



Corporate Overview

John Shane

Director

Communication Supplies Consulting Service

August 2008

InfoTrends

Industry analyst firm focused on the consumer imaging, office document technology, and production printing & publishing industries.



Focused Credible Responsive Visionary

Our Range of Services



Relationship-Based Consulting Services

	Hardware	Services	Software	Supplies
Consumer	<ul style="list-style-type: none"> • Digital Photography • Image Scanning • Photo Printing 	<ul style="list-style-type: none"> • Internet Imaging • Digital Photography 	<ul style="list-style-type: none"> • Internet Imaging • Image Scanning 	<ul style="list-style-type: none"> • Communication Supplies • Photo Printing
Office	<ul style="list-style-type: none"> • Digital Peripherals Solutions • Image Scanning • China Printers 	<ul style="list-style-type: none"> • Network Document Solutions 	<ul style="list-style-type: none"> • Dynamic Content Software • Network Document Solutions 	<ul style="list-style-type: none"> • Communication Supplies • China Supplies
Production	<ul style="list-style-type: none"> • On Demand Printing • Wide Format Printing • Jetting Technologies 	<ul style="list-style-type: none"> • Production Workflow Solutions • Document Outsourcing • Business Development Strategies 	<ul style="list-style-type: none"> • Dynamic Content Software • On Demand Printing • Production Workflow Solutions 	<ul style="list-style-type: none"> • Communication Supplies

The Communication Supplies Team (U.S. & Europe)

- **Our professional staff brings a wealth of industry experience to serve your business needs**
 - ▶ John Shane, Director CSCS Marking
 - ▶ David Pineault, Associate Director
 - ▶ Andrew Carroll, Senior Consultant
 - ▶ Catherine Cresswell, Associate Director
 - ▶ Mona Ghazaeepour, Senior Research Analyst
 - ▶ Cathy Martin, Senior Consultant

New Multi-client Studies

- **Paper Migration – measuring offset paper use in production digital printing**
- **BRIC – Brazil, Russia, India, and China**
 - ▶ Hardware, Supplies, and Solutions
 - ▶ Buying and usage behaviors
 - ▶ Forecast



Supplies Market Forecast and Trends 2006-2011

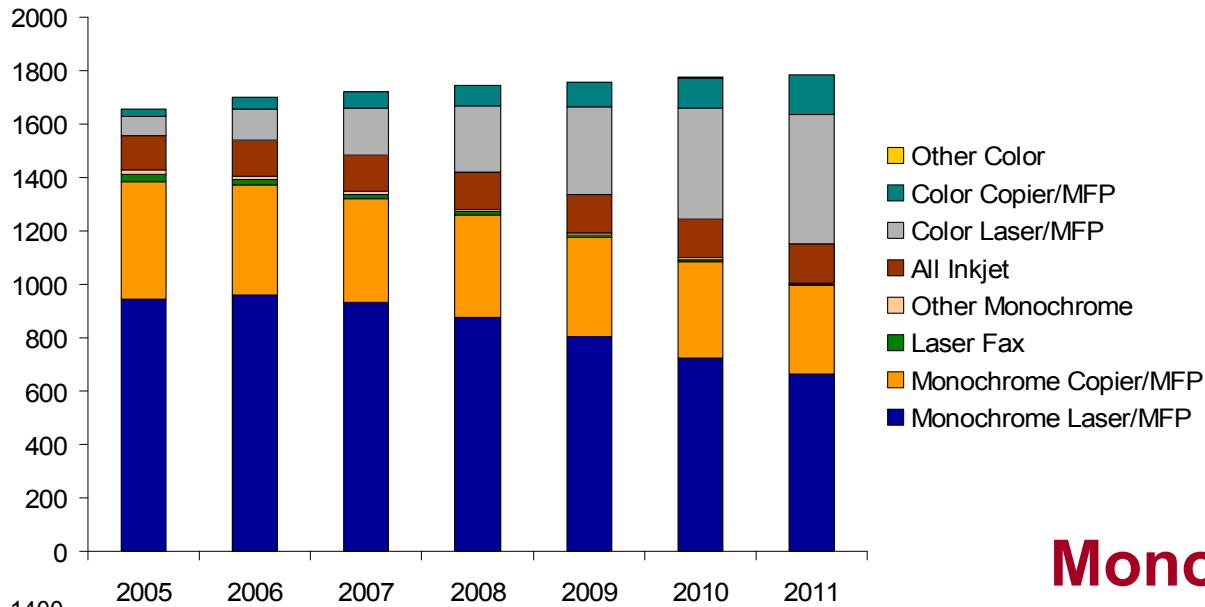
John Shane

Director

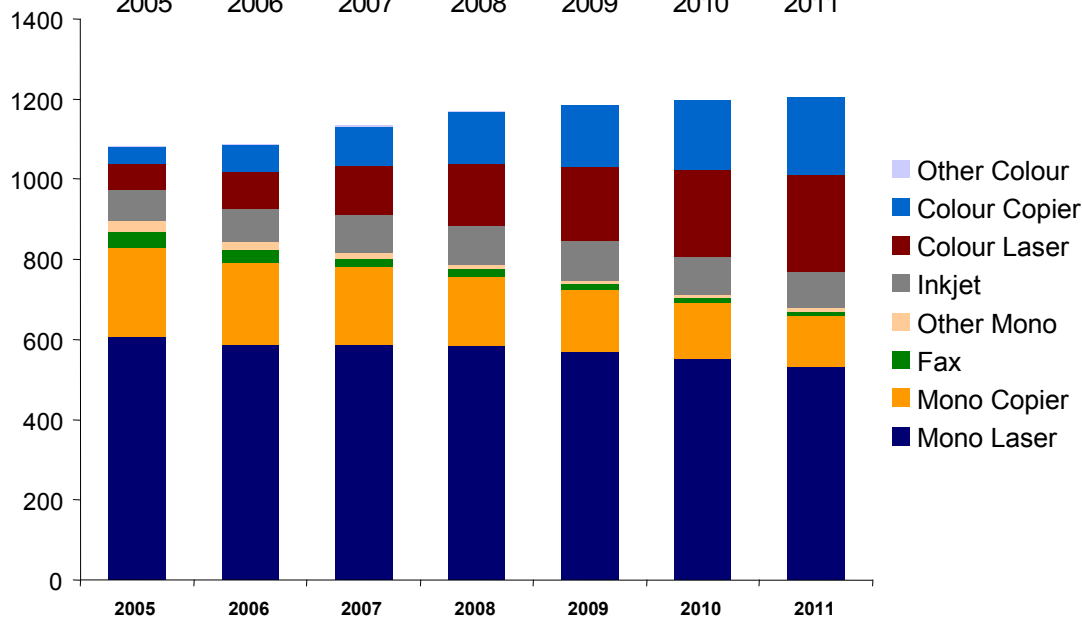
Communication Supplies Consulting Service

August 2008

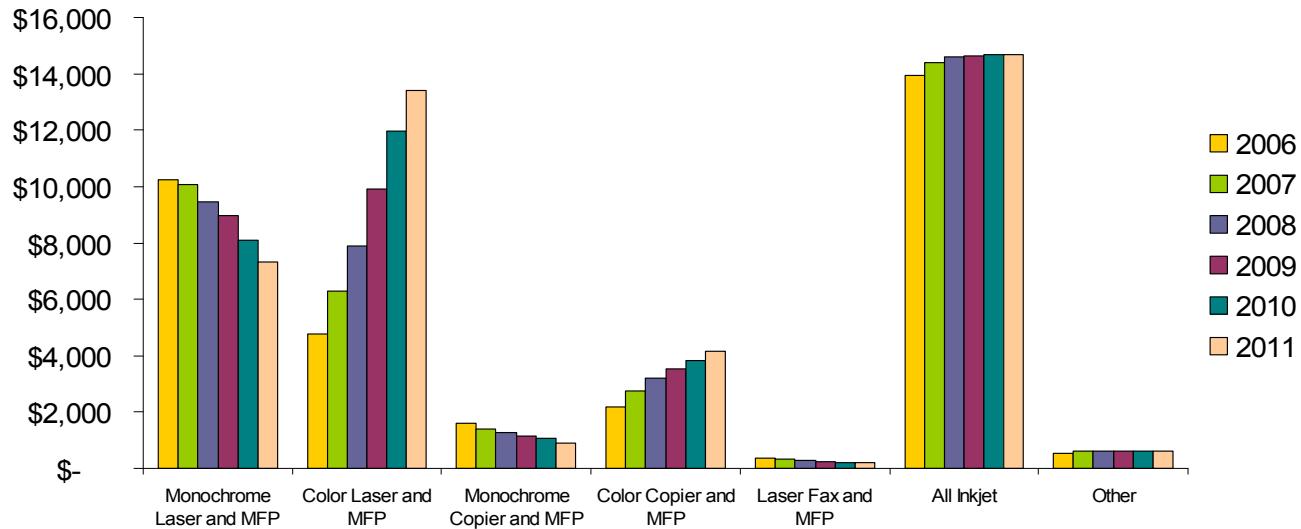
Total Print Volume by Device (B)



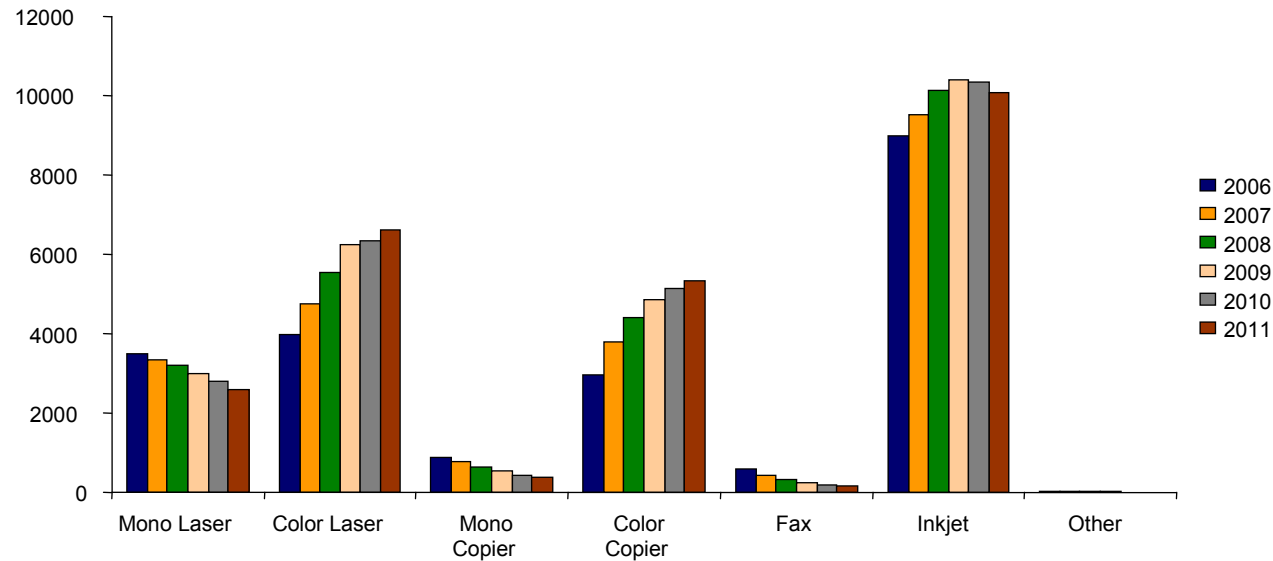
Monochrome Declining



Marking Supplies by Machine Type at Final POS



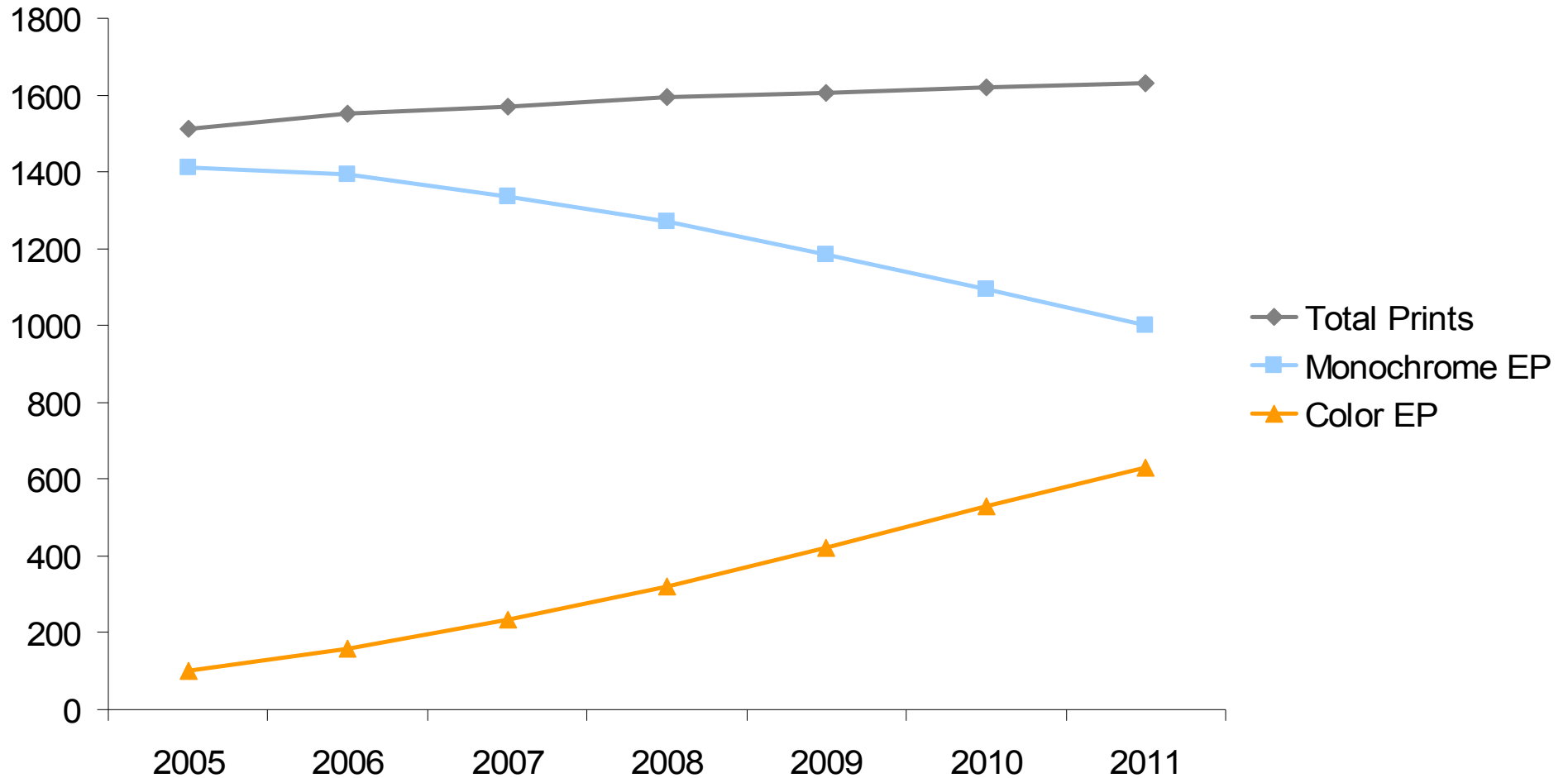
**U.S. Market
\$M**



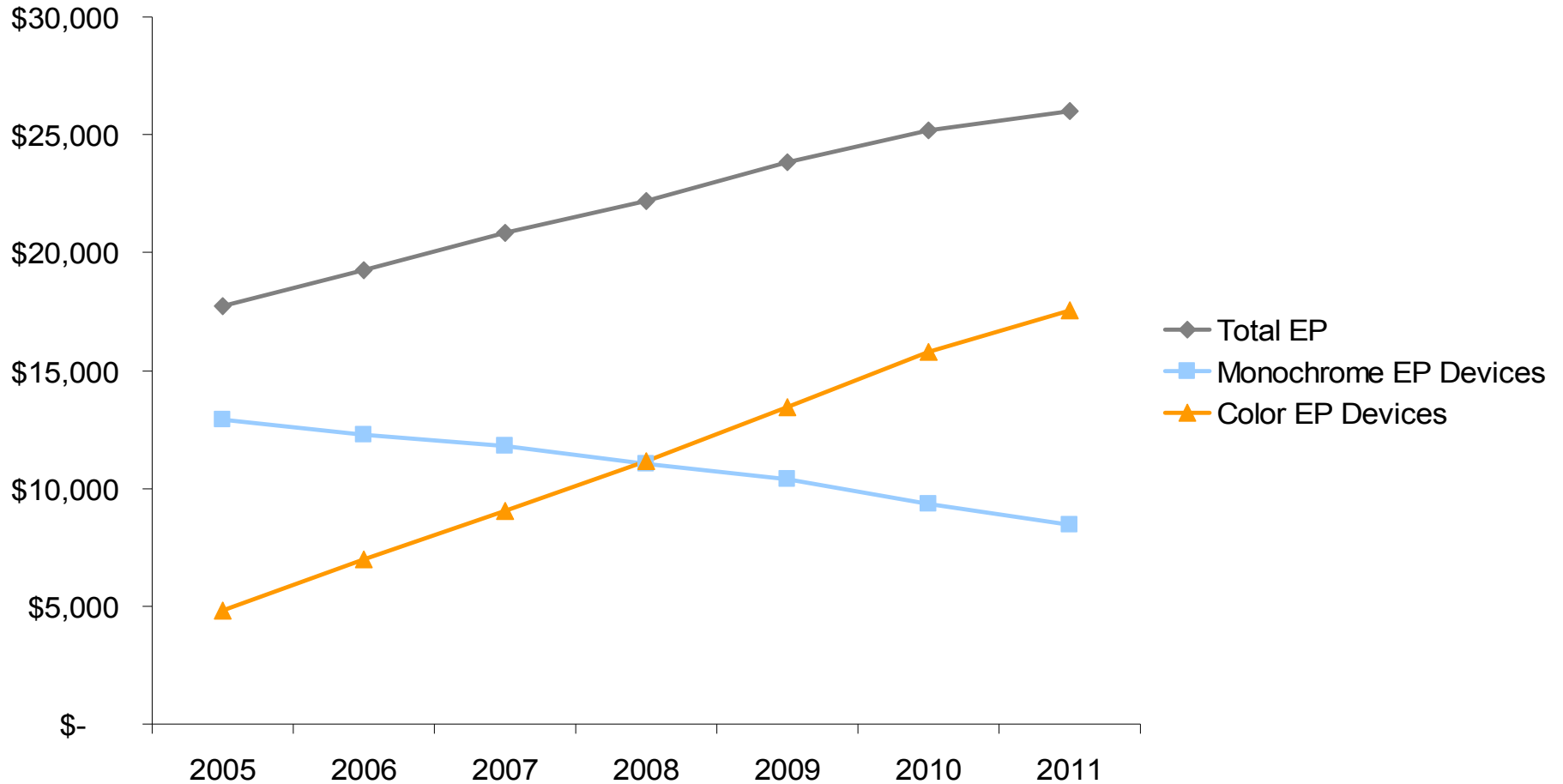
**W. European
Market €M**

Electrophotography

U.S. Total Prints from Electrophotographic Devices Prints (B)



