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HTC - Initiating Coverage: The Best of All Clones. Outperform

Coverage Initiation

Ticker	Rating	CUR	11/10/2010 Closing Price	Target Price	TTM Rel. Perf.	EPS 2009A	EPS 2010E	EPS 2011E	P/E 2009A	P/E 2010E	P/E 2011E	Yield
2498.TT	O	TWD	715.00	1100.00	101.4%	28.18	47.57	74.32	25.4	15.0	9.6	3.6%
MXAPJ			458.82			23.63	31.02	35.63	19.4	14.8	12.9	2.7%

O – Outperform, M – Market-Perform, U – Underperform, N – Not Rated

Highlights

HTC appears like an early winner in the massive shifts we are currently witnessing in the handset industry, and if investors have started to recognise the situation (the stock outperformed its index by more than 100% YTD), we still see significant further upside. We expect EPS 26% above consensus next year, 45% in 2012.

We believe that Android, the operating system developed by Google provides a decisive competitive advantage to manufacturers adopting it. As a consequence these manufacturers are gaining market share, and against conventional wisdom, they see a positive development of their pricing power.

In that context, we believe HTC is very well positioned. The company has the best technical capabilities, the best cost base and is rapidly building a strong brand equity.

The recent acceleration of the smartphone phenomenon coupled with the company's strength give HTC an unusually strong growth and profitability improvement potential. We expect the company to grow earnings by 69% this year and by 56% next year.

The paradigm set by Touchscreen smartphones and Android has had a profound impact on the mobile phone industry.

- **We see 2 major changes happening today**: 1) More and more of the objective features that consumers care about are software defined or at least depend heavily on the software platform of the phone; 2) Android is successfully creating an independent software layer.
- **These changes are profoundly impacting the competitive landscape**. Software has brought in 2 new Key Success Factors: first mover advantage and software development capabilities. Unsurprisingly, this has created a disequilibrium in the competitive landscape, to the disadvantage of the largest incumbents.
- **As an immediate consequence, The War of Clones has begun**. Because it concentrates very strong Key Success Factors, Android is giving a second life to subscale branded players and the platform represents a unique opportunity for unbranded Asian manufacturers to take significant market share.
- **Against conventional wisdom, we believe Android will have a positive impact on margins** of manufacturers, at least in the medium term, and most likely a neutral effect on the overall profit pool of the industry, which implies pressure on margins of players with an inferior operating system.

Global Telecom Equipment

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In such a context, we believe HTC is very well positioned.

- **On the technical front, we see HTC as the best positioned Android-backed player**. Developing Android-based phone requires a significant and non-trivial effort to pull together the right user experience onto the right hardware platform. HTC launched the first commercial Android phone in October '08 and has built since then a significant time-and-experience-based competitive advantage.
- **HTC is rapidly creating a strong brand equity, building on the company's technical leadership**. Several indicators show that the HTC brand is gaining very strong momentum. In western markets, HTC's brand awareness increased from ~10% in 2009 to >40% in 2010. Globally, HTC has the best shelf visibility of all android-backed manufacturers and most importantly, several surveys show a very high level of user satisfaction, which should turn in continued strengthening of the brand going forward.
- **In the group of Android players, HTC has limited scale, but this weakness isn't much of a worry today and is more than compensated by a strong cost leadership**. HTC lacks scale in the handset market, with only 1.7% market share, as well as in the smartphone market with 8.3% market share. Nevertheless, we have shown in previous research that global scale becomes less relevant in the Android ecosystem and HTC largely compensates this weakness by a strong cost advantage. As a consequence the company enjoys a strong operating margin performance and should be able to improve it over time.

The recent acceleration of the smartphone phenomenon coupled with the company's strength gives HTC an unusually strong growth and profitability improvement potential.

- **We recently showed that growth in the smartphone market took a steep acceleration, driven by the success of Android**. Even our conservative estimates lead us to believe the smartphone market will grow 55% this year (2010) followed by *at least* 30% next year.
- **As the best positioned Android player, we expect HTC to strongly benefit from the phenomenon**. We expect HTC to take market share in most geographies next year. We also expect HTC's pricing power to remain stable and ASP to decline only affected as a result of shipment mix. As a result of a growing topline and a stable pricing power, we expect the company to expand operating margins.
- **Moreover HTC has a very strong balance sheet and cash generation,** with a 1 day conversion cycle, 50% of the balance sheet in cash reserves and a four-year average historic dividend yield over 5%.
- **In conclusion, we see HTC as the most attractive growth story in our universe and initiate coverage with an outperform rating**. Mostly driven by topline growth and to some extent by margin expansion, we expect the company to grow earnings by 69% this year and by 56% next year, to NT$74.32. Longer term, we see a 15-20% p.a. earnings growth potential and set our price target at NT$1100, or 14.8x 2011 earnings and 11.3x 2012 earnings.
- **Consensus and the recent stock price don't recognise the profitability potential of the business.** The street expects margins of 14.2% and 13.6% for 2011 and 2012 vs. us 16.5% and 17.5%. As a consequence, we are 26% above consensus for HTC's 2011 EPS, 45% for 2012. Based on our forecast, our price target corresponds to a very comfortable DCF-based fair value and puts HTC on par with a wide range of comparable tech companies globally.

Investment Conclusion

We rate HTC outperform, PT NT$ 1100. We believe HTC is very well positioned on the fast growing smartphone market: the company benefits from the strong traction of the Android operating system as well as a strong cost leadership, a rapidly improving brand equity and a strong technological leadership. As a consequence, we expect the company to enjoy a stable pricing power, and as its topline continues to grow, we expect HTC's profitability to improve. Our target price of NT$ 1100 correspond to a 2011 P/E of 14.8x and a 2012 P/E of 11.3x, reflecting high growth and high operating margin of the business.

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Details

HTC – Business Snapshot

HTC, formerly known as High Tech Computer Corporation, is a Taiwan-based smartphone manufacturer, founded in 1997. The company initially operated in a "white Label" positioning, offering ODM services (Design and Manufacture) for several well-known Brands (Palm - Treo, HP - iPaq, Microsoft - Pocket PC, Sony-Ericsson) and for operators willing to distribute handsets under their own brand (O2 XDA, Orange SPV). Since June 2006, HTC has progressively ramped up products brought to market under the HTC brand, an effort on which the company decided to solely concentrate in the last couple of years.

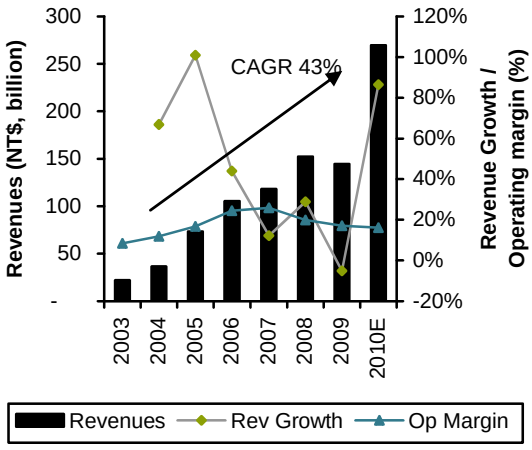
HTC has historically developed handsets mostly based on Microsoft's operating systems, but was the first to produce an Android-based smartphone (the G1 in 2008, distributed under both the HTC and the Google brand).

Today commands only 1.7% market share in mobile phones globally, but it solely executes on smartphones and had 8.3% market share on this segment in 2Q10, up from 6.4% last year.

HTC has grown very fast and very profitably. In 2009, almost 95% of its revenues came from the smartphone business, of which >80% were from HTC branded phones. On average the business has grown >40% since 2003, except for the year 2009. Moreover, HTC has successfully maintained a very good control over profitability. The operating margin contraction in 2008 and 2009 corresponds to major operational investments (R&D and manufacturing) and a major marketing program.

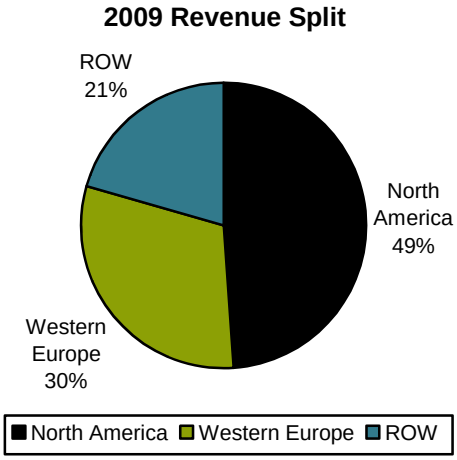
HTC has always operated with a strong cash conversion cycle and a tight Balance Sheet. The company has had a negative cash conversion cycle in the past and more than half the balance sheet is made up of cash that has historically been used to ensure strong dividends. Over the last 4 years, HTC's dividend distribution averaged >50% and the company's dividend yield averaged 5%.

Exhibit 1
HTC has grown at a high pace maintaining strong profitability



Source: Company Reports, Bernstein Estimates and Analysis

Exhibit 2
HTC has good exposure to NA and Western Europe, growth regions for 2010 and 2011



Source: Company Reports, Bernstein Analysis

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Exhibit 3
HTC - Summary of Past Years Key Metrics

Key Performance Metrics	2006	2007	2008	2009
Revenues (bn, NT$)	105.4	118.2	152.4	144.5
Gross margin	30.9%	37.9%	33.5%	31.9%
Operating Margin	24.4%	26.5%	19.9%	17.0%
EPS (NT$/share)	31.57	38.30	34.95	28.18
DPS	6.26	14.49	23.72	24.49
Cash Conversion Cycle (days)		-19.01	-2.57	-4.16
Stock Price	715.0	417.9	296.6	349.0
Dividend Yield	1.8%	3.5%	8.0%	7.0%

Source: Bloomberg, Company Reports, Bernstein Analysis

1. The new paradigm set by Touchscreen smartphones and Android has profoundly changed the rules of the game for handset manufacturers

1.1 - 2 major changes in the mobile phone industry

Two major changes are affecting the mobile phone industry. The first one is the growing importance of software in what makes a mobile phone. The second one is the emergence of Google as a successful "software only" player.

1.1.1 - More and more of the objective features that make a mobile phone are software defined

The first major change we see in the mobile phone industry is a significant shift towards software. Both from the perspective of the new paradigm that Apple has set with the iPhone and from the perspective of what consumers expect from their phones today, everything is more and more about software, less and less about hardware.

In the new paradigm set by the iPhone, we have defined the following key factors making the consumer experience satisfactory (**Exhibit 4**): full access to the web, making the screen of the phone a "window on the web", and the "mobile platform" concept. If the *full access to the web* is mostly about network speed and capacity, *making the phone screen a window on the web* is about having intuitive ways to scroll content, zoom-in zoom-out, etc. Real time navigation on the web page requires hardware-accelerated graphics and the aggregation of different software technologies (web, flash, application stores and others). The mobile platform is once again mostly about having the right operating system to support applications and the right software development environment to attract third party developers.

And this isn't only about technological considerations and paradigms. Consumers agree. We have recently refreshed a survey that we carried out in 2008**. Exhibit 5** compares the results of today versus those of 2008: features like internet access, email and applications have raised a lot in the list of what consumers care about and all these feature depend far more on software than hardware specifications.

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Exhibit 4
The iPhone redefined what makes a top mobile phone experience

Full Access to the Web

- Requires effective use of bandwidth, maximising potential of high speed wireless technology

Making the phone screen a window on the web

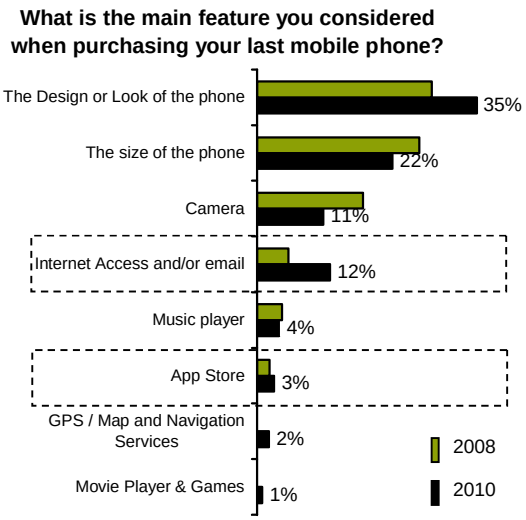
- Intuitive ways to scroll content, zoom in, zoom out
- Real time navigation on the web page requires hardware accelerated graphics
- The "real web" – Immersive experience (video, music, interactive flash) requires open platforms and processing power

Mobile Platform

- Homogenous and open environment. The platform allows emergence of new content and services (application store, etc)
- Multi-tasking

Source: Bernstein Analysis

Exhibit 5
Software Plays an Increasing Role in What Consumers Value About a Mobile Phone



Source: Bernstein Proprietary Survey (2008, 2010)

1.1.2 - Android is successfully creating an independent software layer

The second major change that we see in the industry is the emergence of a pure software player. In July 2005, Google bought Android Inc., a Silicon-Valley start up that developed a Linux-based Operating System for mobile phones. In 2008, Google announced the Open Handset Alliance (OHA) and its intention of creating an open source platform, signing several industry titans onboard. Motorola, HTC, Samsung, Sony Ericsson all signed-up with the alliance, in addition to chipmakers and operators. (**Exhibit 6**)

In short, the Android Alliance model was for Google to provide an open-source operating system to handset vendors. Vendors could use the operating system freely and customise it as much as required, being limited only to small number of hardware specifications (such as for instance the obligation of integrating to their phone a "menu" key.) The use of Android for phone manufacturers would be in essence free of charge, although some minor costs could occur, such as patent fees and possibly licence fees for manufacturers choosing to use software modules developed by Google but not part of the open-source platform (e.g. Google Apps.)

G1, manufactured by HTC, was the first commercial phone that came out of this alliance in Oct 2008. It was at the time received with limited success, which we understand as a consequence of its relatively unappealing hardware design, its lack of branding (the combination of HTC and Google clearly didn't appeal to consumers) and its still very rudimentary user interface. The HTC Magic, the successor of the G1was a much improved device but still met limited consumer traction. First Android "blockbusters" hit the market only in 2010, with the HTC Desire, the Motorola Droid and Milestone, and the Sony Ericsson X10.

More recently, Chinese low-cost manufacturers, such as Huawei and ZTE, have completed the development of their first Android phones. Compared to the fragmented "Shenzhen ecosystem", these relatively scale-advantaged manufacturers have very good prospects in the low-ASP end of the smartphone market.

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History therefore shows that getting Android phone right wasn't trivial and required time. We see 3 factors that slowed down the initial adoption of Android phones

- **Branding:** First phones were branded under the Google name and the HTC brand that was still fairly weak at the time. Qualitative consumer feedback showed that the Google brand wasn't fit at all for selling mobile phones. Considered a brand for free services and most importantly from the PC universe, it wasn't well understood in the world of mobile phones. First, consumers didn't trust the brand for buying hardware; second, consumers usually don't like association between the world of PCs and their mobile phone (the difficulties of Microsoft in mobile being the best illustration of this!). It is striking to see that today, the Google brand has disappeared from all android-related marketing – the lack of relevance of the brand for mobile phones must have been well understood in Mountain View... Today, Android phones are backed by far more relevant brands (Motorola, Sony-Ericsson, Samsung) and even HTC has gained a lot of traction (see below, Section 3). Android is actually now likely to emerge as a brand in itself as well.
- **Integration:** We strongly believe that pulling together a phone based on Android is non-trivial and requires a great good deal of experience. First, vendors need to develop a hardware platform that supports the operating system well, which include significant processing power, hardware accelerated graphics, high-quality multi-touch capacitive technology for the screen. Second, we believe that making a great Android-based device requires a lot of software development as well. What the industry now calls the "skinning" of the operating system – developing a smooth and differentiated graphic user interface, requires time and several iterations. We develop these ideas further in the Section 3.1 of this call.
- **Software platform:** Last but not least, Android hasn't been the very high quality operating system it is today. The first version only established the basics of a smartphone operating system. Next, Android 1.5 (Cupcake, released April 2009) made UI improvements but was still most suitable for tech-savvy users, as certain basic functions were still complex to perform. Features such as a video recording and photo uploading were added at this stage. Version 1.6 (Donut, September 2009), in addition to routine performance improvement, greatly improved the handling of Apps and the organization of the Android Market, and led to explosive growth in both the downloading and development of Apps. The Version 2.0 (and 2.1 Éclair, Janury 2009) revamped the overall user interface, giving Android a much more user friendly and more polished feel. Features added at this stage were Exchange support, improved virtual keyboard, voice search, synching. Version 2.2 (Froyo, released in May) optimized the speed and performance of the OS and added some important features as increased MS Exchange support (security, remote wipe), Wifi Hotspot support, Adobe 10.1 support, installing apps on expandable memory etc. Looking ahead, perfecting the UI will remain a priority, with Google having hired Mathias Duarte, the man behind the well-received Palm Pre interface, as head of Android User Experience. (**Exhibit 6**)

In the last 9 months, the OS has been gaining traction at an accelerated pace. As of last quarter (2Q10), Android commanded a 17.5% market share among the smartphone OSs, globally. The daily run rate (number of Android phones shipped per day) ramped up significantly: 100k/day in May '10, 160k/day in Jun '10, and 200k/day in Aug'10 (**Exhibit 7**). Assuming Android run rate stabilises at today's levels, we showed Android would overtake Apple in just over a year from now. (**Exhibit 8**)

We will discuss in the next section how adopting Android today drives a strong competitive advantage and how we expect additional manufacturers to fully embrace the platform.

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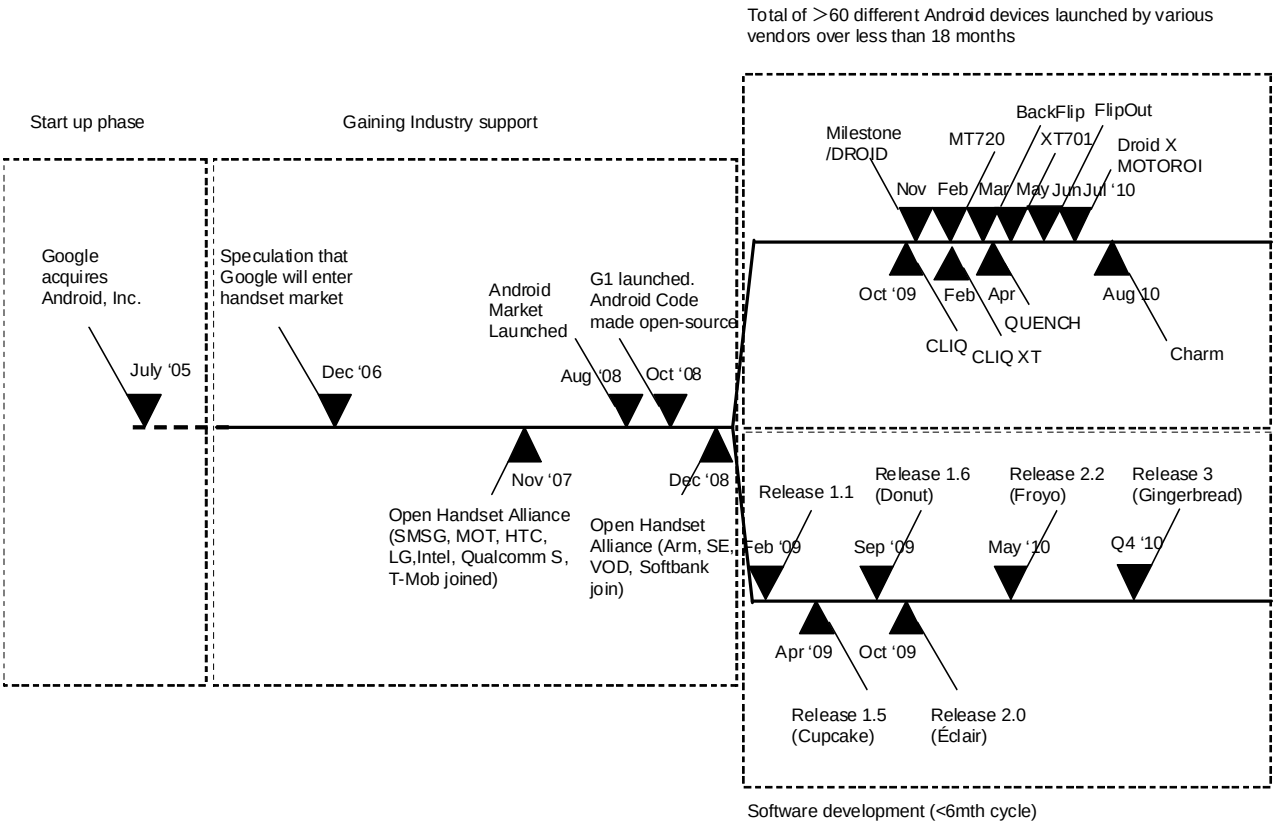
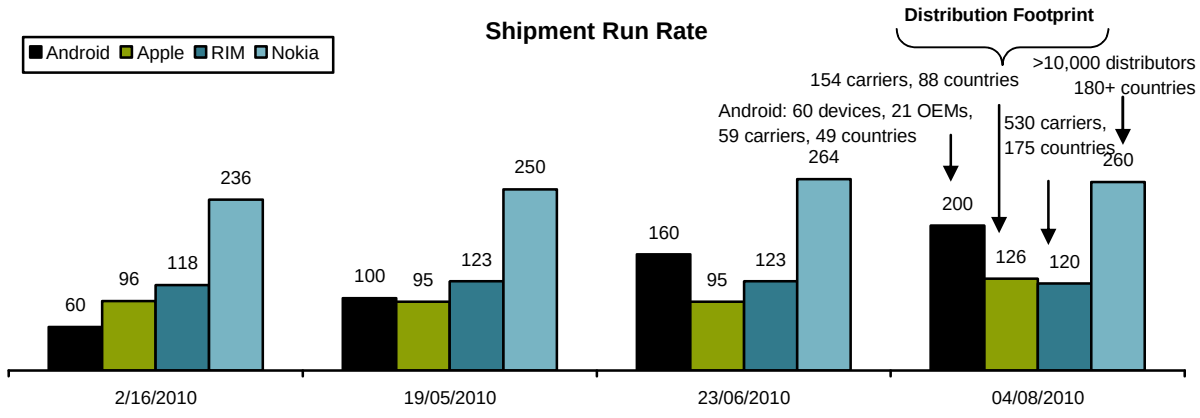
Exhibit 6
Timeline of major Android Developments



Source: Company Announcements, GSM Arena

Exhibit 7
Over the past 9 months, Android's run rate overtook those of most manufacturers, getting close to Nokia's 260k/day



Source: Company Announcements, Bernstein Analysis
*Run Rate Defined as Shipments (in thousands) per day.

