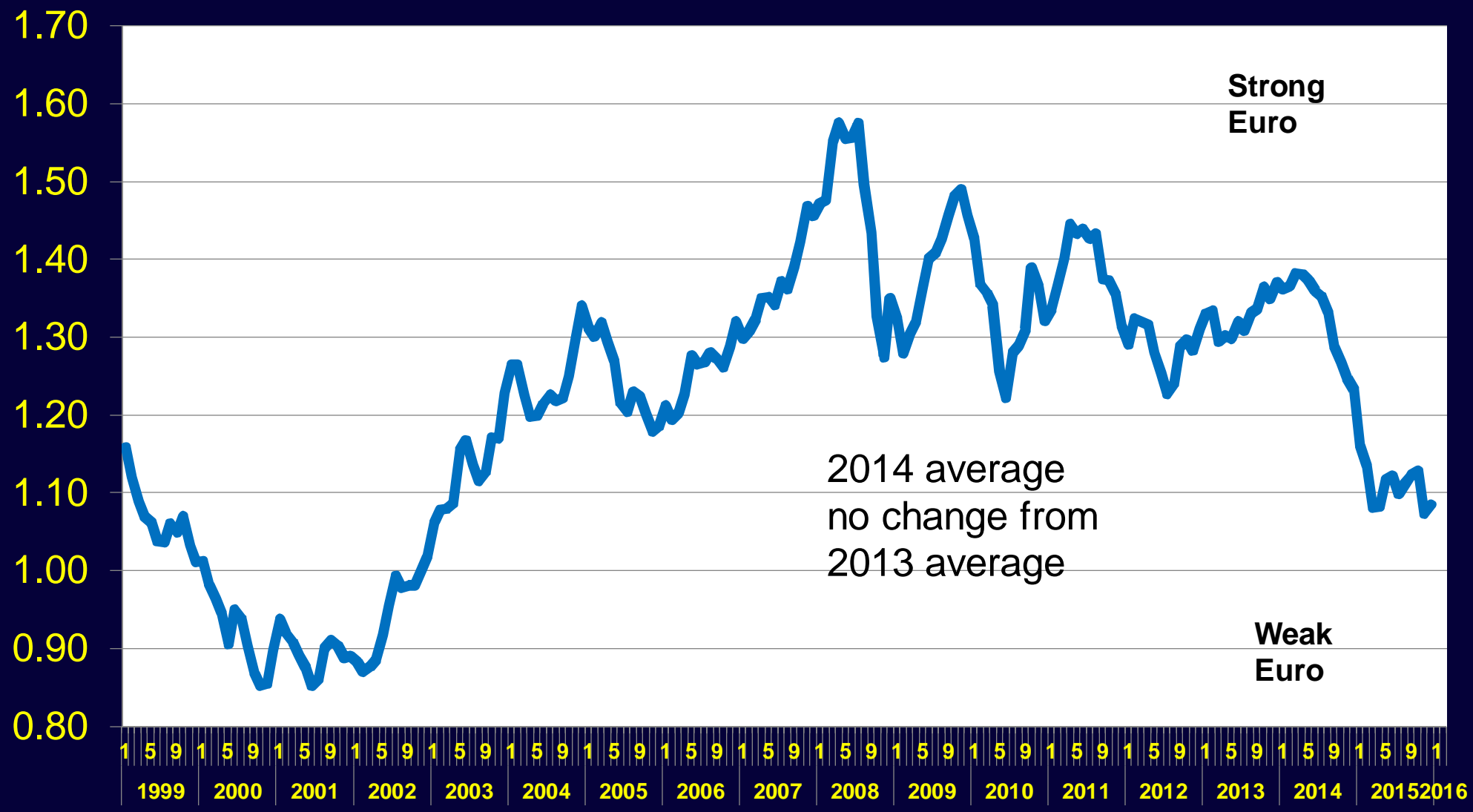


Chart 1

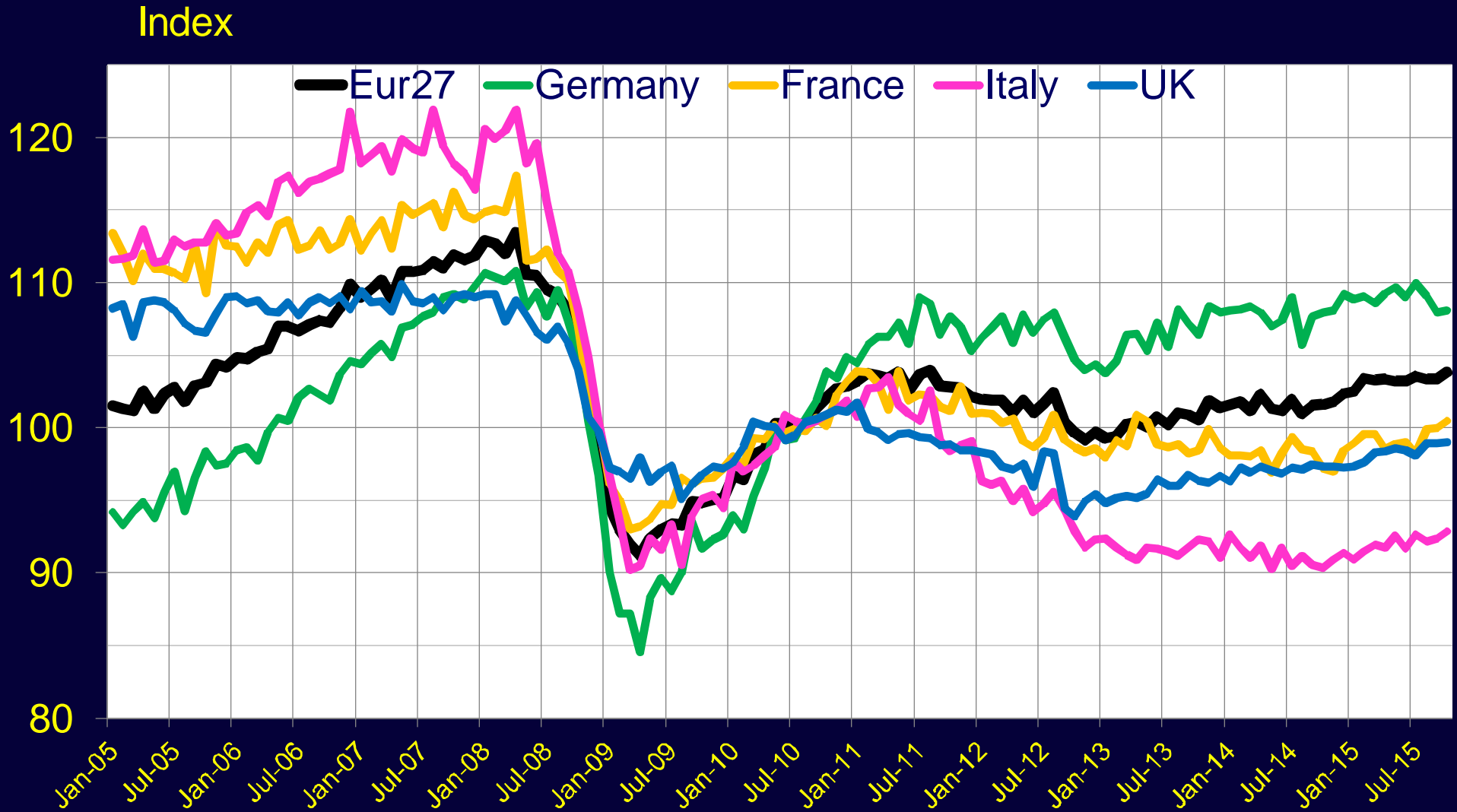
Euro vs. U.S. Dollar

US\$/Euro

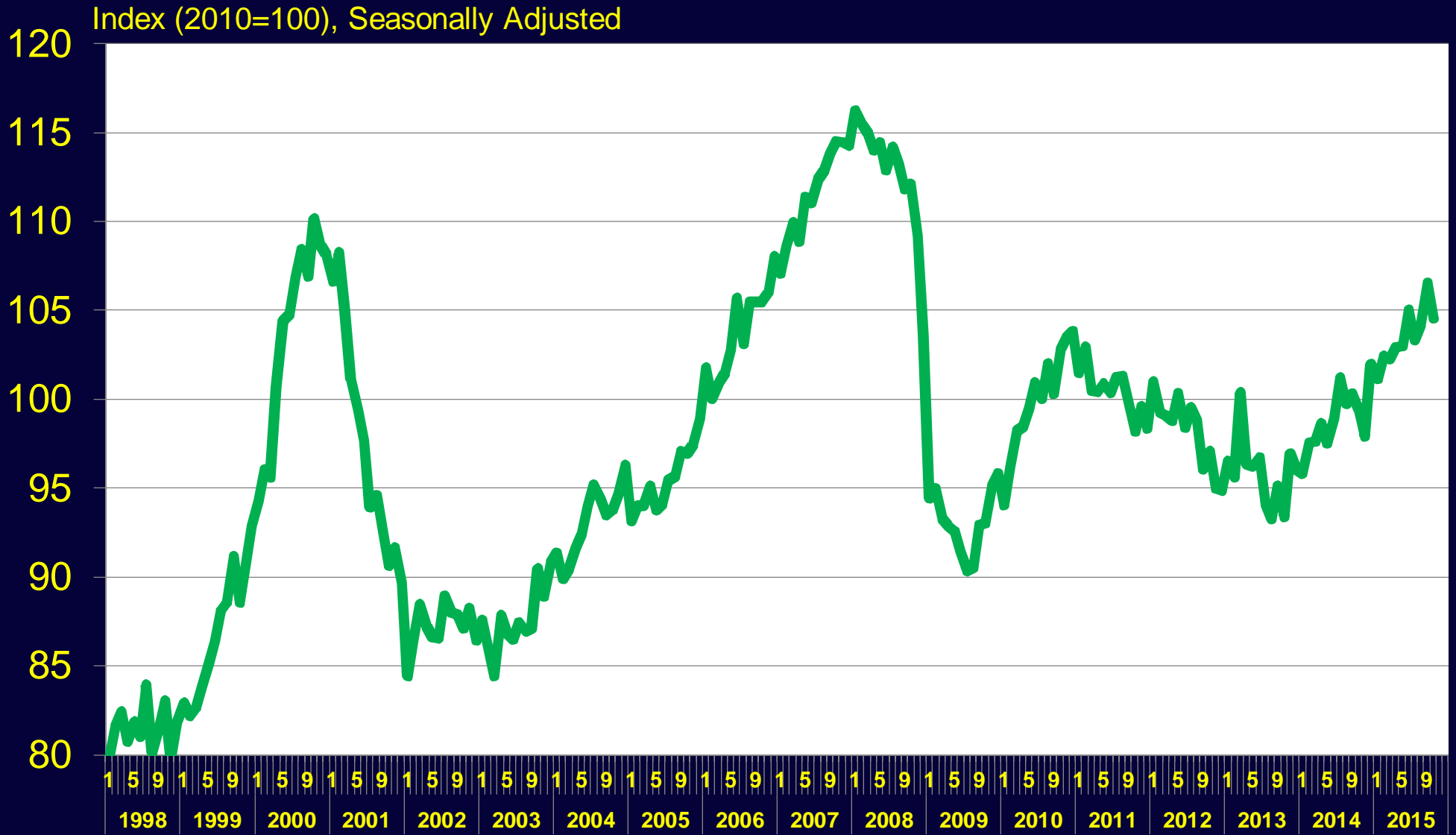


Industrial Production - Europe

Index (2010 Avg. Month = 100, Seasonally Adjusted)



