



■ ■ ■ ■ **Expect Sustained Growth  
for 2H 2010: Supply and  
Demand remains Volatile**

## **PC Forecast and Market Scenarios**

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# What You Need to Know

- PC demand remains volatile, as the gloomy economic environment causes “sentiment” driven by fear, uncertainty and doubt.
- We expect worldwide PC shipments to slow in 2H10 to 12.9% from both a softening demand and full channel inventories in the wake of to stronger than expected shipments in 1H10
- Overall Worldwide PC unit shipments are forecast to grow 17.9% for 2010, only slightly down on our previous forecast.
- Growth in 2011 and 2012 is expected to be 18.7% and 15.2%, respectively. Home mobile PCs will drive shipments worldwide in addition to upside professional market growth in emerging and mature markets.
- Mobile PC Forecast will be cannibalized by 15% of all Emerging media tablets in 2012.

# PC Unit Forecast, 2010-2012

## *2010 Outlook Lowered; Anticipate Stronger 2011 and 2012 Growth*

	<u>2010</u>		<u>2011</u>		<u>2012</u>	
	Units (M)	Growth (%)	Units (M)	Growth (%)	Units (M)	Growth (%)
Sept. 2010	363.6	17.9%	431.6	18.7%	497.1	15.2%
June 2010	370.8	20.3%	434.5	17.2%	497.1	14.4%
<b>Change</b>	<b>-7.2</b>	<b>-2.4%P</b>	<b>-2.8</b>	<b>+1.5%P</b>	<b>0</b>	<b>+0.8%P</b>

**2010:** Growth reduced on concerns for mature home markets in 2H10. Deskbased PC growth slightly raised, mobile PC growth lowered and shifted to emerging regions in response to 2Q10 market results.

**2011:** Growth raised on anticipation of stronger emerging market growth, especially mobile PCs. Mature market growth reduced as a result of generally lowered mature market mobile PC growth and push-out of anticipated deskbased replacement cycle into 2H11

**2012:** Growth raised on expectation of continued strong mobile PC growth in emerging markets. Mature market deskbased PC growth raised with revised expectation that deskbased PC replacement cycle will still be strong in 1H12; however, mature market home mobile PC growth further reduced in anticipation of cannibalization by media tablets and other mobile devices.

# PC Forecast Assumptions

**Macro Economic: The world's real GDP is projected to increase 3.7%** (global Insight August 2010)

The macro-economic environment is very fragile and will continue to cause uncertainty for all those in the PC supply chain trying to match supply and demand requirements.

**Seasonality: The PC market will be below seasonality for next two quarters**

The PC market, in the short term, will not return to a seasonal pattern as seen before the downturn. The erratic behavior in demand patterns make normal trading patterns difficult. Whilst over the longer term we return to some seasonality, oversupply and undersupply could easily affect quarter on quarter growth.

**PC Platforms: Consumer and Professional Market join forces**

Consumer notebooks, including mini-notebooks will continue to appeal to consumers. All-in- one consumer DT will also find new markets. The PC is now considered more of a “necessity” rather than a luxury and as such receives preferential treatment of household CE spend. Business’s indicate budgets are available for PC refresh programs.

**PC OS Road Map: Replacements will happen - enterprises World-wide will migrate to Windows 7 during 2010/2011.**

New deskbased replacement cycle is starting to appear but again subject to the short term volatility. However Users must migrate to Windows 7 both because of aging PCs and MS and ISV’s support Windows XP.

**PC Pricing trends: PC Prices stabilize for second half of 2010**

PC prices are projected to fall at a much slower rate as the impact of Exchange rates and component prices impact vendors.

