

Soft business conditions...

But we MAY be seeing signs of a coming upturn



Walt Custer and Jon Custer-Topai

Global manufacturing activity continued to soften through late 4Q'11 (Chart 1) however the USA outpaced the rest of the world. U.S. unemployment declined and the domestic ISM Purchasing Managers' Index rebounded in November (Chart 2).

Electronic equipment shipment growth was at or near zero (3/12=1.0) for most regions in late fall (Chart 3). Converted to monthly US\$ shipments, SE Asia ended its "pre-holiday busy season" in November while the other regions remained relatively flat this autumn (Chart 4). Examined more carefully Japan and the USA grew modestly while Europe declined.

While electronic equipment demand is static the solar/photovoltaic industry is facing very difficult times. Excess Inventories, aggressive pricing by Chinese PV manufacturers and the end of many government subsidies have combined to hit Taiwan-listed solar/photovoltaic companies very hard. A composite of 17 of these PV firms reported Sept.-Nov. 2011 sales 50% below the same period last year (Chart 5).

Capital equipment makers are feeling the effects of the late 2011 electronics slowdown. The SEMI equipment business

cycle is much more volatile and lags semi-conductors by about six months (Chart 6). Similarly PCB capital equipment lags PCB shipments on a 3/12 growth basis (Chart 7). When semiconductor chip and PCB growth resumes in 2012 the capital equipment makers will likely see their "recoveries" delayed by about six months.

Looking forward there may be "light at the end of the tunnel." Despite global economic woes the entire electronic equipment supply chain may be approaching the trough of this current business cycle (Chart 8). Resumed growth (3/12 > 1.0) appears likely to begin in early to mid-2012. Our crystal ball is still hazy but we'll be watching the monthly growth rates very carefully.

Happy New Year from Jon & Walt!

- Worldwide Ethernet switch market revenues grew 10.9% q/q and 6.1% y/y to \$5.9 billion in 3Q'11.—IDC
- Worldwide external disk storage systems factory revenues grew 10.8% y/y to \$5.76 billion in 3Q'11 while total disk storage systems capacity shipments grew 30.7% y/y to 5,429 petabytes.—IDC

Mobile Communication

- Worldwide mobile device sales grew 5.6% y/y to 440.5 million units in 3Q'11.—Gartner
- China's smartphone shipments grew 58% q/q to 23.9 million units in 3Q'11 while U.S. smartphone shipments fell 7% q/q to 23.3 million units.—Strategy Analytics

Other

- Global consumer electronics sales are expected to grow from \$961 billion in 2011 to over \$1 trillion in 2012.—GfK
- North American-based robotics orders increased 41% to 13,616 robots, valued at \$848.5 million, for January through September, 2011.—Robotic Industries Association

End markets

Computers & Peripherals

- Global PC shipments grew 15% y/y to 415 million units in 2011.—Canalys
- Global server shipments increased 7.2% y/y to 2.4 million units (valued at \$12.3 billion) in 3Q'11.—Gartner
- Worldwide quarterly WLAN revenues grew 23.9% y/y to \$1.7 billion in 3Q'11.—IDC



Chart 1.



Chart 2.

- Worldwide hardcopy peripherals market shipments grew 1.6% y/y to 31.3 million units in 3Q'11.—IDC

EMS, ODM & related assembly activity

Global medical device contract manufacturing revenues will reach \$95.7 billion in 2021.—visiongain

ACD purchased a VisionMaster 150 SPI system.

Active Alliance stockholders sold 60 million shares (75% of company) to Enrique K. Razon.

BB Electronics installed a VJ Electronix 400 Scavenger system in Horsens, Denmark.

Cal-Comp Electronics donated NT\$15 million (US\$500,000) in relief supplies to Thailand's flood victims.

Computrol received AS9100C:2009 certification.

CTS acquired Valpey-Fisher.

EIT opened a 60,000 SF PCBA factory in Danville, Virginia.

Elcoteq declared bankruptcy resulting in an equipment auction in Pecs, Hungary.

Elmet Technologies acquired JEVCO International.

ETK Elektronik purchased Zoma Electronics' factories in Denmark and Thailand.

Flextronics:

- added 1,500 m2 to its Timisoara, Romania plant for medical component manufacturing.
- completed the world's largest deployment of a core HR system in the cloud.

Foxconn International Holdings (FIH) named Cheng Tien Chong, CEO.