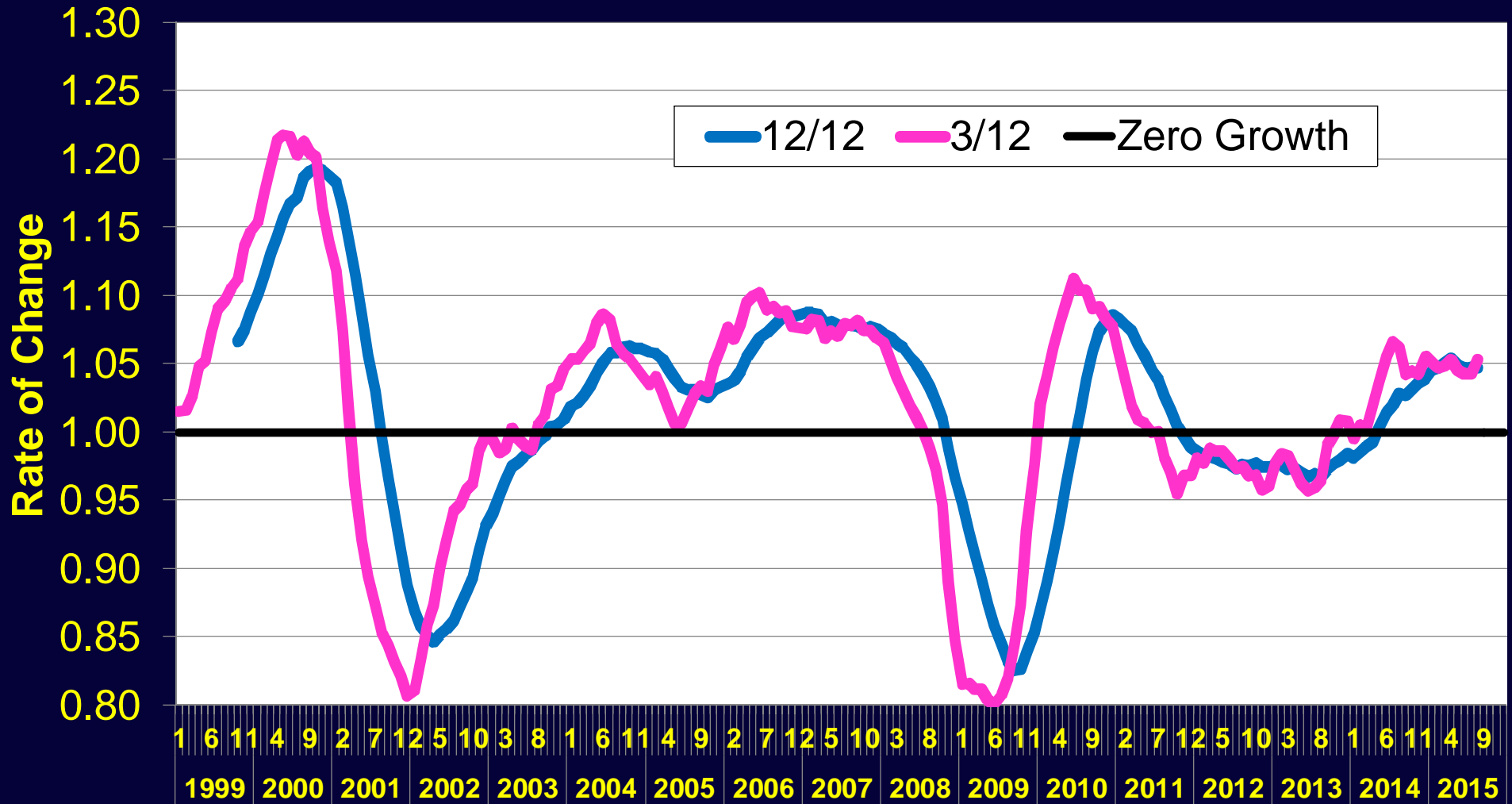
European Computer, Electronic & Optical Products Production



Europe- EU27

Manufacture of computer, electronic & optical products

12/12 & 3/12 Rate of Change



European Motor Vehicle Production

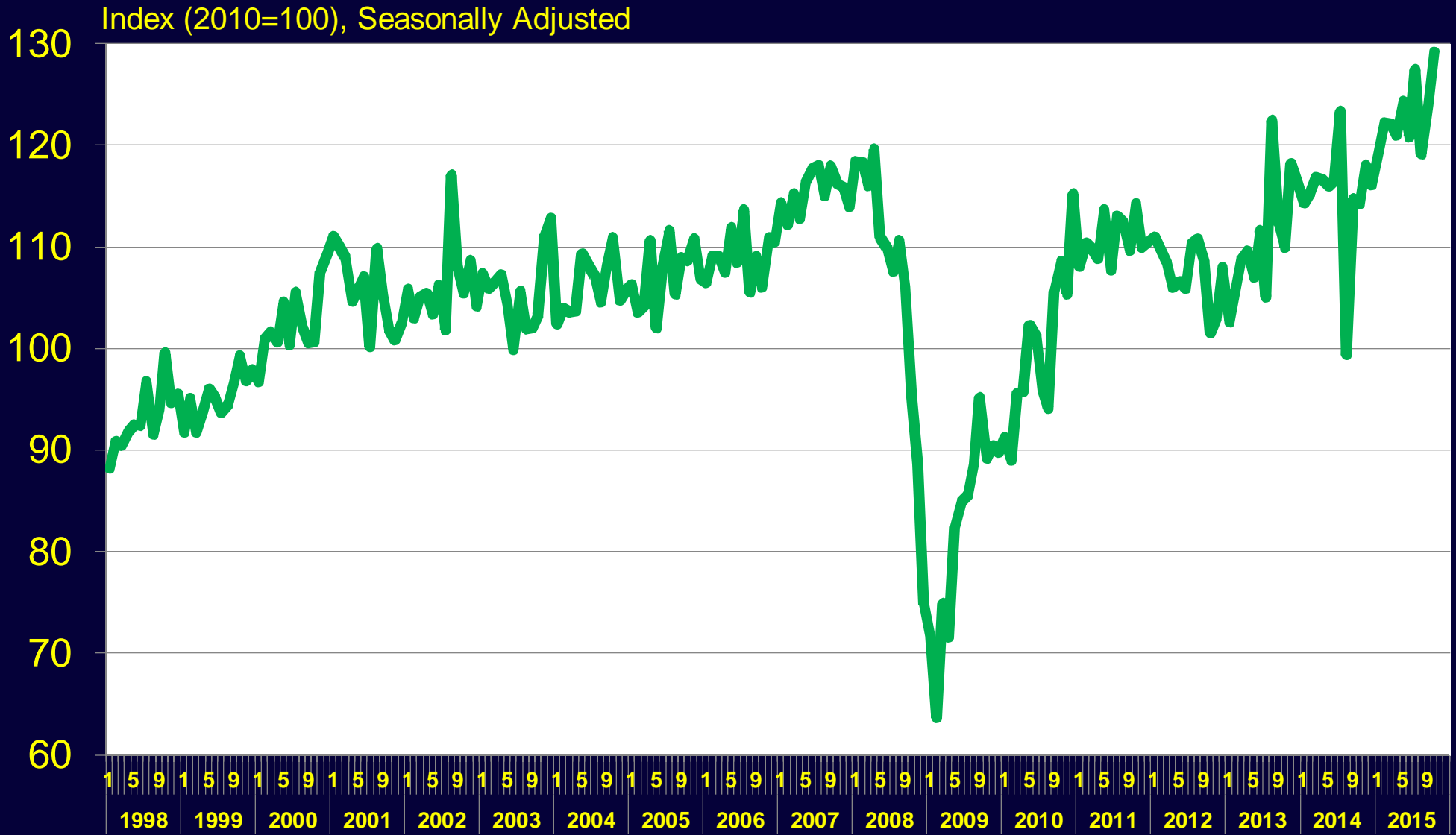
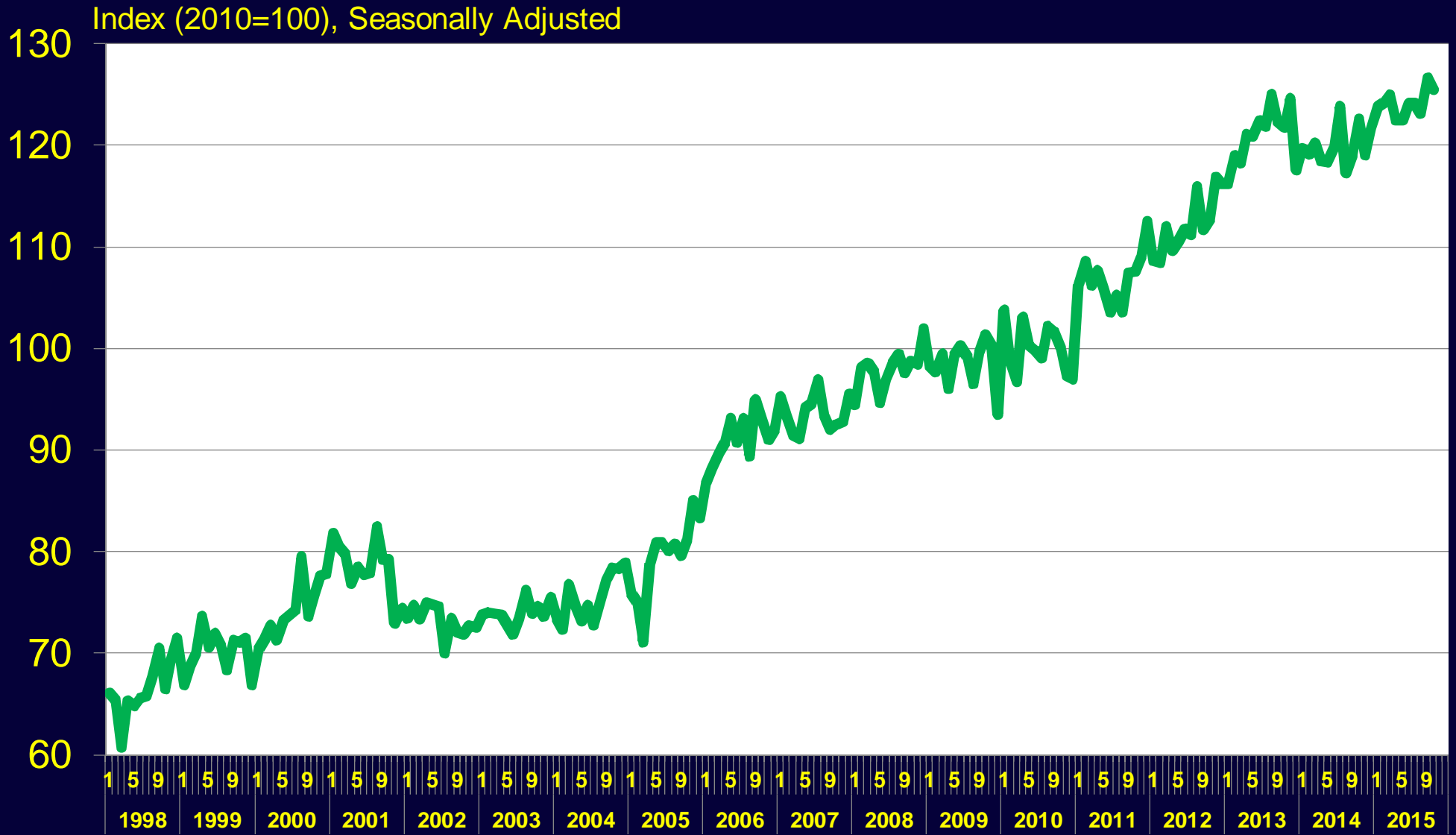
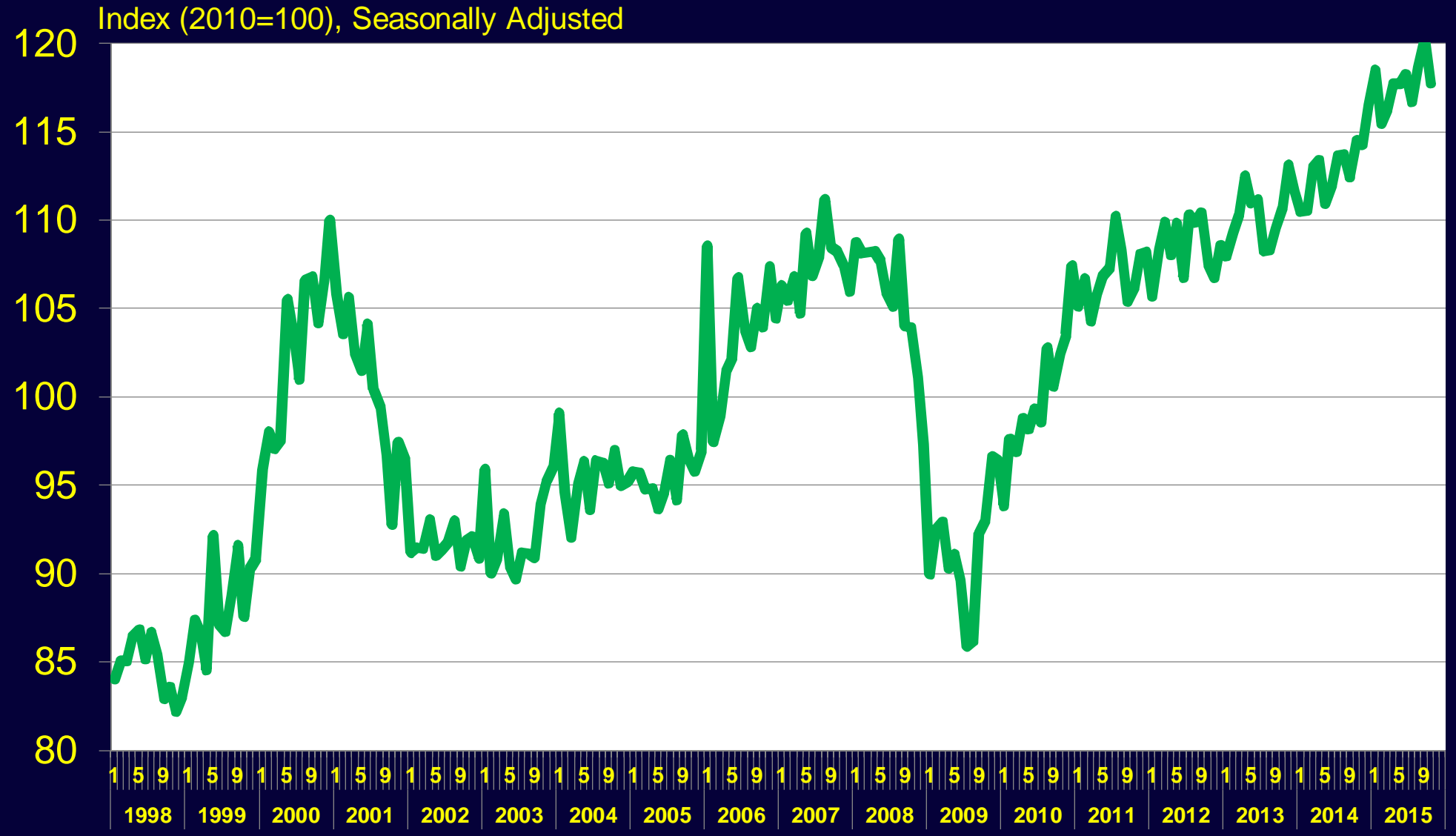