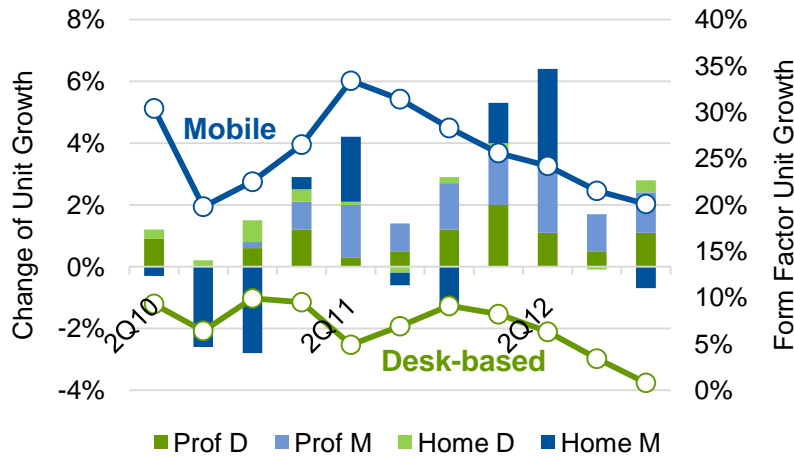


# PC Unit Forecast, 2010-2012

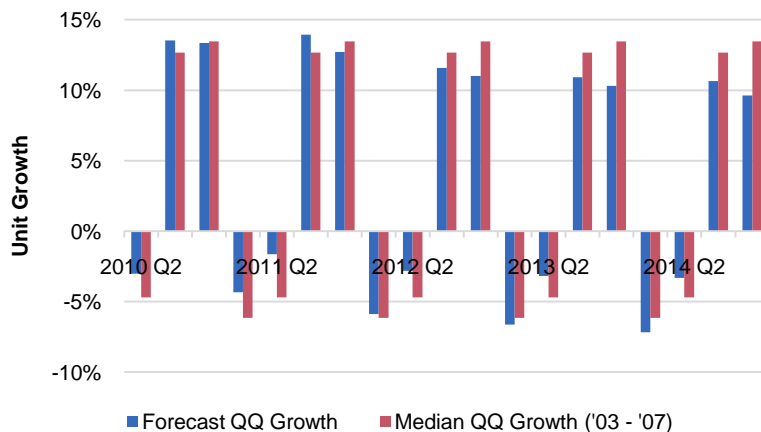
Period	Measure	August '10 Forecast	Change (%)	June '10 Forecast	Comment
1H10	Units (M)	168.5	↑ +1.5	167.0	Strong global appetite for mobile PCs. Stronger than expected WW desk-based. PC shipment growth of 9.9% was driven by Asia/Pacific.
	Growth (%)	24.2	↑ +0.9	23.3	
2H10	Units (M)	195.1	↓ -8.7	203.8	Pessimistic view because of suspected inventory adjustment problems, austerity measures and slightly weaker back-to-school orders.
	Growth (%)	12.9	↓ -5.0	17.9	
1H11	Units (M)	195.2	↑ +0.2	194.8	Professional PC shipments increased because of a move away from Win XP. We also believe our June forecast was too weak in our home market estimation.
	Growth (%)	15.8	↓ -0.9	16.7	
2H11	Units (M)	236.5	↓ -3.2	239.7	Professional markets buoyed by migration to W7. Home PC shipments shifted to first half of year.
	Growth (%)	21.2	↑ +3.6	17.6	
1H12	Units (M)	228.6	↑ +3.3	225.3	Continued professional market activity and mobile PC shipments in both markets expected to fair better.
	Growth (%)	17.1	↑ +1.4	15.7	
2H12	Units (M)	268.5	↓ -3.3	271.8	Upgrades in the professional market from Vista to W7 expected to drive new PC shipments. W7 installed base expected to be 67% by the end of this period.
	Growth (%)	13.5	↑ +0.1	13.4	

# PC Forecast Units, 2Q10-4Q12

Composition of Change, June '10–August '10 Update and Unit Shipment Growth by Form Factor