U.S. Electrophotographic Marking Supplies \$M at Final POS

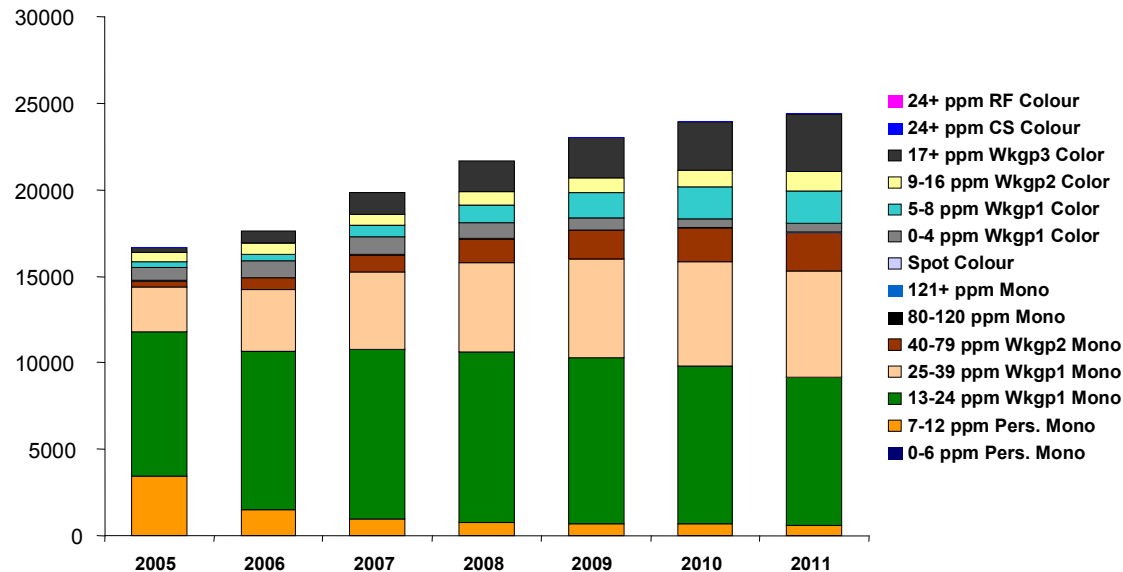
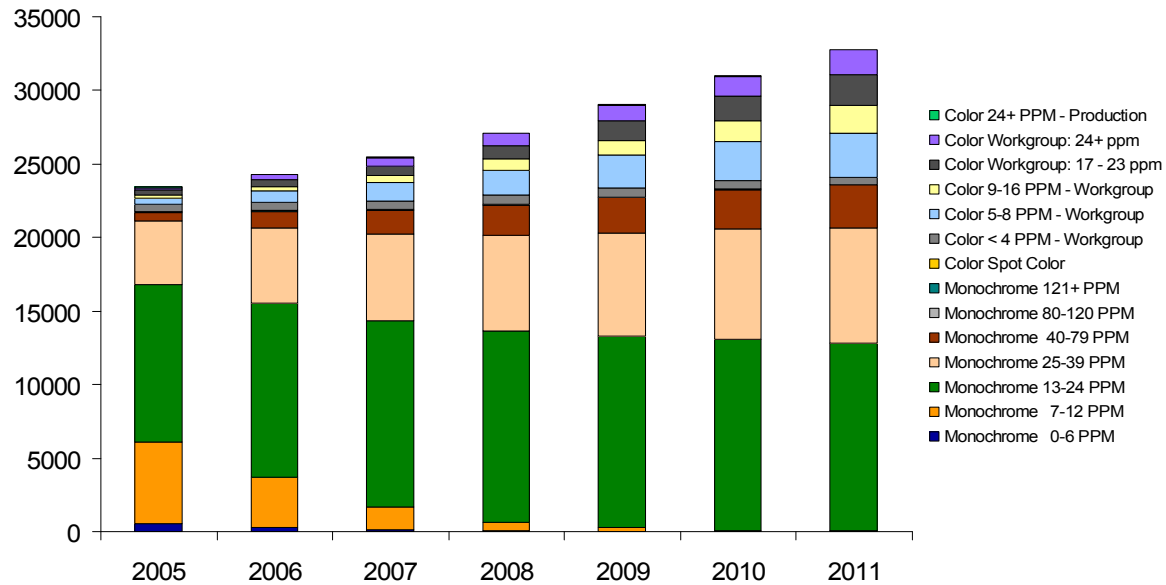


Inkjet continues to pose a threat to EP

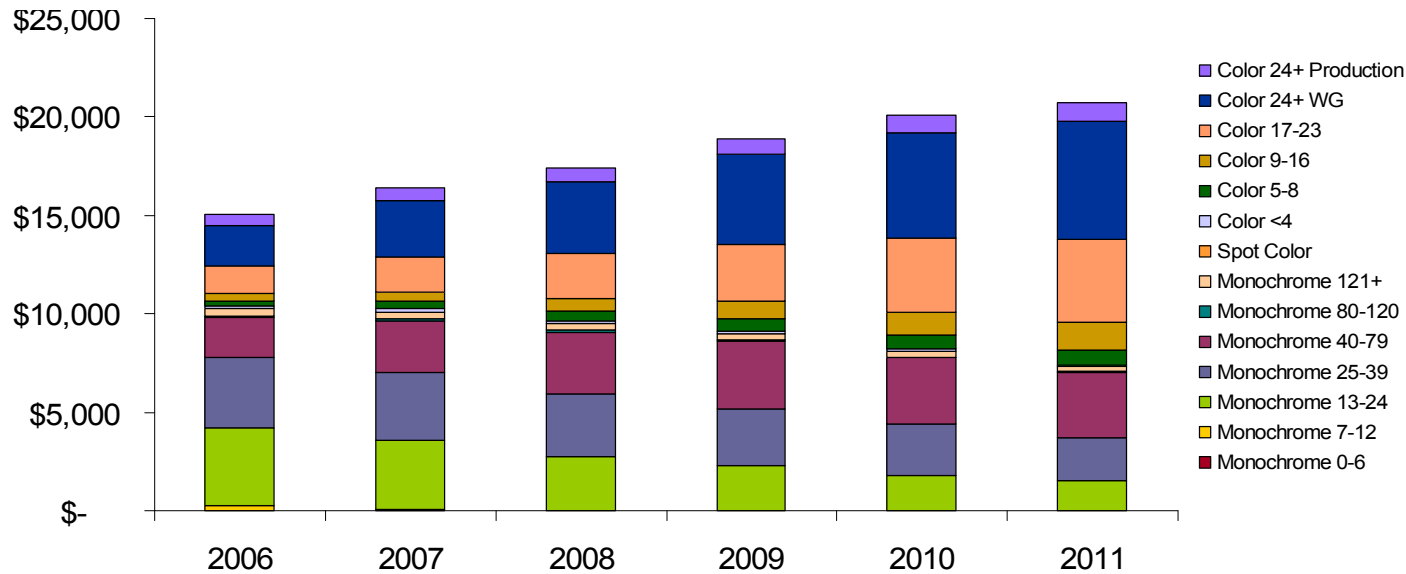
- **HP's Edgeline and scalable print technology**
 - CM8060/8050
 - Up to 70 ppm
 - HP Inkjet Web Press at drupa 2008
- **Memjet**
 - The plan is to make engines for OEM
 - Plan to work with partners
 - Potential for 100 ppm color printer

Laser Printers

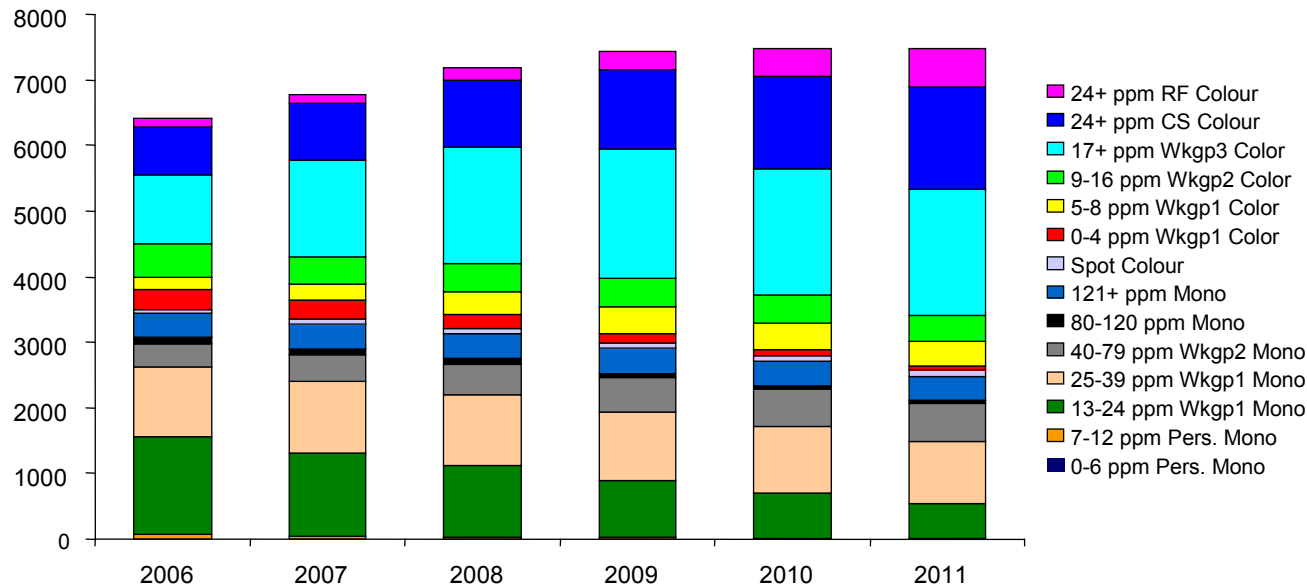
Laser Printer (SF & MF) Total Population (K)



Laser Printer Marking Supplies \$M at Final POS

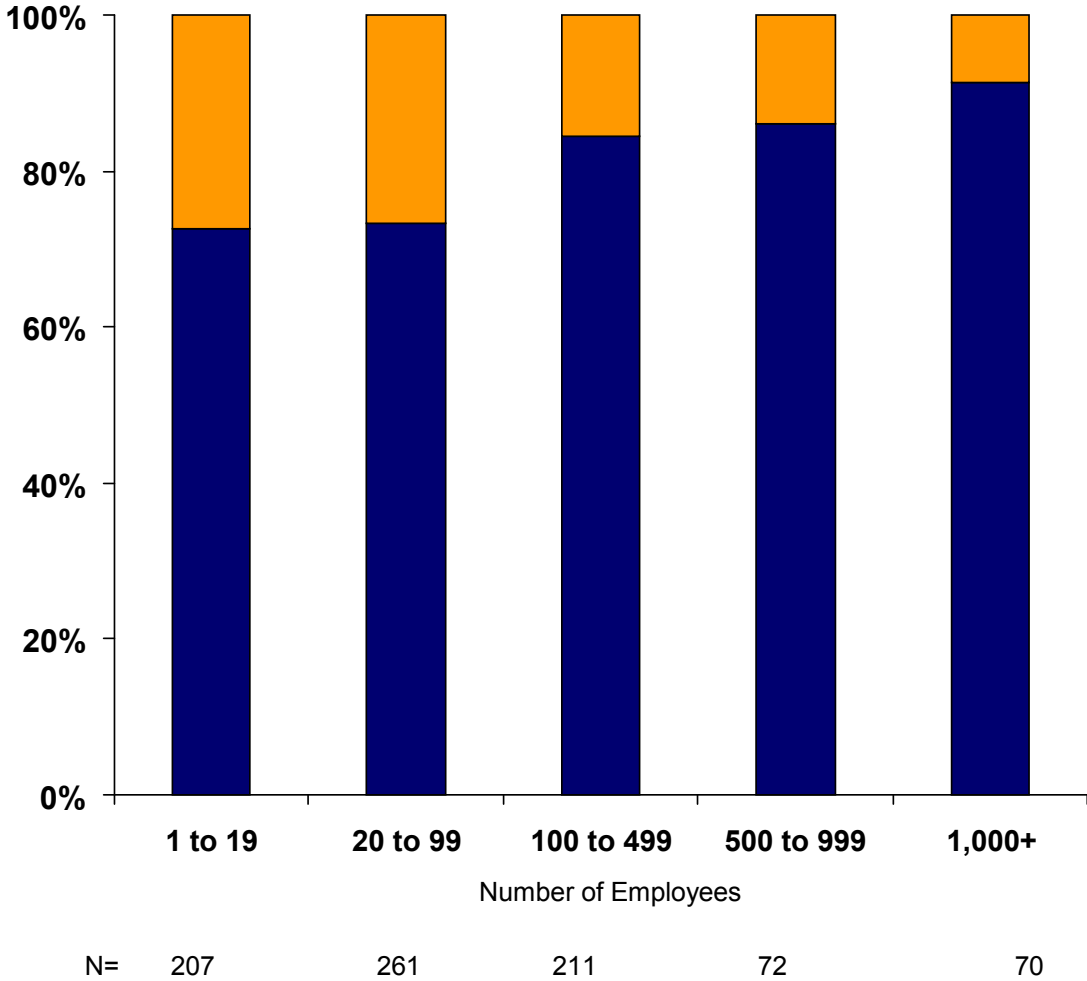


U.S. Market \$M



W. European Market €M

Q135 Business: How has your printing in color changed from two years ago? Is more general purpose printing done on the color device now?