Chart 6

European Production - Aircraft, Spacecraft & Related Equipment



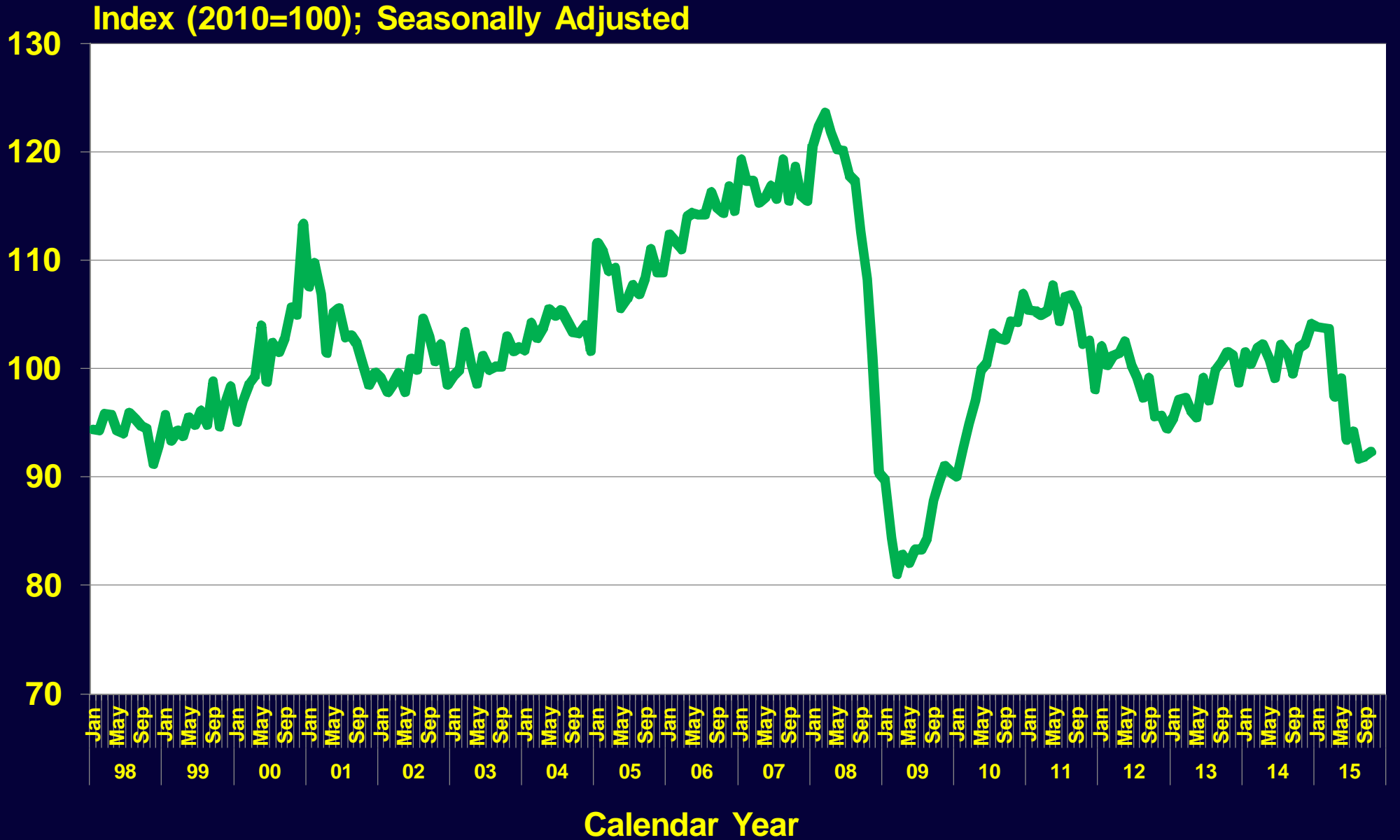
European Production - Instruments & Appliances for Measuring, Testing & Navigation



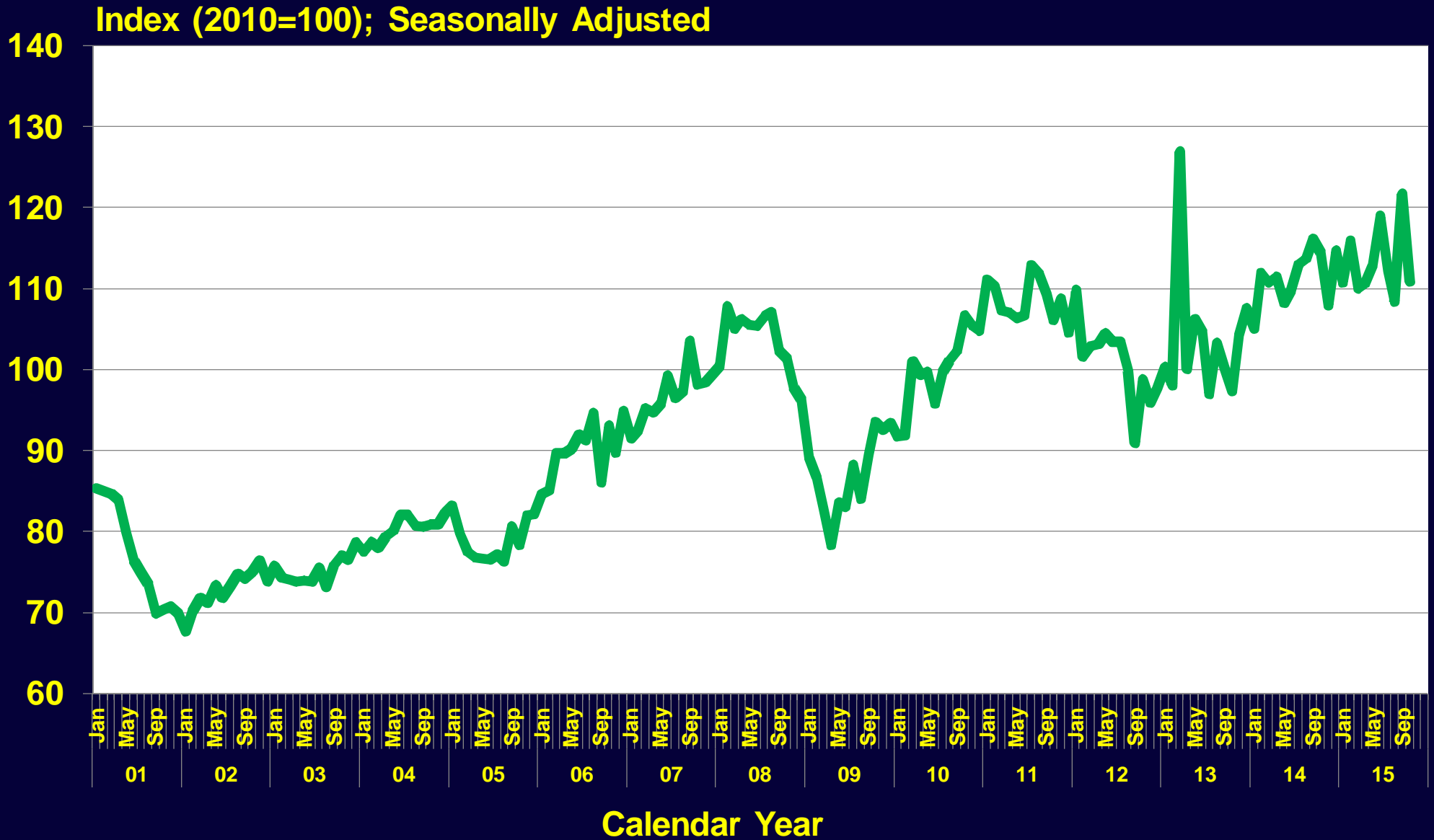
European Loaded Electronic Board Production