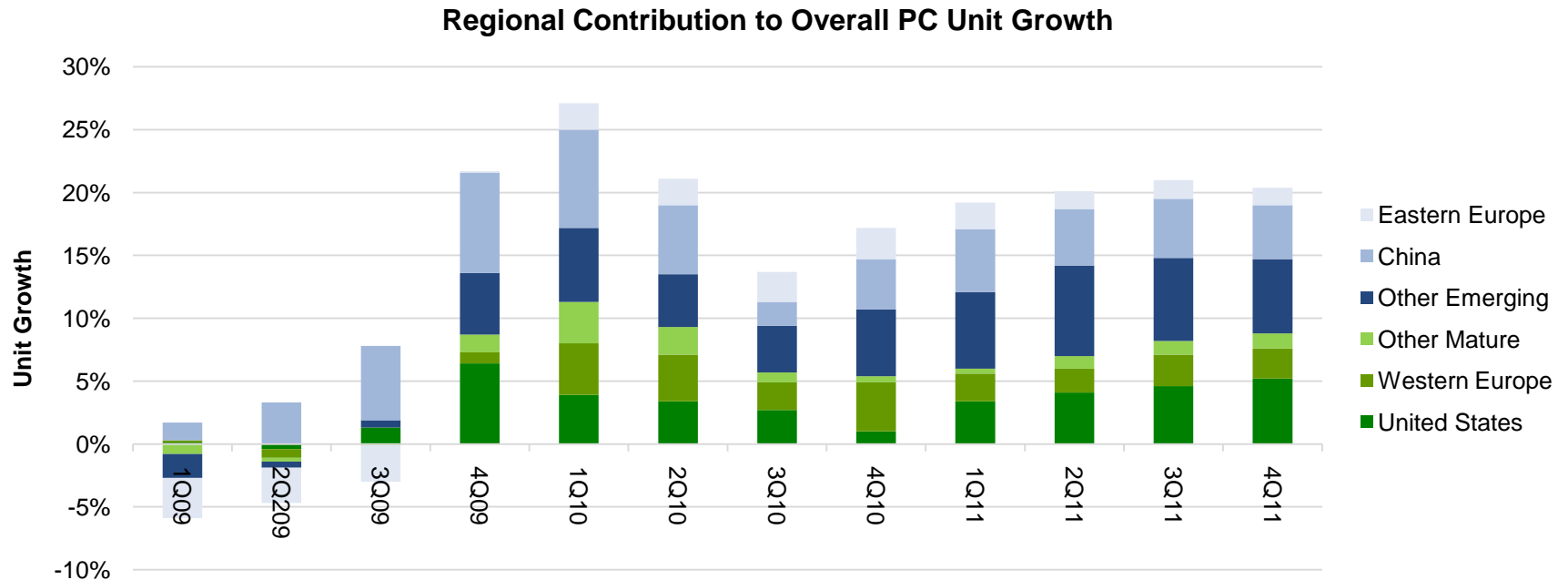


PC QQ Unit Shipment Growth



- Near term home mobile shipments have been revised downward.
  - ODMs indicate back-to-school orders are down but are optimistic for a strong back-end-loaded quarter.
  - Sea transport, a cost-cutting measure, is increasing delivery times and causing inventory adjustments.
- Professional shipments have been revised upward.
  - Near term revisions are minimal but 2011 revisions are positive.
  - Optimistic outlook on professional replacements induced by expiring XP OS support from ISV's and Microsoft.
- Expect better than seasonal market growth as both desktop and mobile in professional markets start to expand in 2011-2012.

# Can PC Vendors Manage Regional Volatility?



## Mature Market Trends

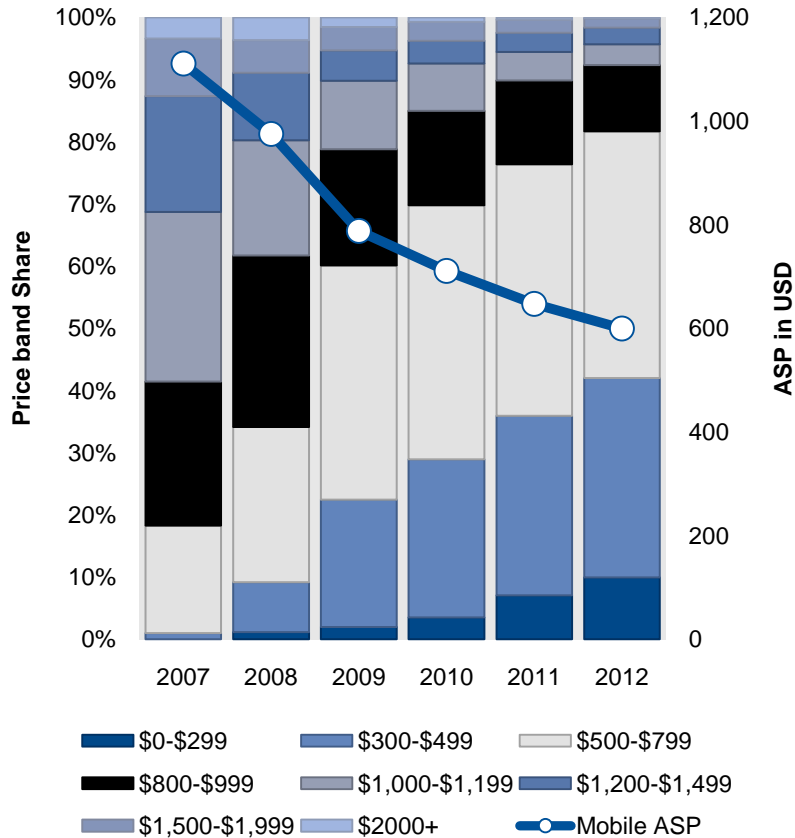
- Despite saturation levels, the U.S. is still an important driver of growth.
- Western Europe expected to be weaker in the short term but recover in 2011.
- Overall, mature markets become more important in 2011 as the professional market grows.