HansaMatrix added new manufacturing equipment from Scanditron Sverige.

ICCO EMT added an Assembléon iFlex pick & place machine.

Jabil:

- began operating an electronics products servicing center in Pecs, Hungary.
- acquired Telmar Network Technology.
- opened a class 1K clean room at its Healthcare & Life Sciences group in Vienna, Austria.
- received AS9100 aerospace certification in Shanghai, China.

Kongsberg received a contract to deliver an upgrade of NASAMS air defense system to the Royal Norwegian Air Force.

NBS hired Thomas Dineen as Plant Director.

OnCore Manufacturing Services:

- appointed Shubham Maheshwari CFO.
- opened new 58,800 SF building in Longmont, Colorado.
- began manufacturing the SLC line of console servers in San Marcos, California facility for Lantronix.

QualTech Technologies installed a Juki KE-1070/KE-1080 modular placement system.

REStronics hired Grant Miller as its representative for U.S. Southwest territory.

S.W. Electronics and Manufacturing Corporation added a Universal Instruments Genesis Platform production line in Moorestown, New Jersey.

Sanmina-SCI received a TrueNorth contract to build aviation telecommunications systems in Ottawa, Canada.

SMTC began manufacturing AsepticSure™ disinfection systems for Medizone International.

Smyczek installed a LPKF StencilLaser P6060 in Verl, Germany.

SOF-TEK opened a UL 508A panel shop & contract manufacturing company in Redding, California.

Stadium appointed Charlie Peppiatt Group Operations Director to the Board; Ian Davies Business Unit Director for

the Rugby facility; Lindsay Driscoll Strategic Business Development Director; Steve Henderson Business Development Manager and Sinney Leung Sales Director for Asia.

SWEMCO added Universal Instruments' Genesis Platform production line and Universal's Dimensions® Line Manager shop floor control software in Moorestown, New Jersey.

Systech bought a second Europlacer iiNEO machine.

United EMS appointed Wayne Derbyshire UK Sales Manager.

Vi TECHNOLOGY named SMT Solutions ApS as its Demark distributor.

Zollner Electronics installed a Rehm VisionXP convection reflow system, ZollneERSA soldering equipment and SIPLACE placement equipment at its new Milpitas, CA. facility.

PCB fabrication

Japanese PWB production increased 12.8% m/m (and decreased 9.1% y/y) to 52.8 billion yen in September.—METI

Taiwan's PCB production is expected to grow 8.4% y/y to NT\$545 billion (US\$18.1 billion at US\$1:NT\$30) in 2012.—ITRI

Taiwan's PCB production value increased 9.2% q/q to NT\$135.2 billion (US\$4.6 billion) in 3Q'11 on HDI boards, multilayer and other high-end PCBs used in smartphones, tablets and ultrabooks.—Digitimes

Alba Elettronica purchased a probe tester from Atg LM.

Bare Board Group was ranked #96 on the annual Tampa Bay Business 100 List.

Career Technologies-USA received ITAR renewal.

CATIC Shenzhen bought \$1.3 billion in assets in electronics, trading, logistics, and

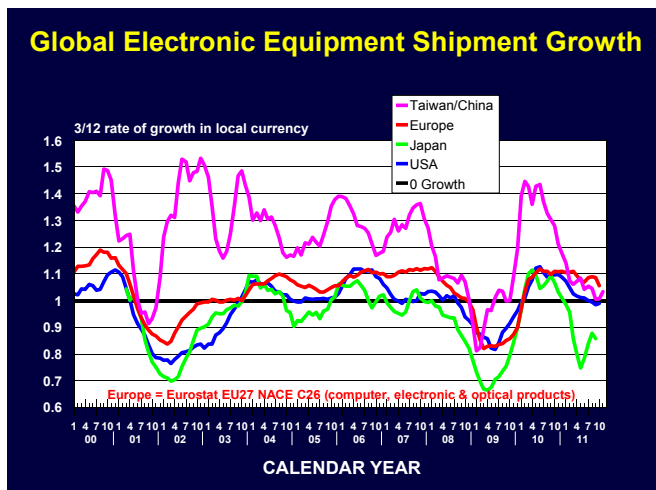


Chart 3.