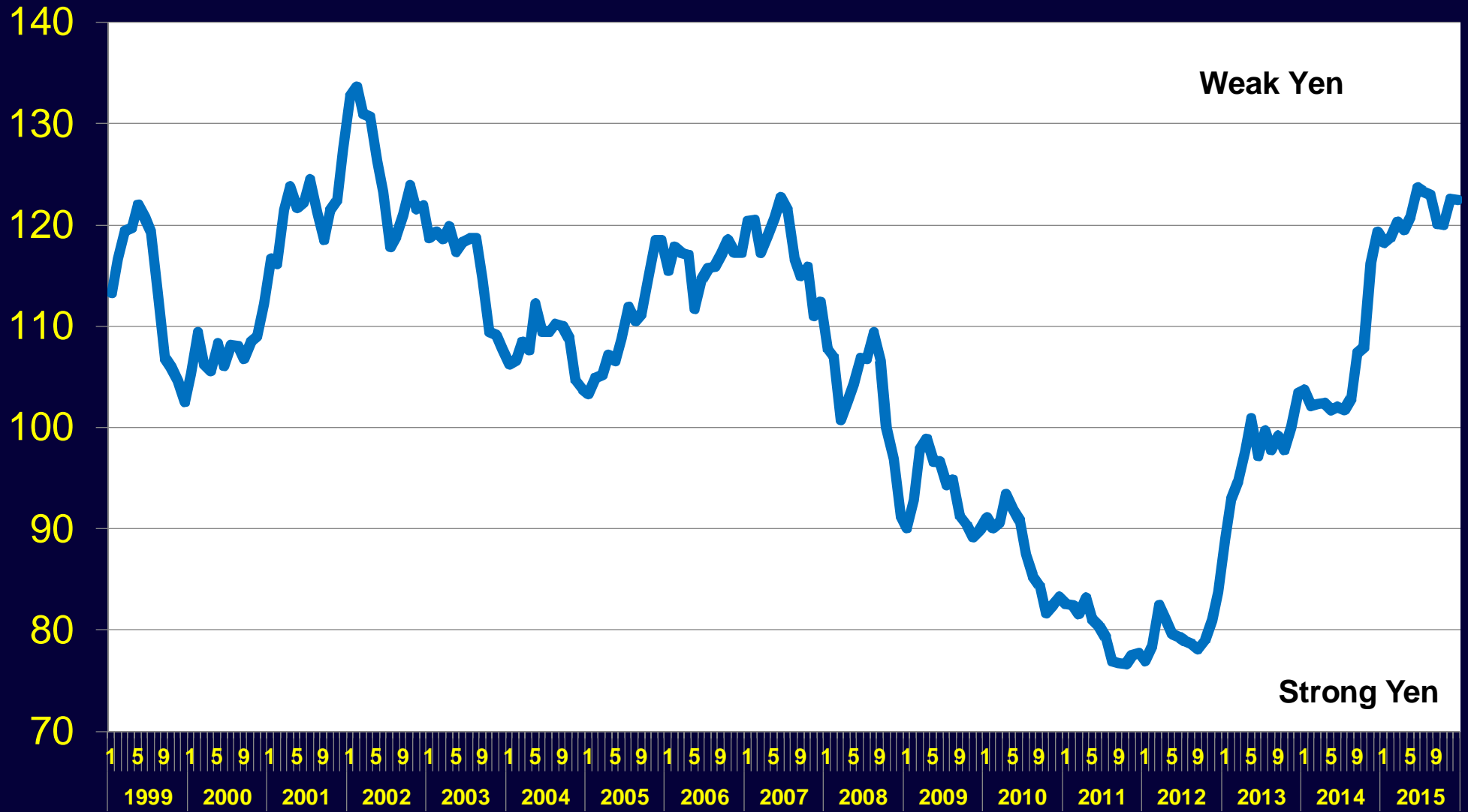
European Electronic Wiring Devices



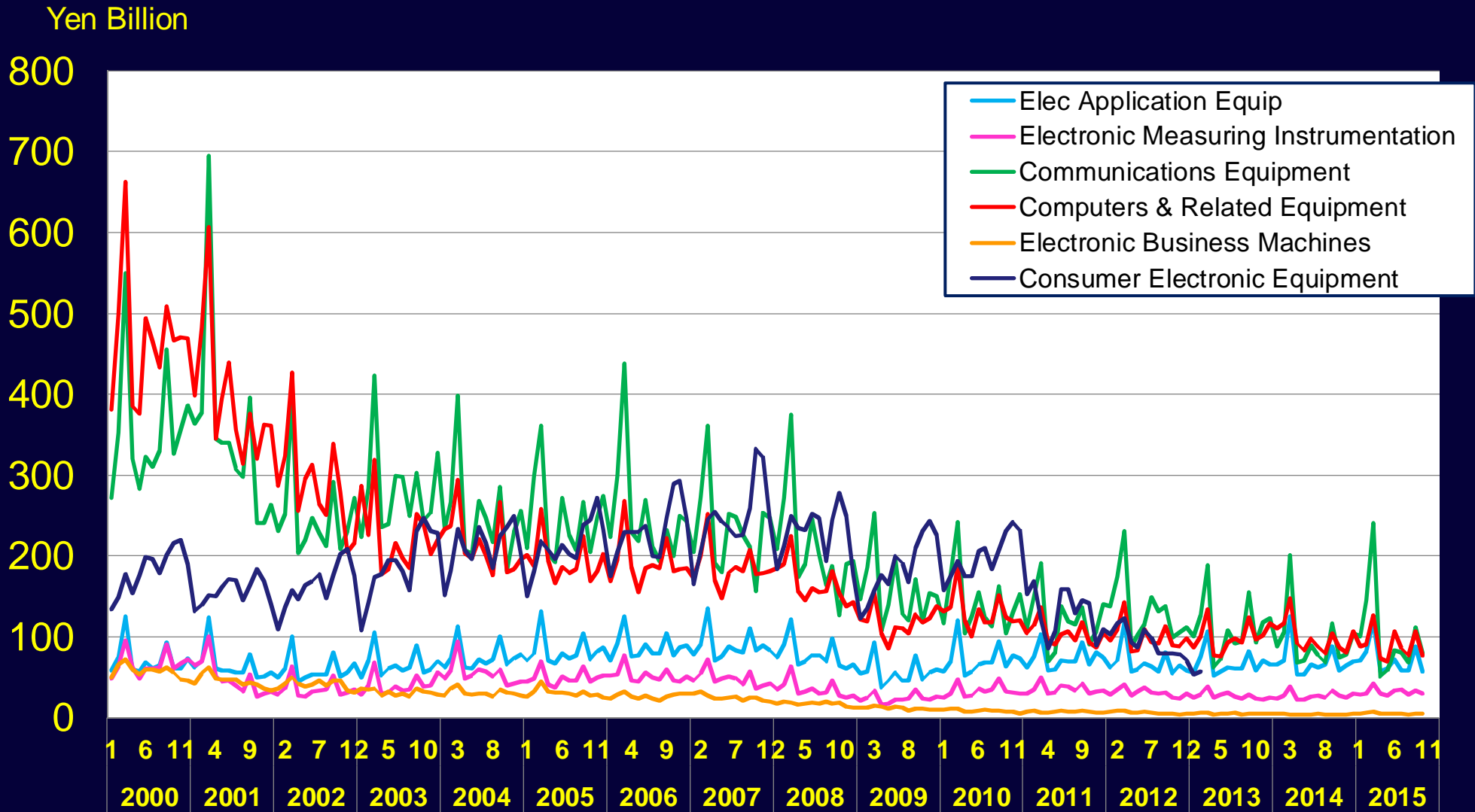
European Electronic Components & Board Production



Japanese Yen vs. U.S. Dollar

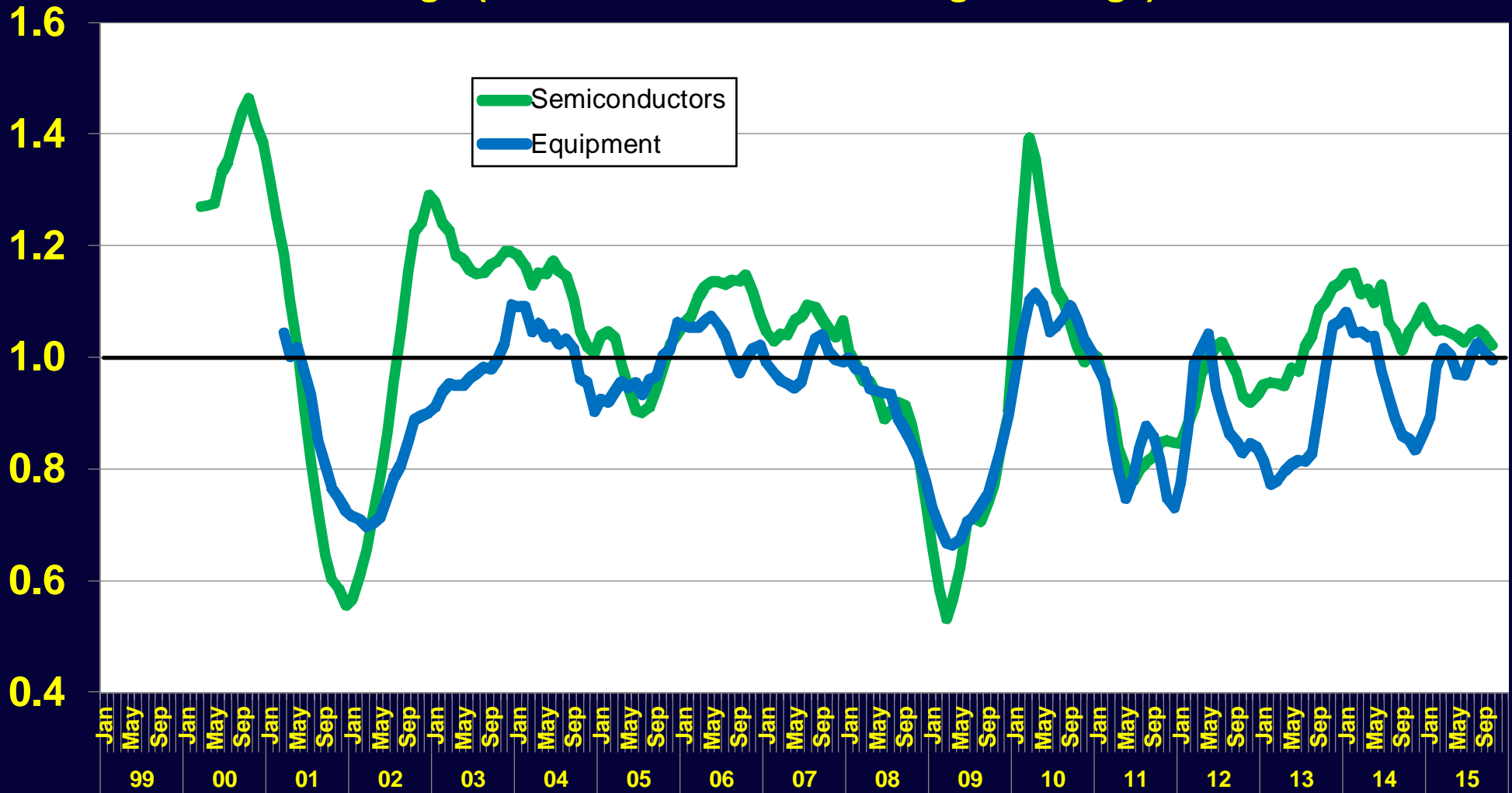


Japan Electronic Equipment Production by Month 2000 to Present



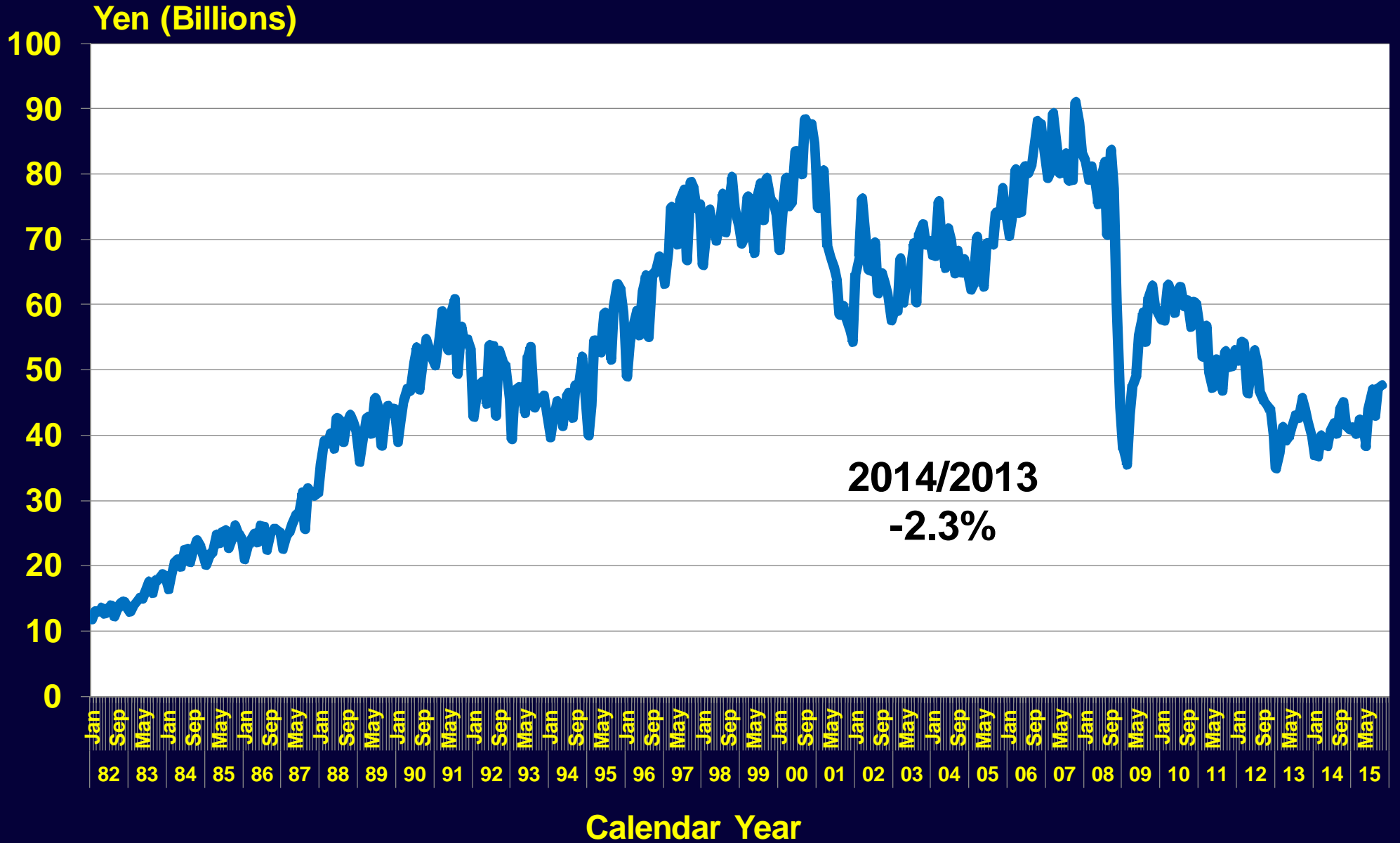
Semiconductor Shipments to Japan vs. Japanese Electronic Equipment Production

