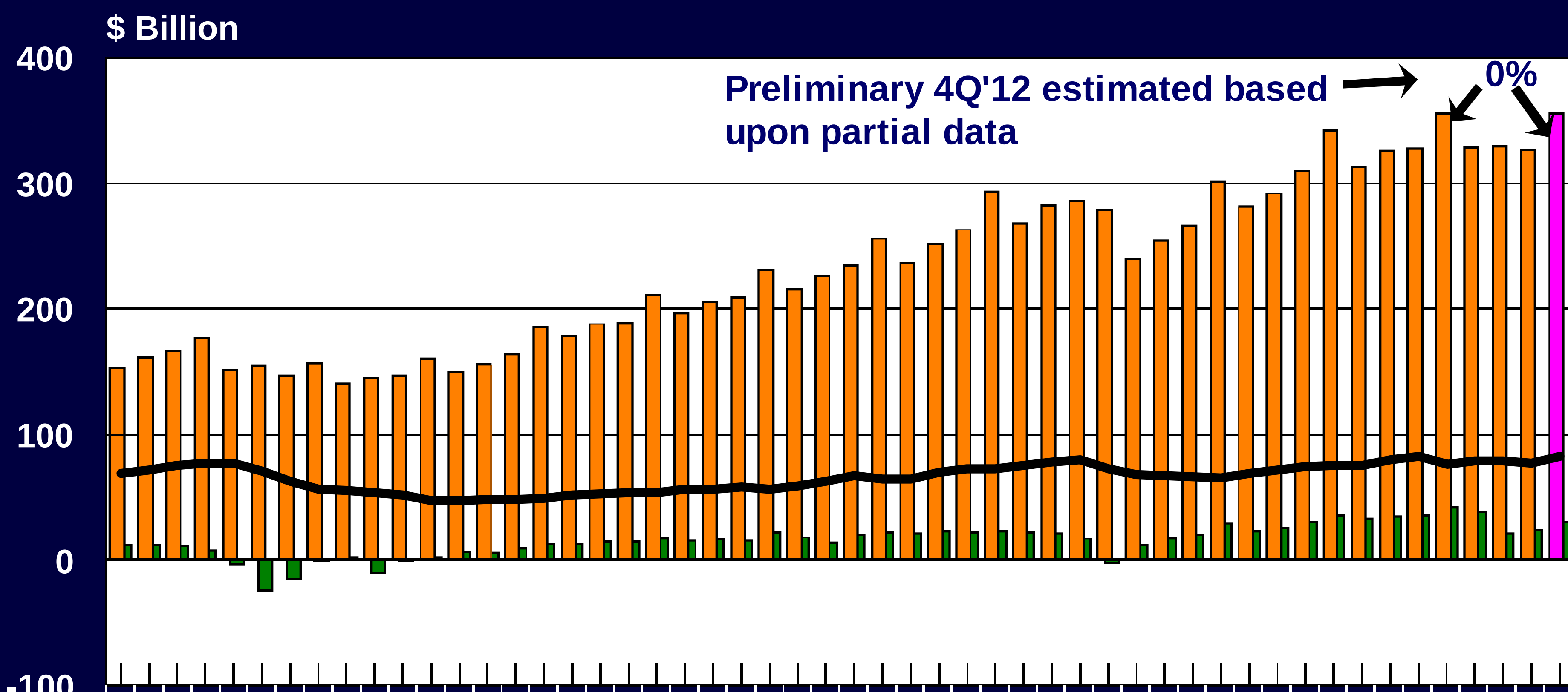
Electronic Equipment Suppliers
Composite of 116 Public Companies
Revenue, Net Income & Inventory

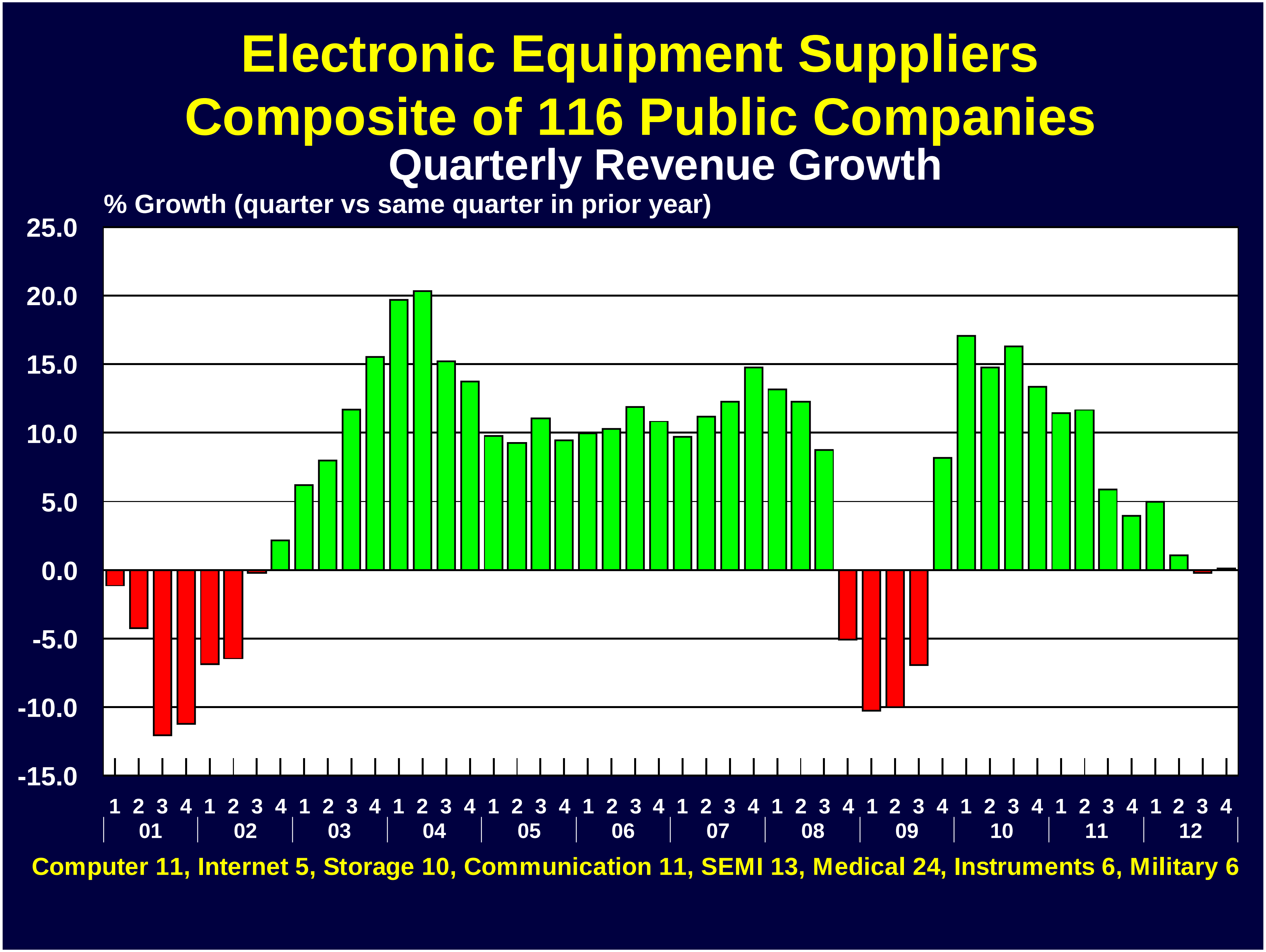


	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	00				01				02				03			
Revenue	153	161	167	177	151	155	147	157	141	145	146	160	149	156	164	185
Income	12	12	11	7	-3	-24	-15	-1	3	-10	-1	2	7	6	9	13
Inventory	69	71	75	77	77	71	62	56	56	54	52	48	48	49	48	50

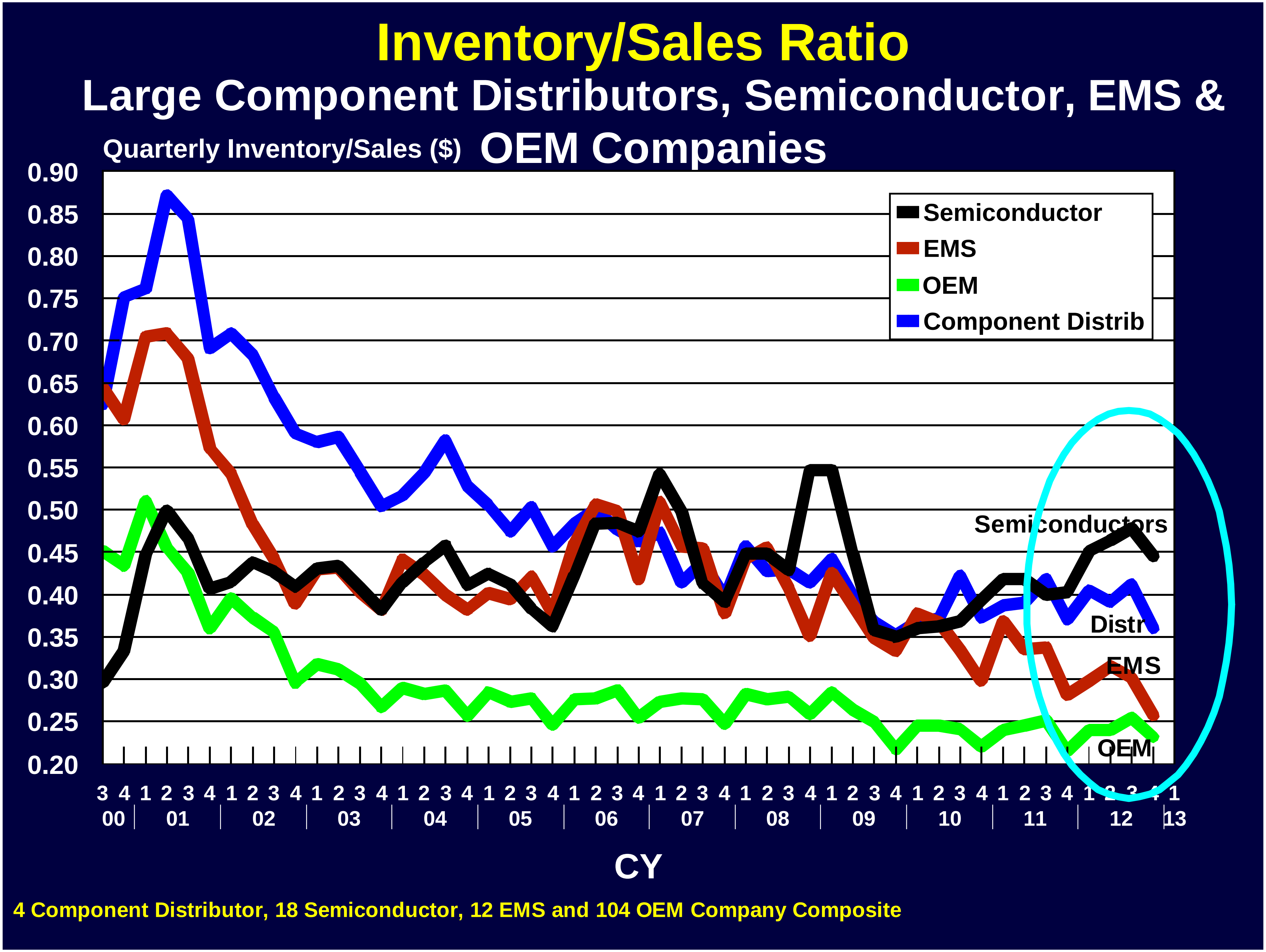
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	04				05				06				07			
Revenue	179	188	188	211	196	205	209	231	216	226	234	256	237	252	263	293
Income	13	15	15	18	16	16	16	22	18	14	21	22	21	23	22	23
Inventory	52	53	54	54	56	56	58	57	60	63	67	65	64	70	72	72

	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	08				09				10				11				12			
Revenue	268	283	286	279	240	254	266	301	281	292	309	342	313	326	327	355	329	329	327	356
Income	22	21	17	-3	12	18	21	29	23	25	30	35	33	35	35	42	38	21	24	30
Inventory	76	78	80	72	68	67	66	65	69	72	74	75	75	80	82	77	79	79	77	82

Computer 13, Internet 9, Storage 10, Communication 20, SEMI 20, Medical 24, Instruments 11, Military 6, Business & Office 3