- Disagree
 - Agree
- The majority of businesses agree that they are printing more general purpose documents on color devices
 - Larger businesses agree more often

OEM vs Aftermarket Trends

OEM Responses to Aftermarket

- Technology
 - › Chemically produced toner is a large barrier
 - › Color cartridges are a significant challenge to the aftermarket
- Intellectual property
 - › Epson general exclusion order
 - › Imaging Supplies Coalition
 - › Lexmark vs. Static...
 - **But...Quanta computer vs. LG case could outlaw single-use license agreements**
- Sales/Packaging programs
 - › Lexmark cartridge return program
 - › HP Blue, Green cartridges, and Epson ME cartridge
 - › OEM green programs
- Adding intelligence (value) to the supply
 - › Canon Cli-8 example

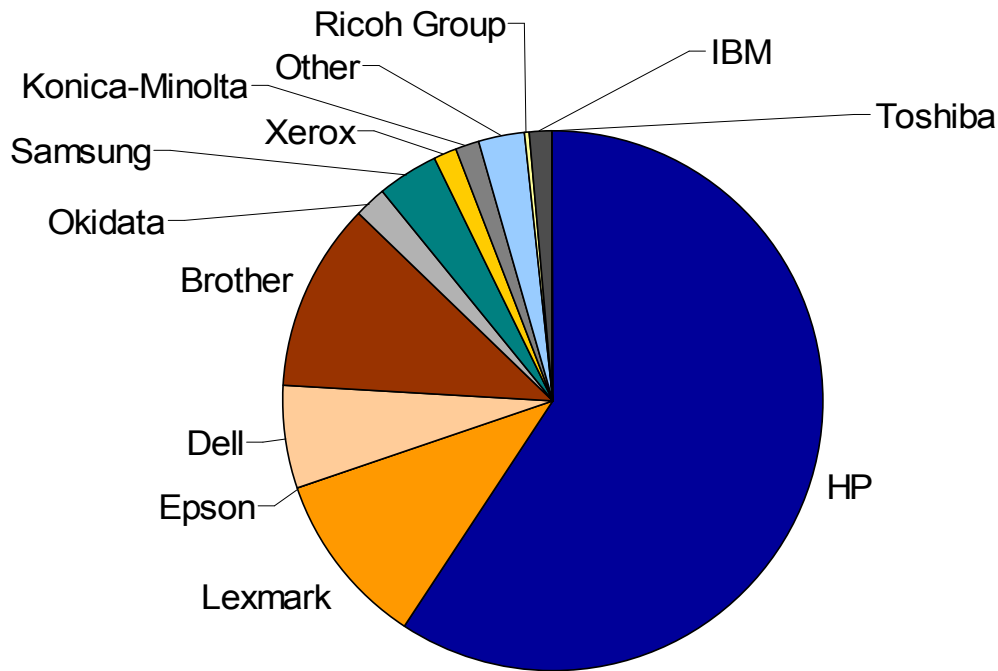
Aftermarket Shares

- **HP Monochrome Laser Cartridges – 33%**
- **HP Color Laser Cartridges – 3%**
- **All Color Laser 5%**
- **All Monochrome Laser – 27%**
- **Integrated inkjet cartridges – 14%**
- **Inkjet Tanks – 27%**
- **Impact ribbons (high point) 55%**
- **Monochrome copier 20% (30% non-branch)**
- **Color Copier – 3%**

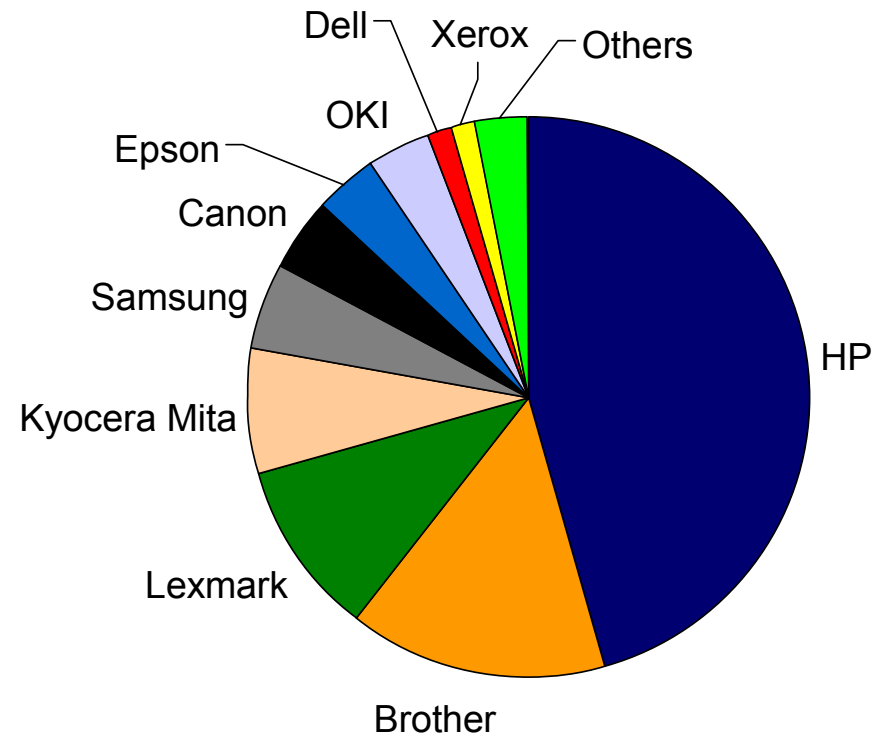
Monochrome Laser

Monochrome Laser Printer Installed Base Share 2007

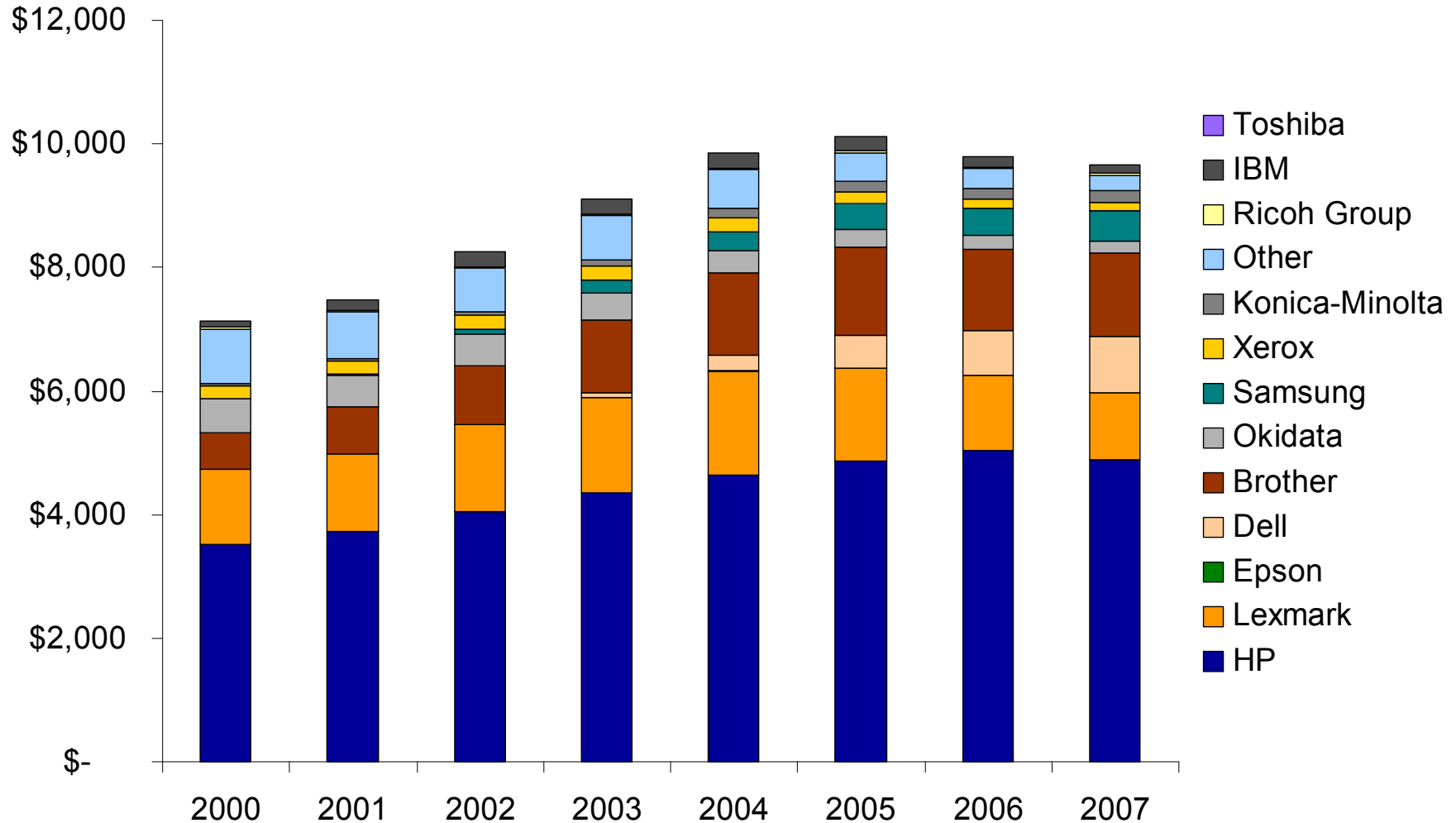
U.S.



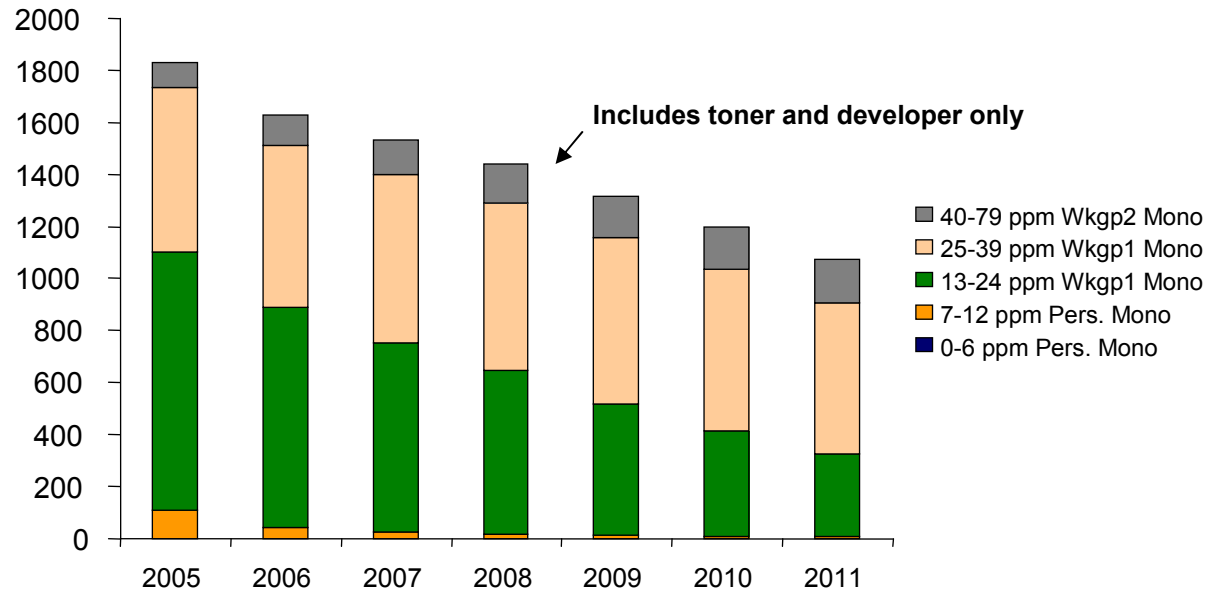
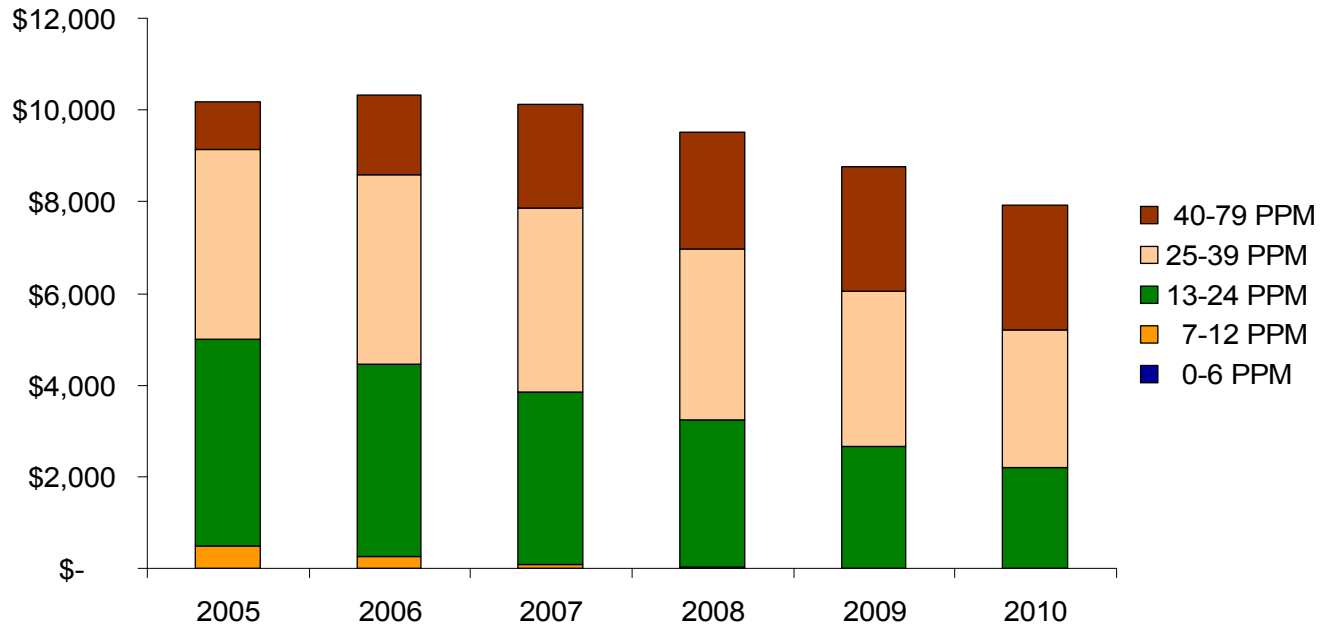
W. Europe



U.S. Monochrome Laser Cartridge Demand \$M at Final POS



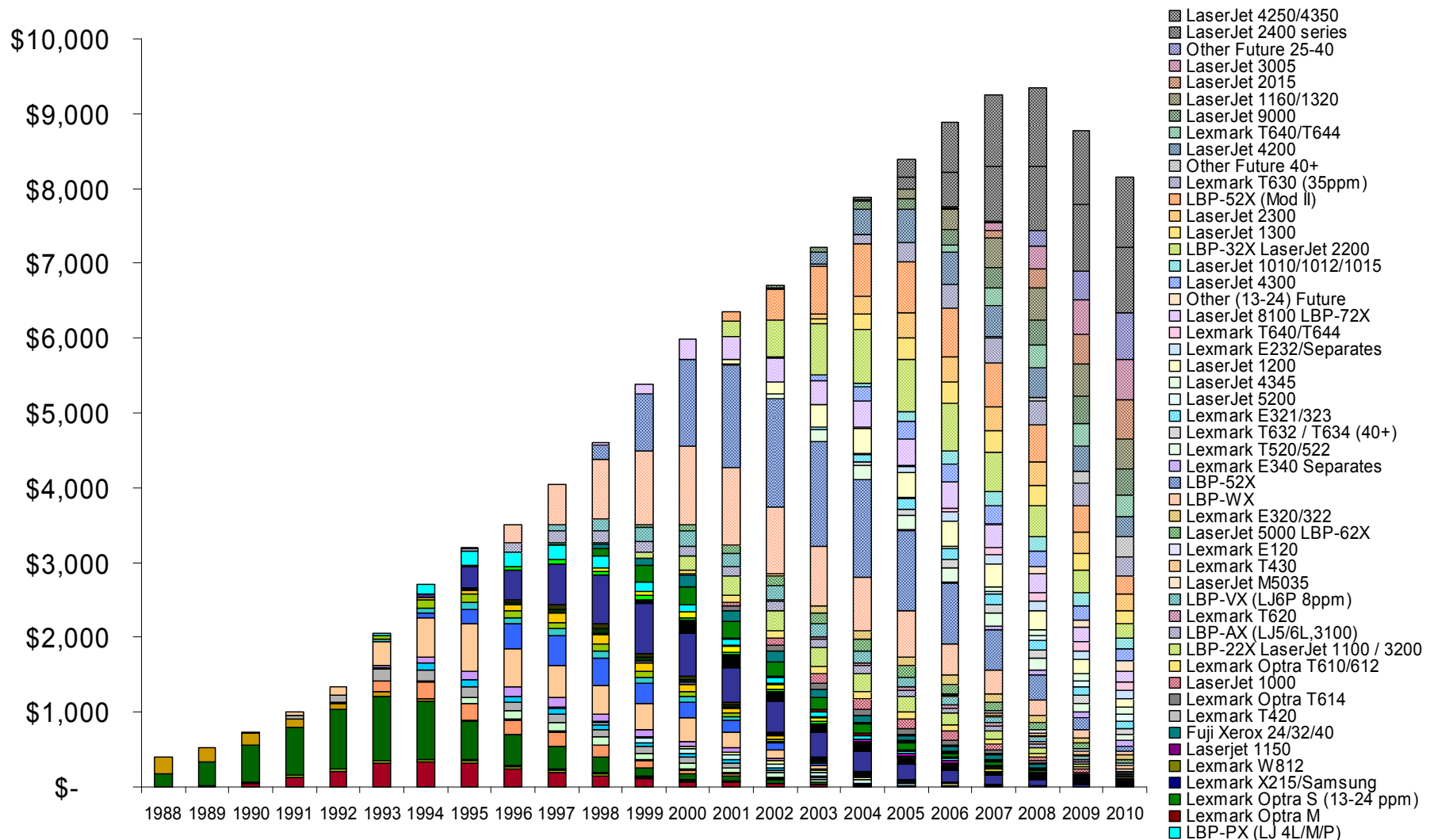
Monochrome Laser Cartridges at Final POS