3/12 Rate of Change (Yen converted at fluctuating exchange)

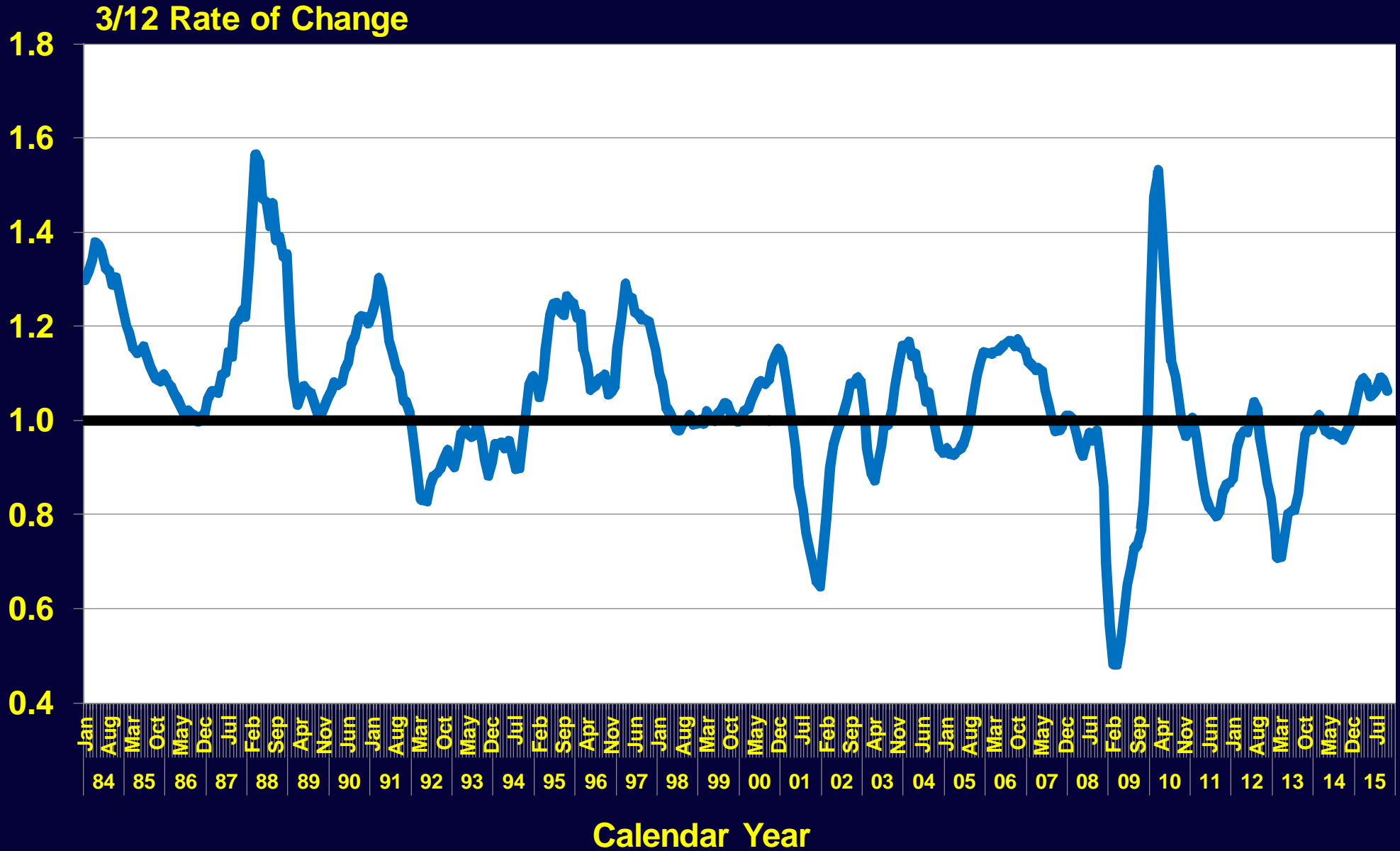


Total \$ Semiconductor Shipments from All Countries to Japan www.sia-online.org/,
JEITA www.jeita.or.jp/