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Exhibit 8
How Long Before Cumulative Shipments of iPhone and Android Handsets are Equal?

	Shipments to date (000s)	Daily run-rate (000s)
iPhone (000s)	59,634	126
Android (000s)	24,780	200
Difference in cumu. shipments (000s)	34,854	
Difference per Quarter (000s)		6,700
Number of Quarters until Parity		5.2

Source: Corporate reports, Bernstein estimates and analysis

1.2 - These changes are profoundly impacting the rules of the game.

First, the growing importance of Software has brought in 2 new Key Success Factors: First Mover Advantage and Software Development Capabilities. Unsurprisingly, this has created a disequilibrium in the competitive landscape, to the disadvantage of the largest incumbents. As Android and iOS establish themselves as clearly superior software platforms, manufacturers leveraging them have a sustainable competitive advantage, as it is based on experience (first mover advantage) and capabilities (incumbents struggle to get to the efficiency levels of new entrants in software development, therefore making a catch up unlikely).

1.2.1 - First Mover Advantage

We, at Bernstein, made the point in previous research that for mobile platforms, the first mover advantage is huge.

Most advanced platforms enter into a virtuous circle: They have the best application stores (e.g., availability, price) and therefore attract the most new users, which in turn will attract more application developers to develop apps for the platform (**Exhibit 9**). Recent data on the number of applications and developers (**Exhibits 10**, **11**) corroborate our conviction. All ecosystems that started after iOS are trailing, in proportion to their late entry.

Moreover, we believe that applications will be very sticky, creating strong platform loyalty and less opportunity for share shift. This point is also demonstrated by the limited number of cross platform developers, and, as a proxy, applications (**Exhibit 11**).

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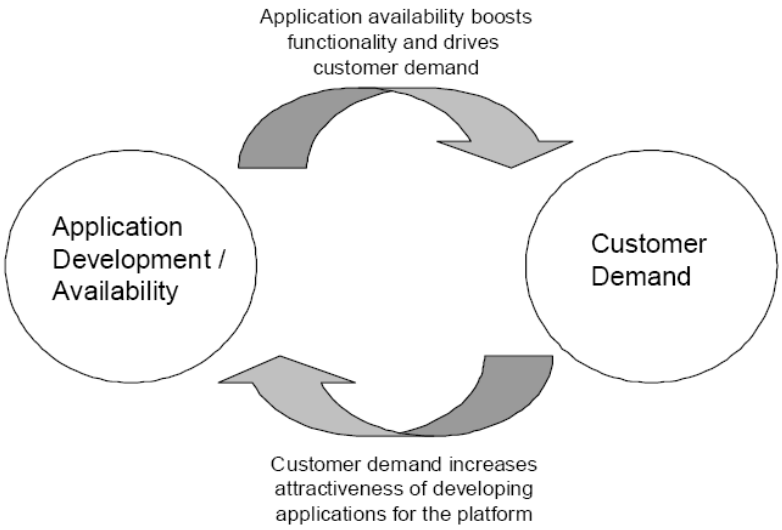
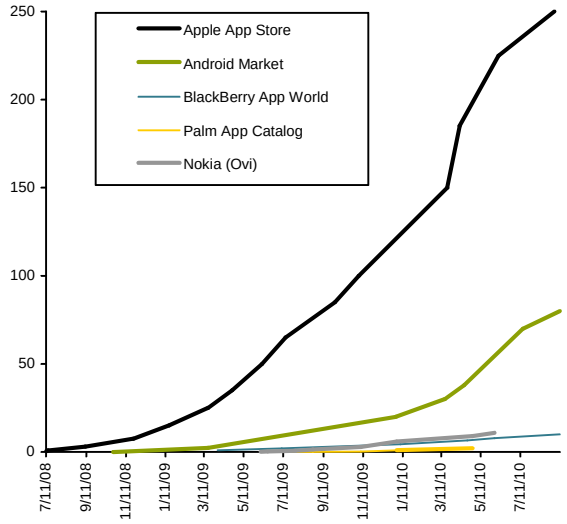
Exhibit 9
Mutually Reinforcing Application System



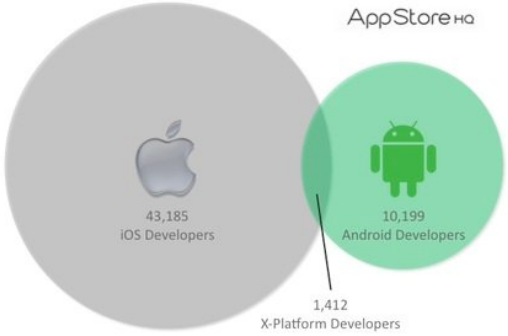
Source: Bernstein Analysis (US Hardware Team)

Exhibit 10
Apple, the first, mover leads in total number of apps…



Source: Company Announcements, Bernstein Estimates

Exhibit 11
… and number of developers working on its ecosystem



Source: AppStore HQ

1.2.2 - Software Development Capabilities

We developed in March this year a framework to understand the innovation cycle in the mobile phone industry. Looking back at 2004, after Motorola launched the new wave of clamshell phones in 2003, Samsung and LG followed suit immediately with their me-too versions, while Nokia did not react as fast. In **Exhibit 12**, we can see the spike in market share (relative to Nokia) of both Motorola (Breakthrough

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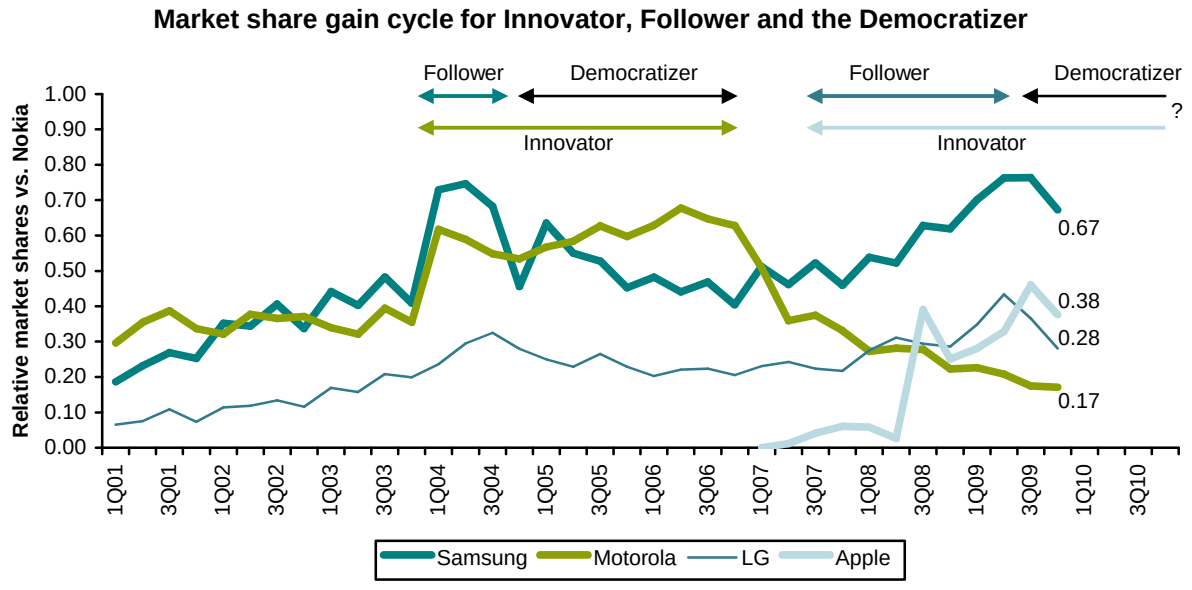
Innovator) and Samsung & LG (Fast-Followers). While Motorola's strength lasted for about three years, mostly supported by the RAZR (launched in 2004), Samsung and LG started losing momentum just after a year. Nokia came back with strength only in 2006, as a Democratizer.

We would summarize this innovation pattern this way:

- A breakthrough innovation comes through in the high-end. The "Breakthrough Innovator" (Motorola) keeps a strong competitive advantage for 3-4 years. The innovation is the clamshell design and the thin design.
- "Fast Followers" (Samsung and LG) quickly come up with me-too products and outperform in the first year or so. Their product development strategy is aimed at pulling together a product from scratch as fast as possible, which leads to a very heterogeneous portfolio.
- After a year or two, the "Democratizer" (Nokia) regains traction. It took longer to follow suit, but with a more comprehensive product platform approach that allowed for a much stronger performance in the mass market (homogeneous product platform, larger scale, stronger distribution all driving a better ability to go deeper into the mass market).

During 4Q09, when Android was still gaining momentum (**Exhibit 7**), the impact of software development was unclear and this framework held well in explaining share gain among major handset vendors.

Exhibit 12
Bernstein Handset Industry Innovation Cycle



Source: Strategy Analytics, Bernstein Analysis

We now believe the shift towards software makes the picture a touch more complicated.

On one hand, the Software development cycle for a breakthrough innovation is likely longer: it is taking almost four years for Nokia to just come up with Symbian^3 – a catch up with the first iPhone. The

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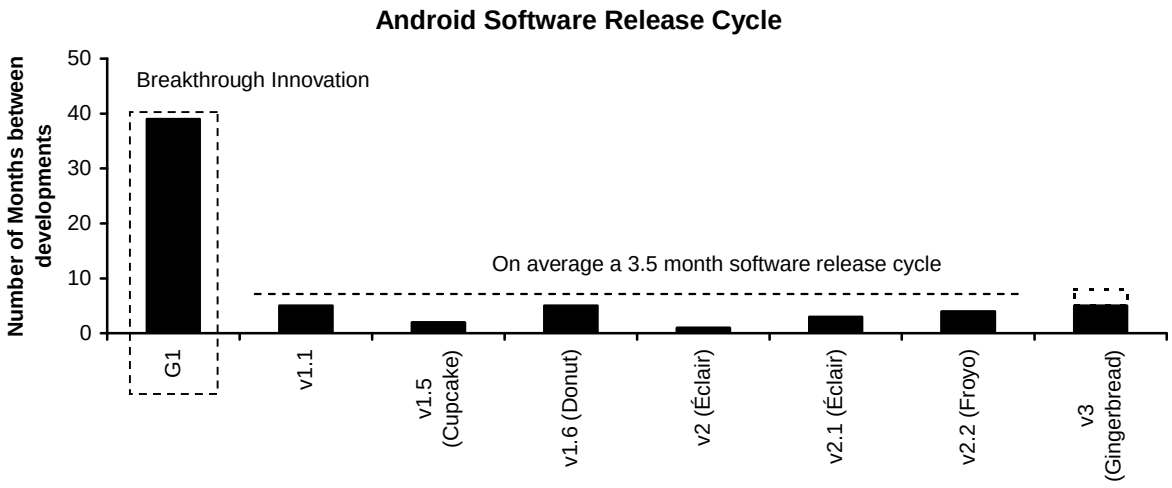
first Android was launched after two years of the first iPhone and one can argue only recent Android phones can be compared to the Apple one.

On the other hand, we now have short software release cycles. The time between two successive version releases of Android is about a quarter (**Exhibit 13**). Similarly, Symbian^4 is expected to be launched a few months only after Symbian^3.

This simply means incumbents run the risk of being left behind. As the overall software cycle got longer, but at the same time with faster release cycle, we see larger incumbents working hard to catch up with a major innovation on a 3-4 year timeframe... during which initial innovators leapfrog again incumbents with significant improvements brought to their platforms, release after release.

Today, in order to believe Nokia or RIM can play the traditional playbook of "catching up with innovation and democratizing innovation" means one has to believe Nokia and RIM can innovate faster than Apple and Google: they got late into the race and frontrunners are still running...

Exhibit 13
Benefitting from Software Development capabilities at Google, Android has undergone six-iterations since its launch



Source: Company Announcements

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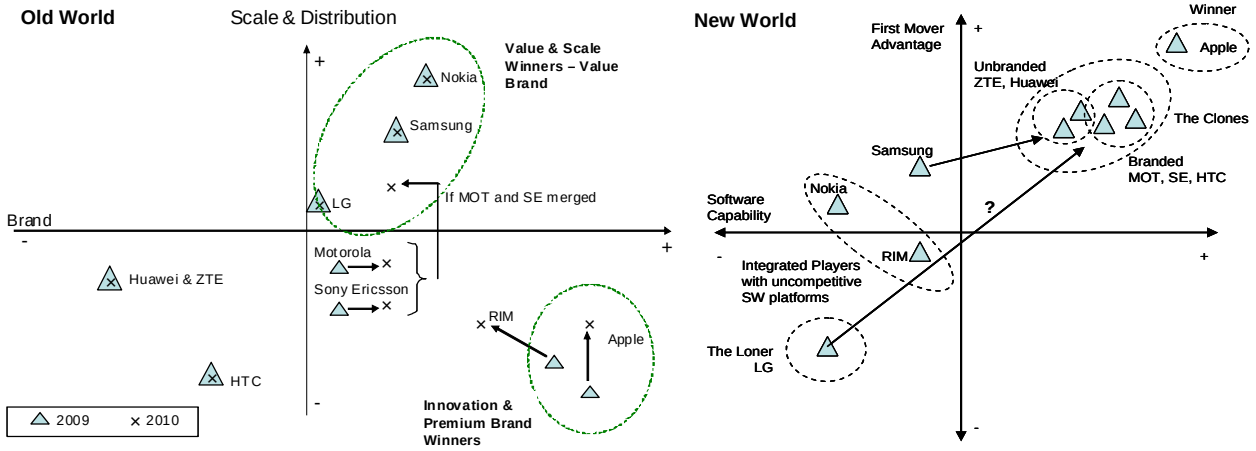
2. Implications for Handset Manufacturers

2.1 The War of Clones has begun.

Historically, we've seen two winning positioning in the handset market (Left Hand Side, **Exhibit 14**): global & regional scale and breakthrough innovation. *Global scale* gives the R&D firepower to maintain a wide product portfolio. The manufacturer can better serve consumer expectations and needs, with products that specifically address those needs, and therefore maintain a higher pricing power. Local scale gives a strong and cost efficient distribution edge. Nokia and to some extent Samsung have consistently followed this model. They have yielded superior profitability from it. *Breakthrough innovation* propels a mobile phone to the scarce category of the most wanted ones. It was historically the case for the StarTAC, the Razr, the BlackBerry all played at some point in that category. Supported by a strong brand, these phones take a dominant position in the high end of the market, serving the top 100m consumers in the world. These consumers, all yearning for status consumer products, are ready to pay significant brand premiums. They show so hopelessly uniform preferences that they don't need a wide product range. Last but not least the vast majority of these consumers are tied up to a mobile operator, which makes distribution very easy.

But the emergence of the two success factors described above changed the rules of the game (Right Hand Side, **Exhibit 14**). All major mass market manufacturers are now under the threat of subscale players who compensate their disadvantage with the support of Android that gives them a strong advantage based on these new success factors: Android is the second platform in terms of size of its ecosystem and is now outselling both the iPhone and Blackberry on a global basis, at a reported daily run-rate of 200,000 units (vs. 126,000 for the iPhone and 120,000 for the Blackberry).

Exhibit 14
The rules of the game have changed – First Mover Advantage and Software Capabilities distinguish winners from losers



Source: Bernstein Analysis

On one end of the market, because it concentrates very strong Key Success Factors, Android is giving a second life to subscale branded players and the platform represents for unbranded Asian manufacturers a unique opportunity to take significant market share. Both Motorola and Sony Ericsson have experienced improvement in smartphone volumes and, as a result, in their operating performance. While Sony Ericsson has already returned to profitability, we expect Motorola to also turn around its devices business by 4Q10.

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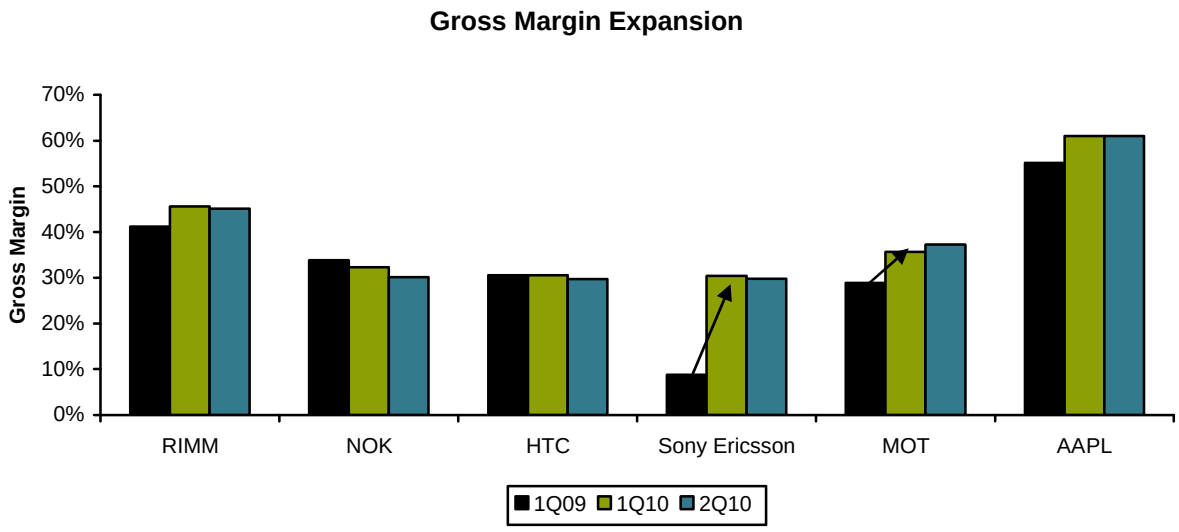
Notably, Android seems to have brought back to these sub-scale branded players their past pricing power (**Exhibit 15**). Samsung had so far worked on several software platforms, as if the company were trying to keep its options open. But it recently announced a greater focus for its smartphone efforts on Android, implicitly backing the claim that phones based on the Android operating system are superior and sell much better than others.