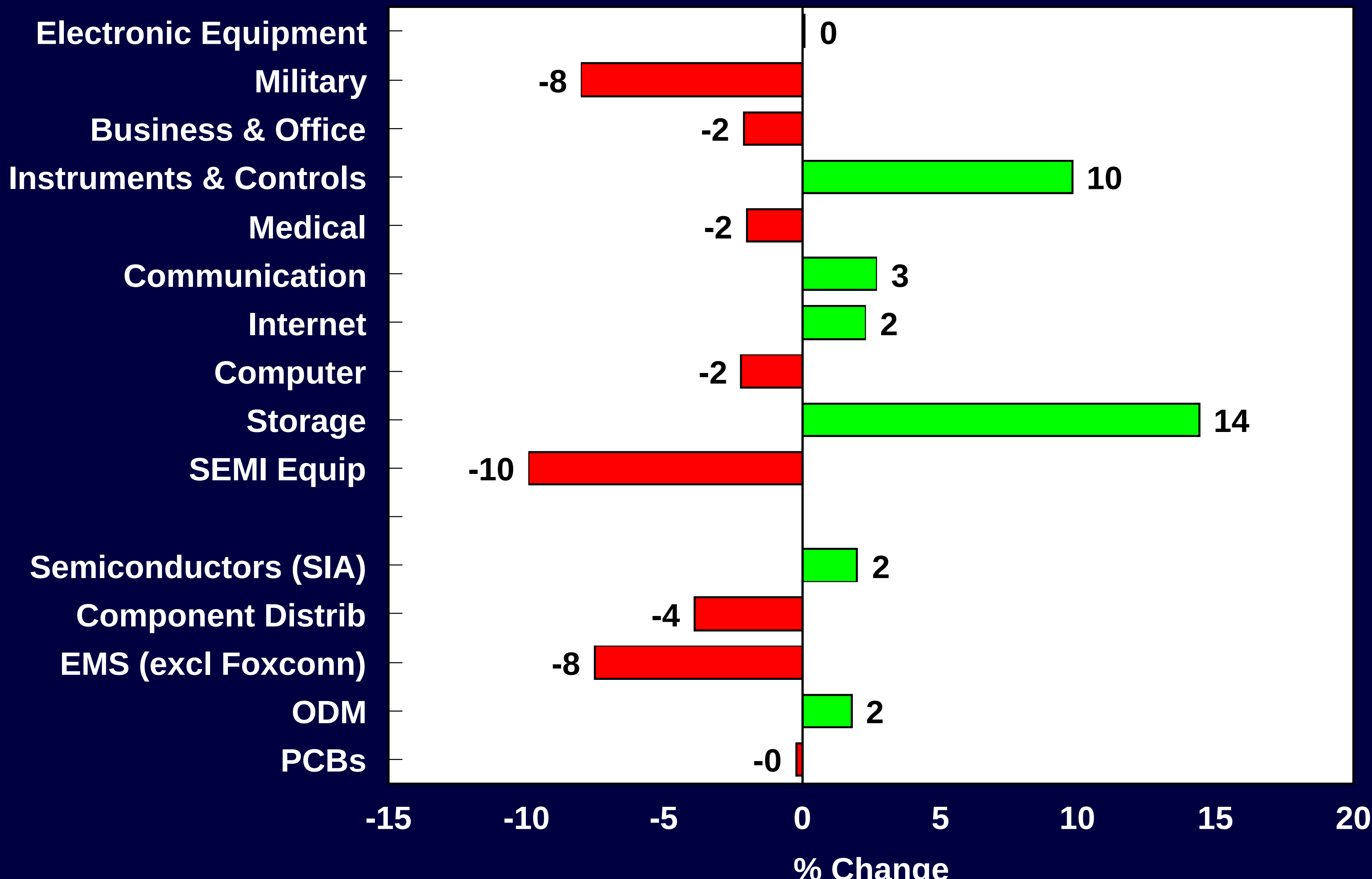


Electronic Equipment Suppliers
Composite of 116 Public Companies
Quarterly Revenue Growth
% Growth (quarter vs same quarter in prior year)
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
01 02 03 04 05 06 07 08 09 10 11 12
Computer 11, Internet 5, Storage 10, Communication 11, SEMI 13, Medical 24, Instruments 6, Military 6



Inventory/Sales Ratio
Large Component Distributors, Semiconductor, EMS & OEM Companies
Quarterly Inventory/Sales ($)
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
Semiconductor
EMS
OEM
Component Distrib
Semiconductors
Distr
EMS
OEM
3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1
00 01 02 03 04 05 06 07 08 09 10 11 12 13
CY
4 Component Distributor, 18 Semiconductor, 12 EMS and 104 OEM Company Composite

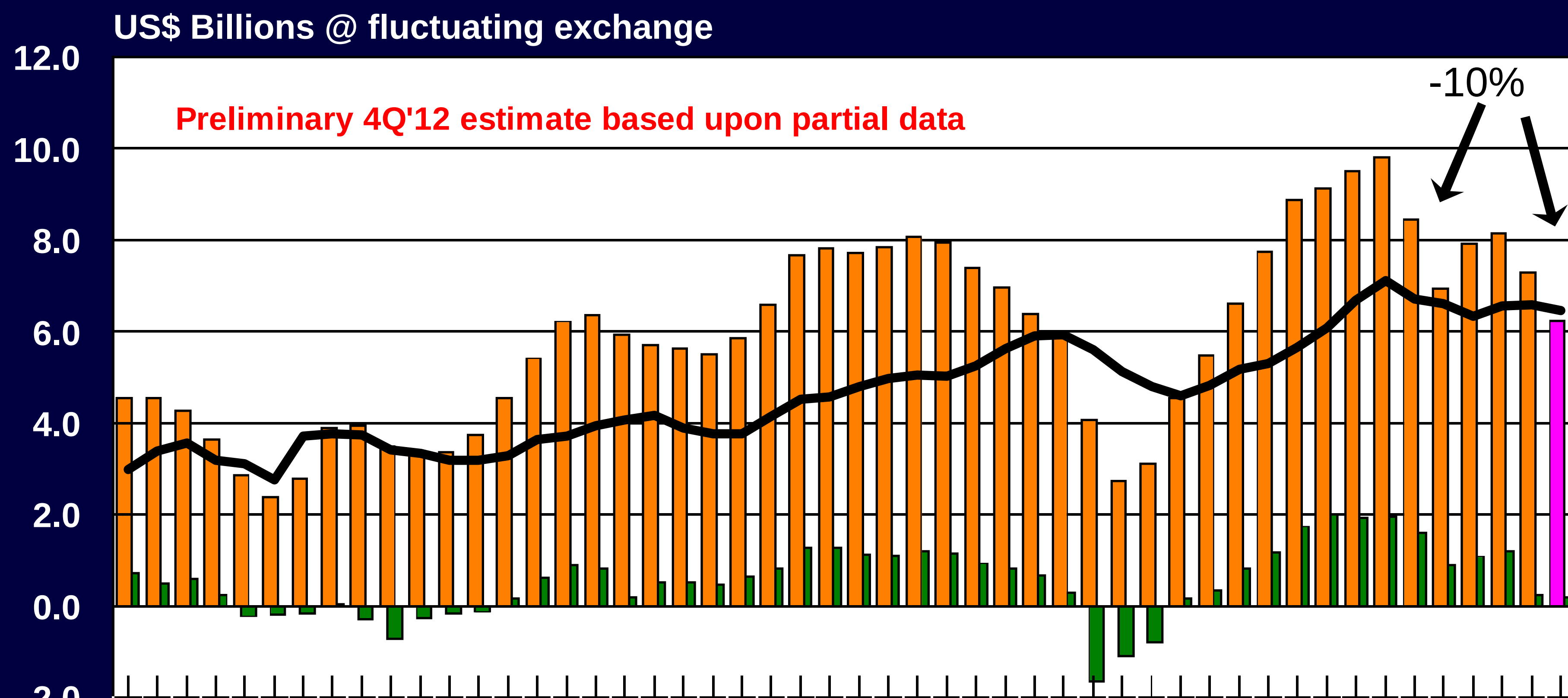
Global Electronic Supply Chain Growth
4Q'12 vs. 4Q'11 (Very Preliminary)



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

Semiconductor Fab, Test & Measurement Composite of 20 Public Companies

Revenue, Net Income & Inventory



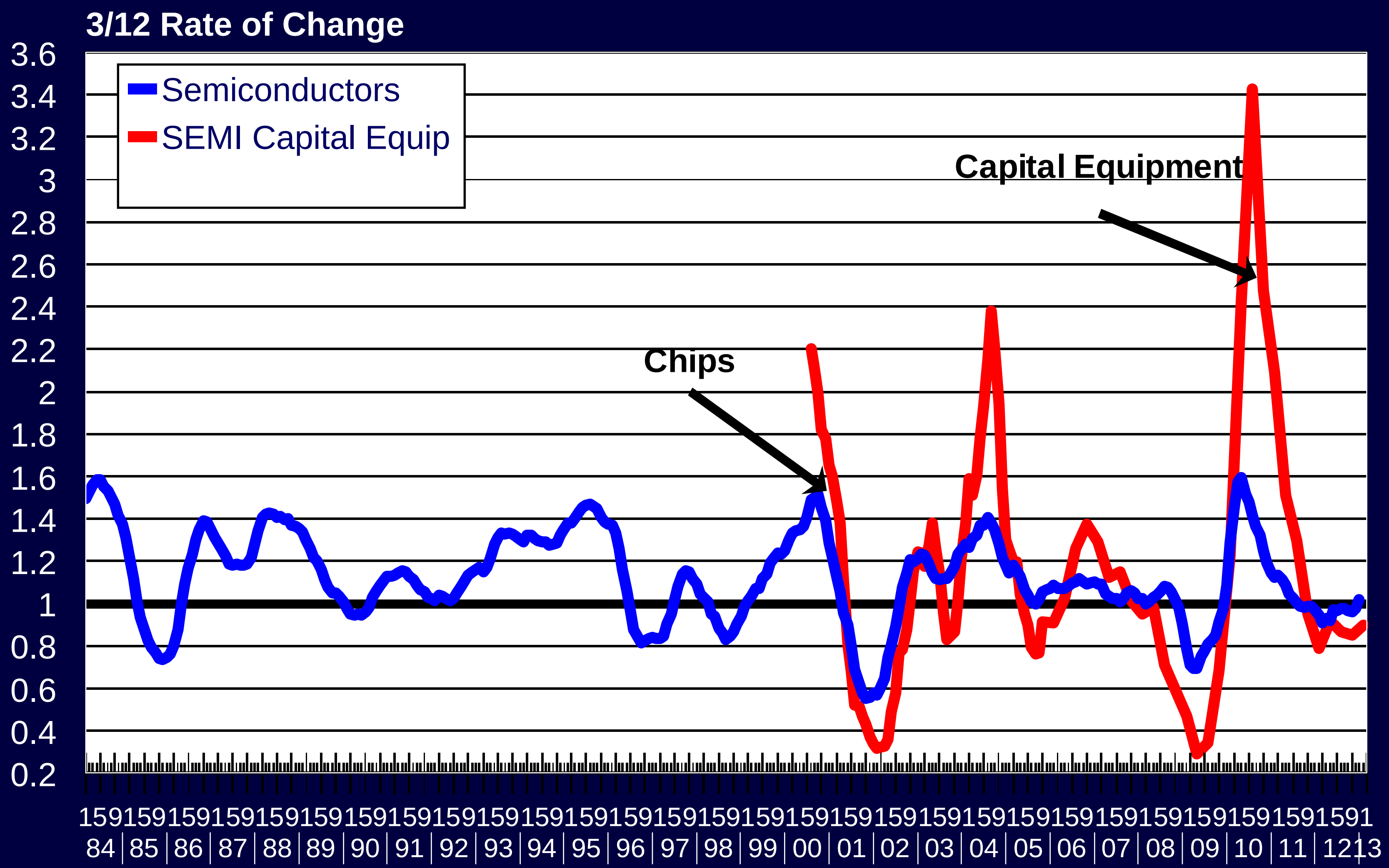
	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	00		01				02				03			
Revenue	4.5	4.5	4.3	3.6	2.9	2.4	2.8	3.9	4.0	3.5	3.3	3.4	3.8	4.5
Income	0.7	0.5	0.6	0.2	-0.2	-0.2	-0.2	0.1	-0.3	-0.7	-0.3	-0.2	-0.1	0.2
Inventory	3.0	3.4	3.6	3.2	3.1	2.8	3.7	3.8	3.7	3.4	3.3	3.2	3.2	3.3

	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	04				05				06				07			
Revenue	5.4	6.2	6.4	5.9	5.7	5.6	5.5	5.9	6.6	7.7	7.8	7.7	7.9	8.1	7.9	7.4
Income	0.6	0.9	0.8	0.2	0.5	0.5	0.5	0.6	0.8	1.3	1.3	1.1	1.1	1.2	1.1	0.9
Inventory	3.6	3.7	3.9	4.1	4.2	3.9	3.8	3.8	4.2	4.5	4.6	4.8	5.0	5.0	5.0	5.2

