

# CAPTURING THE GAINS

*economic and social upgrading*

Revised Summit Briefing

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The findings and views presented here do not represent those of Capturing the Gains funders or supporting organisations.

## Mobile phones: who benefits in shifting global value chains?

Joonkoo Lee, Gary Gereffi and Dev Nathan

### Abstract

Mobile phones have made a significant impact on developing countries, which have played a key role in the mobile phone global value chain (GVC). The dynamic of the GVC, notably growing concentration in trade and production and the rise of low-end markets, is shaping the impact of economic upgrading on social upgrading. Increased GVC concentration has limited employment growth to just a few countries and firms, and the prevalence of casual labour has led to segmented upgrading among workers. Moreover, the low-end market is vulnerable to poor working conditions. However, shifting end markets are presenting new opportunities for social upgrading in developing countries.

### Keywords

mobile phones, global value chain, economic upgrading, social upgrading, low-end market, mobile use

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*Seven out of ten mobile users now live in developing countries.*

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## Mobile phones transform the developing world

The most dramatic change in mobile phones over the past decade has occurred in developing countries. They have emerged as key production locations as a result of the relocation of manufacturing. Apple’s iPhones, designed in the US, are now assembled primarily in China; the majority of Nokia’s mobile phones come from China and India.

Equally noticeable, more than seven out of ten mobile users now live in developing countries. In Sub-Saharan Africa, mobile subscribership soared by over 32 times in a decade, even faster than the average in low-income countries.<sup>1</sup> Low-end smartphones are becoming the vehicle for internet access in Africa and among lower-income users elsewhere.

Mobile phones, once exclusive to advanced economies, have made a significant impact on employment in developing countries. Jobs have sprouted on an unprecedented scale in manufacturing ‘hotspots’: in China, the world’s largest mobile phone exporter, the number of jobs in electronics and communication equipment manufacturing has nearly doubled, to 3 million workers in 2002–2008.<sup>2</sup>

Increased mobile usage has generated jobs in poor countries as well, such as in airtime vending and handset repair.

In Kenya, M-Pesa, a mobile phone money transfer service, has created 39,400 new jobs for its agents.<sup>3</sup>

Meanwhile, the sharing of mobile software creation, such as by Samsung between Korea and India, leads to networked innovations. Growing scope for the development of applications (‘apps’) not only presents entrepreneurial opportunities in established software service centres, such as India, but also helps new centres emerge, such as in Nairobi, Kenya.

## Mobile phone global value chain: growing concentration and emerging low-end market

The mobile phone global value chain (GVC) – from product conception to after-use – includes the following major segments: input materials; hardware manufacturing; software development; sales and marketing; mobile service and use; and after-use (Figure 1). It is unique because it combines hardware and software, and it has become truly global as the integration of developing countries has deepened. It encompasses African miners of key input materials like coltan, to young migrant assembly workers in China, to software developers in India, and to salespeople across developing countries.

### Notes

1. The World Bank’s World Development Indicators
2. Banister, J. and Cook, G. (2011). ‘China’s employment and compensation costs in manufacturing through 2008’. *Monthly Labor Review* 134(3), 39-52.
3. Omwansa, T. and Njenga, K. (2012). *Developmental Uses of Mobile Telecommunications in Kenya*. Report prepared for Capturing the Gains.

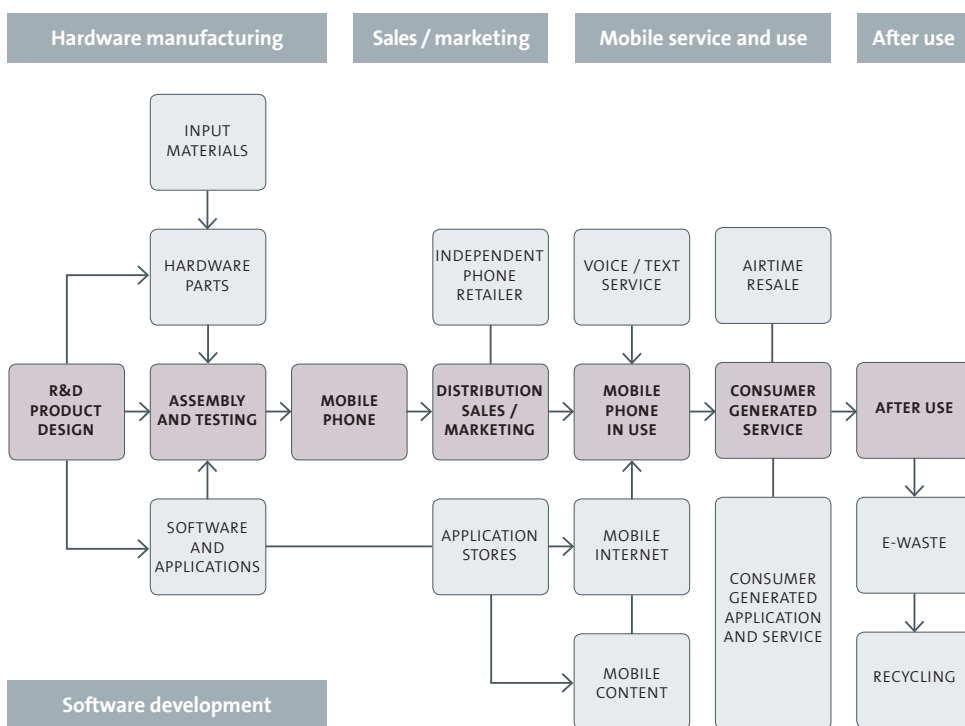






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Figure 1. The mobile phone global value chain<sup>4</sup>



