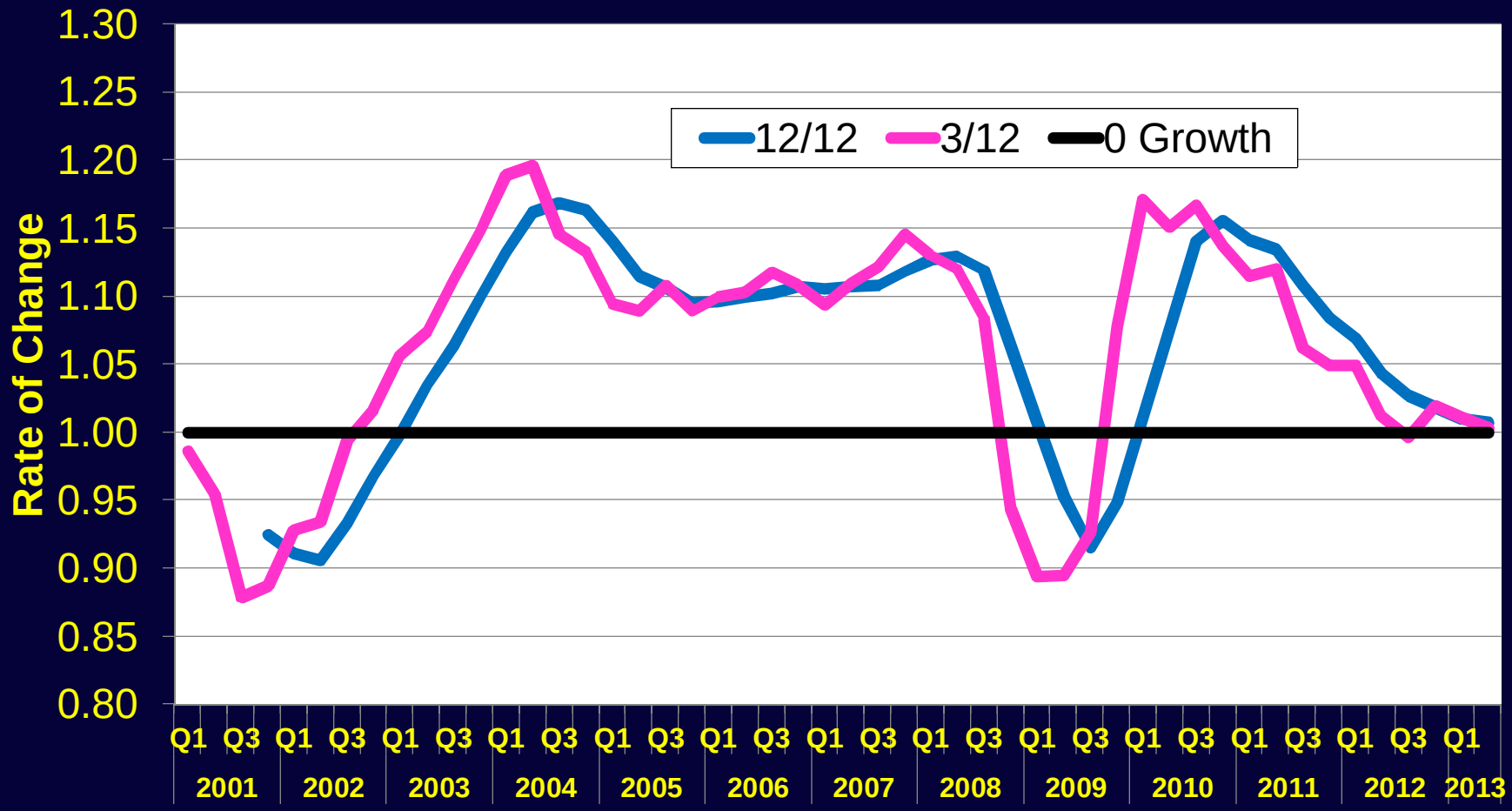



Computer 13, Internet 9, Storage 10, Communication 20, SEMI 20, Medical 23, Instruments 11, Military 6, Business & Office 3

Chart 10

# Global Electronic Equipment Shipment Growth

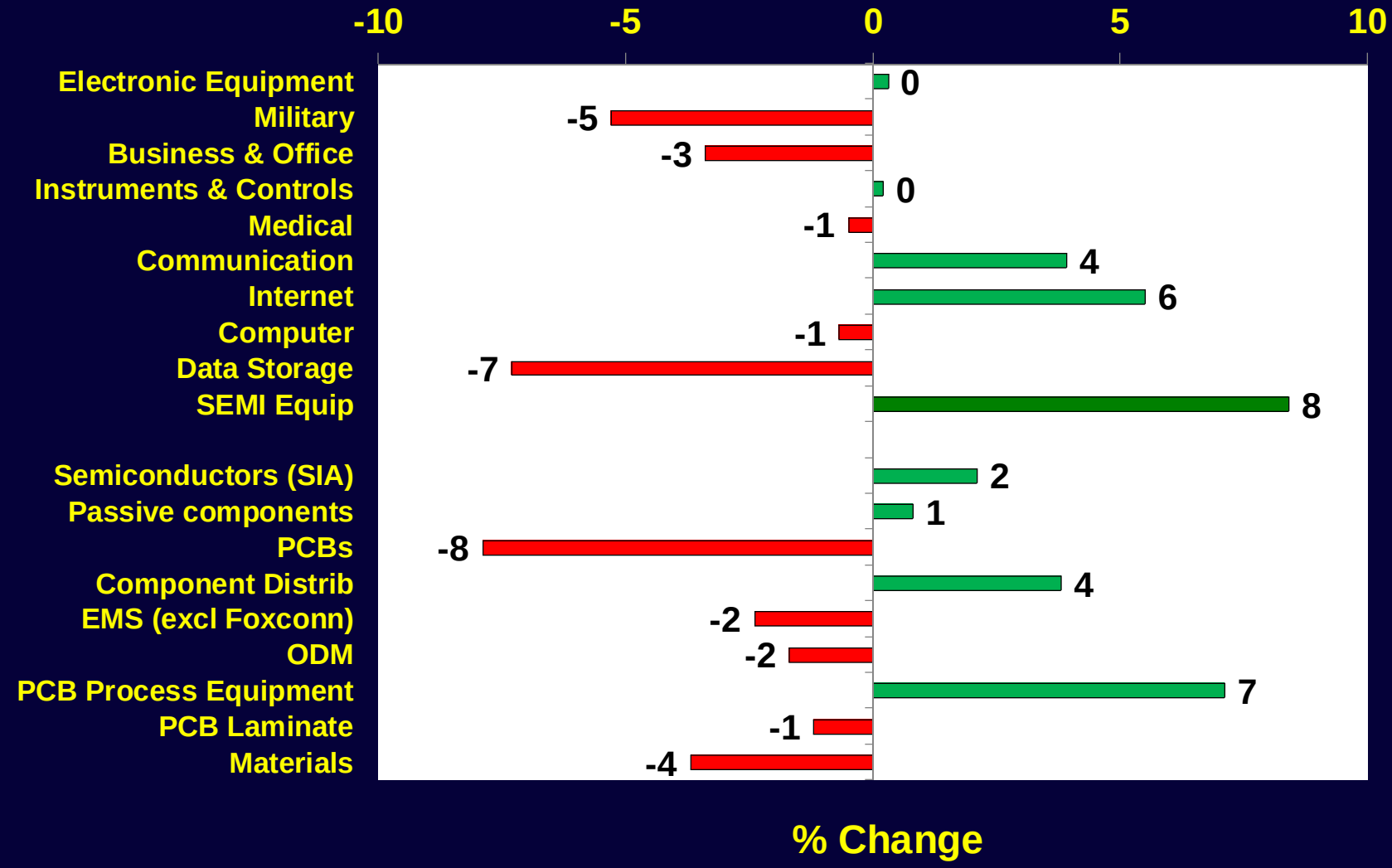
## 12/12 & 3/12 Rate of Change




**115 OEM company sales composite**

Chart 11

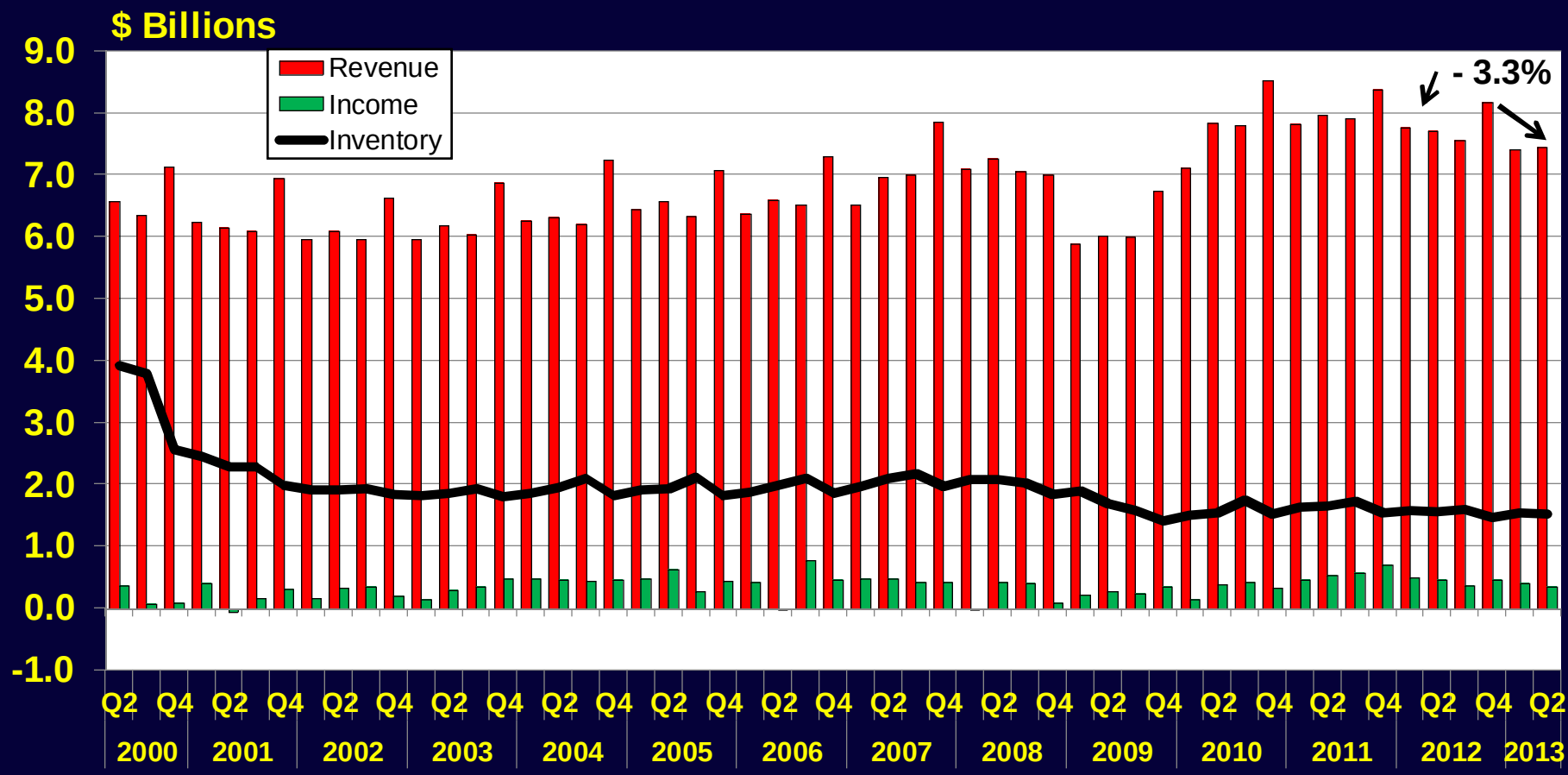
# Global Electronic Supply Chain Growth
# 2Q'13 vs. 2Q'12




