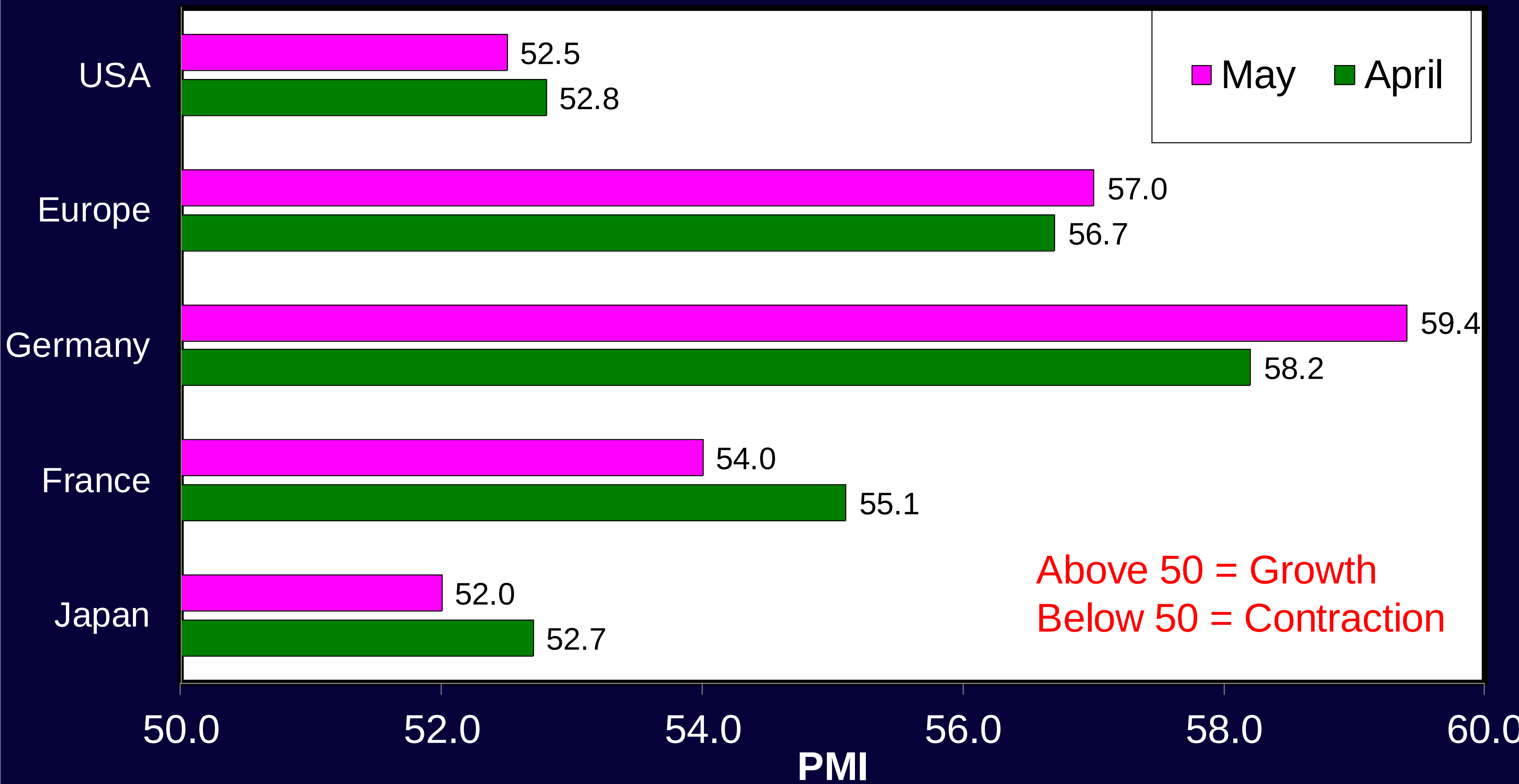
Chart 1

Purchasing Managers' Indices (flash) May vs. April 2017

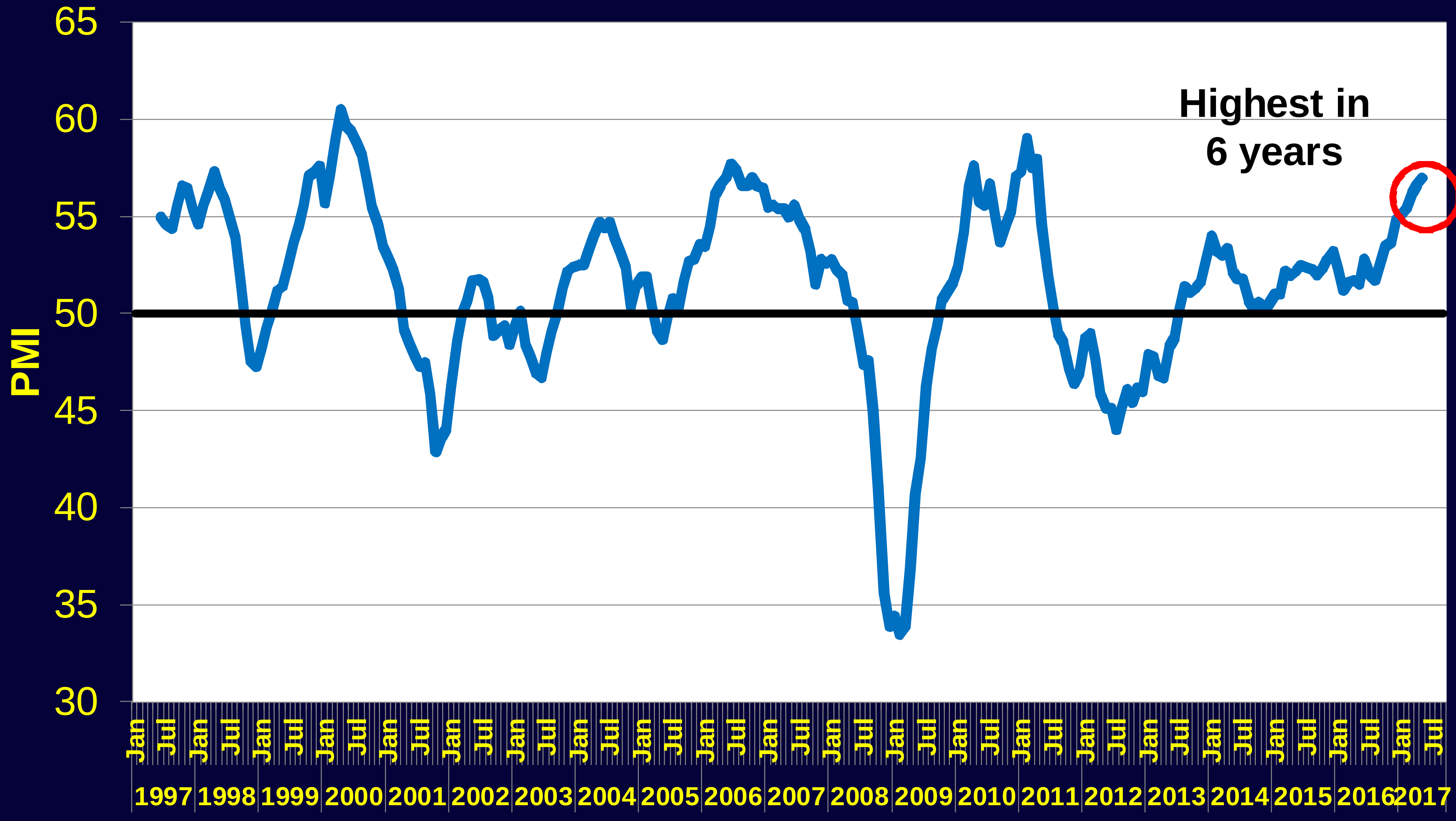


Markit Economics

Chart 2

Eurozone "Purchasing Managers" Index

Diffusion Index, >50 = Growth

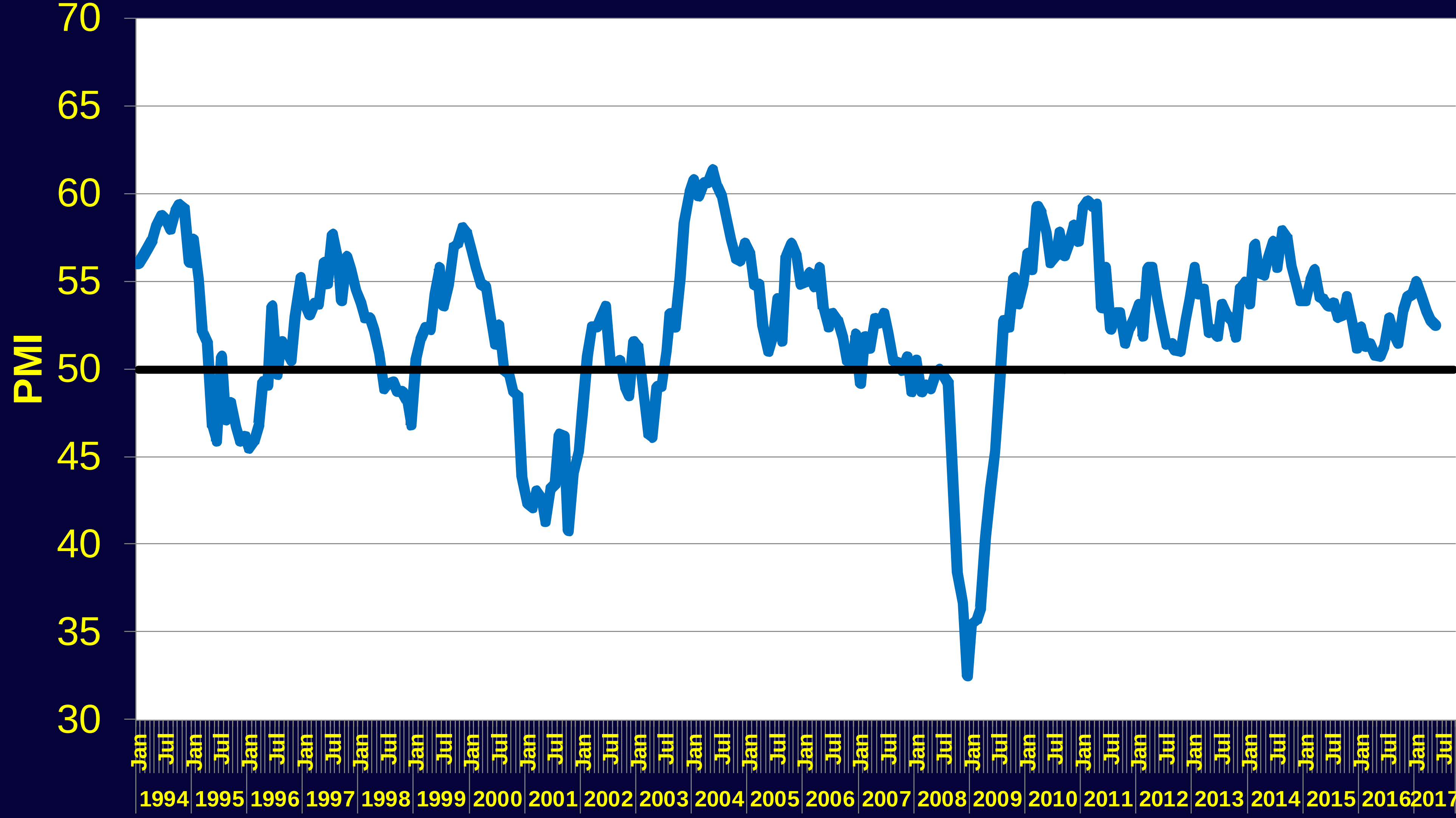


Markit Economics

Chart 3

U.S "Purchasing Managers" Indices
Markit Economics

Diffusion Index, >50 = Growth

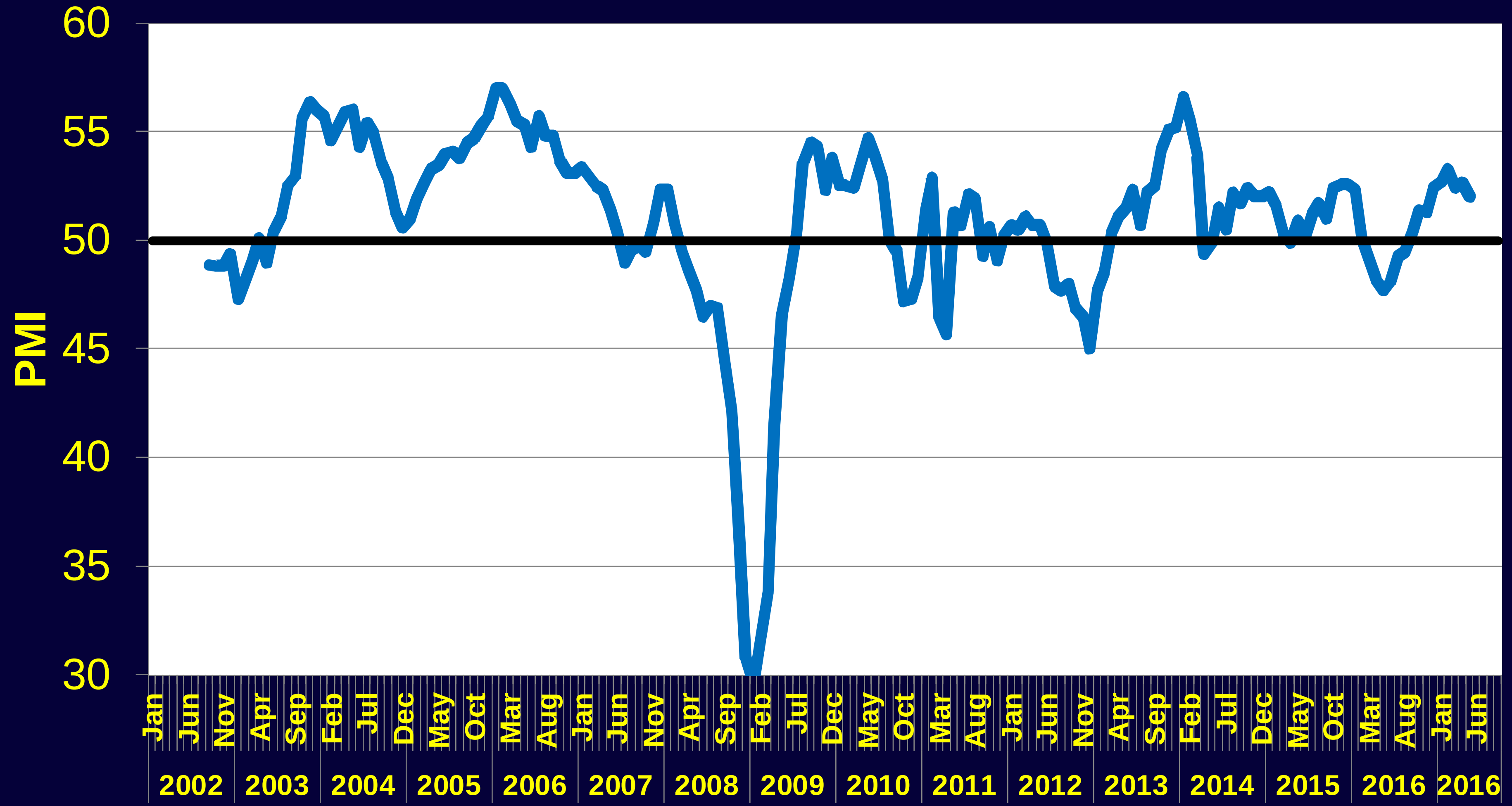


