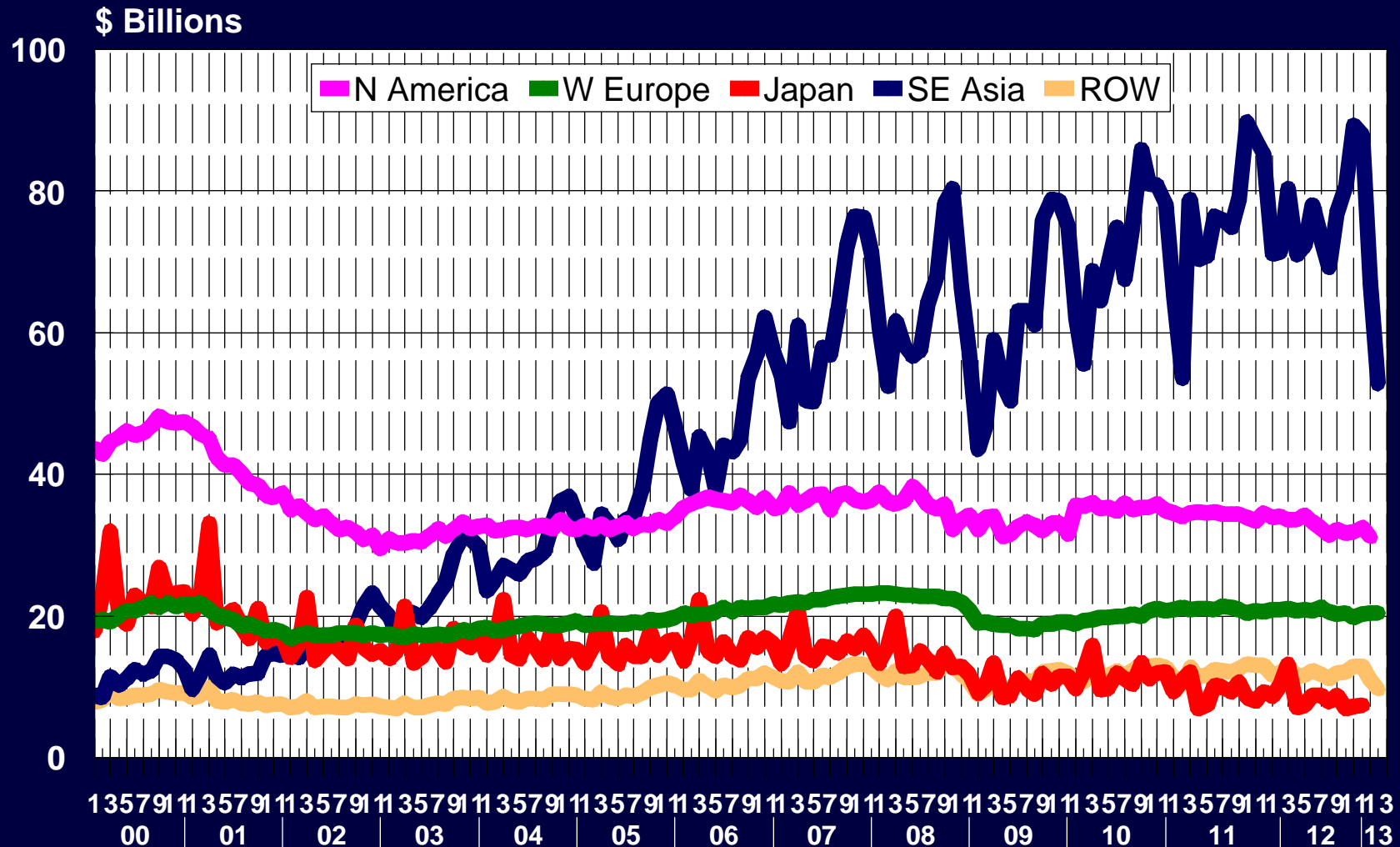


# World Electronic Equipment Monthly Shipments

Converted @ Constant 2010 Exchange Rates

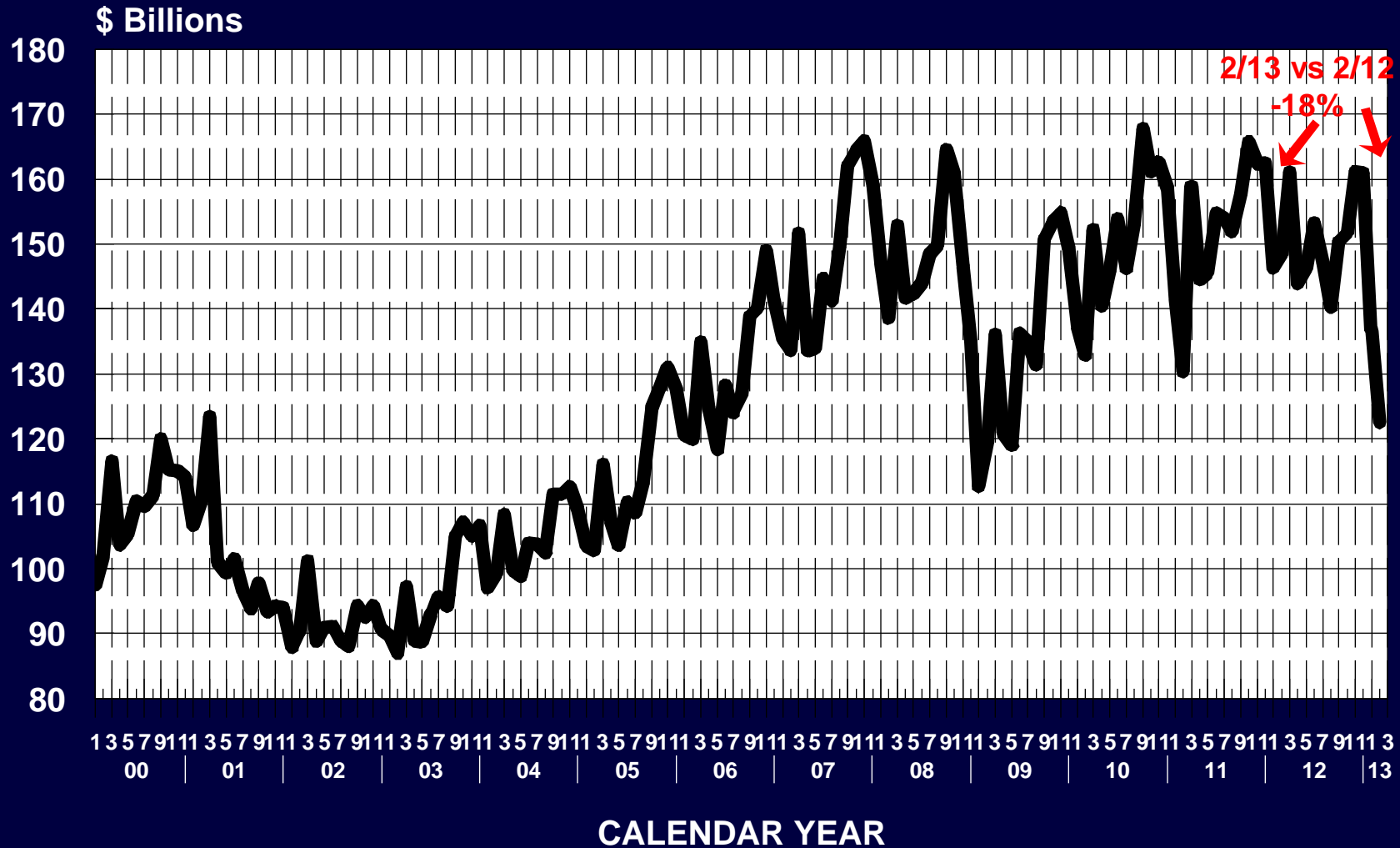


Source: Custer Consulting Group

CALENDAR YEAR

# World Electronic Equipment Monthly Shipments

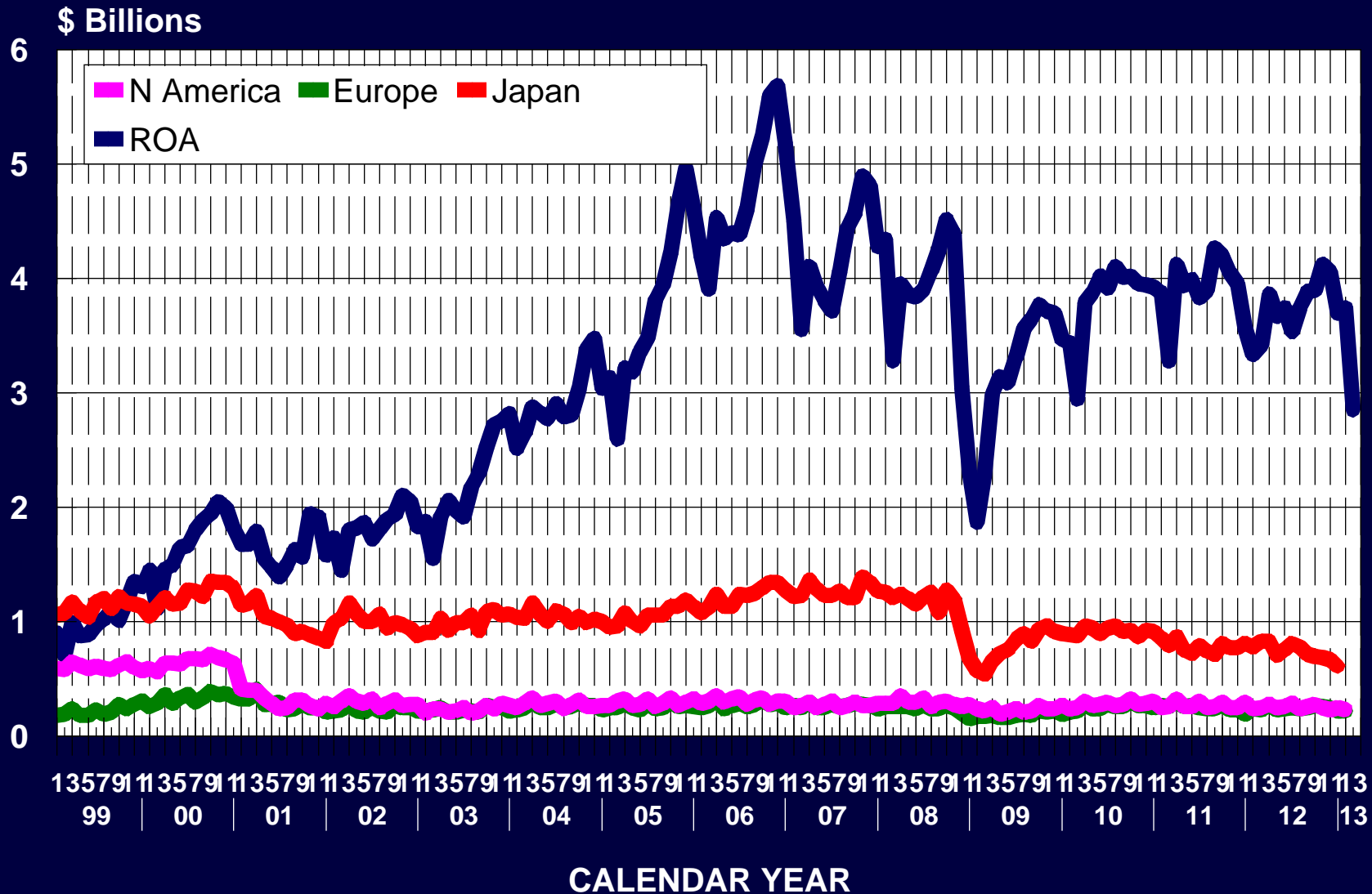
Converted @ Constant 2010 Exchange Rates