Huawei and ZTE saw their terminal businesses grow significantly in 2009, gaining scale and experience which is turning into steady margin expansion. As the low-cost smartphone market matures out of the "toy trend", both players are in a sweet-spot to leverage their scale, technological and industrial capabilities over the fragmented "Shenzhen Ecosystem". Delivering an integrated platform (Android + Hardware), which remains a value adding step over the software platform, will be difficult for the "Shenzhen Ecosystem".

On the other end of the market, the largest mass market player, Nokia, and Research In Motion are badly suffering from their weakness on these two success factors. While Android has undergone six iterations since its launch, RIM and Nokia are just launching their first catch-up to the iOS. Unsurprisingly, the application ecosystems of both Nokia (Ovi) and RIMM are subscale to Android and iOS.

So far, software development hasn't appeared as the strongest capability of these 2 players and it is therefore difficult to imagine a sustainable catch-up. Both platforms are likely to remain inferior to iOS and Android for a while.

Exhibit 15
Android is bringing back subscale branded players to gross margins in line with the rest of the industry



Source: Company Reports, Bernstein Estimates and Analysis

Android has recently shown that its platform advantage is rapidly expanding into lower ASP segments. While we had initially expected low-cost smartphones to be a practical monopoly of high-scale, mass manufacturers like Nokia, we have to recognise today it is getting less and less true. HTC launched a cheaper version (Wildfire) of its successful Desire at €300. Sony Ericsson has launched the world's smallest smartphone at €300 as well. (**Exhibit 16**)

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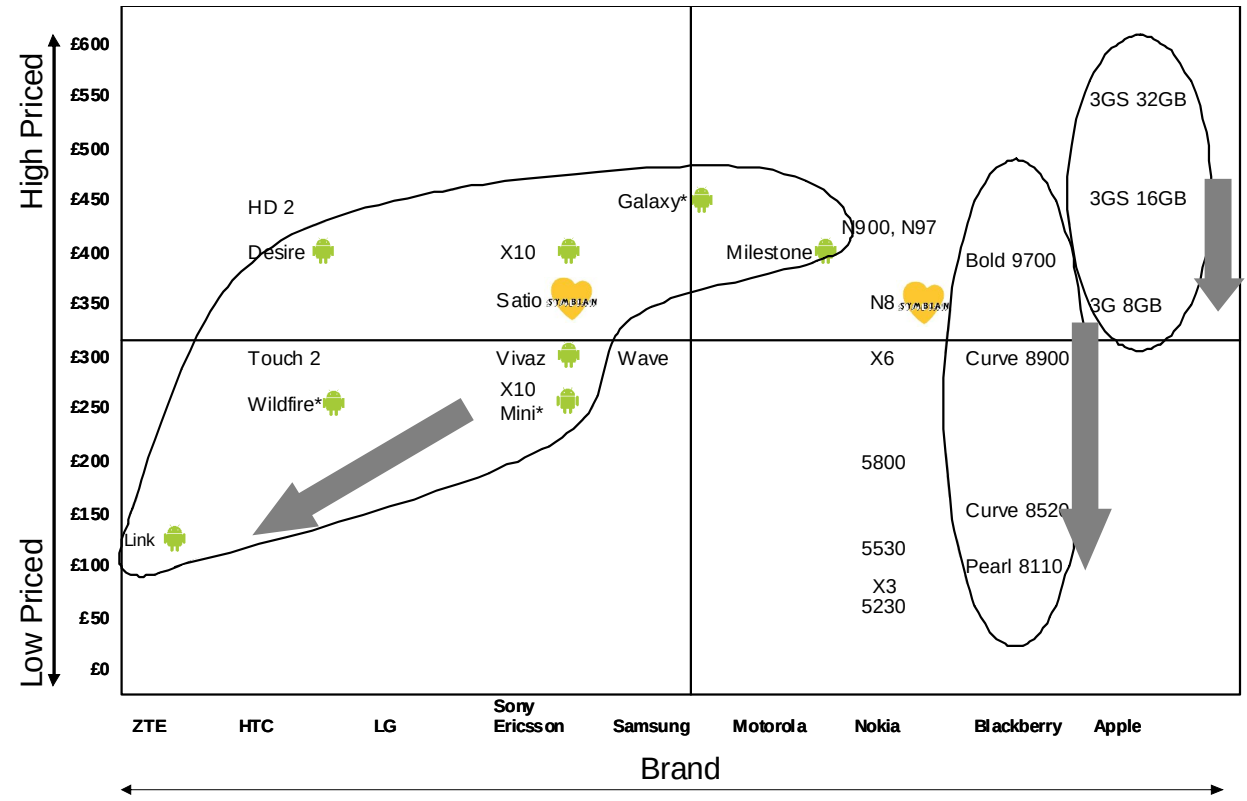
PC manufacturers are following the trend, not to mention Huawei who is (according to our sources) putting a very strong focus on Android smartphones. ZTE launched an Android-based phone (Link) in France, recently. It is currently selling for €149 excluding subsidies.

Furthermore, chipmakers (ST-Ericsson, Mediatek, etc) are developing custom low-cost chips to support low-cost Android smartphones.

The future of the industry will depends on who will fall into the Android camp and who will be able (or unable) to ramp up a software platform that can stay on par with Android. We describe 2 possible scenarios in the next section.

Exhibit 16
Having populated the mid-high end, Android is now permeating the low-end



Source: Carphone Warehouse, ebay(*), Bernstein Analysis

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2.2 – Two possible scenarios for the smartphone market

2.2.1 - First scenario: a market stabilised around 3 ecosystems.

Apple would continue to dominate as an integrated player in the high-end of the market, benefiting from its Brand, First Mover Advantage and high innovation capabilities.

Nokia would maintain an integrated model with a strong grip on the low and mid ranges and possibly some weak position in the high-end. Although structurally behind those of Apple and Android, Nokia's software platform would keep up and "get the basics right" for the mass market. Nokia's winning platform could be either based on MeeGo, on Symbian, or on both.

Android would federate subscale regional brand players (Motorola, Sony Ericsson), Asian low cost manufacturers (HTC, Huawei, ZTE) and Nokia's most immediate challengers (Samsung, LG).

RIM could either join the Android ecosystem or remain a smaller and highly specialised ecosystem.

3 convictions led us to consider this scenario the most likely.

- **1) Apple has reached the critical mass required to continue to be a strong high end dominant player.** Apple seem to have develop a perfect combination of skills, culture, organization and brand to maintain a sustainable position as a "breakthrough innovator". Beyond the first mover advantage and clearly leading software development capabilities, Apple has also reached a critical mass. Even if Apple's iPhone business is 60% the size of Nokia's, it earns more gross profit than the Finnish vendor.
- **2) Android's platform advantage will be difficult to resist in the mid range to low end.** The successes of Android show that the operating system is today a strong competitive advantage for those adopting it. Motorola is progressively returning to profit, Sony Ericsson is now back to profits. At the same time, Samsung and LG are now moving very clearly towards Android as well, which gives Android access to over 40% of the overall handset market.
- **3) Nokia still has strong assets, and only an acceptable software platform is necessary to leverage these assets.** Nokia has the widest reach among all handset vendors and already has an installed base of above 1bn users. Our latest market research shows that Nokia users are the least "interested" smartphone users. They do not strongly care for having the best features and functionalities. We therefore believe Nokia can still maintain good position if they get the basics right in terms of product platform. In the end, the fate of Nokia as an independent integrated platform will much depend on Symbian^3 and Symbian^4, and on how successful the company will be at integrating the various building blocs they have in place (email, browsing, applications, navigation, music) into a user-friendly and developer-friendly environment.

In such a scenario, profits would remain unevenly shared.

- Apple with its high-end integrated model would continue to capture the lion's share of the profit pool.
- Android would give subscale players and Nokia's challengers a level of profitability relative to Nokia better than what they have experienced historically.
- It therefore appears most likely that Nokia would never regain the profitability premium it has experienced over the last 15 years.

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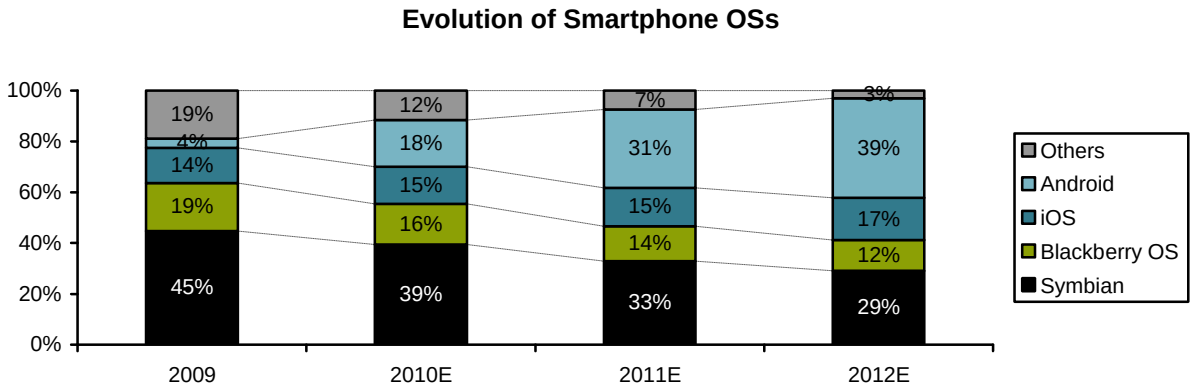
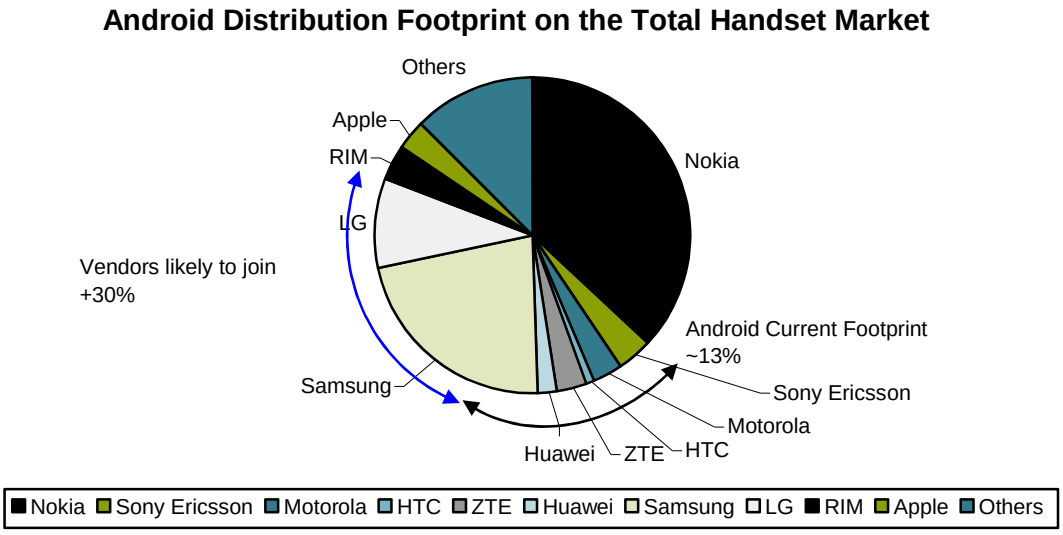
Exhibit 17
Scenario with 3 main ecosystems



Source: Bernstein Estimates and Anlaysis

Exhibit 18
The Android distribution foot print represents close to 50% of the total handset market



Source: Strategy Analytics, Bernstein Estimates and Analysis

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2.2.2 – An alternative scenario around 2 ecosystems remains a strong possibility.

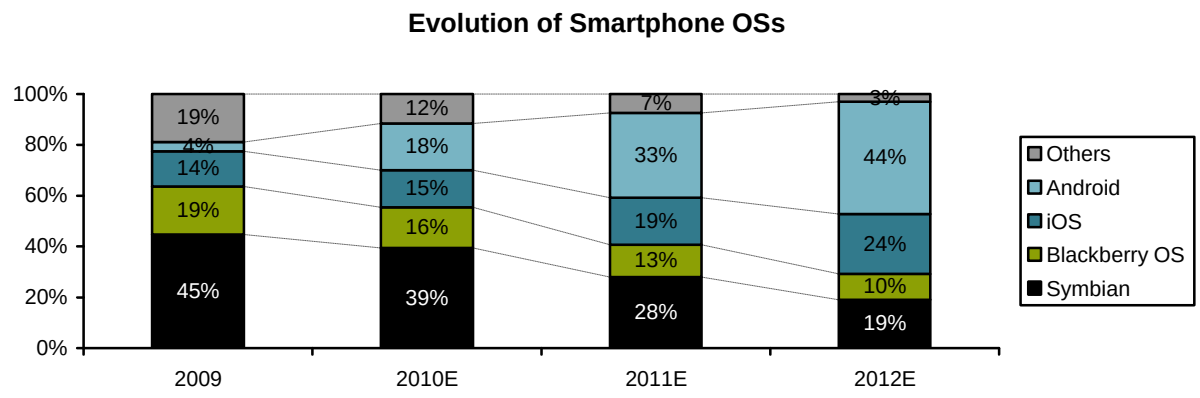
Nokia could have to drop its integrated model if it fails to develop internally the capabilities required to maintain a competitive software platform. This is a real risk. Today Android is making strong improvements to its overall platform at a very high pace. Nokia is clearly lagging behind and is likely to remain a slower organisation in terms of platform improvements.

If Symbian^3, Symbian^4 and MeeGo do not fill enough of the current gap with Android in order to satisfy the less demanding users, Nokia would have no choice but adopting Android or disappearing slowly from the smartphone market. We of course acknowledge that in practical terms, it would happen only if today's crisis at Nokia steeply worsens.

We nevertheless still consider this scenario less likely than the one described above. First because of its disruptive nature: As explained above Nokia still represents over a billion users and a leading market share in most markets; second because of the current focus of the company. If we can have legitimate worries on its ability to execute, the current strategy and the focus of management are probably the right ones (Split of platforms high-end / mid to low end, Symbian "fix", focus on usability and simplification of the user experience).

This being said, the recent changes at Nokia's helm have increased the likelihood of such a scenario.

Exhibit 19
An Alternative Scenario with 2 main ecosystems, a possibility



Source: Bernstein Estimates and Analysis

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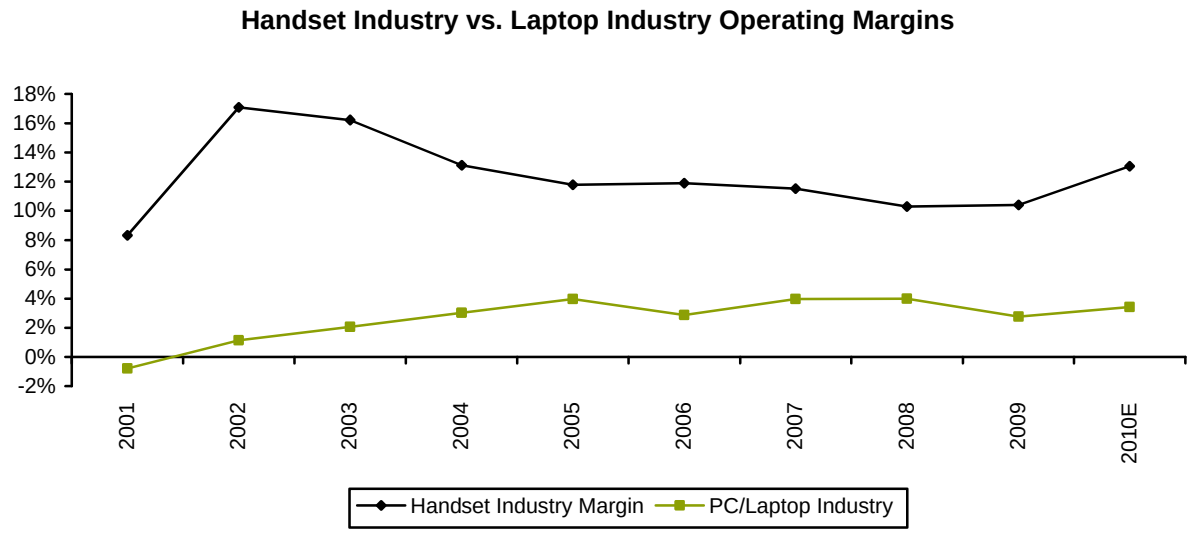
2.3 - These changes are nevertheless unlikely to affect the average profitability of the industry.

These changes are unlikely to affect the average pricing power and profitability of the industry and they haven't so far. It is true that Email, Web Browsing, Application Store and Navigation have become the major objective criteria consumers care about, and it is true that manufacturers using Android won't be able to meaningfully differentiate on these features, but mobile phones remain differentiable products, still mostly based on subjective dimensions (brand, look & fell, product identity).

2.3.1 - Mobile phones have been much more profitable than any other consumer electronics products.

Handset vendors have posted double digit operating margins over the last 10 years vs. 2% for PC manufacturers, for instance. (**Exhibit 20**)

Exhibit 20
Mobile phone Operating Margins have consistently been higher than margins of PCs.



Source: Strategy Analytics, Bernstein Estimates and Analysis

The higher profitability level of mobile phones doesn't come from vendors' ability to differentiate on objective features (as they have never had such opportunity). Mobile phones before the smartphones and advanced operating systems era had an extremely high level of objective commoditization. Vendors had little room for manoeuvre to differentiate on the very simple objective features they offered (voice, texting).