Markit Economics & ISM

Chart 4

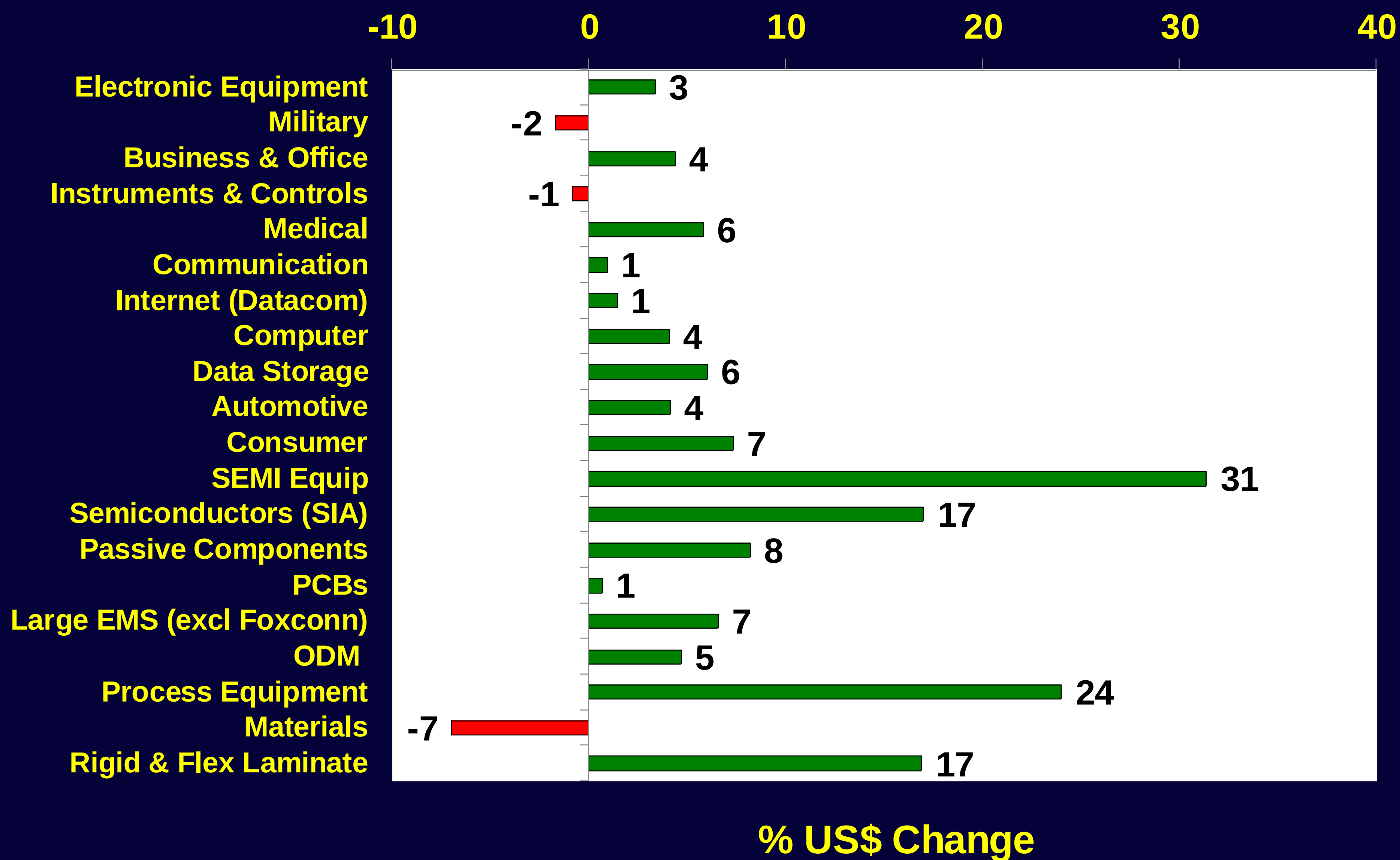
Japan "Purchasing Managers" Index

>50 = Growth



Nomura/JMMA

Chart 5 **Global Electronic Supply Chain Growth 1Q'17 vs. 1Q'16 (preliminary)**



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

Chart 6

Electronic Equipment Suppliers
Composite of 213 Public Companies
Quarterly Revenue Growth

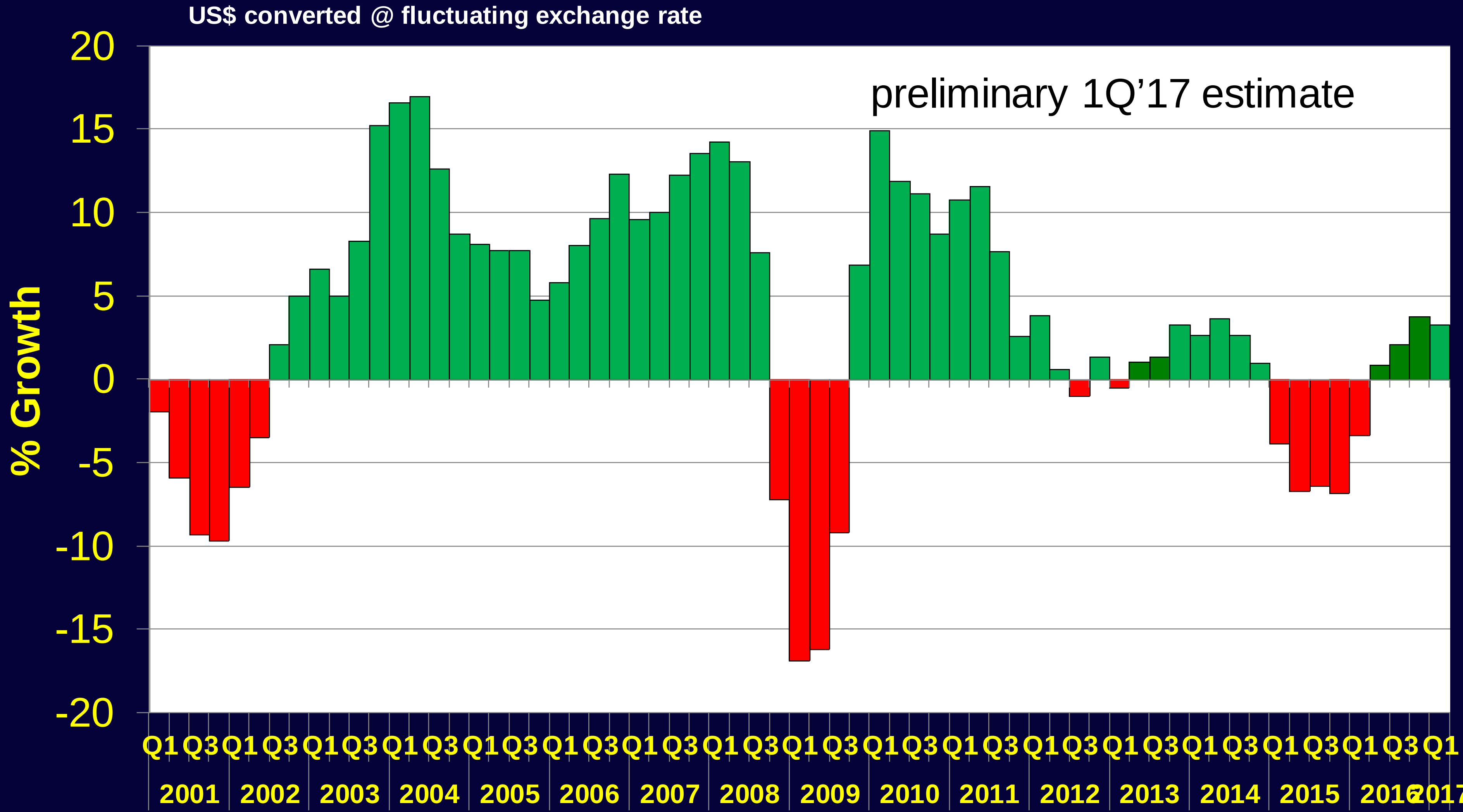
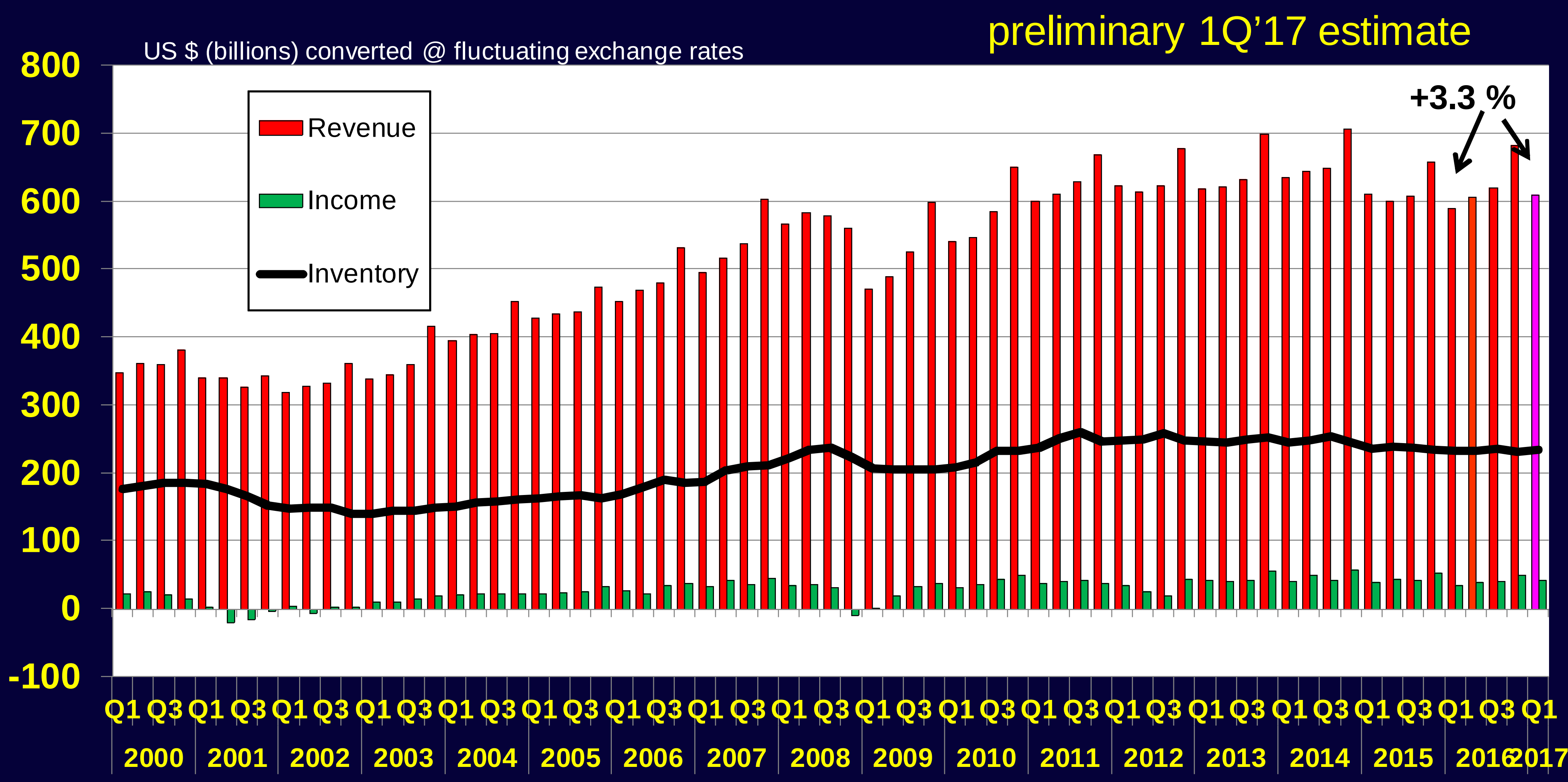