	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	08				09				10				11				12			
Revenue	7.0	6.4	6.0	4.1	2.7	3.1	4.5	5.5	6.6	7.8	8.9	9.1	9.5	9.8	8.4	6.9	7.9	8.2	7.3	6.2
Income	0.8	0.7	0.3	-1.6	-1.1	-0.8	0.2	0.3	0.8	1.2	1.7	2.0	1.9	1.9	1.6	0.9	1.1	1.2	0.2	0.2
Inventory	5.6	5.9	5.9	5.6	5.1	4.8	4.6	4.8	5.2	5.3	5.7	6.1	6.7	7.1	6.7	6.6	6.3	6.6	6.6	6.5

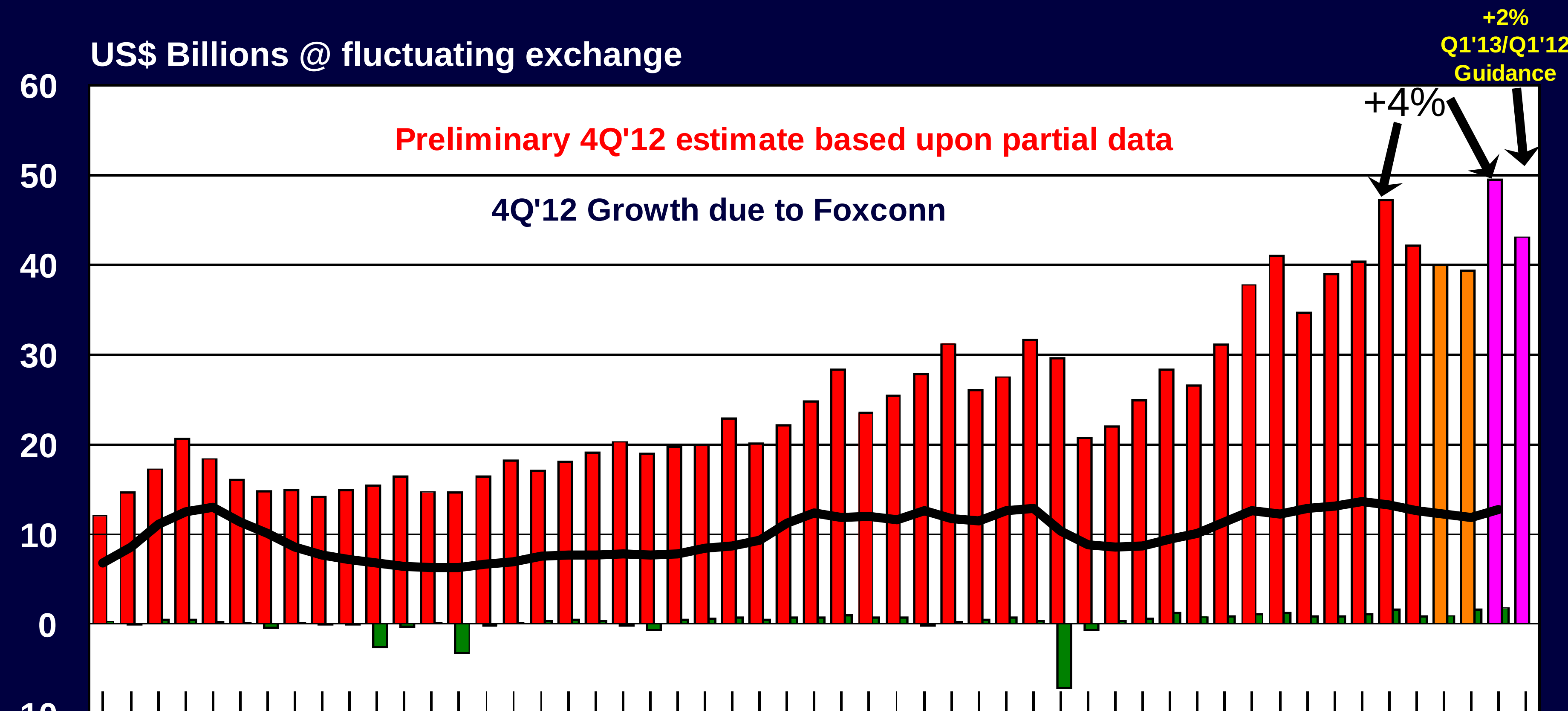
Applied Materials, ASM Intl, ASML, Advantest, KLA Tencor, Novellus, Hitachi Hi Tech, Lam Research, BTU, LTX-Credence, FEI, FSI, Intervac, Kulicke & Soffa, MKS Instruments, Rudolph, Teradyne, Ultratech Stepper, Varian semiconductor, Veeco

Global Semiconductor & Semiconductor Capital Equipment
3-Month Shipment Growth Rates on $ Basis



Sources: SIA; Semiconductor Equipment Association of Japan, www.semi.org, Custer Consulting Group SEMI equipment sector composite 2012 growth

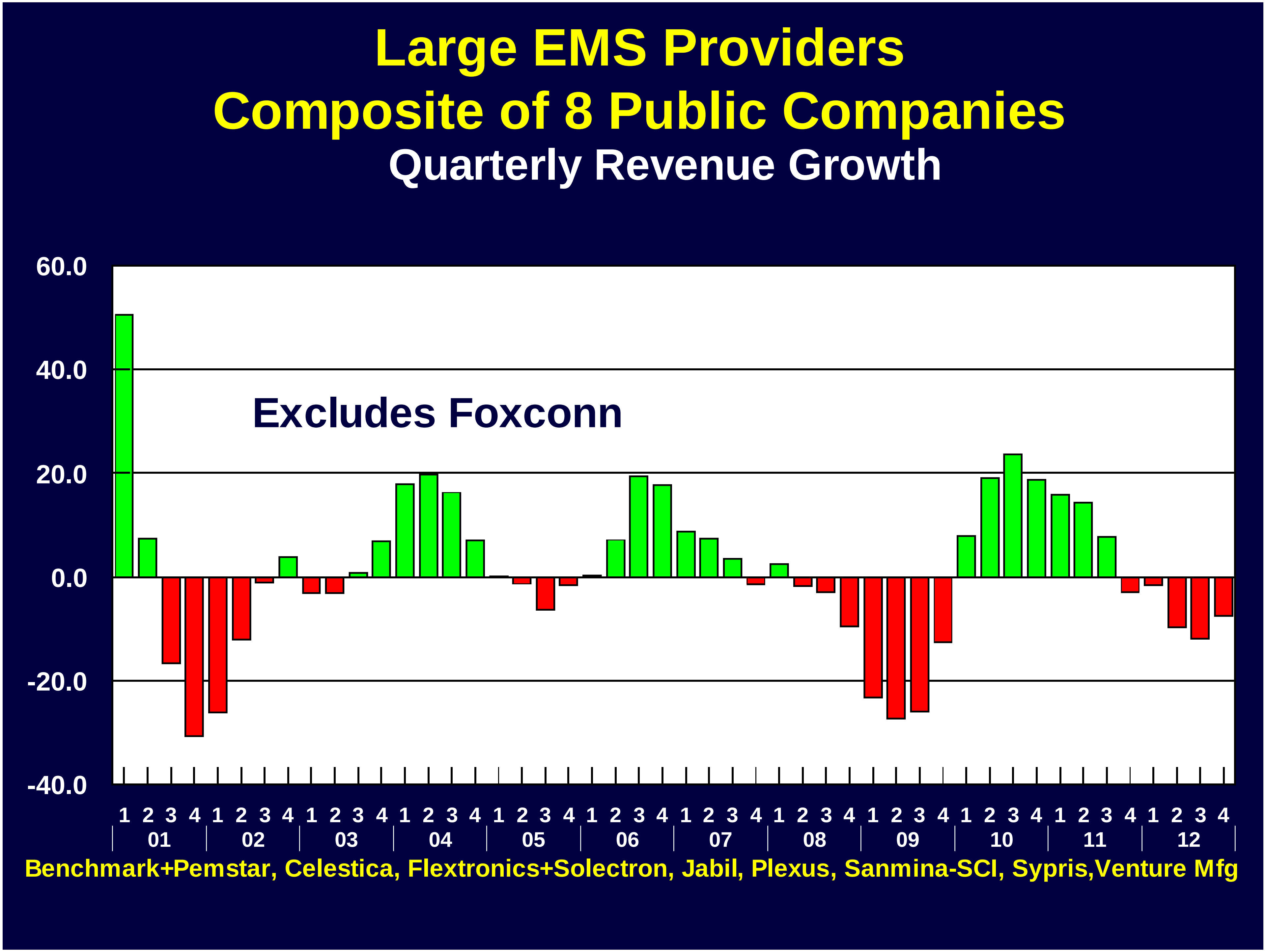
Large EMS Providers
Composite of 9 Public Companies
Revenue, Net Income & Inventory



	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	00				01				02				03				04				05				06			
Revenue	12	15	17	21	18	16	15	15	14	15	15	16	15	15	16	18	17	18	19	20	19	20	20	23	20	22	25	28
Income	0	-0	0	0	0	0	-0	0	-0	-0	-3	-0	0	-3	-0	0	0	0	0	-0	-1	0	1	1	0	1	1	1
Inventory	7	9	11	12	13	11	10	9	8	7	7	6	6	6	7	7	8	8	8	8	8	8	8	9	9	11	12	12

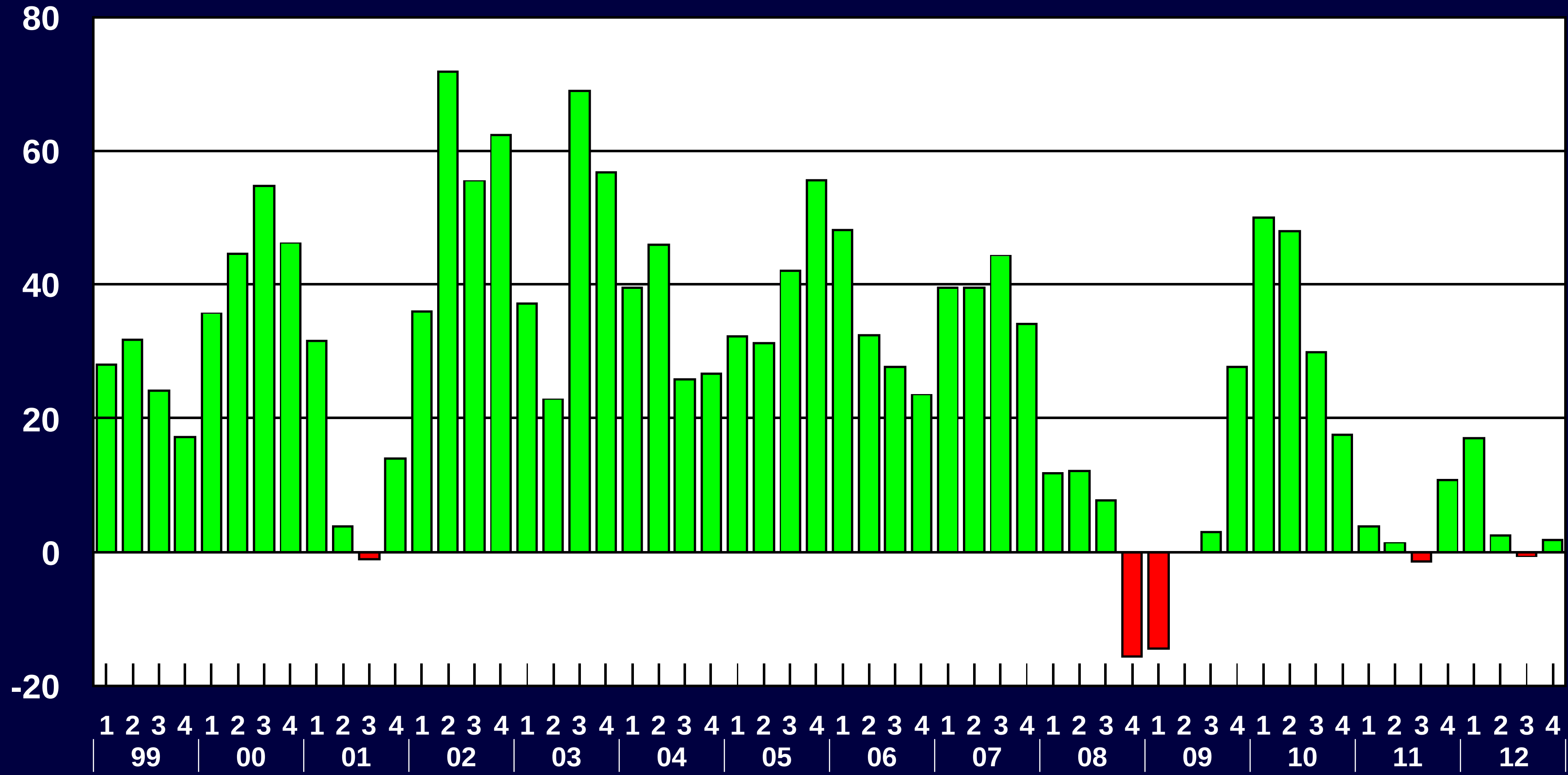
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
	07				08				09				10				11				12				13
Revenue	23	25	28	31	26	27	32	30	21	22	25	28	27	31	38	41	35	39	40	47	42	40	39	49	43
Income	1	1	-0	0	0	1	0	-7	-1	0	1	1	1	1	1	1	1	1	1	2	1	1	2	2	
Inventory	12	12	13	12	11	13	13	10	9	9	9	9	10	11	13	12	13	13	14	13	13	12	12	13	