Source: Custer Consulting Group

# World PCB Monthly Shipments

Converted @ Constant 2011 Exchange Rates

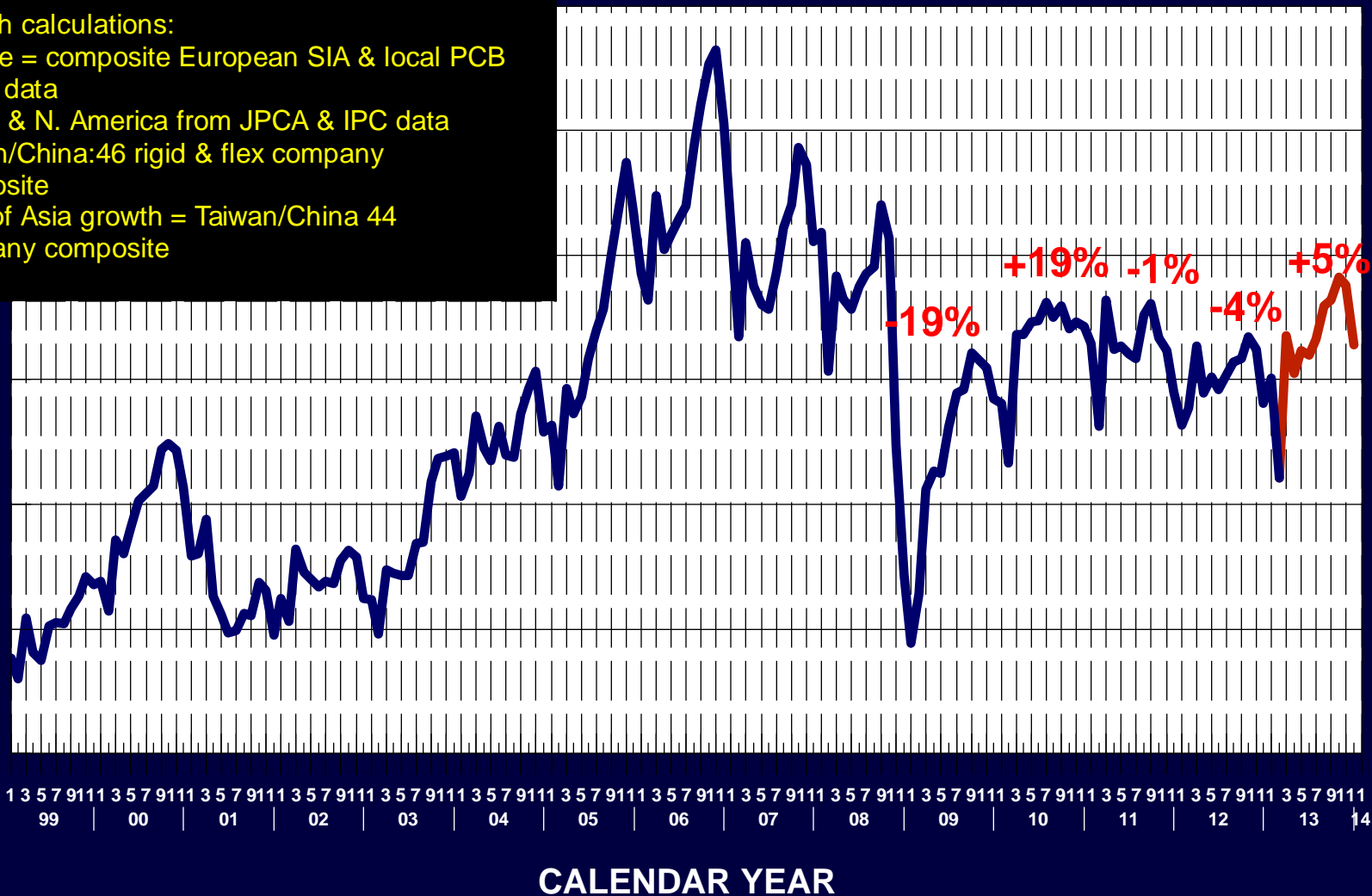


Source: Custer Consulting Group

# World PCB Shipments (with forecast) converted at constant 2011 exchange rates

\$ Billion

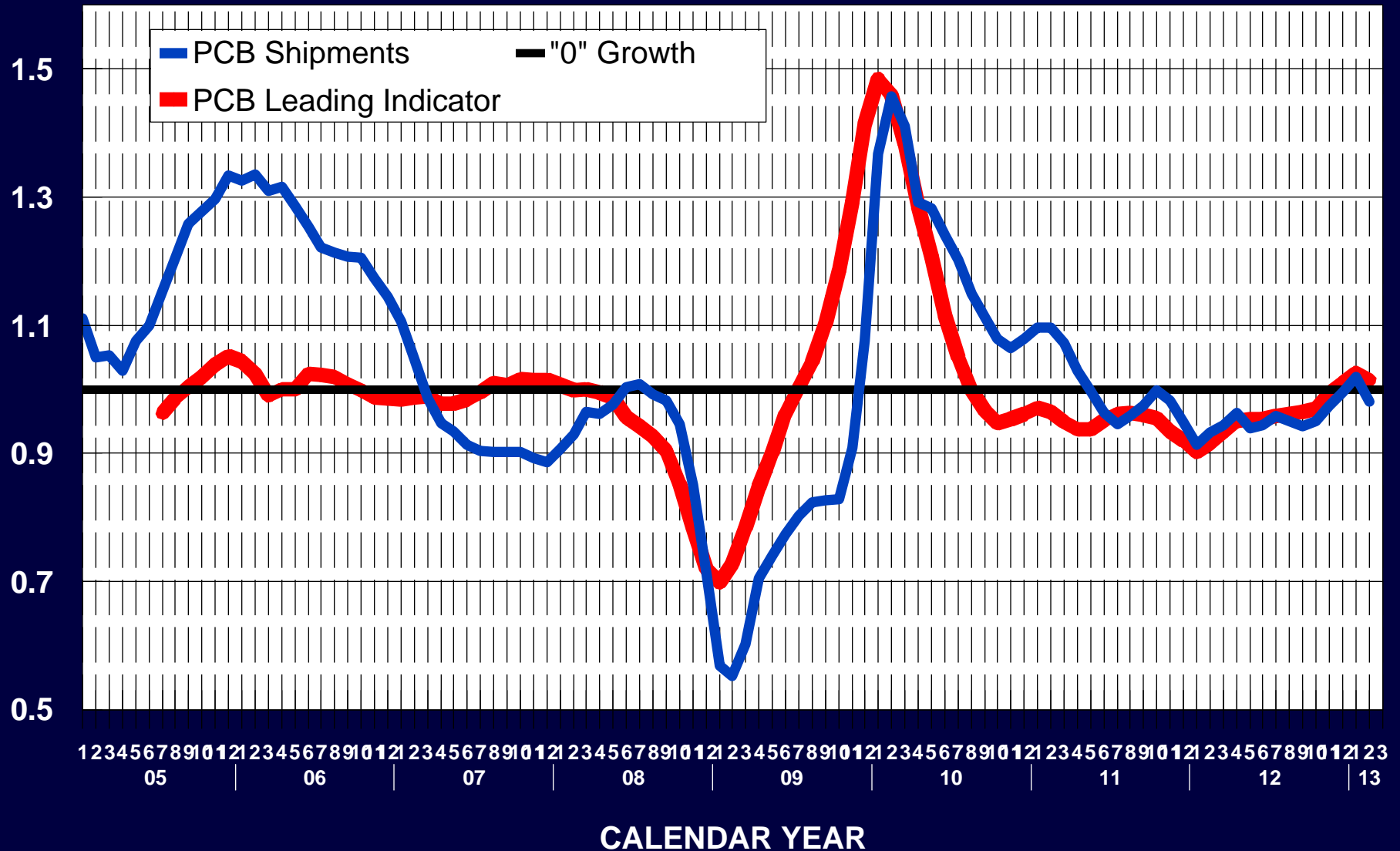
Growth calculations:  
 Europe = composite European SIA & local PCB  
 assoc data  
 Japan & N. America from JPCA & IPC data  
 Taiwan/China: 46 rigid & flex company  
 composite  
 Rest of Asia growth = Taiwan/China 44  
 company composite



Source: Custer Consulting Group - 2010 base year expanded by monthly growth of N. American, European, Japanese & Taiwan/China monthly PCB shipments