## Emerging Markets Trends

- China supported WW growth both in the downturn and the immediate recovery.
- Eastern Europe expected to derive new growth as it recovers from the downturn in 2009.
- Overall, emerging contributing more than 60% of the PC growth.

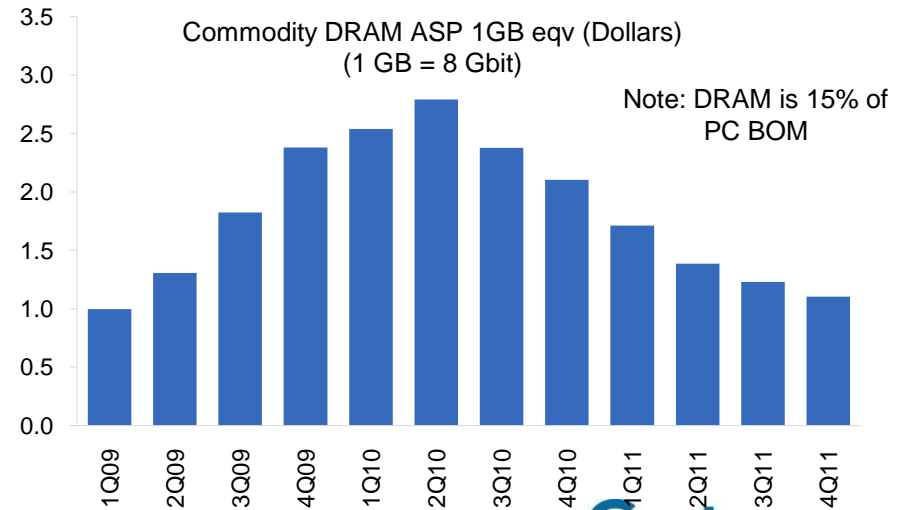
# PC Pricing Dynamics and a New Business Model

PC Shipments by Price Band and ASP in USD



## PC Pricing Trends

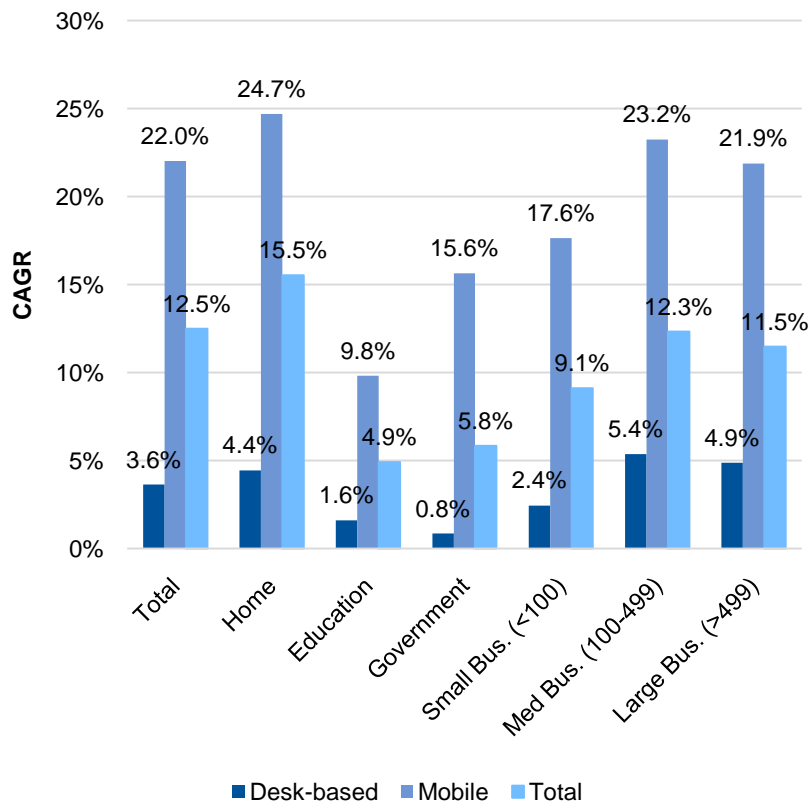
- Short Term — Falling component costs, especially DRAM, will enable vendors to increase specs and/or hit lower price points.
- Medium Term — Broadening range of low-priced computing products provide differentiation. Buyers will substitute low-end PCs with newer form factors and consequently raise ASP.
- Long Term — Downward pressure on prices will leave vendors in search of new revenue streams.