Chart 7

Electronic Equipment Suppliers
Composite of 213 Public Companies

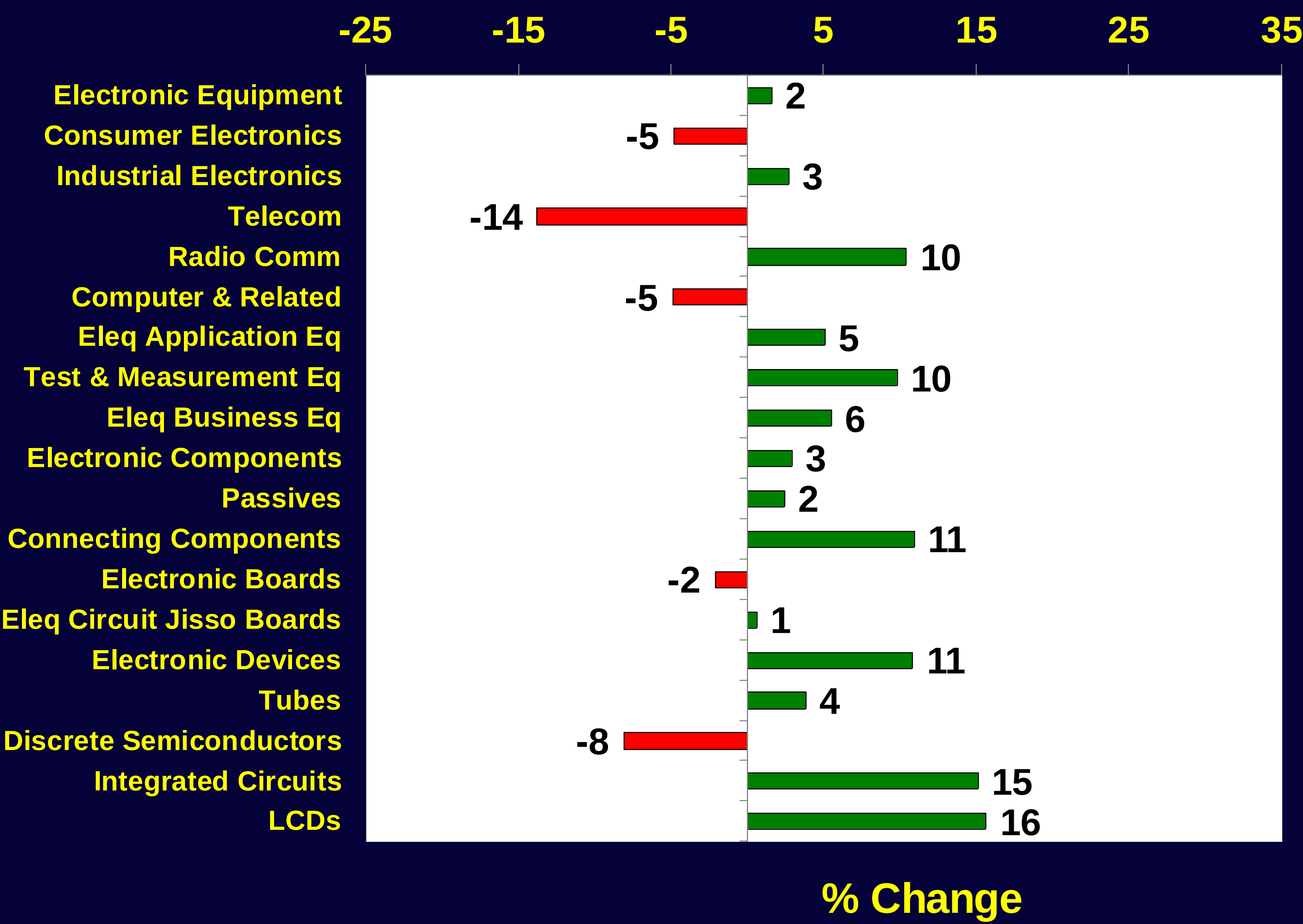
Revenue, Net Income & Inventory



Computer 13, Internet 13, Storage 17, Communication 30, SEMI 40, Medical 21, Instruments 16, Military 21, Business & Office 6, Consumer 21, Automotive 15

Chart 8

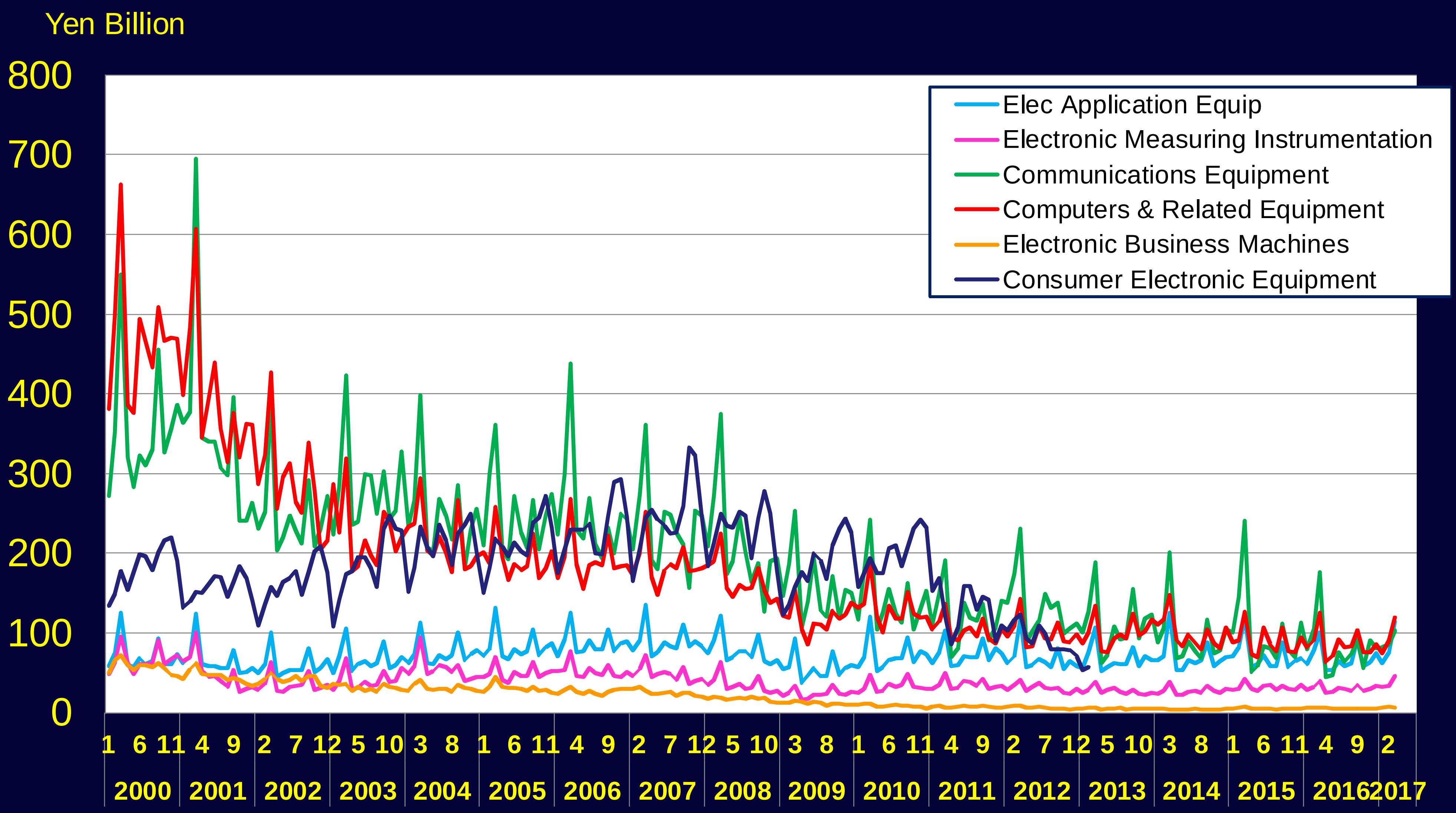
Japan Electronic Supply Chain Growth 1Q'17 vs 1Q'16 (domestic production in Yen)



JEITA 5/17

Chart 9

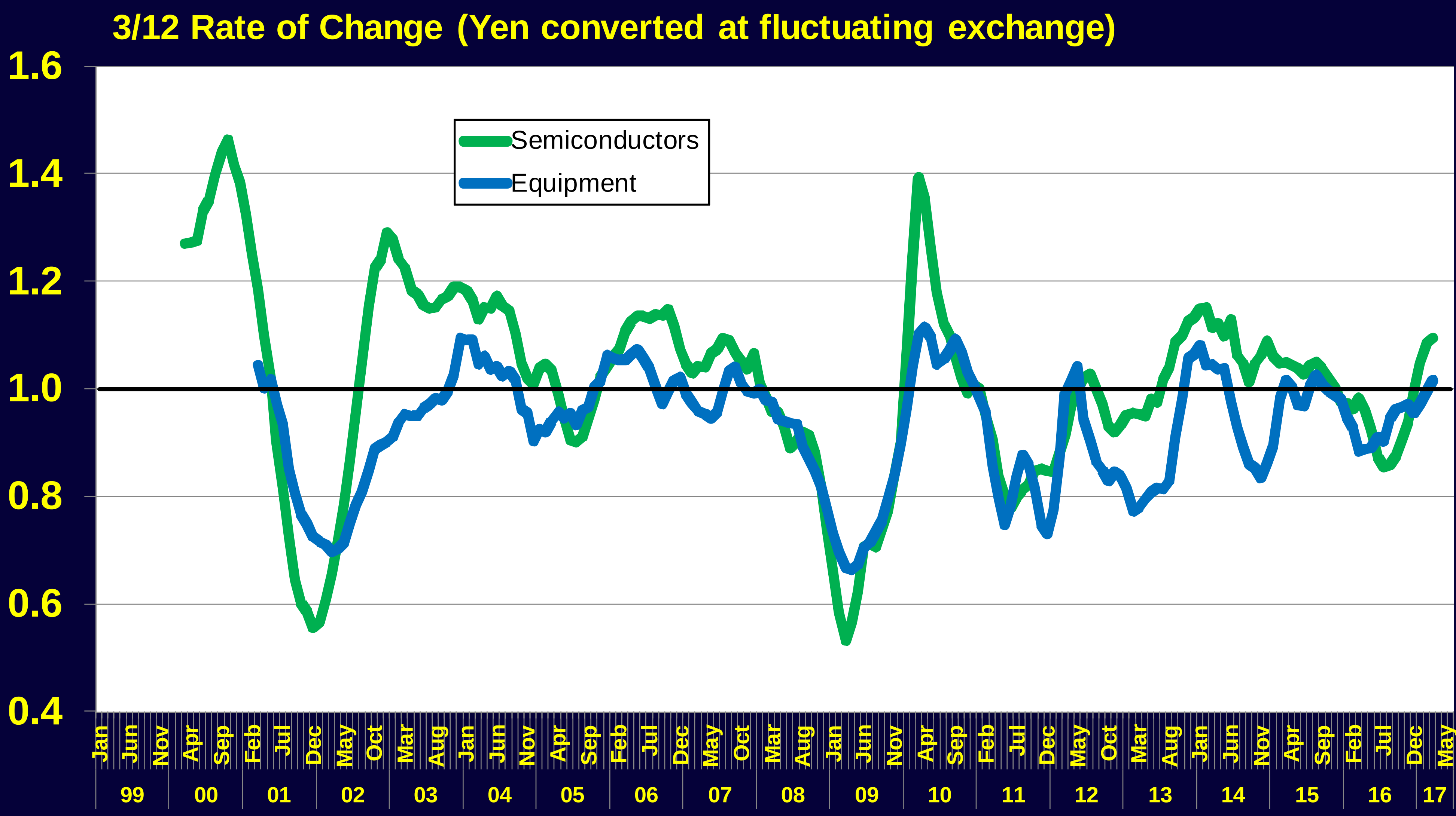
Japan Electronic Equipment Production by Month 2000 to Present



JEITA www.jeita.or.jp/

Chart 10

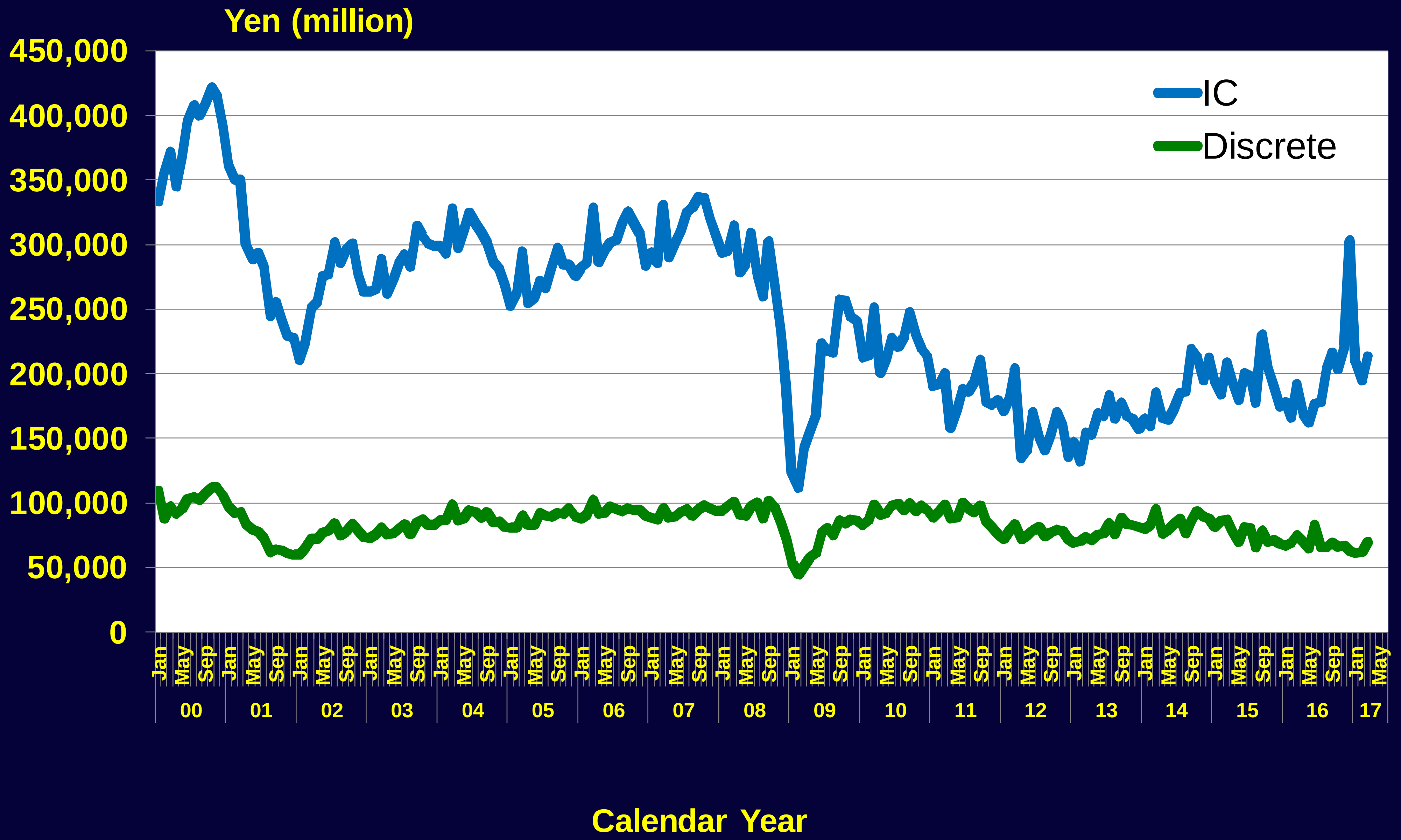
Semiconductor Shipments to Japan vs. Japanese Electronic Equipment Production