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



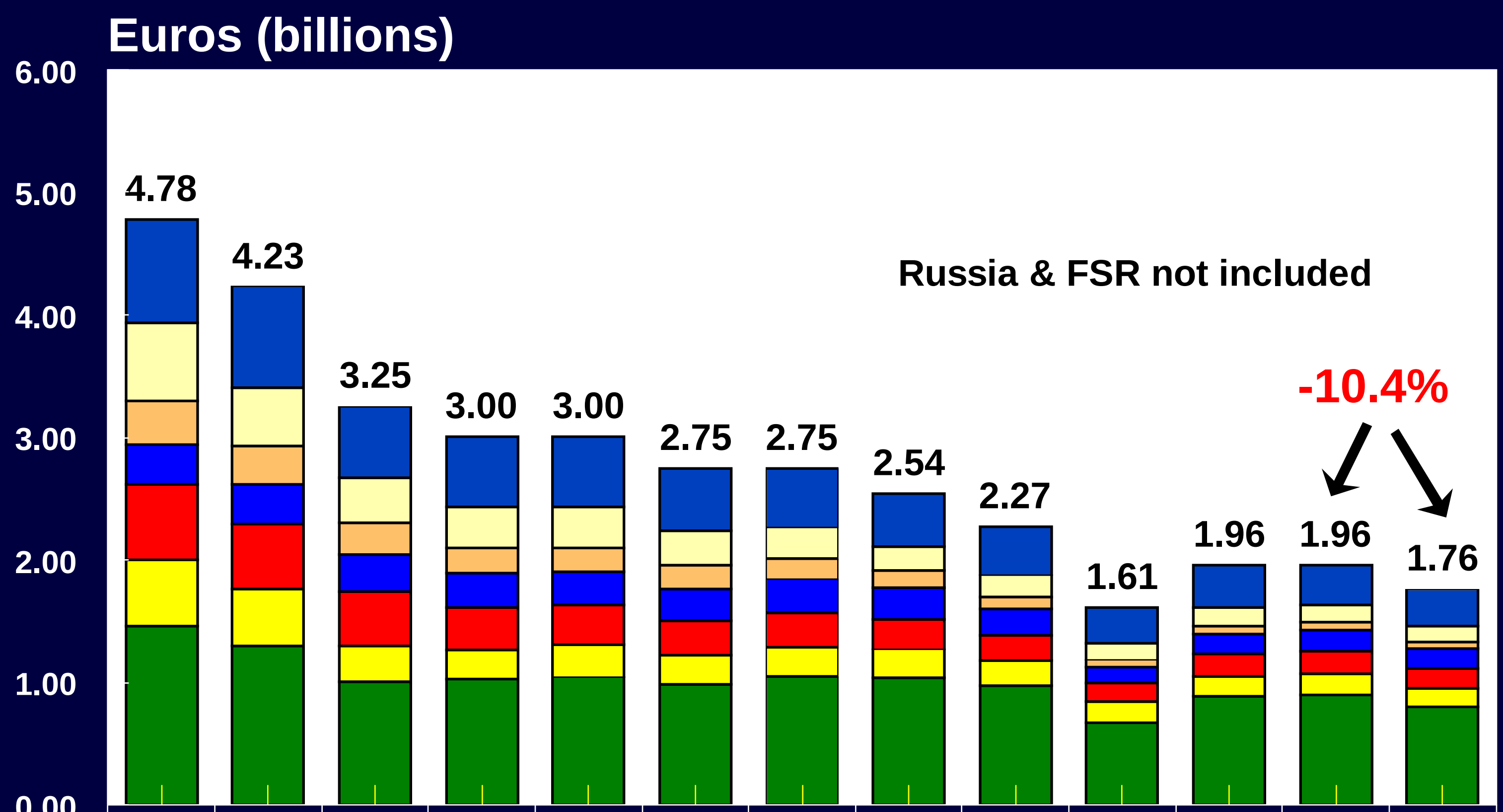
Large EMS Providers
Composite of 8 Public Companies
Quarterly Revenue Growth
60.0
40.0
20.0
0.0
-20.0
-40.0
Excludes Foxconn
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
01 02 03 04 05 06 07 08 09 10 11 12
Benchmark+Pemstar, Celestica, Flextronics+Solectron, Jabil, Plexus, Sanmina-SCI, Sypris,Venture Mfg

Large ODM Companies
Composite of 10 Public Manufacturers
Quarterly Revenue Growth



Asustek Computer, Compal Electronics, Foxconn, Chimei Innolux, Inventec, Inventec Appliance, Lite On Technology, Mitac International, Quanta Computer, Wistron

European PCB Production



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
OTHER	0.84	0.83	0.58	0.57	0.57	0.51	0.48	0.44	0.39	0.29	0.35	0.33	0.30
UK	0.64	0.48	0.37	0.34	0.33	0.28	0.25	0.20	0.18	0.14	0.15	0.14	0.14
Scandanavia	0.35	0.31	0.26	0.20	0.20	0.20	0.17	0.14	0.10	0.06	0.06	0.06	0.05
Austria	0.32	0.33	0.30	0.29	0.27	0.26	0.27	0.26	0.21	0.13	0.16	0.17	0.17
Italy	0.62	0.53	0.44	0.34	0.32	0.28	0.28	0.25	0.21	0.16	0.18	0.19	0.16
France	0.54	0.46	0.29	0.24	0.27	0.24	0.23	0.23	0.21	0.17	0.17	0.17	0.15
Germany	1.46	1.30	1.01	1.03	1.04	0.98	1.05	1.04	0.97	0.68	0.88	0.90	0.80

M Gasch 1/13

European PCB Market Comments

Surprisingly good bookings in ZVEI-region in Nov & Dec, mainly due to the automotive industry. Automotive held orders back for a long time (or at least it didn't schedule bulk orders) but at year end it had to firm booking to cover the first half of 2013.

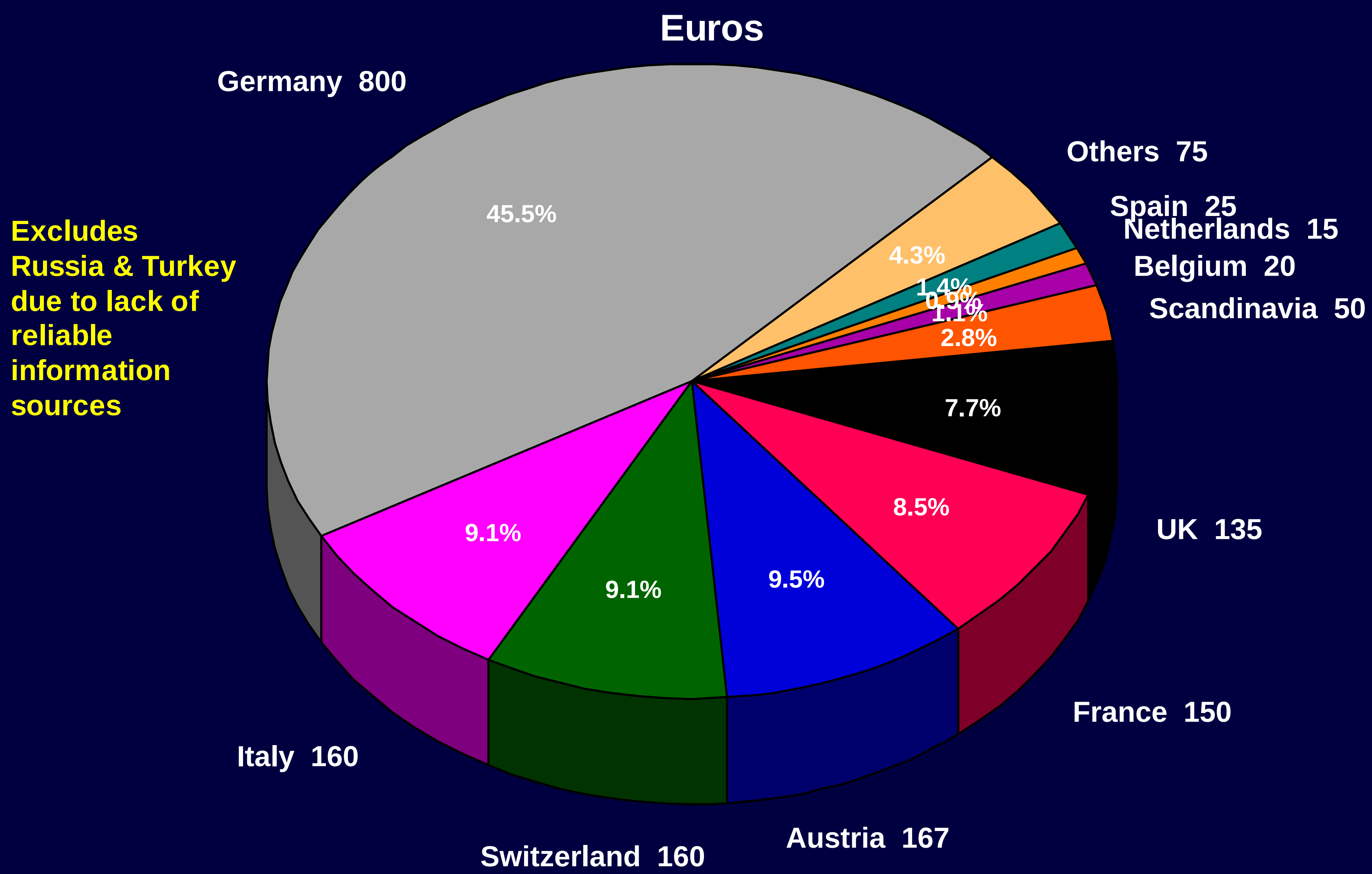
The Thailand floodings shifted PCB orders to Europe in 2011, but in 2012 these orders moved back. In addition the insecurity about the USA and European economies prompted companies to be more careful in their booking behaviour.

Much of the PV industry PCB purchases are gone from Europe.

The situation in January 2013 is a bit blurred. There were high B/B ratios in Nov & Dec but now it seems to be quiet. However some suppliers are quite busy; others are not.