# CCG Global PCB Leading Indicator vs Global PCB Shipments

3/12 rate of change



Source: Custer Consulting Group

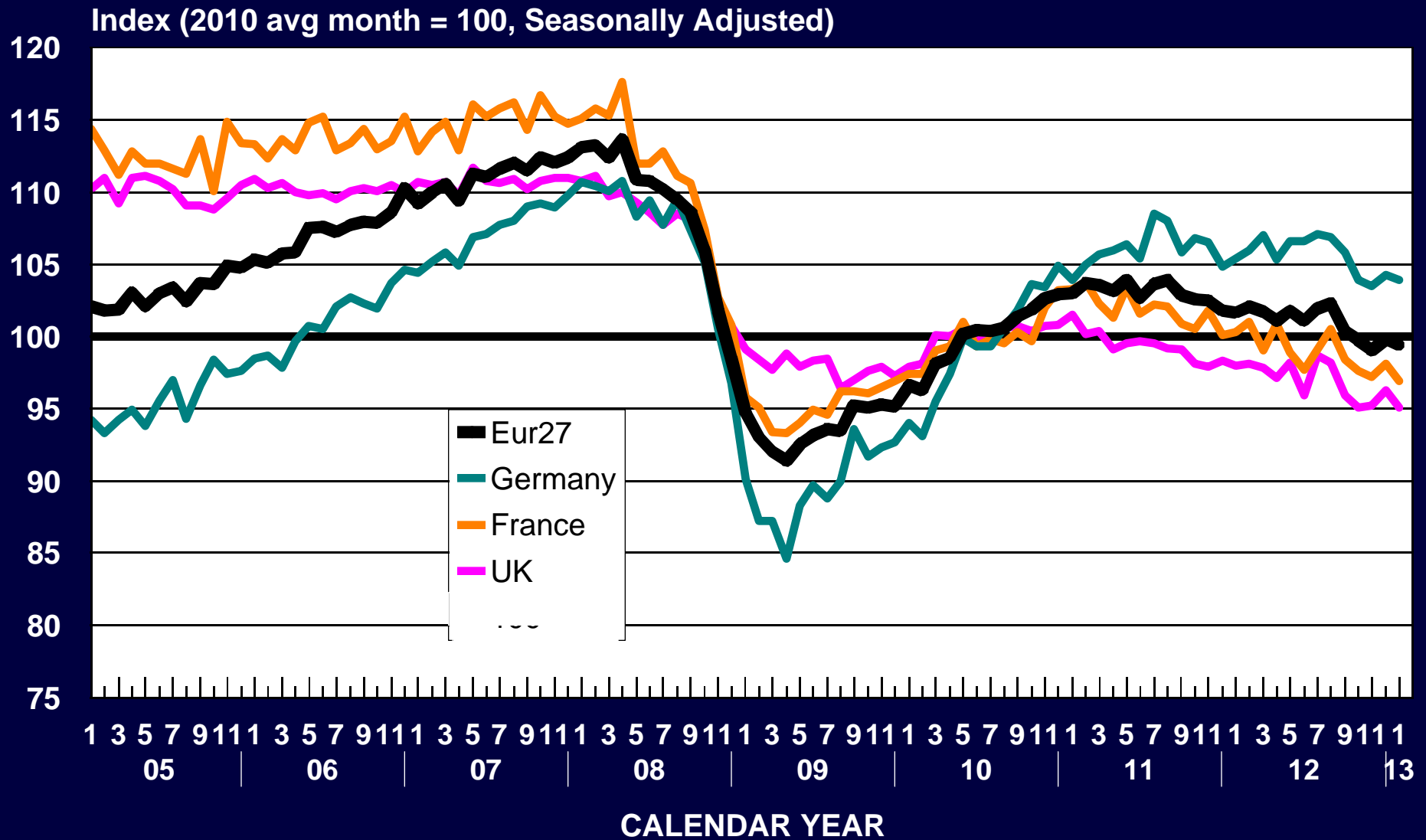
# **Eurostat Data (NACE Rev 2)**

## **Electronic Equipment Production by Country**

<b>C254</b>	<b>weapons &amp; ammunition</b>
<b>C26</b>	<b>computer, electronic &amp; optical products</b>
<b>C261</b>	<b>electronic components &amp; boards</b>
<b>C2611</b>	<b>electronic components</b>
<b>C2612</b>	<b>loaded electronic boards</b>
<b>C262</b>	<b>computers &amp; peripheral equipment</b>
<b>C263</b>	<b>communication equipment</b>
<b>C264</b>	<b>consumer electronics</b>
<b>C2651</b>	<b>instruments &amp; appliances for measuring, testing and navigation</b>
<b>C266</b>	<b>irradiation, electromedical &amp; electrotherapeutic equipment</b>
<b>C2733</b>	<b>wiring devices</b>
<b>C2751</b>	<b>electric domestic appliances</b>
<b>C2823</b>	<b>office machinery &amp; equipment (except computers &amp; peripherals)</b>
<b>C291</b>	<b>motor vehicles</b>
<b>C2931</b>	<b>electrical &amp; electronic equipment for motor vehicles</b>
<b>C303</b>	<b>air &amp; spacecraft and related machinery</b>
<b>C304</b>	<b>military fighting vehicles</b>