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

Chart 11

Japan Integrated Circuit & Discrete Semiconductor Domestic Production



http://www.jeita.or.jp/

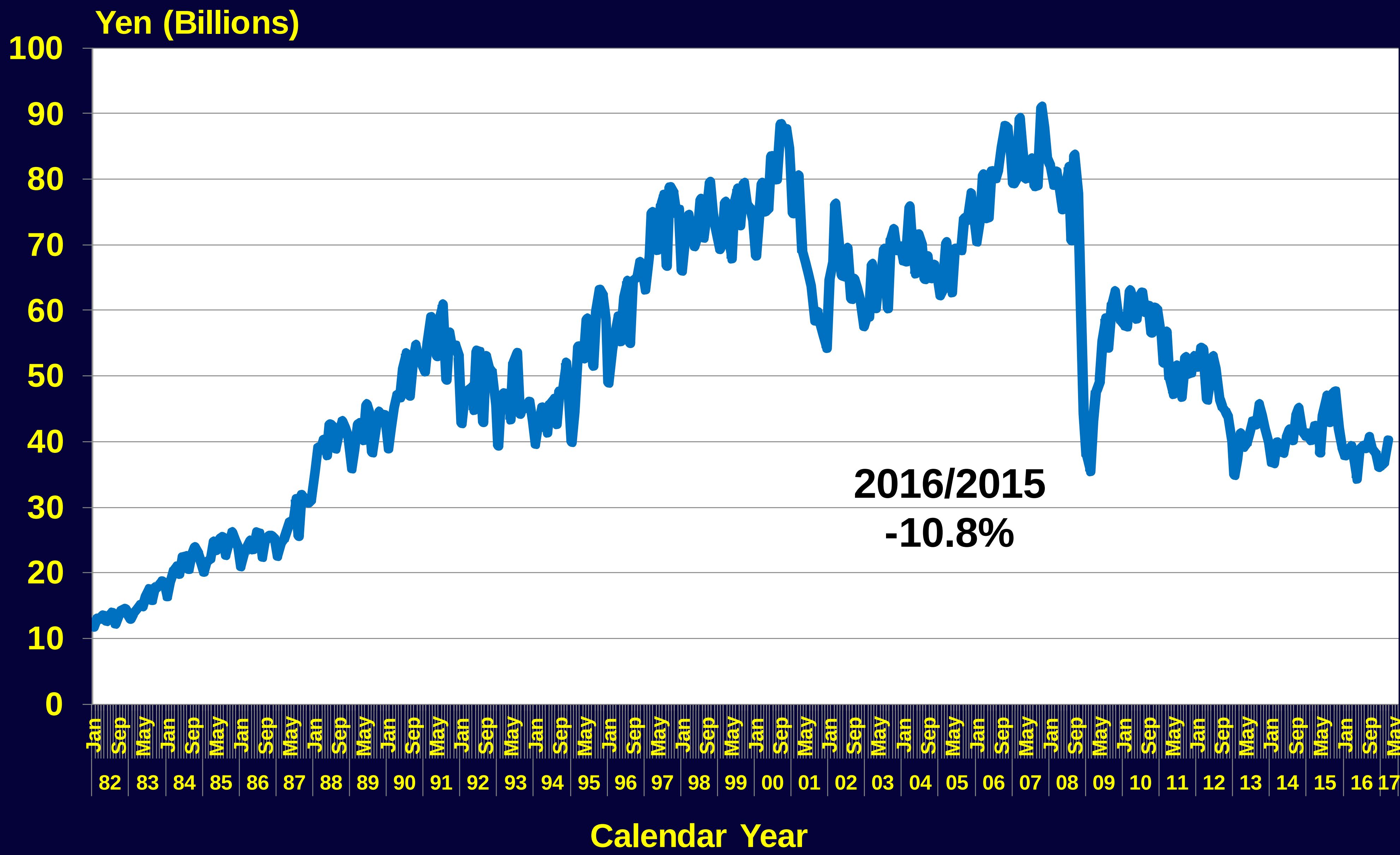
Chart 12

Japan Passive Component Domestic Production

http://www.jeita.or.jp/

Chart 13

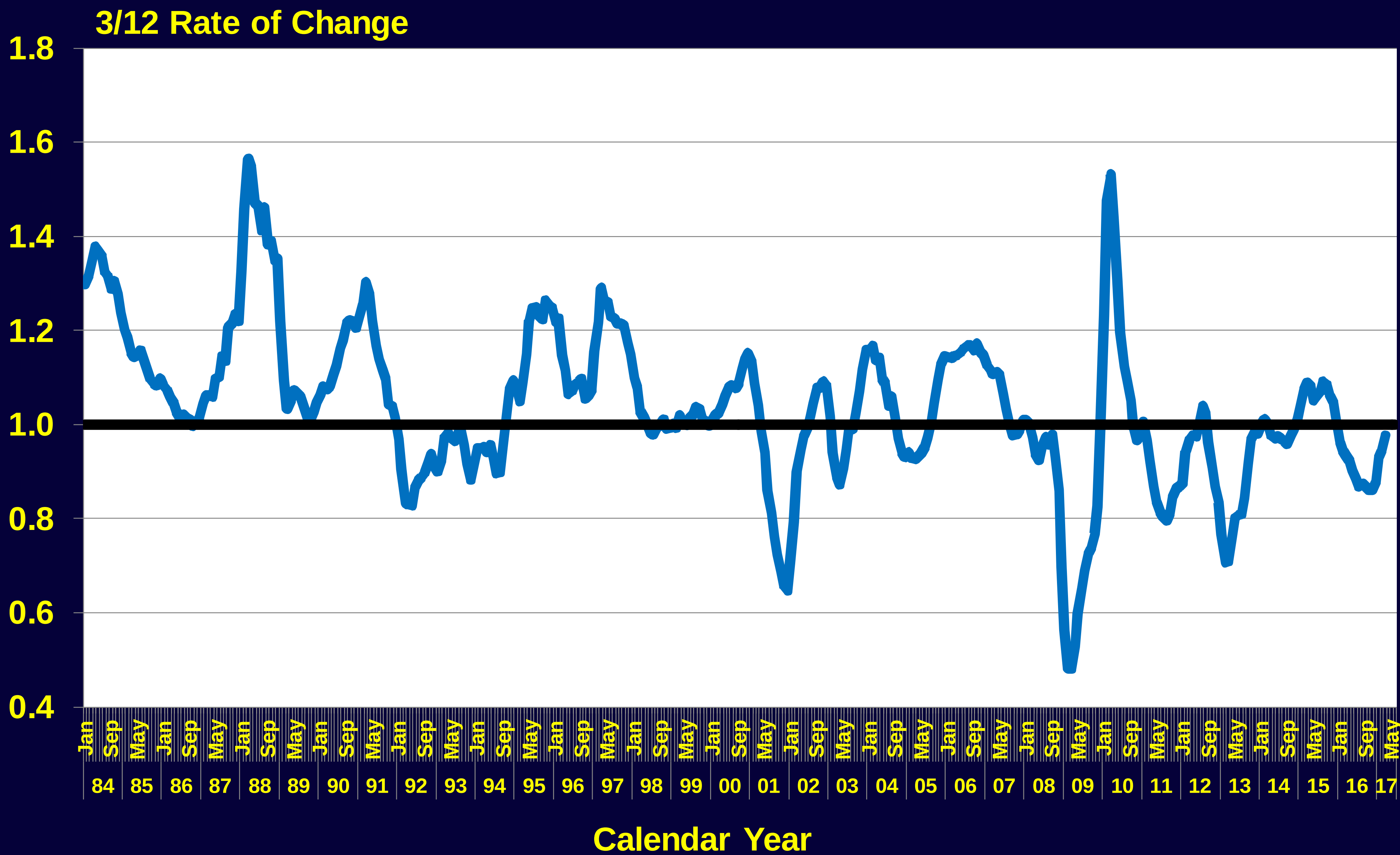
Japan PCB Production



JEITA

Chart 14

Japan PCB Production

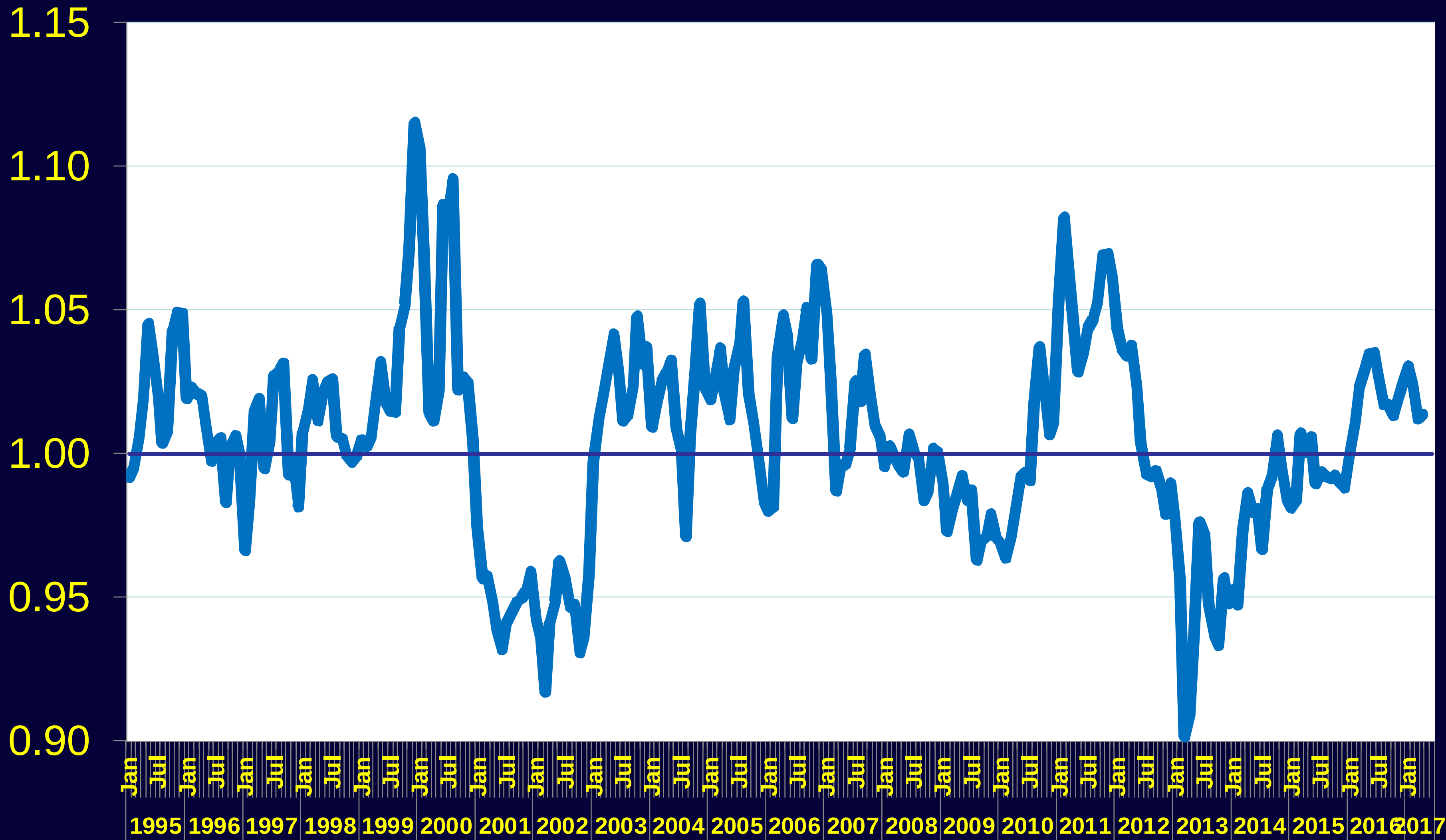


JEITA

Chart 15

U.S. Electronic Equipment Book/Bill Ratio

3-Month Average

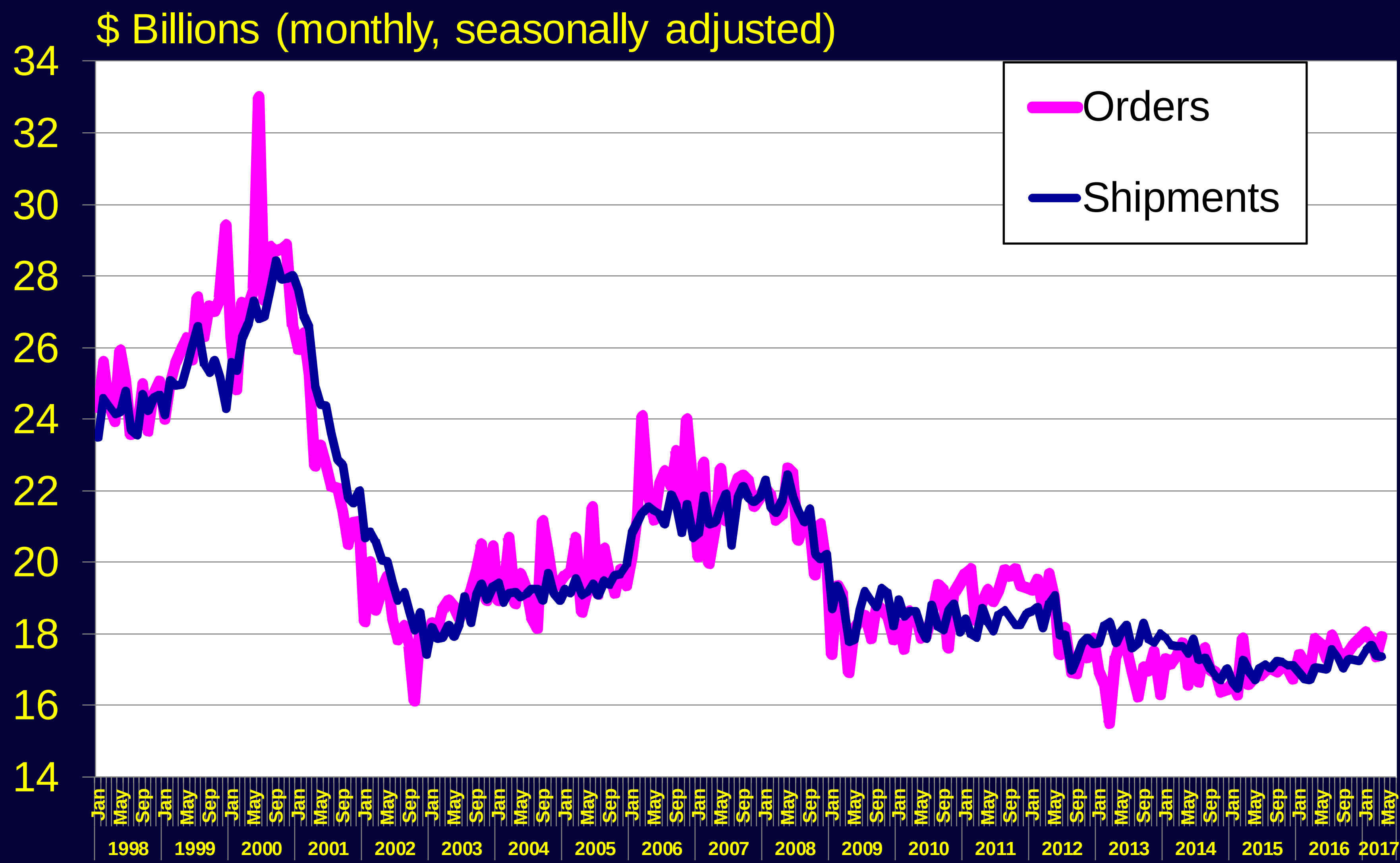


www.census.gov/indicator/www/m3/

Chart 16

U.S. Electronic Equipment Orders & Shipments

Computer, Communications, Measurement & Control and Military

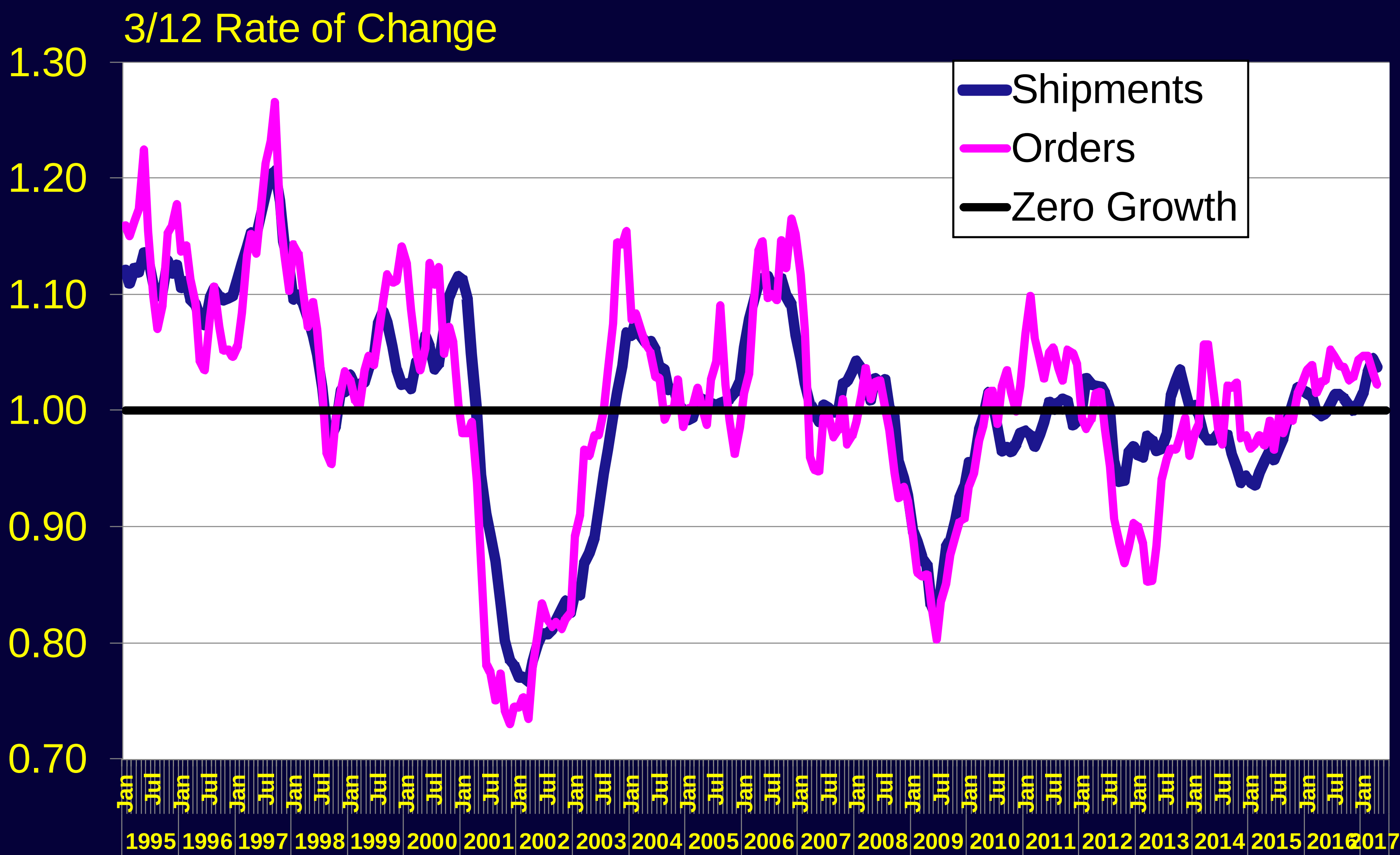


www.census.gov/indicator/www/m3/

Chart 17

U.S. Electronic Equipment Order & Shipment Growth

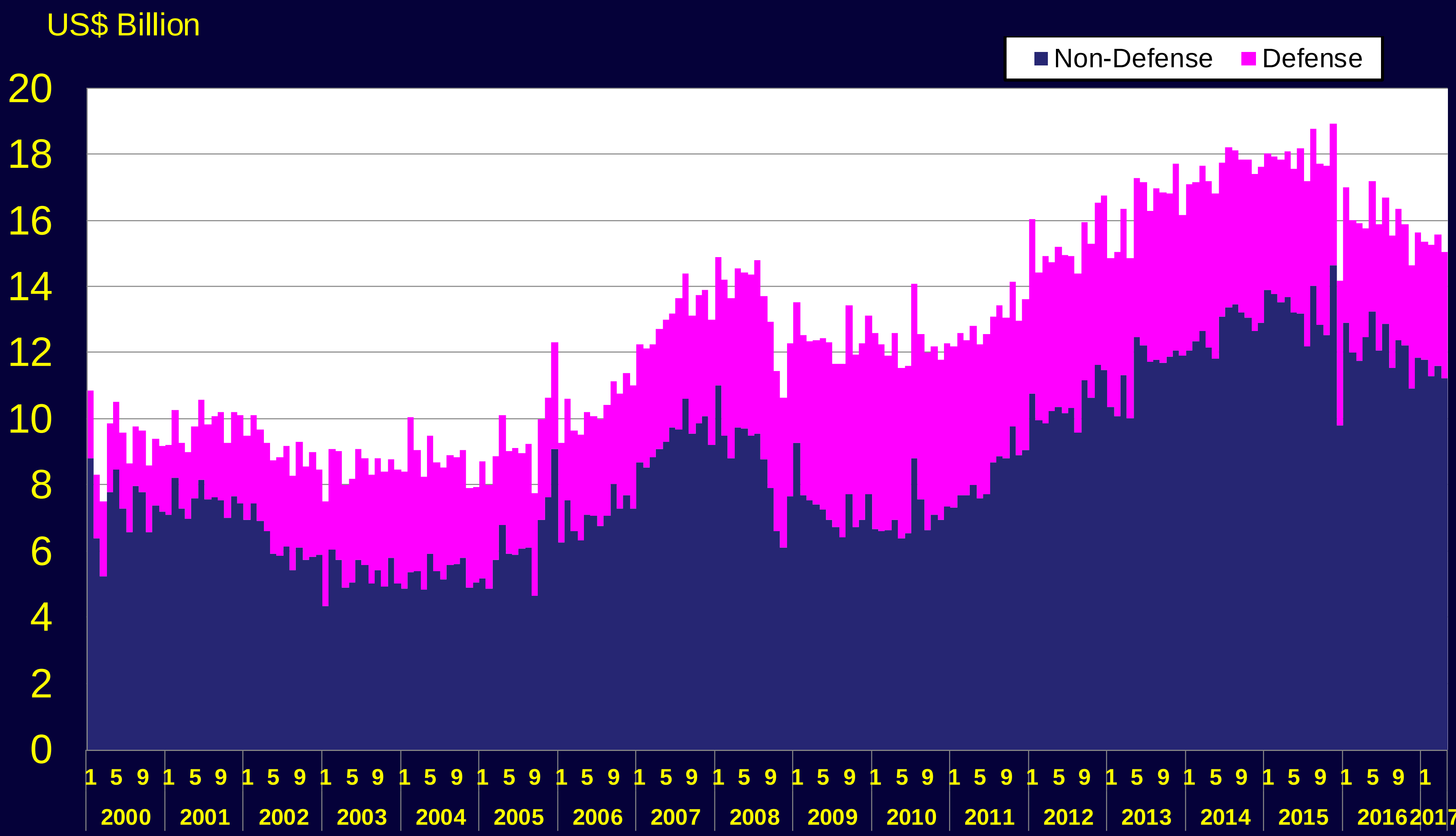
Computer, Communications, Measurement & Control and Military



