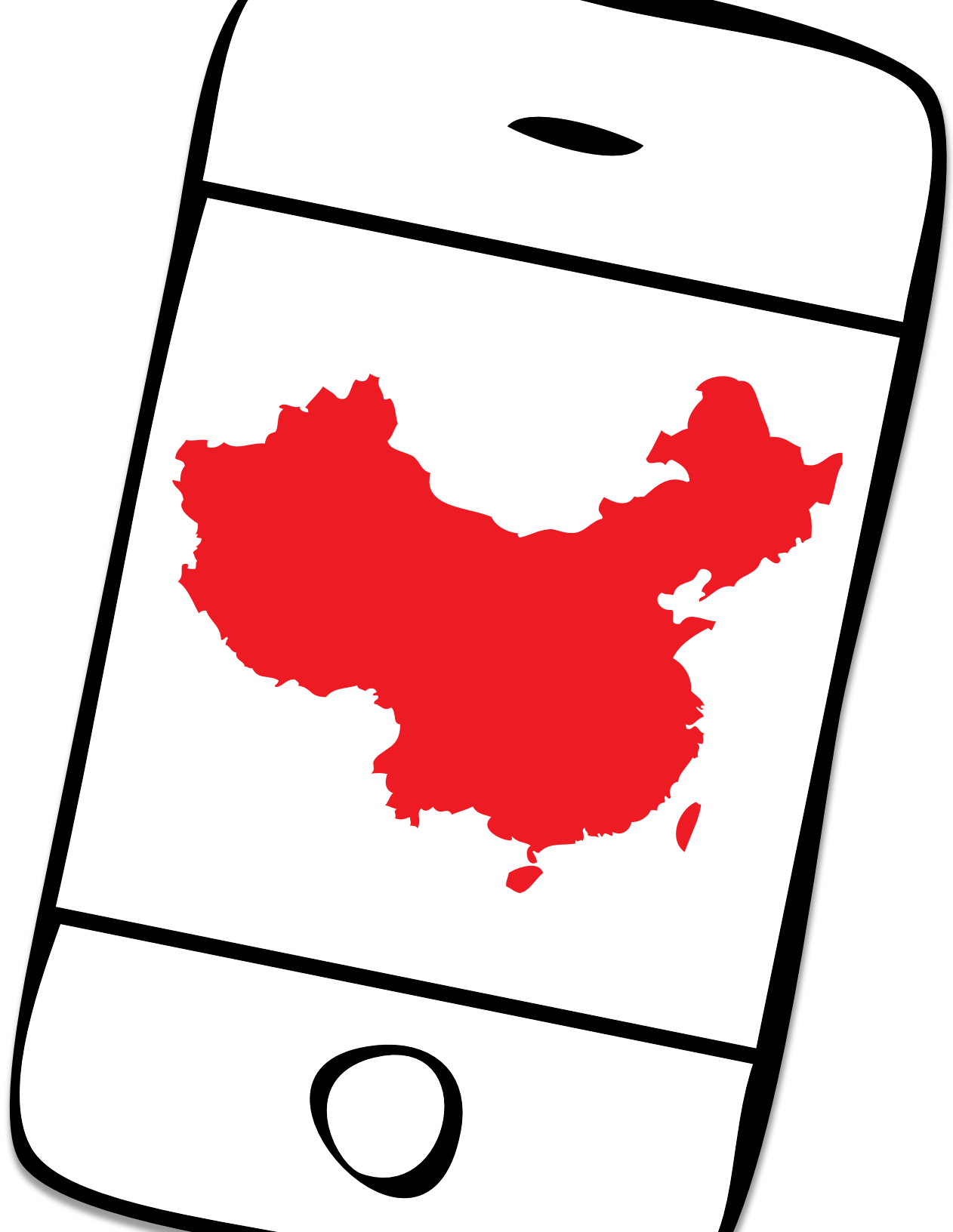


China's Mobile **Boom!**

Learn more @ www.zpryme.com | Zpryme Practice: China Insights
December 2011

Why China's
mobile growth
will **outpace**
the world.



Total Mobile Subscribers 2011/12*

(2011, 2012)
(U.S. & China, in Millions)



234

United States



964

China



1,087

China (Zpryme Forecast)

China Mobile, the country's largest mobile carrier, said its mobile subscribers in November increased to 644.32 million, including 48.01 million 3G subscribers.