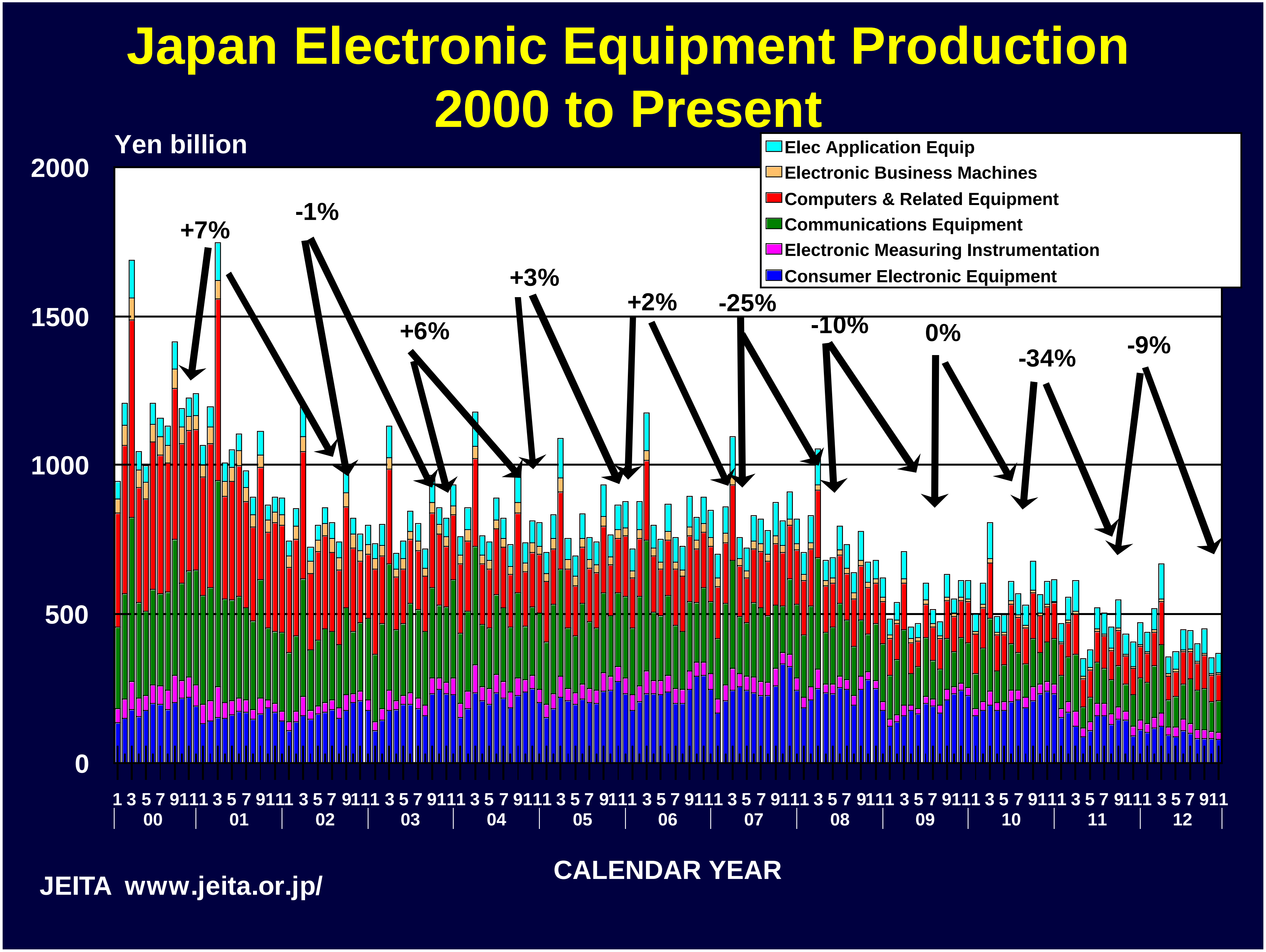
Michael Gasch, Data4PCB 1/2013

2012 European Rigid & Flex PCB Production



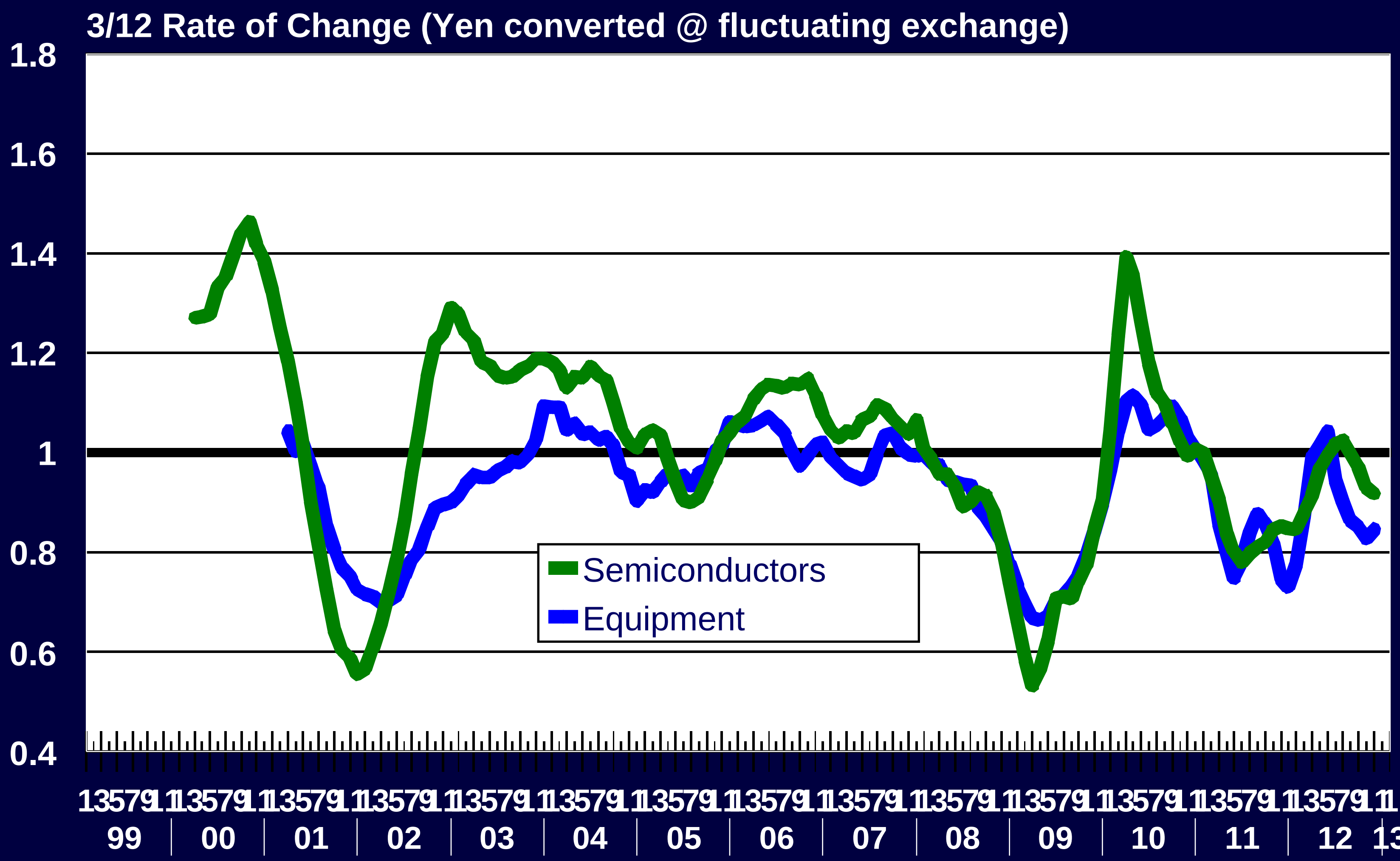
Total: Eur 1,757 Million

M Gasch 1/12



Japan Electronic Equipment Production
2000 to Present
Yen billion
2000
1500
1000
500
0
Elec Application Equip
Electronic Business Machines
Computers & Related Equipment
Communications Equipment
Electronic Measuring Instrumentation
Consumer Electronic Equipment
+7%
-1%
+6%
+3%
+2%
-25%
-10%
0%
-34%
-9%
00
01
02
03
04
05
06
07
08
09
10
11
12
CALENDAR YEAR
JEITA www.jeita.or.jp/

Semiconductor Shipments to Japan vs. Japanese Electronic Equipment Production

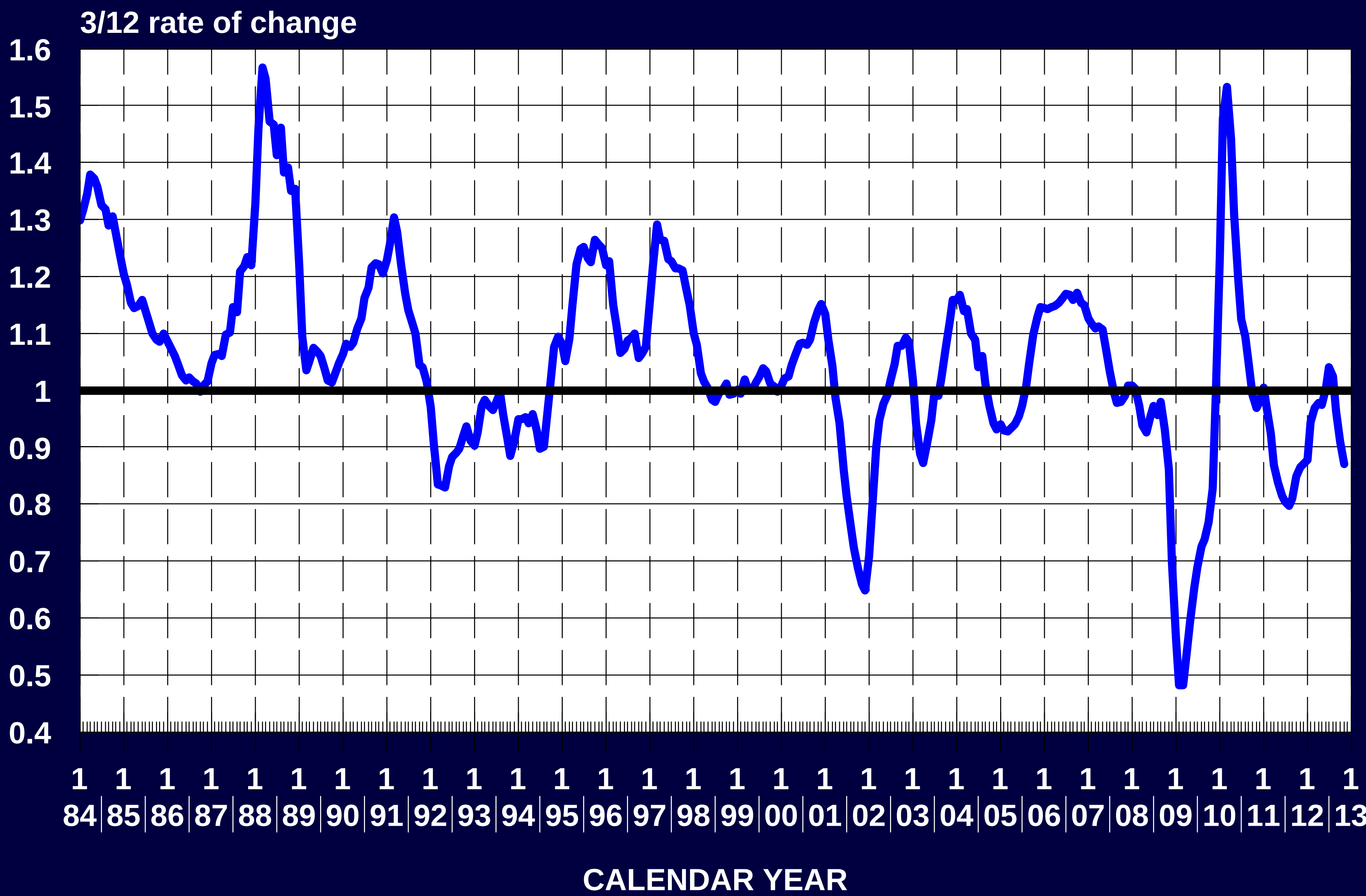


Total $ Semiconductor Shipments from All Countries to Japan www.sia-online.org/, JEITA www.jeita.or.jp/