The higher profitability of mobile phones has come from the differentiable nature of the product, based on only subjective features (look and feel, brand, all what makes a product identity). Consumers choose their phone very much like women choose their handbag. They look for the phone that suits them, and in this search, objective features weigh only as go/no-go criteria. The typical consumer will look at mobile phones, check that the features he/she wants are available and then, look at the phones, touch them and choose the one he/she likes, based on the look and feel and identity of the product. This gives handset manufacturers multiple opportunities to differentiate and position their product offerings in a highly segmented marketplace, thereby defending a strong pricing power[1]. (**Exhibit 21**)

[1] Discussed in detail in "The Long View: Myth and Reality of Handset Commoditization ", Published May 12, 2009

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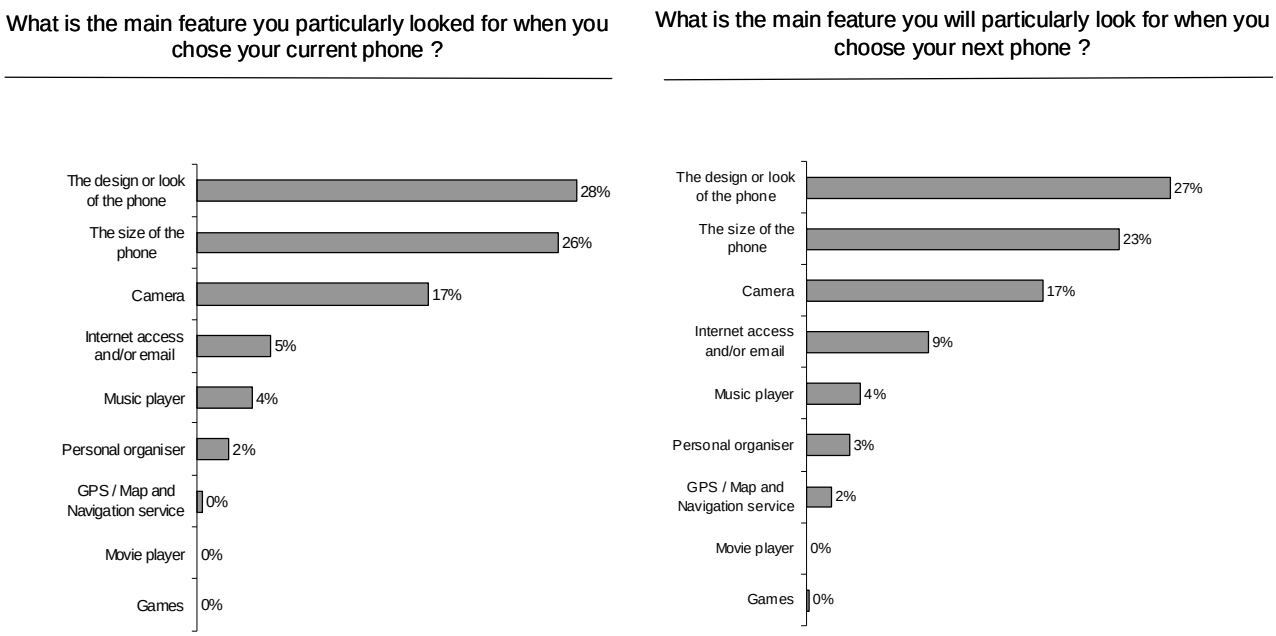
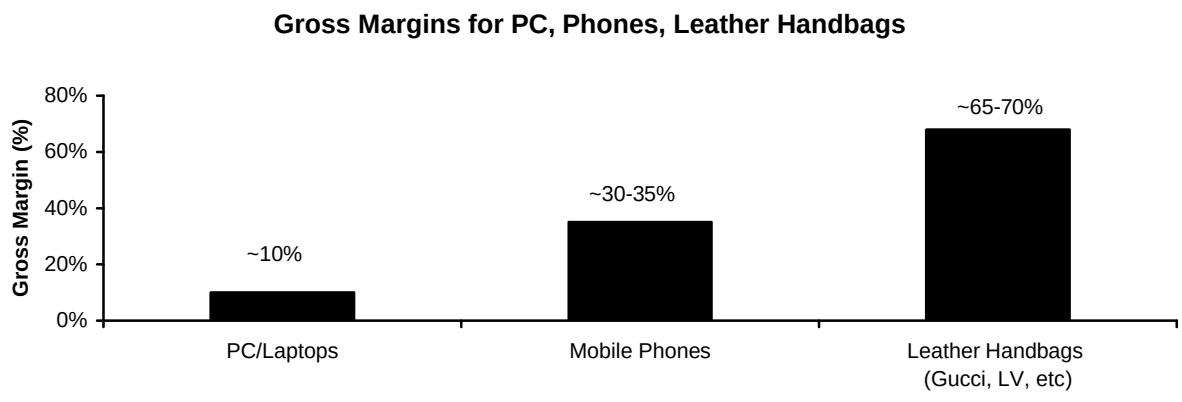
Interestingly, Mobile phone gross margins have historically been halfway between the margins of laptops (purely defined with objective features) **and leather handbags** (purely defined by subjective features). We estimate leather handbag makers, such as Louis Vuitton and Gucci, earn a gross margin in the high 60s and the PC/Laptop industry enjoys a ~10% gross margin. This puts mobile phones gross margins right in the middle of the two extremes. (**Exhibit 22**)

Exhibit 21
Consumers choose mobile phones based on many criteria, the most important ones being "soft"



Source: Bernstein proprietary research – n=2,500 – UK-US-Brazil-France-Spain. – **Summer 2008.**

Exhibit 22
Mobile Phone Gross Margins lie right in the middle of PC/Laptops and Leather Handbags



Source: Bernstein Estimates and Analysis

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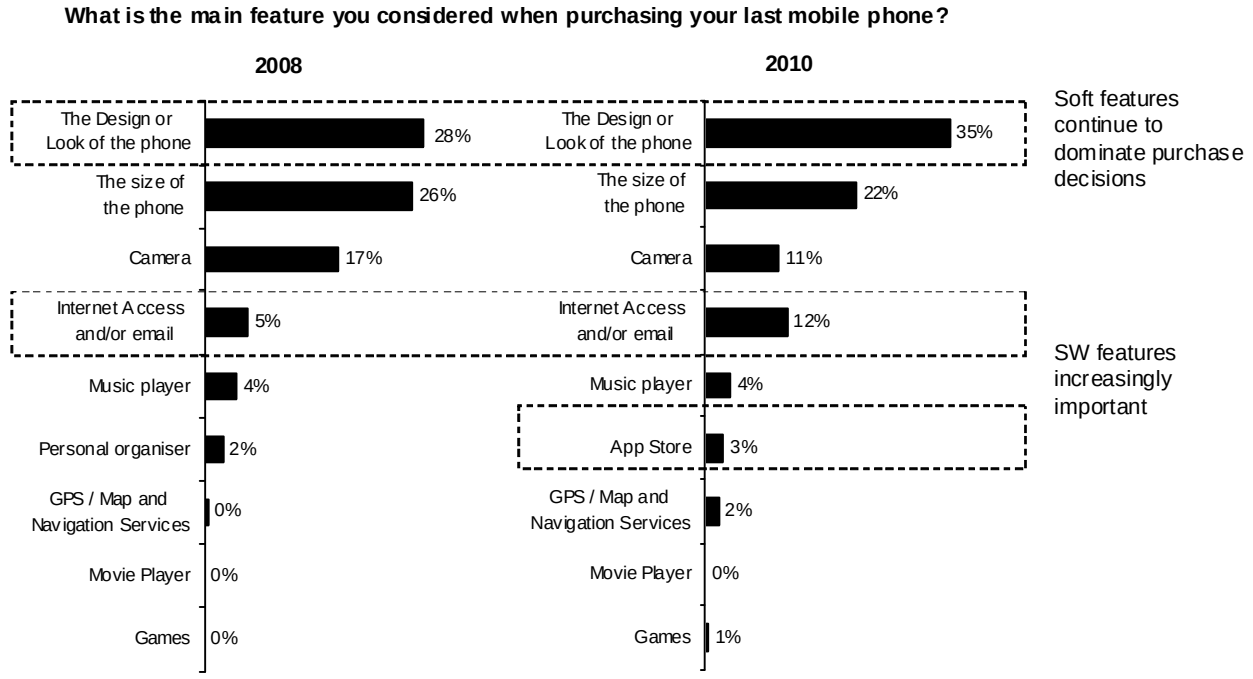
2.3.2 - The "Smartphone Paradigm" and Android are only impacting the phone's objective features.

The shift towards smartphones clearly shifts objective features that matter towards software-based features: camera was the most important feature 2 years ago, now it is email and web browsing. Both from the perspective of the new smartphone paradigm and from the perspective of what consumers expect from their phones today, everything is more and more about software, less and less about hardware.

As a direct consequence, consumers increasingly expect their phone to get these smartphone features right. Today, consumers want to have email and internet access, they mention more and more applications and the application store as well. (**Exhibit 23**)

But we are still in a go/no-go model in which consumers expect to get the objective features they are after right, and then chose the phone they like based on subjective features. While objective features need to be right, they are not a sufficient or the most important purchase criteria. Once the basics are right and suitable to their needs, consumers make their purchase decision based on the subjective features that make the phone's identity. It isn't about getting the best browser and the best email but about getting a proper email and a proper browser on the phone that has the consumer prefers.

Exhibit 23
Even if increasingly objective features are software dependent, the most important purchase criteria remain soft features



Source: Bernstein Proprietary Survey 2008 and 2010

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2.3.3 Implications for Android-backed manufacturers are counter-intuitive: Adopting Android means, at least in the short term, better margins.

While common wisdom sees a commoditization threat as vendors lose control on their operating system, we believe first that what historically made mobile phone vendor's pricing power remains intact and second that using Android is a competitive advantage against all integrated players, to the exception of Apple.

First, by adopting Android, vendors don't lose their ability to differentiate on subjective features and the product identity of their phones. Brand and product identity continue to weigh a lot in the way consumers chose phones and in manufacturers' pricing power as mobile phones remain (more than ever!) a differentiable and branded product in which status-driven subjective dimensions outweigh feature-driven objective dimensions. The historic source of their pricing power is therefore intact.

Second, Android emerges today as an operating system clearly superior to those of integrated players, with the exception of Apple. Consumers are therefore shifting from the brand of these integrated players (Nokia, RIM) towards players leveraging Android (HTC, Motorola, Sony-Ericsson). In this new world where first mover advantage and software development capabilities also matter, Android-backed manufacturers enjoy a competitive advantage over integrated players whose forte is clearly not software development and are, hence, still playing catch-up in upgrading their OSs and ecosystems (see Sections 1.2 and 2.1 for detailed discussion; Exhibits **13**, **14**). Consumers have responded well to vendors that have adopted Android (Motorola, Sony Ericsson, HTC) – a fact very clear from their strong shipments and most recent daily shipment rate for Android OS (200k per day as of Aug 2010, close to Nokia's).

We therefore conclude Android will have a positive impact on margins of manufacturers adopting the operating system, at least in the medium term, and most likely a neutral effect on the overall profit pool of the industry, which implies pressure on margins of players with an inferior operating system.

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3. In that context, we see HTC as a very well positioned player in the handset market.

3.1 - On the technical front, we see HTC as the best positioned Android-backed player.

Developing Android-based phones isn't as easy and straightforward as it may seem. It requires a significant and non-trivial effort to pull together the right user experience onto the right hardware platform. We believe HTC has built the most advanced capabilities in that domain.

As described above, Software platforms are evolving very rapidly (Android has undergone six iterations since its launch – see **Exhibit 13**) and these new releases almost always include significant evolutions that will require hardware evolutions. Consistently, across the updates, we see improvements in speed, continuing improvements of UI and UX (User Interface and Experience), security, and other useful one-off features (**Exhibit 24**). With the first major release (v1.5), minimum memory and ROM requirements were raised, limiting backward compatibility. Also, in the upcoming Gingerbread release (v3.0), there are expected to be minimum hardware requirements in terms of processing power and RAM. Qualitative feedback collected from our industry contacts suggests that using previous generation hardware (for ex. a 500MHz processor on an Android Froyo) results in a significant loss in performance (and in turn User Experience) or even loss of functionality. Manufacturers developing Android-based phones must therefore develop organisation that can cope with this rhythm of innovation and take the most of it.

More generally, developing Android-based phones isn't straightforward. First, vendors need to develop a hardware platform that supports well the operating system, which include significant processing power, hardware accelerated graphics, high-quality multi-touch capacitive technology for the screen. The phone quality isn't at all just about the operating system – a strong graphic interface without hardware-accelerated graphics doesn't work on a touchscreen. At the same time, we can see that the main areas for improvement of the experience lie probably more in hardware than software for the next couple of years (battery-life improvement, HD graphic experience, etc.), but also that these hardware improvement will deliver on the user experience only if they are perfectly integrated with the software platform. **Second**, we believe that making a great Android-based device requires a lot of software development as well. What the industry now calls the "skinning" of the operating system – developing a smooth and differentiated graphic user interface, requires time and several iterations. Sony Ericsson, we believe, spent multiple months to develop the Timescape User Interface that improved Android's initial scrolling capabilities. HTC seems to be taking this to the next level with HTCSense.com, allowing a more seamless user experience across the mobile phone and a computer. Users can manage their phones online from any computer.

Last but not least, the race for hardware feature is as vivid in the Android ecosystem as it used to be in the wider handset industry. Exhibits **25**-**28** are a clear illustration of this.

We believe HTC has built a significant time-and-experience-based competitive advantage. HTC launched the first commercial Android phone in October '08 and has since launched ~15 handsets based on Android (~9 in 2010 so far). We believe that this experience has allowed the company to improve its response time to an Android version release and its own product development leadtime, compared to other Android phone makers. It was the first to come up with an Android v2.1 handset (HTC Desire in March 2010) just 2 months after the v2.1 software release (or 5 months after v2.0 release) (**Exhibit 29**). Today, we see HTC's portfolio as the most advanced one of Android devices (**Exhibit 30**).

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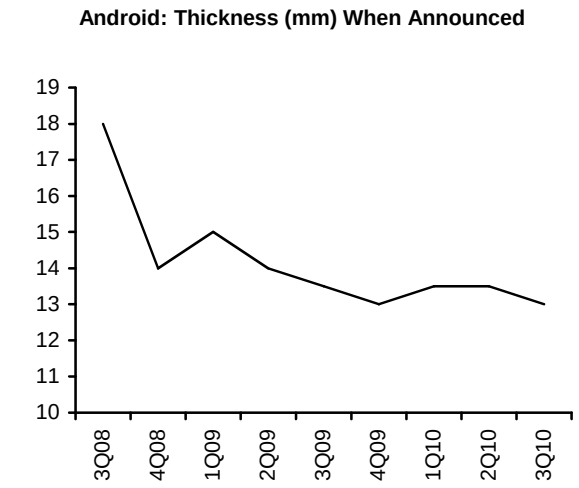
Exhibit 24
Android Software Platform has been evolving very rapidly

Android Version	Major Changes
v1.1 (Feb 09)	Original release. Most suitable for tech-savvy users. Somewhat Clunky UI
v1.5 (April 09)	Major release. Features added: Improved on-screen keyboard, video camera, Stereo Bluetooth, Enriched Web browser and smoother scrolling. Overall UI improvement
v1.6 (Sept 09)	Minor release with speed and performance improvements. Small but crucial changes to Android Market, e.g. better organisation and user experience. Added CDMA support in the telephony stack.
v2.0 (Jan 10)	Minor release. Mutiple emails and Exchange Support added. Smartphone features added: maps, voice search, synching. Improved browser, calendar, camera and keyboard. Revamped graphics architechture that enables better hardware acceleration
v2.2 (May 20)	Minor Release. Greatly improved speed (approx 5x in certain tests), Improved Exchange (added security features), New Developer APIs and Services, Wifi Hotspot support, Adobe 10.1 support, Installing Apps on Expandable Memory etc

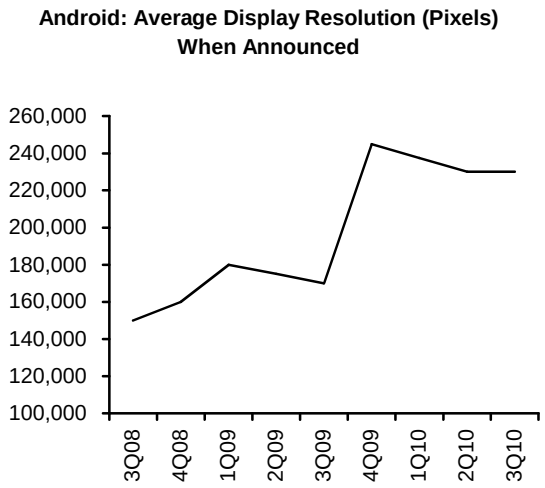
Source: Android Developers Website

Exhibit 25
Phone Thickness



Source: Strategy Analytics

Exhibit 26
Display Resolution (Number of Pixels in screen)



Source: Strategy Analytics

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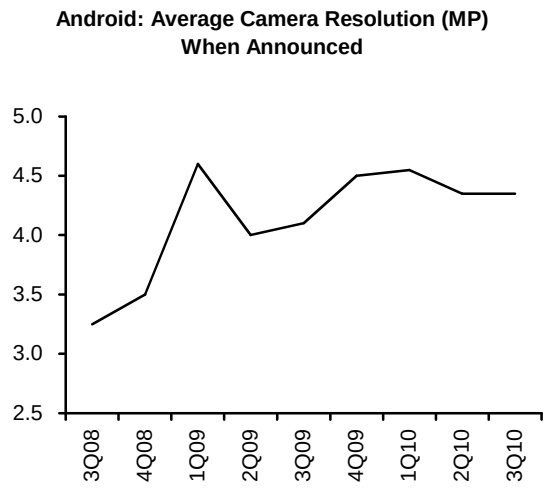
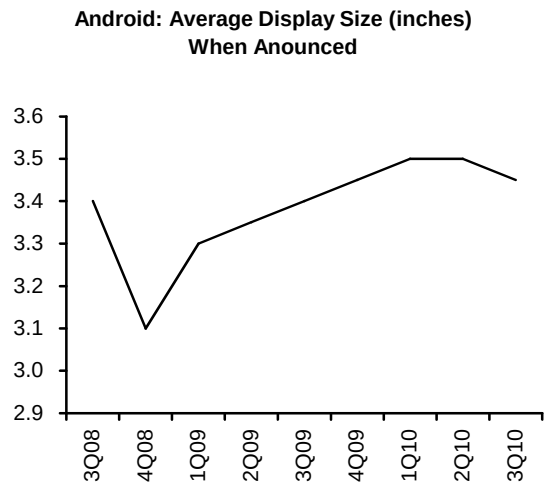
Exhibit 27
Average Camera Resolution



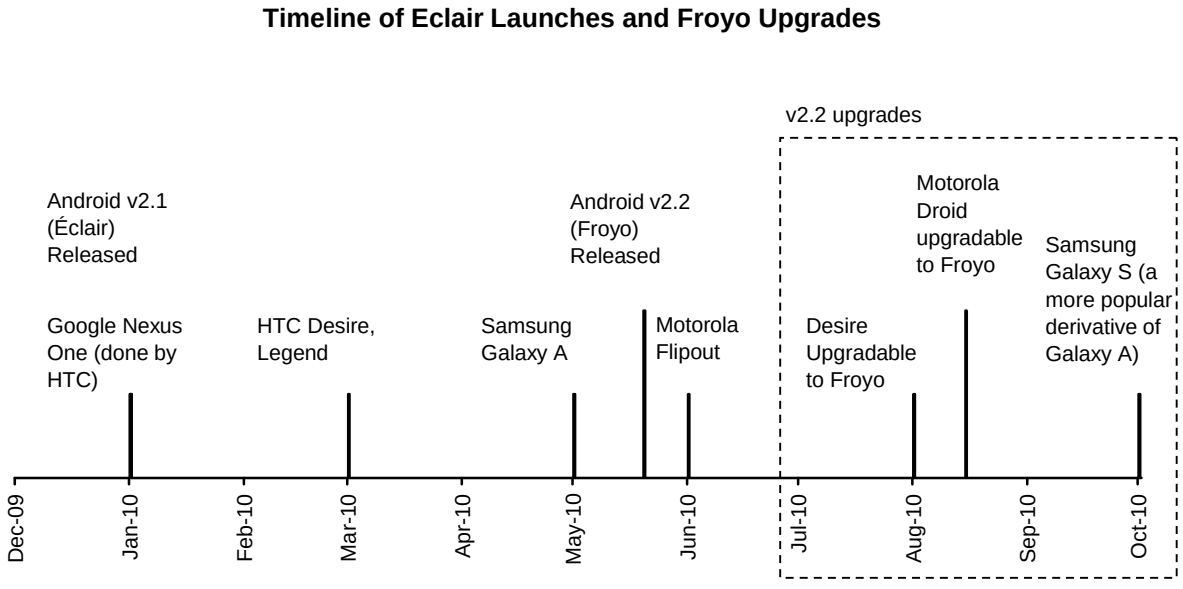
Source: Strategy Analytics

Exhibit 28
Display Size



Source: Strategy Analytics

Exhibit 29
HTC was the first to make phones based on Android v2.1, and also the first to upgrade the phones to v2.2



Source: GSM Arena, Bernstein Analysis

Exhibit 30
HTC came up with Android devices earlier than its competitors and these are still among the most advanced Android Handsets





	HTC Droid Incredible	HTC EVO 4G	Samsung Galaxy S	Motorola Droid X	Motorola Droid 2
Released	Apr-10	Jun-10	Jun-10	Jul-10	Aug-10
Operating System	v 2.1	v 2.1	v 2.1	v 2.1	v 2.2
Display Size	3.7-inch WVGA OLED (480 x 800)	4.3-inch WVGA (480 x 800)	4-inch AMOLED (480 x 800)	4.3-inch WVGA (480 x 854)	3.7-inch WVGA (480 x 854)
Processor	Qualcomm QSD8650, 1 GHz	Qualcomm QSD8650, 1GHz	ARM Cortex A8 1GHz processor	Texas Instruments ARM, 1 GHz	Texas Instruments ARM, 1 GHz
Camera	8 megapixels	8 megapixels	5 megapixels	8 megapixels	5 megapixels
Included Storage	8 GB	8 GB	8 / 16 GB	24 GB (8 GB internal, 16 GB microSD)	16 GB (8 GB internal, 8 GB microSD)
Expandable (Max) Storage	32 GB microSD	32 GB microSD	40 / 48 GB (8 GB internal, up to 32 GB microSD)	40 GB (8 GB internal, up to 32 GB microSD)	40 GB (8 GB internal, up to 32 GB microSD)
Battery (Talk Time)	315 minutes	no official specs	810 / 390 minutes	480 minutes	600 minutes
Battery (Standby)	146 hours	no official specs	750 / 576 hours	220 hours	315 hours
Weight	130 grams	170 grams	119 grams	155 grams	169 grams
Height	117.6 mm	121.9 mm	122.4 mm	127.5 mm	116.3 mm
Width	58.4 mm	66.0 mm	64.2 mm	65.5 mm	60.5 mm
Depth	11.9 mm	12.7 mm	9.9 mm	9.9 mm	13.7 mm

Source: GSM Arena, Bernstein Analysis

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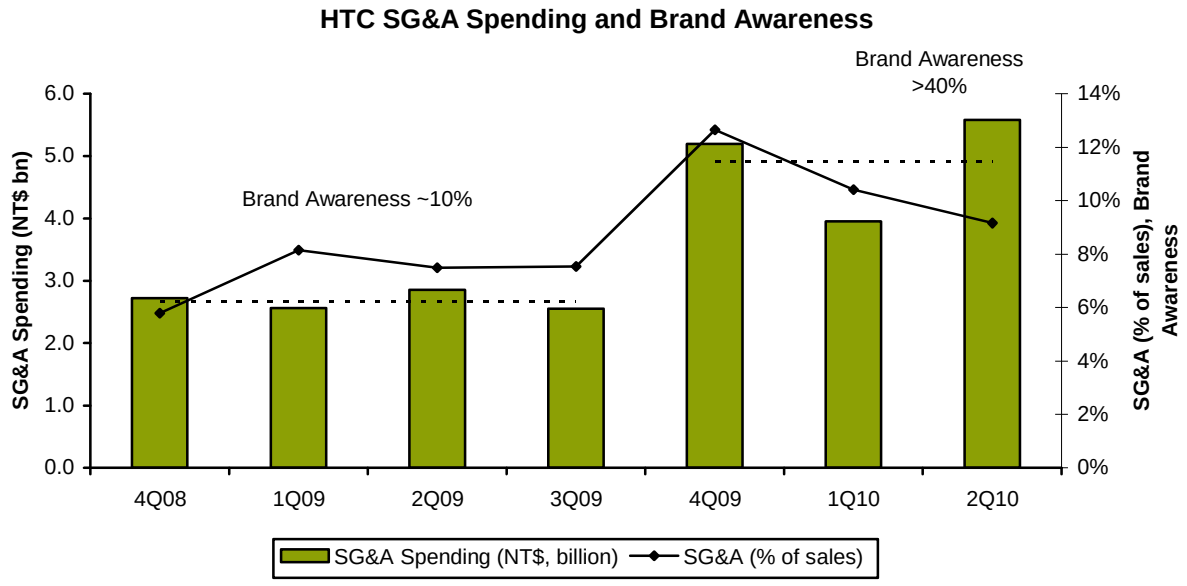
3.2 - We also believe HTC is rapidly creating a strong brand equity, building on the company's technical leadership.