US$ equivalent at fluctuating exchange; based upon industry composites including acquisitions

Chart 12

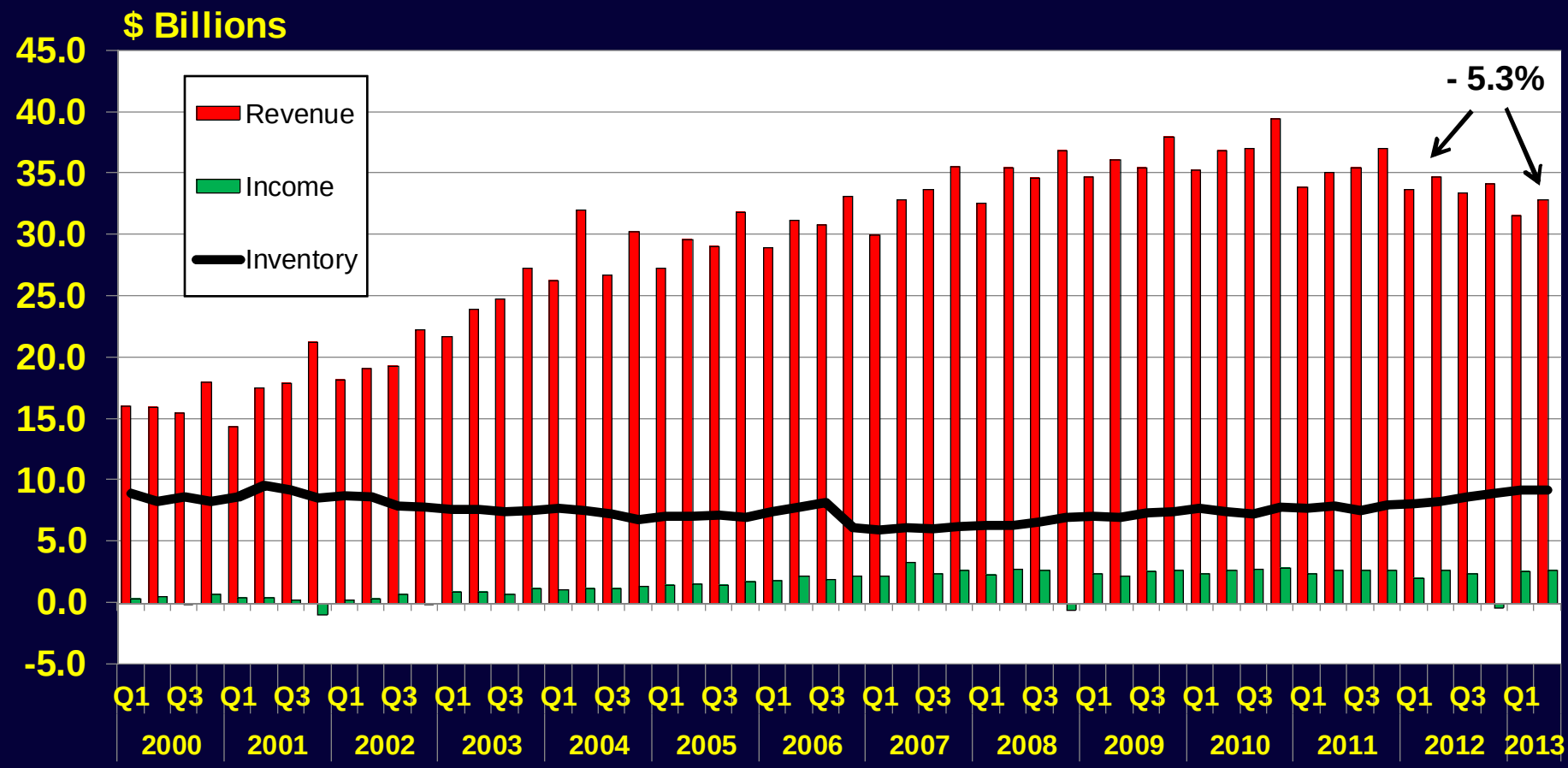
# Business & Office Equipment Suppliers
# Composite of 3 Public Companies
## Revenue, Net Income & Inventory




Lexmark, Pitney Bowes, Xerox

Chart 13

# Military Equipment
# Composite of 6 Public Companies
## Revenue, Net Income & Inventory

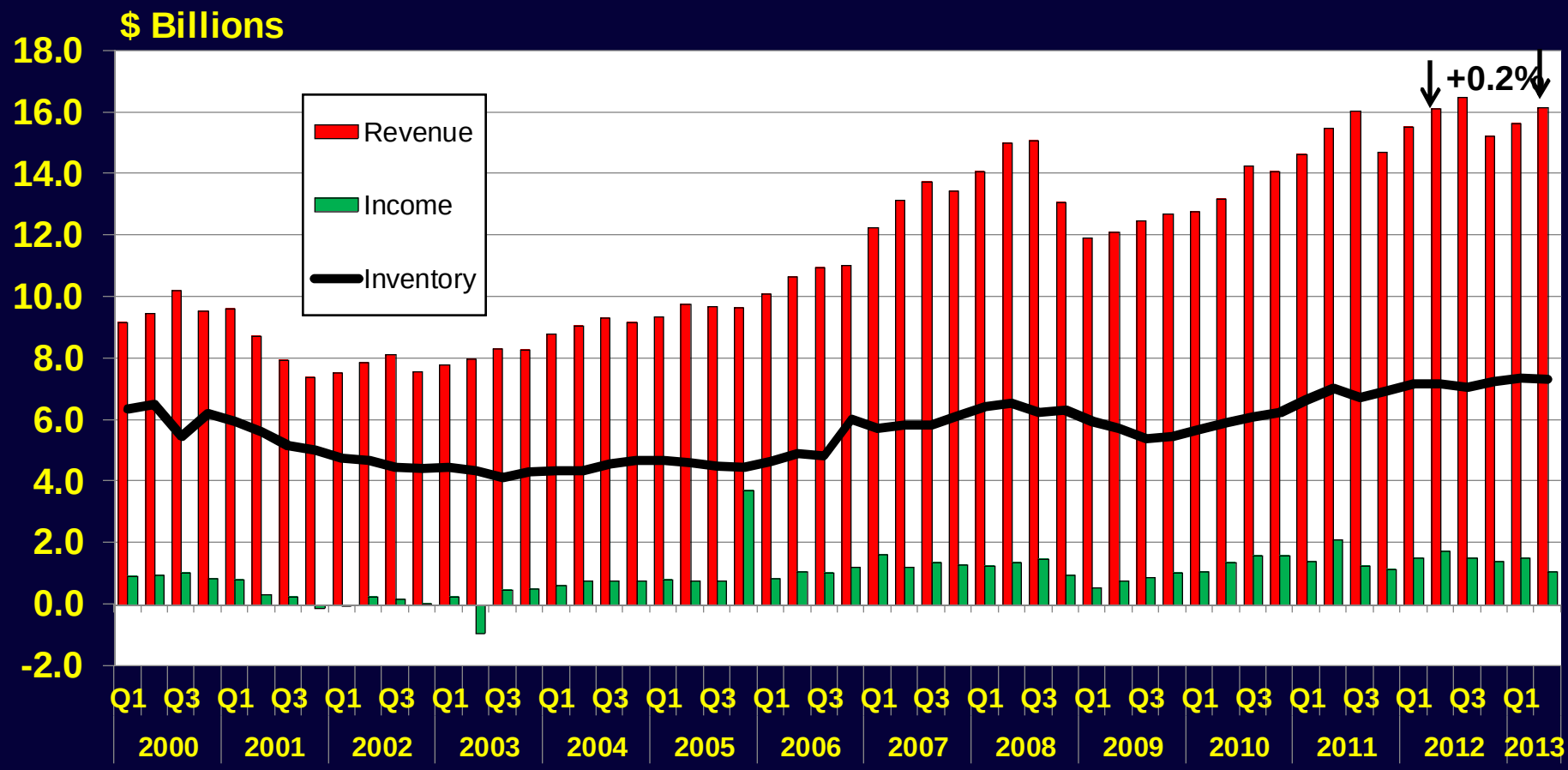



General Dynamics, Harris, Lockheed, Northrop Grumman, Raytheon, Rockwell Collins

Chart 14

# Instruments & Control Equipment Composite of 12 Public Companies

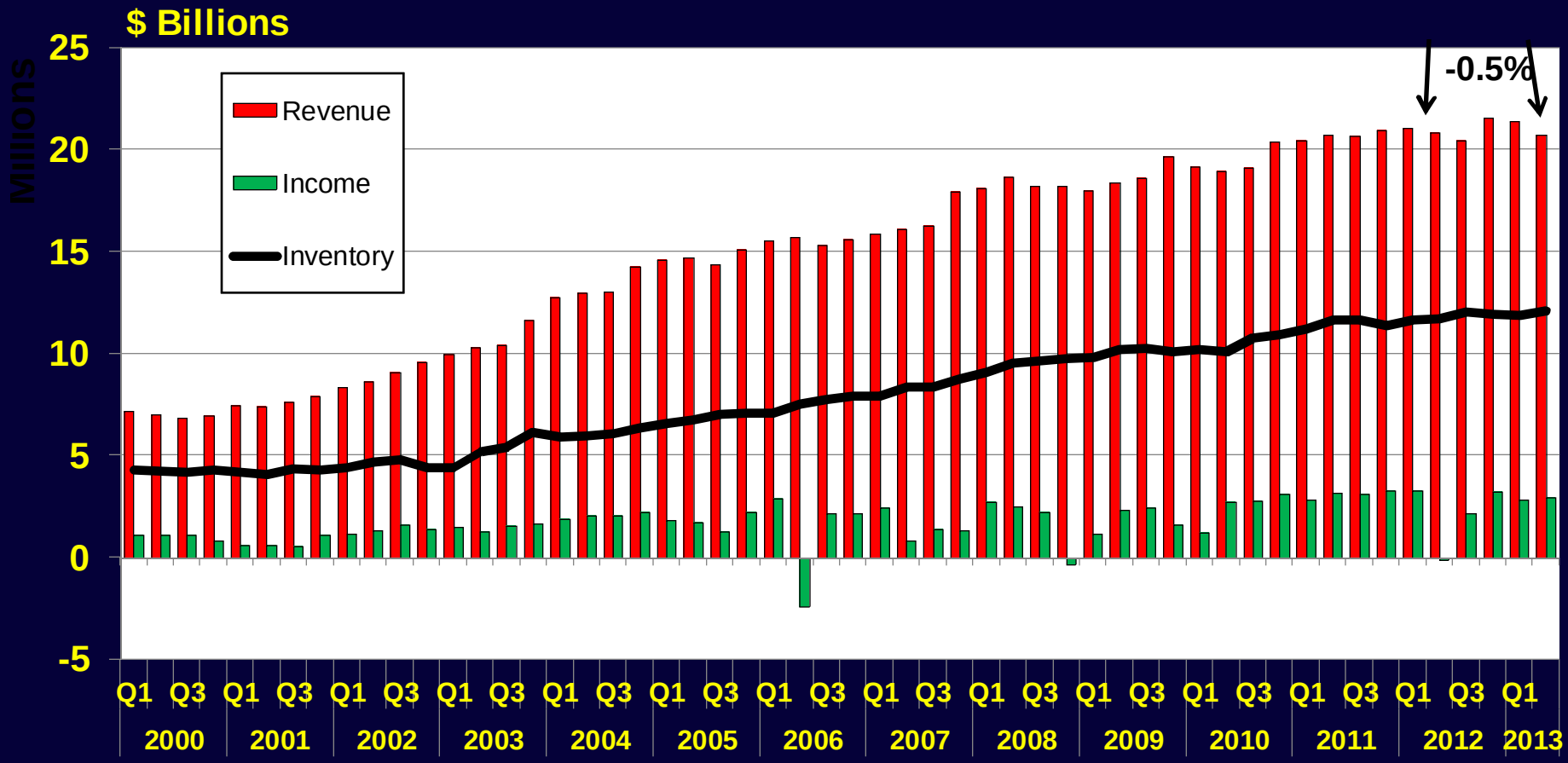
## Revenue, Net Income & Inventory




Agilent, Ametek, Emerson, Itron, Keithly, LeCroy, PerkinElmer, Rockwell Automation, Teledyne, ThermoFisher, Varian, Woodward Govenor