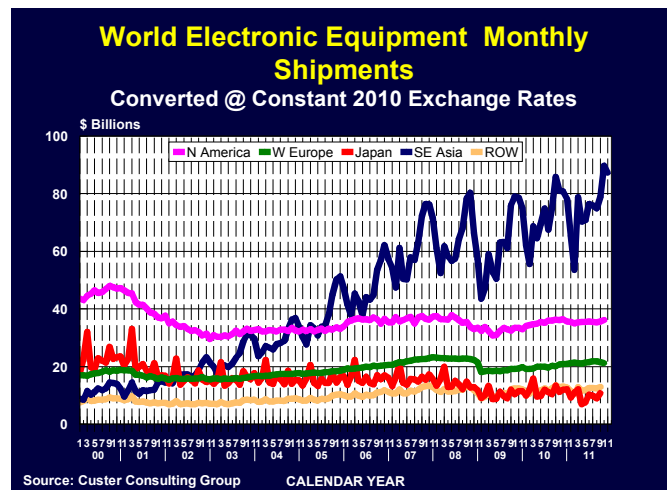


Chart 4.

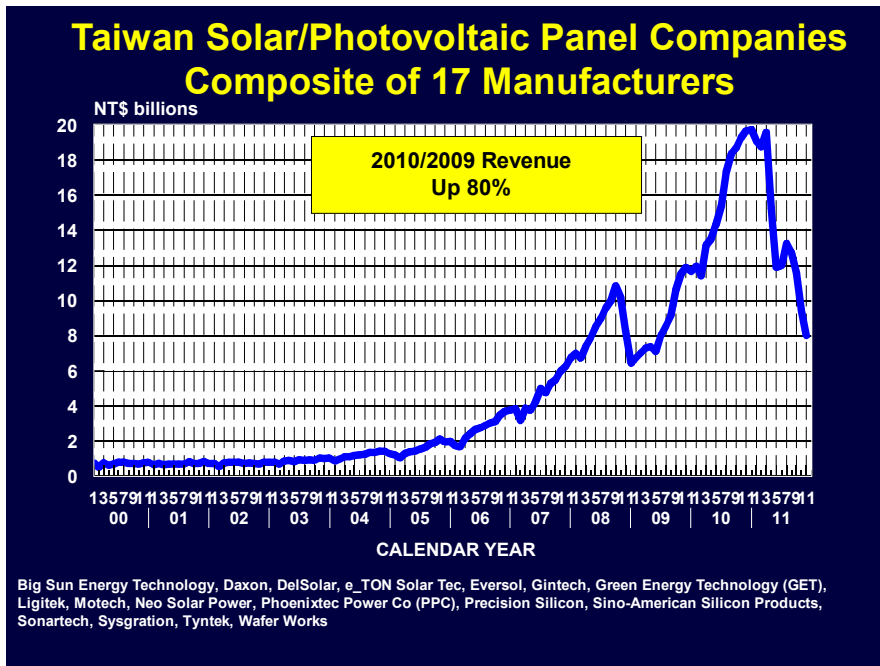


Chart 5.

retail firms from its parent for an aggregate 8.3 billion yuan (\$1.31 billion).

Chin-Poon, Unitech received automotive PCB orders shifted from KCE due to flooding in Ayutthaya, Thailand

Cicor named Heinz Gloor Executive VP of its microelectronics division

Fima purchased a Paragon 9800 LDI system from Orbotech.

FinMasi added an additional Orbotech Paragon Xpress 9 LDI system for its recently acquired manufacturing company, Techci Rhône Alpes, in Saint-Genix-sur-Guiers, France.

Flexible Circuit Technology 4th Edition, by Joseph Fjelstad, can be downloaded free at flexiblecircuittechnology.com/flex4/.

GSPK Circuits added a Raster RP312-ST large size photoplotter to its Boroughbridge,

UK factory.

Lazer-Tech named Enrico Zaino Production Manager.

Millenia Group was sold to MBG Technologies.

PCBCircuitBoards.co named Roger Casement Printed Circuit Board Fabrication Director.

R&D Circuits promoted Sharon Trueman to Design Manager, North America.

Ramaer Printed Circuits extended ISO-certifications to 2014.

Schweizer diversified into solar photovoltaic module manufacturing in Asia.

Trilogy Circuits achieved AS9100C quality certification for aerospace design.

Unitech is constructing the next phase of HDI expansion at the Ilan, Taiwan plant

with completion scheduled for 1Q'12 followed by equipment move-in during June and July.