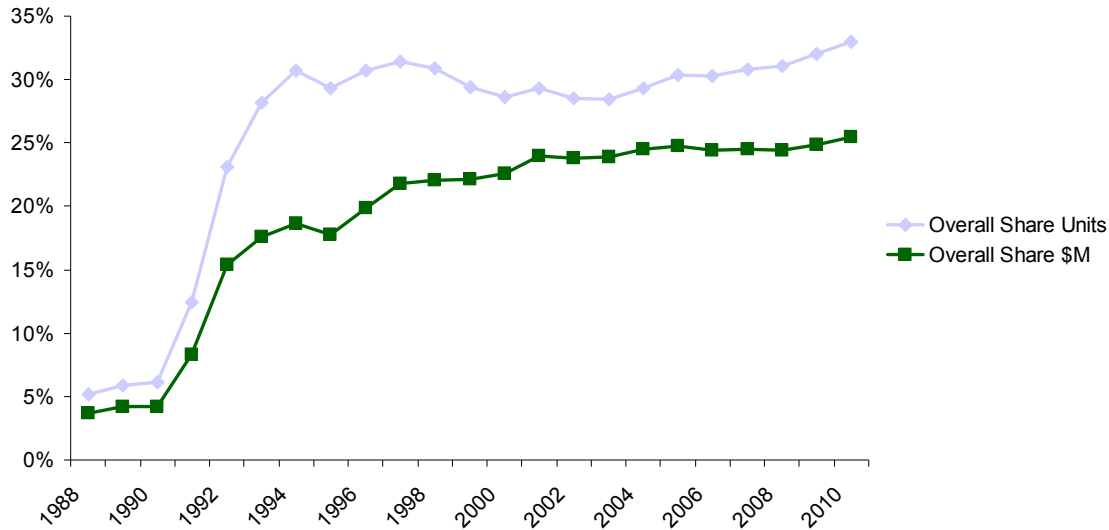
U.S. Market \$M

W. European Market €M

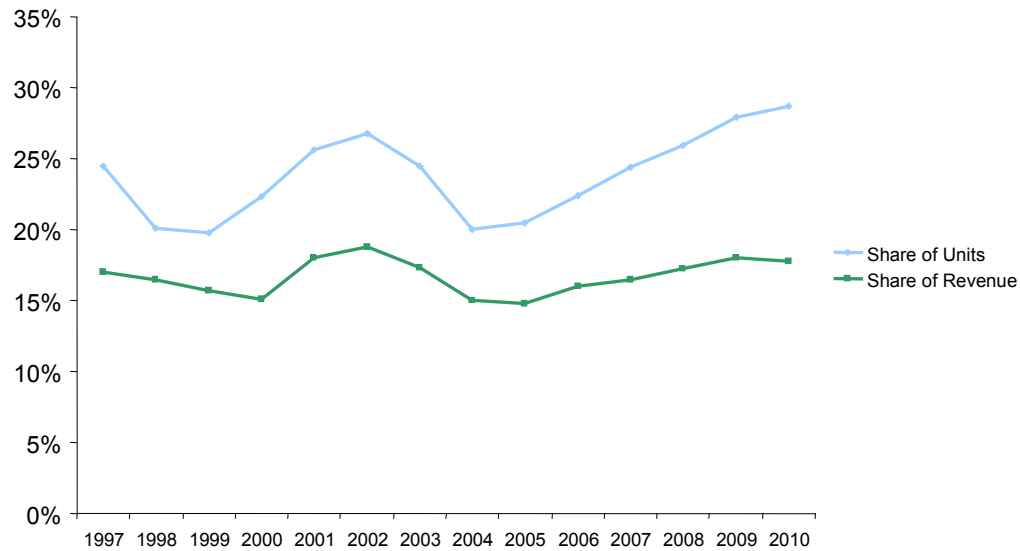
U.S. Monochrome AIO Cartridge Demand at Retail Value (\$Millions)



Aftermarket Share of Monochrome AIO Laser Cartridges

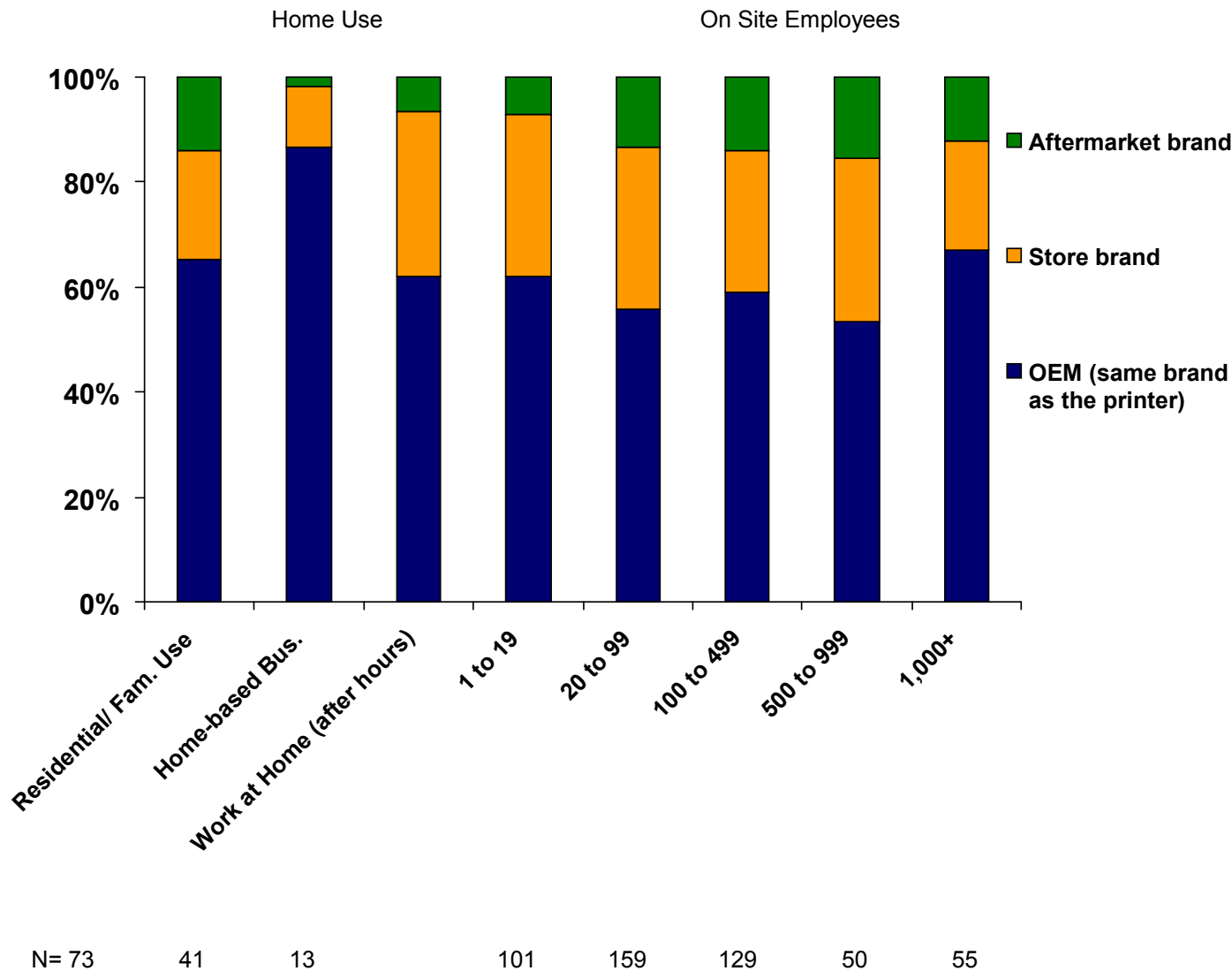


U.S.



W. Europe

Q36 Home and Business: For black & white laser printers, what type of toner cartridge are you using right now? (Type of Business/Number of Employees)



- Loyalty to OEM toner is at a level we would expect to find.
- Store brands appear to be about twice as popular as aftermarket brands, but the store brand share is likely overstated.
- These results are consistent with similar survey data from December 2005.

N= 73

41

13

101

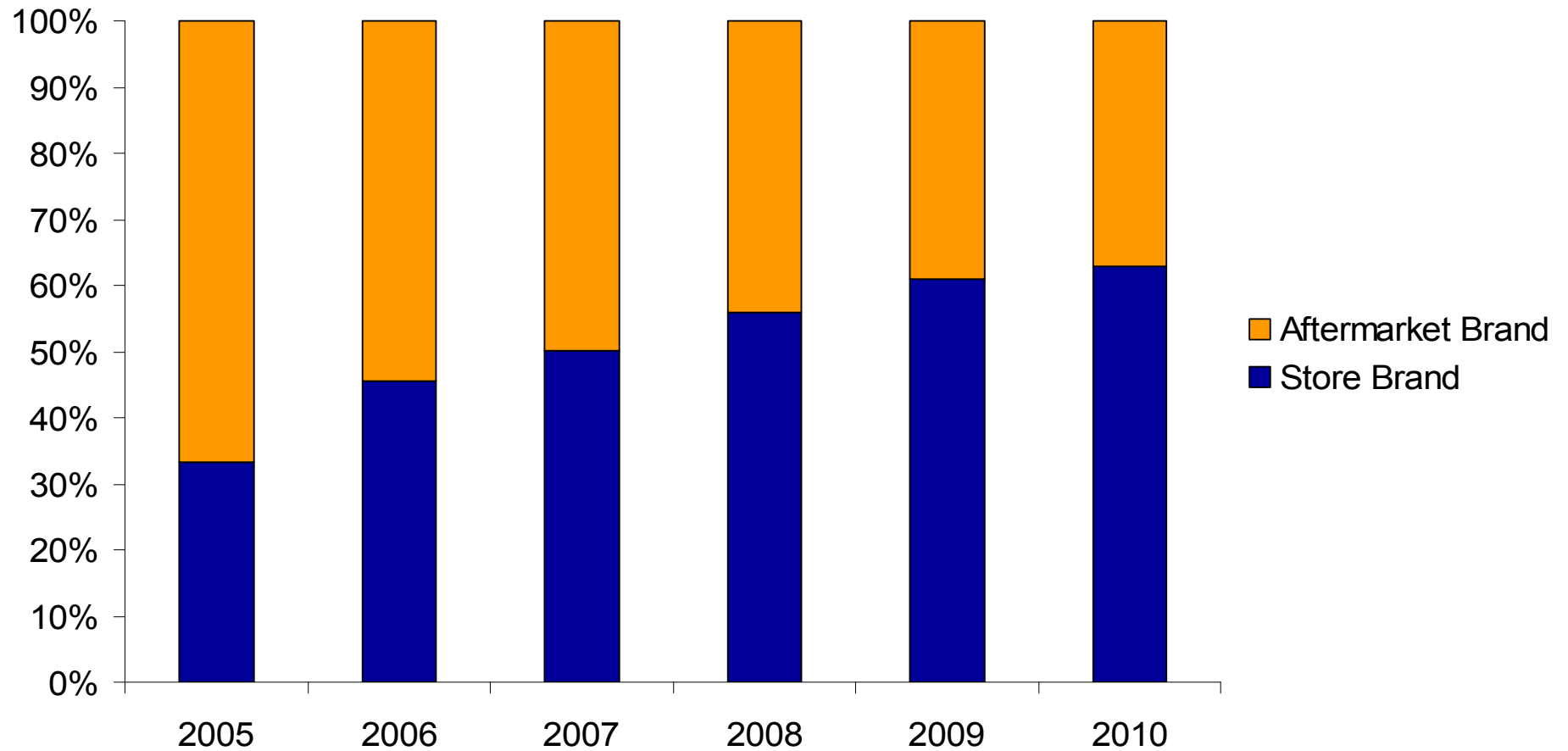
159

129

50

55

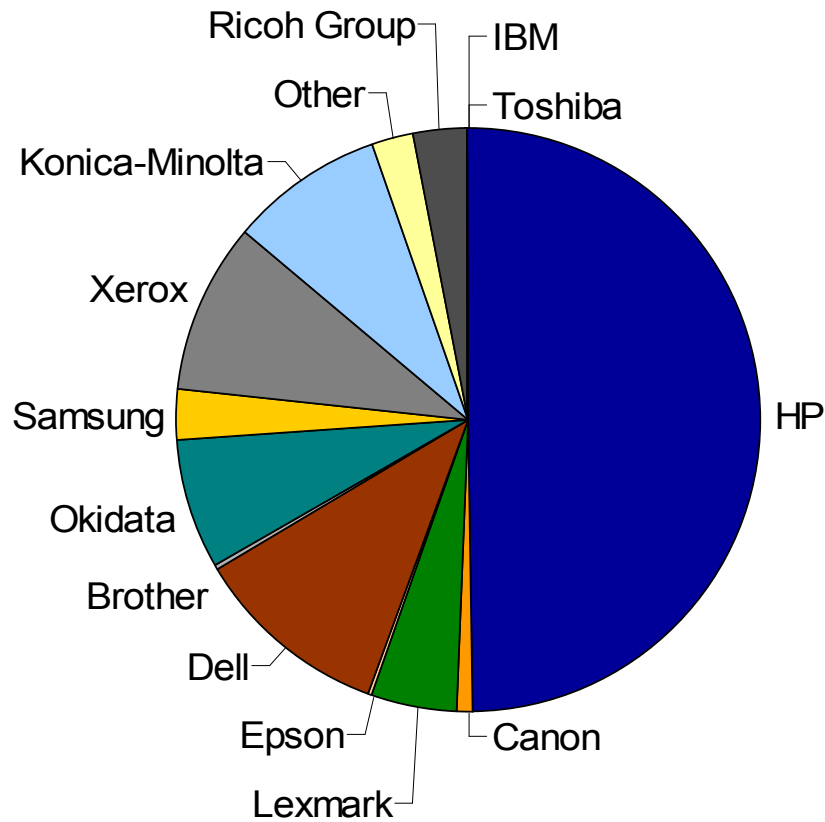
U.S. Monochrome AIO Laser Cartridge Non-OEM brand type