Japan PCB Shipments

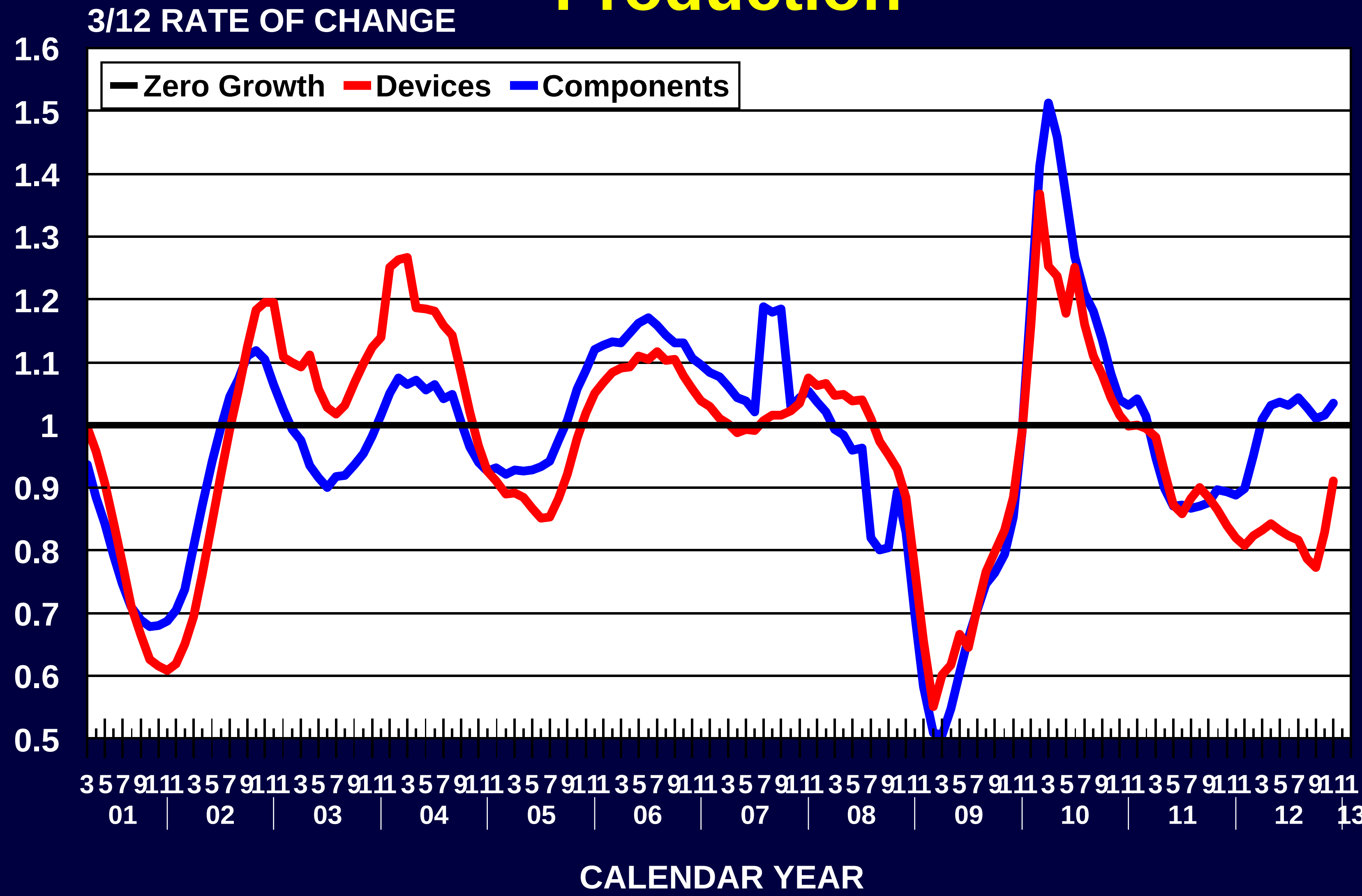
www.jpca.org/kikaitoukei/kikai2012.xls

Japan PCB Shipments



www.jpca.org/kikaitoukei/kikai2011.xls

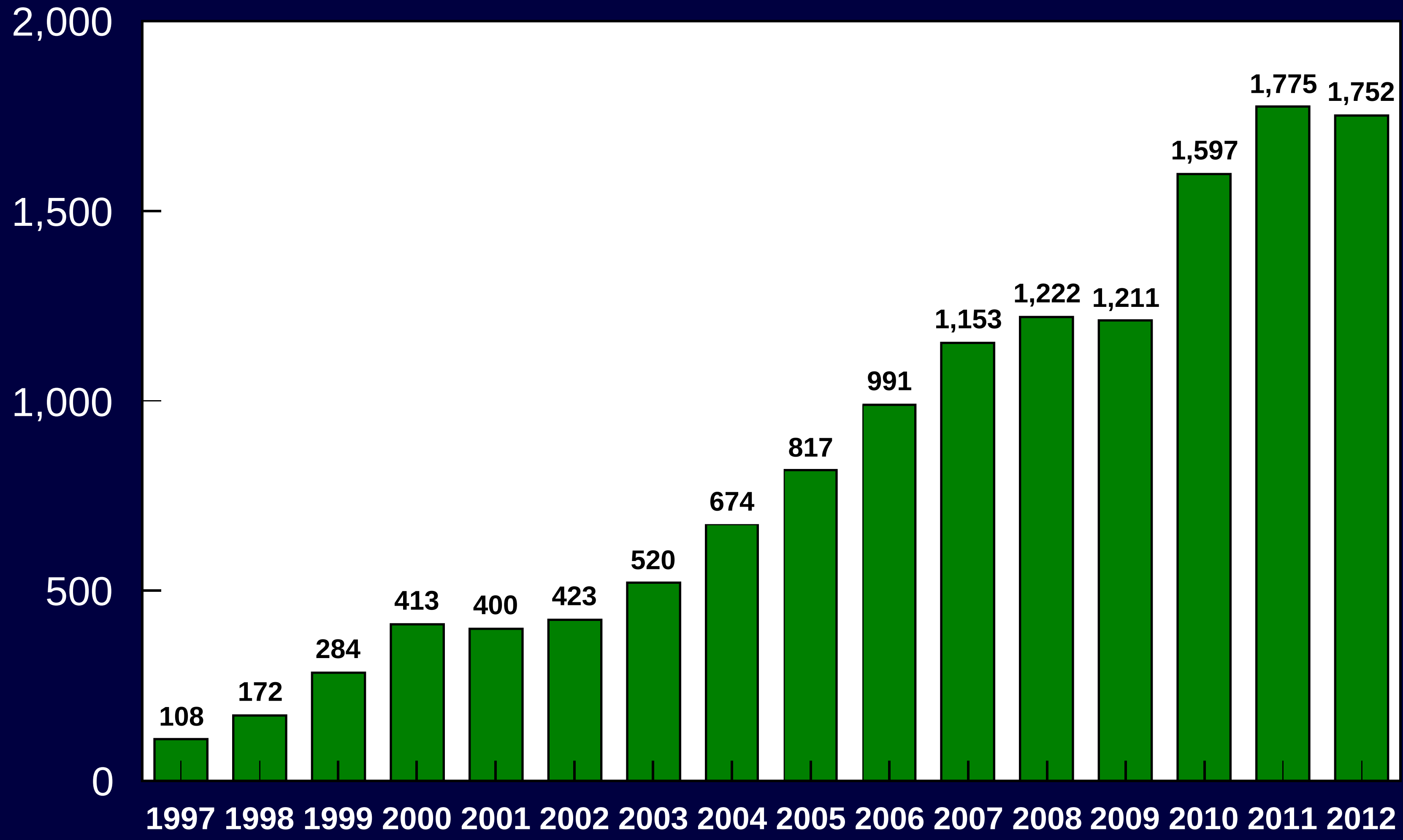
Japanese Electronic Component & Device Production



JEITA www.jeita.or.jp/

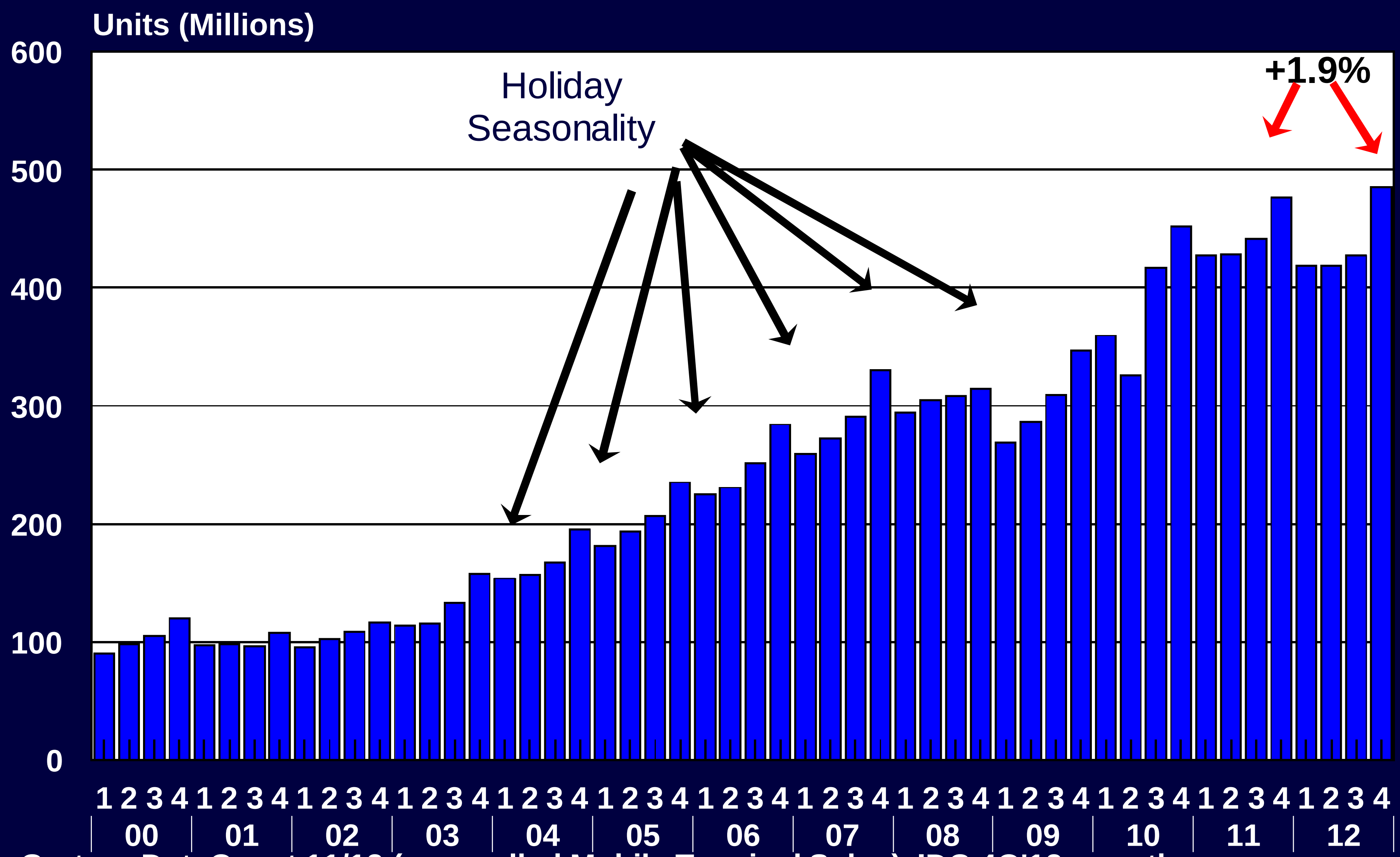
World Mobile Phone Unit Shipments

Total Sales - Analog & Digital



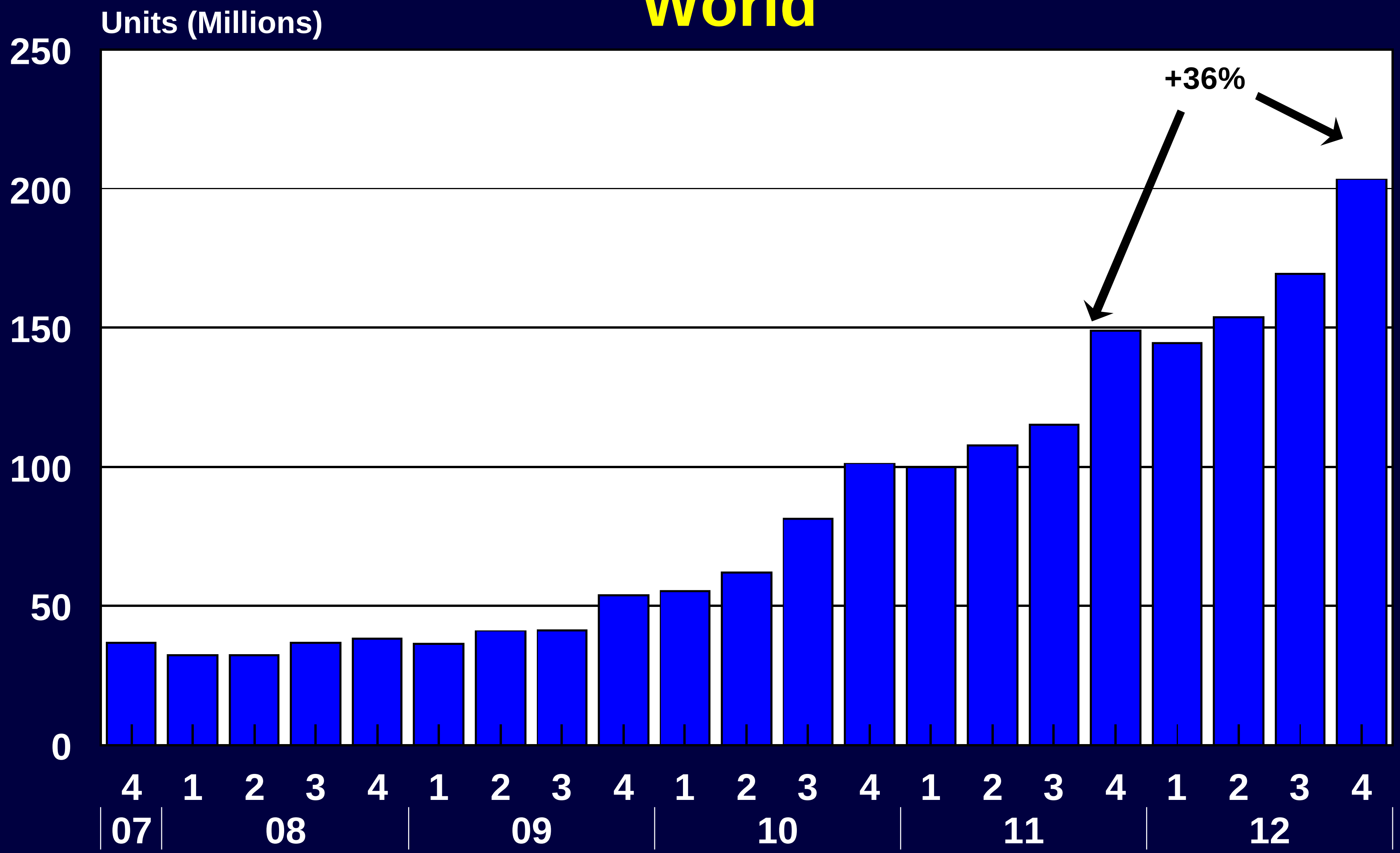
Gartner Dataquest + IDC growth for 4Q'12