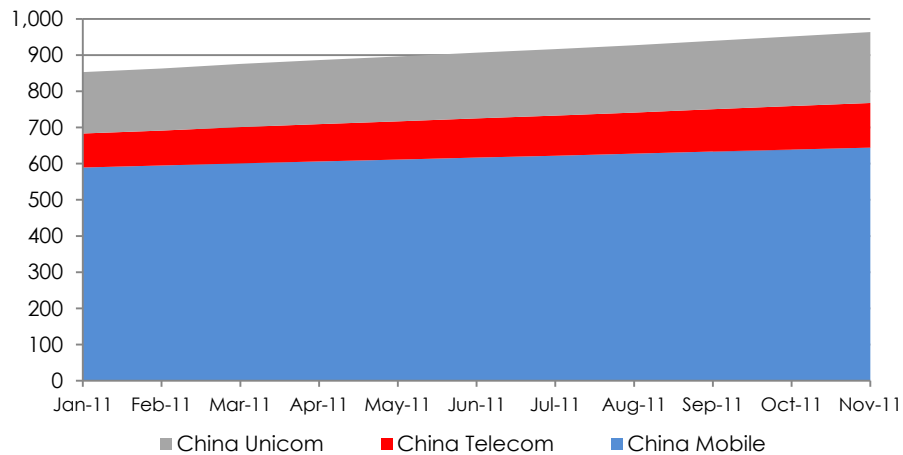
Data from the country's three telecom operators showed the total number of China mobile subscribers reached 963.68 million in November, **with Zpryme anticipating 1,087 million mobile subscribers in 2012; dwarfing the United States with 234 million.**

*Sources: Zpryme, comScore, China Mobile, China Unicom, China Telecom (data for 2011 from October, November)

China this, China that! China seems to be mentioned everywhere in regards to the international economy. Who wouldn't want to hear about them? It seems to be the only country that is profitable these days. Due to their large dense population and growing middle class, there's a gold rush for anything business related in China.

on the planet. In addition, many Chinese citizens utilize their mobile phones for a majority of their Internet search needs. Many choose not to subscribe to a landline for either their phone or Internet and have replaced these items with their mobile phone. The market is also slated to experience future growth as the country becomes wealthier due to the strength of the Chinese economic market, as both their market share and network growth opportunities demonstrate.

China's Aggregate Mobile Subscribers by Company
January 2011 to November 2011 (in millions)
Figure 1, Source: Company Public Operational Statistics



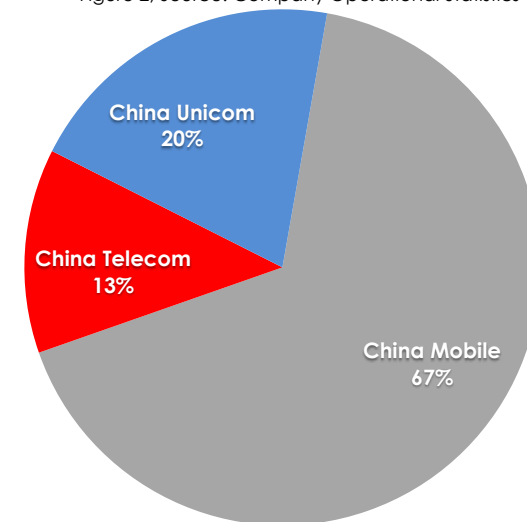
One area that has profited from this remarkable growth is the mobile phone industry. As of November 2011, 964 million people subscribed to a mobile phone in China.¹ Zpryme predicts that this trend will continue with 1,087 million mobile subscribers by the end of '12 (see figure 7). This has allowed China to surpass other countries like the United States to become the largest mobile phone market

Key Player Market Share

With their large population constantly on the move, China's appetite for anything mobile is a large mouth to feed. Three major state-run companies control their telecommunications industry. China Mobile dominates that playing field by controlling 67% of that market. As of November 2011, China Mobile had 644 million subscribers.

China's Total Mobile Subscriber Market Share, as of November 2011
Total Subscribers = 964 million

Figure 2, Source: Company Operational Statistics



¹ Only subscribers from the three major Mobile Operators: China Mobile, China Telecom, and China Unicom.