Materials & Process Equipment

World PCB equipment industry will grow from \$11.8 billion in 2010 to \$16.9 billion to 2015.—China Printed Circuit Association.

Agilent named Ron Nersesian Executive VP and COO and Guy Séné President the Electronic Measurement Group.

BTU International appointed LaPa Enterprises as its representative in California's Bay Area & Northern Nevada.

Clariant unveiled its Exolit® EP 150 and EP 200, non-halogenated flame retardants for PCBs.

Dai Nippon Screen commercialized its new high-speed direct imaging machine for HDI PCBs.

Datalogic acquired PPT Vision.

DEK:

- acquired a stencil franchise StenTech.
- launched its new website for process support products at <http://www.dekpsp.com>.

Dover realigned its business segments promoting Jeffrey Niew to President and CEO of Communication Technologies, Bill Spurgeon to President and CEO of the Energy segment, Tom Giacomini to President and CEO of Engineered Systems and John Hartner to President and CEO of Printing & Identification.

Dow Chemical was recognized as a 2011 Top 100 Global Innovator by Thomson Reuters.

Electrolube named Robert Crosby-Clarke European Brand Director and Jade Bridges European Technical Support Specialist.

Ellsworth Adhesives and DYMEX launched a light-cure conformal coating,

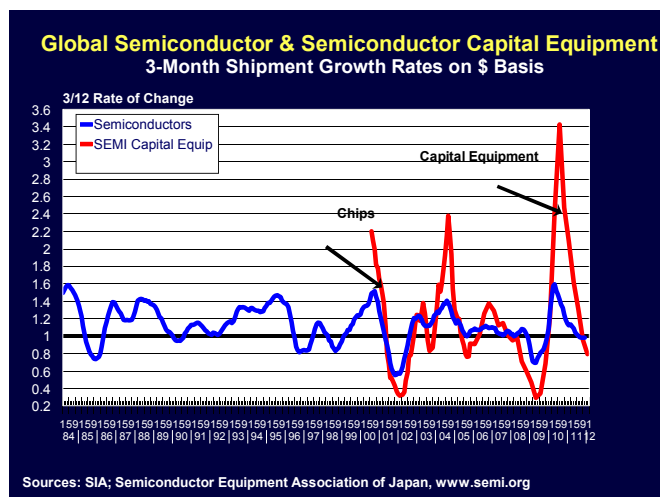


Chart 6.

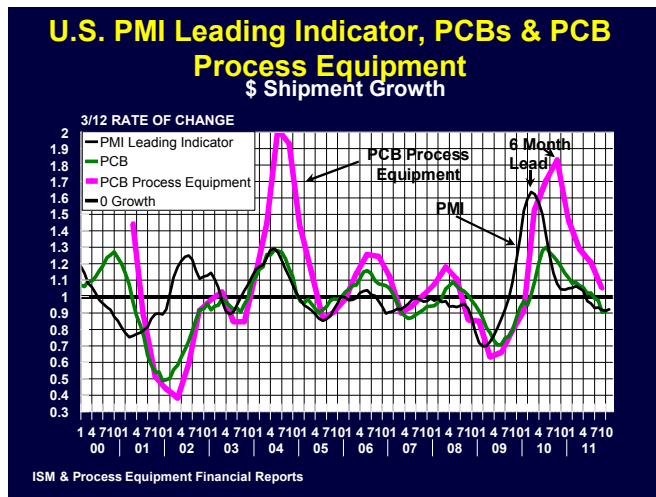


Chart 7.