Japan PCB Shipments



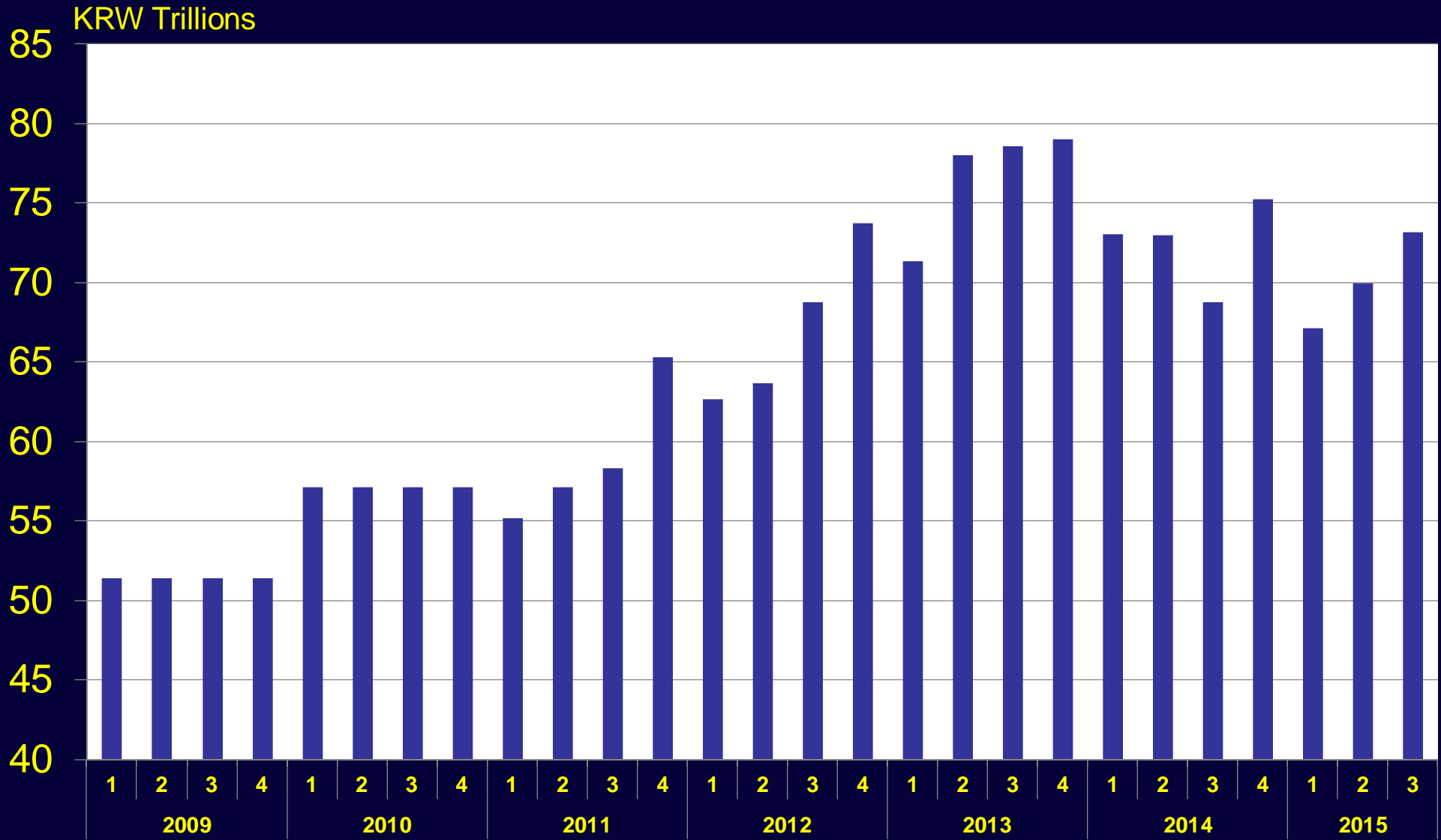
Japan PCB Shipments



Japanese Electronic Component & Device Production

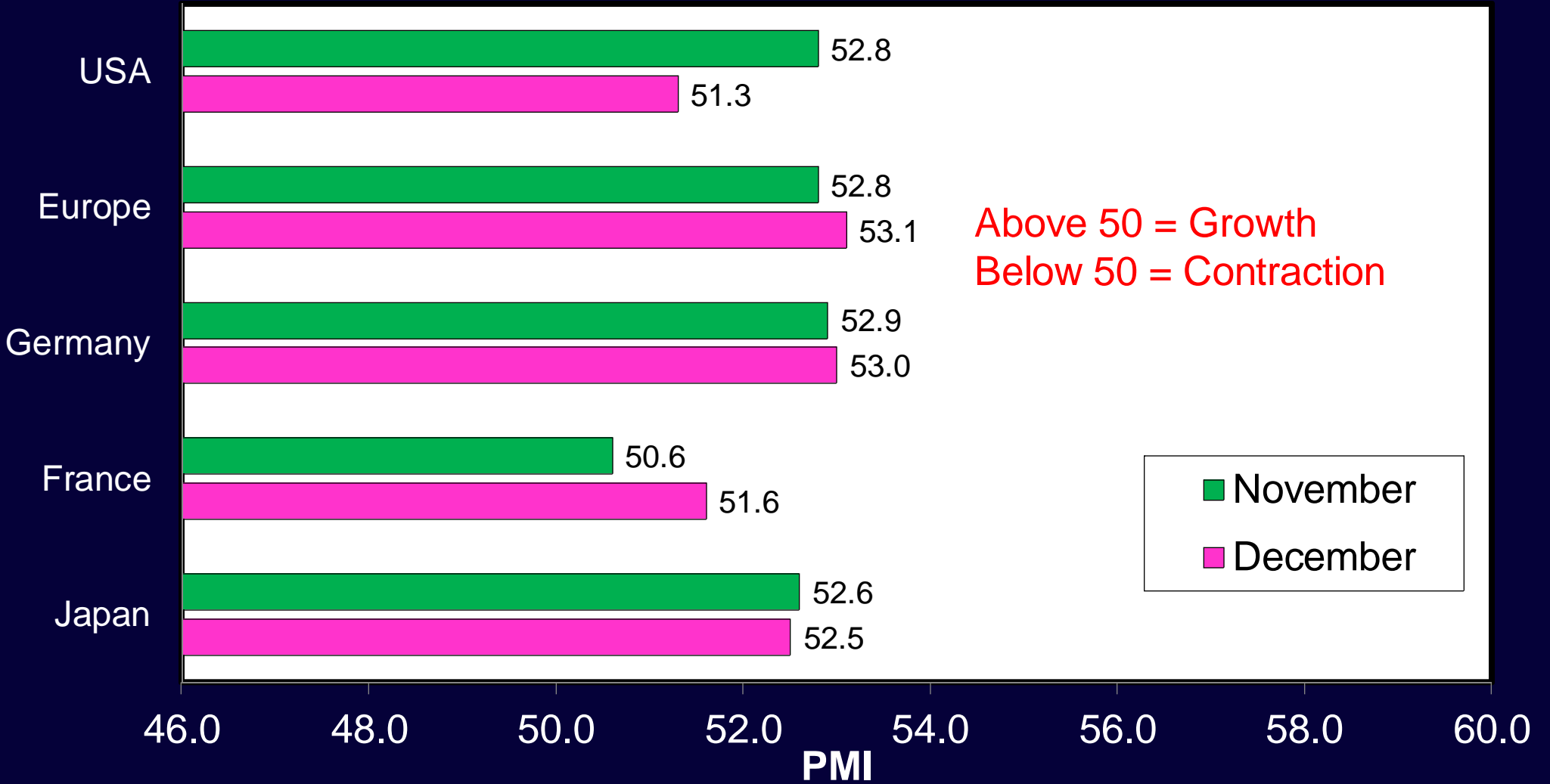


S Korea Electronic Equipment Producers Composite of 7 Manufacturers

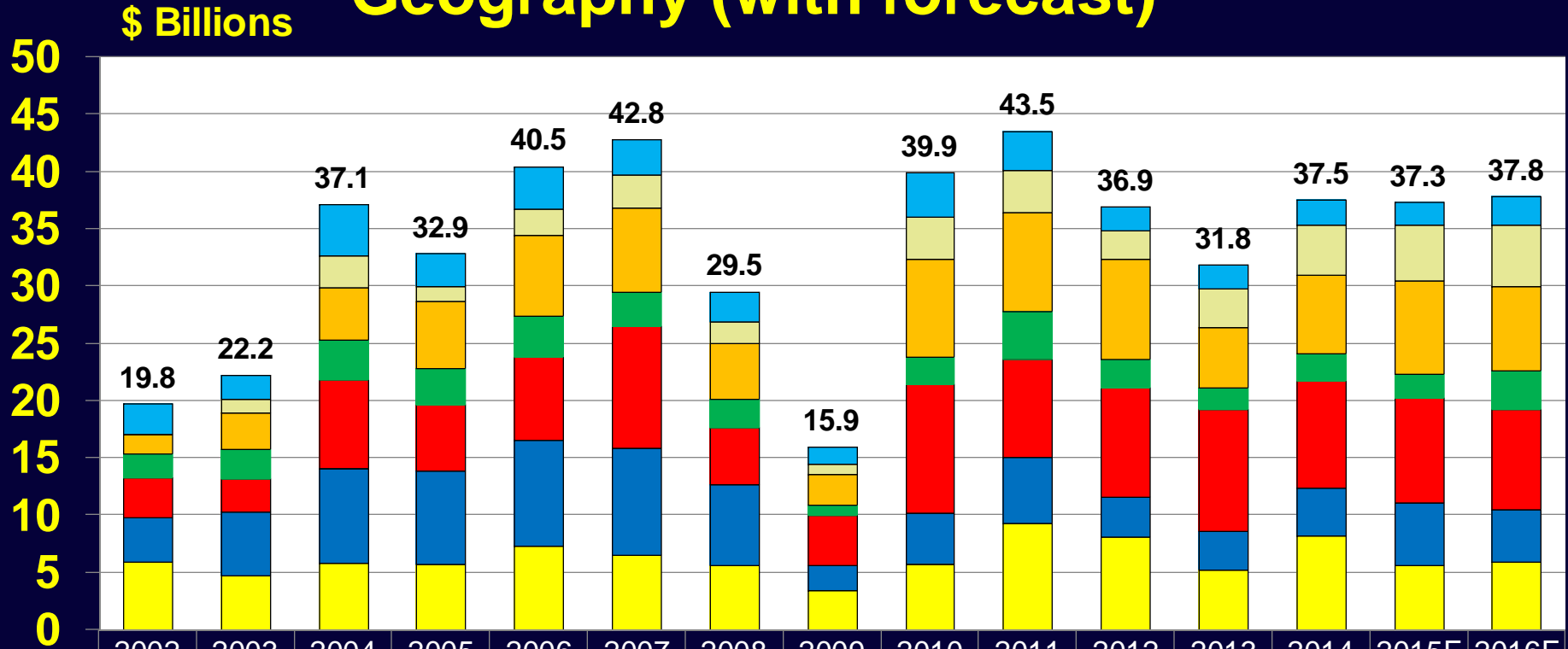


Samsung Electronics, LG Electronics, Daewoo Electronic Components, Samsung SDI, Dongbu Hitek, SK Hynix, KEC Corp

Purchasing Managers' Indices December (preliminary) vs. November 2015

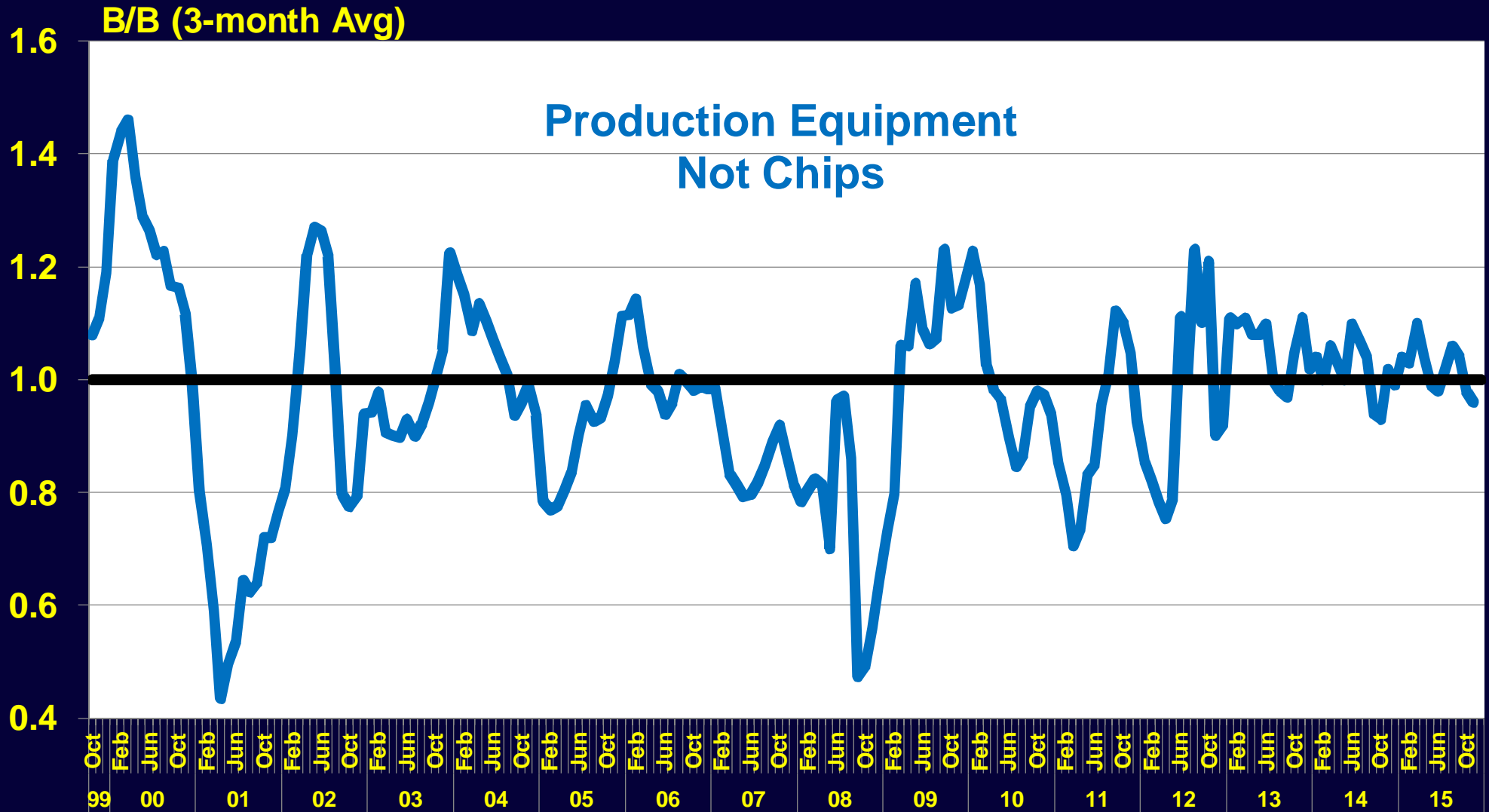


Worldwide Semiconductor Capital Equipment Market by Geography (with forecast)



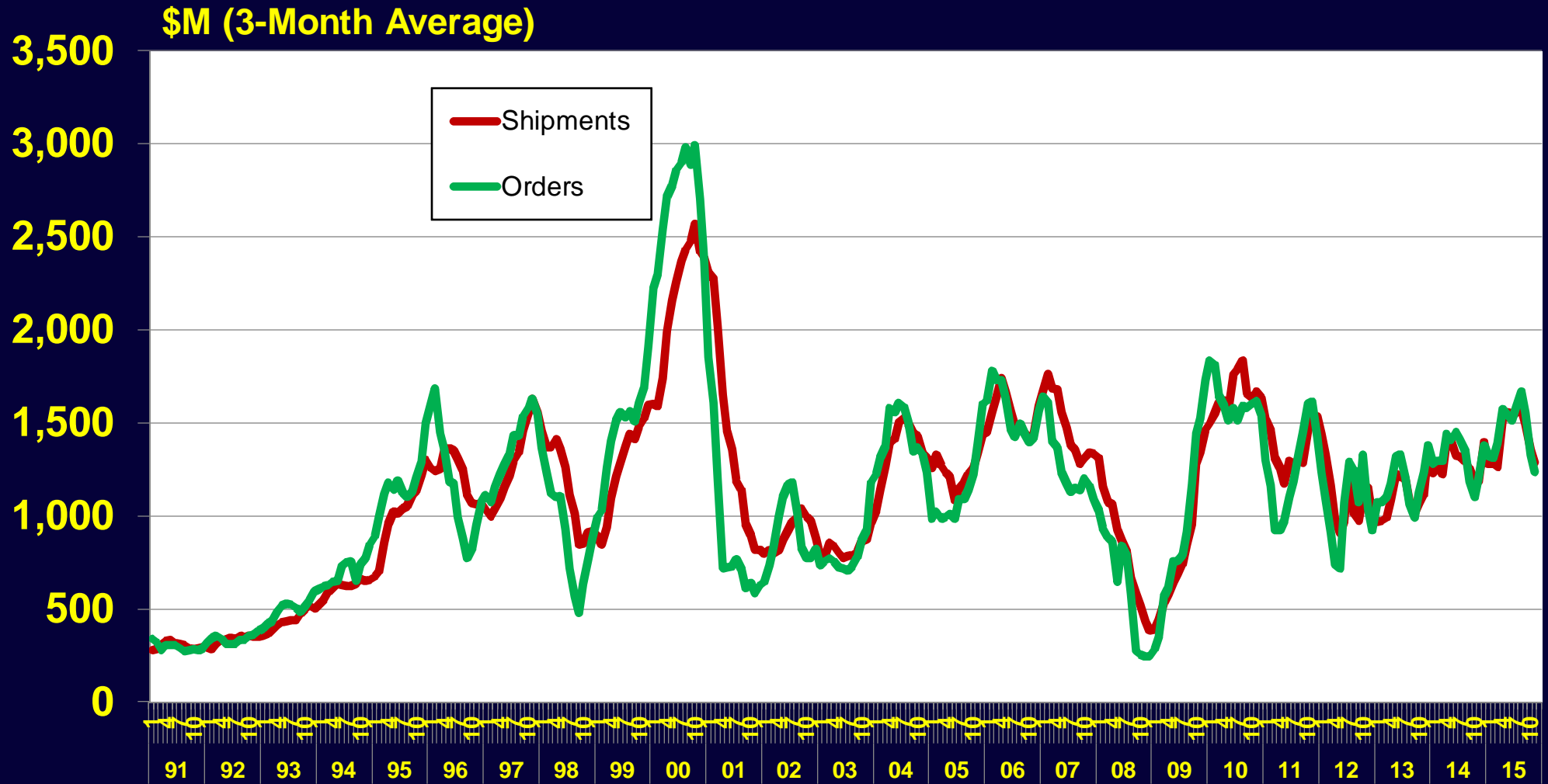
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015F	2016F
Total	19.8	22.2	37.1	32.9	40.5	42.8	29.5	15.9	39.9	43.5	36.9	31.8	37.5	37.3	37.8
ROW	2.7	2.1	4.5	2.9	3.7	3.1	2.6	1.4	3.8	3.4	2.1	2.1	2.2	2.0	2.5
China		1.2	2.7	1.3	2.3	2.9	1.9	0.9	3.7	3.7	2.5	3.4	4.4	4.9	5.3
S Korea	1.7	3.2	4.6	5.8	7.0	7.4	4.9	2.6	8.6	8.7	8.7	5.2	6.8	8.1	7.4
Europe	2.1	2.6	3.4	3.3	3.6	2.9	2.5	1.0	2.3	4.2	2.6	1.9	2.4	2.1	3.4
Taiwan	3.5	2.9	7.8	5.7	7.3	10.7	5.0	4.4	11.3	8.5	9.5	10.6	9.4	9.1	8.8
Japan	3.9	5.6	8.3	8.2	9.2	9.3	7.0	2.2	4.4	5.8	3.4	3.4	4.2	5.6	4.6
N America	5.9	4.7	5.8	5.7	7.3	6.6	5.6	3.4	5.8	9.3	8.2	5.3	8.2	5.6	5.9