Chart 15

# Medical Equipment
# Composite of 23 Public Companies
## Revenue, Net Income & Inventory



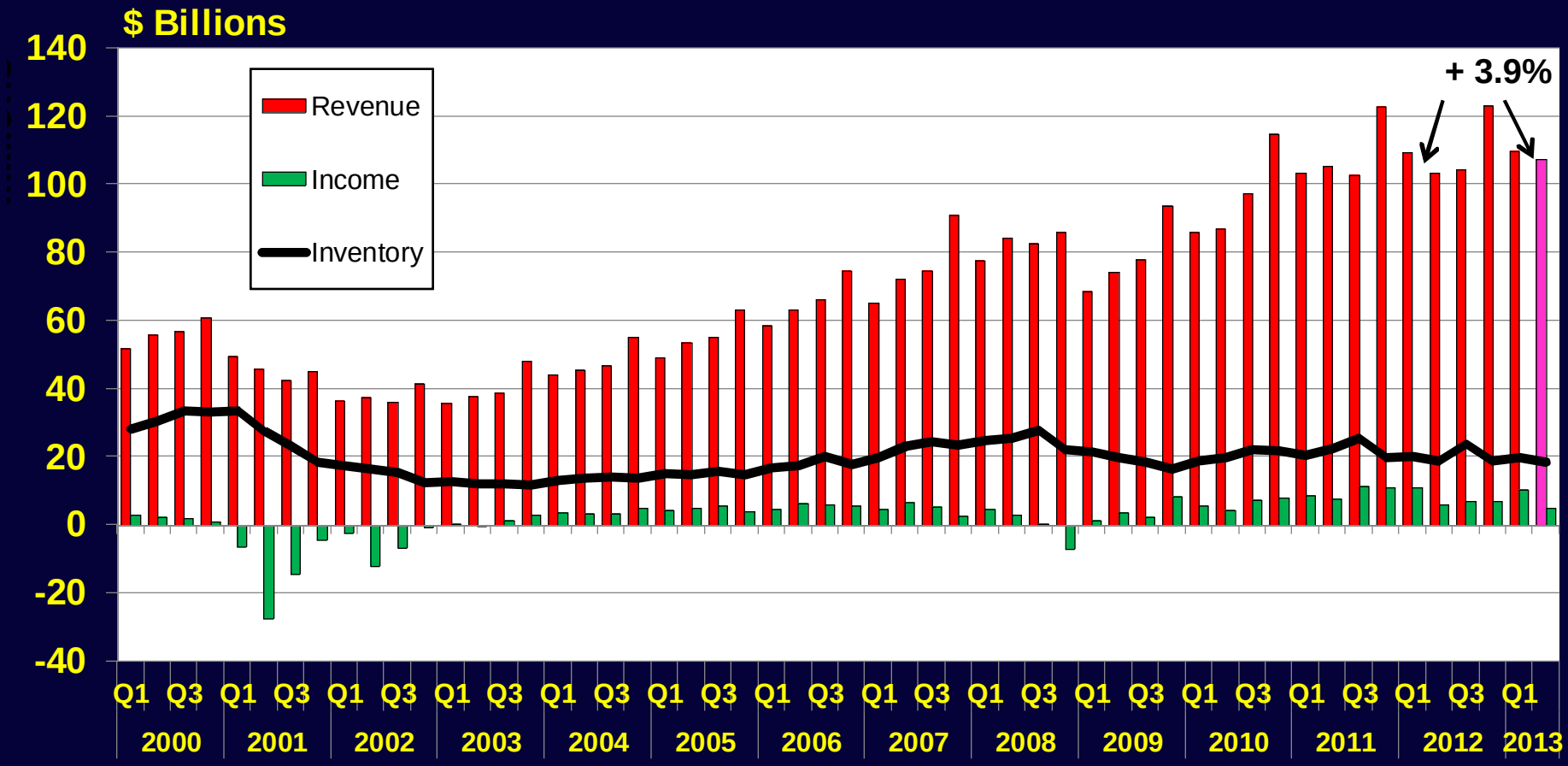

**Analogic, Bio-Rad Laboratories, Boston Scientific, Bruker, CareFusion, Covidien, Draeger, Guidant, Hill-Rom, Intuitive Surgical, Invacare, Kinetic Concepts, Medtronic, ResMed, St Jude Medical, Smith & Nephew, STERIS, Stryker, Varian Medical, Waters, Zimmer, Zoll**

Chart 16

# Communication Equipment Suppliers
# Composite of 20 Companies

**10 mobile phone makers, 10 other telecom equipment makers plus estimate of other mobile makers**

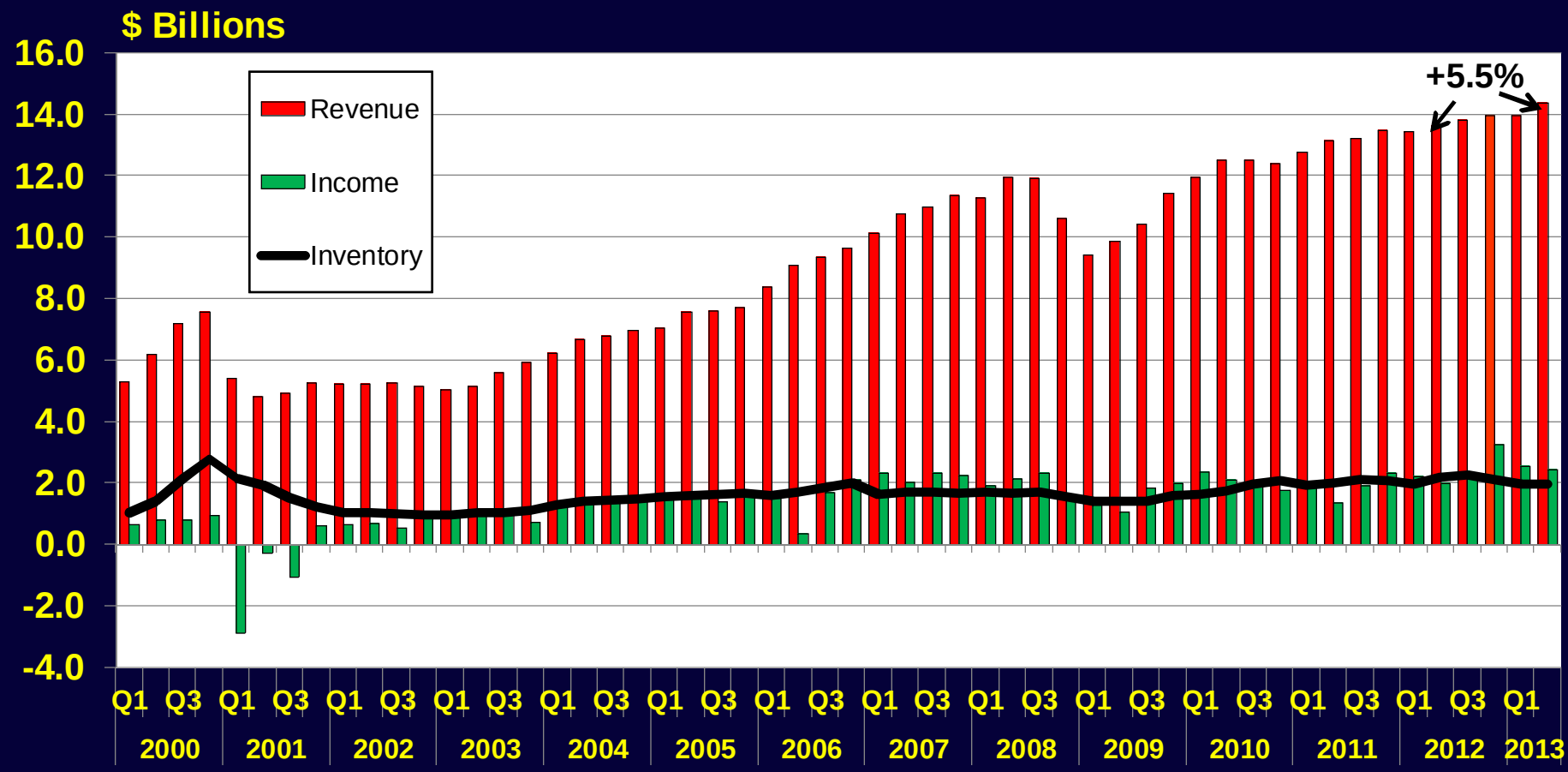
## Revenue, Net Income & Inventory




**3COM, ADC Telecom, Alcatel+Lucent, Ciena, Ericsson, Motorola Solutions,, Nokia, Polycom, TellLabs, Palm ; Apple iPhone, HTC, Huawei Device, LG, Motorola Mobility, Nokia, RIM, Samsung, Sony Mobility, ZTE; Euros & Krona converted at fluctuating exchange; mobile phone volumes from company reports & Gartner Dataquest quarterly unit shipment estimates; historical data included for acquired companies**

Chart 17

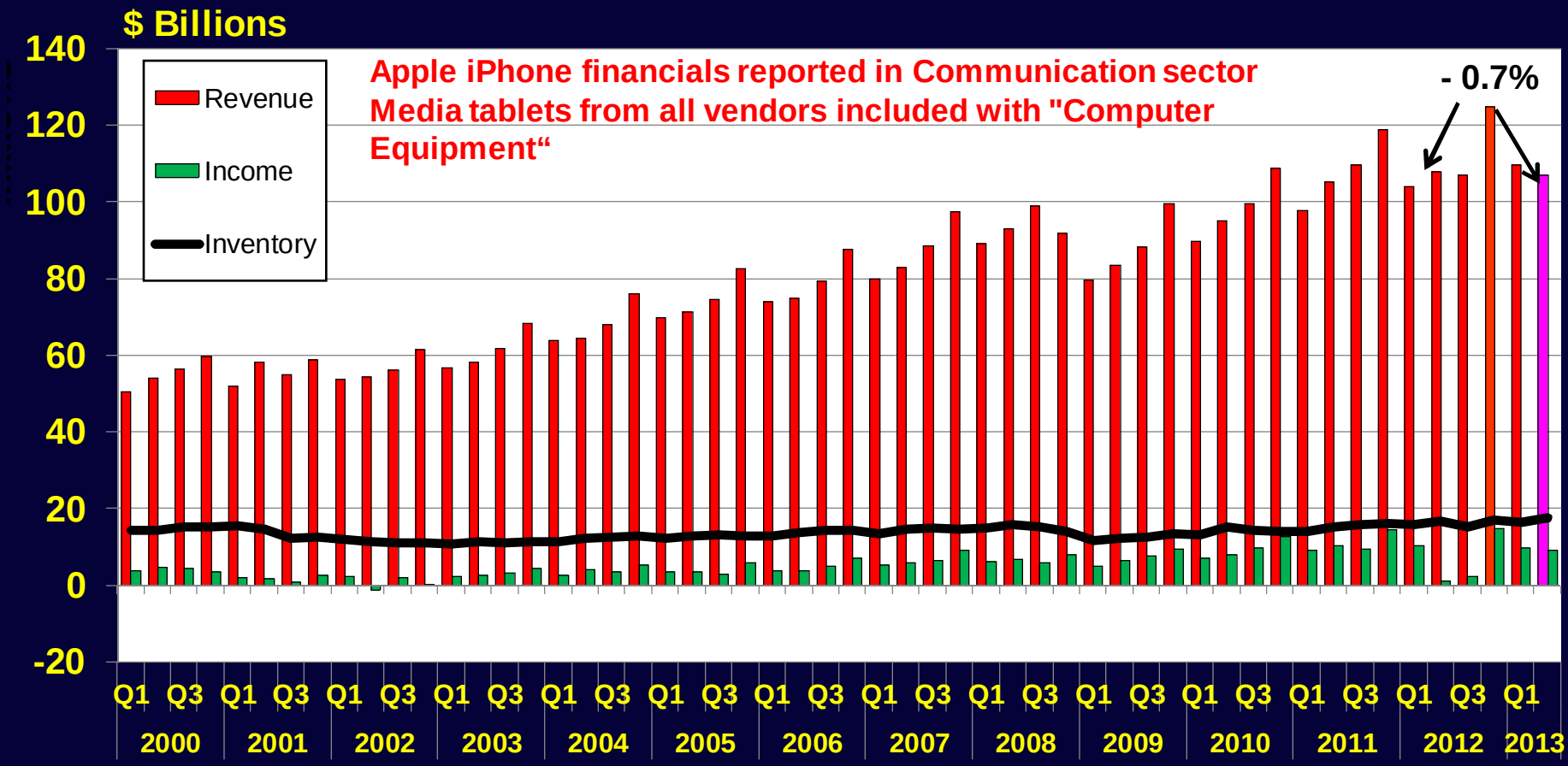
# "Internet" Equipment Suppliers
# Composite of 9 Public Companies
## Revenue, Net Income & Inventory