www.census.gov/indicator/www/m3/

Chart 18

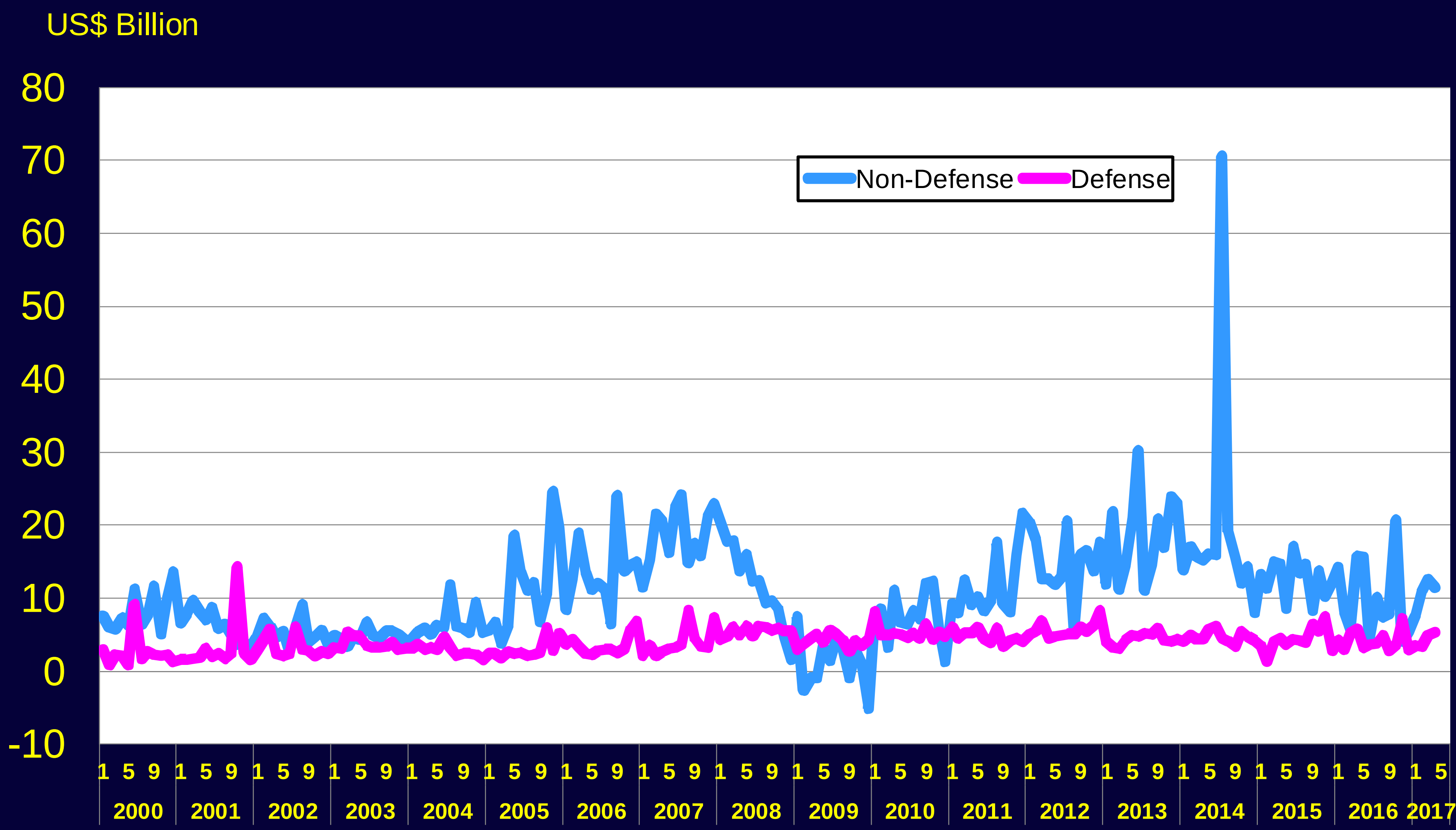
U.S. Aircraft & Parts Shipments



www.census.gov/indicator/www/m3

Chart 19

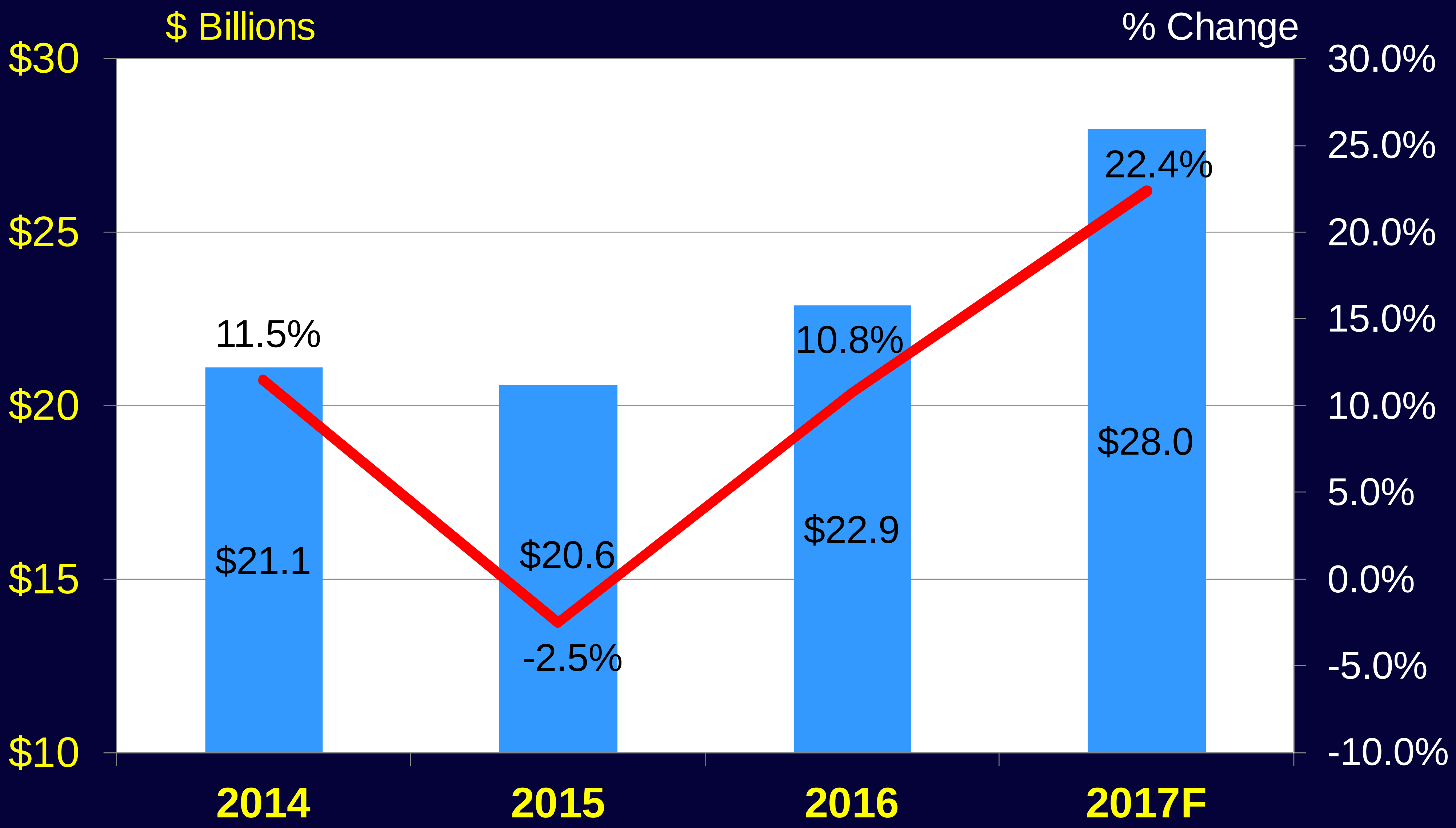
U.S. Aircraft & Parts Orders



www.census.gov/indicator/www/m3

Chart 20

2014-2017F Automotive IC Market



IC Insights 5/17

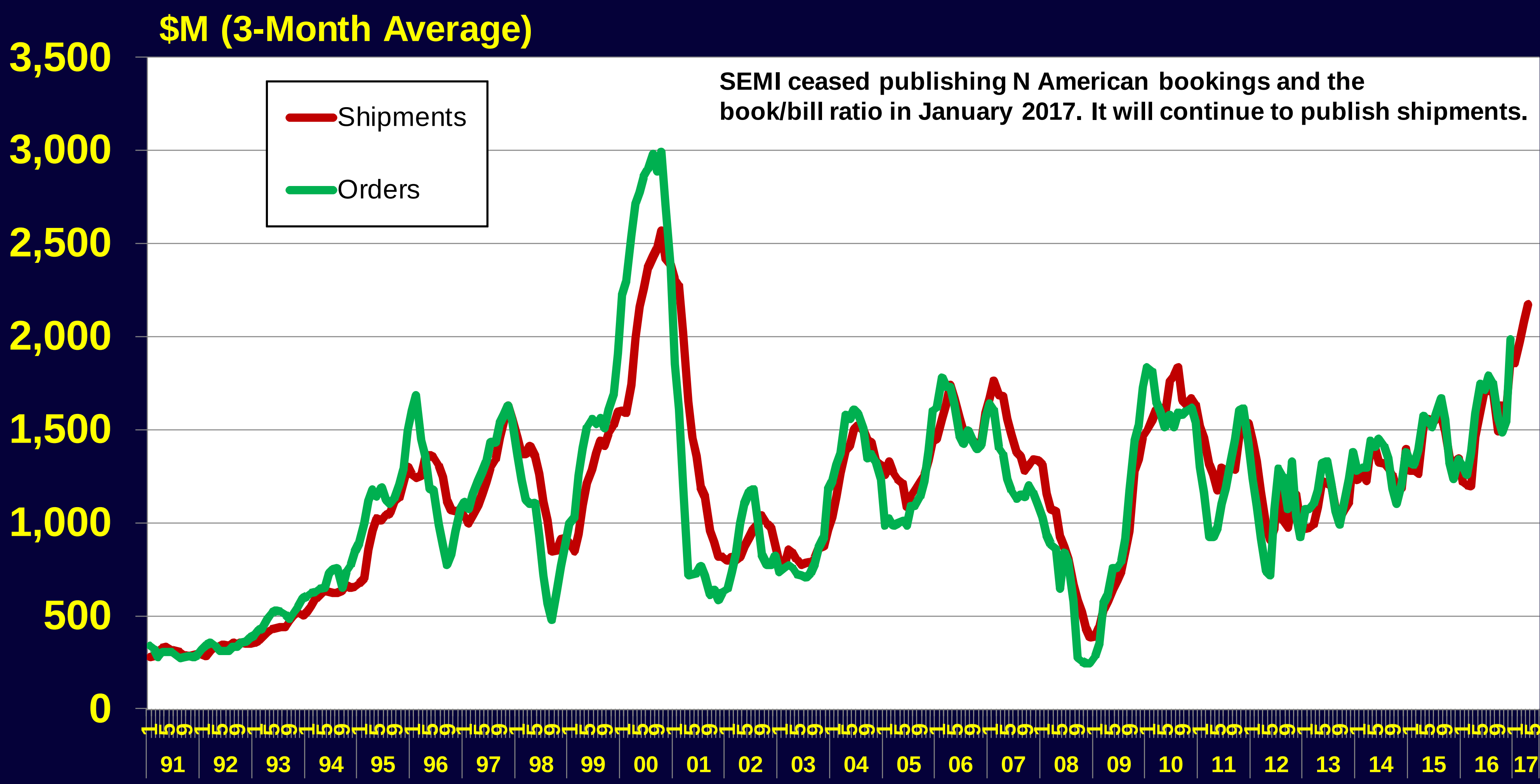
Chart 21

Automotive IC Market by Device Type ($M)

Product	16 ($)	17F ($)	% Chng
Analog	10,827	13,049	20.5%
MCU	5,989	6,579	9.9%
Logic	2,910	4,161	43.0%
MOS Memory	1,706	2,578	51.1%
DSP	1,026	1,126	9.7%
MPU	405	492	21.5%
TOTAL Auto IC Market	22,863	27,985	22.4%