N American Semiconductor Equipment Industry Book/Bill Ratio



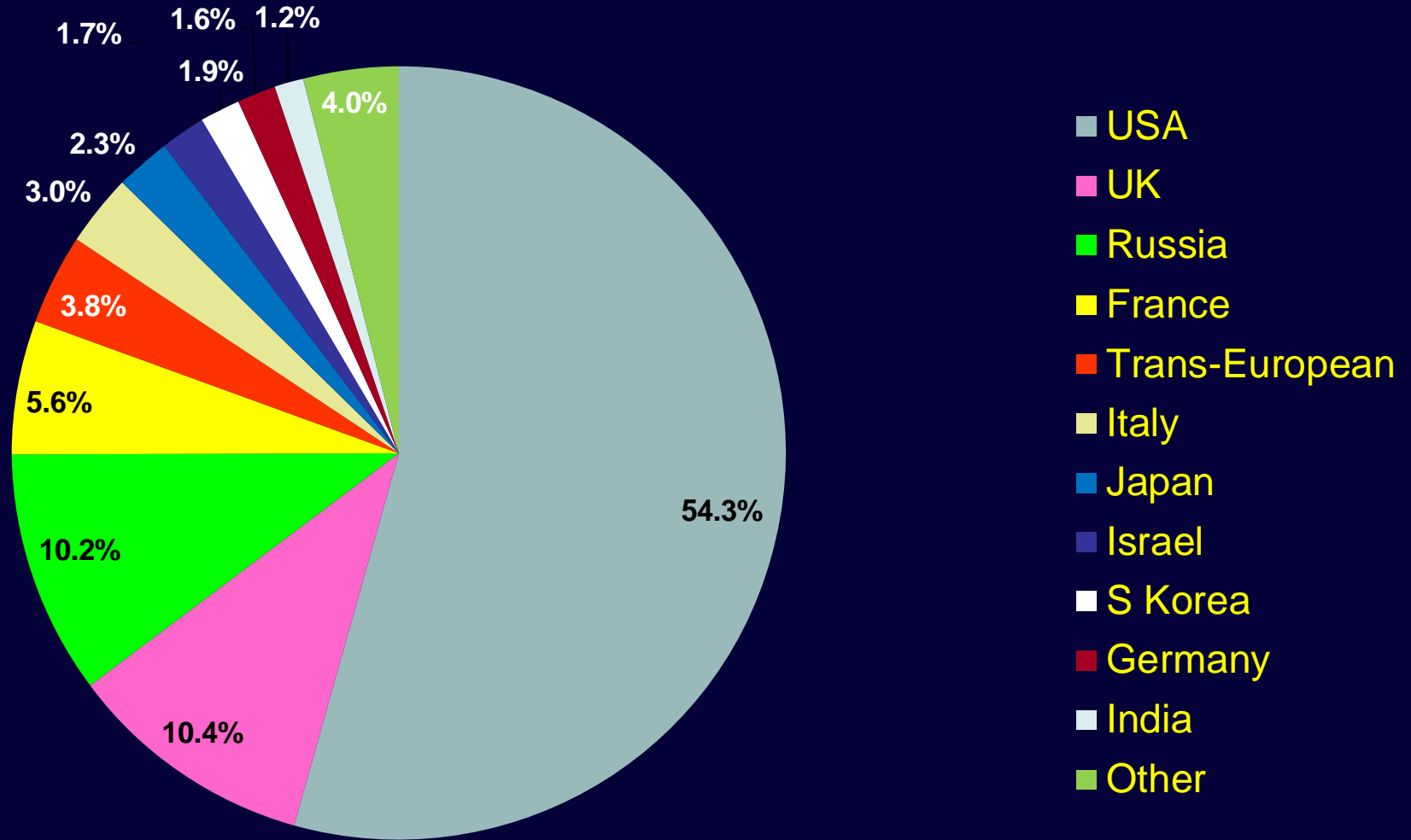
SOURCE Semiconductor Equipment and Materials International
<http://www.semi.org>

N American Semiconductor Equipment Industry Shipments & Orders



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

Top Arms Producers by Country 2014



**TOTAL: US\$ 401 Billion
(excludes China)**

Top Arms Producing Companies 2014

Company	Country	Arms Sales \$M	Total Sales \$M
Lockheed Martin	USA	37,470	45,600
Boeing	USA	28,300	90,762
BAE Systems	UK	25,730	27,395
Raytheon	USA	21,370	22,826
Northrop Grumman	USA	19,660	23,979
General Dynamics	USA	18,600	30,852
Airbus Group	Trans European	14,490	80,521
United Technologies	USA	13,020	65,100
Finmeccanica	Italy	10,540	19,455
L-3 Communications	USA	9,810	12,124
Almaz-Antey	Russia	8,840	9,208
Thales	France	8,600	17,207
BAE Systems	USA/UK	8,360	9,325

Top Arms Producing Companies 2014

Rank ^b		Company ^c	Country	Arms sales (US\$ m.)		Total sales, 2014 (US\$ m.)	Arms sales as a % of total sales, 2014	Total profit, 2014 (US\$ m.)	Total employment, 2014
2014	2013			2014	2013				
1	1	Lockheed Martin	USA	37 470	35 490	45 600	82	3 614	112 000
2	2	Boeing	USA	28 300	30 700	90 762	31	5 446	165 500
3	3	BAE Systems	UK	25 730	26 830	27 395	94	1 238	83 400
4	4	Raytheon	USA	21 370	21 950	22 826	94	2 258	61 000
5	5	Northrop Grumman	USA	19 660	20 200	23 979	82	2 069	11 000
6	6	General Dynamics	USA	18 600	18 660	30 852	60	2 819	99 500
7	7	Airbus Group ^d	Trans-European ^f	14 490	15 740	80 521	18	3 117	138 620
8	8	United Technologies Corp.	USA	13 020	11 900	65 100	20	6 220	211 000
9	9	Finmeccanica	Italy	10 540	10 560	19 455	54	27	54 380
10	11	L-3 Communications	USA	9 810	10 340	12 124	81	..	45 000
11	12	Almaz-Antey	Russia	8 840	8 040	9 208	96	..	98 100
12	10	Thales	France	8 600	10 370	17 207	50	745	61 710
S	S	BAE Systems Inc. (BAE Systems UK)	USA	8 360	10 300	9 325	90	..	34 500
13	13	Huntington Ingalls Industries	USA	6 680	6 550	6 957	96	338	38 000
14	15	United Aircraft Corp. ^e	Russia	6 110	5 530	7 674	80	219	..
15	17	United Shipbuilding Corp. ^e	Russia	5 980	5 110	7 329	82	305	287 000
16	14	Rolls-Royce	UK	5 430	5 550	24 021	23	2 025	54 100
17	16	SAFRAN	France	5 130	5 420	20 365	25	..	68 950
18	18	Honeywell International	USA	4 750	4 870	40 306	12	4 329	127 000
19	20	Textron	USA	4 700	4 380	13 878	34	..	34 000
S	S	Pratt & Whitney (United Technologies Corp.)	USA	3 920	4 800	14 508	27	..	..
20	19	DCNS	France	3 920	4 460	4 066	96	-446	13 130
21	28	Mitsubishi Heavy Industries	Japan	3 920	3 240	37 662	10	1 042	81 850
22	21	Booz Allen Hamilton	USA	3 900	4 100	5 275	74	233	22 500
23	26	Russian Helicopters	Russia	3 890	3 500	4 300	90	539	42 000
S	S	Sikorsky Aircraft Corp. (United Technologies Corp.)	USA	3 880	3 630	7 451	52	219	..
24	-	United Instrument Manufacturing Corp. ^f	Russia	3 640	..	4 019	91	..	40 000
25	27	Babcock International Group	UK	3 560	3 270	7 415	48	438	10 840
S	S	AgustaWestland (Finmeccanica)	Italy	3 510	3 180	5 806	60	368	12 850
26	23	Leidos ^g	USA	3 390	3 930	5 063	67	..	19 000
27	24	General Electric	USA	3 210	3 850	148 589	2	15 233	305 000
S	S	MBDA (BAE Systems UK/EADS W. Eur./Finmeccanica Italy)	Trans-European ^f	3 180	3 720	3 183	100	..	10 900
28	22	Science Applications International Corp. ^h	USA	3 170	3 930	4 121	77	113	13 000
29	23	Harris	USA	3 110	2 850	5 083	61	334	22 200
30	110	AECOM Technology Corp. ^h	USA	3 080	680	19 500	16	..	..