Mobile Phone Unit Shipments
World



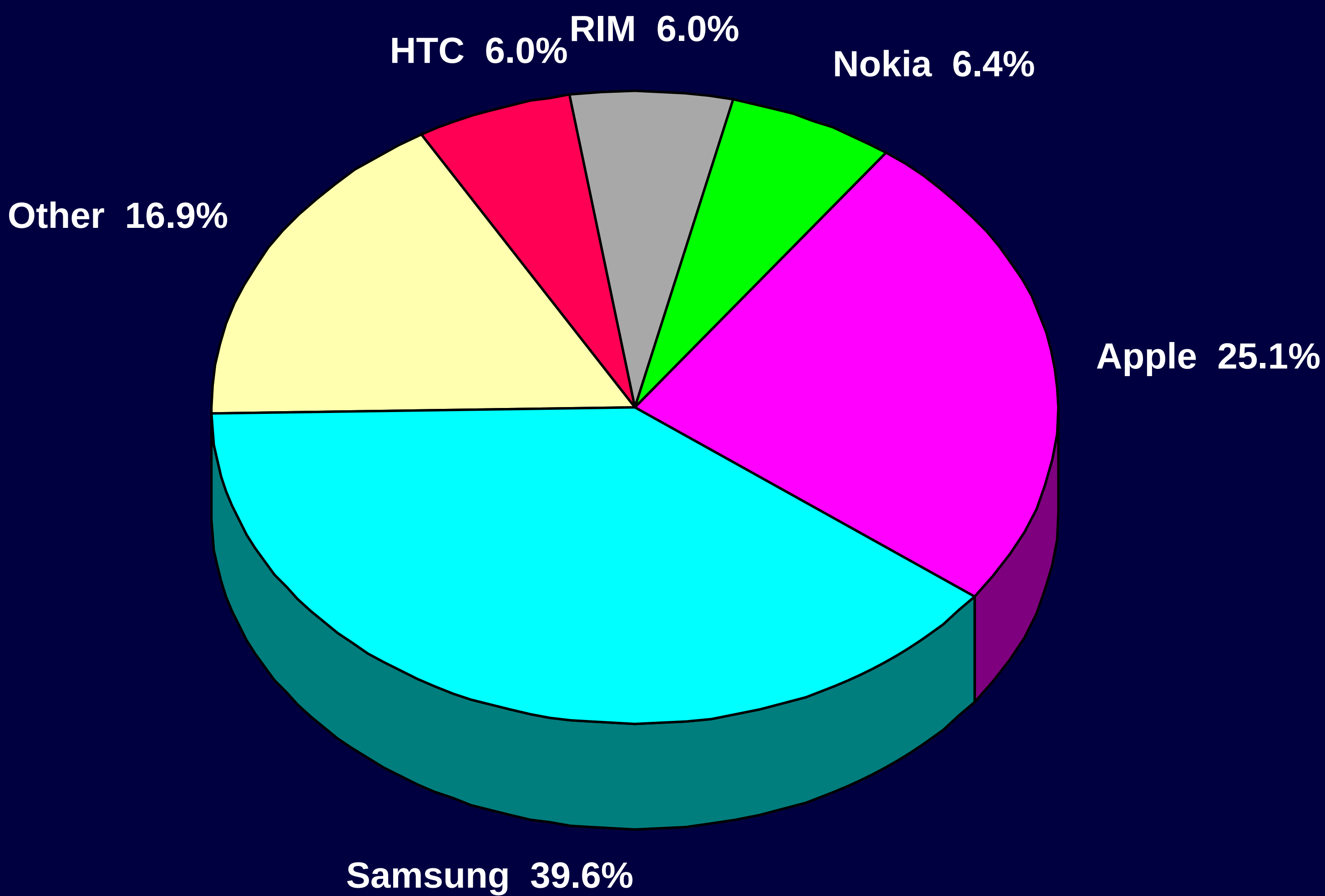
Gartner DataQuest 11/12 (now called Mobile Terminal Sales), IDC 4Q'12 growth