**Monthly indices where average month in CY2005=100**

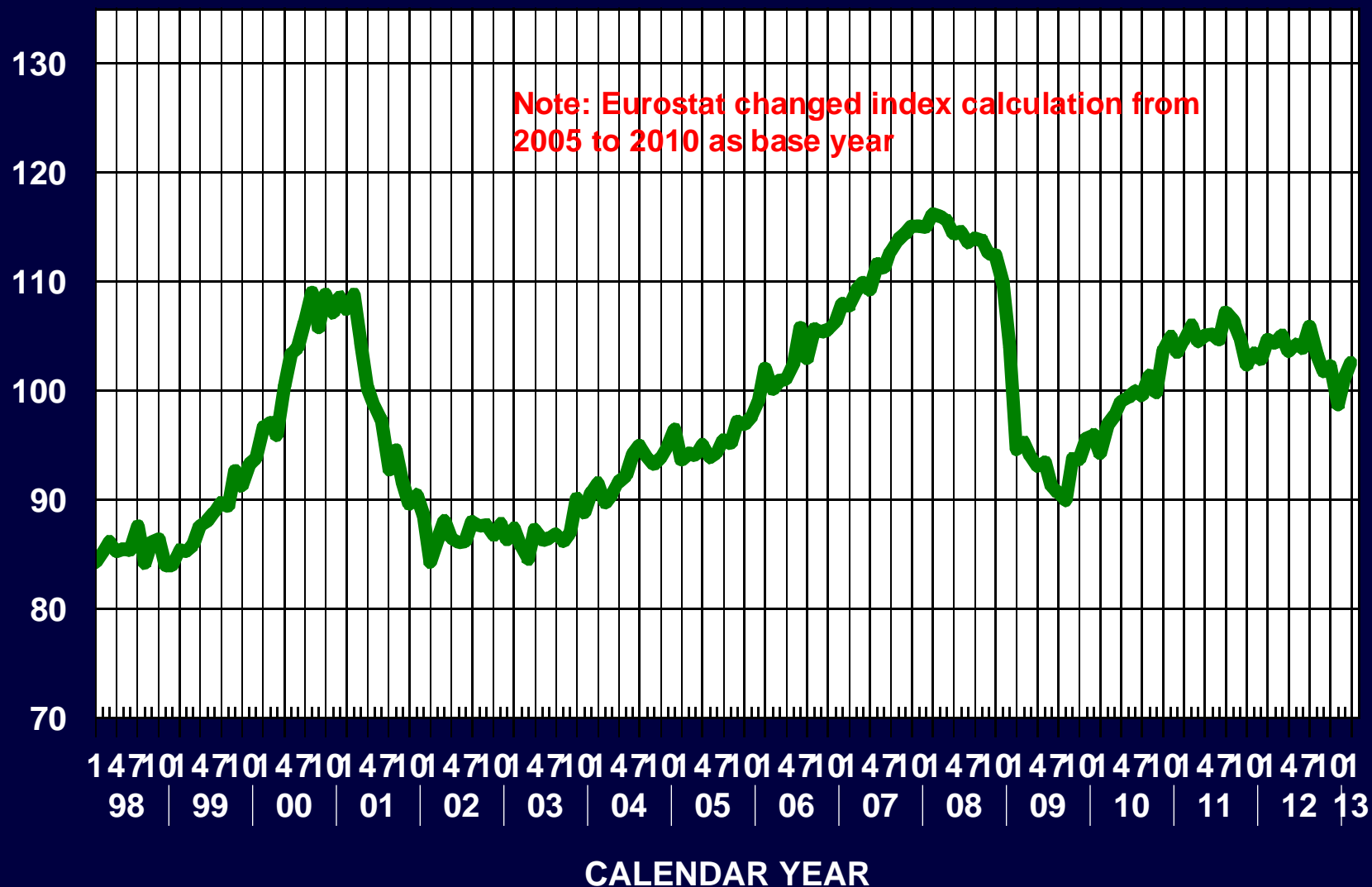
# Industrial Production Europe



Eurostat, NACE Code B-D

# European Computer, Electronic & Optical products Production

Index (2010=100), Seasonally Adjusted



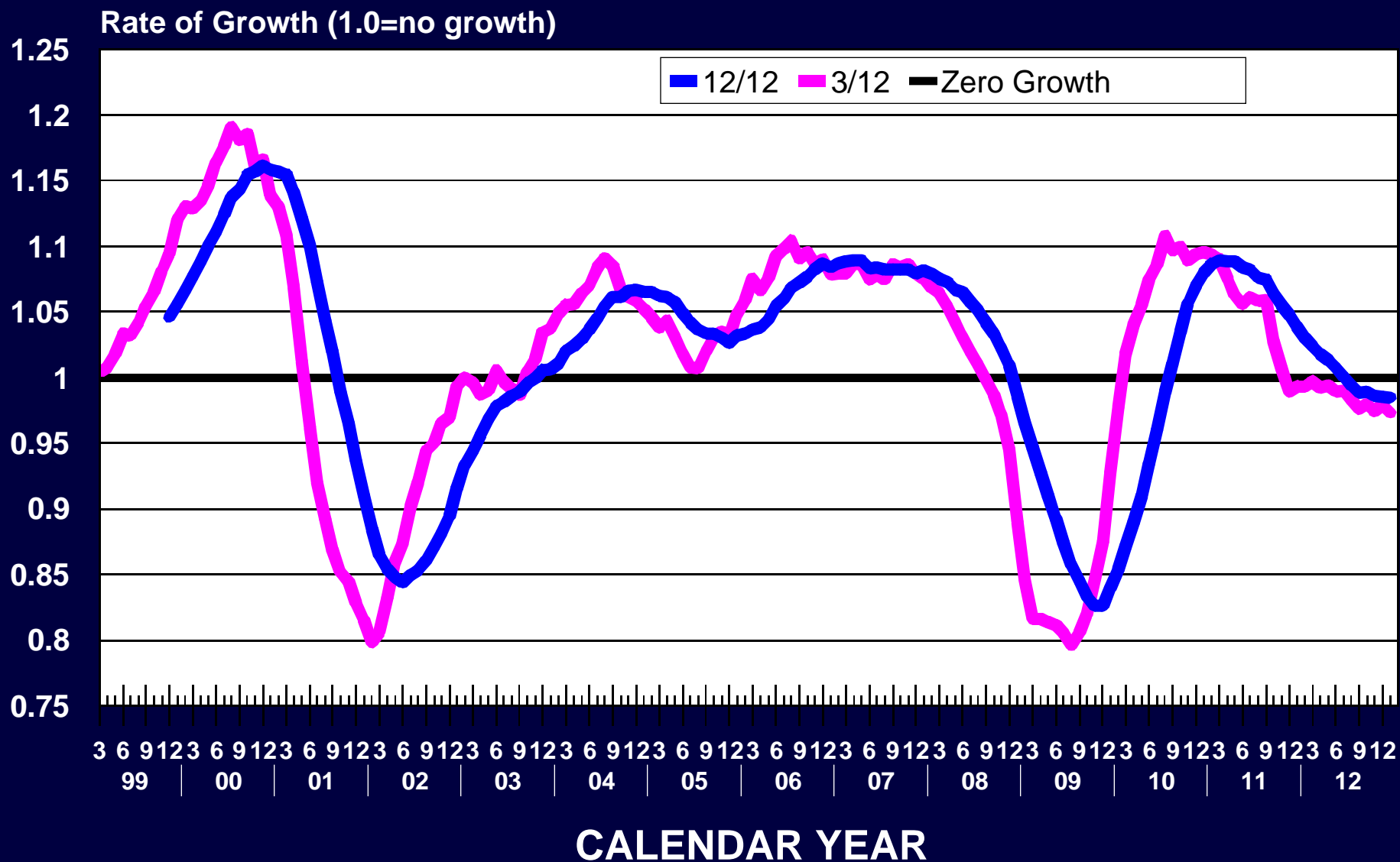
Eurostat, C26 category, EU 27 countries



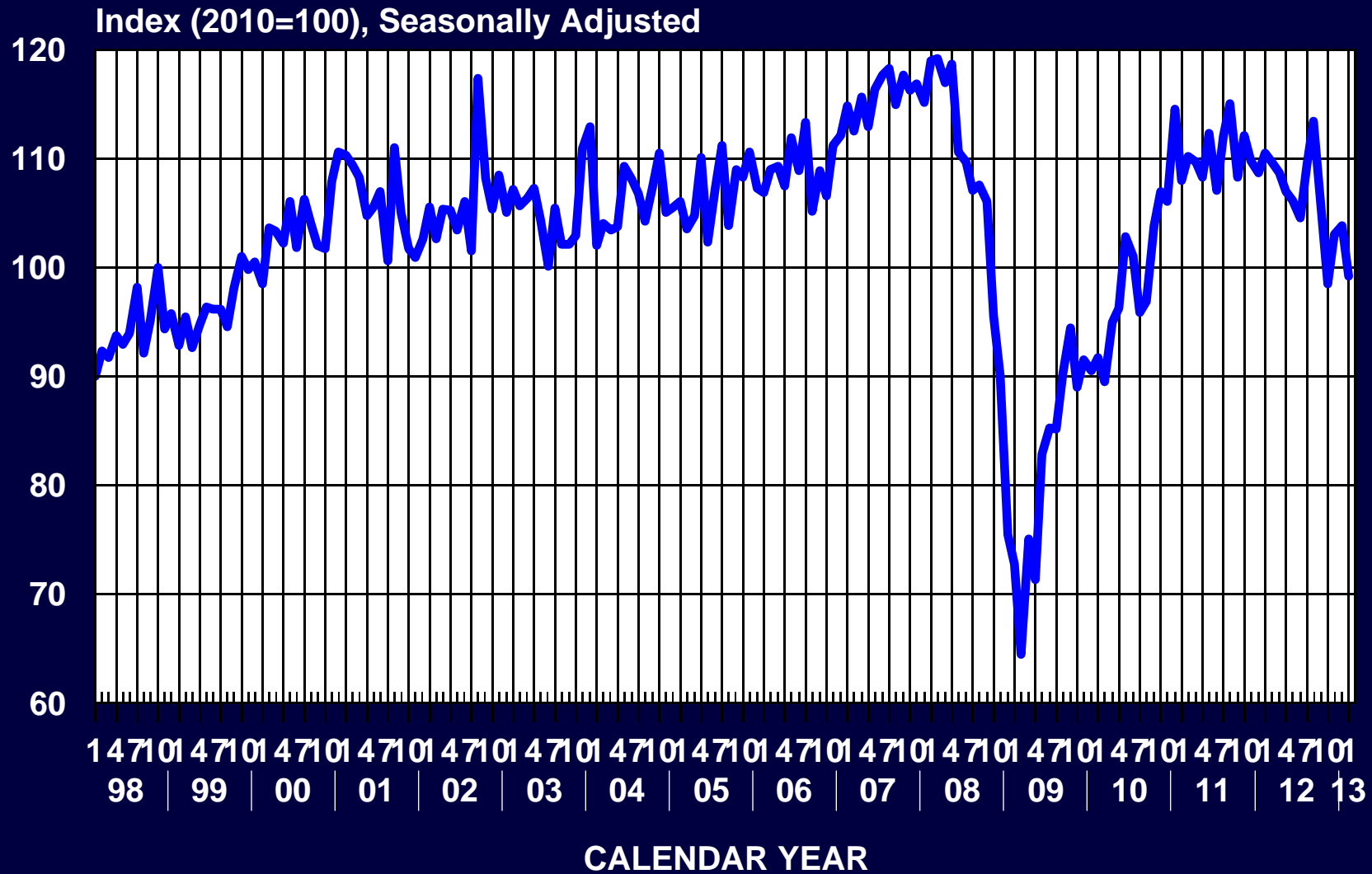