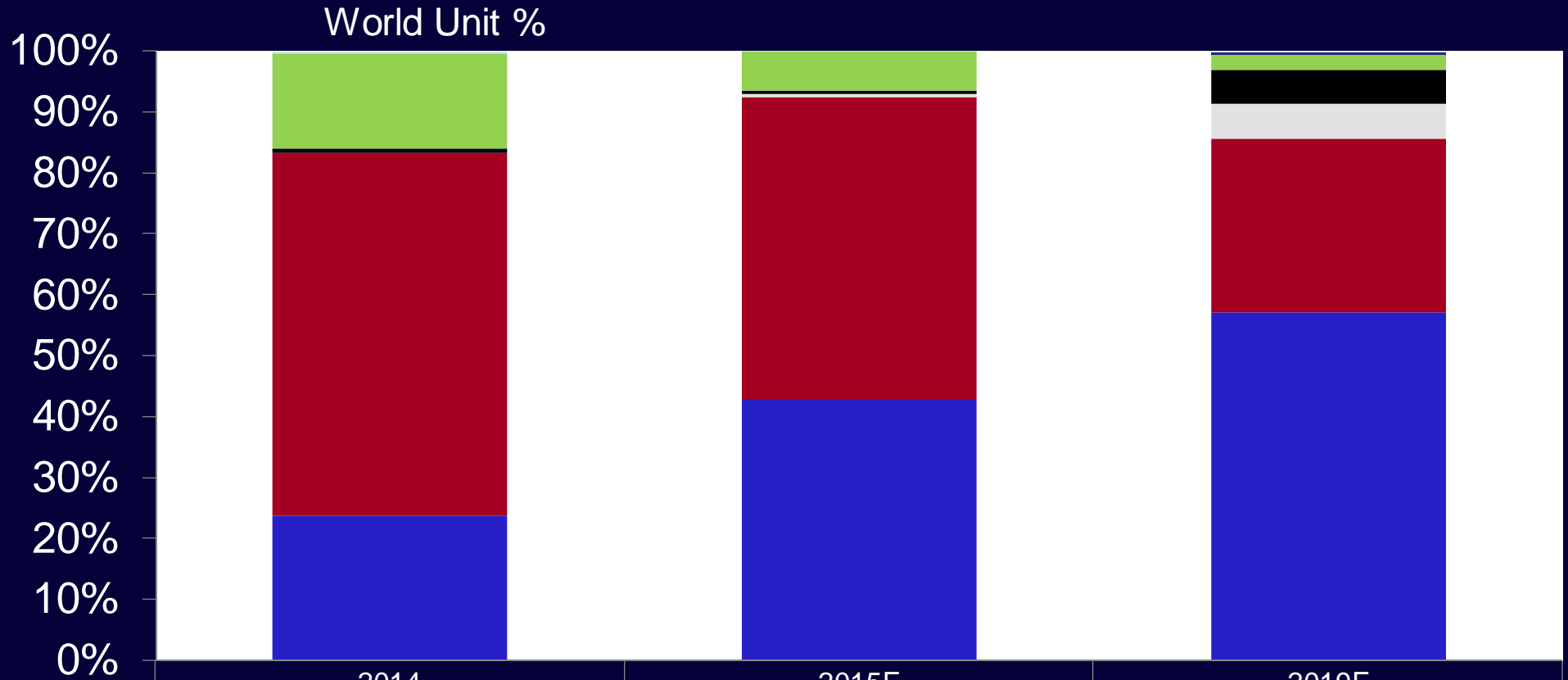
Top Arms Producing Companies 2014

Rank ^b		Company ^c	Country	Arms sales (US\$ m.)		Total sales, 2014 (US\$ m.)	Arms sales as a % of total sales, 2014	Total profit, 2014 (US\$ m.)	Total employment, 2014
2014	2013			2014	2013				
31	32	Rheinmetall	Germany	2 970	2 860	6 220	48	..	20 170
32	38	Israel Aerospace Industries	Israel	2 880	2 660	3 947	73	..	..
33	35	Elbit Systems	Israel	2 810	2 780	2 958	95	..	11 850
34	46	Tactical Missiles Corp.	Russia	2 810	2 230	2 960	95	..	..
35	34	Bechtel ⁱ	USA	2 760	2 800	3 720	74	..	..
36	30	CACI International	USA	2 730	3 030	3 313	82	126	16 600
37	31	Saab	Sweden	2 710	2 950	3 429	79	170	14 720
38	36	United Engine Corp.	Russia	2 600	2 720	4 261	61	2 081	..
39	-	High Precision Systems ^f	Russia	2 350	..	2 351	100	289	45 000
40	57	Alliant Techsystems ^j	USA	2 340	1 820	4 229	55	202	12 300
41	42	Hindustan Aeronautics	India	2 330	2 390	2 536	92	256	..
42	59	ThyssenKrupp	Germany	2 310	1 770	54 802	4	..	160 740
43	37	Hewlett-Packard ^k	USA	2 300	2 700	111 454	2	5 013	302 000
44	45	CEA	France	2 290	2 270	5 780	40	61	15 770
S	S	Sukhoi (United Aircraft Corp.)	Russia	2 240	2 320	2 243	100	41	..
45	54	KRET	Russia	2 240	1 850	2 731	82	221	54 000
46	41	Rockwell Collins	USA	2 230	2 400	4 979	45	604	20 000
47	40	Computer Sciences Corp.	USA	2 230	2 400	12 173	18	36	70 000
48	25	Exelis	USA	2 230	3 560	3 277	68	249	10 000
49	39	Serco	UK	2 180	2 560	6 512	33	-2 218	118 620
S	S	Selex ES SpA (Finmeccanica)	Italy	2 120	1 930	2 708	78	-157	19 160
50	49	Kawasaki Heavy Industries	Japan	2 080	2 030	14 021	15	487	35 400
51	50	ST Engineering	Singapore	2 010	2 010	5 161	39	420	22 670
52	52	Rafael	Israel	2 000	1 960	2 047	98	..	..
S	43	URS Corp. (AECOM)	USA	1 960	2 310	8 357	24	403	43 300
S	S	Alenia Aermacchi (Finmeccanica)	Italy	1 960	1 790	4 170	47	312	10 930
53	56	Cobham	UK	1 860	1 820	3 050	61	338	12 710
54	29	Oshkosh Corp.	USA	1 730	3 050	6 808	25	..	12 000
55	47	ManTech International	USA	1 690	2 210	1 774	95	47	..
56	61	Korea Aerospace Industries	South Korea	1 660	1 400	2 198	76	105	3 230
57	44	General Atomics ^l	USA	1 630	2 280	..	..	..	..
58	55	Indian Ordnance Factories	India	1 560	1 820	1 638	95	..	..
59	51	Fluor ⁱ	USA	1 500	1 970	21 532	7	511	37 510
60	63	Embraer	Brazil	1 470	1 210	6 388	23	340	19 170
61	80	Uralvagonzavod ^e	Russia	1 450	940	3 317	44	-138	..
62	60	Fincantieri	Italy	1 410	1 500	5 837	24	73	21 690
63	67	LIG Nex1	South Korea	1 330	1 100	1 330	100	491	..
64	75	Nexter	France	1 320	990	1 390	95	156	3 320
65	53	Dassault Aviation Groupe	France	1 320	1 860	4 881	27	528	11 750
S	85	Sozvezdie (UIMC) ^f	Russia	1 270	910	1 428	89	..	..
66	48	DynCorp International	USA	1 270	2 120	2 252	56	-268	13 700
67	-	Polish Armaments Group ^l	Poland	1 270	650	1 270	100	..	17 500
S	S	Irkut (UAC)	Russia	1 240	1 370	1 706	73	1 880	..
68	72	Austal	Australia	1 240	1 030	1 270	97	48	..
69	65	GenCorp	USA	1 180	1 120	1 597	74	-53	5 070
70	62	IHI	Japan	1 180	1 340	13 735	9	86	..

Top Arms Producing Companies 2014

Rank ^b		Company ^c	Country	Arms sales (US\$ m.)		Total sales, 2014 (US\$ m.)	Arms sales as a % of total sales, 2014	Total profit, 2014 (US\$ m.)	Total employment, 2014
2014	2013			2014	2013				
S	S	UMPO (United Engine Corp.)	Russia	1 170	1 100	1 272	92	9	..
71	83	Jacobs Engineering Group ^e	USA	1 140	920	12 695	9	328	66 300
72	64	QinetiQ	UK	1 140	1 190	1 258	91	193	6 250
S	S	Austal USA (Austal Australia)	USA	1 120	900	1 120	100	..	..
73	66	ASELSAN	Turkey	1 110	1 110	1 141	97	160	5 340
74	84	Hyundai WIA Corp.	South Korea	1 040	910	7 213	14	417	3 360
S	S	Sevmash (USC)	Russia	1 040	1 030	1 339	78	86	..
75	69	Mitsubishi Electric Corp.	Japan	1 040	1 070	40 785	3	2 214	129 250
S	S	MiG (United Aircraft Corp.)	Russia	1 020	950	1 019	100	..	..
76	70	Triumph Group	USA	1 010	1 050	3 889	26	292	15 150
77	94	NEC	Japan	1 010	820	27 695	4	541	98 880
78	71	Precision Castparts	USA	1 000	1 050	10 005	10	1 533	30 110
79	78	GKN	UK	990	950	12 277	8	..	51 400
S	S	Zvezdochka (USC)	Russia	990	..	985	100	..	..
80	104	Pilatus Aircraft	Switzerland	960	770	1 281	75	218	1 880
81	87	Bharat Electronics	India	950	890	1 199	79	191	..
82	81	Hanwha Corp.	South Korea	950	930	35 568	3	-155	..
S	S	Thales UK (Thales France)	UK	950	1 080	1 895	50	..	6 420
83	73	Krauss-Maffei Wegmann	Germany	940	1 010	991	95	..	2 770
84	88	ASC	Australia	930	890	927	100	20	2 600
85	68	Kongsberg Gruppen	Norway	920	1 080	2 635	35	140	7 730
86	77	Samsung Techwin	South Korea	920	960	2 556	36	-112	..
S	S	Admiralty Shipyards (USC)	Russia	900	860	946	95	67	..
87	76	Meggitt	UK	890	960	2 559	35	291	10 820
88	89	Moog	USA	860	860	2 648	33	158	11 030
89	103	Turkish Aerospace Industries	Turkey	850	780	1 001	85	..	6 030
90	58	UkrOboronProm	Ukraine	840	1 780	881	95	13	122 000
91	101	RTI	Russia	840	780	1 844	45	..	..
92	91	RUAG	Switzerland	840	830	1 944	43	111	8 110
93	93	CNH Industrial ^m	Trans-European ^p	820	820	32 958	2	915	69 210
94	95	MIT ⁿ	USA	800	810	3 124	26	..	11 840
95	90	Cubic Corporation	USA	800	840	1 398	57	..	7 900
96	74	Patria Industries ^o	Finland	800	1 000	907	88	64	2 450
97	102	The Aerospace Corp. ^e	USA	790	780	882	90	..	3 500
98	99	Alion Science & Technology	USA	770	800	805	96	-44	2 820
99	-	Hyundai Rotem	South Korea	770	430	3 030	25	..	..
100	106	Mitre	USA	760	760	..	..	..	..

Wearable Devices by Form Factor

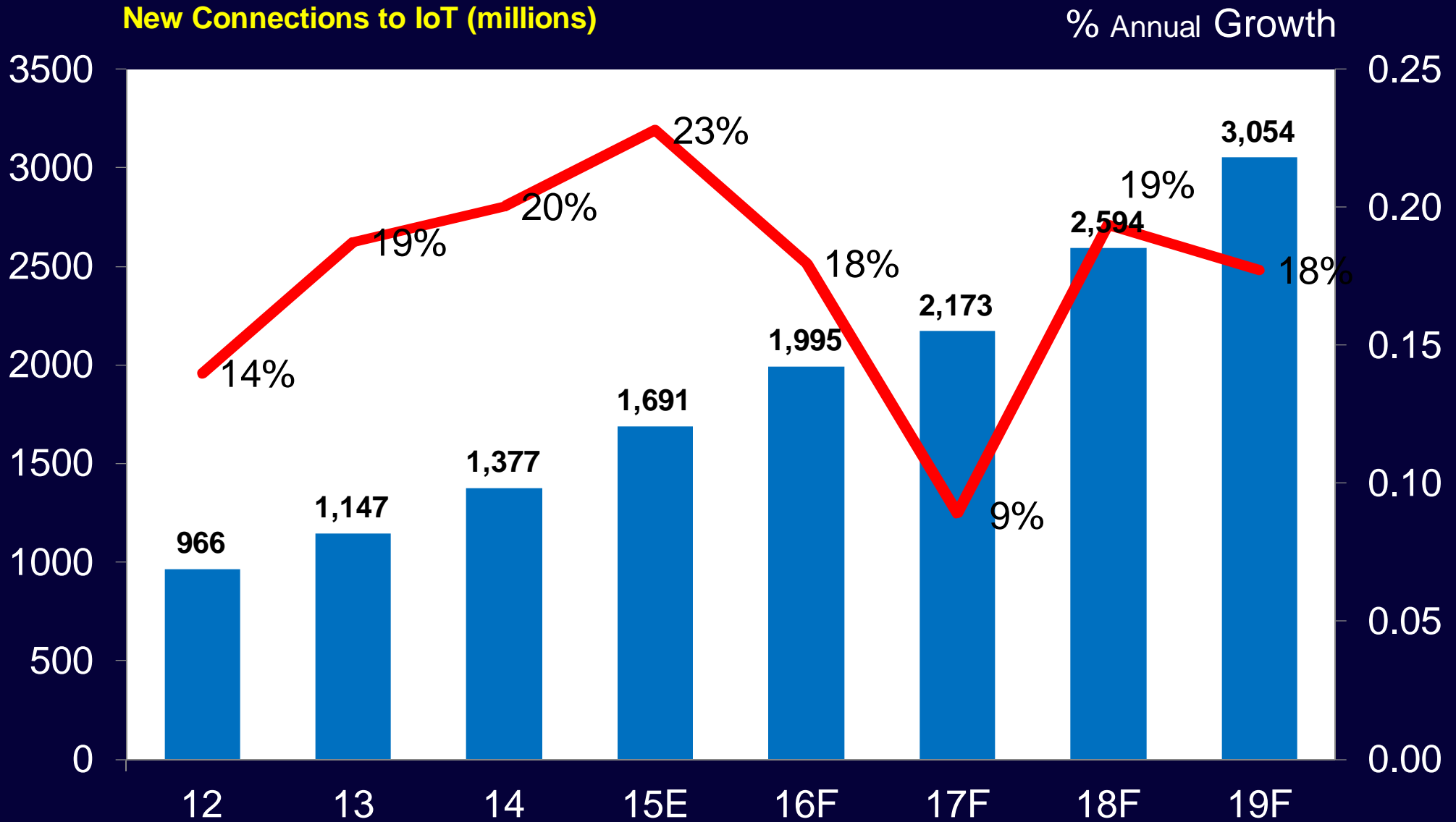


	2014	2015F	2019F
Others	0.4		0.2
Earwear			0.4
Modular	15.6	6.5	2.5
Eyewear	0.7	0.5	5.4
Clothing		0.5	5.8
Wristband	59.4	49.8	28.5
Watch	23.9	42.8	57.2

Wearable Devices by Operating System

Operating System	2015 Unit Shipments	2015 Market Share	2019 Unit Shipments	2019 Market Share	2015-2019 CAGR
Android	0.4	2.1%	1.1	1.2%	25.8%
Android Wear	3.2	15.2%	34.3	38.8%	80.5%
Linux	0.2	0.9%	1.1	1.2%	54.5%
Pebble OS	1.8	8.6%	2.3	2.6%	5.8%
RTOS	0.8	3.8%	1.9	2.2%	23.8%
Tizen	1.7	8.2%	2.5	2.8%	9.5%
watchOS	13.0	61.3%	45.2	51.1%	36.5%
Total	21.3	100.0%	88.3	100.0%	42.8%

New Connections to Internet of Things



Internet of Things Semiconductor Growth Rates

IoT Semiconductor Growth Rates

Product Category	2015E Sales (\$M)	2019F Sales (\$M)	2015-2019 CAGR
Total Semiconductors	15,411	31,083	19.2%
Total ICs	10,790	19,436	15.9%
Total O-S-D	4,621	11,647	26.0%

Source: IC Insights

U.S. Industrial Production

Index (2012=100)

IP