Chart 22

N American Semiconductor Equipment Industry Shipments & Orders

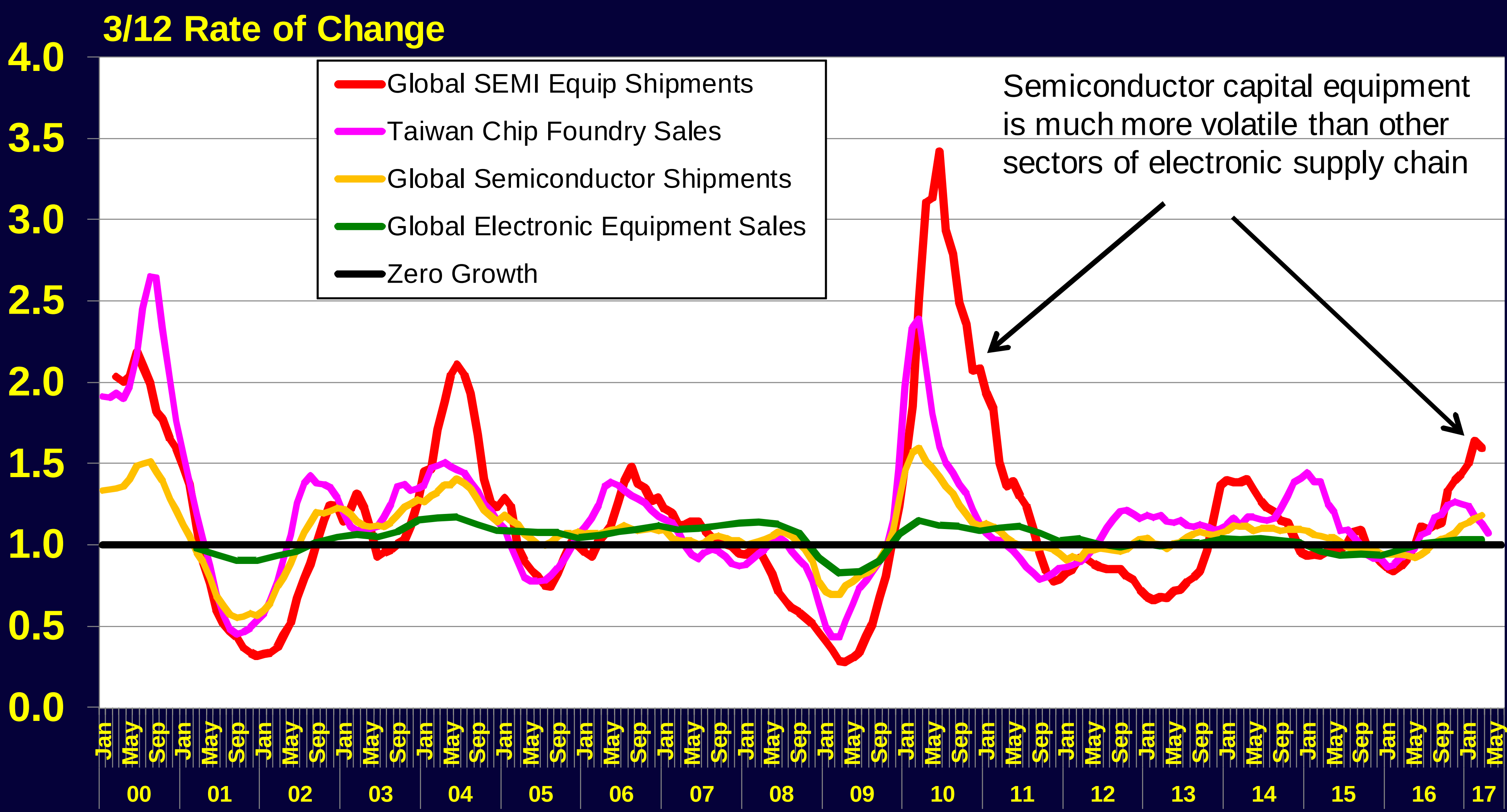


SOURCE Semiconductor Equipment and Materials International
http://www.semi.org

Chart 23

Supply Chain Dynamics

SEMI Equipment, Semiconductors, Chip Foundry & Electronic Equipment Sales

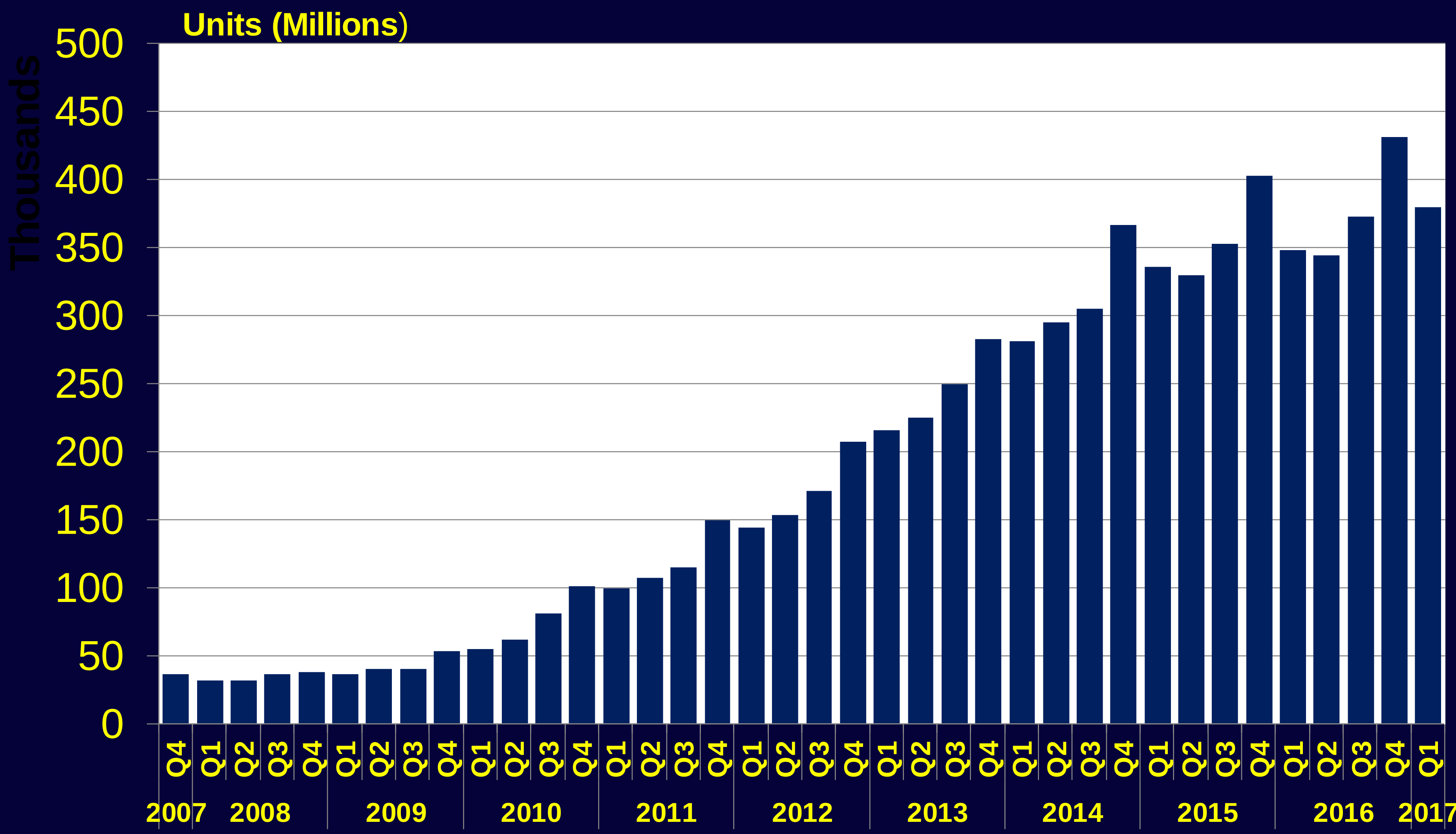


Custer Consulting Group & SEMI 5/17

Chart 24

Smartphone Unit Shipments to End Users

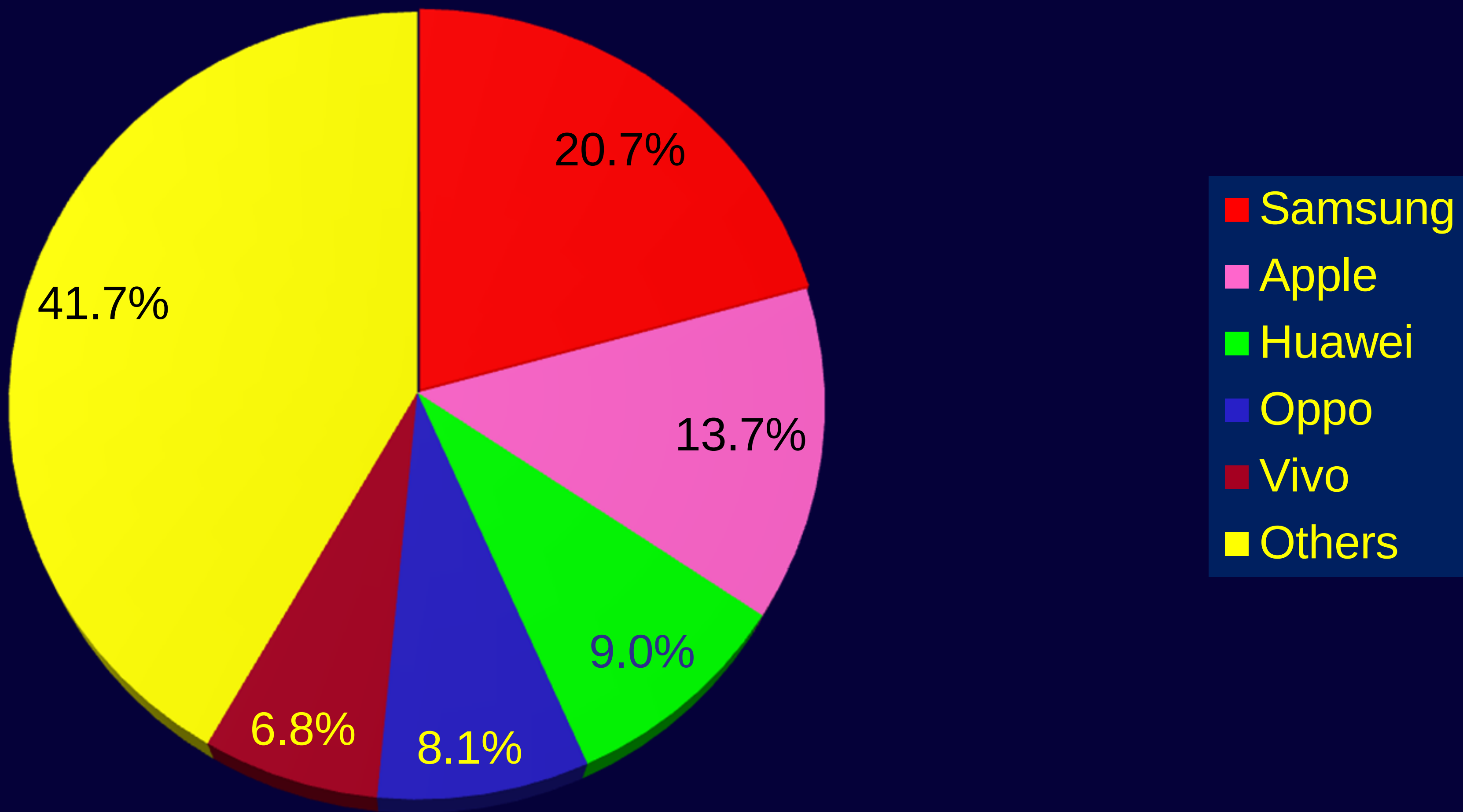
World



Gartner Dataquest 5/17 & prior reports

Chart 25