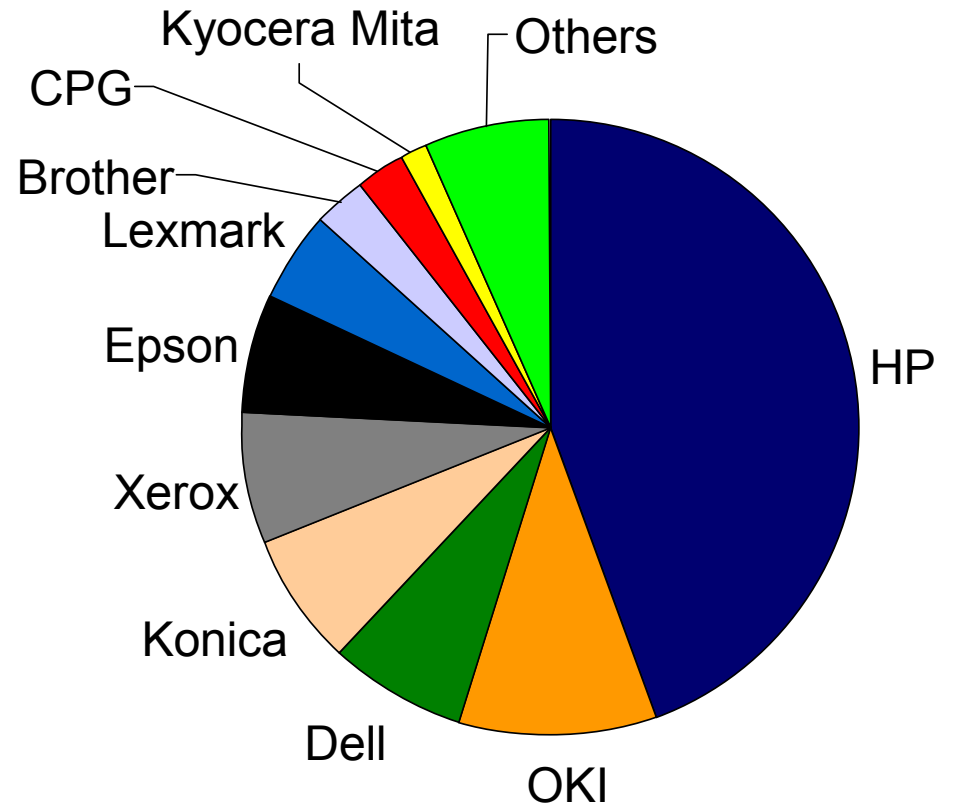
Color Laser

Color Laser Printer Installed Base Share 2007

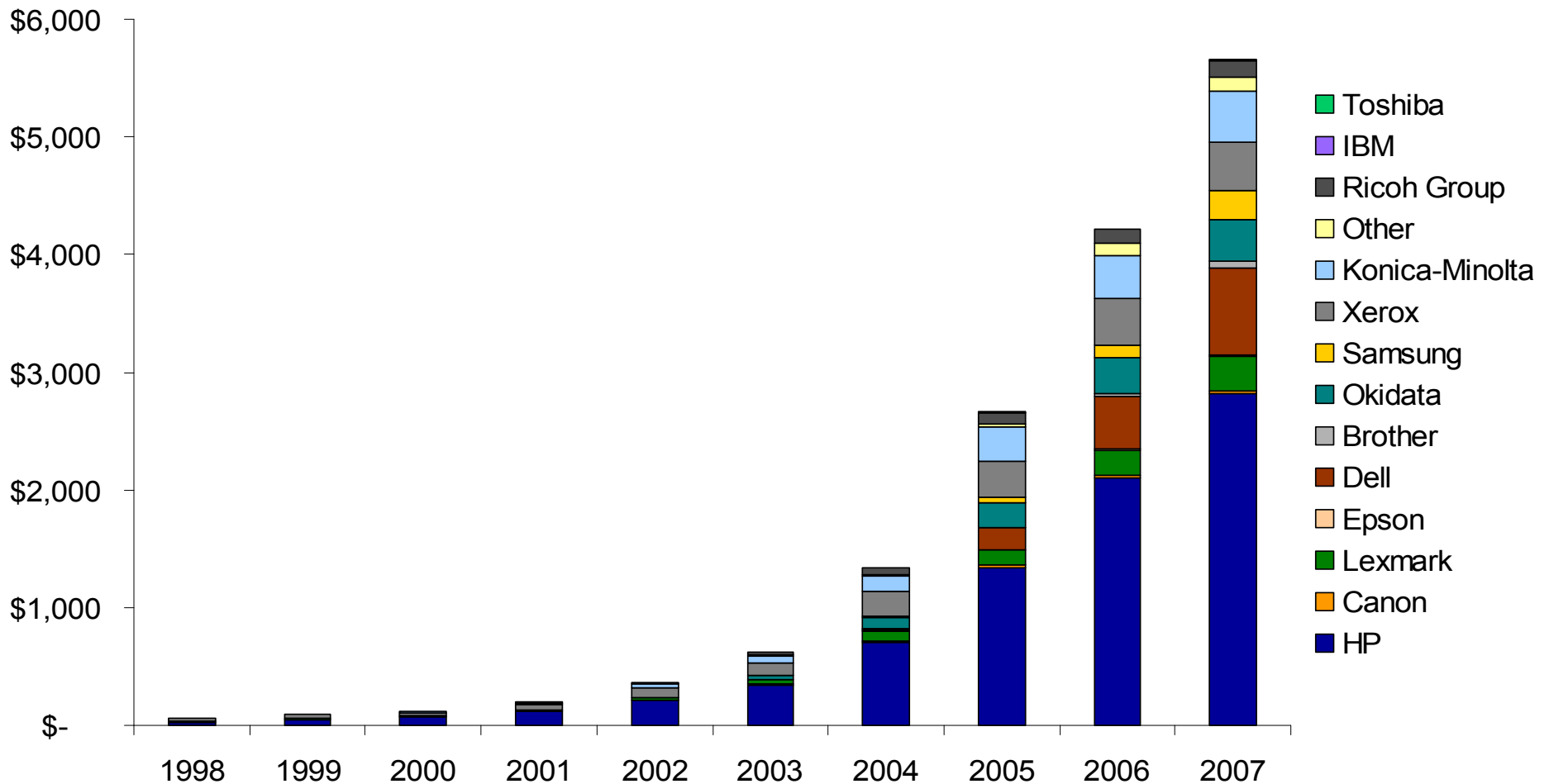
U.S.



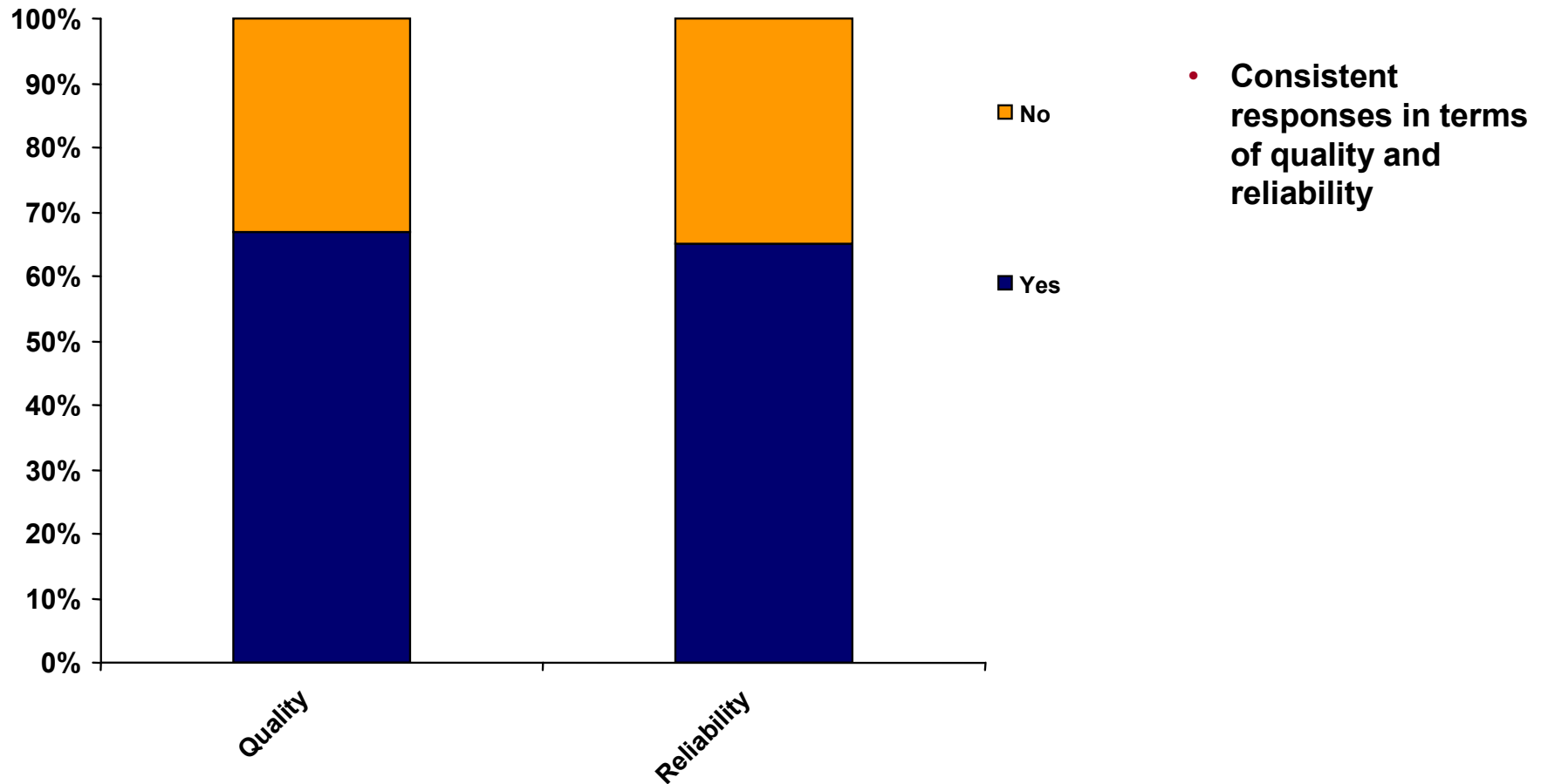
W. Europe



U.S. Color Laser Cartridge Value by Machine Brand \$M



Q39 & 40 Home and Business: Do you believe that store brand or aftermarket brand color toner cartridges have sufficient QUALITY and RELIABILITY for use in your color laser printer?

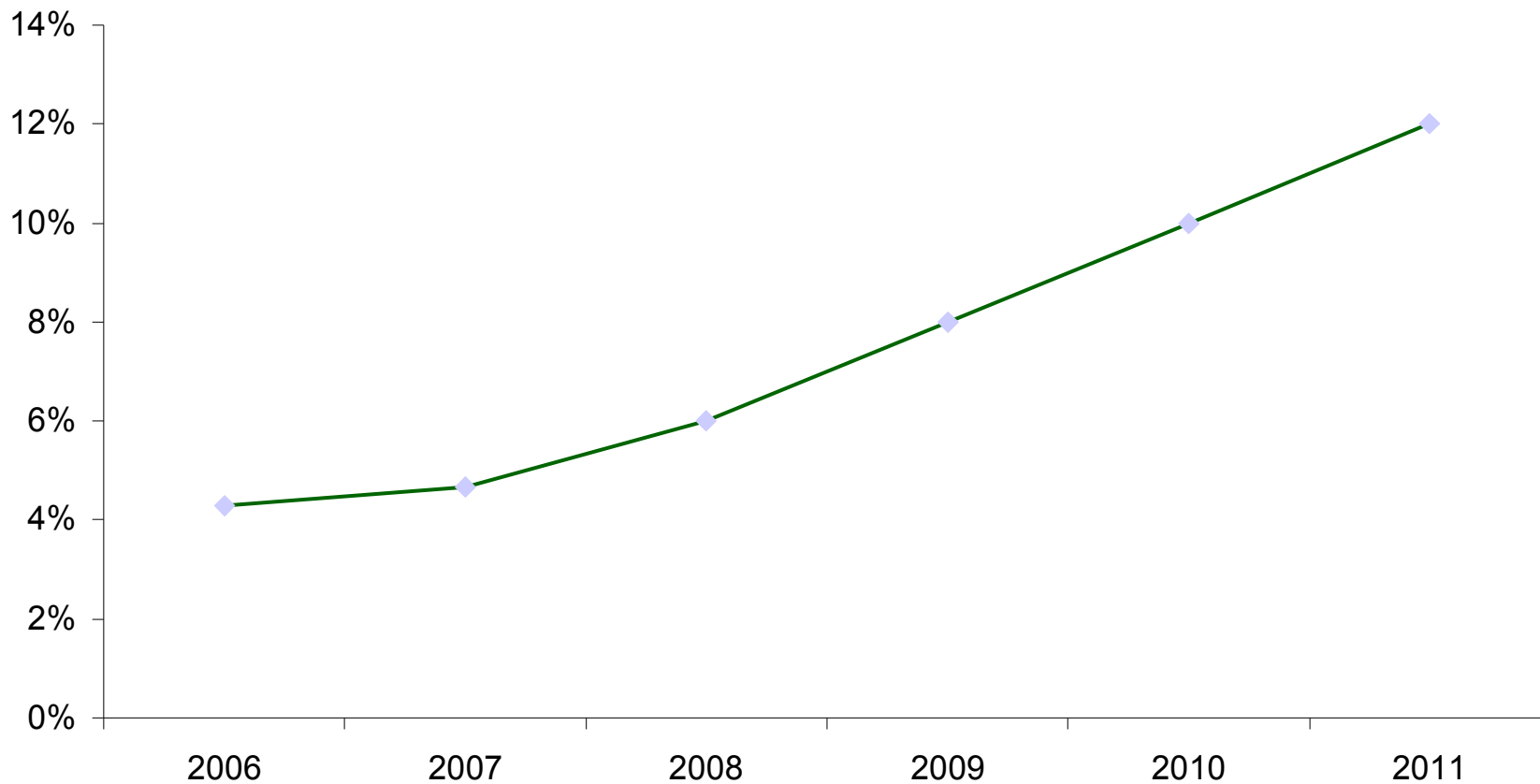


N=874

Future Aftermarket Share for Color Laser Cartridges

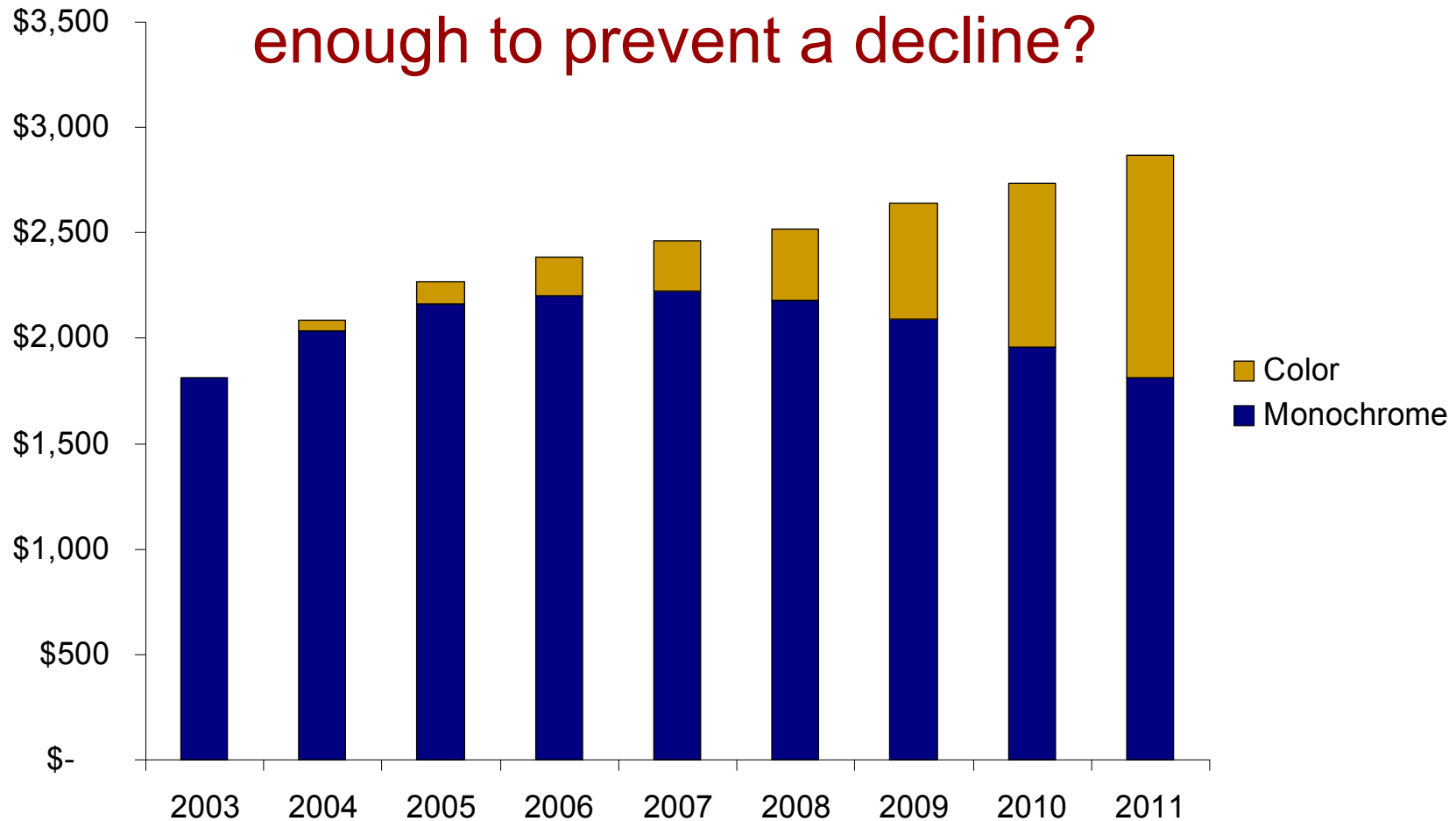
U.S.