Smartphone Unit Shipments to End Users World



Gartner DataQuest 11/12 + IDC 4Q'12 growth

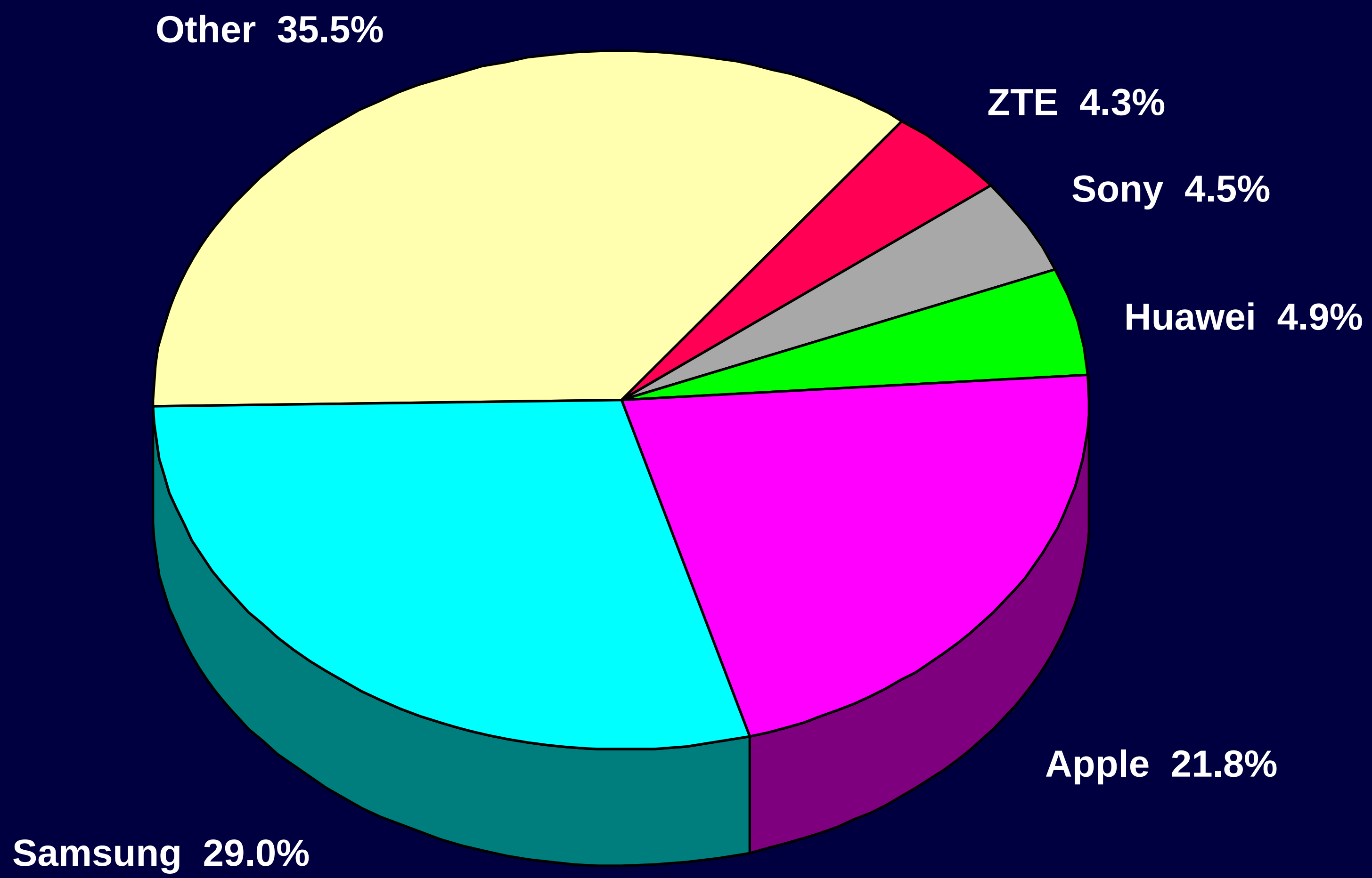
World Smartphone Sales
2012



Total: 545 Million Units

IDC 1/13

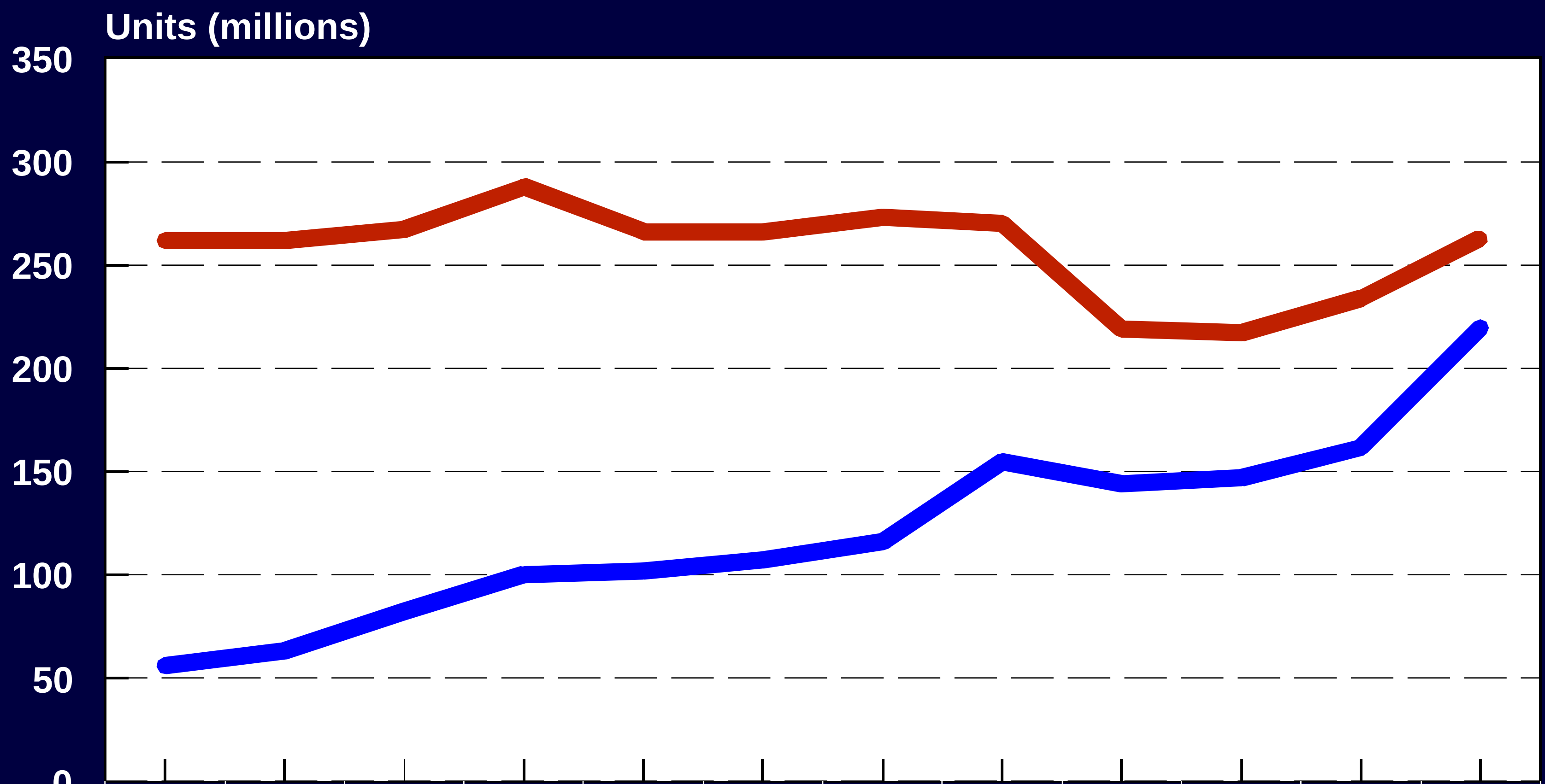
World Smartphone Sales
4Q'12



Total: 219.4 Million Units

IDC 1/13

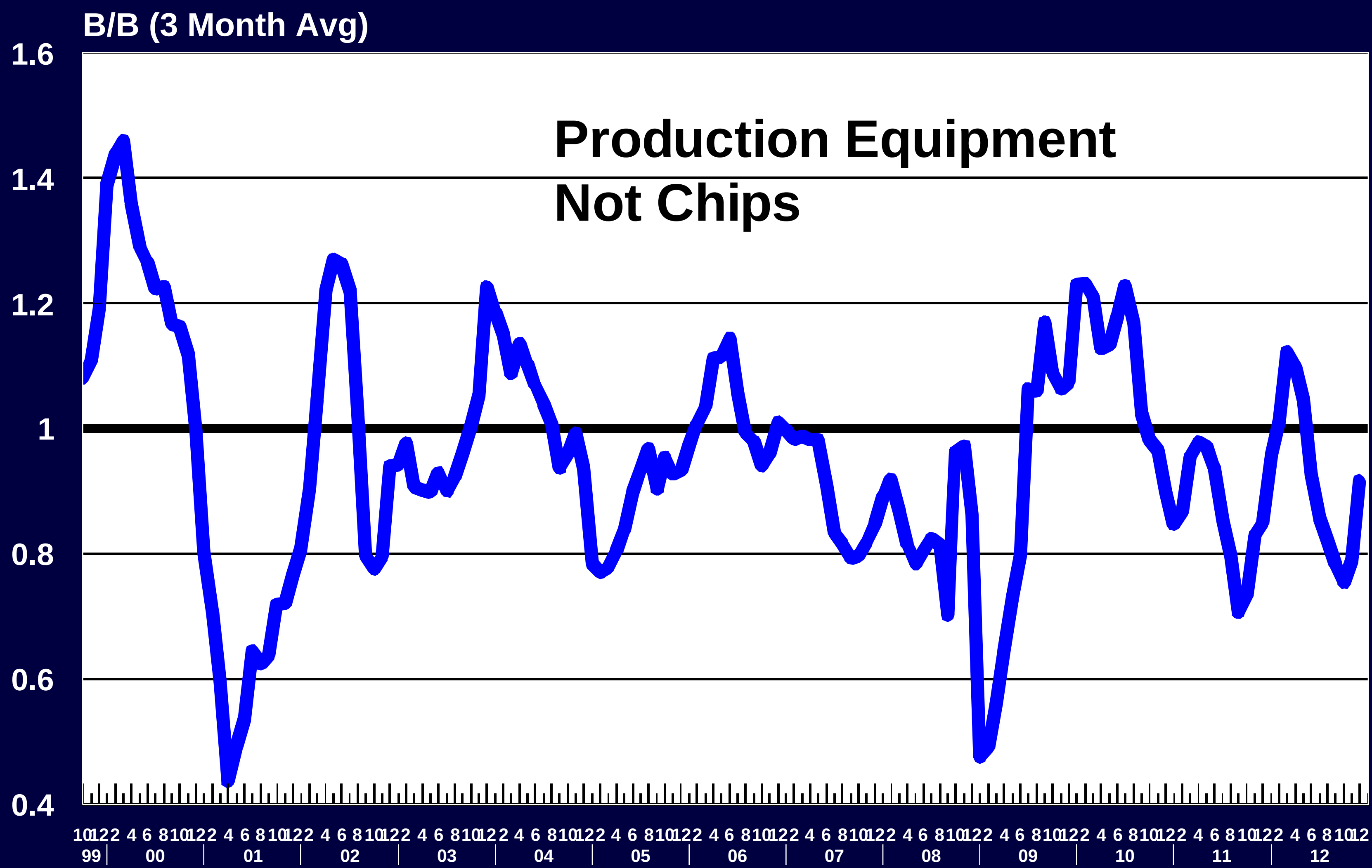
Smartphone vs. Non Smartphone Shipments 2010-2015



	10				11				12			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Smartphone	56	63	82	100	102	107	116	155	144	147	162	219
Non Smartphone	262	262	267	288	266	266	273	270	219	217	234	263

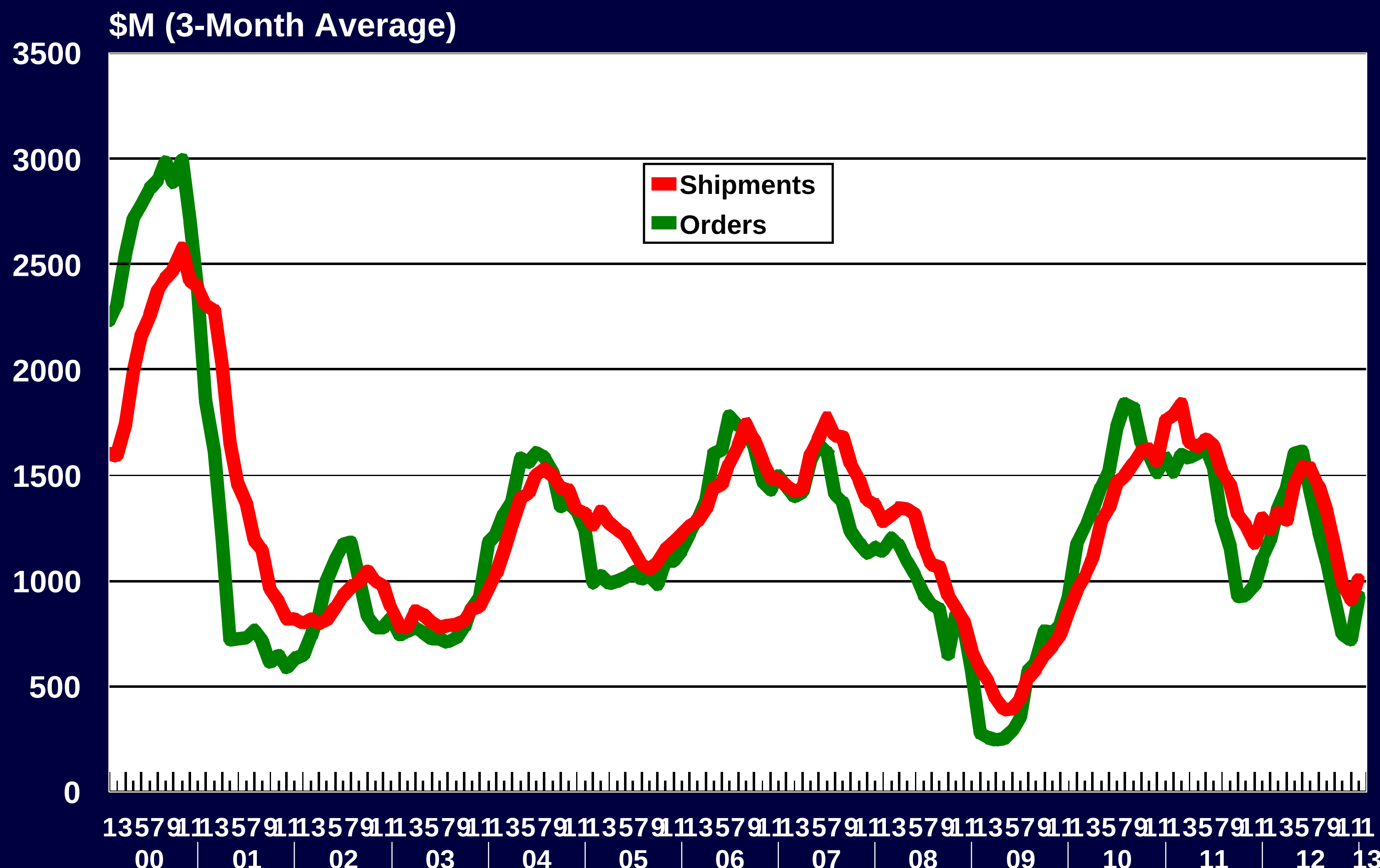
ABI 12/12/12 + IDC 4Q'12 data 1/13

N American Semiconductor Equipment Industry Book/Bill Ratio

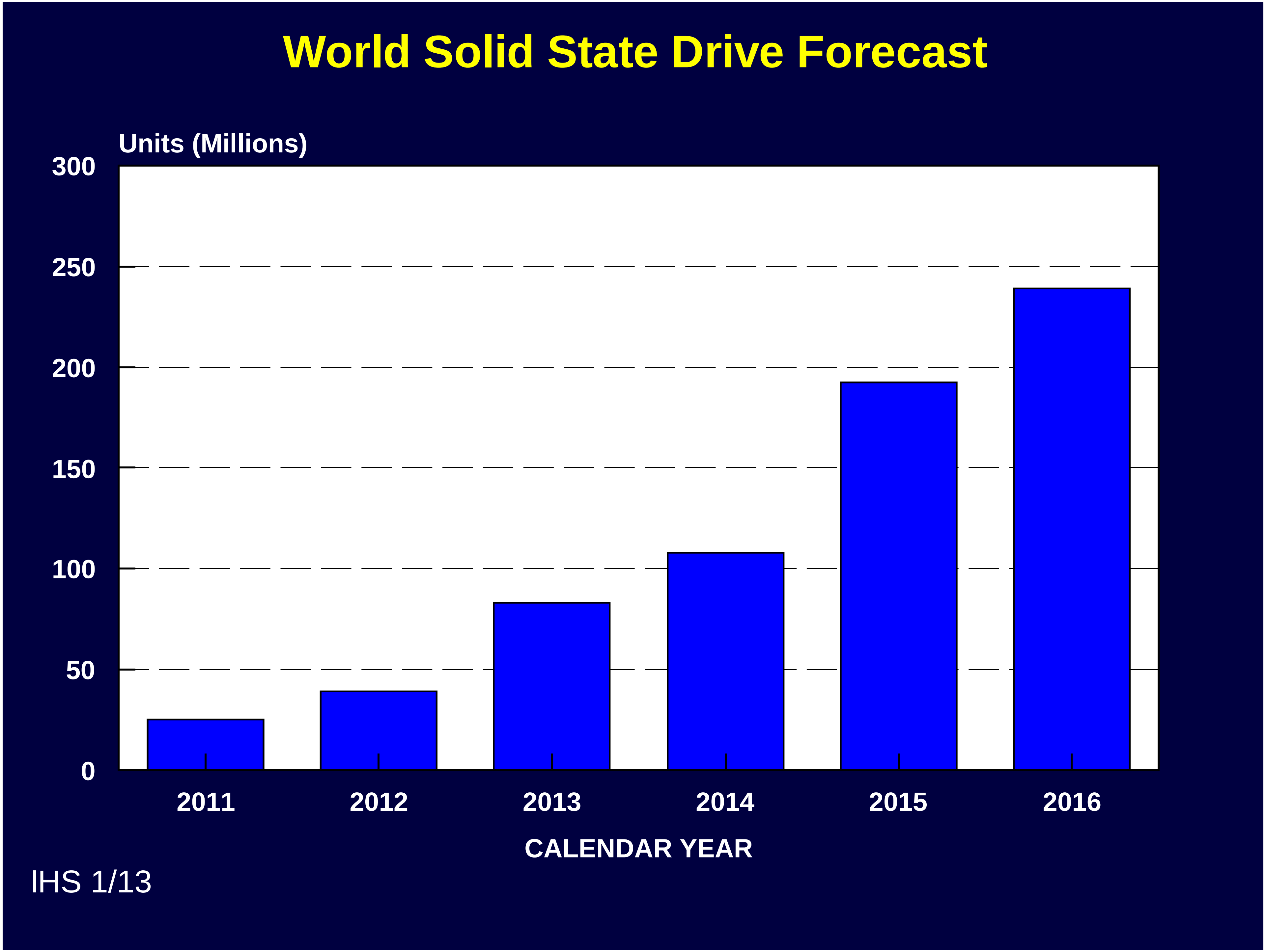


SOURCE Semiconductor Equipment and Materials International
http://www.semi.org

N American Semiconductor Equipment Industry Shipments & Orders



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


World Solid State Drive Forecast
Units (Millions)
300
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
CALENDAR YEAR
IHS 1/13

Top 10 Semiconductor Design TAM by Company
US$ Billion

	2011	2012	% CH
Samsung	18.6	23.9	28.9
Apple	18.8	21.4	13.6
HP	16.0	14.0	-12.7
Dell	9.9	8.6	-13.4
Sony	7.7	7.9	1.9
Lenovo	7.8	7.8	0.3
Toshiba	7.8	6.5	-17.1
LG Electronics	6.5	6.0	-6.7
Cisco	5.4	5.4	-0.8
Nokia	8.6	5.0	-42.6
Others	199.7	191.1	-4.3
Total	306.8	297.6	-3.0

Gartner 1/13

Foundry Wafer Shipments 2012

1	TSMC
2	Globalfoundries
3	Samsung
4	UMC
5	SMIC
6	Hua Hong Grace
7	TowerJazz
8	Vanguard
9	Dongbu
10	IBM
11	Magna Chip
12	WIN

IC Insights 1/13