World Smartphone Sales 1Q'17



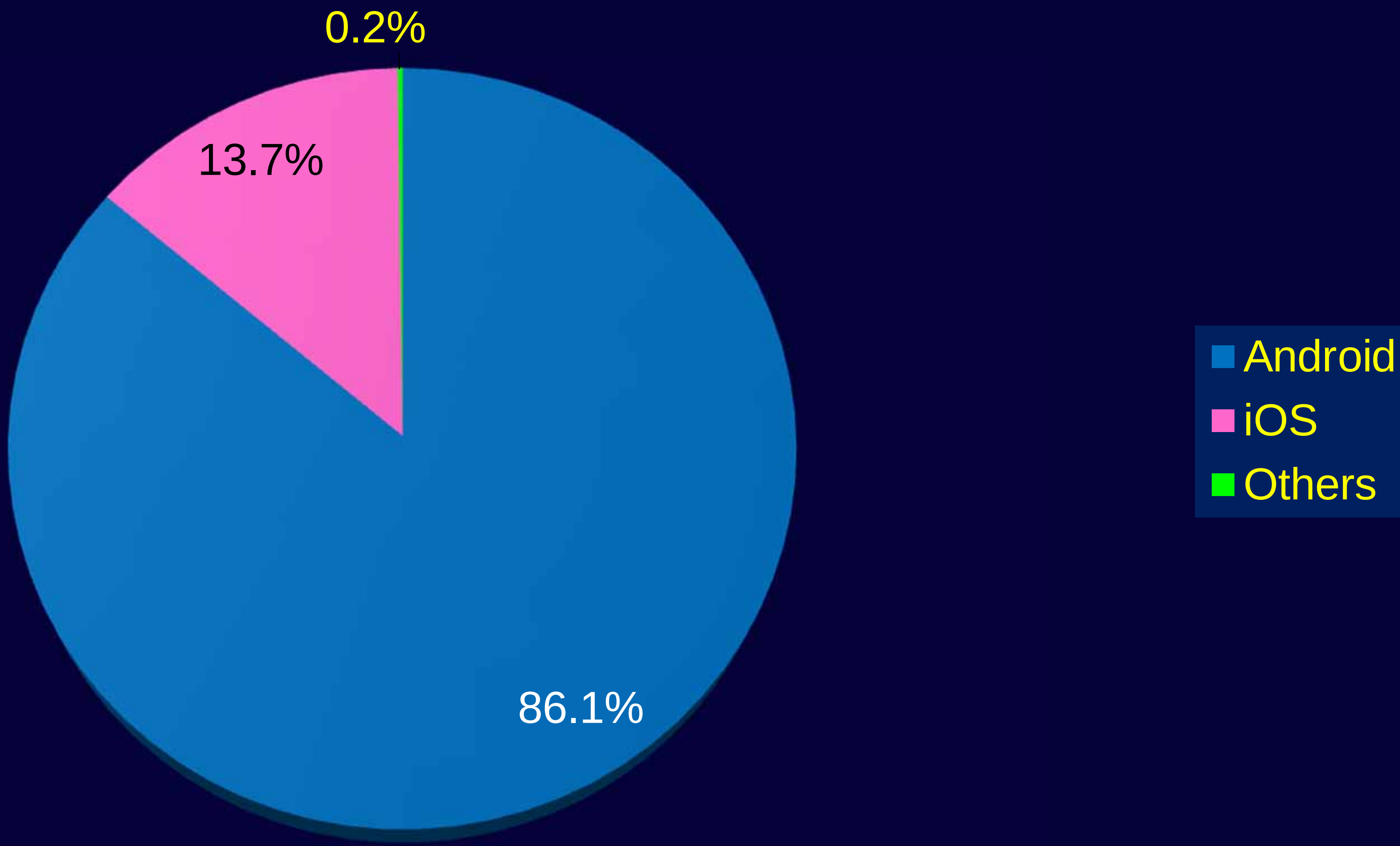
1Q'16
348 M

1Q'17 TOTAL: 380 Units

Gartner 5/17

Chart 26

World Smartphone Sales to End Users by Operating System 1Q'17

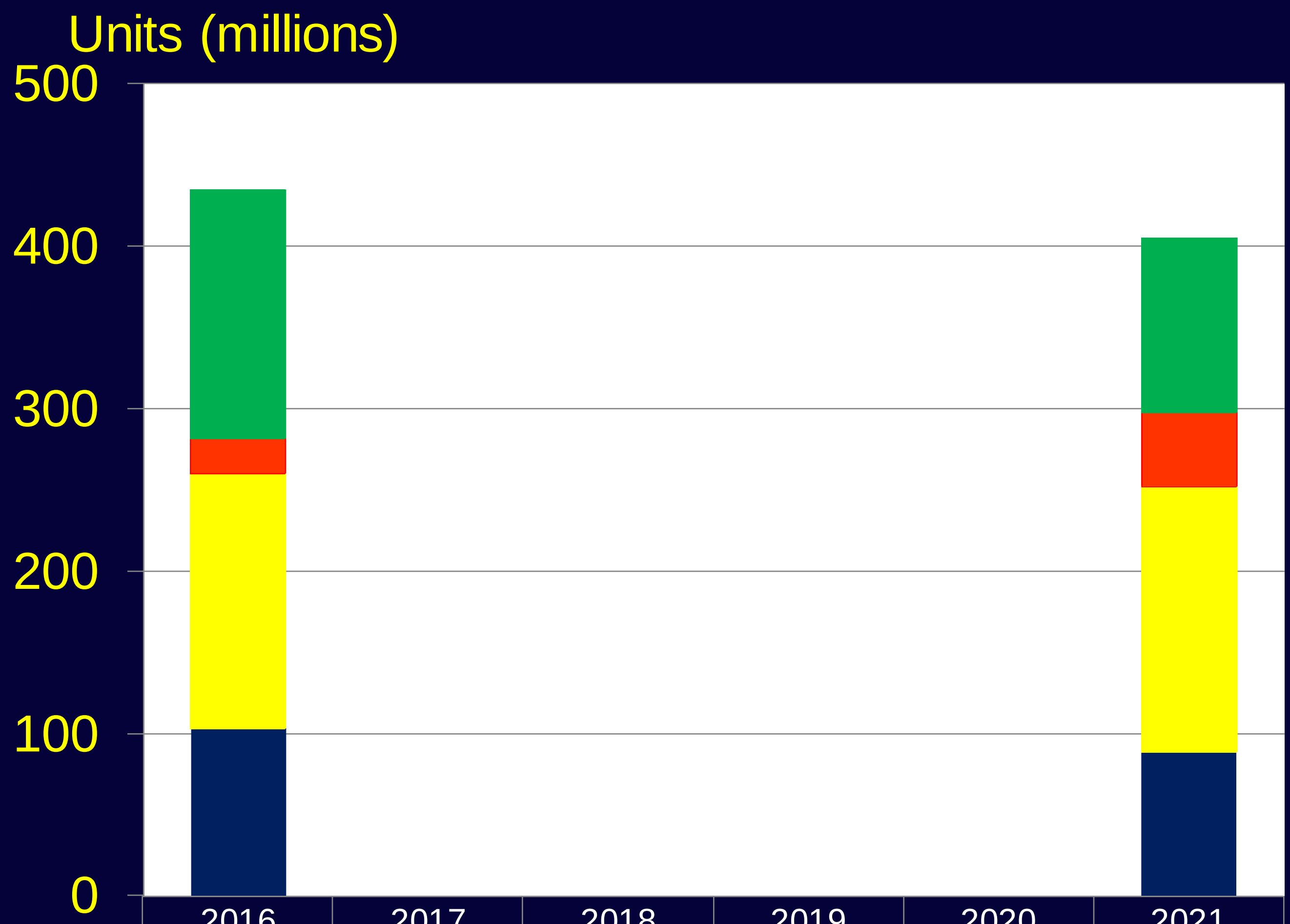


1Q'17 TOTAL: 380 Million Units

Gartner 5/17

Chart 27

Personal Computing Device Shipments



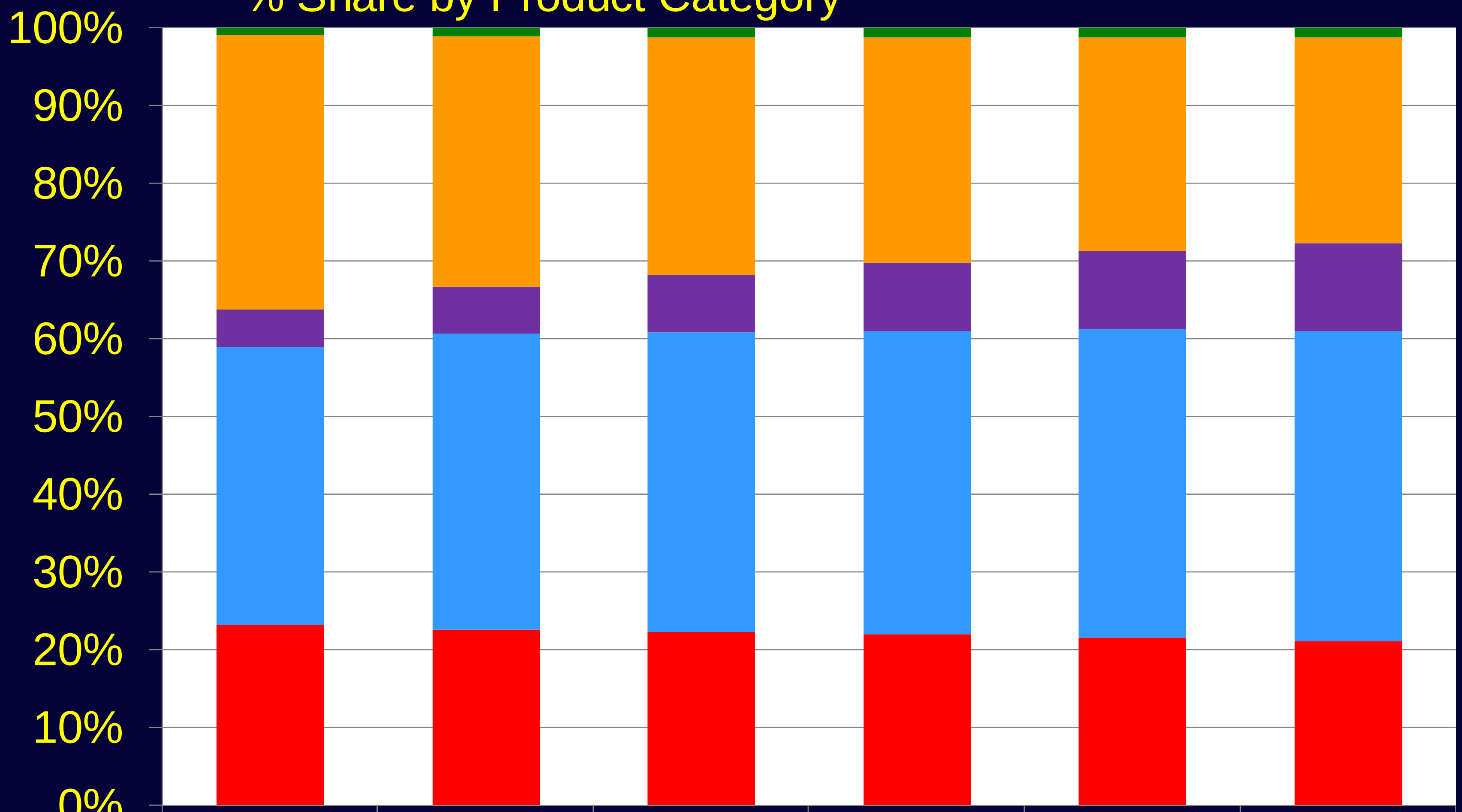
	2016	2017	2018	2019	2020	2021
Slate Tablet	153					107
Detachable Tablet	22					46
Notebook & Mobile Workstation	157					164
Desktop + Dt Datacenter Workstation	103					89