# Europe- EU27

## Manufacture of computer, electronic & optical products

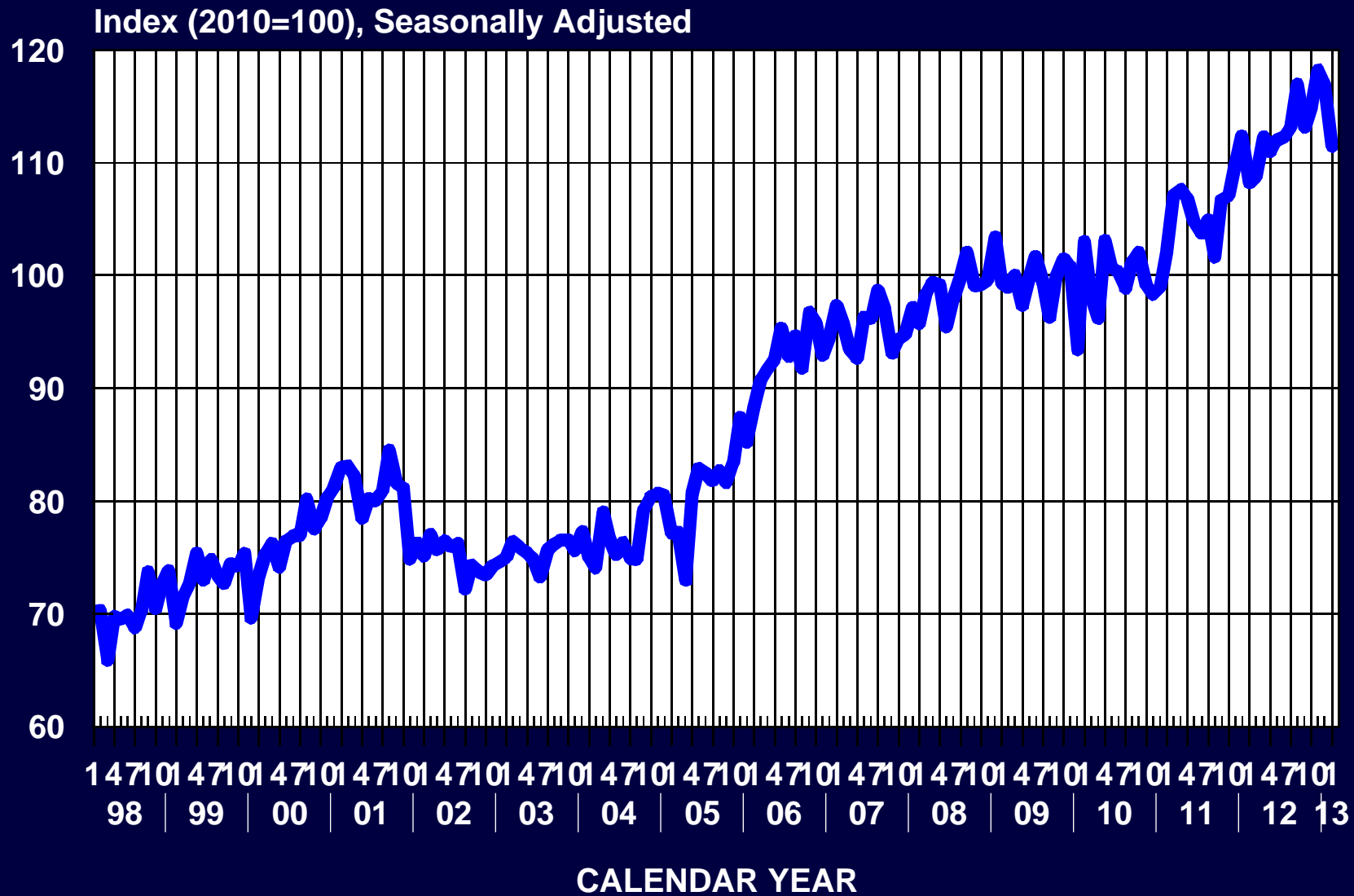
### 3/12 & 12/12 Rate of Change



# European Motor Vehicle Production Monthly Index (Year 2010 = 100)



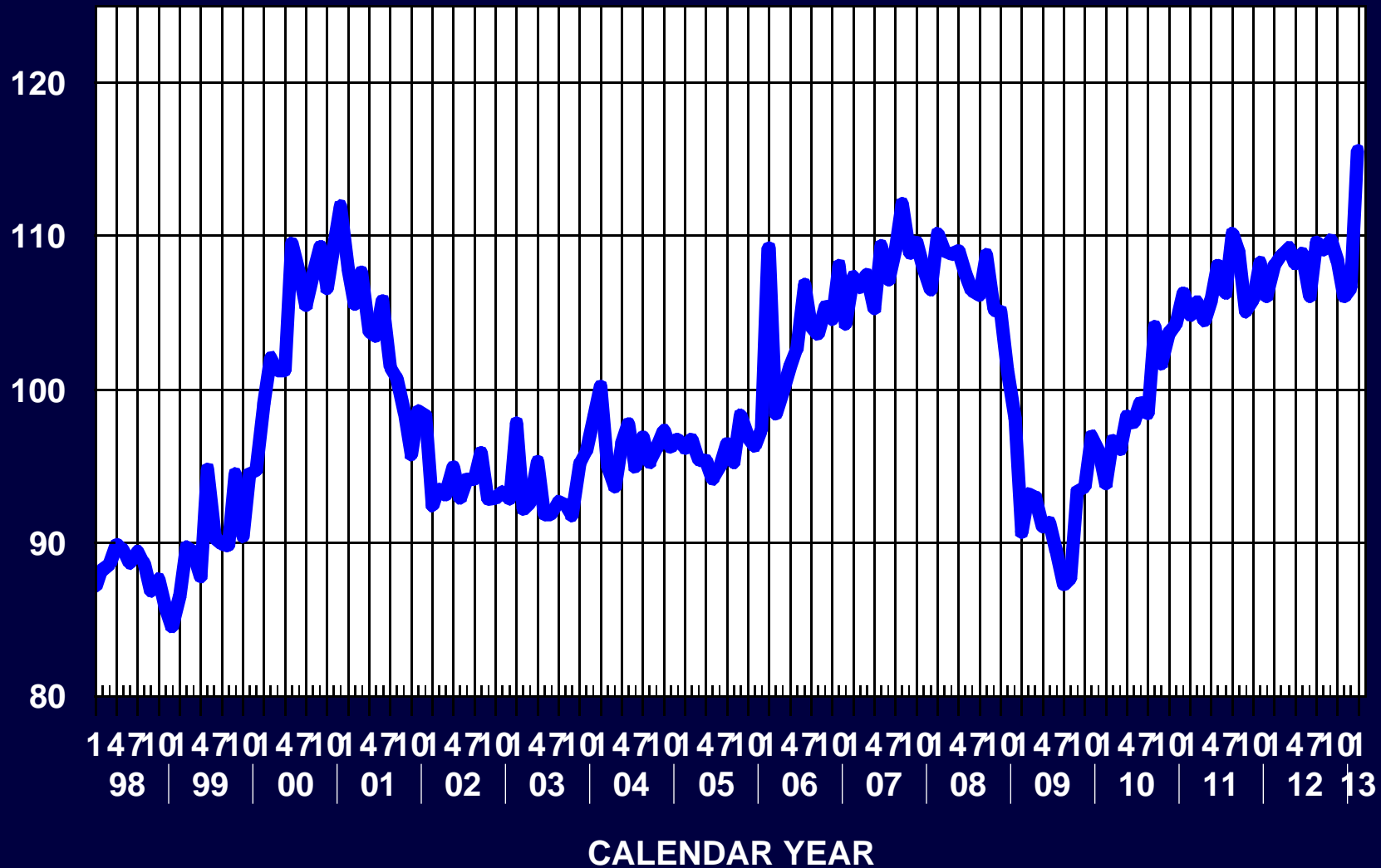
# European Production - Aircraft, Spacecraft & Related Equipment



Eurostat, C303

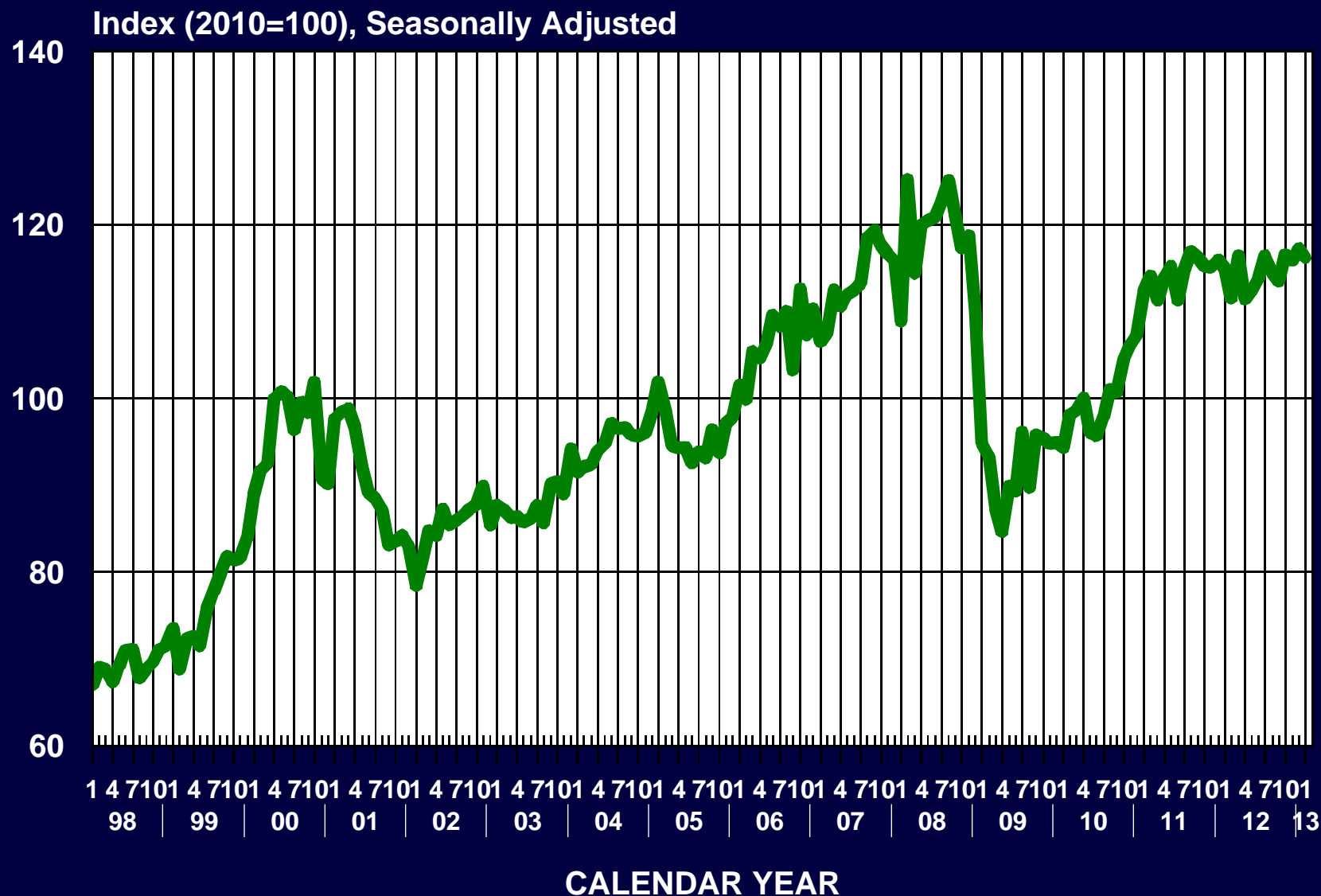
# European Production - Instruments & Appliances for Measuring, Testing & Navigation