**ADTRAN, Cisco Systems, Extreme Networks, Juniper Networks, Mattson Technology, Netgear, Sierra Wireless, Sonus Networks, Sycamore**

Chart 18

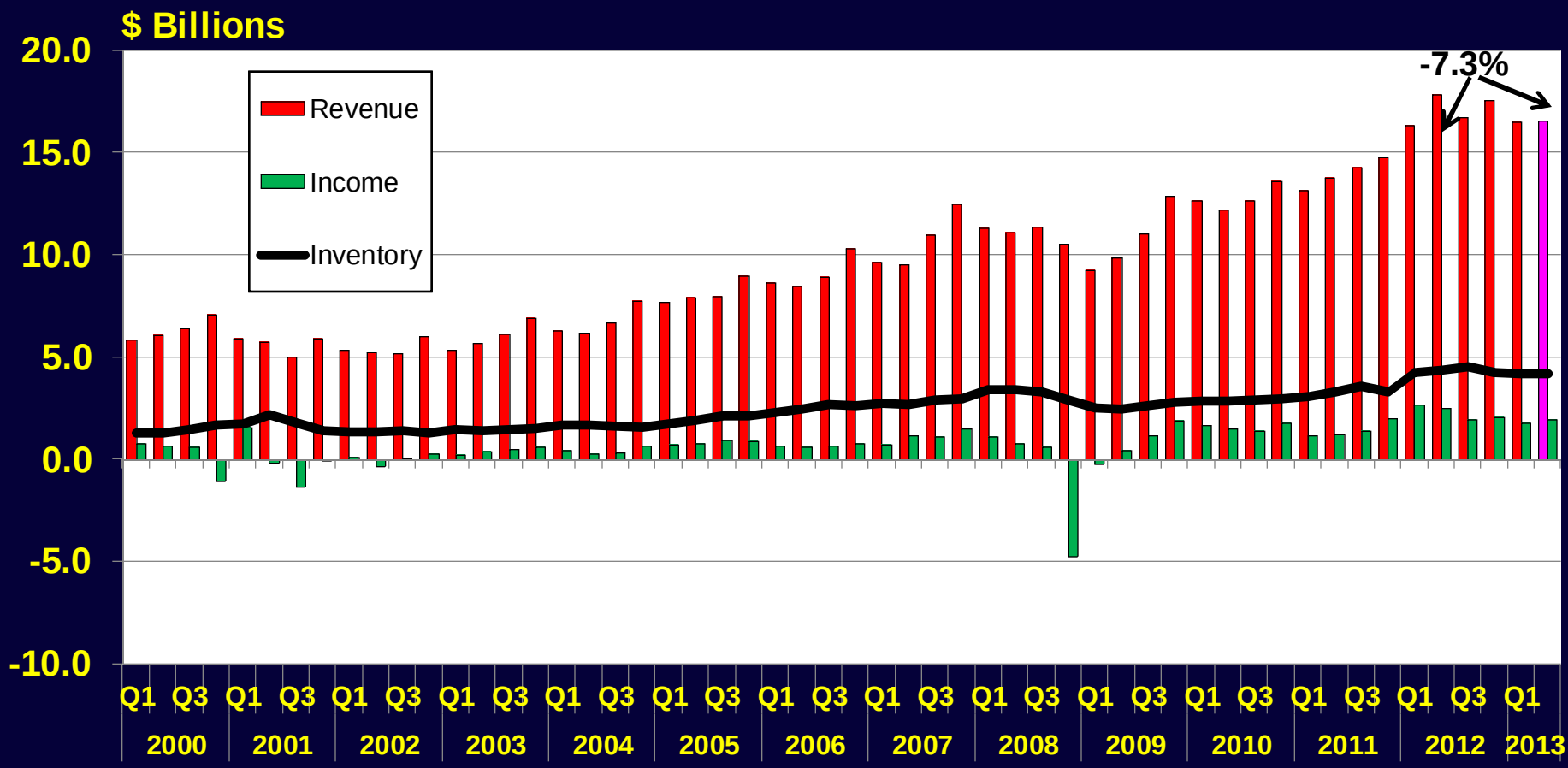
# Computer Equipment Suppliers
# Composite of 13 Public Companies
## Revenue, Net Income & Inventory




Acer+Gateway, Apple, Creative Tech, Cray, Dell, HP, IBM, Lenovo, Mercury, NCR, Sun Micro, Unisys
Other vendors media tablet sales estimated from unit shipments

Chart 19

# Data Storage Equipment Suppliers
# Composite of 10 Public Companies
## Revenue, Net Income & Inventory

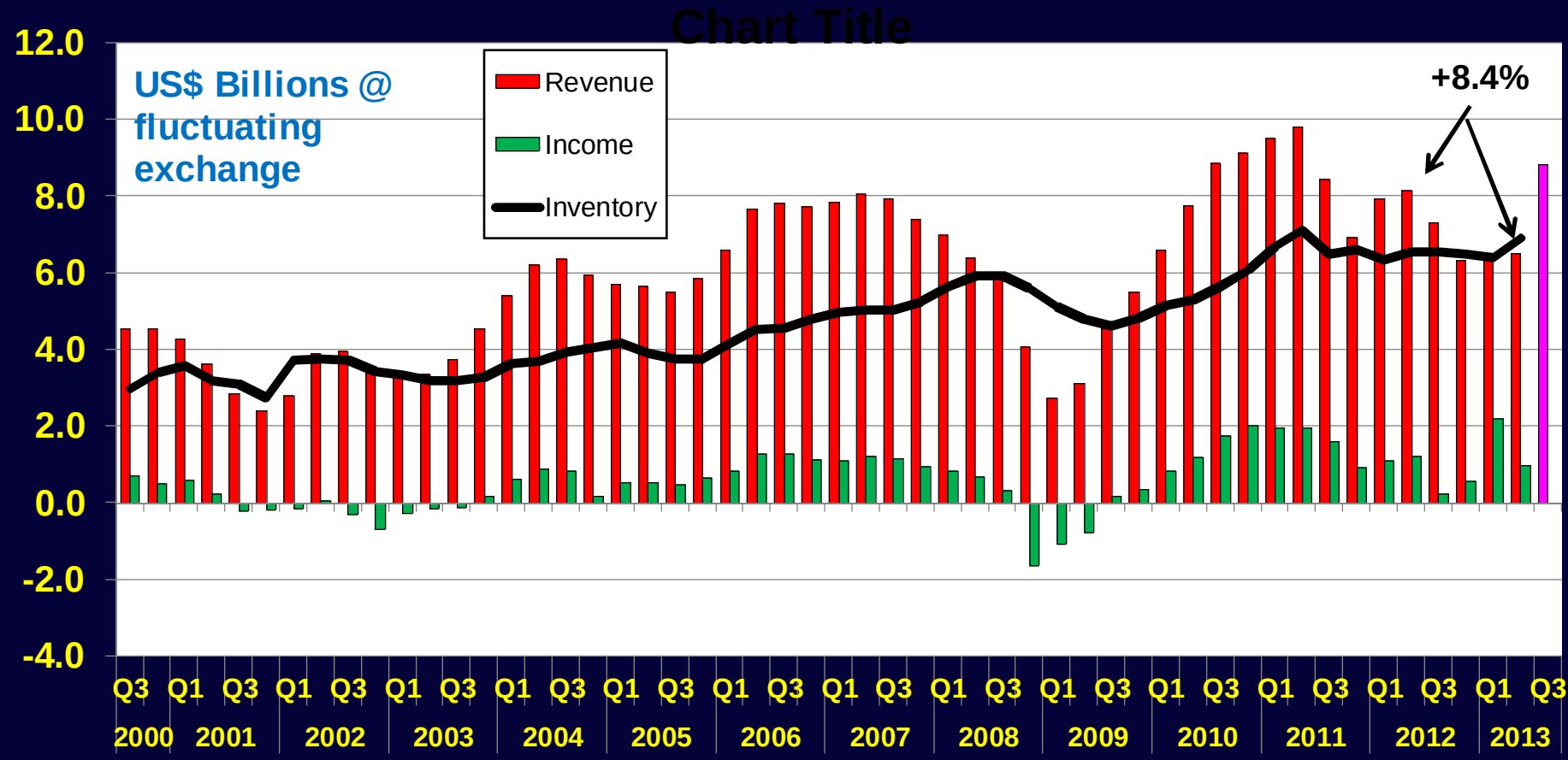



**Brocade, EMC, Iomega, Maxtor, Network Appliance, Qlogic, Quantum, Seagate, Western Digital, SanDisk**
**(Iomega & Maxtor historical data retained as both were purchased by other members of this group)**