Aftermarket Share of \$M ALL

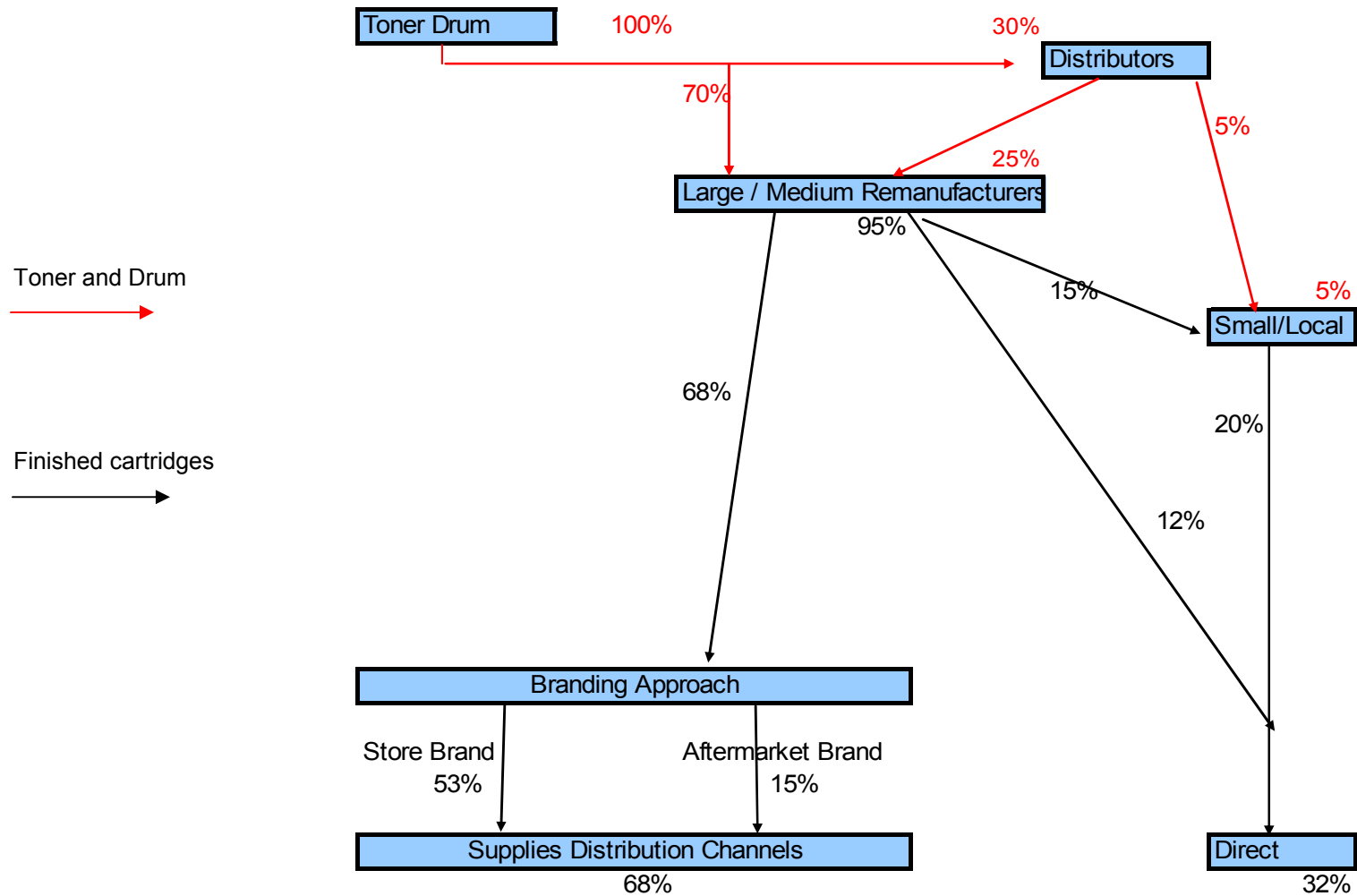


U.S. Laser Cartridges Non-OEM \$M at Final POS

Will the aftermarket penetrate color soon enough to prevent a decline?



Remanufactured Toner Cartridge Channel Share 2007

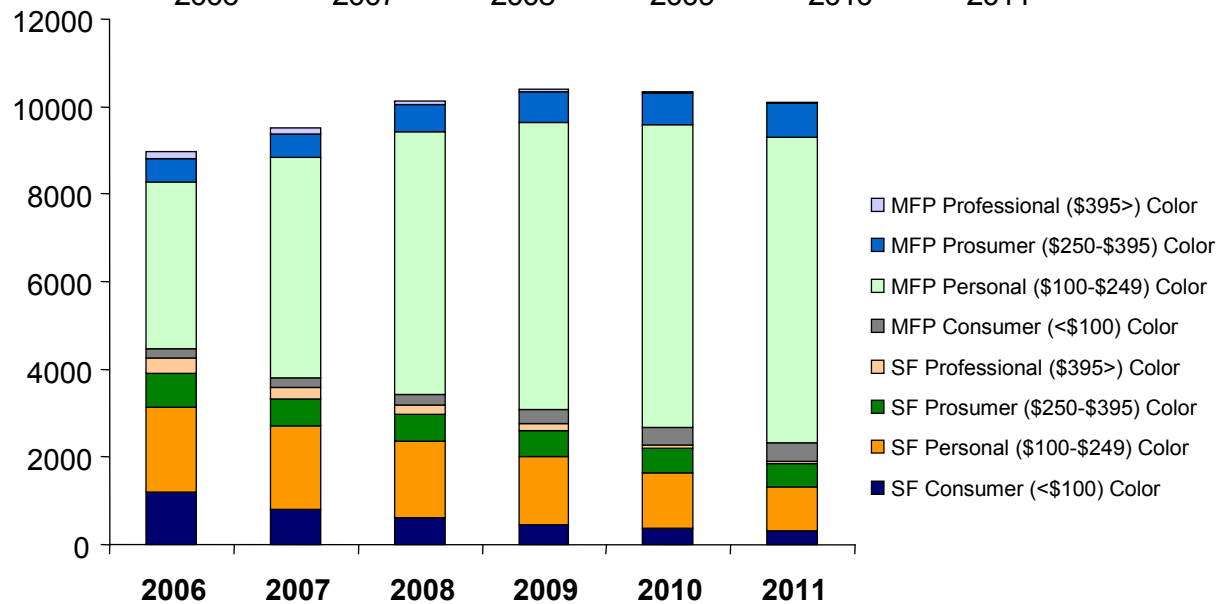
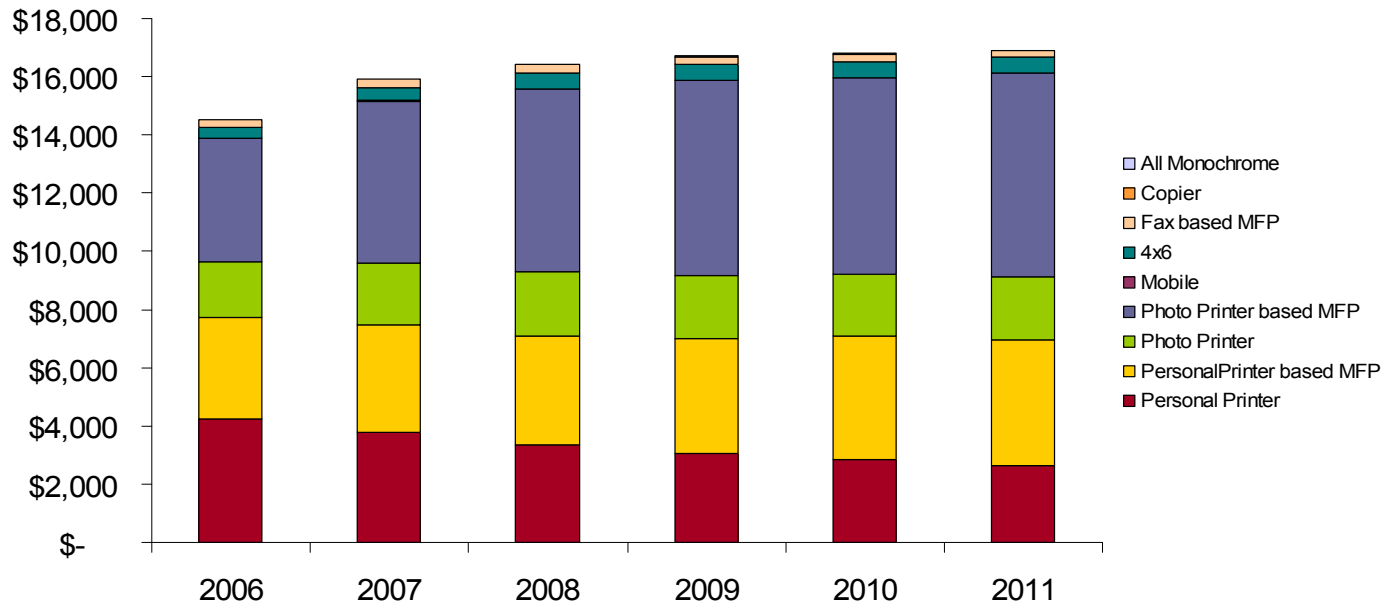


Laser Cartridge Issues

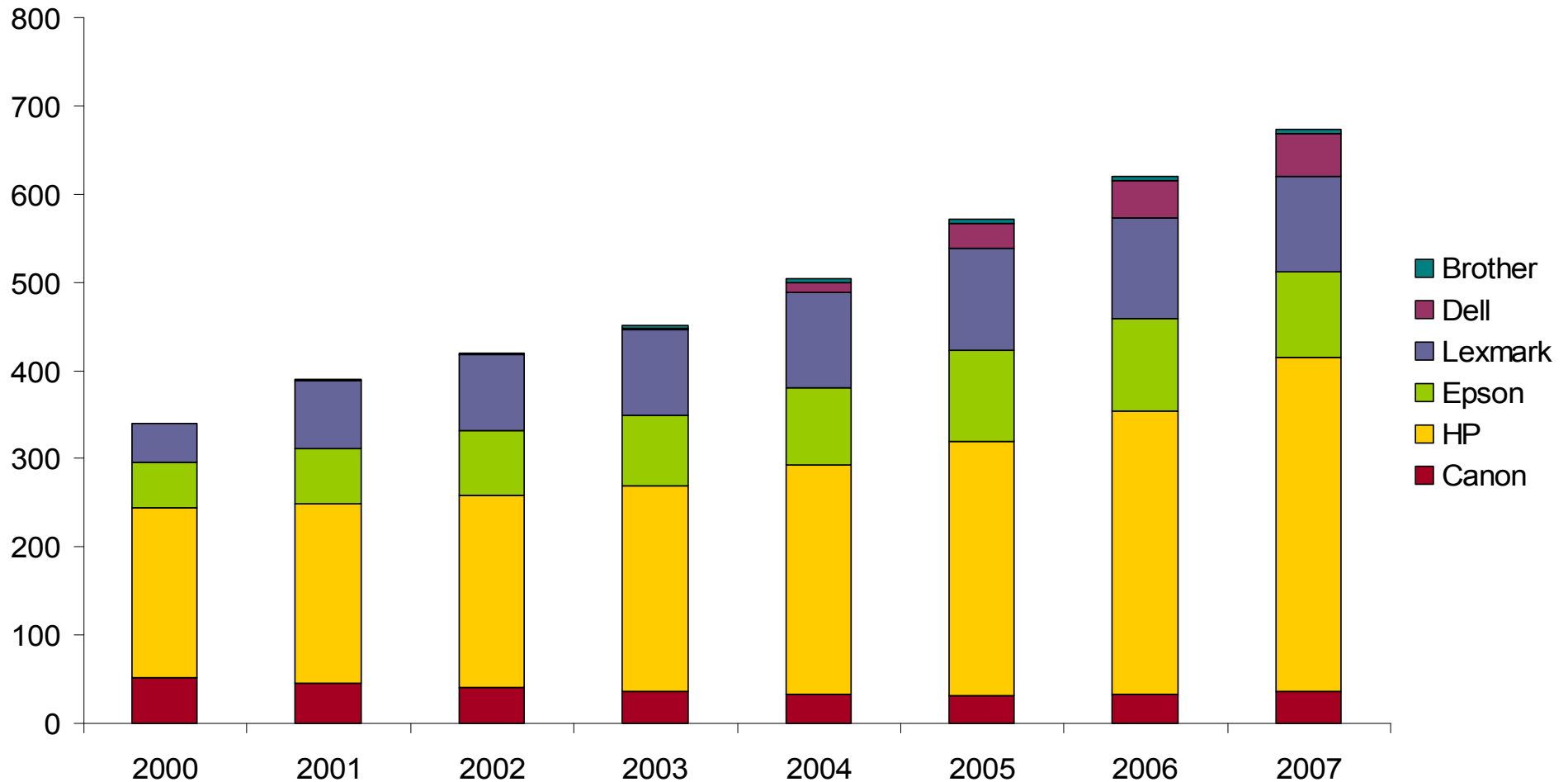
- Demand shifts to color
- Ongoing remanufacturer consolidation
- Reman and new-build from Asia
- Production continues to shift to low cost regions
- Waiting for interpretation of Quanta vs. LG
- Pressure on OEM and aftermarket to be green

Desktop Inkjet

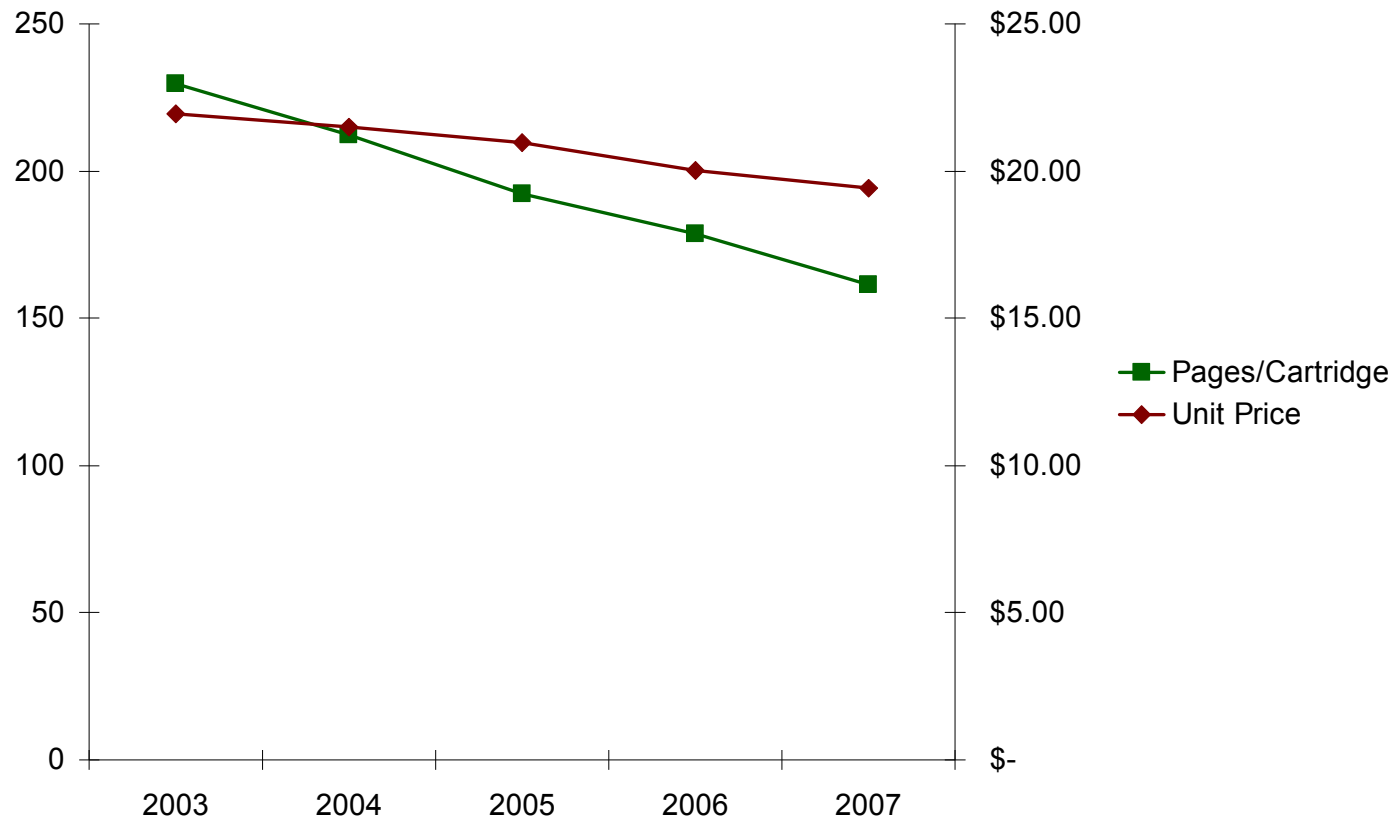
Desktop Inkjet Cartridge Forecast at Final POS