The HTC brand has gained significant strength during the last nine months. During the period between 2006 and 2007, HTC adopted the strategy to focus on selling own-branded phones. We believe the HTC brand has gained significant exposure from late 2009 as a result of two factors: HTC products established themselves as the most achieved Android smartphones, and the company's increased emphasis on advertising and branding (new branding campaign launched Oct 2009 across 20 countries) also supported the brand build-up. If the company's global brand awareness in 2009 was around 10%, it was 40% by end of June 2010.

Exhibit 31
For the past nine months, HTC is spending almost double on SG&A compared to 2009 level. This has very well translated into improved brand awareness from 10% in 2009 to >40% today



Source: Company Reports, Bernstein Analysis

Beyond this strong awareness performance, HTC phones now benefit from a strong visibility. Based on a survey of 140 operators in 29 countries, the HTC desire is today the top Android phone by shelf share and more generally HTC has a total of four phones in the top-ten list by shelf share, double the number of other Android-backed brands (**Exhibit 32**). This is first a clear sign that Operators increasingly consider HTC a strong brand and second bodes well for the evolution of the company's brand awareness.

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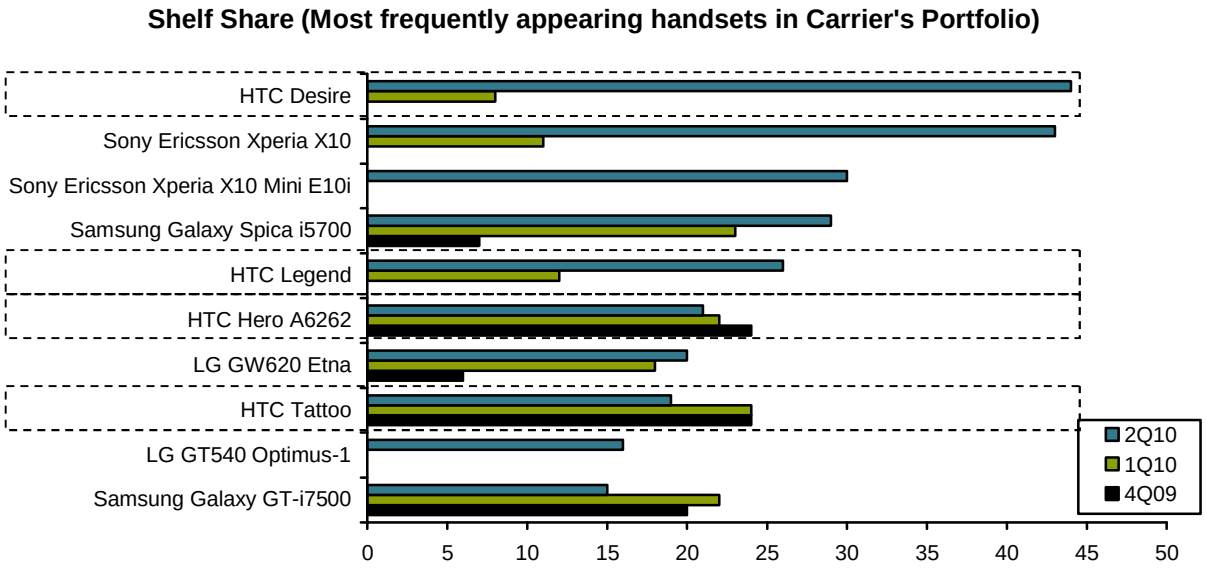
Exhibit 32
HTC Desire is the top Android phone by Shelf share. Moreover, HTC has four phones in this top ten list



Source: Strategy Analytics

Last but not least, 2 consumers survey clearly show that HTC delivers on its brand promise. This is a very strong driver for the HTC brand to continue to gain traction.

Consumers are significantly more loyal to HTC phones than for any other Android phone. In a consumer survey we conducted this summer, we polled smartphone users on whether they will or will not buy their current brand again. **Exhibit 33** clearly shows that users of an Android-based HTC smartphones were significantly more positive about their experience than those with other Android phones. 43% of them said they would stick to HTC and only 17% they would change brand. The remaining 39% remained open on the question. Interestingly, most of those unsure users hesitate between Apple and HTC.

HTC phones now drive very high levels of user satisfaction. The strongest datapoint we have on the growing strength of HTC's brand comes from a survey recently undertaken by J.D. Power, polling several thousands smartphone users in the US. **Exhibit 34** very clearly shows how user satisfaction has significantly increased for HTC in the last nine months, getting to levels comparable to Apple.

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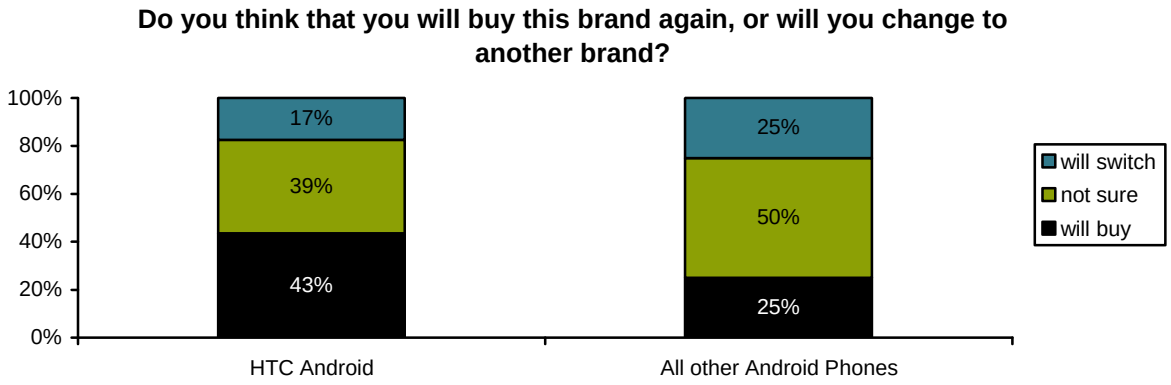
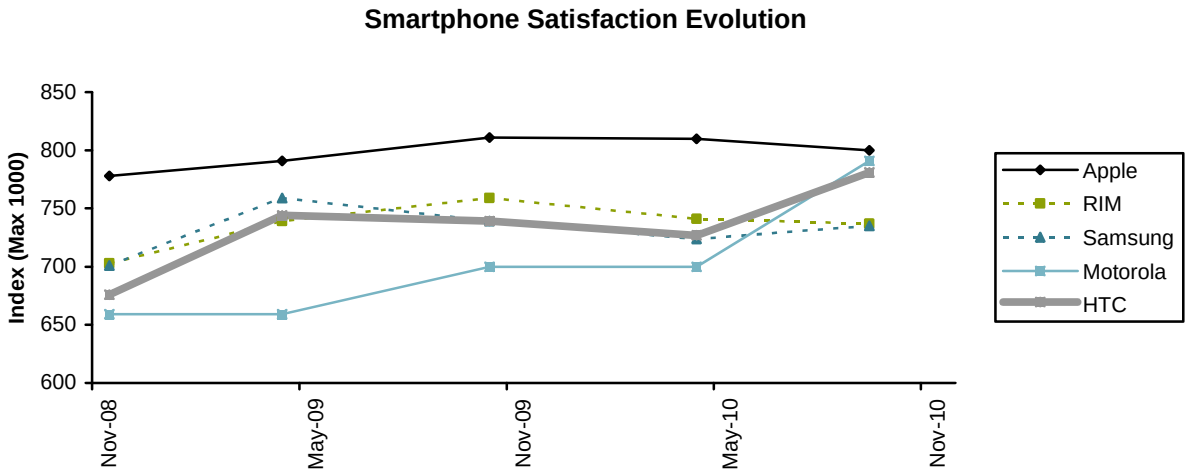
Exhibit 33
users at HTC are more loyal to the brand than at any other Android Brand



Source: Bernstein Consumer Survey 2010 (n = 1002 – sub-segment of HTC/Android users: n = 23; sub-segment of Android users: n=47)

Exhibit 34
Users are increasingly more satisfied with HTC smartphones compared to a year ago



Source: JD Power and Associates Smartphone Satisfaction Study, Bernstein Analysis

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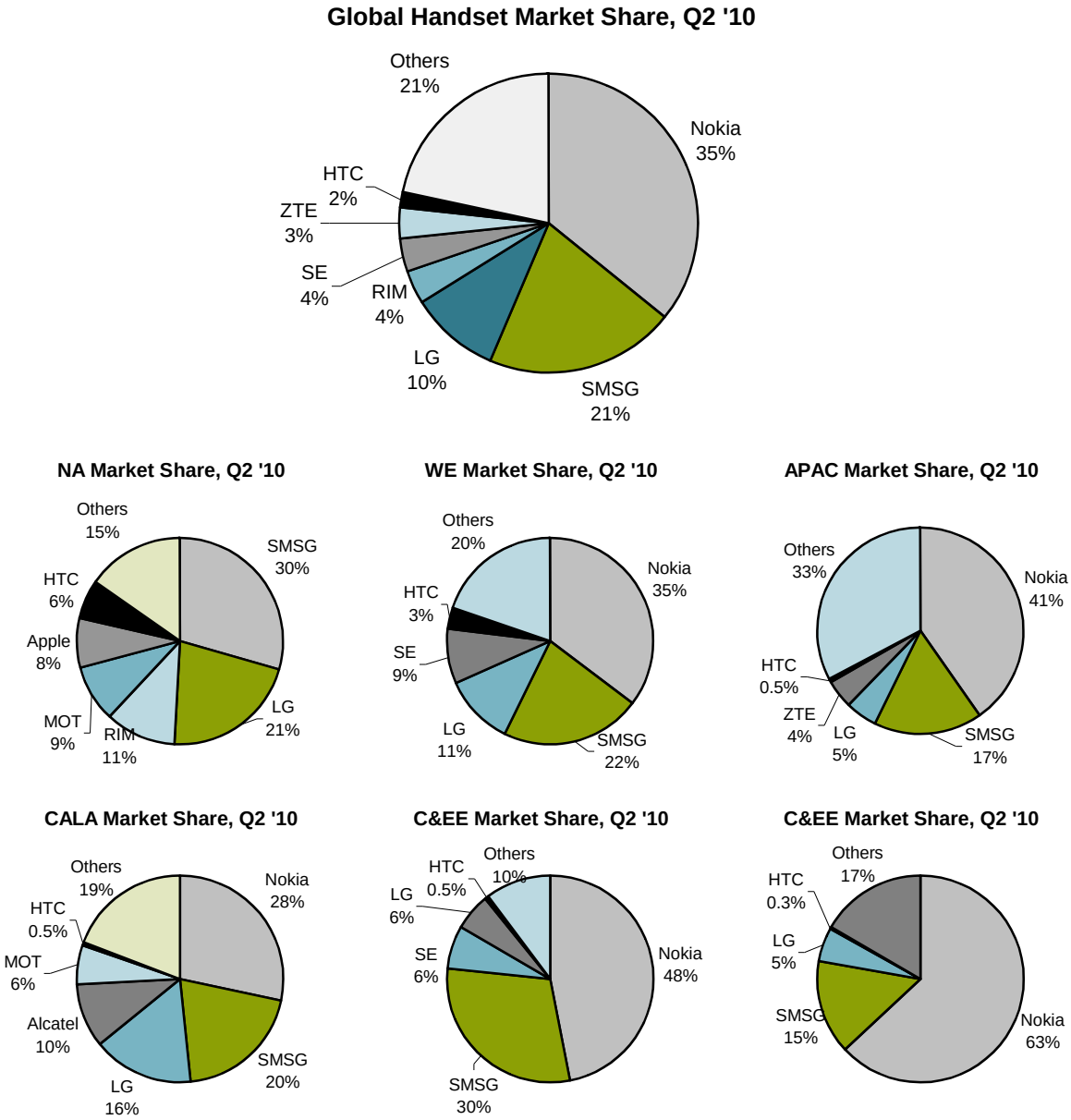
3.3 - In the group of Android players, HTC has limited global scale, but this weakness isn't much of a worry and is more than compensated by a strong cost leadership.

HTC still lacks scale in the world of handsets. Globally, HTC commands only a 1.7% volume market share and has more than 5% market share only in North America. (**Exhibit 35**) This said, when looked from the perspective of the smartphone market, HTC's scale is actually reasonably good. The company approaches 10% market share globally and has more than 15% share in North America. (**Exhibit 36**)

Exhibit 35
HTC is far below critical mass in the handset competitive landscape...



Source: Strategy Analytics, Bernstein Analysis

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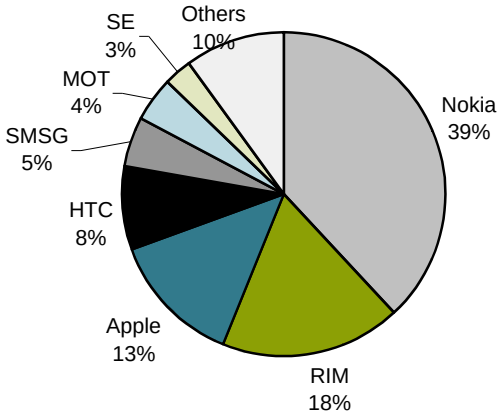
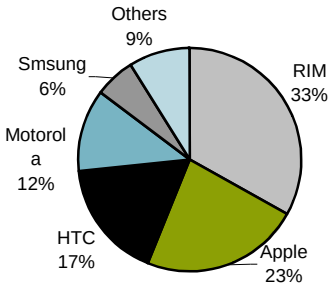
Exhibit 36
… But already a meaningful player in smartphones

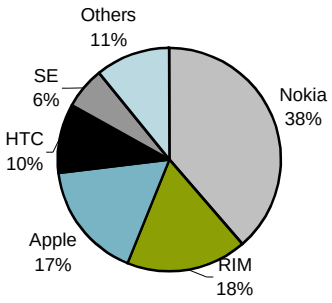
Global Smartphone Market Share, Q2 '10



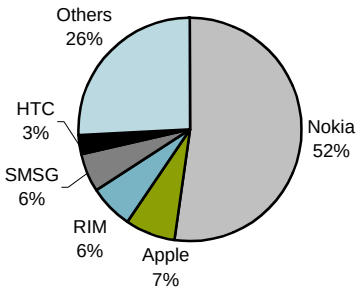
NA Market Share, Q2 '10



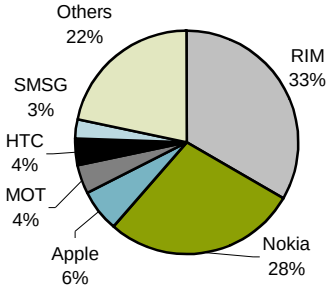
WE Market Share, Q2 '10



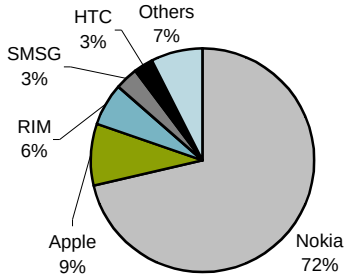
APAC Market Share, Q2 '10



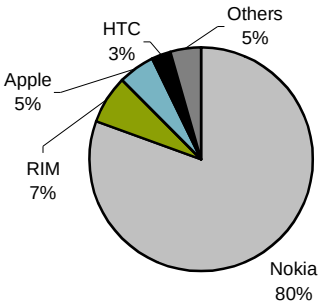
CALA Market Share, Q2 '10



C&EE Market Share, Q2 '10



C&EE Market Share, Q2 '10



Source: Strategy Analytics, Bernstein Analysis

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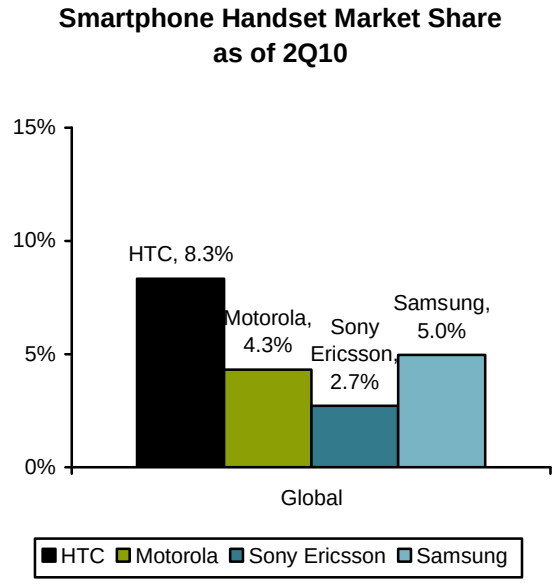
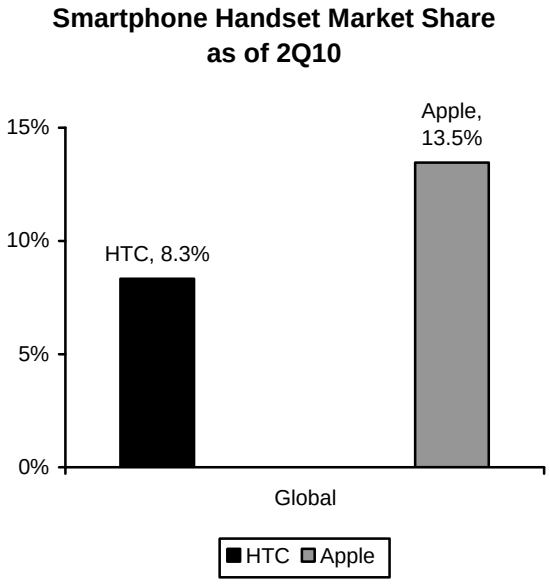
We nevertheless don't believe this represent a significant drawback for HTC today. Scale has been a very important success factor in handsets historically, but today, we've shown it becomes second to having the right software platform (see section 2.1 for a more detailed development on this industry evolution). This means that today, scale really matter for HTC only within the group of Android-backed manufacturers and against Apple. The company's scale disadvantage against companies with an inferior software platform, in particular Nokia, is less of a problem as these companies struggle anyway to be competitive in the smartphone space. From that perspective HTC seems much better positioned. In smartphones, it is the largest producer of Android-based phones. (**Exhibit 37**) Only Apple can claim at the same time a better scale and a software platform that can compete against Android. (**Exhibit 38**)