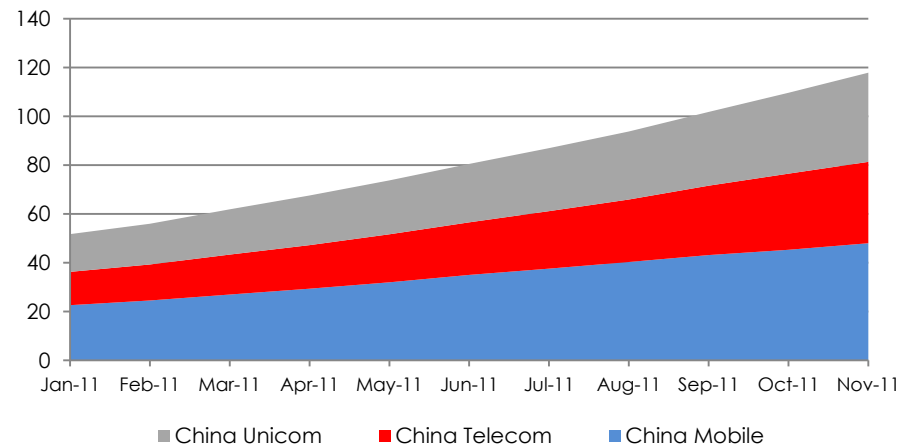
The 2nd Tier is China Unicom with 20% of the market, and the 3rd tier is China Telecom with a meandering 13% market share. As of November 2011, China Unicom and China Telecom reported 196 million subscribers and 123 million subscribers, respectively. At 13% market share, China Telecom is still larger than Verizon Wireless, the largest U.S. mobile provider. However, as only a small portion of the population is subscribed to 3G cellular service, there is still an opportunity for tremendous market growth for all three firms.

The Big Three and Network Growth

In 2009 the Ministry of Industry and Information Technology awarded the three telecoms licenses for the three network standards. China awarded the least desirable TD-SCDMA by international standards to China Mobile, WCDMA to China Unicom and CDMA2000 to China Telecom, which are both more common by international standards. Since most countries already run on these two networks, there are devices/technology that are already being made that can be adapted quicker to these two companies' networks. Conversely, since China Mobile does not run on compatible standards, its users are unable to buy phones from international carriers. Mobile phone manufacturers have had to decide whether to produce phones that are able to function on its network. However, local manufacturers have been able to meet this challenge by offering specialty phones that have additional features.

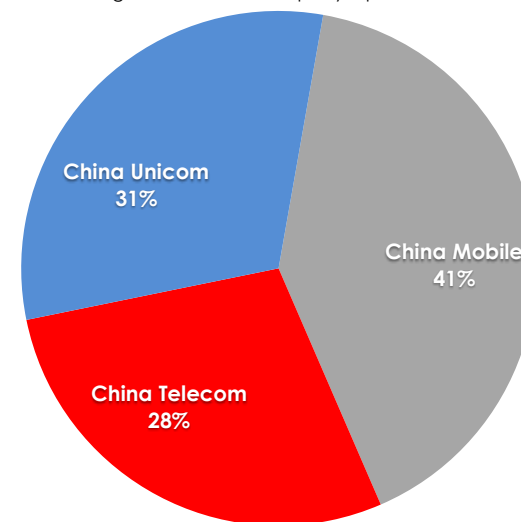
China's Aggregate 3G Mobile Subscribers by Company
January 2011 to November 2011 (in millions)

Figure 3, Source: Company Public Operational Statistics



China's 3G Mobile Subscriber Market Share, as of November 2011
Total 3G Subscribers = 118 million

Figure 4, Source: Company Operational Statistics



What is most fascinating about this market is that the majority of usage employs the standard 2G network even with 3G phones, thus not utilizing 3Gs' full potential. The 3G network is steadily gaining more market share, growing from 5.5% of all mobile users in 2010 to 12.2 % of all users as of November of 2011. From a 3G perspective, China Mobile commands 41% of the market, followed by China Unicom (31%), and China Telecom (28.0%).²