Chart 20

# Semiconductor Fab, Test & Measurement Composite of 20 Public Companies

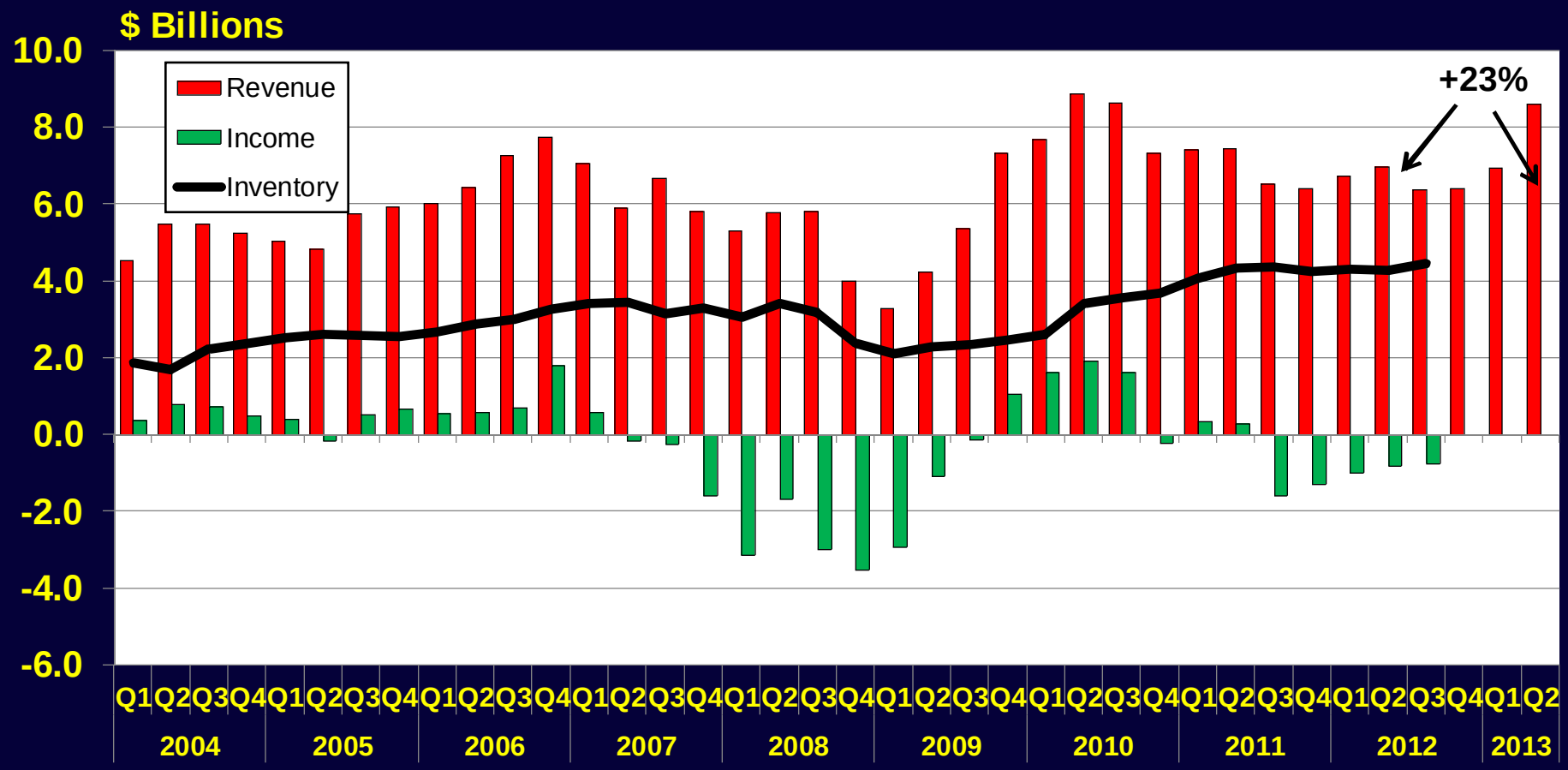
## Revenue, Net Income & Inventory




Applied Materials, ASM Intl, ASML, Advantest, KLA Tencor, Novellus, Hitachi Hi Tech, Lam Research, BTU, LTX-Credence, FEI, FSI, Intervac, Kulicke & Soffa, MKS Instruments, Rudolph, Teradyne, Ultratech Stepper, Varian semiconductor, Veeco

Chart 21

# Memory
# Composite of 8 Global Companies
## Revenue, Net Income & Inventory

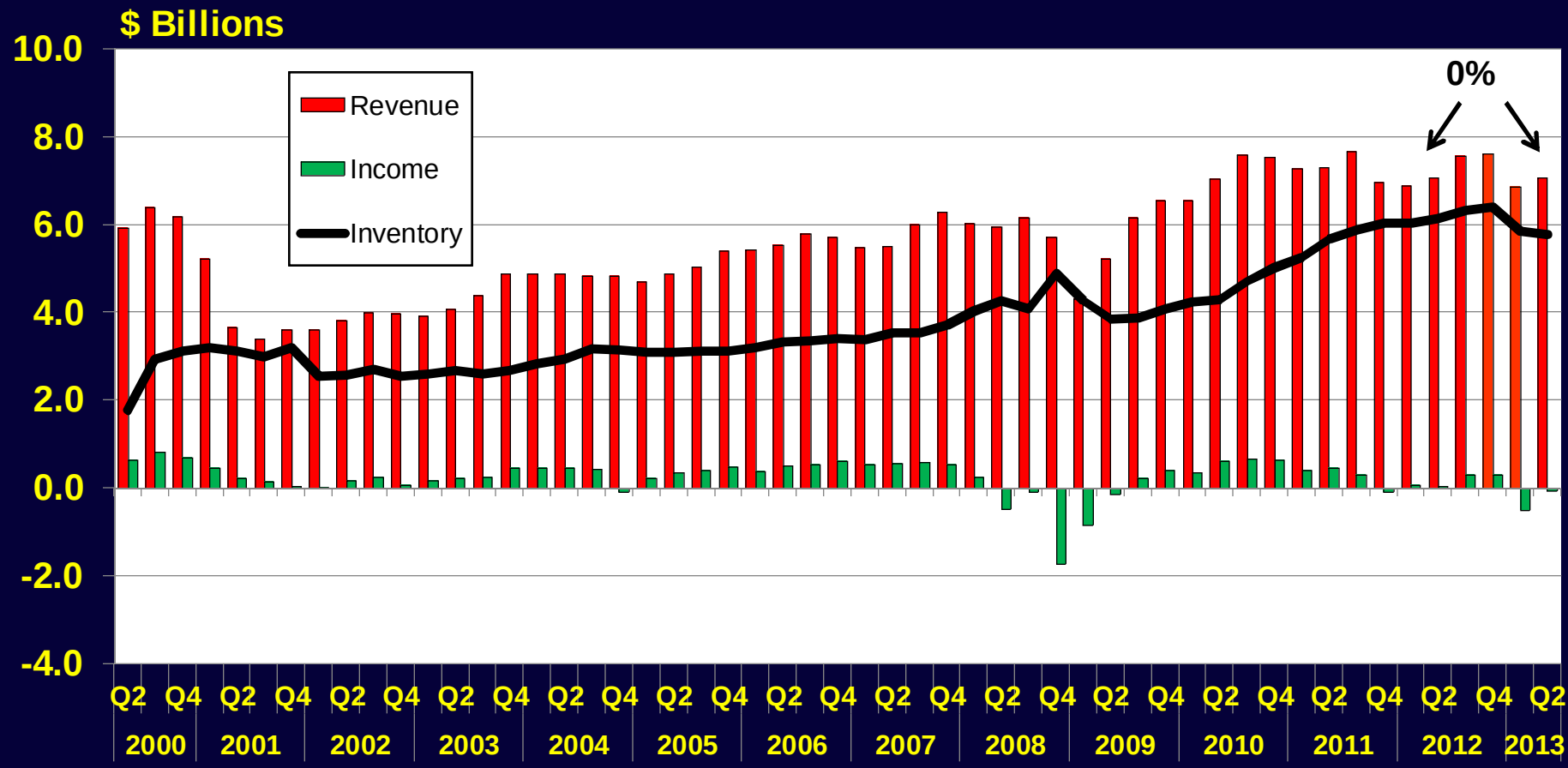



Elpida (purchased by Micron 7/13), Hynix, Infineon, Micron, NanYa, Rambus, STEC, Winbond

Converted @ fluctuating exchange

Chart 22

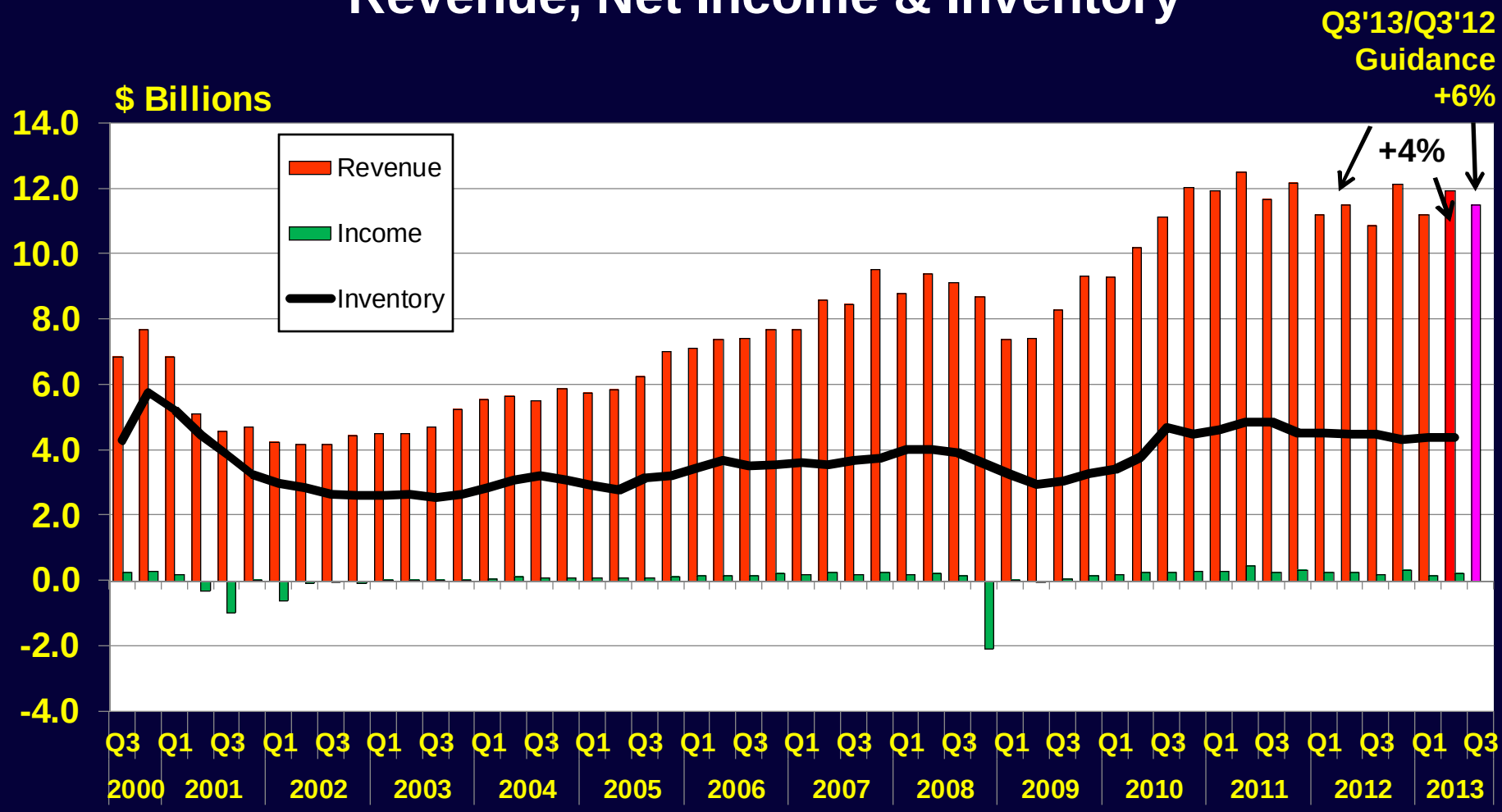
# Passive Components
# Composite of 10 Companies
## Revenue, Net Income & Inventory




AVX, Bel Fuse, Diodes, Littlefuse, Murata, RF Micro, Rohm, Vishay, TDK, Yageo;
Euros, Yen & NT$ converted to US$ at fluctuating exchange rates