Exhibit 37
HTC is the largest Android-based phone vendor…



Source: Strategy Analytics, Bernstein Analysis

Exhibit 38
… only Apple has a better scale and software platform that can compete against Android



Source: Strategy Analytics, Bernstein Analysis

Longer term, we believe HTC's lack of scale could only become a problem if significantly larger players like Nokia and Samsung develop very strong Android-based portfolios, and this before HTC gets to a critical mass. The risk is therefore most likely limited to Samsung: Nokia would be able to make such a move only in 18 months to 2 years and at that time HTC would be safe, probably above critical mass. Samsung has made significant progresses recently with the success of the Galaxy S (5m units shipped since its launch in June 2010) and we believe the Korean manufacturer represents a significant competitive threat to HTC. Today, the company is above 20% market share in handsets in most world regions, which gives it a strong visibility and distribution power (**Exhibit 39**). Given the pragmatism the Korean vendor has shown over time, we would expect Samsung to embrace further Android and increase the competitive pressure on HTC. This said, as shown below, we believe HTC enjoys a strong cost advantage that offsets its limited scale, and the company remains larger today and more experienced than Samsung in the smartphone market. (**Exhibit 40**)

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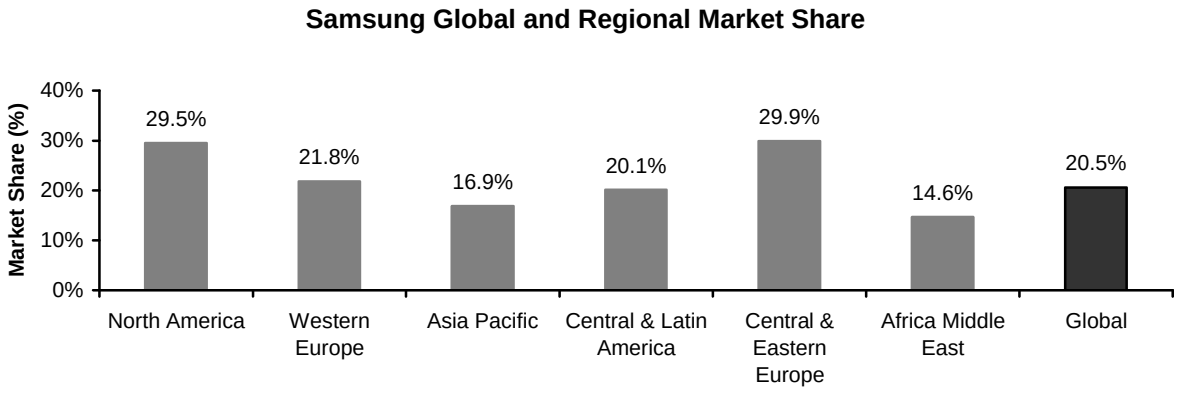
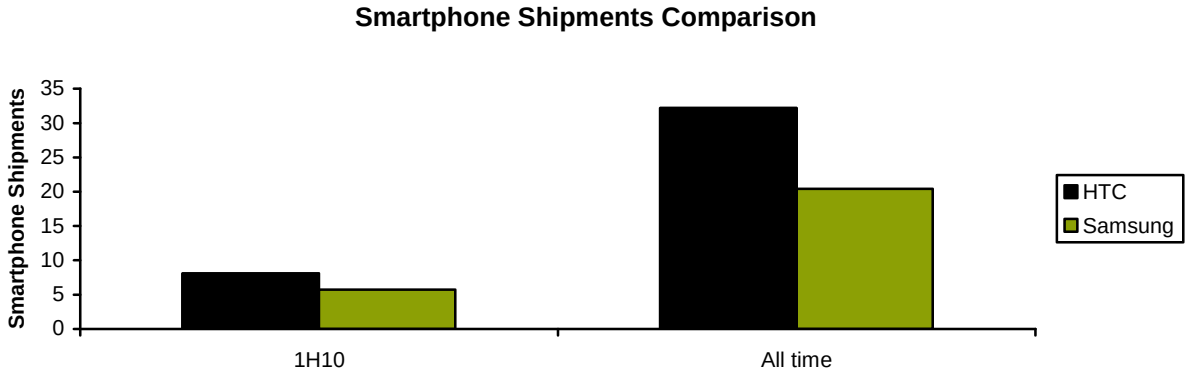
Exhibit 39
Samsung enjoys global scale in handsets, giving it strong visibility and distribution power



Source: Strategy Analytics, Bernstein Analysis

Exhibit 40
Nevertheless, HTC remains more experienced than Samsung in the smartphones market



Source: Strategy Analytics, Bernstein Analysis

Most importantly, we believe HTC has a very strong cost advantage that compensates the company's lack of scale and largely discounts the scale-related risk mentioned above. It is striking to see that despite its lack of scale, HTC has the third best profitability in the industry. In terms of gross margins, the company ranks above most peers – only Apple and RIM can claim better margins, Apple for the formidable premium the quality of its product and its brand drives, RIM, mostly, for the strong service component of its current value proposition. For Devices, we estimate RIM's gross margin to be 35%, slightly above HTC (**Exhibit 41**). In terms of operating margins, HTC also ranks amongst the most profitable players of the industry. We estimate Apple to be leading the industry with ~47% operating margin as a direct result of its high gross margin. We estimate that while RIM enjoys ~18% Operating Margins (Devices). HTC enjoys ~16% operating margin (**Exhibit 42**).

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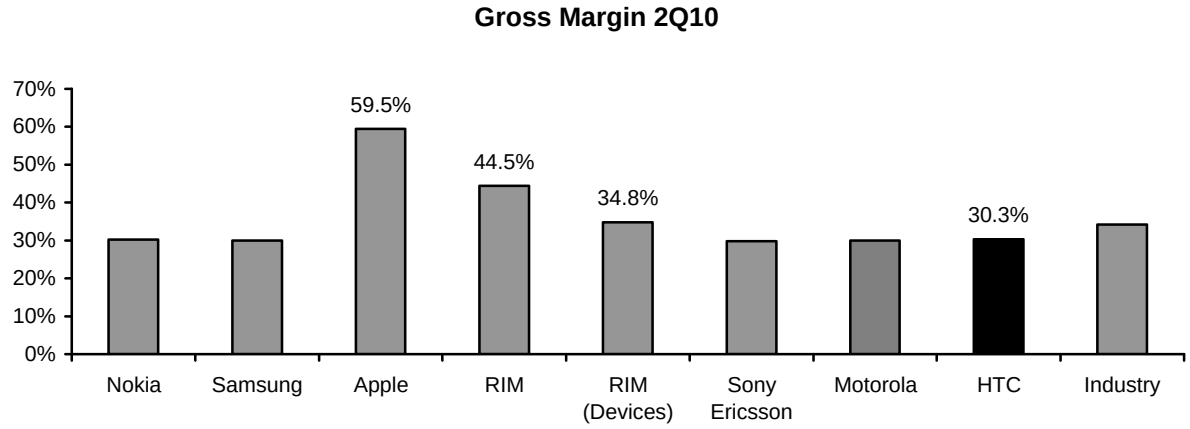
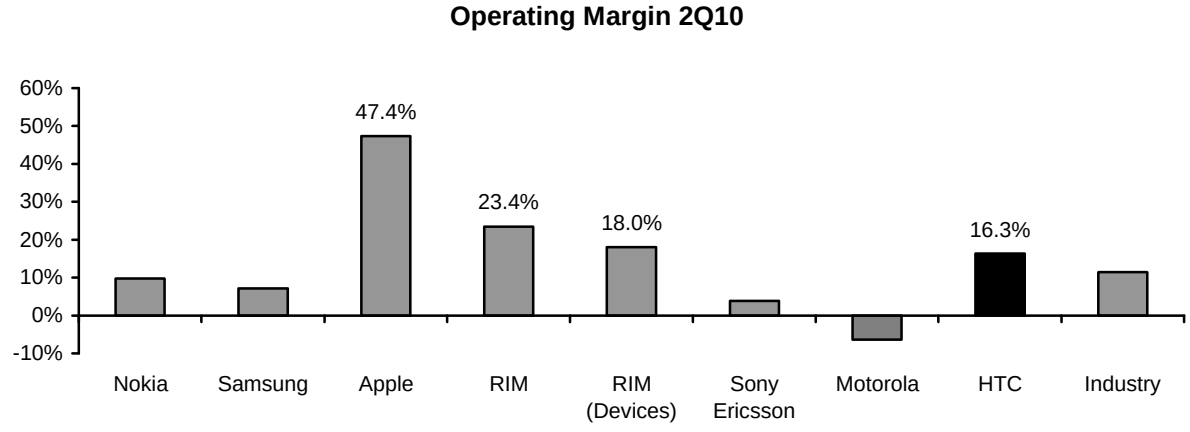
The major driver of this cost efficiency relies on the fact that HTC is based in Taiwan, where the cost of skilled workforce remains very competitive (**Exhibit 43**). Excluding Chinese players, HTC has the lowest Opex per employee of the industry (**Exhibit 44**) and the company's R&D efficiency appears on several metrics: whether we compare it with its Android peers on R&D dollars spent per model, per phones shipped, or as a percentage of sales, HTC consistently efficient on R&D and overcomes its scale disadvantage vs. Samsung (**Exhibit 45**). HTC's cost efficiency also benefits from the lean model of the company. HTC started operations immediately with a focus on smartphones and comes from a positioning with a very strong cost focus (white label manufacturer).

Exhibit 41
HTC enjoys the third best profitability in the industry – in its recent gross margin …



Source: Company Reports, Bernstein Estimates and Analysis
Note: Data for 2Q10 Gross Margin except HTC (3Q), Apple (FQ3), RIMM (2FQ11)

Exhibit 42
… as well as its operating margin



Source: Company Reports, Bernstein Estimates and Analysis
Note: Data for 2Q10 Gross Margin except HTC (3Q), Apple (FQ3), RIMM (2FQ11)

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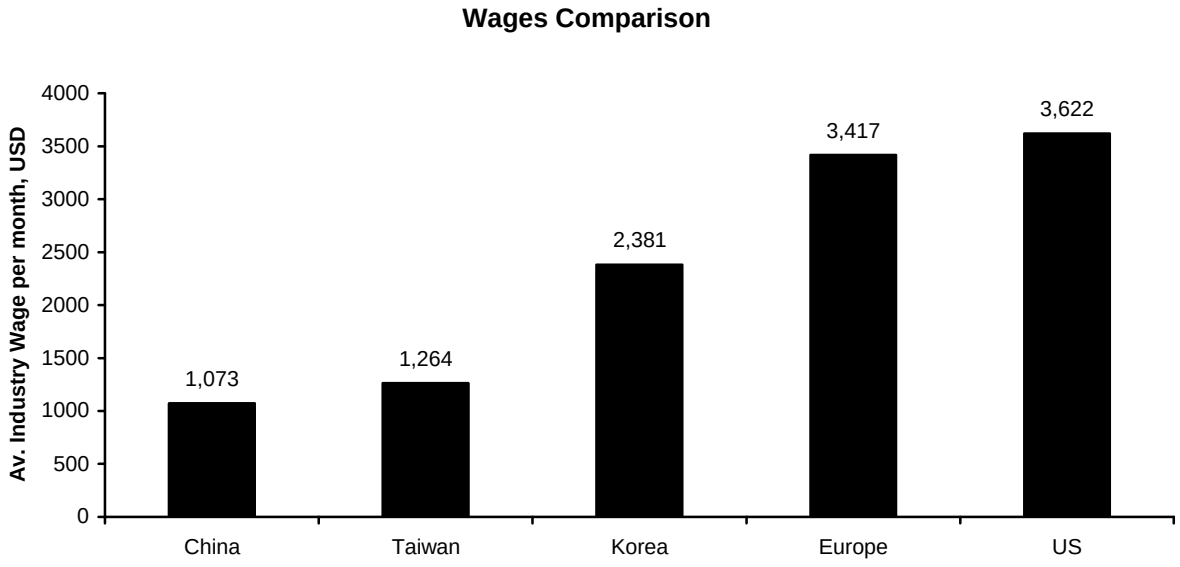
Exhibit 43
Taiwan continues to be a low-cost provider of workforce



Source: Stats.gov.cn, Monthly Bulletin of Statistics (Taiwan), Eurostat, Ministry of Labour (S. Korea), BLS (US)

Exhibit 44
HTC has a much lower cost base compared to its Android peers, allowing it to enjoy high operating margins

('000 USD)	2011 Motorola	2011 Sony Ericsson	2009 Samsung	2009 HTC	2009 Nokia
Total No. of Employees	10,000	8,450	39,934	8,948	56,462
Rev ('000) Per employee	803	1,197	688	489	688
GP ('000) Per employee	241	359	206	156	229
Opex ('000) Per employee	201	298	139	73	143
OP ('000) Per employee	40	61	67	83	86
Operating Margin	5.0%	5.1%	9.7%	17.0%	12.5%

	Motorola	Sony Ericsson	Samsung	HTC	Nokia
HTC Rev/empl as a percentage	61%	41%	71%	NA	71%
HTC Opex/empl as a percentage	36%	24%	52%	NA	51%

* We have used 2011 Revenue, Gross and Operating Profit figures for MOT, SE since the businesses are in the midst of a turnaround.

Source: Bernstein Estimates and Analysis

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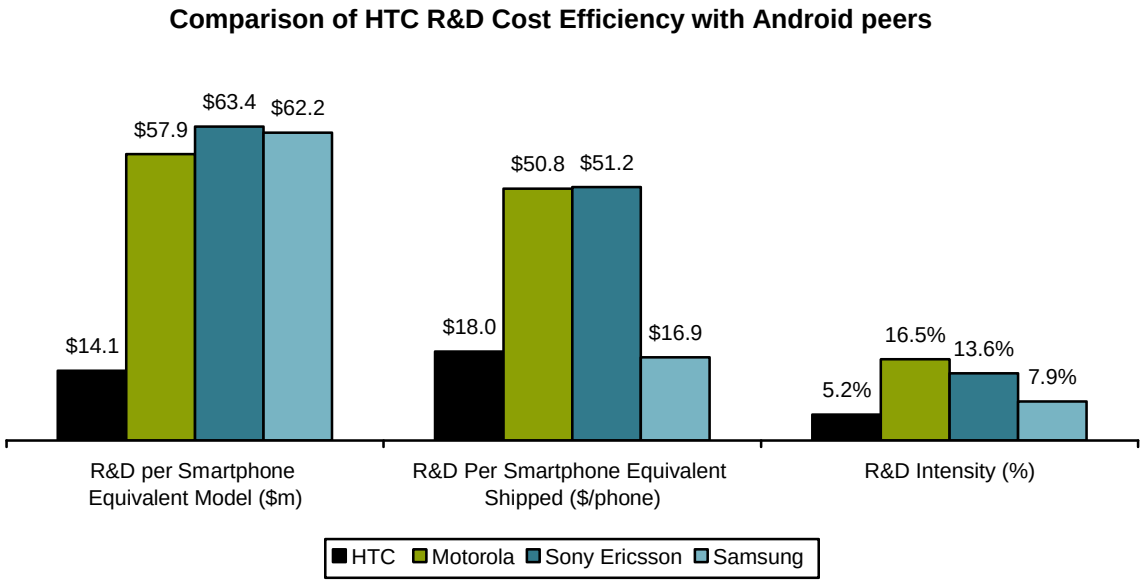
Exhibit 45
HTC appears to be efficient on its R&D spend on various metrics we use to compare against peers



Source: Company Websites, Bernstein Estimates and Analysis
Note: Basic phone defined as 0.5 Smartphone equivalents. Samsung's 26 Non-Andriod/MS Qwerty or Touch phones are defined as 0.75 Smartphone equivalents

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4. The recent acceleration of the smartphone phenomenon coupled with the company's strength give HTC an unusually strong growth and profitability improvement potential.

4.1 – We recently showed that growth in the smartphone market took a steep acceleration, driven by the success of Android.

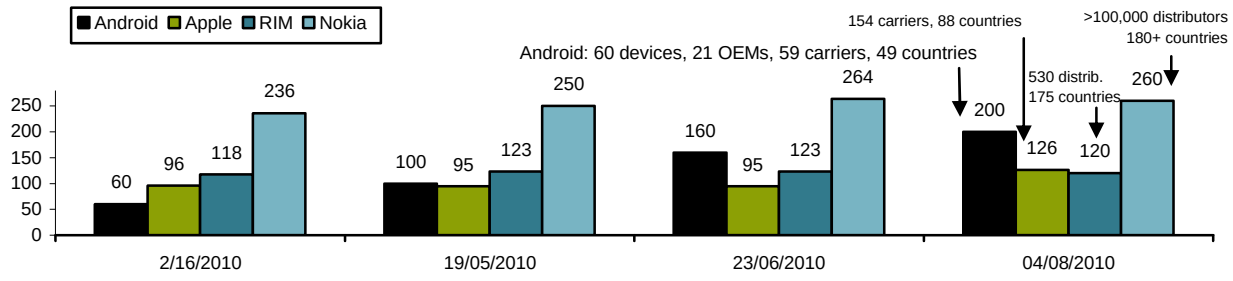
The daily run-rate of Android handsets is now at 200,000 units and has more than tripled from 60,000 units in February this year (see **Exhibit 46**). Even under the very conservative assumption that Android's run-rate does not increase during the remainder of the year, it will still contribute 45M units more than last year (53M in CY10 vs. 8M in CY09), adding 25% points of growth y/y to *the entire smartphone market.* Such strong growth has two important implications.

Implication for smartphone shipments: First, third party smartphone forecasts for the year are currently calling for 47% y/y growth in CY10 and 23% in CY11. We think both of these estimates are two low – here's why. Other smartphones (i.e. non-Android, non-iPhone) grew 25% y/y in H1 10, despite the strong surge in Android and iPhone shipments (see **Exhibit 47**). A 47% y/y growth forecast would imply "other smartphones" shipments would grow just 9% in the second half of 2010 vs. 25% y/y growth in H1 10, which implies a material deceleration in growth for other smartphones that we think is unwarranted (see **Exhibit 48**). Indeed, our belief is that Android's strength has been *mainly* accretive to the overall market growth – largely expanding the size of the market and accelerating the migration towards smartphones from voice-centric offerings. Our analysis suggests smartphone market unit growth will be at least 50% in 2010 (see **Exhibit 49**), though the growth rate could be even higher if Android shipment rates continue to rise. This leads us to believe that smartphone shipments this year will be 281M units (up 55%).

One way to think of the strong impact on smartphone growth from Android in CY11 is that if Android's run-rate increased just 20% y/y in CY11 it would add 12% points of y/y growth to all smartphones (88M units in CY11 vs. 53M in CY10). Similarly our current iPhone forecast (which we think is likely conservative) would add 5% points of growth (55M in CY11 vs. 41M in CY10), for a combined iPhone + Android contribution of 17% points of y/y growth to the overall smartphone market.

For 2011, if we more realistically assume that both Android handset and iPhone shipments grow 10% points faster than the market, and if other smartphones still grow between 5% - 25% y/y, it would point to overall smartphone market growth of *at least* 30% y/y (see **Exhibit 50**). Layering these assumptions on top of the 281M units for CY10 results in at least 365M units in CY11, which is 11.5% above current 3rd party smartphone forecasts (at 327M units).