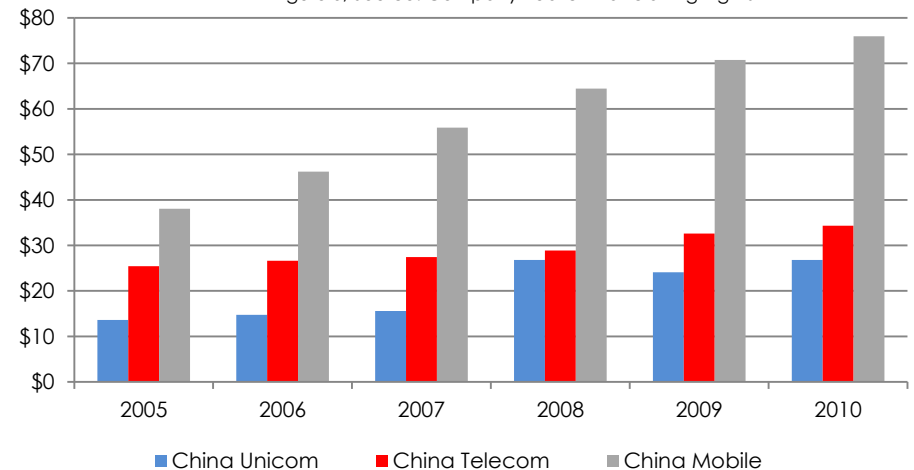
China Mobile has led the way in 3G infrastructure investments since 2009, investing just over \$25 (USD) billion on their 3G infrastructure from 2009 to 2011.³ However, China is just getting started with their network infrastructure upgrades as they plan to invest \$156 (USD) billion in their 3G and 4G networks from 2011 to 2015.⁴ Although China's mobile market is constantly booming with new 3G phones and a competitive marketplace, it seems that the costly new devices combined with 3G's expensive network upgrades for the telecoms and amount of rural mobile users is hurting the 3G demand. This is not a good sign for China Telecom.

China Mobile, on the other hand, looks to be one step ahead, as always. Although China Mobile was given a less desirable communications frequency that was derived by the Chinese government to avoid western technology, it is now the backbone of the newest and faster technology TD-LTE. Being the largest mobile provider in the world is helping with this transition. This new technology is already being tested on China Mobile's network and is the

foundation for 4G. The LTE/SAE Trial Initiative (LSTI) worked with China Mobile on a trial of the TD-LTE technology that was very positive and indicative of the potential for rollout of the technology. China Mobile is also working with the Next Generation Mobile Network Alliance to achieve standardization of the TD-LTE framework, providing additional competitive advantage for the firm. Finally, the company's network is so large that upgrading their towers to 3G would cost a significant amount of time and capital resources. Since their standard TD-SCDMA is the core for the new 4G, it will be cheaper to upgrade their network. In 2012, China Mobile is looking to take a market leadership position by diving straight into their 4G rollout plans. This in turn will create an opportunity for China Mobile to dominate the market and expand internationally.

China's Big Three Mobile Operator Revenues, 2005 - 2010
Converted from RMB to U.S. Dollars (in billions)

Figure 5, Source: Company Public Financial Highlights



² As of November 2011, based on company operational statistics.

³ Data compiled from company public released from 2009 to 2011.

⁴ China's 12th Five-Year Plan (2011-2015), <http://fixed-mobile-convergence.tmcnet.com/news/2011/09/22/5798478.htm>.

2012 Outlook

By the end of 2011 Zpryme projects China will have 975 million mobile subscribers. Further, 126 million or 12.9% of mobile subscribers will be using a 3G network by the end of 2011. In 2012, China total mobile subscribers will increase to 1.09 billion. Total 3G subscribers will reach 315 million and account for 29.0% of all mobile subscribers.