Index (2010=100), Seasonally Adjusted

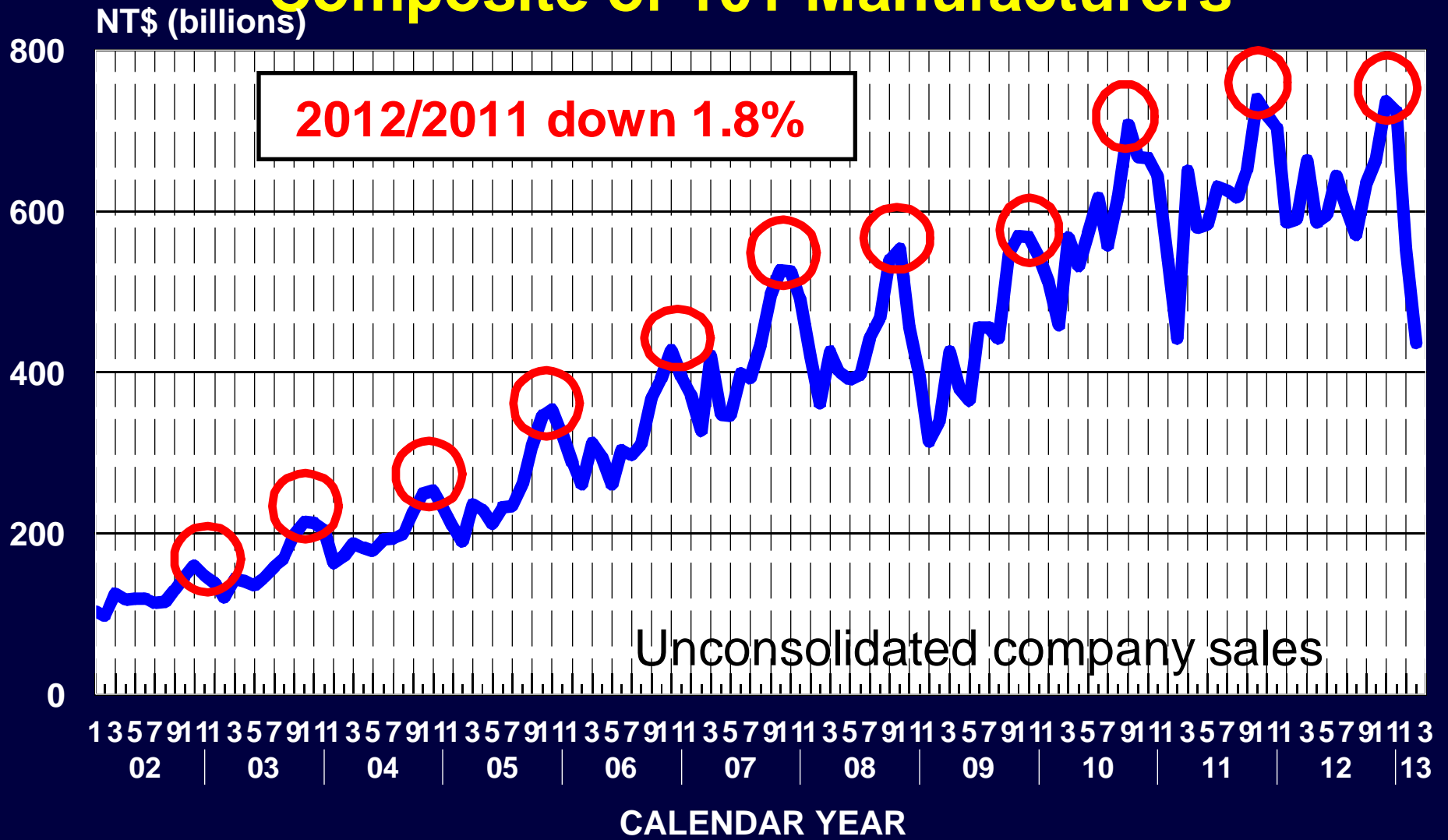


Eurostat, C2651

# European Loaded Electronic Board Production

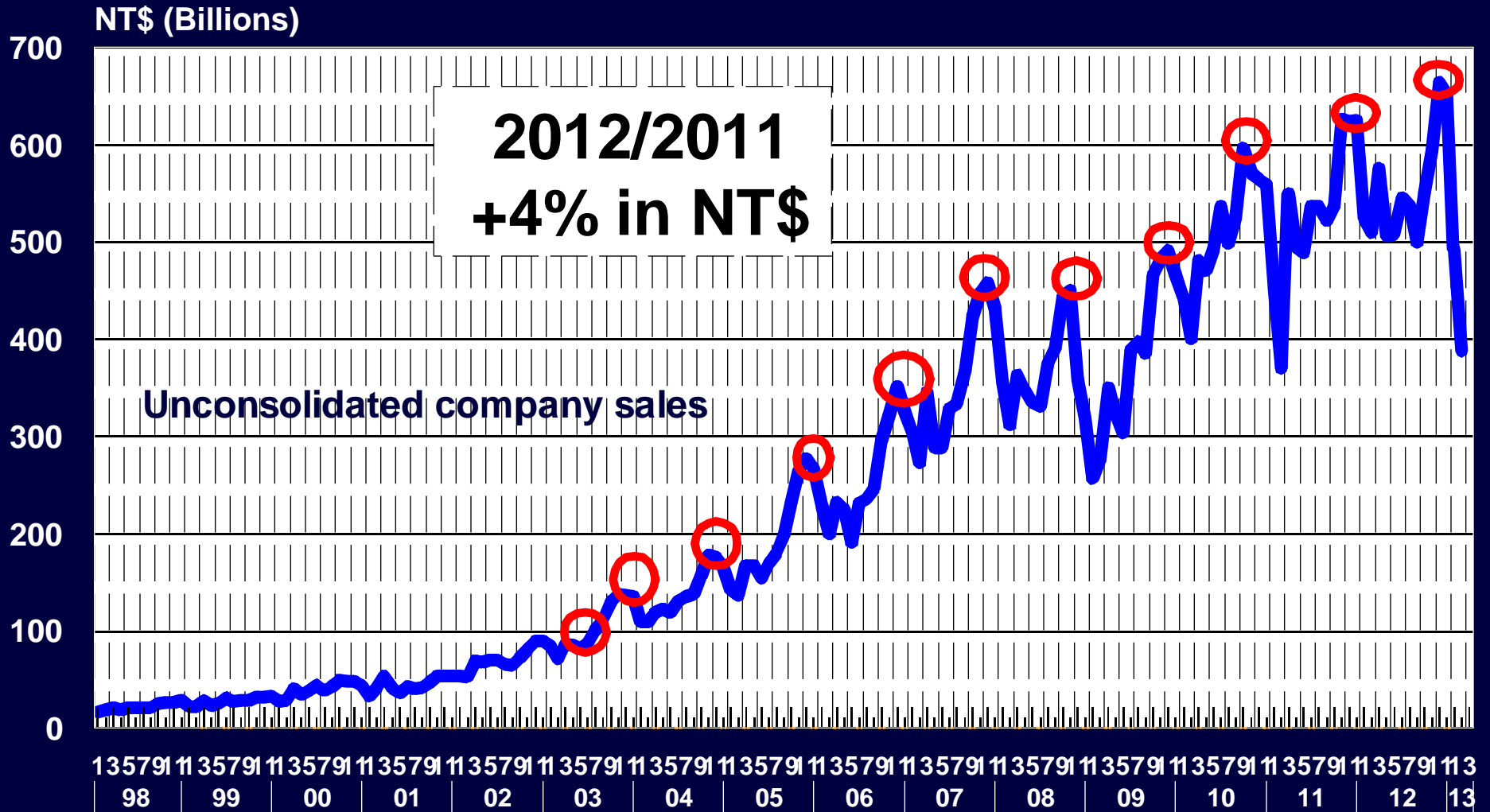


# Taiwan/China Electronic Equipment Producers Composite of 101 Manufacturers



Taiwan listed companies, often with significant manufacturing in China

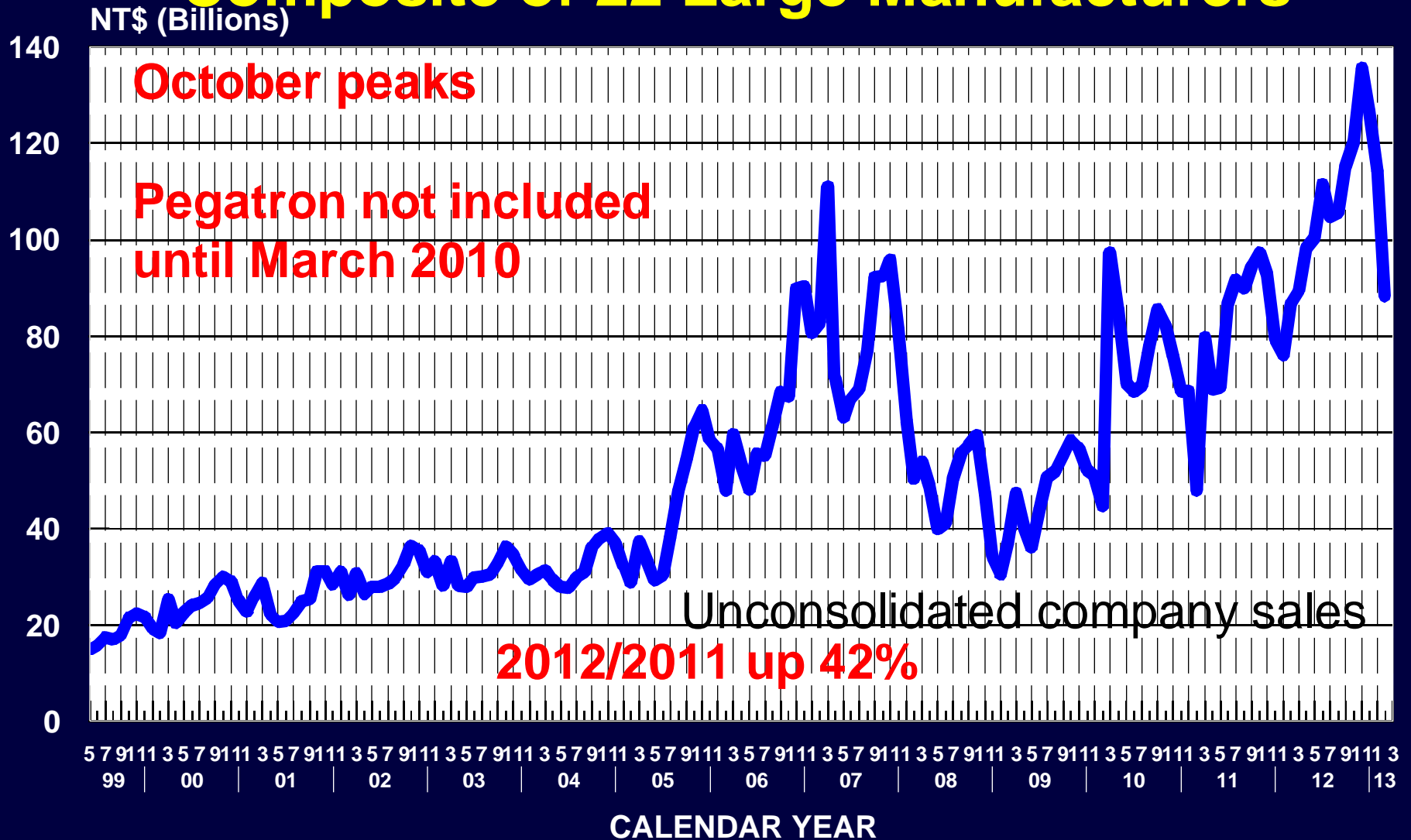
# Taiwan ODM Companies Composite Sales of 10 Large Manufacturers



Company Financial Releases

Asustek Computer, Chei Mei, Compal Electronics, Foxconn, Chimei Innolux, Inventec, Inventec Appliance, Lite On Technology, Mitac International, Quanta Computer, Wistron, Chei Mei Display replacing Chei Mei & Innolux Display 3/10 & later