U.S. Desktop Inkjet Cartridge Consumption (Units M) OEM and Aftermarket



Declining Cartridge Yields and Prices

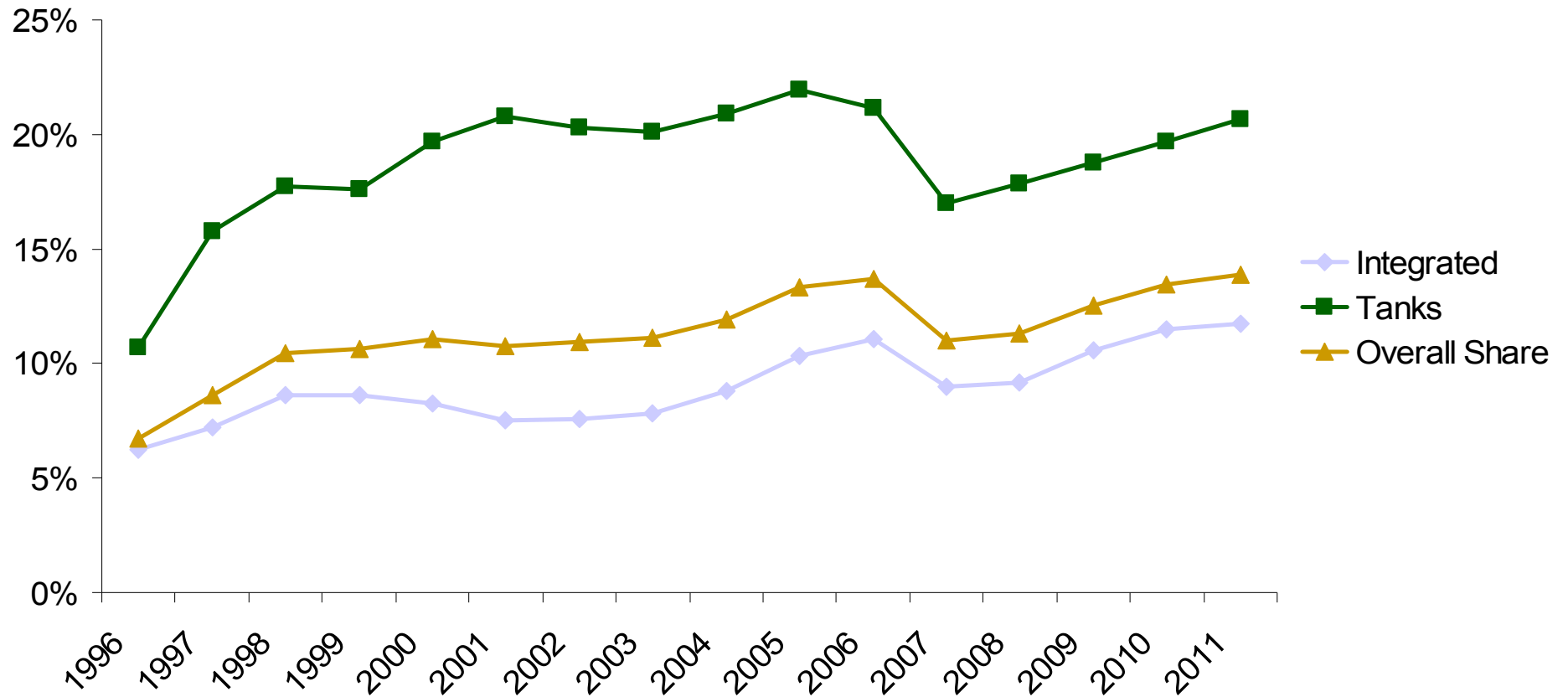


Events

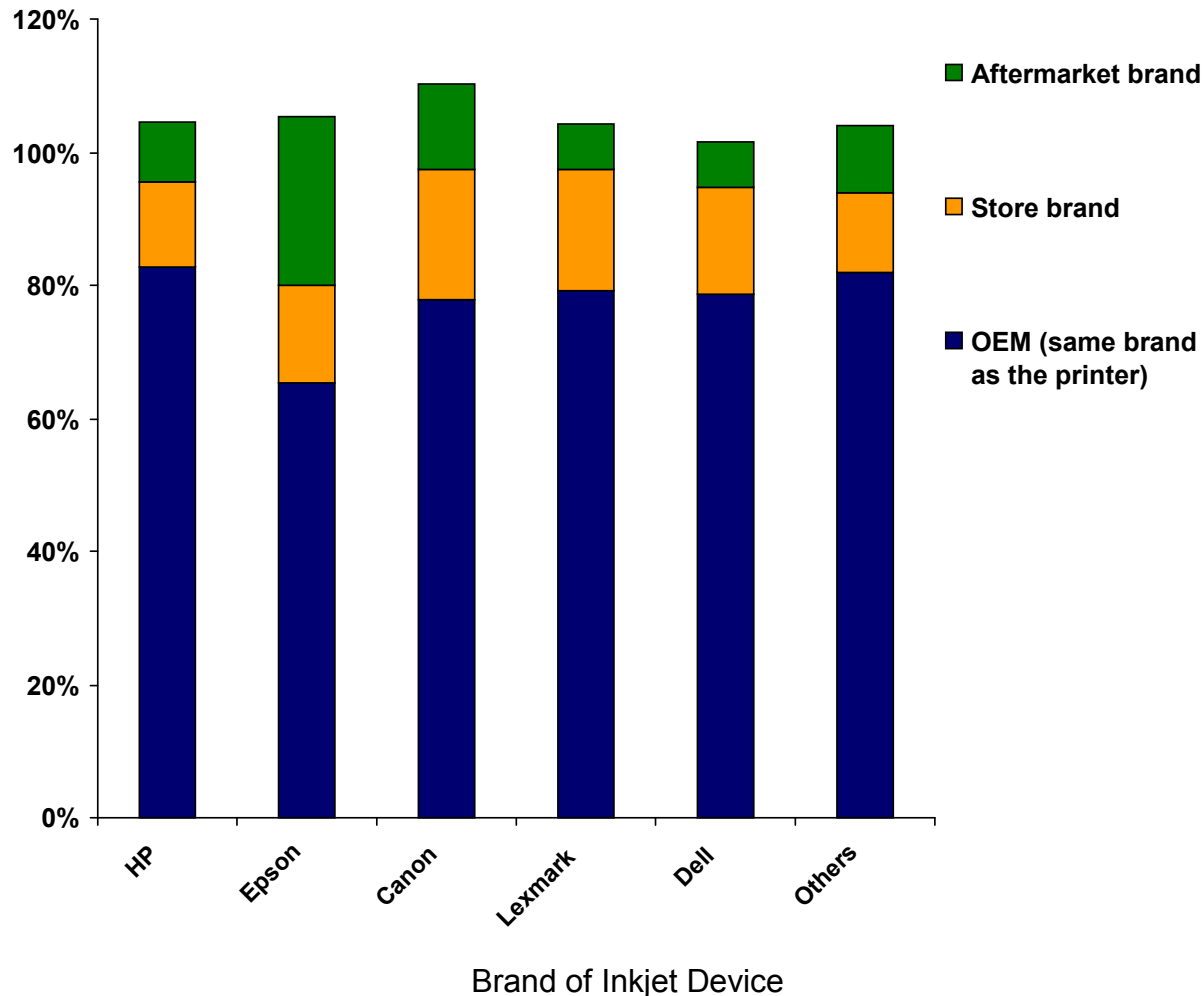
- **HP and Staples**
- **Epson General Exclusion Order in place**
 - Blocks non-U.S. made compatible cartridges into the U.S.
- **Canon – Aftermarket has broken the CLi-8 chip after 2 years**
- **Canon shifting back to integrated cartridges**
- **Dell – Cartridges are available in Staples, Best Buy and Wal-Mart**

U.S. Estimated Non-OEM Inkjet Share of Cartridge Units

US Desktop Inkjet Aftermarket Share of Units



Q32 Home: Which brand of inkjet cartridges are you using right now? Check all that apply.



- Epson users appear to be less loyal to OEM ink.
- Store brands are stronger than aftermarket brands for all OEMs, except for Epson users
 - In time, the Epson responses on non-OEM may decline due to Epson's success in blocking infringing cartridges from import.
- In previous surveys, Canon users showed similar rates of use for non-OEM to Epson
 - That may be changing...

N=674

95

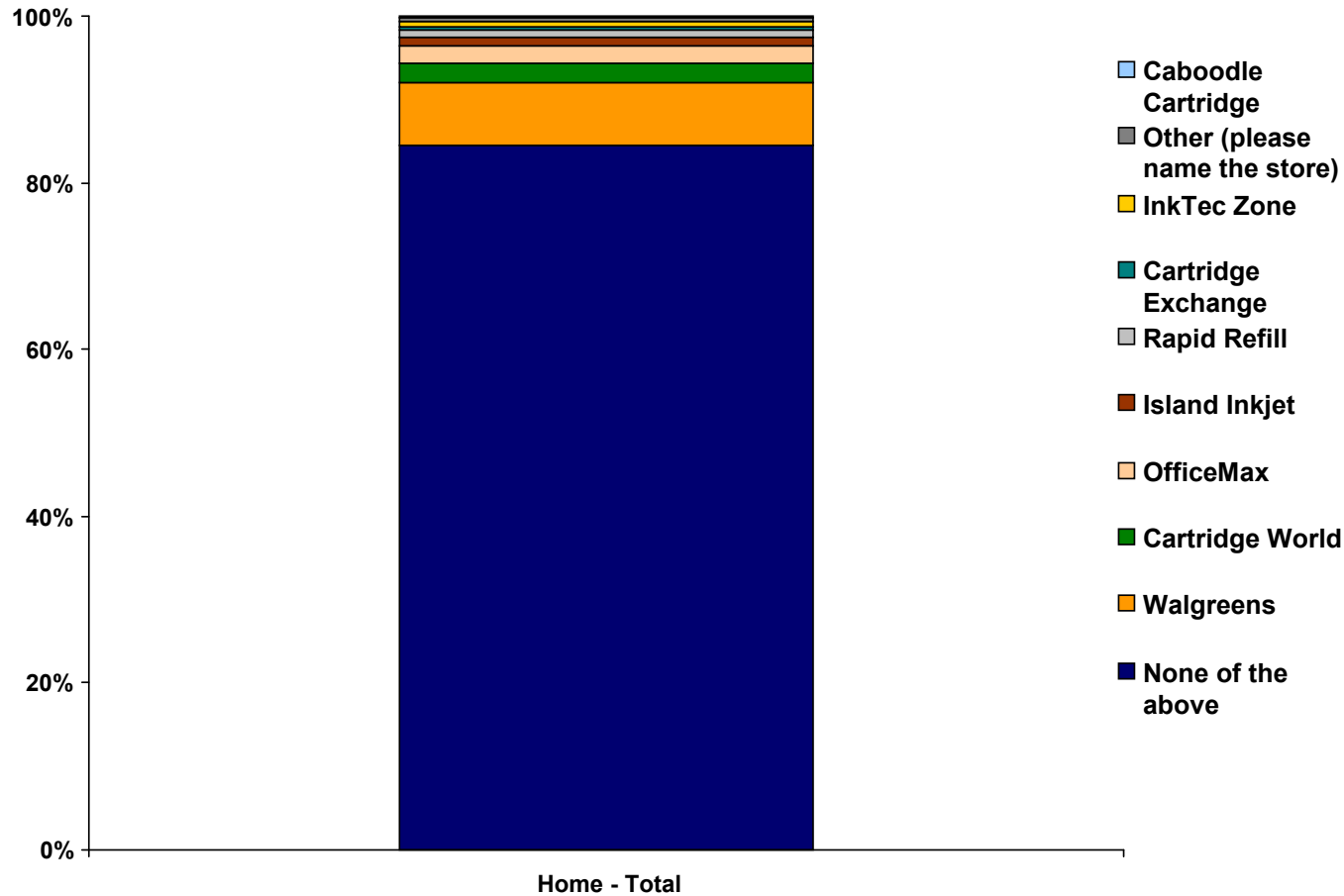
117

324

117

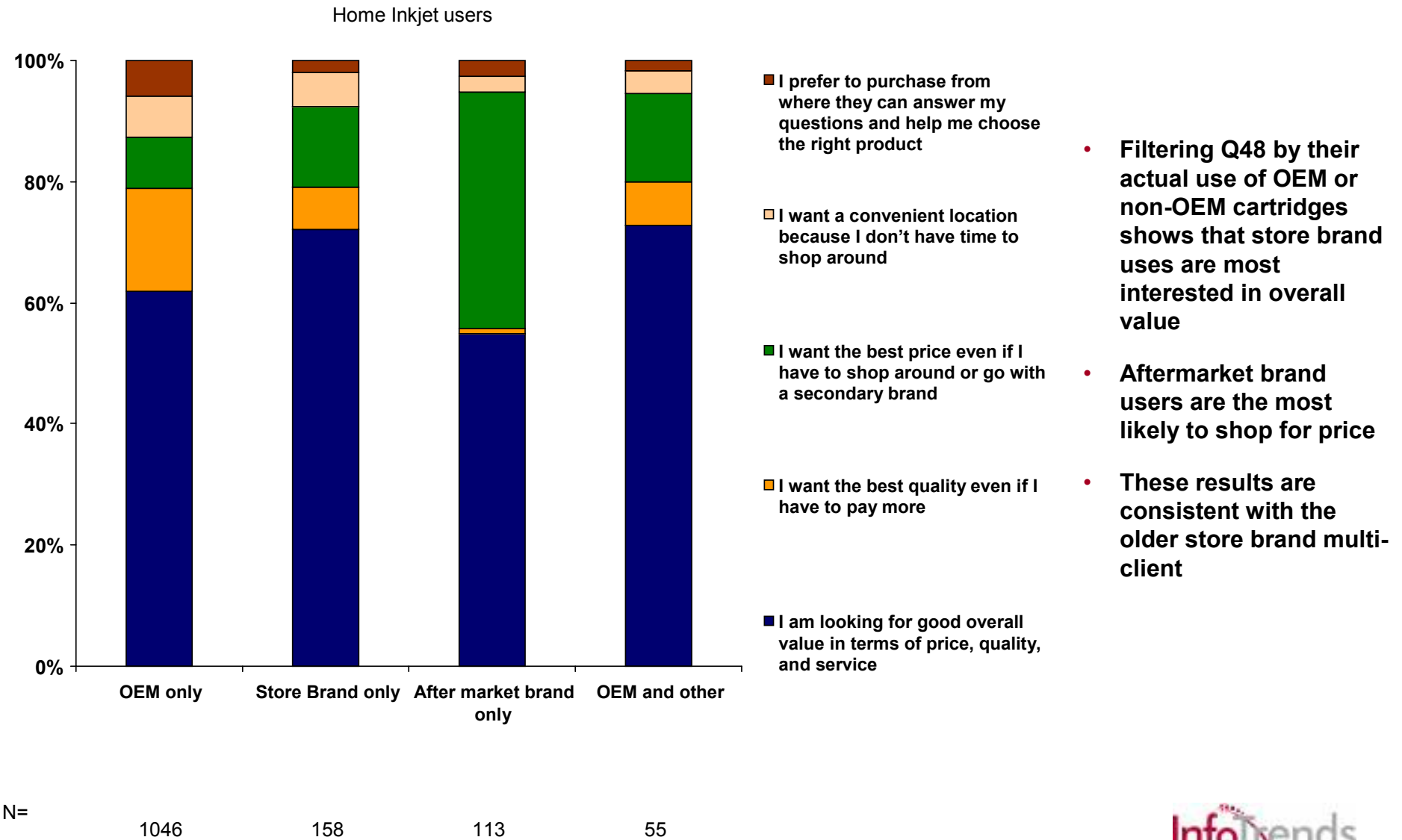
50

U.S. Q84 Home: Have you ever tried an in-store while-you-wait inkjet cartridge refill service? Check all that apply. (By Environment)



N= 1377

Q48 Home: Which of the following best describes you when purchasing inkjet or toner cartridges? (By Device Purpose)



N=

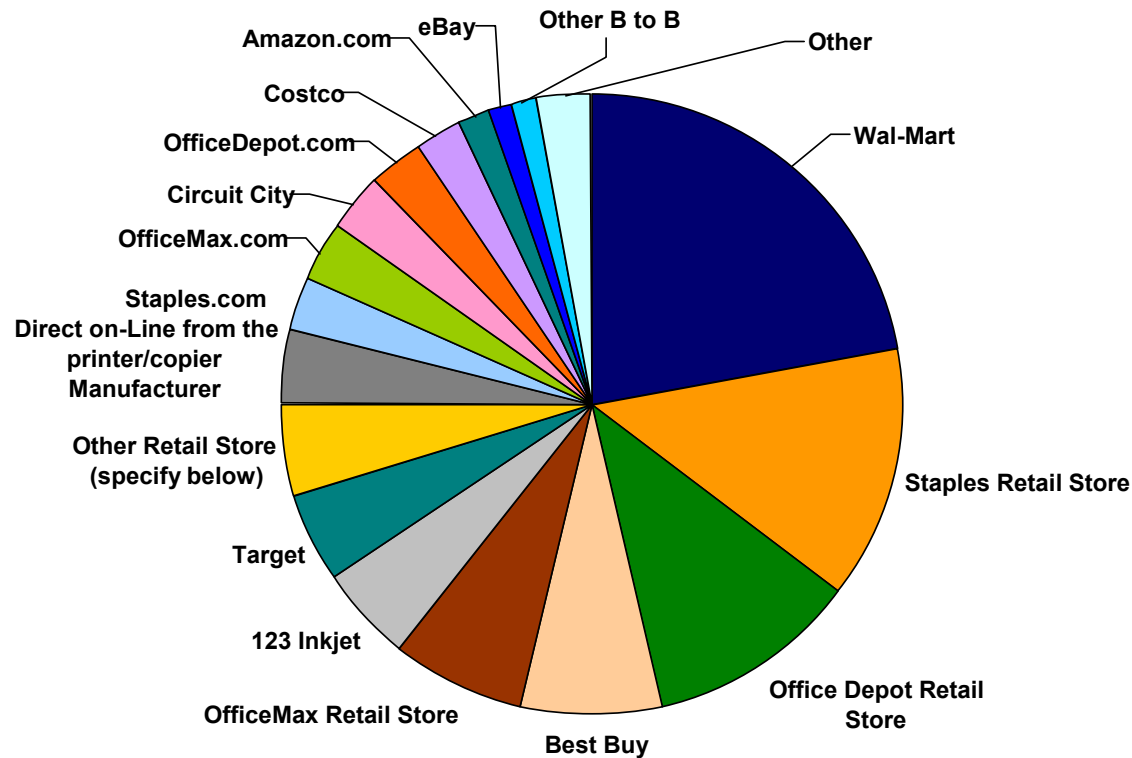
1046

158

113

55

Q57 Home: For your inkjet printer, what is the name of the store, dealer, or other reseller where you typically buy inkjet cartridges? Please check up to THREE options.