Chart 23

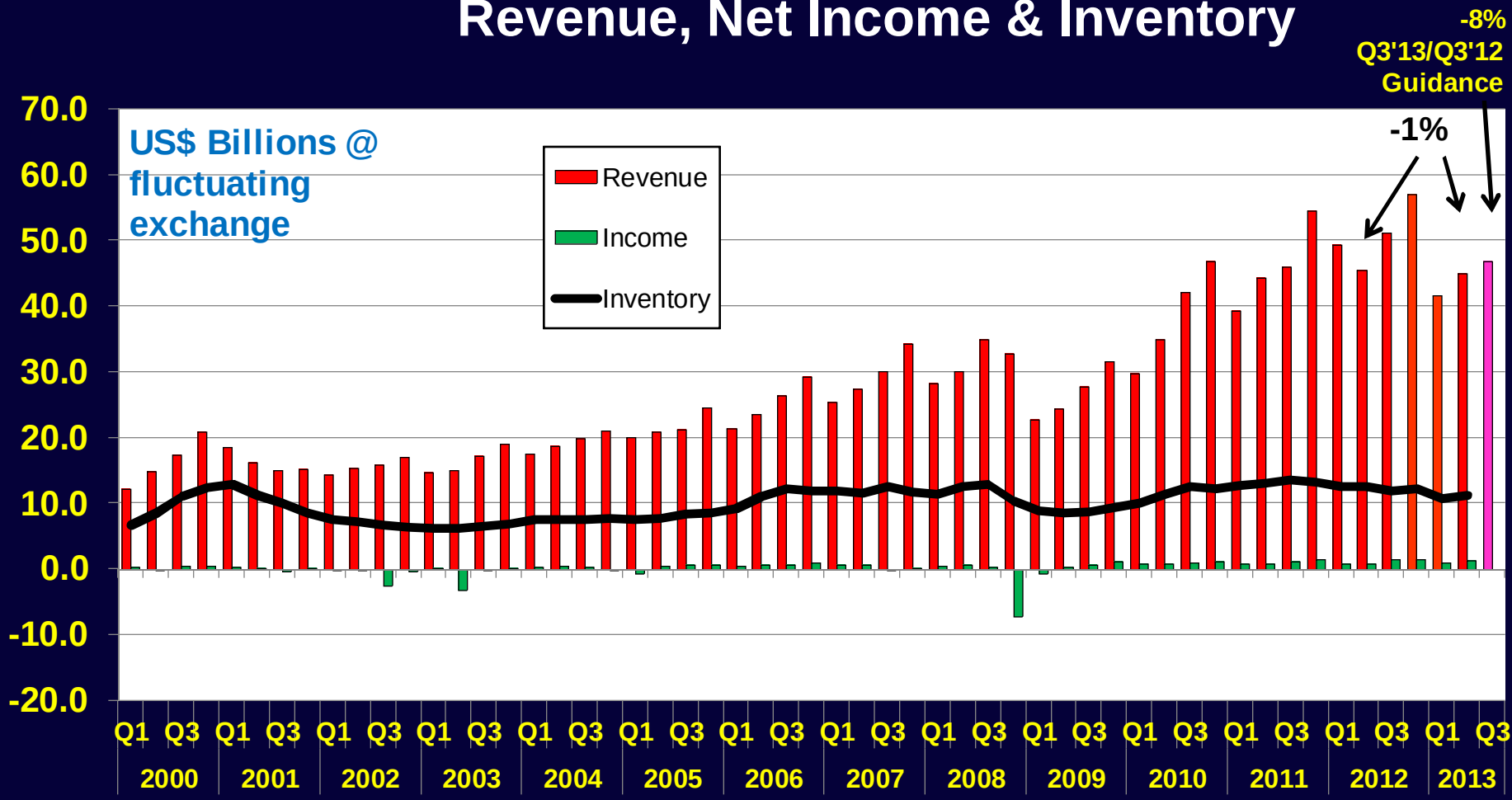
# Electronic Component Distributors
# Composite of 4 US Public Companies
## Revenue, Net Income & Inventory




Arrow, Avnet, Nu Horizons, Richardson

Chart 24

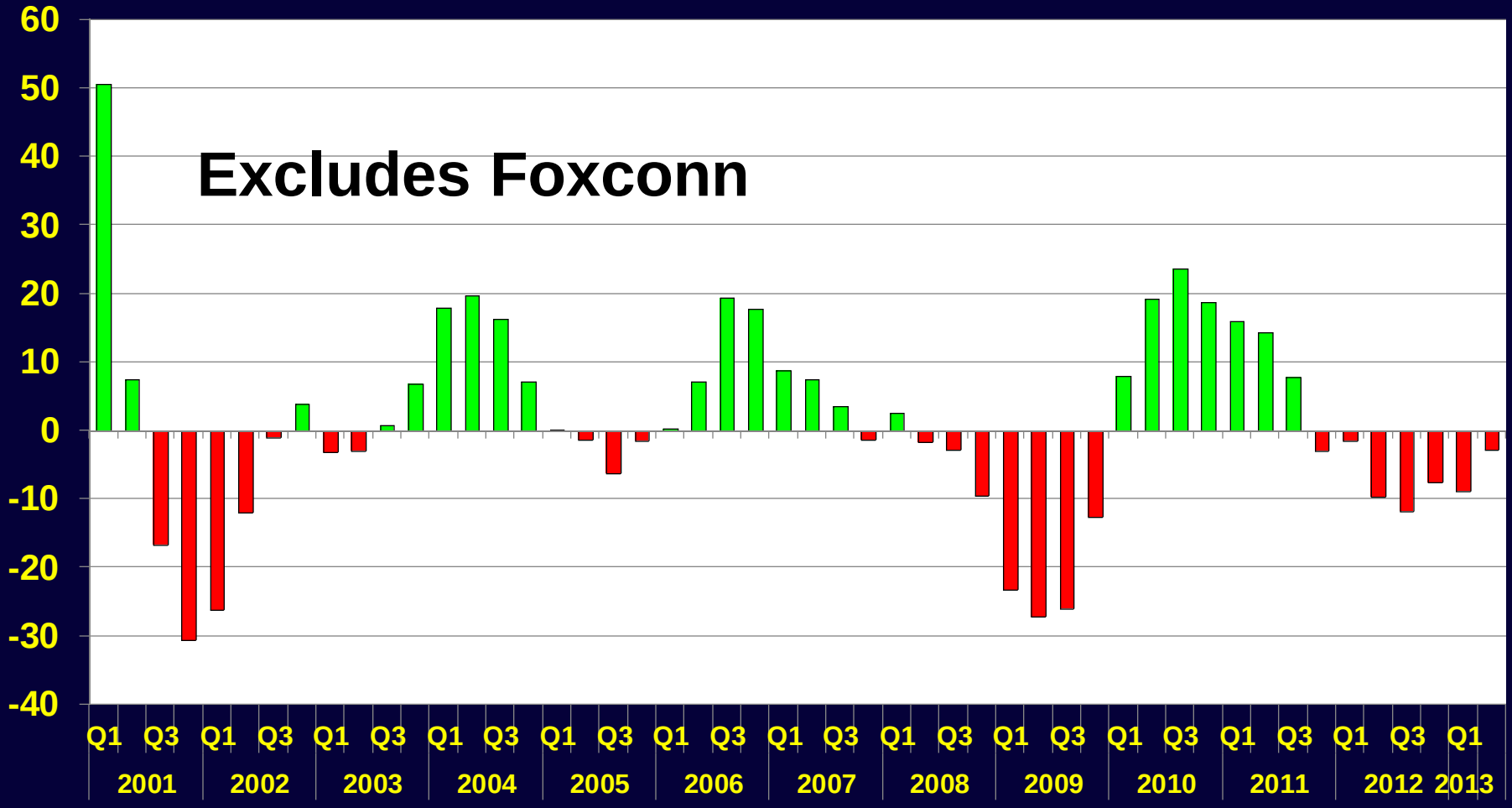
# Large EMS Providers
# Composite of 9 Public Companies
## Revenue, Net Income & Inventory




**Benchmark+Pemstar, Celestica, Flextronics+Solectron, Foxconn, Jabil, Plexus, Sanmina-SCI, Sypris, Venture Mfg**

Chart 25

# Large EMS Providers
# Composite of 8 Public Companies
## Quarterly Revenue Growth

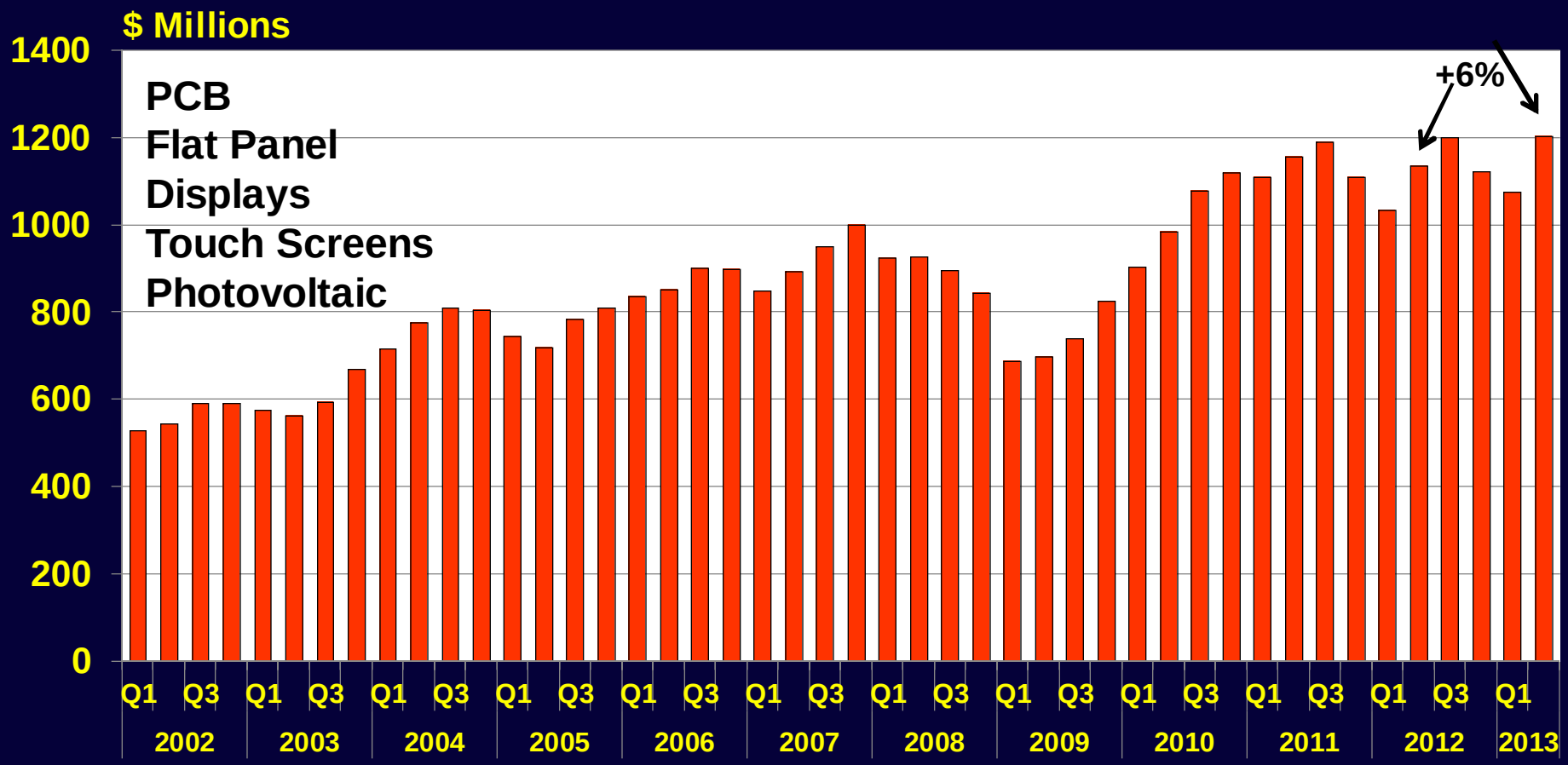



Benchmark+Pemstar, Celestica, Flextronics+Solectron, Jabil, Plexus, Sanmina-SCI, Sypris,Venture Mfg