# Taiwan Motherboard Vendor Sales Composite of 22 Large Manufacturers



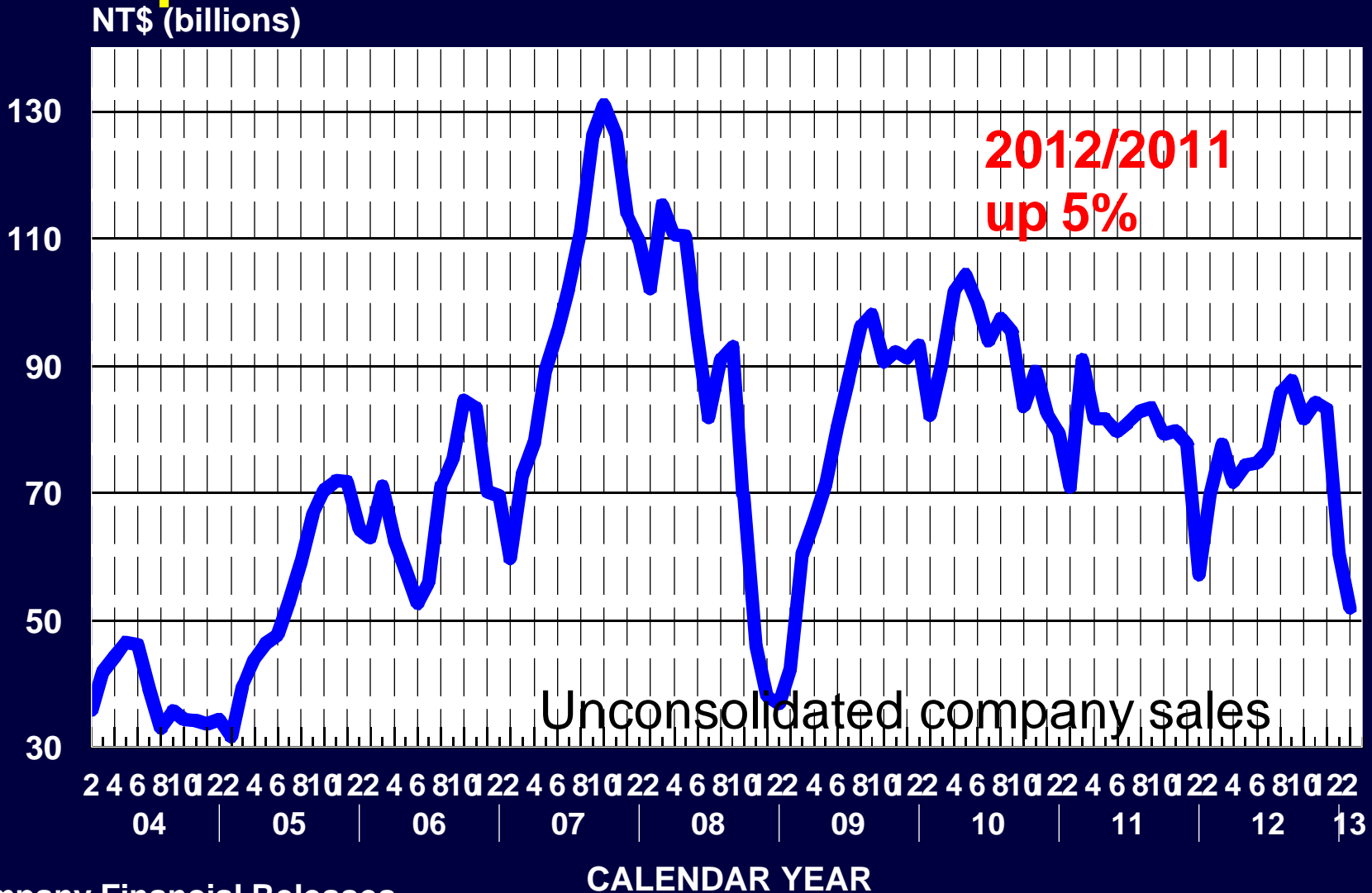
## Company Financial Releases

Albatron, AOpen, Asustek, Biostar, Chaintech, Diamond Flower, Elite Group, Epox, Flytech, Giga-Byte, ICP, Jetway, Keimei, Kinpo, Leadtek, Microstar Intl, Mitac, New Era, Shuttle, Soyo, Tul, Universal Scientific



# Taiwan Display Producers

## Composite of 6 TFT-LCD Panel Manufacturers

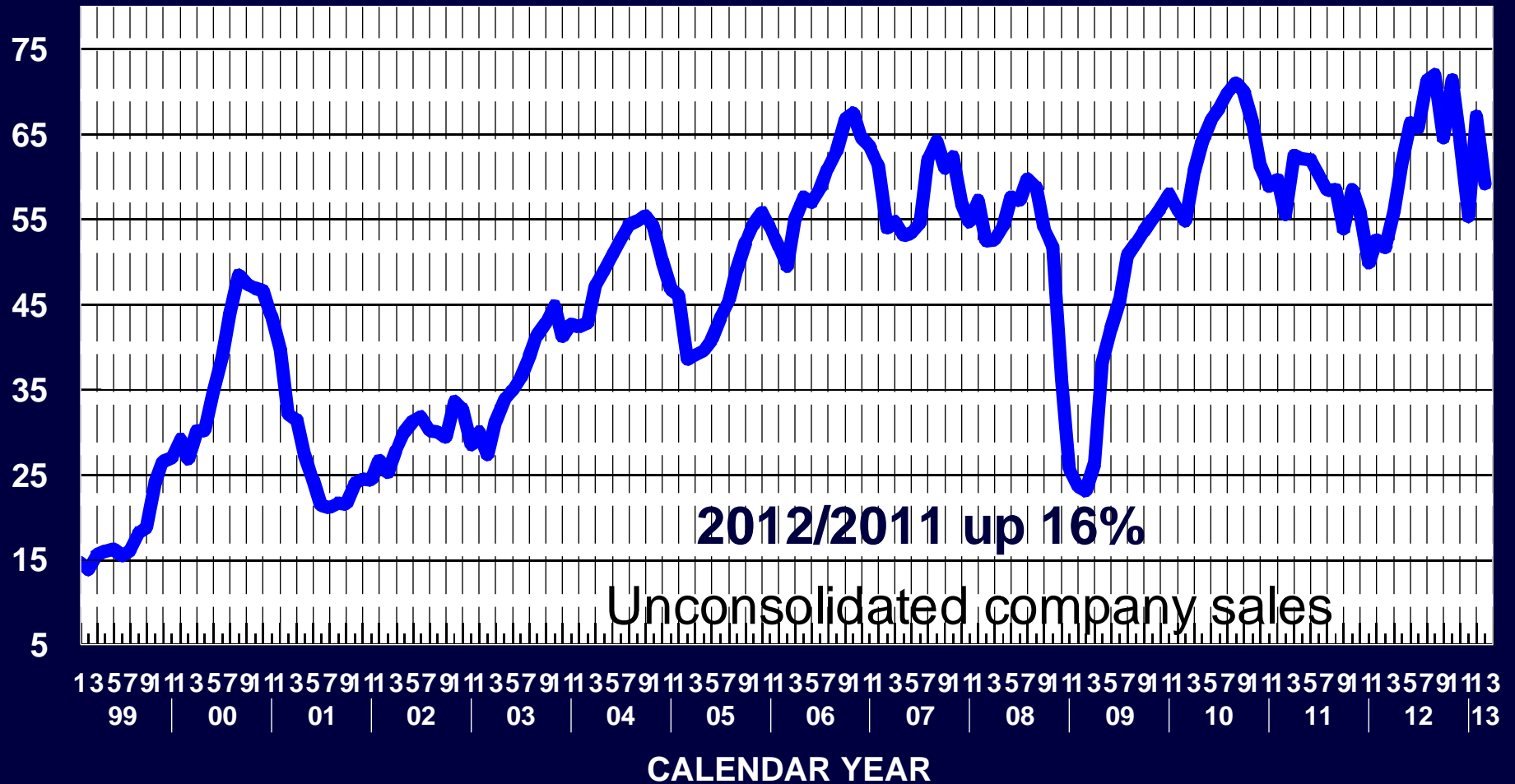


Company Financial Releases

AU Optronics, Chi Mei Optoelectronics, Chunghwa Picture Tube, Hannstar Display, Innolux Display, Quanta Display, Chimei Innolux 3/10 & later

# Taiwan Wafer Foundries Composite of 14 Manufacturers

NT\$ billions



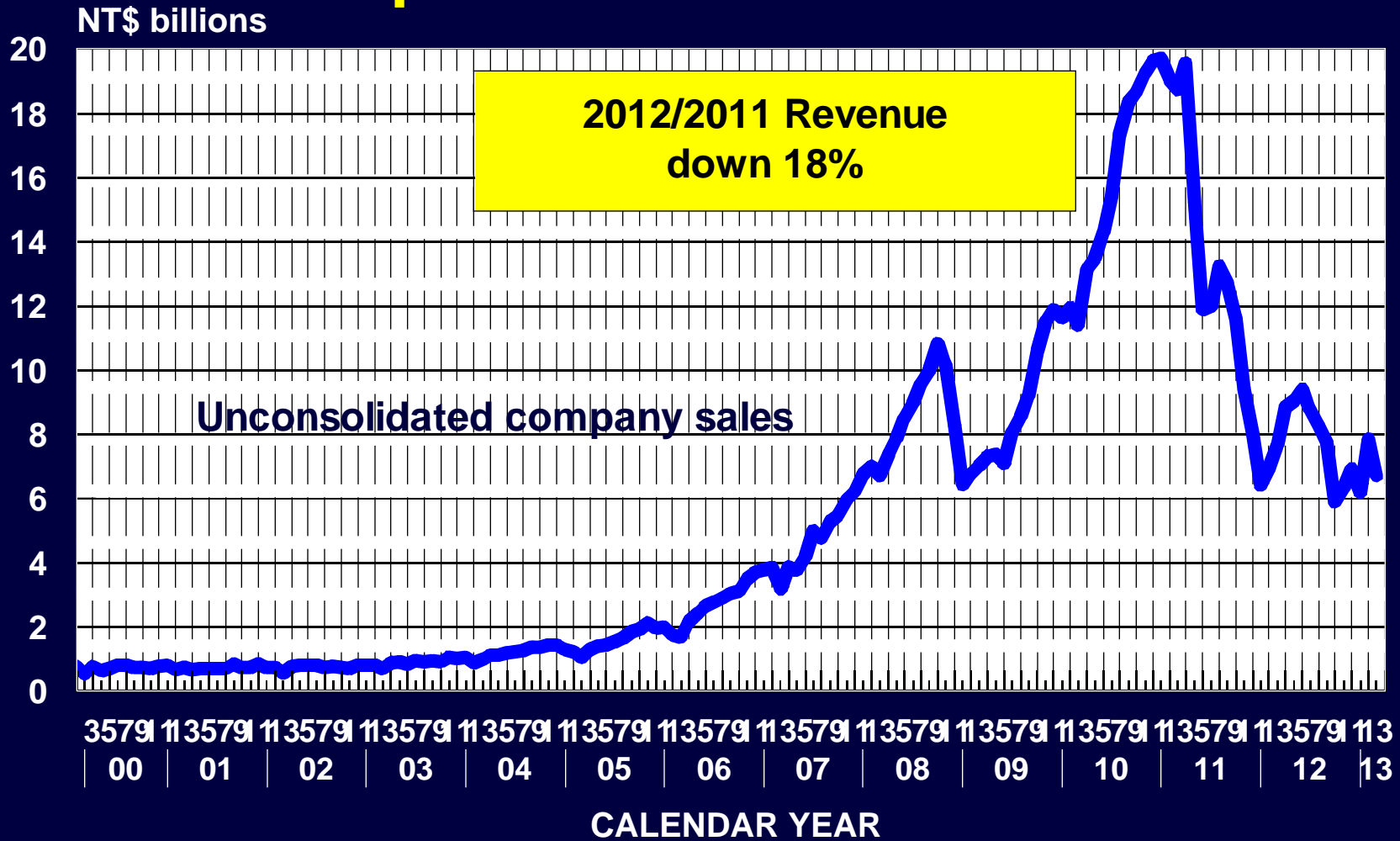
VIA Technologies, Advance Microelectronics, Advance Wireless Semiconductor, Episl Technologies, Inotera Memories, Macronix Intl, Mosel Vitelic, Powerchip Semi, Precision Silicon, ProMOS Tech, TSMC, United Microelectronics, Vanguard International Semi, Winbond Electronics