# Major Market Scenario: Home Not the Only Market Growing

2009-2014 CAGR by Major Market and Form Factor



## Major Market Assumptions

### Education

- Touch screen and educational mini-notebooks drive this long-term education market scenario.
- Unusual growth pattern because of the effects of tender purchases.

### Government

- Has large current installed base of desk-based PCs but low prices and improvements in mobile PC security has made mobile PCs more attractive.
- Government budgets are fickle. Government spending will often disappear quickly and PC lifetimes consequently get extended. Austerity measures add volatility to this segment's outlook, particularly in the near term.

### Small Business

- Mobile PC growth moderately subdued over forecast period because of large current installed base.
- Wide array of computing products available at lower price points will keep mobile PC penetration at the highest in all segments.

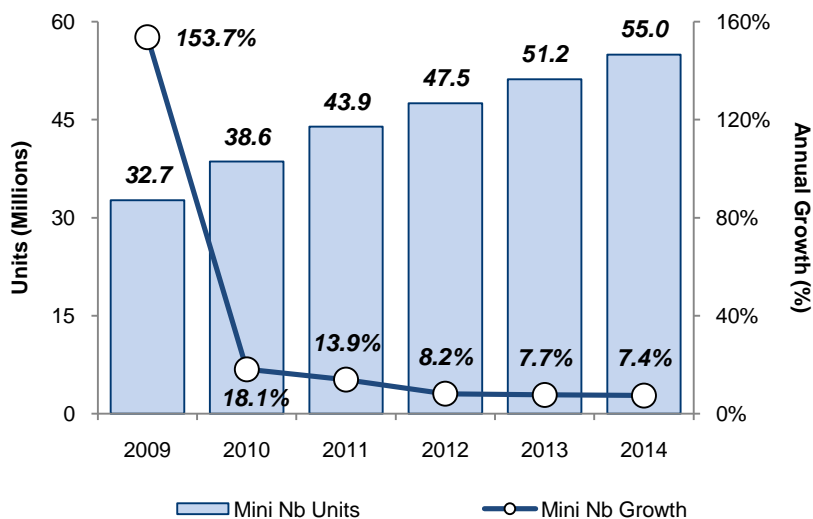
### Medium and Large Business

- Increased proportion of G&A personnel will keep desk-based PC penetration up. Mobile PC penetration will be lower than small and medium businesses.
- Alternative delivery computing will act as downward pressure on this segment in 2014.

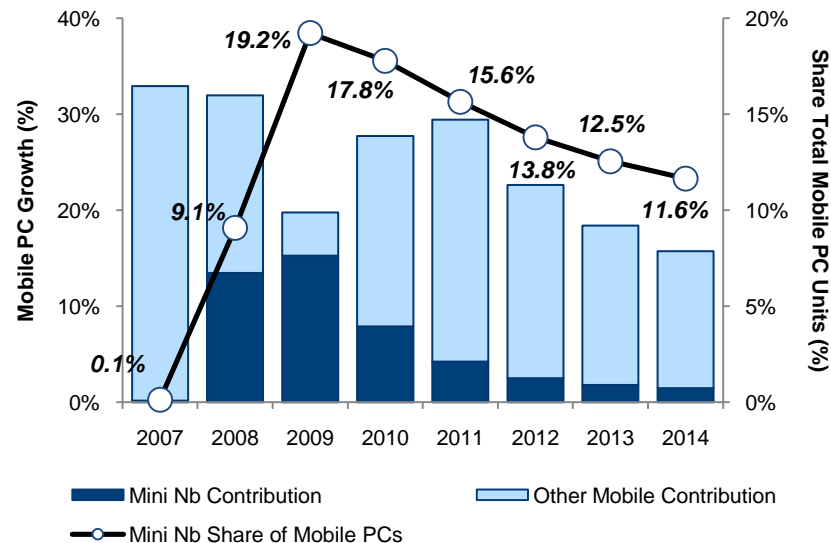
# Mini-Notebooks Finding Their Level in the PC Market