Chart 26

# Process Equipment Related Suppliers
# Composite of 9 Companies

## Revenue

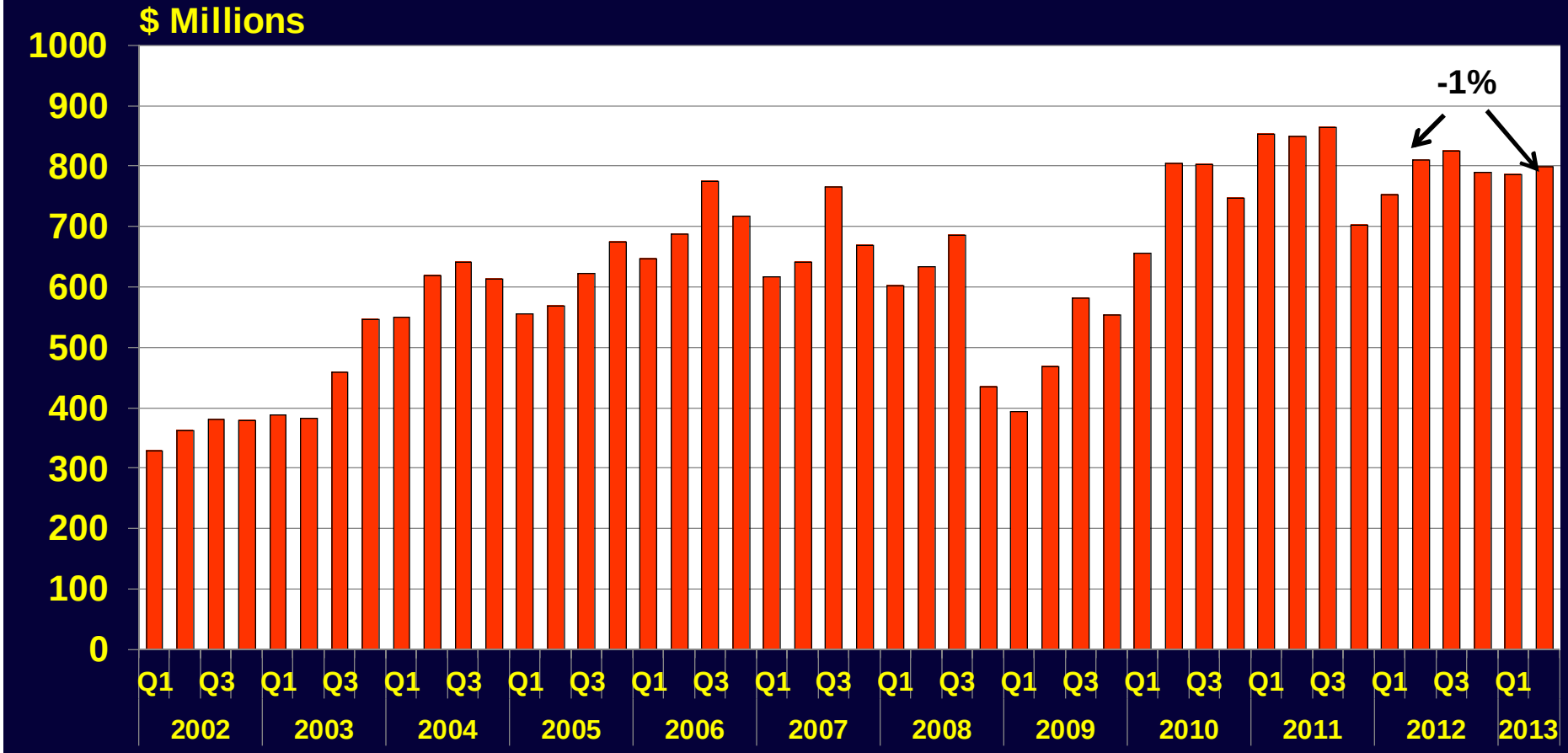



C-Sun,Tailing Technology, Camtek, ESI, GSI Group, Orbotech, Mentor Graphics, Nordson, Coherent

Chart 27

# Rigid & Flex Laminate Suppliers
# Composite of 13 Companies

## Revenue



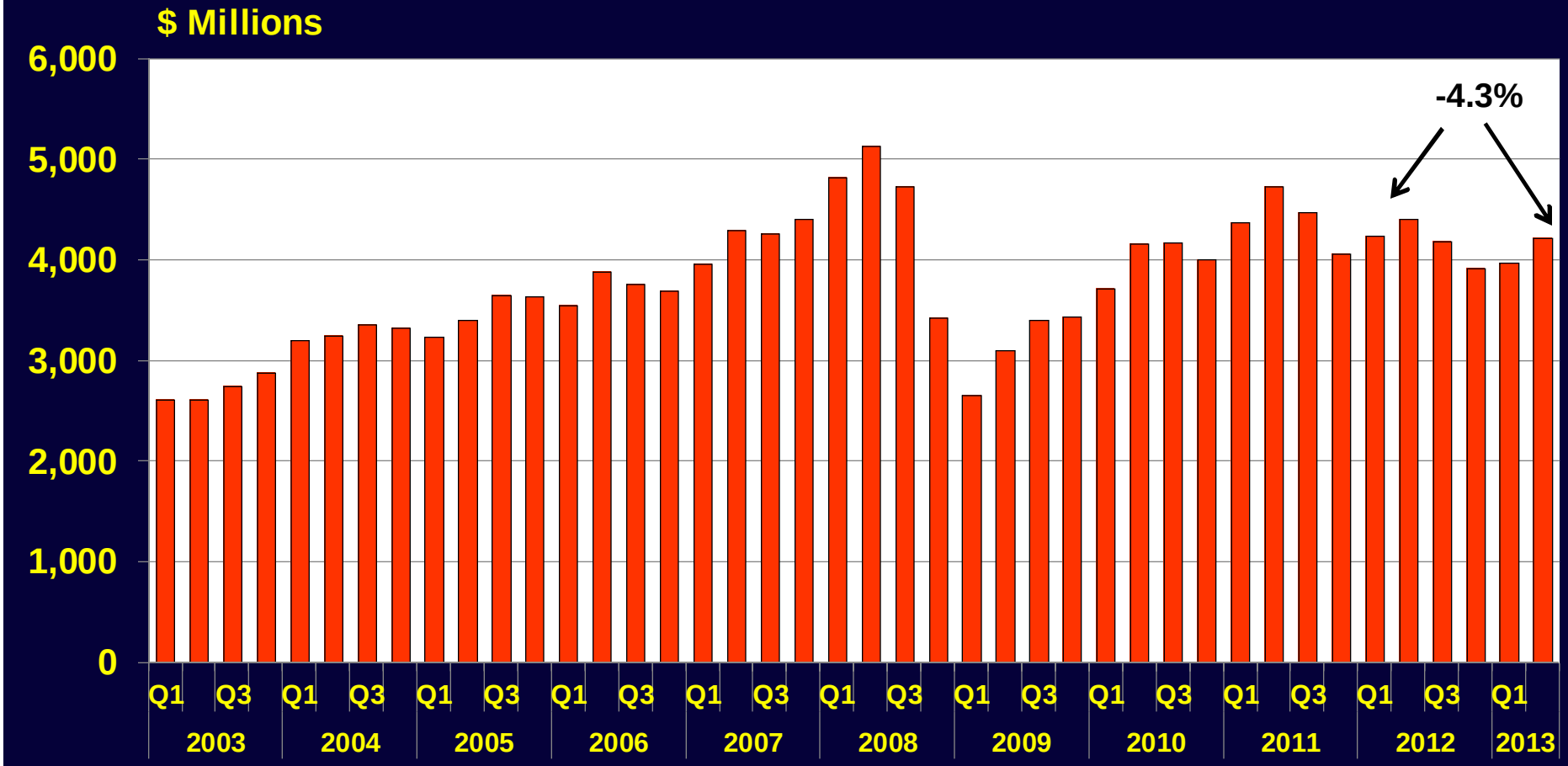

Arisawa, Arlon Electronic Materials, Elite Materials, Hwa Woei, Iteq, Microcosm, Park Electrochemical, Rogers, Shinemore, Taiflex, Thinflex, Top Union, Uniplus

NT$ converted at fluctuating exchange

Chart 28

# Material Suppliers (excluding laminate) Composite of 14 Companies

## Revenue

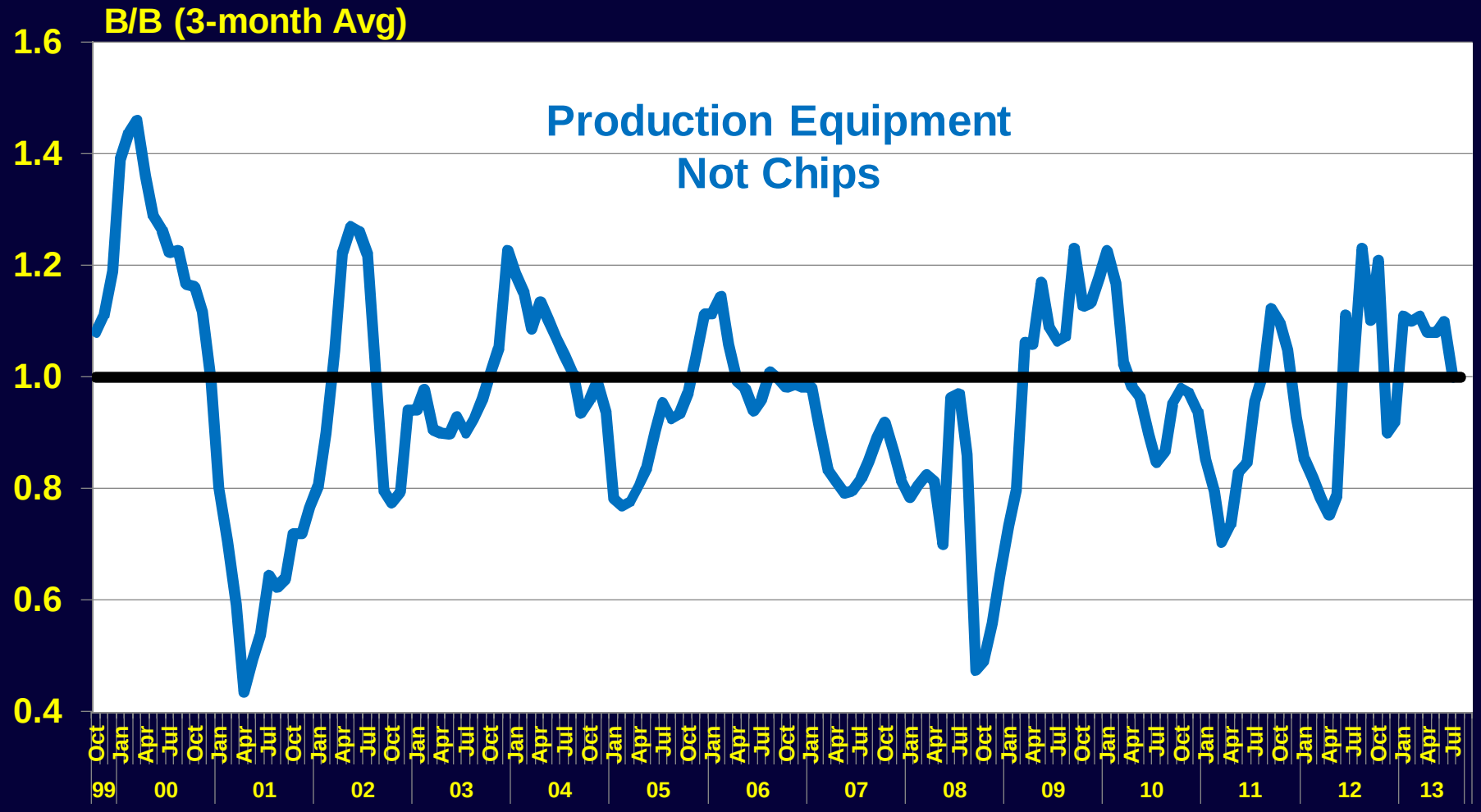



Momentive, OM Group, Taiwan Glass, Baotech, Glotech, Shenmao, Wahlee,Topoint, Cabot Micro, Chemtura, Cookson Elec, Eternal Chemical, Hexcel, Chang Wah