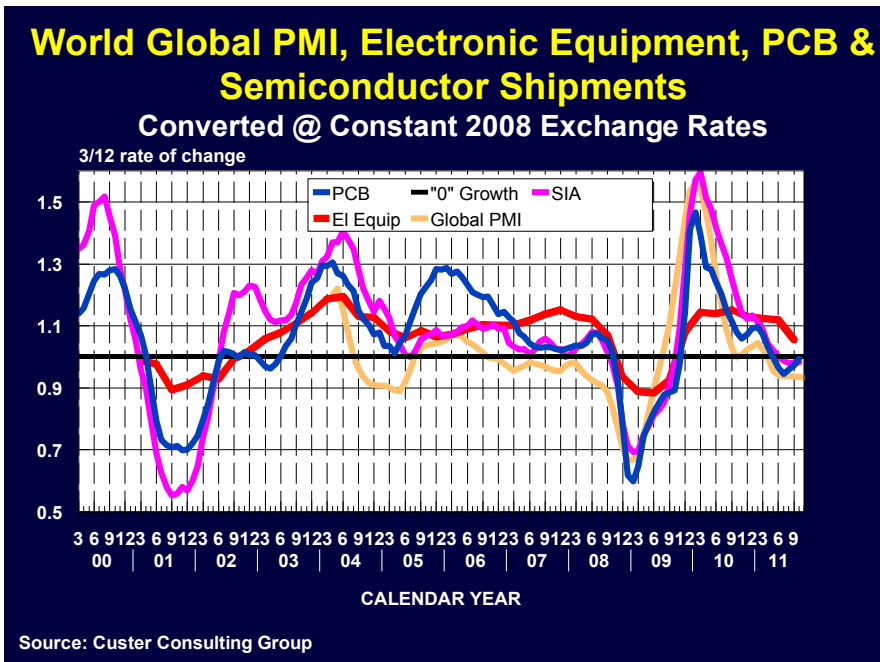


Chart 8.

E-MAX 903-E.

Enthone appointed Denise Fucci Manager of e-Marketing Communications.

Extech Instruments relocated to Nashua, New Hampshire.

Fulltech Fiber Glass is expanding its annual production capacity of yarn products to 81,000 tons in 1Q'12.

Furukawa Electric invested NT\$4.6 billion to build its first overseas electrodeposited copper foil manufacturing base in Yunlin county, Taiwan.

Hartmetallwerkzeugfabrik **Andreas Maier and Union Tool** entered a PCB tool sales cooperation agreement for Europe.

Indium hired Greg Wade and promoted Chris Nash to Technical Support Engineers for the Global Accounts Group.

IPTE Factory Automation named BRC Test as its Turkey representative.

Kaneka established Kaneka Korea in Seoul, South Korea to perform market surveys and sales and operation support activities.

Kodak and Heraeus jointly developed transparent conductive films that can be easily patterned to provide a cost-effective alternative to indium tin oxide films.

Koh Young opened its China Technical Center for customer service/support in Shenzhen, China.

KVM4S/EUROPE-SMT received its first order for a GPD MAX high-speed glue dispenser.

Multitest named James Quinn VP of Global Sales & Marketing.

MYDATA received pick & place machine orders from VXI Power and Technology Services.

Neltec's former president Howard Elliott was appointed president of RS Technologies of Calgary.

Nordson promoted John Byers to CIO, Peter Bierhuis to President of Nordson ASYMTEK, James Getty President of Nordson MARCH and Phil Vere President of Nordson DAGE.

OM Group named Christopher Hix CFO. **Panasonic Factory Solutions** named Mark Ragard Group Manager of Electronics Assembly.

ShineMore Technology plans to expand its monthly CCL production capacity by 25% y/y in 2012.

Speedprint appointed PIT-Equipment Services as its representative for New

Jersey, Eastern Pennsylvania and portions of New York.

Teknek named CCI Eurolam its European representative (except Italy) for consumables and small manual cleaning machines for the PCB industry.

Semiconductor and Other Components

AMOLED market revenue is expected to grow from US\$1.4 billion in 2010 to US\$12.8 billion in 2015.—DisplayBank

European passives' market is expected to grow 2% y/y to 4.6 billion Euros in 2012.—EECA-EPCIA

Semiconductor fab utilization dropped from 93.7% in 1Q'11 to 92.2% in 2Q'11.—SICAS

Global sensors market for automotive

applications will be worth \$20.7 billion by 2016.—Marketsandmarkets

North American semiconductor equipment industry posted \$939.4 million in orders (3-month average basis) and a book-to-bill ratio of 0.74 in October 2011.—SEMI

Power management semiconductors revenues grew 6.7% y/y to US\$33.1 billion in 2011.—IHS iSuppli

Taiwan's IC testing and packaging sector will reach NT\$34.52 billion in 2011.—MIC

Wireless connectivity ICs exceeded 3.5 billion units (valued at over US\$8 billion) in 2011.—ABI Research

Worldwide semiconductor manufacturing equipment sales are expected to decline 10.8% in 2012 from \$41.8 billion in 2011.—SEMI

Worldwide semiconductor revenue is expected to grow:

- 2.2% y/y to \$309 billion in 2012.—Gartner
- 3.7% in 2012 and 5.8% in 2013 from \$302 Billion in 2011.—SIA/ WSTS

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