Mini-Notebook Unit Growth Will Continue to Decelerate ... as Mini-Notebooks Settle into a Market Niche

Mini-Notebook Units and Growth, 2009-2014



Mini-Notebook Contribution to Mobile PC Growth and Share of Mobile PC Units, 2007-2014

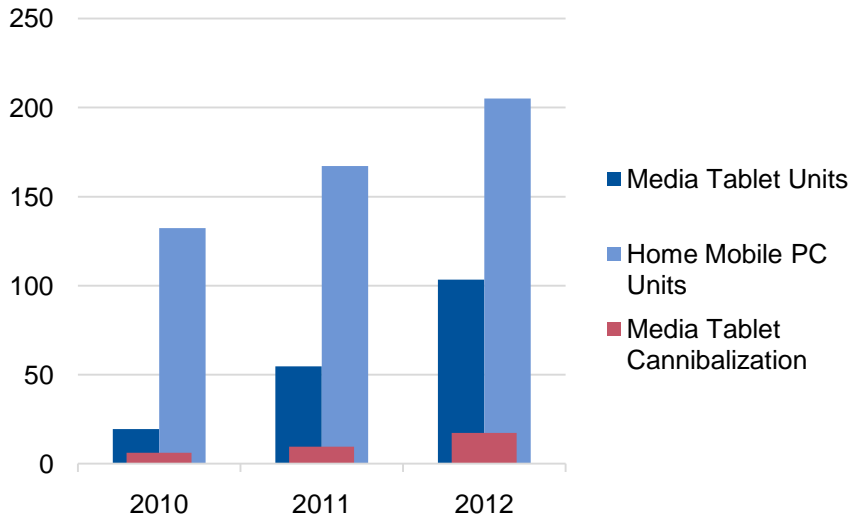


## Mini-Notebooks Growth Assumptions

- Mini-notebook unit growth slowed dramatically in 2Q10, especially in mature markets; forecast is for continued slowing
- Slowing reflects broader recognition of mini-notebooks' pluses and minuses, appeal is waning
- iPad not significantly impacting mini-notebooks yet; anticipate growing impact later as media tablets expand
- Mini-notebooks will secure slightly more than 10% of the mobile PC market by 2014

# New Devices Impact PC Market

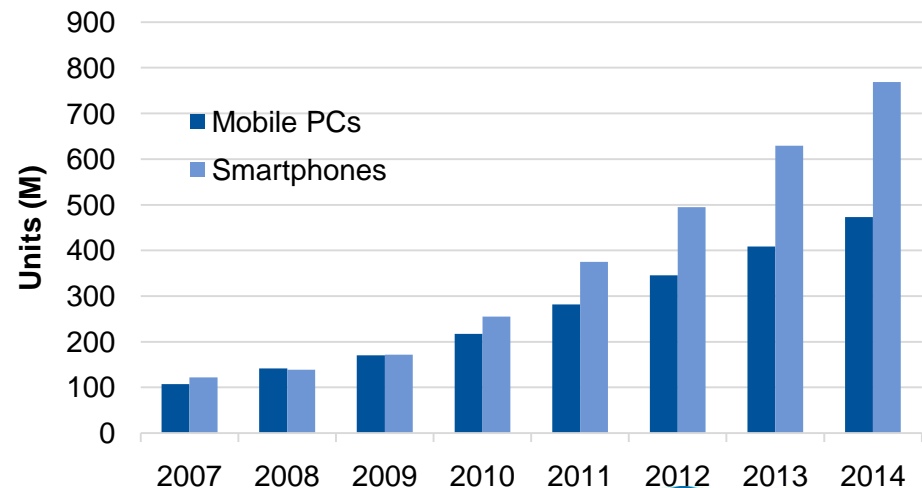
**Media Tablets vs. Home Mobile PC Shipment Forecast**