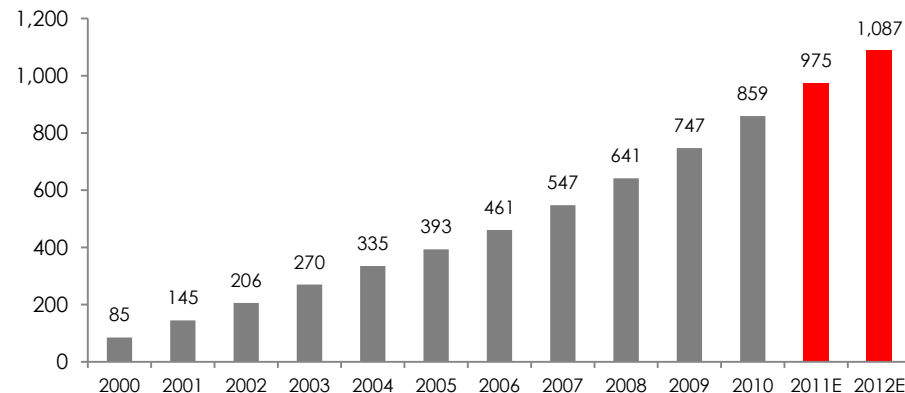
That said, 2012 will be the year of 4G network rollout throughout China. In fact, China Mobile's strategic alliances have positioned them to lead the way in 4G deployment in the entire Asia-Pacific region. Because of the size of both China Mobile's network and customer base, it will influence the entire TD-LTE environment, further strengthening its global position. China Unicom and China Telecom will have to make sizable investments to even come close to the technological capabilities of China Mobile. In fact, China Mobile plans to have its 4G network commercially utilized by 2014. This may allow China Unicom and China Telecom to rent its network to provide services for its customers. In addition, China Mobile plans to merge the TD-LTE and TD-FDD technology on one device further strengthening its strategic position. This move will change the marketplace as China Mobile will thus become a global leader with international companies following their lead in the next 4 years.

Conversely, the move to the 4G framework is an expensive investment. 4G devices are only offered at a premium price. Many customers are currently operating in a 2G environment and may choose to forego purchasing new devices. Both China Unicom and China Telecom have

made investments in the 3G framework and are continuing to invest in this improvement.

**China Total Mobile Subscribers, 2000 - 2010
2011 and 2012 Projected***

Figure 6, in millions

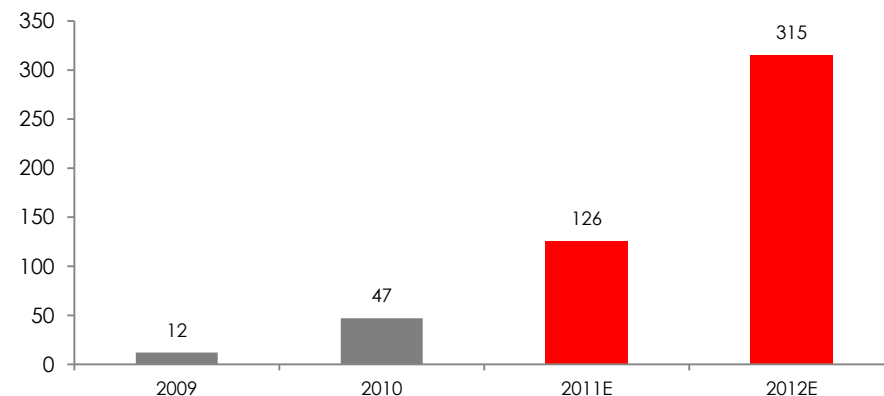


Source: 2000 – 2010 data, National Bureau of Statistics of China.

*2011 and 2012 figures estimated by Zpryme using historical data from National Bureau of Statistics of China and historical subscriber data from China Mobile, China Telecom, and China Unicom.

**China 3G Mobile Subscribers, 2009 and 2010
2011 and 2012 Projected***

Figure 7, in millions



Source: 2009 – 2010 data, National Bureau of Statistics of China.

*2011 and 2012 figures estimated by Zpryme using historical data from National Bureau of Statistics of China and historical 3G subscriber data from China Mobile, China Telecom, and China Unicom.

China Unicom has announced that it will be able to offer 4G services through HSPA+ network, which is what AT&T and Verizon currently offer in the United States. Because of this they are waiting to invest in the 4G infrastructure. As the 4G network is further rolled-out, the prices of other 3G compatible products are also likely to decrease, offering additional market potential for China Unicom and China Telecom and allowing them to be able to capitalize on the 3G market as China Mobile makes it large investments in the 4G infrastructure. Both companies will also further develop their broadband access speeds and lower their broadband costs. China Telecom estimates that their broadband access will decrease by 35% by 2015. One significant hurdle for both companies is that the 4G LTE framework is not backwards compatible with the 3G networks. While China Mobile plans to invest in 4G technology, both China Unicom and China Telecom plan to develop strategic partnerships and improve existing services to develop a strong foundation for their networks.

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