# Taiwan Passive Component Companies Composite of 25 Manufacturers



Chilsin Electronics, Cyntec, (FCE) Feei Cheng Enterprise, Holy Stone Enterprise, 3H (Honey Hope Honest Enterprise), HJC (Hua Jung Components), Inpaq, Jaan Chem Technological, Kaimei Electronic, King Core Electronics, Laser Tek, Leatec Fine Ceramics, Lelon Electronics, Linton Technology, PTTC (Polytronics Technology Corp), PDC (Prosperity Dielectrics Co), Ralec Electronic, Ta-I Technology, Taiwan Alpha Electronic, Team Young Advanced Ceramics, Teapo Electronic, Thinking Electronic Industrial, WTC (Walsir Technology Corp), Yageo, YCTC (Yeh-Chiang Technology Corp)

# Taiwan Solar/Photovoltaic Panel Companies Composite of 17 Manufacturers



Big Sun Energy Technology, Daxon, DelSolar, e\_TON Solar Tec, Eversol, Gintech, Green Energy Technology (GET), Ligitek, Motech, Neo Solar Power, Phoenixtec Power Co (PPC), Precision Silicon, Sino-American Silicon Products, Sonartech, Sysgration, Tyntek, Wafer Works

# Taiwan Rigid & Flex PCB Shipments

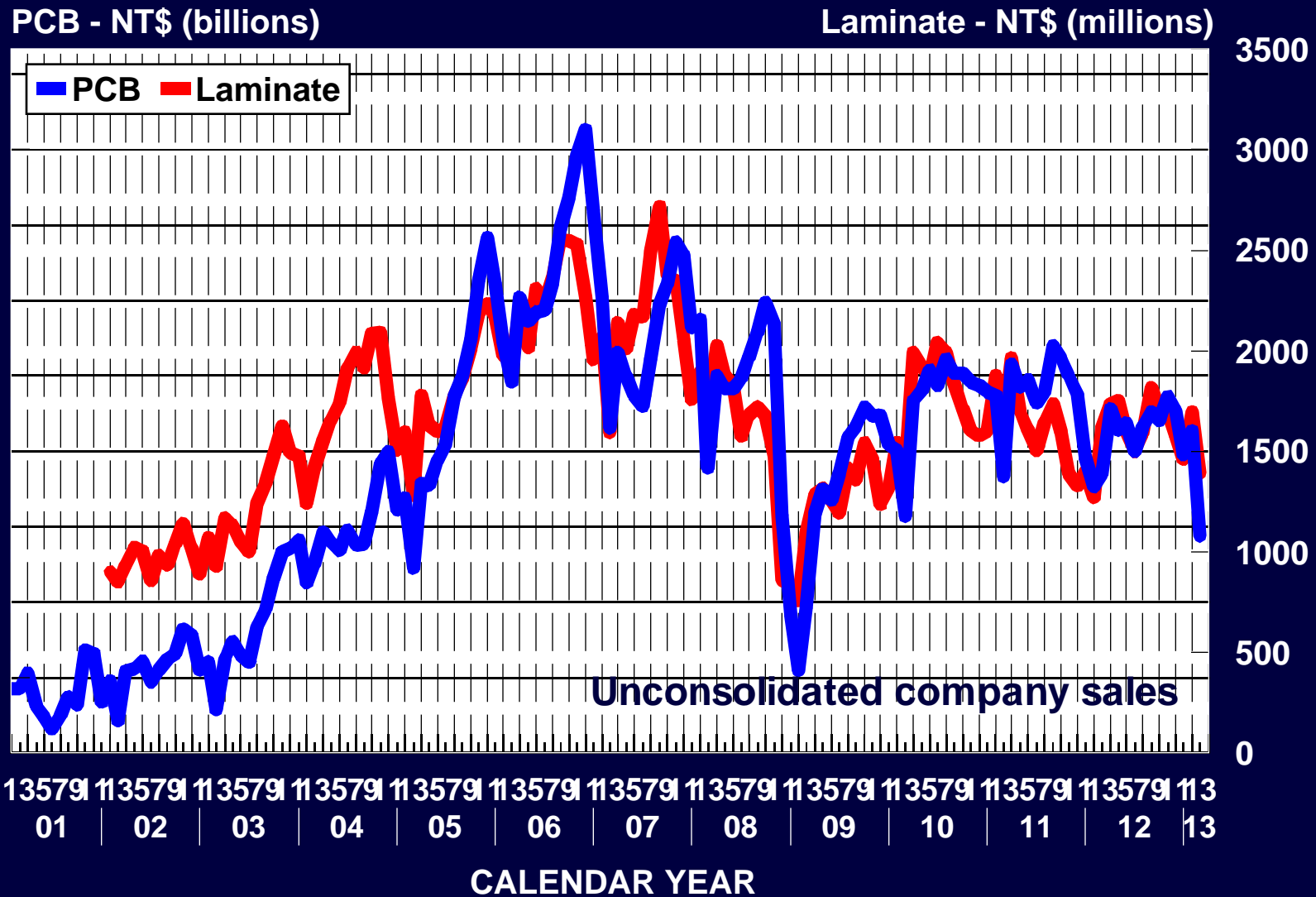
## Broad Composite of 46 Taiwan-listed Manufacturers



Company Financial Releases

# Taiwan Shipments

## 42 Rigid PCB & 8 Laminate Manufacturers

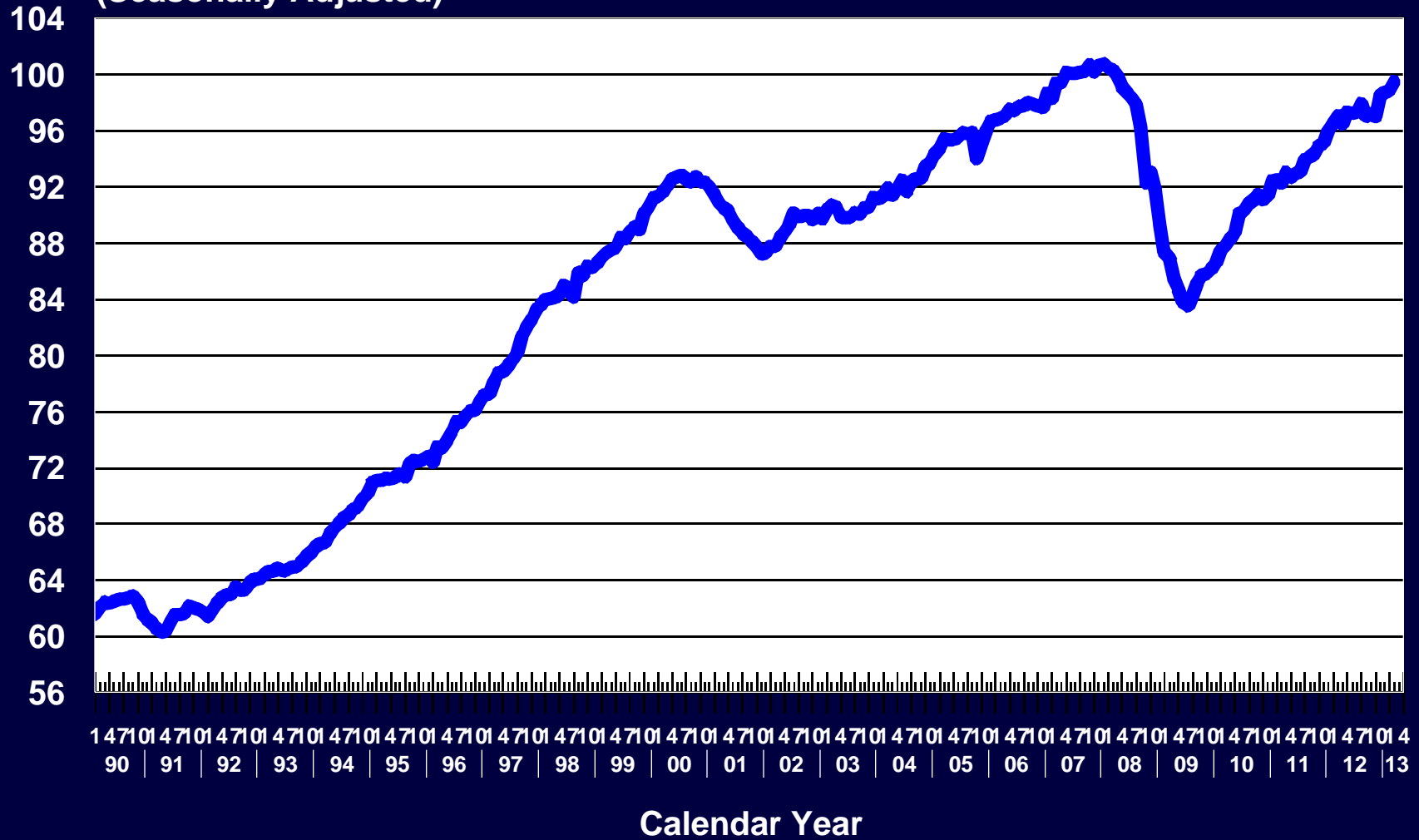


Company Financial Releases

# U.S. Industrial Production

Index (2007=100)

(Seasonally Adjusted)



# S. Korean Won vs. U.S. Dollar