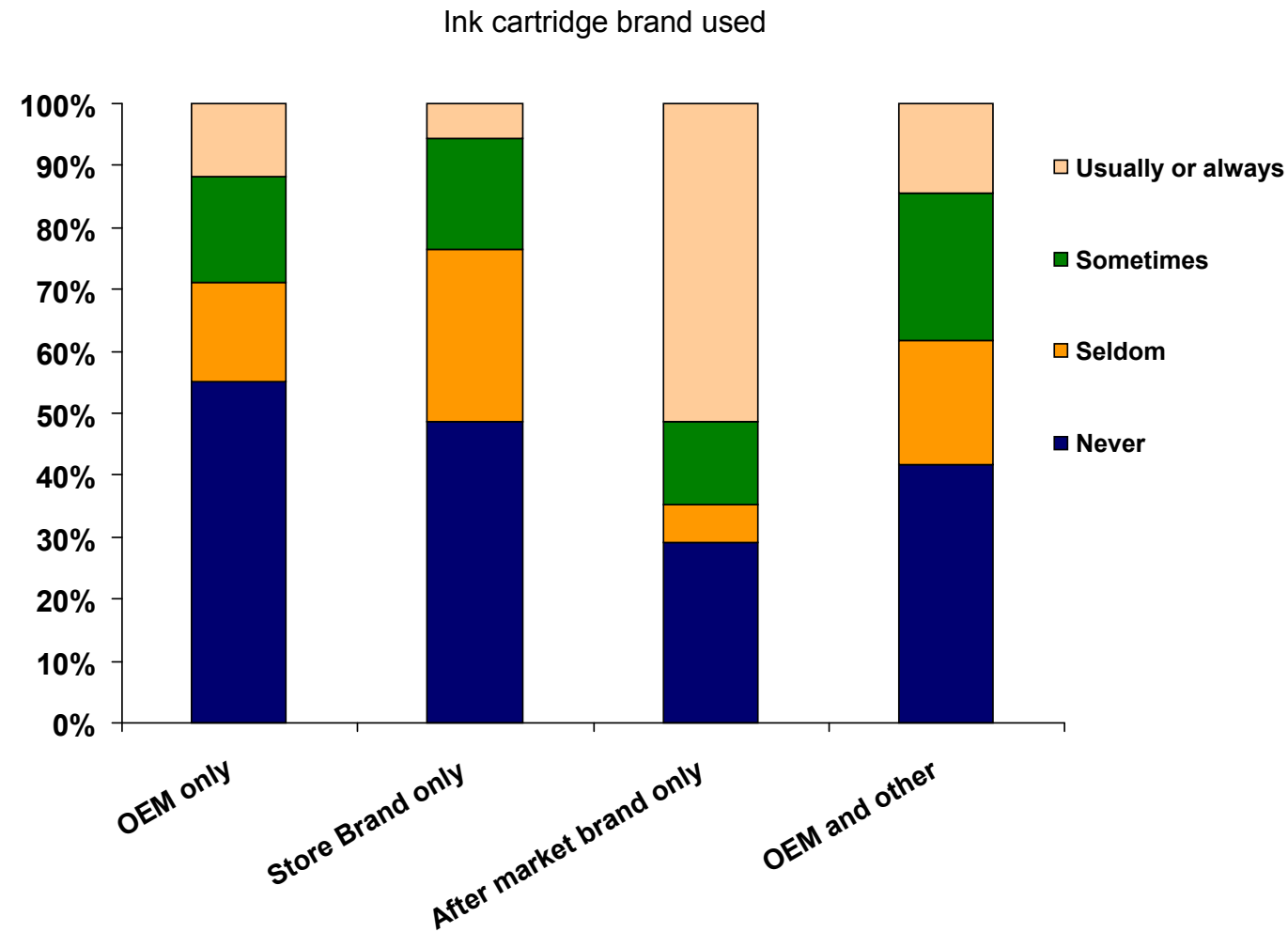


Respondents=1377

Responses=2637

Avg. 1.95 responses per respondent

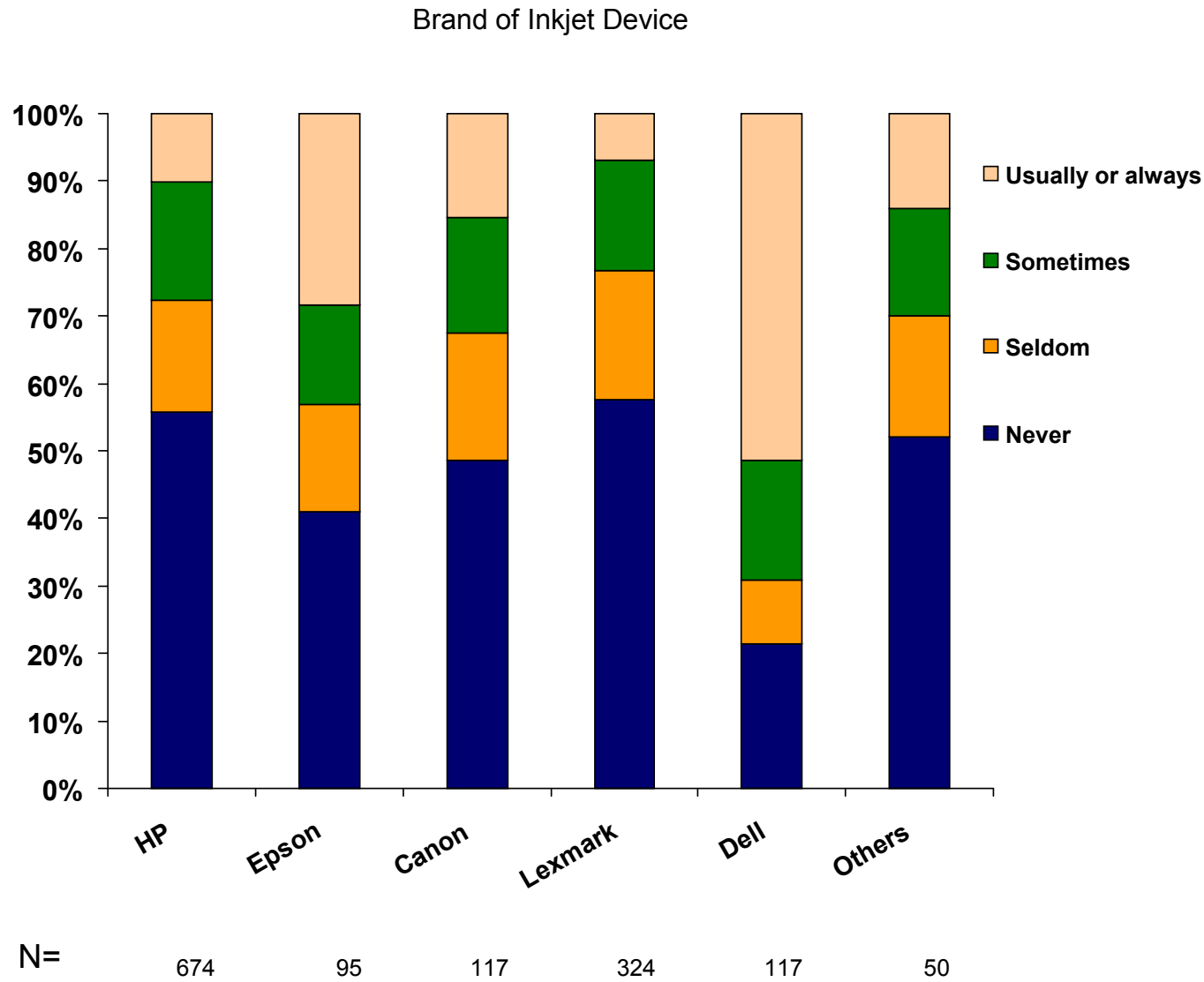
Q58 Home: Do you purchase inkjet cartridges online? (By Brand)



- Consistent with the store brand study of 2006, aftermarket inkjet cartridge users are far more likely to order online than are store brand or OEM cartridge users

N= 1046 158 113 55

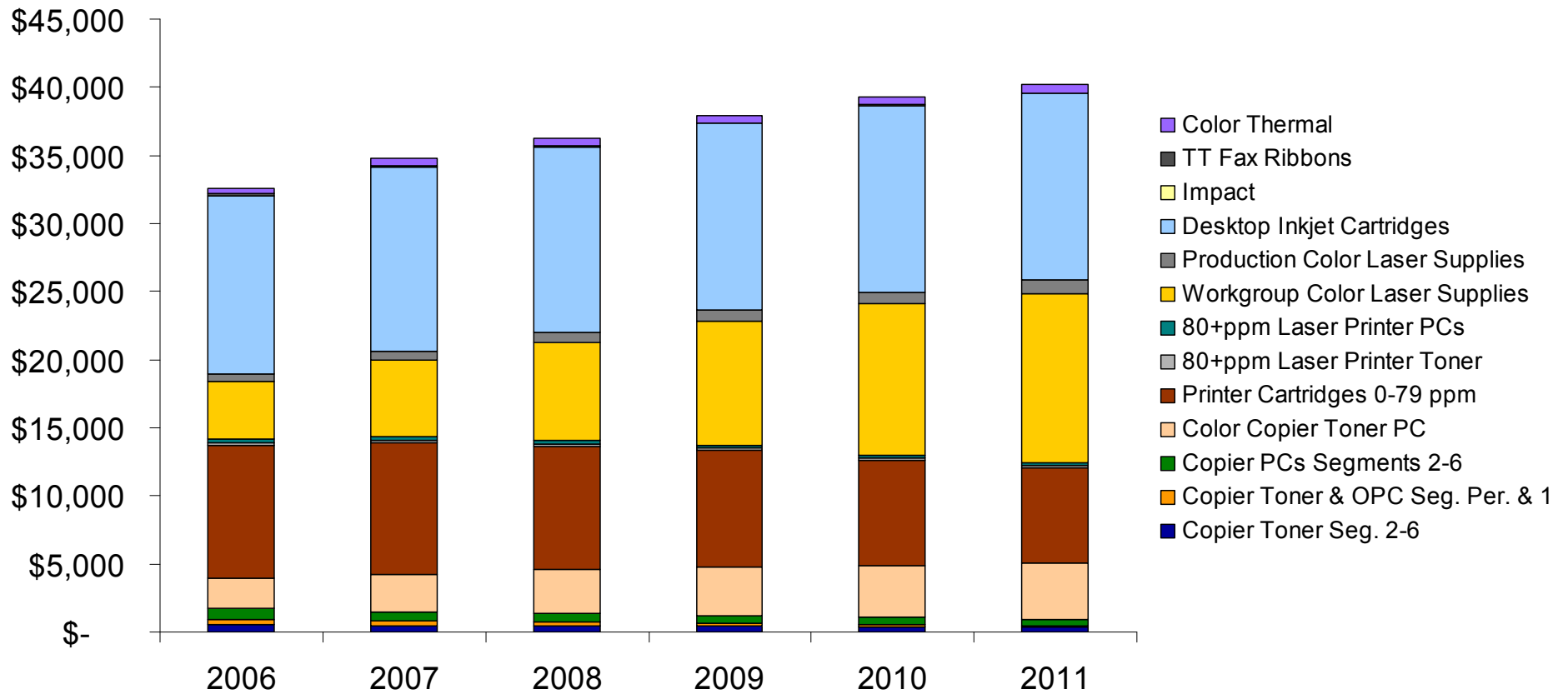
Q58 Home and Business: Do you purchase inkjet cartridges online? (By Device Brand)



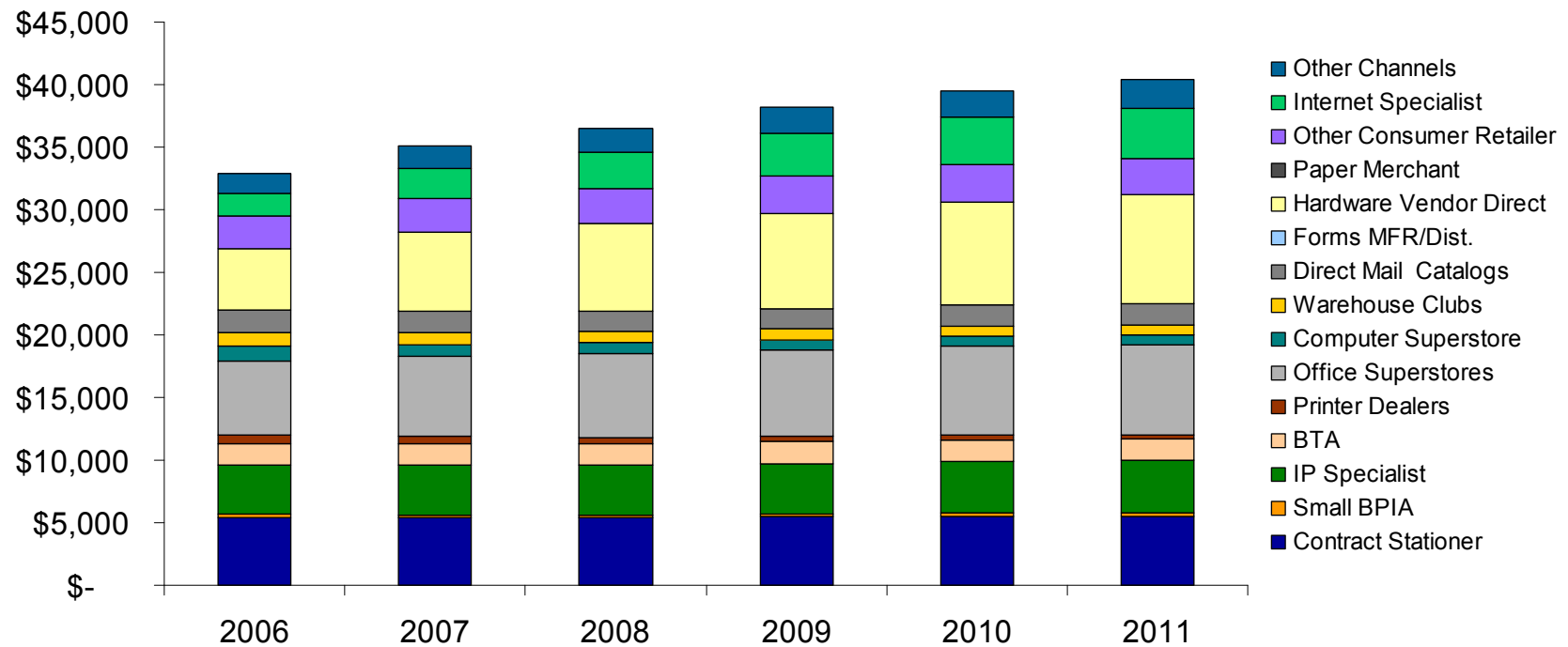
- Dell users report buying inkjet cartridges online significantly more than users of other OEM brand hardware
- But Dell users should be reporting even higher use...

Distribution Channels for Marking Supplies

U.S. Marking Supplies \$M at Final POS



U.S. Distribution Channels Total Marking Supplies \$M at Final POS



Summary

- **Monochrome in decline across the board**
- **Color growth from laser printer and copier based MFP**
- **Serial/desktop inkjet subdued due to low cost color lasers in business**
- **Page wide-array inkjet could pose challenge to electrophotography**
- **Aftermarket at a crossroads in the laser market**
- **Inkjet aftermarket reset, but expected to gain again amid changes**



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