Exhibit 46
Daily Sales Run-rate for iPhone, Android, RIM and Nokia smartphones



Source: Corporate reports, Bernstein analysis
Note: Run rate is equal to shipment (in thousands) per day

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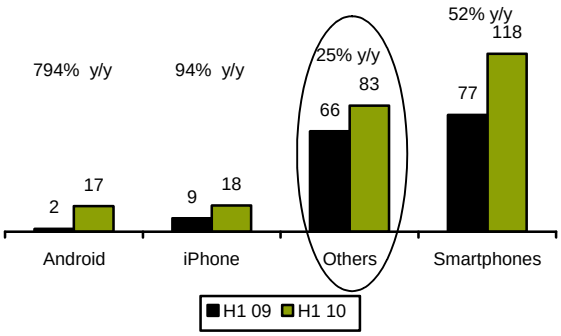
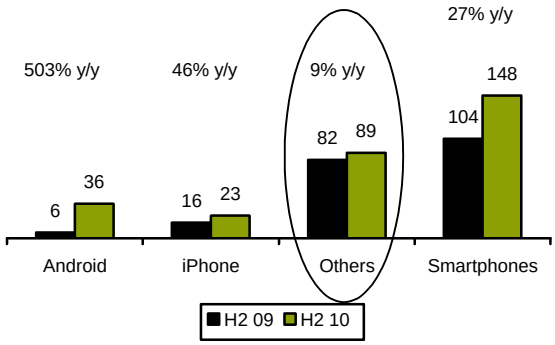
Exhibit 47
Smartphone Shipments in H1 10 vs. H1 09



Note: Other smartphones alludes to non-Android, non-iPhone smartphones

Source: Strategy Analytics, Corporate reports, Bernstein estimates and analysis

Exhibit 48
Current Smartphone Forecasts Imply Other* Smartphone Shipments Would Grow Only 9% in H2 10 – We Think Those Will Grow 20% or More in H2 10



Note: Other smartphones alludes to non-Android, non-iPhone smartphones

Source: Strategy Analytics, Corporate reports, Bernstein estimates and analysis

Exhibit 49
Sensitivity of non-Android, non-iOS Smartphone Growth (Y/Y) in CY10 to Overall Smartphone Growth (Y/Y) and Android Run-rate

		Y/Y Growth in Smartphone Sales in CY10				
		40%	**47%**	**50%**	**60%**	**70%**
Android Daily	**200**	8%	16%	20%	32%	45%
Run-rate (000s)	**220**	5%	14%	18%	30%	42%
in H2 10	**240**	3%	12%	15%	27%	40%

Source: Bernstein estimates and analysis

Exhibit 50
Sensitivity of Y/Y Growth Rate for non-Android, non-iOS Smartphones in CY11, to Relative Growth in Run-rates* for iPhone (and Android Handsets) and to Smartphone Market Growth

		iPhone & Android run-rate Growth relative to mkt				
		-10%	**0%**	**10%**	**20%**	**30%**
	20%	5%	1%	-3%	-7%	-10%
	30%	14%	10%	6%	2%	-2%
Market Growth	**40%**	23%	19%	15%	11%	7%
	50%	31%	27%	23%	19%	16%
	60%	40%	36%	32%	28%	24%

Note: Android and iPhone daily run-rates currently 200K and 126K respectively; Relative run-rate s for Apple & Android assumed to grow at the same rate

Source: Bernstein estimates and analysis

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4.2 – As the best positioned Android player, we expect HTC to strongly benefit from the phenomenon.

HTC is the most technically advanced Android player in the market today, in our view. Moreover, the company benefits from improving brand visibility and recognition. Going forward, we expect both these advantages to support HTC gaining share in all geographies.

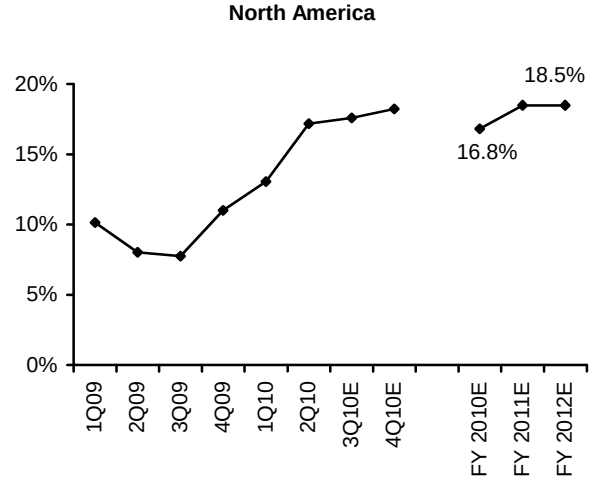
We expect HTC to at least stabilise share in North America. For the last 5 quarters, HTC has been sequentially gaining significant market share, more than doubling from 7.8% in 3Q09 to 17.2% in 2Q10. North America is probably the most competitive smartphone market today and we carefully expect HTC to slow significantly share gains next year, as other Android players continue to gain traction, taking most of the share lost by RIM. (**Exhibit 51**)

Western Europe will be the next driver of growth for HTC. The company started to gain traction in Europe in the first quarter of this year with the launch of the Desire and steadily increased market share in smartphones since then. As HTC announced two new GSM/WCDMA-based products (the Desire HD and the Desire Z) in September, we expect the market share gain trend to continue and HTC to eventually land on levels similar to what we can witness in North America today. We see the primary driver of HTC's market share growth in Europe as the continued weakness of Nokia, partly compensated by the likely strength of Samsung. (**Exhibit 52**)

In the Rest of the World, we expect HTC to steadily gain traction as well in 2011 and accelerate beyond 2011. Emerging markets will naturally turn as big opportunities for HTC. The company already expects to launch lower ASP phones in 2H11 that should drive significant growth in these regions, here again on the back of Nokia's continued weakness. (**Exhibit 53**)

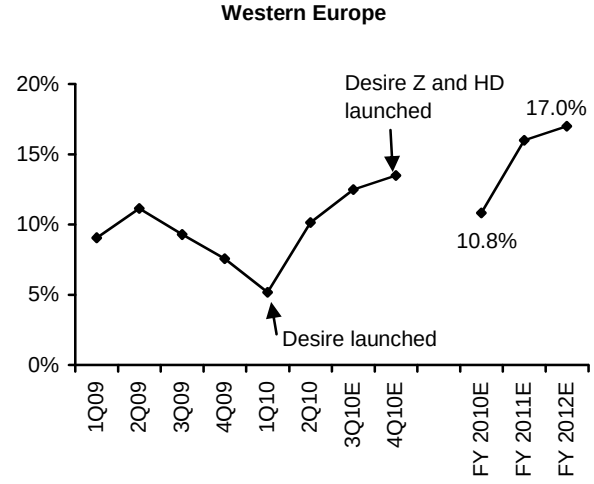
Within the Android ecosystem, we expect HTC to start losing share in 2011 and to land at 35% in 2012, vs. above 40% today. Obviously, with many joining the pack, we expect HTC to lose share within the Android ecosystem from its current >40%. We expect HTC Shipments (as share of Android shipments) to fall to ~35% next year. In 2012, we expect any share loss in western market to be stabilized by share gain in APAC region, leaving HTC's share of Android shipments at ~35% globally. (**Exhibit 54**)

Exhibit 51
We expect HTC to grow only slightly faster than smartphone growth in North America



Source: Strategy Analytics, Bernstein Estimates and Analysis

Exhibit 52
We believe HTC to focus on Western Europe and gain significant market share in the coming two years



Source: Strategy Analytics, Bernstein Estimates and Analysis

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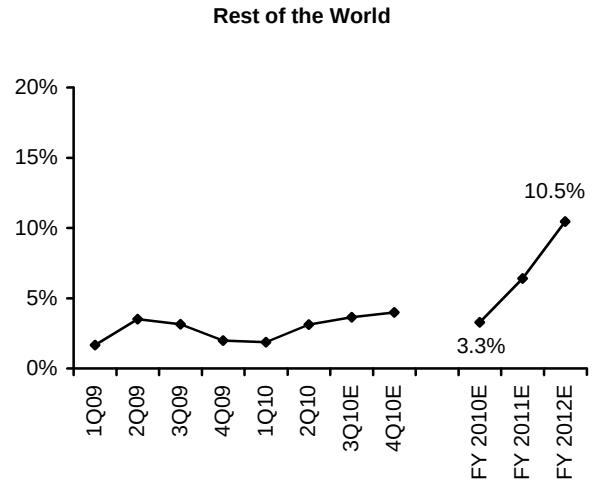
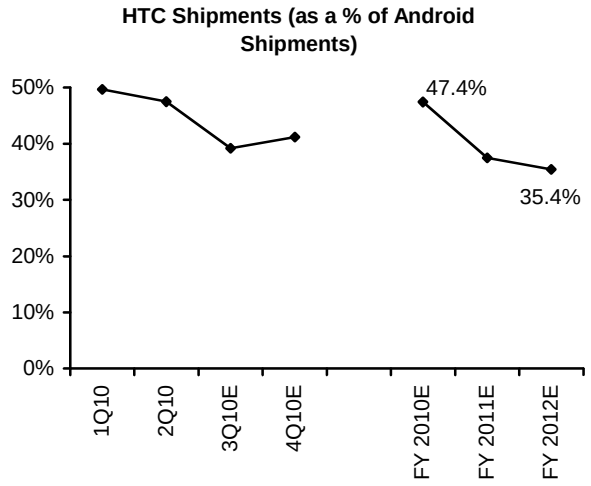
Exhibit 53
In rest of the world, HTC will continue to gain steady traction and accelerate beyond 2011



Source: Strategy Analytics, Bernstein Estimates and Analysis

Exhibit 54
We expect HTC to start losing share within the Android group next year



Source: Strategy Analytics, Bernstein Estimates and Analysis

We expect this growth to turn into healthy revenue and profit growth. In terms of ASP, We expect only a mix-related ~8% ASP decline in 2010 and ~11% in 2011, in line with the year-to-date performance. For now, the company continues to record strong demand in high ASP segments and we expect this to remain true in 2011, as most of the growth will come from Europe. In 2012, we'll expect a significantly greater mix of lower ASP shipments as the company (and the smartphone market as a whole) grows more into emerging markets and gets into lower ASP segments in North America and in Europe. We model a 16% ASP decline for 2012, comparable to the sort of decline Nokia is experimenting today as it grows exclusively as a result of the expansion of the company's smartphone portfolio in lower ASP segments. (**Exhibit 55**)

In terms of gross margins, **we cautiously expect a stable evolution as HTC maintains its current pricing power.** Given the fast improvement of the brand in North America and in Western Europe, and given the scale the company is progressively building, we wouldn't be surprised to actually see an improvement in gross margins. (**Exhibit 56**)

On the bottom line, we expect operating margins to progressively improve over time. As the company gains market share in Western Europe in 2011, we expect HTC to spend on SG&A at the same rate as this year and continue its brand building efforts. Similarly, as HTC undertakes development of low-cost Android phones in 2011, we expect HTC's R&D intensity in 2011 to be same as in 2010. In 2012, we expect the Opex ratio to start decreasing as HTC goes beyond critical mass.

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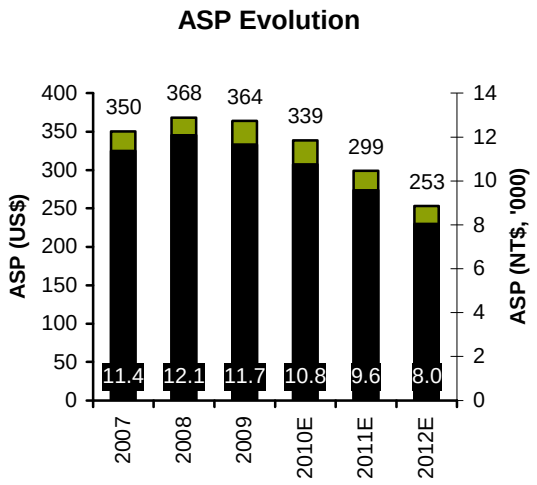
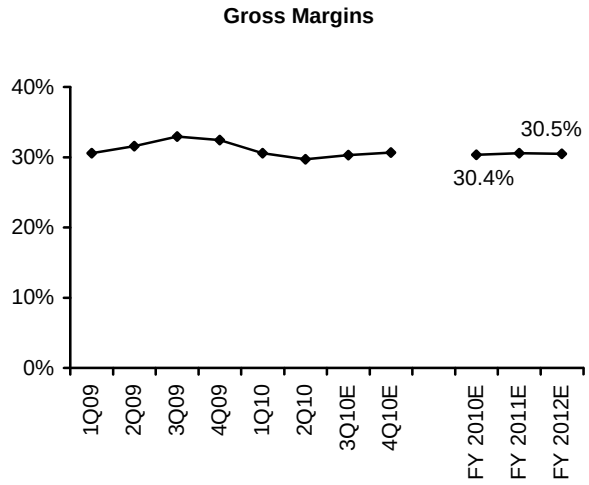
Exhibit 55
We expect ASP decline of 11% in 2011 only from mix effect, accelerating in 2012 to ~18%



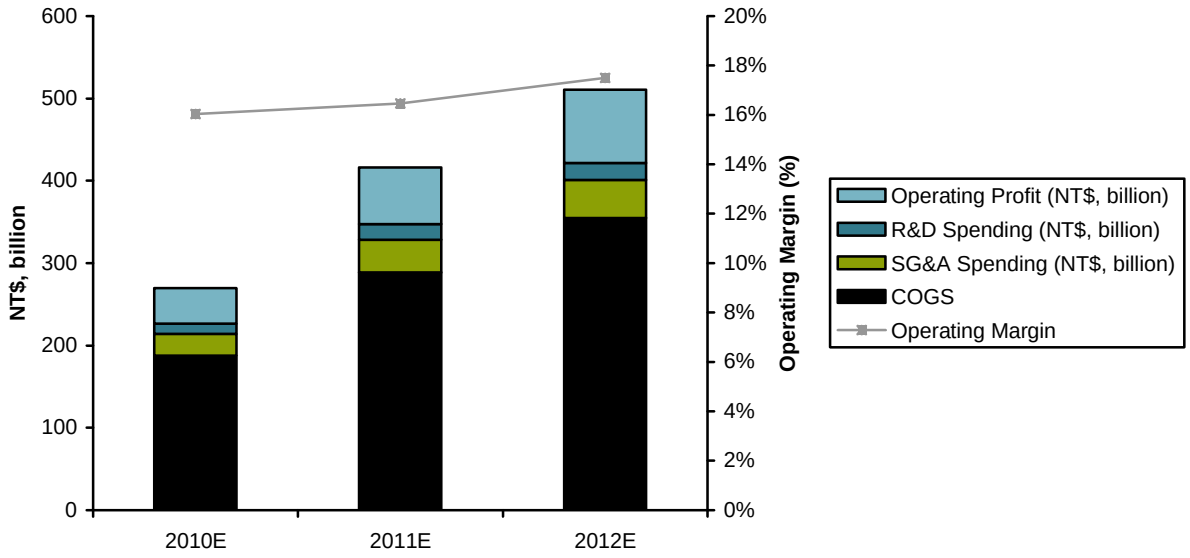
Source: Company Reports, Bernstein Estimates and Analysis

Exhibit 56
We cautiously expect stable gross margins for HTC



Source: Company Reports, Bernstein Estimates and Analysis

Exhibit 57
With stable gross margins and improving Opex ratio, we expect operating margins to progressively improve as the Company grows



Source: Bernstein Estimates and Analysis

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5. Consensus expects margin compression, at odds with our margin expansion thesis.

Consensus seems to expect a loss of pricing power for HTC resulting in declining margins in 2011 and 2012, despite the significant gains the company is very likely to make in terms of scale and therefore operating leverage. We see this directly reflecting the common thought that Android-backed players should see their operating margins going down over time as a result of a so-called commoditization. (**Exhibit 58**) Consensus numbers imply a steep deterioration of the company's gross margin, largely below 30%, to level never seen at successful handset manufacturers in the past and that HTC didn't experience, even when the company was running a very low value-added white-label handset business. (**Exhibit 59**)

It goes against our conviction that the actual drivers of HTC's profitability are all set to improve or at least remain stable: Improvement of HTC's brand equity, improvement of HTC's scale, continuing differentiation power in the market for smartphones.

It is actually interesting to note that so far, consensus has been wrong. Expectations for 2010 were for 14.7% margins up to recently. Looking at the "last 28 days" consensus number, we see a significant revision to 15.5%. As the company reported a beat on margins last quarter (16.3% vs. consensus expectations of 15% and our own pre-launch modelling of 16%). It is therefore likely to see consensus revising up numbers for 2010. As a point of comparison, we expect 2010 margins of 16% and fourth quarter margins of 16.7%. Consensus expects 15.1% for the fourth quarter. (**Exhibit 60**)

Our first angle in terms of valuation is therefore very simple. We believe the market more or less recognises HTC's growth potential but is pricing-in unrealistically low margins, at odds with our understanding of the industry and the current "Android revolution" and at odds with the recent performance of the firm. As a result, we expect strong positive earnings revision in 2011 and 2012 – we expect earnings 26% above consensus for next year and 45% for 2012. Assuming Earnings multiple remain relatively stable, we'd expect the stock to therefore appreciate by 25 to 50% on a 6-to-12 month horizon, which translate into a valuation range of NT$ 920 to NT$ 1100. We naturally set our 12-month price target at the higher end of this range, which corresponds to a 14.8x P/E on 2011 earnings and 11.3x on 2012 earnings. In terms of P/S, our price target corresponds to a 2.2x on 2011 sales and 1.8x on 2012 sales.

In terms of Earnings multiple, our valuation is in line with a strong group of comparable companies. As shown on **Exhibits 61** and **62**, HTC appear undervalued today on our forecast.

Using a rigorous DCF analysis as a last angle of analysis, we find strong fundamental value support to our price target. We use a discount rate of 9.5% (reflecting a 1.4% risk-free rate, an 8% equity risk premium, and a 1.01 beta relative to the TWSE), a terminal growth rate of 3% and no excess ROIC. With that set of assumptions we only need to grow the company's NOPLAT by 3.7% between 2012 and 2020 to get to a NT$ 1100 fair value. (**Exhibits 63, 64, 65**)

Also on a fundamental basis, the company has a strong balance sheet and a strong cash flow and investor return profile. HTC's cash reserves forms roughly 50% of the balance sheet and its cash conversion cycle is 1 day. The company has negative net operating assets. This trunk of cash has been used to ensure strong dividends; the average dividend yield for the past 4 years has been greater than 5%, with the most recent dividend yield (in 2009) at 7%.

In conclusion, we see HTC as the most attractive growth story in our universe and initiate coverage with an outperform rating. Mostly driven by topline growth and to some extent by margin expansion, we expect the company to grow earnings by 69% this year and by 56% next year, to NT$74.3. Longer term, we see a 15-20% p.a. earnings growth potential and set our price target at NT$1100, or 14.8x 2011 earnings and 11.3x 2012 earnings.