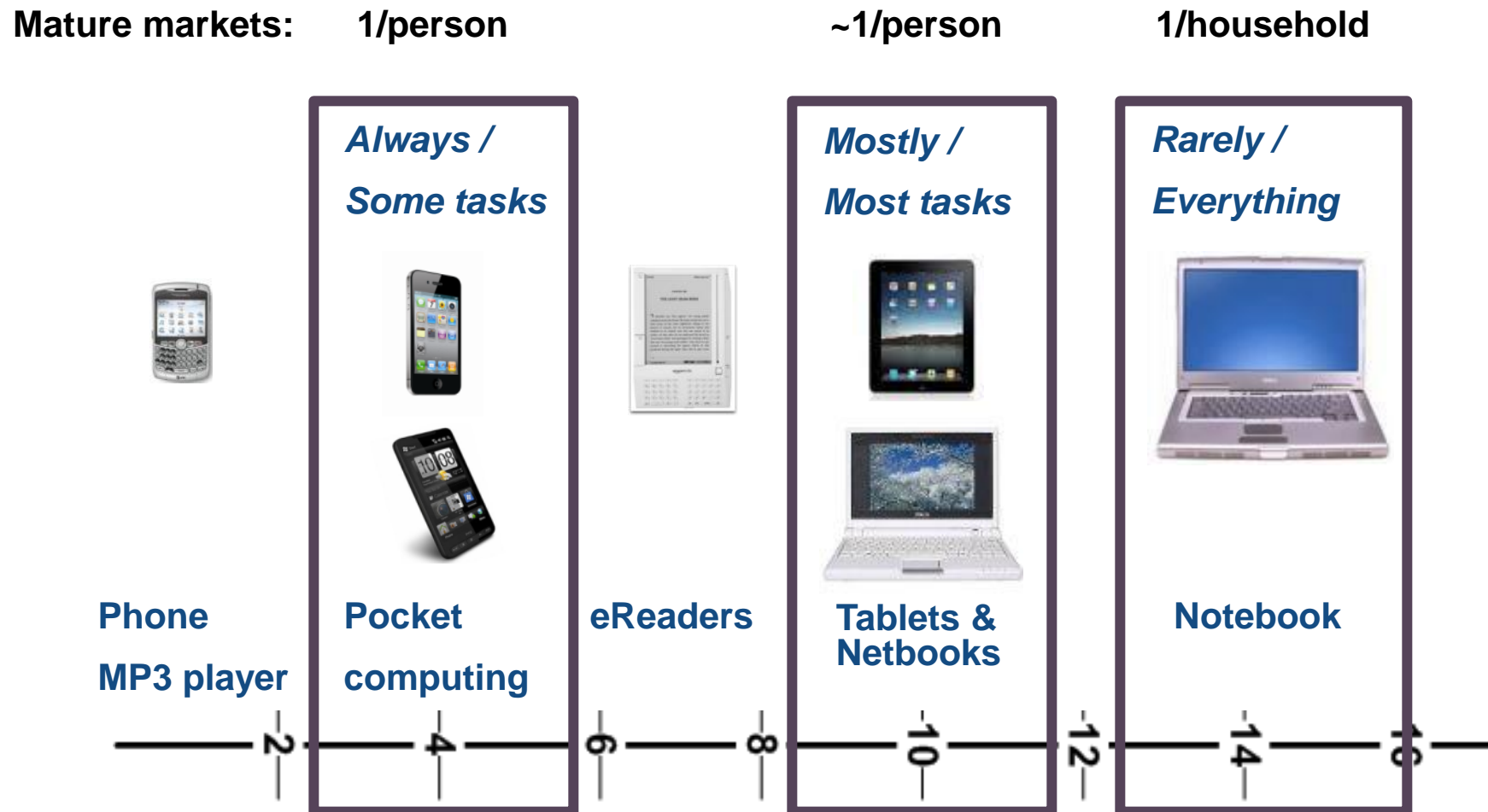
- Smartphone is a complimentary device to the PC.
- Consequently, the mobile PC becomes less mobile. This may lead to an extension of mobile PCs' life cycles.
- Also, the desk-based PC finds favor as mobility shifts to smartphone device.
- Whichever way this is viewed, the PC industry will be impacted.

- In 2H10, mostly *additive* units beyond the PC market forecast and dominated by Apple iPad.
- However, watch for a delayed iPad effect on PC market.
- Cannibalize PC market by 9 million units in 2012, which is 15% of media tablets and 4% of consumer mobile PCs.
- Tablets with Android to gain market share as lower-cost alternative

**Total Mobile PCs vs. Smartphones**



# Tablets and netbooks are part of three-screen computing paradigm





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