NT$ & GBP converted to US$ at fluctuating exchange

Chart 29

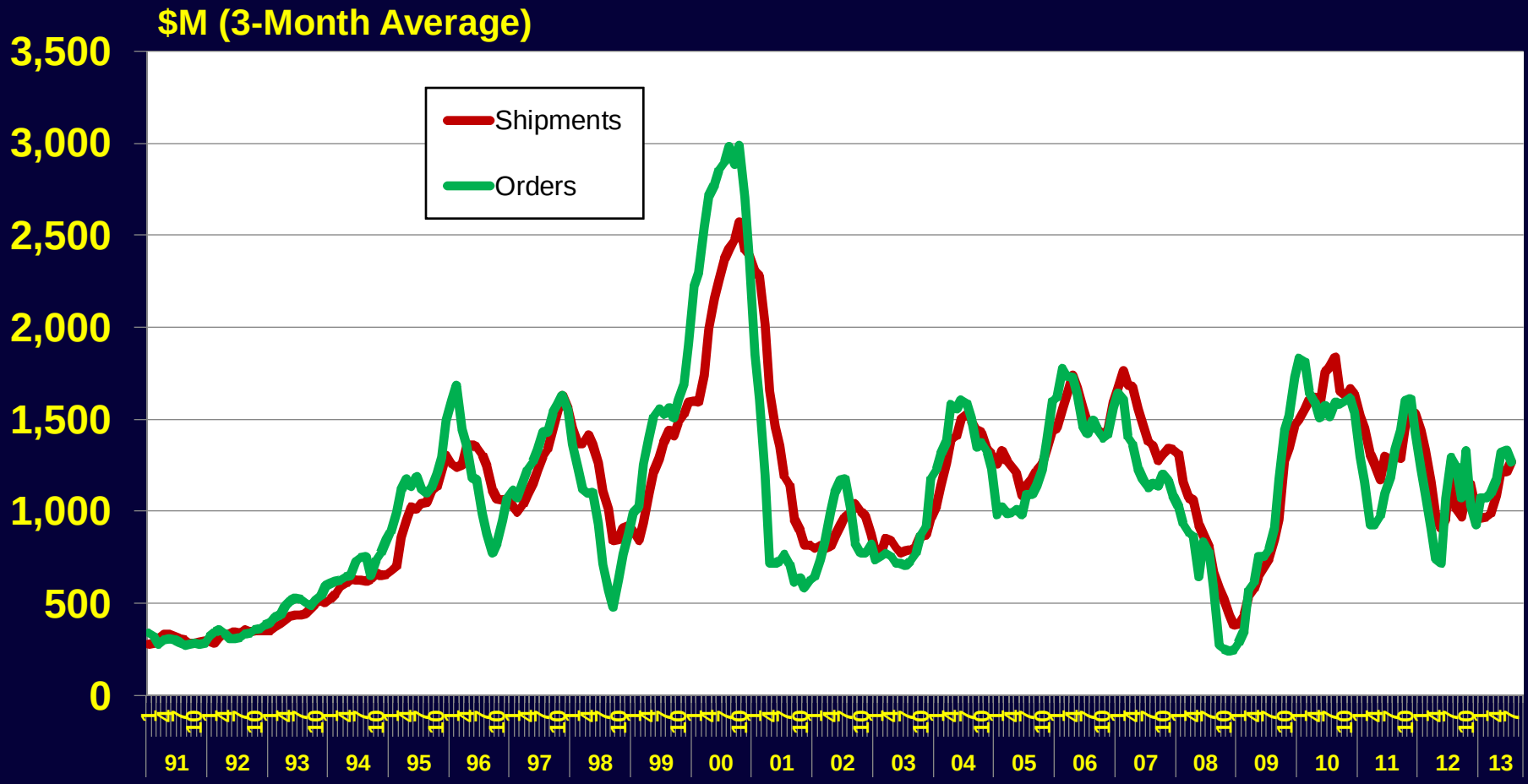
# N American Semiconductor Equipment Industry Book/Bill Ratio




SOURCE Semiconductor Equipment and Materials International
http://www.semi.org

Chart 30

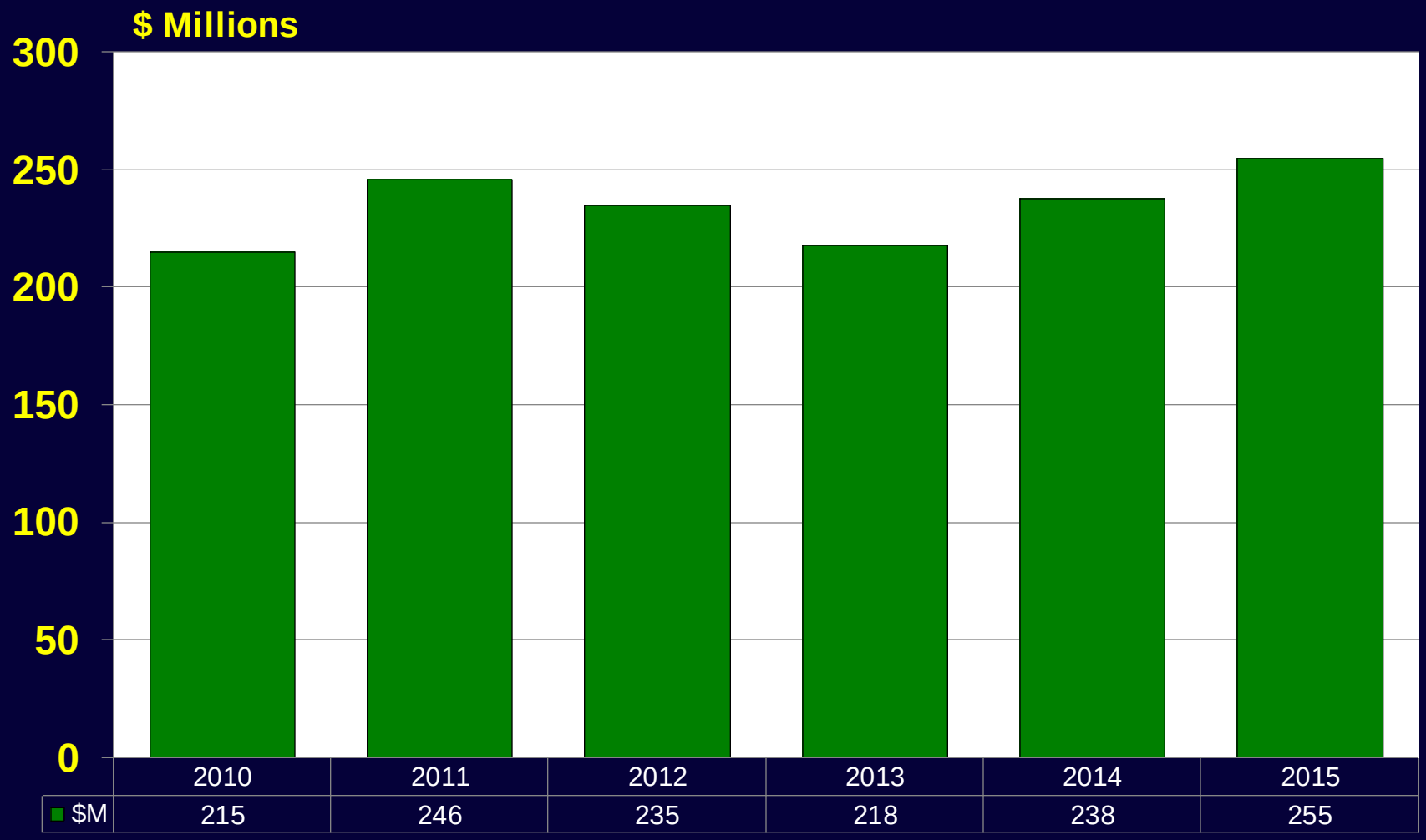
# N American Semiconductor Equipment Industry Shipments & Orders




SOURCE Semiconductor Equipment and Materials International
http://www.semi.org

Chart 31

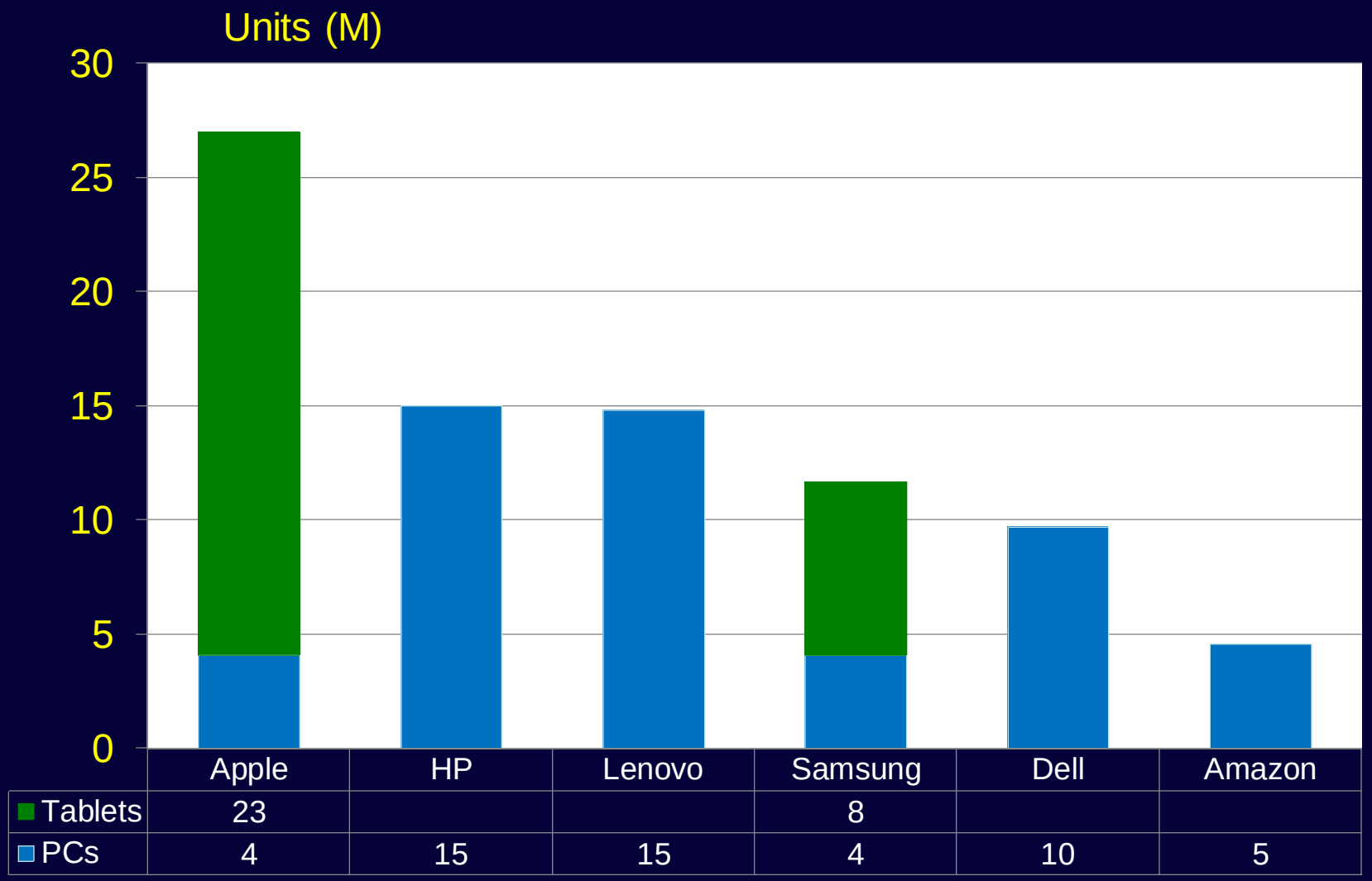
# S Korea Photoresist Consumption




IHS 8/13

Chart 32

# Largest Personal Computer Makers in 2Q'13 (if you count tablets as PCs)




| | Apple | HP | Lenovo | Samsung | Dell | Amazon |
|---|---|---|---|---|---|---|
| Tablets | 23 | | | 8 | | |
| PCs | 4 | 15 | 15 | 4 | 10 | 5 |

Canalys 8/13