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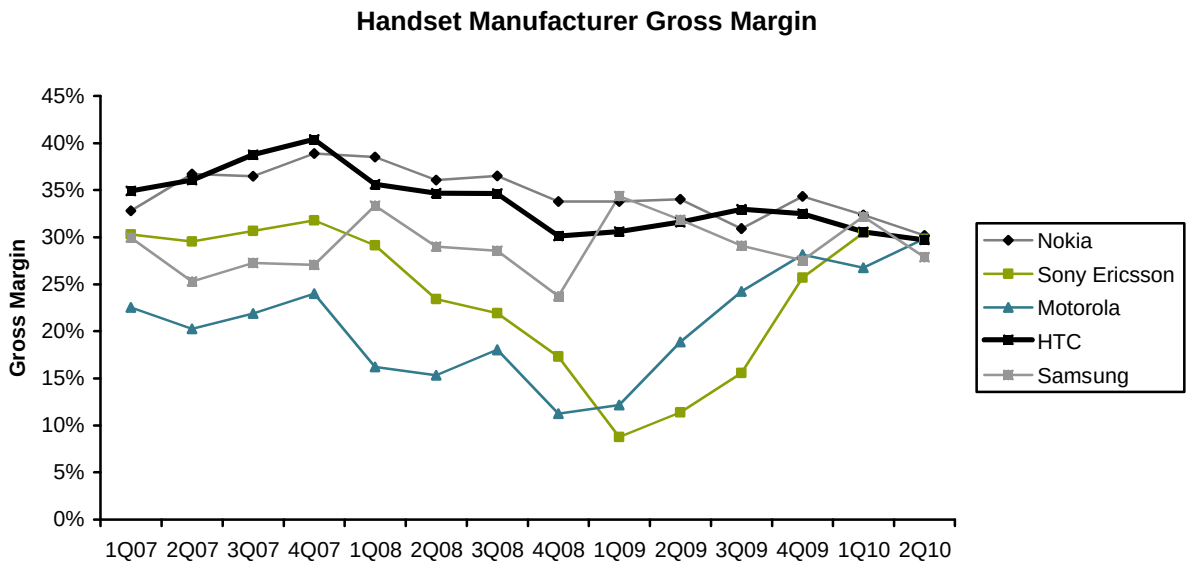
Exhibit 58
We expect HTC to enjoy a stable pricing power and therefore operating margin expansion from its growing topline

	2010			2011			2012		
NT$, Million	SCB	Consensus	Delta	SCB	Consensus	Delta	SCB	Consensus	Delta
Revenues	269,434	268,963	0.2%	415,986	387,515	7.3%	510,874	465,419	9.8%
Operating Profit	43,223	41,633	3.8%	68,486	54,999	24.5%	89,403	63,346	41.1%
Operating Margin	16.0%	15.5%	0.6pts	16.5%	14.2%	2.3pts	17.5%	13.6%	3.9pts
EPS	47.57	44.77	**6.3%**	74.32	58.83	**26.3%**	97.08	66.87	**45.2%**

Source: Bloomberg, Bernstein Estimates and Analysis

Exhibit 59
Consensus's implied GM expectations are at a level never seen before at a successful handset manufacturer, and also never at HTC, even when it was a contract manufacturer



Source: Company Reports, Bernstein Estimates and Analysis

Exhibit 60
Consensus Expectations have significantly revised recently

	3Q10			4Q10			2010		
NT$, Million	SCB	Consensus Standard	Consensus "28 days"	SCB	Consensus Standard	Consensus "28 days"	SCB	Consensus Standard	Consensus "28 days"
Revenues	75,806	65,552	79,625	94,721	77,423	95,354	269,434	253,868	268,963
Operating Profit	12,387	9,326	11,923	15,818	10,861	14,397	43,223	37,307	41,633
Operating Margin	16.3%	14.2%	15.0%	16.7%	14.0%	15.1%	16.0%	14.7%	15.5%
EPS	13.61	11.65	12.78	17.44	13.26	15.61	47.57	44.37	44.77

Source: Bloomberg (as of Oct 10,2010), Bernstein Estimates and Analysis
Note: "Standard" Consensus includes all contributions; "Last 28 Days" consensus includes contributions to the consensus only from the last 28 days

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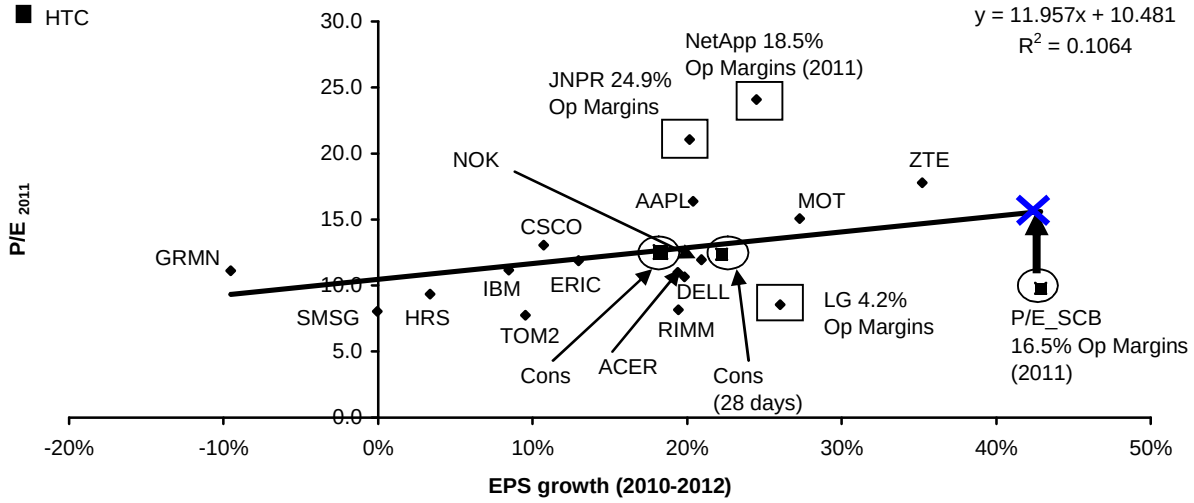
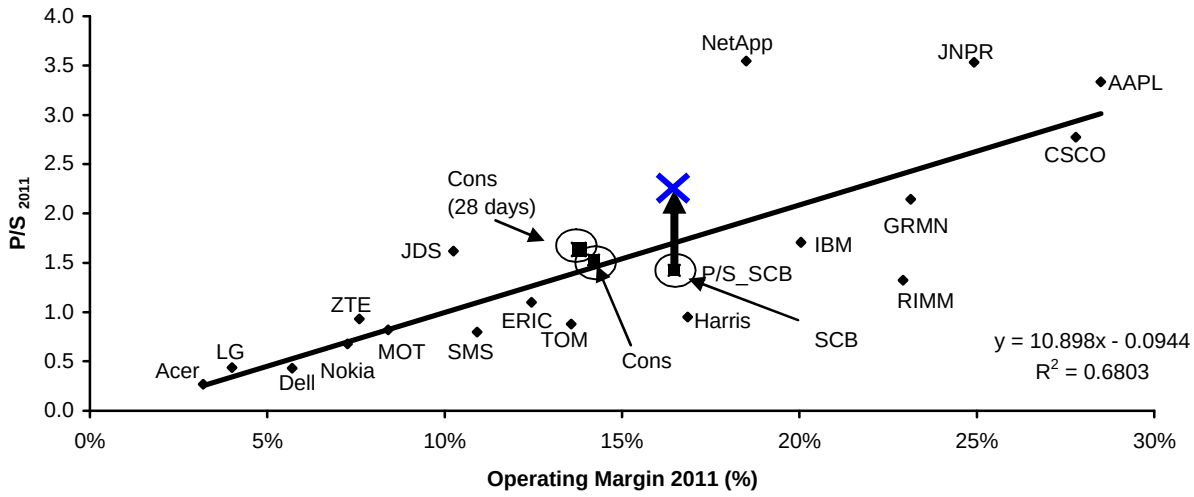
Exhibit 61
HTC is trading at a lower multiple that doesn't reflect its high operating margins. We use a very conservative P/E (2011) of 15x



Source: Bloomberg (as of October 10, 2010), Bernstein Estimates and Analysis

Exhibit 62
Even on a P/S metric, HTC's multiple doesn't reflect its high growth and high margin business. We find at least a 2.2x 2011 Sales multiple appropriate



Source: Bloomberg (as of October 10, 2010), Bernstein Estimates and Analysis

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Exhibit 63
HTC Discounted Cash Flow Valuation

HTC Discounted Cash Flow Valuation

TSEC:2498

Assumptions	Value
Currency	NT$
Share Price (A-shares)	709.0
Number of Shares, diluted (2Q10), m	849.4
Marcap, bn	602
WACC (upto 2019)	**9.5%**
Operational Estimates	**Value**
Effective tax rate	12.0%
Terminal phase estimates	**Value**
WACC (2019 and beyond)	**9.5%**
Effective tax rate	15.0%
Growth rate	3.0%
ROIC (marginal)	9.5%

	Modeled						Fade					Terminal
NT$, billion	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	as of 2020
NOPLAT	40	62	80	84	88	91	93	96	99	102	105	1,615
Reinvestment	22	33	40	-8	-8	-9	-11	-15	-20	-32	-33	0
Cash Flow	18	29	40	77	79	81	82	81	79	70	72	1,143
Growth	85%	54%	31%	5%	4%	3%	3%	3%	3%	3%	3%	3%
Marginal ROIC	157%	97%	57%	40%	40%	35%	30%	25%	20%	15%	9%	9%
Reinvestment Rate	56%	54%	13%	9%	9%	10%	12%	15%	21%	32%	32%	32%
NPV	**16**	**24**	**31**	**53**	**51**	**47**	**43**	**39**	**35**	**28**	**27**	**422**

PV of Company	863.43
- Current net debt	-64.65
PV to shareholders in CNY	**928.08**
Diluted shares outstanding	849

Value per share	**NTD 1,093**
Last Market Price	**NTD 727**
% Upside	50%

Source: Bernstein Estimates and Analysis

Exhibit 64
A DCF analysis supports our price target with a 9.5% WACC and very conservative NOPLAT 2010-2012 growth assumptions

(Marginal ROIC - WACC) in 2020 \ NOPLAT Growth CAGR (2012 - 2020)	0.7%	1.7%	2.7%	3.7%	4.7%	5.7%	6.7%
-5.0%	748	753	757	759	761	761	759
-4.0%	832	846	860	874	887	900	913
-3.0%	890	911	932	953	975	997	1020
-2.0%	932	958	985	1012	1040	1069	1099
-1.0%	965	994	1025	1057	1090	1124	1160
0.0%	991	1023	1057	**1093**	1130	1168	1209
1.0%	1011	1047	1083	1122	1162	1204	1248
2.0%	1029	1066	1105	1146	1189	1234	1281
3.0%	1043	1082	1123	1166	1212	1259	1309
4.0%	1056	1096	1139	1184	1231	1281	1333
5.0%	1066	1108	1152	1199	1248	1300	1354

Source: Bernstein Estimates and Analysis

Exhibit 65
Sensitivity of Value to WACC

(Marginal ROIC - WACC) in 2020 \ WACC	6.5%	7.5%	8.5%	9.5%	10.5%	11.5%	12.5%
-2.0%	1218	1192	1107	1015	930	854	788
-1.0%	1474	1319	1178	1058	958	873	801
0.0%	1651	1413	1233	**1093**	980	888	811
1.0%	1781	1485	1277	1120	999	901	821
2.0%	1880	1542	1312	1144	1015	912	829
3.0%	1959	1588	1341	1163	1028	922	836
4.0%	2023	1627	1366	1180	1040	930	842
5.0%	2076	1659	1387	1194	1050	938	848
6.0%	2120	1686	1405	1207	1059	945	853
7.0%	2158	1710	1421	1218	1067	951	858
8.0%	2191	1731	1435	1228	1074	956	862

Source: Bernstein Estimates and Analysis

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Exhibit 66
HTC – Income Statement

P&L	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
NT$, Millions						
Total Revenues	**118,218**	**152,353**	**144,493**	**269,434**	**415,986**	**510,874**
Cost of revenues	73,394	101,363	98,330	187,628	288,694	355,057
Gross profit	**44,824**	**50,991**	**46,163**	**81,805**	**127,292**	**155,816**
Gross Margin %	*37.9%*	*33.5%*	*31.9%*	*30.4%*	*30.6%*	*30.5%*
Operating expenses						
SG&A	9,799	11,294	13,168	26,208	39,729	45,979
Research and development	3,705	9,351	8,373	12,375	19,076	20,435
Total operating expenses	**13,504**	**20,645**	**21,540**	**38,583**	**58,806**	**66,414**
Operating income	**31,319**	**30,345**	**24,623**	**43,223**	**68,486**	**89,403**
Operating Margin %	*26.5%*	*19.9%*	*17.0%*	*16.0%*	*16.5%*	*17.5%*
Net Interest Income/Expense	827	1,391	360	294	369	540
Interest income	828	1,401	362	296	370	541
Interest expense	1	10	2	2	2	2
Net Exchange gain/loss	708	633	559	44	0	0
Other Income/(Expense)	-622	-633	-145	730	-	-
Income before income tax	32,232	31,736	25,396	44,291	68,854	89,942
Income tax	-3,314	-3,183	-2,782	-5,361	-8,263	-10,793
Net income	**28,918**	**28,553**	**22,614**	**38,930**	**60,592**	**79,149**
Attributable to						
Stockholders of the parent	28,939	28,635	22,609	38,950	60,592	79,149
Minority interest	-21	-83	6	-20	0	0
Shares						
Basic	756	792	787	803	805	805
Diluted	756	819	802	811	815	815
Basic EPS after income tax	**38.30**	**36.16**	**28.71**	**48.14**	**75.31**	**98.38**
Diluted EPS after income tax	**38.30**	**34.95**	**28.18**	**47.57**	**74.32**	**97.08**

Source: Company Reports, Bernstein Estimates and Analysis

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Exhibit 67
HTC – Balance Sheet

Balance Sheet	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
NT$, millions						
Assets						
Current Assets						
Cash and cash equivalents	56,490	64,238	64,638	92,173	134,876	185,800
Financial assets at fair value through profit or loss	1	0	18	97	97	97
Available-for-sale-financial assets - current	0	0	2,497	401	401	401
Notes and accounts receivable, net	19,474	29,455	27,126	61,568	89,437	109,838
Prepayments	1,568	1,285	3,342	1,819	1,819	1,819
Inventories	7,237	8,250	5,558	16,410	23,384	28,760
Deferred tax assets	571	551	812	936	936	936
Other Current Assets	423	478	431	1,137	1,456	1,788
Total investments	502	541	810	727	727	727
Properties, net	4,221	8,916	9,900	11,743	14,964	18,875
Intangible Assets	175	290	240	197	127	82
Other Assets	0	0	0	0	0	0
Deferred charges	136	253	246	210	210	210
Deferred tax assets	392	823	1,068	1,280	1,280	1,280
Other Assets	227	662	2,264	1,955	1,955	1,955
Total	**91,416**	**115,742**	**118,951**	**190,655**	**271,670**	**352,569**
Liabilities and Stockholders' Equity						
Current Liabilities						
Short-term borrowings	0	75	72	47	47	47
Long-term liabilities - current portion	21	0	23	16	16	16
Notes and accounts payable	23,202	28,570	25,153	59,077	84,587	104,032
Income tax payable	2,559	4,040	4,271	5,818	8,676	11,333
Accrued expenses	5,126	15,349	16,964	35,047	51,166	62,837
Payable for purchase of equipment	179	314	154	215	215	215
Other current liabilities	4,066	6,652	6,615	14,208	20,799	25,544
Long-term liabilities	0	0	0	0	0	0
Long-term bank loans, net of current portion	76	47	24	16	16	16
Other liabilities	0	0	0	0	0	0
Guarantee deposits received	1	6	1	1	1	1
Total liabilities	35,229	55,052	53,276	114,444	165,523	204,041
Stockholders' Equity						
Capital Stock	5,731	7,554	7,889	8,177	8,177	8,177
Capital Surplus	4,416	4,418	9,100	10,821	10,821	10,821
Retained earnings	45,920	52,036	48,638	59,701	89,051	130,845
Others	8	-3,346	13	-2,502	-1,915	-1,328
Minority interest	112	29	34	14	14	14
Total stockholders' equity	56,187	60,690	65,675	76,210	106,147	148,529
Total	**91,416**	**115,742**	**118,951**	**190,655**	**271,670**	**352,569**

Source: Company Reports, Bernstein Estimates and Analysis

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Exhibit 68
HTC – Cash Flow Statement

NTD$, ('000)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
Cash Flow Statement						
Cash Flows from operating activities						
Net income	28,918	28,553	22,614	38,930	60,592	79,149
Adjustments to reconcile net income to net cash provided by operating activities						
Depreciation (including depreciation of assets leased to other	681	746	902	858	939	1,197
Amortization	52	62	73	86	70	45
Loss (gain) on disposal of properties and investments, net	1	3	-3	0	0	0
Transfer of properties to expenses	0	18	7	1	0	0
Loss on equity-method investments	0	6	4	0	0	0
Deferred income tax assets	-309	-409	-507	-337	0	0
Prepaid pension costs	-20	-23	-21	-11	0	0
Net changes in Operating Assets and Liabilities	10,152	7,967	8,985	17,091	15,917	12,409
Prepayments	304	283	-2,038	1,521	0	0
Financial instruments at fair value through profit or loss	19	418	-532	-79	0	0
Historical Others	0	3	-1,764	587	587	587
Net cash provided by operating activities	39,798	37,627	27,721	58,648	78,106	93,387
Cash Flows from investing activities						
Purchase or Sale of properties	-1,424	-5,639	-1,911	-2,582	-4,160	-5,109
Decrease (increase) in restricted assets	-35	-7	-65	6	0	0
Net cash inflow on the acquisition of a subsidiary	0	0	0	245	0	0
Purchase or Sale of available-for-sale financial assets	0	0	-2,494	2,099	0	0
(Increase) decrease in refundable deposits	-87	-60	63	0	0	0
Increase in deferred charges	-52	-168	-70	-3	0	0
Historical Others	-767	60	-265	-159	0	0
Net cash used in investing activities	-2,364	-5,814	-4,742	-394	-4,160	-5,109
Cash Flows from financing activities						
Decrease in short-term borrowings	0	75	-3	-26	0	0
Decrease in long-term bank loans	-16	-21	-29	-14	0	0
(Decrease) increase in guarantee deposits received	0	6	-5	0	0	0
Purchase of treasury stock	-1,748	-3,410	-2,407	-7,700	0	0
Cash Dividends	-11,685	-19,487	-20,126	-20,122	-31,242	-37,355
Bonus to Employees	-2,451	-1,210	0	-2,916	0	0
Historical Others	0	0	0	0	0	0
Net cash used in financing activities	-15,900	-24,047	-22,569	-30,778	-31,242	-37,355
Effect of exchange rate changes on cash and cash equivalents	-13	-19	-9	59	0	0
Net increase in cash and cash equivalents	21,520	7,748	401	27,534	42,704	50,924
Cash and cash equivalents, beginning of period	34,397	56,490	64,238	64,638	92,173	134,876
Cash and cash equivalents, end of period	56,490	64,238	64,638	92,173	134,876	185,800

Source: Company Reports, Bernstein Estimates and Analysis

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Disclosure Appendix

Valuation Methodology

We believe the market more or less recognises HTC's growth potential but is pricing-in unrealistically low margins, at odds with our understanding of the industry and the current "Android revolution" and at odds with the recent performance of the firm. As a result, we expect strong positive earnings revision in 2011 and 2012 – we expect earnings 26% above consensus for next year and 45% for 2012. Assuming Earnings multiple remain relatively stable, we'd expect the stock to therefore appreciate by 25 to 50% on a 6-to-12 month horizon, which translate into a valuation range of NT$ 920 to NT$ 1100. We naturally set our 12-month price target at the higher end of this range, which corresponds to a 14.8x P/E on 2011 earnings and 11.3x on 2012 earnings. In terms of P/S, our price target corresponds to a 2.2x on 2011 sales and 1.8x on 2012 sales. In terms of Earnings multiple, our valuation is in line with a strong group of comparable companies.

Using DCF analysis as a last angle of analysis, we find strong fundamental value support to our price target. We use a discount rate of 9.5% (reflecting a 1.4% risk-free rate, an 8% equity risk premium, and a 1.01 beta relative to the TWSE), a terminal growth rate of 3% and no excess ROIC. With that set of assumptions we only need to grow the company's NOPLAT by 3.7% between 2012 and 2020 to get to a NT$ 1100 fair value. Also on a fundamental basis, the company has a strong balance sheet and a strong cash flow and investor return profile. HTC's cash reserves forms roughly 50% of the balance sheet and its cash conversion cycle is 1 day. The company has negative net operating assets. This trunk of cash has been used to ensure strong dividends; the average dividend yield for the past 4 years has been greater than 5%, with the most recent dividend yield (in 2009) at 7%.

Mostly driven by topline growth and to some extent by margin expansion, we expect the company to grow earnings by 69% this year and by 56% next year, to NT$74.3. Longer term, we see a 15-20% p.a. earnings growth potential and set our price target at NT$1100, or 14.8x 2011 earnings and 11.3x 2012 earnings.

Risks

Downside risks in our Price Target for HTC include lower than expected growth in the smartphone segment, inability to gain market share in geographies outside of North America and loss of share in North America.

HTC depends heavily for its success on the success of Android. Any events or change of strategy at Google affecting Android negatively will have a significant negative impact at HTC. In particular, we have a strong conviction that HTC will defend a strong pricing power going forward – this could be challenged if the current Google / Vendor relationship changes significantly.

HTC reports in NT$, which represents a meaningful currency risk.

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- As of 10/11/2010, Bernstein's ratings were distributed as follows: Outperform - 45.2% (1.6% banking clients) ; Market-Perform - 47.4% (1.0% banking clients); Underperform - 7.4% (0.0% banking clients); Not Rated - 0.0% (0.0% banking clients). The numbers in parentheses represent the percentage of companies in each category to whom Bernstein provided investment banking services within the last twelve (12) months.

12-Month Rating History as of 10/10/2010

Ticker	Rating Changes
2498.TT	

Rating Guide: O - Outperform, M - Market-Perform, U - Underperform, N - Not Rated
Rating Actions: IC - Initiated Coverage, DC - Dropped Coverage, RC - Rating Change

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