IDC 5/17

Chart 28

Personal Computing Device Shipments

% Share by Product Category

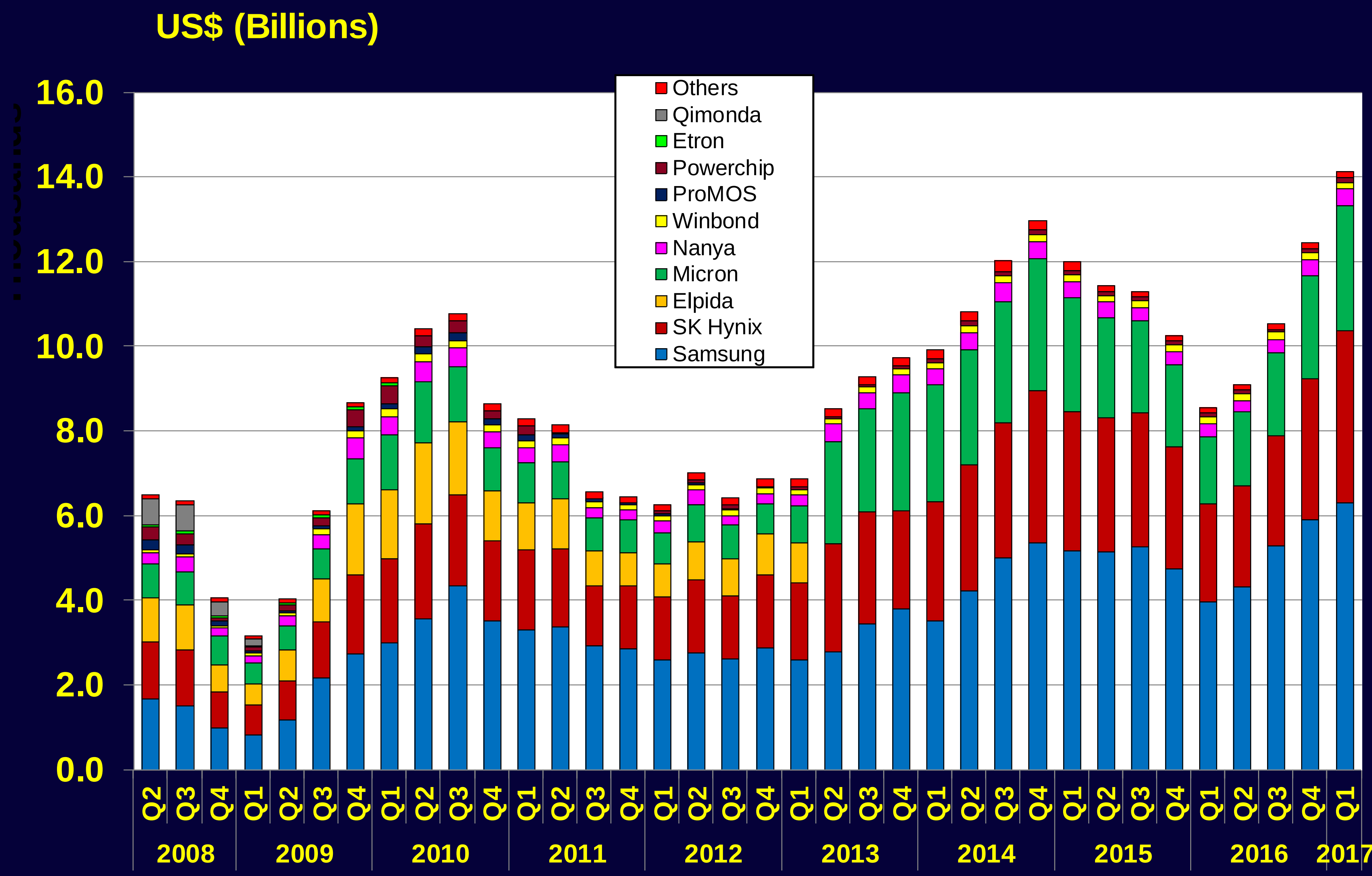


	2016	2017	2018	2019	2020	2021
Workstation	0.9	1.0	1.1	1.1	1.1	1.2
Slate Tablet	35.3	32.2	30.7	29.1	27.6	26.4
Detachable Tablet	4.9	6.1	7.3	8.7	10.0	11.3
Notebook	35.7	38.0	38.5	39.1	39.6	40.0
Desktop	23.2	22.7	22.4	22.0	21.6	21.1

IDC 5/17

Chart 29

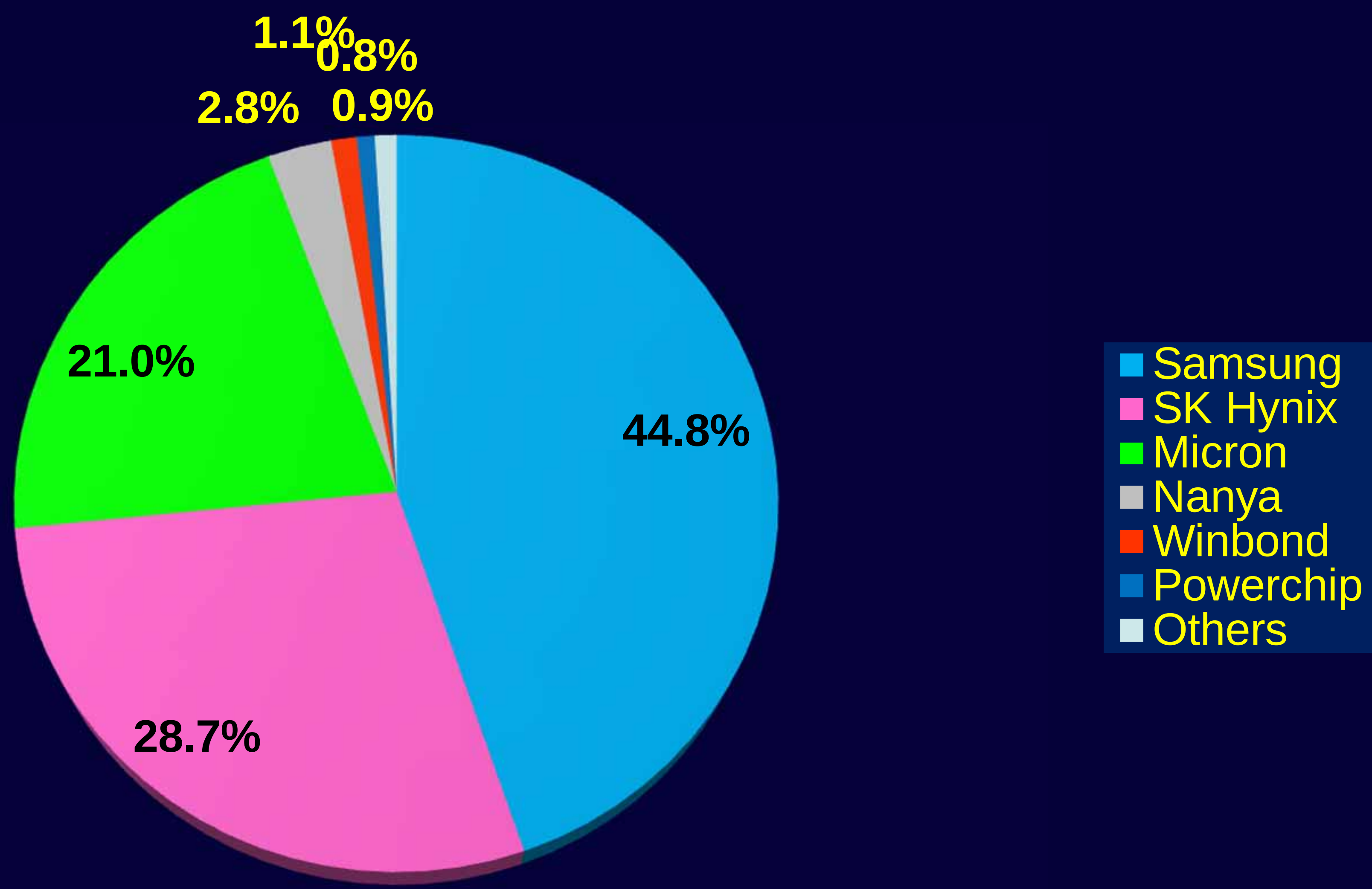
Branded DRAM Revenue



DRAMeXchange 5/2017 & earlier reports

Chart 30

Branded DRAM Revenues 1Q'17



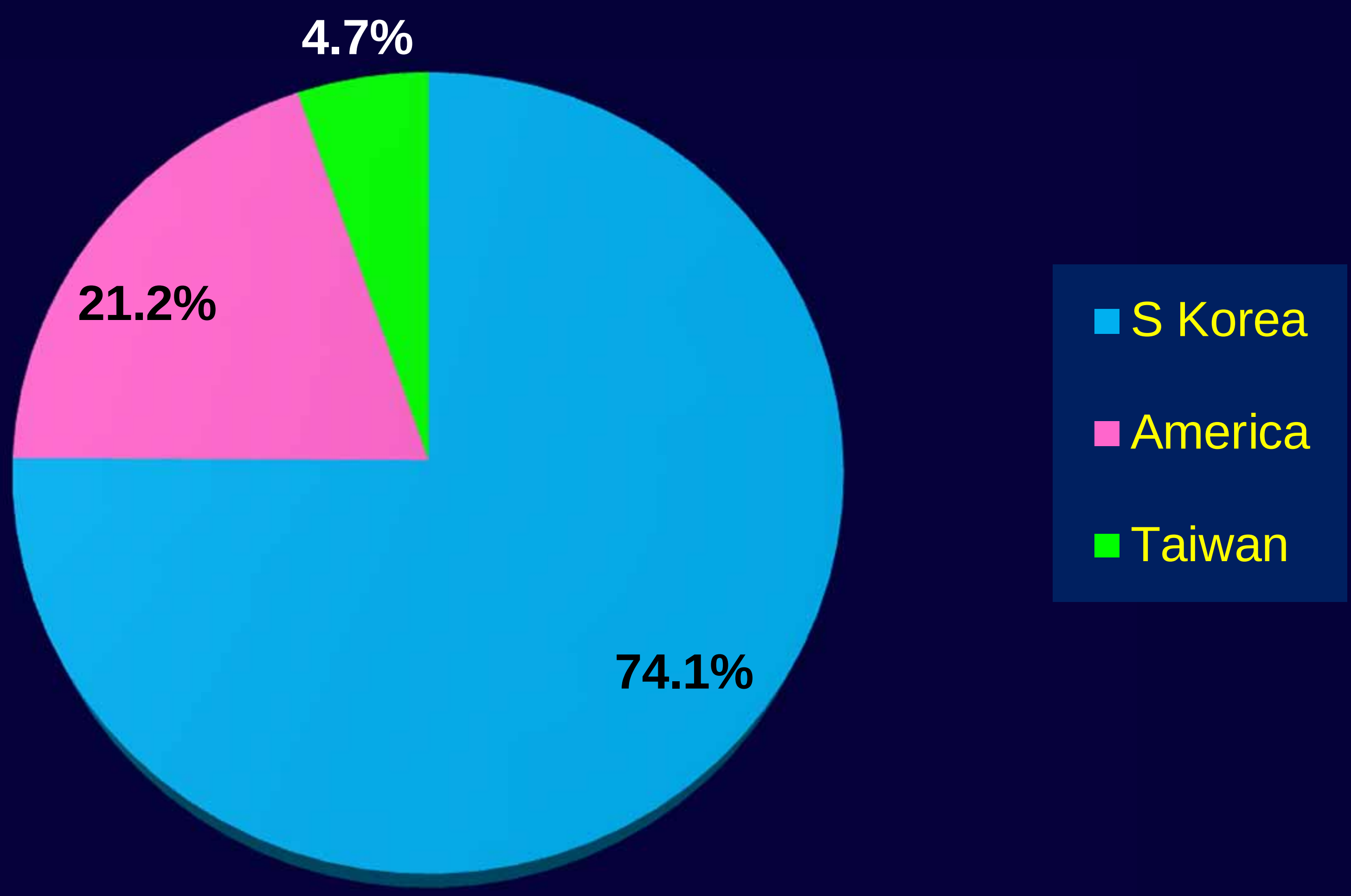
$12.45 B
4Q'16

1Q'17 Total: US$14.13 Billion

DRAMeXchange 5/17

Chart 31

Regional Branded DRAM Market Share 1Q'17



1Q'17 Total: US$ 14.1 Billion

Market shares above do not include “other” smaller producers

DRAMeXchange 5/17