Despite its global nature, the key nodes of the mobile phone GVC are highly concentrated within a few countries and firms. Only a handful of developing economies, notably China, have expanded their mobile phone exports over the past decade; for the rest, the export boom has been rather fleeting. In 2005-2009, over three-quarters of global mobile phone sales were made by the five largest global brands – Nokia, Samsung, LG, Motorola and Sony-Ericsson.<sup>5</sup> In the fourth quarter of 2011, just two firms, Apple and Samsung, accounted for 99 percent of the

industry’s operating profits.<sup>6</sup> The Apple–Samsung patent wars are also testimony to the attempt by established lead firms to restrict product upgrading (through reverse engineering) by emerging economy firms in the area of smartphones. Consolidation among brand manufacturers has led to consolidation among suppliers as the latter compete to match the scale and speed of production required by big brand buyers. An example is the rise of mega-supplier Foxconn, which employs over a million people in China.<sup>7</sup>

Notes

- 4. Lee, J. and Gereffi, G. (2013, forthcoming). ‘The co-evolution of concentration in mobile phone global value chains and its impact on social upgrading in developing countries’. *Capturing the Gains Working Paper*.
- 5. Gartner (multiple years). *Worldwide Mobile Device Sales to End Users by Vendor*.
- 6. Dediu, H. (2012). *The Phone Market in 2012: a Tale of Two Disruptions*. Asymco (available online at <http://www.asymco.com/2012/05/03/the-phone-market-in-2012-a-tale-of-two-disruptions/>), accessed: 22 October 2012.
- 7. Foxconn Technology Group (2011). *CSER Annual Report* (available online at <http://www.foxconn.com/ser/2011Foxconn%20CSER%20Report.pdf>), accessed: 28 October 2012.

“ An important development in the mobile phone GVC is the rise of low-end markets based on a high-volume, low-cost model. ”



As a result, the value captured in the mobile phone GVC is highly skewed in favour of a few countries and firms, with even prominent suppliers left with slim margins (Figure 2). An assembler in China gets only about one percent of the retail price (US\$6 out of \$600) of each iPhone 4 that is exported.<sup>8</sup>

Another important development in the mobile phone GVC is the rise of low-end markets based on a high-volume, low-cost model. The rise of ‘unbranded’ mobile phones is one example: small, fragmented producers churn out a wide variety of affordable basic phones to serve fast-growing consumers in developing countries. Another example is in mobile service: large telecom companies are making this affordable to a large group of previously untapped,

low-income consumers by outsourcing many of their service operations.

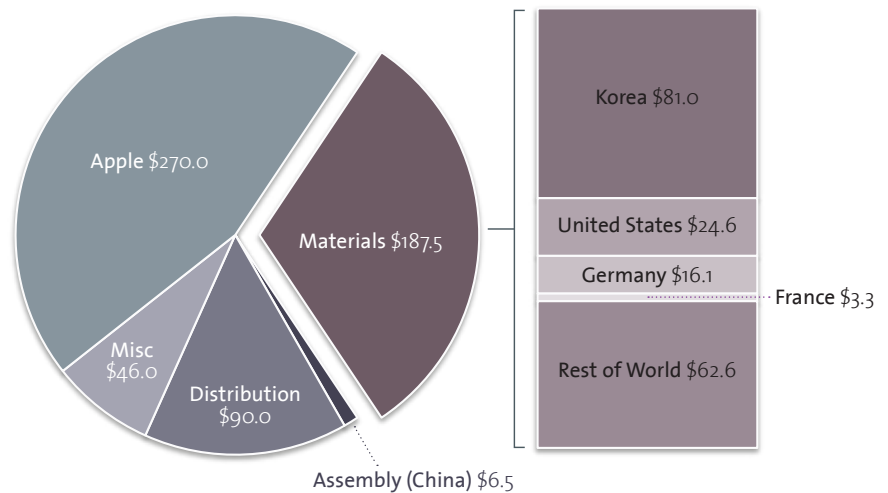
### Many are called, but few are chosen for upgrading

This situation is presenting new upgrading opportunities and challenges for developing country firms and workers.

In general, economic upgrading does not simply lead to social upgrading. But there are some unique features of the mobile phone GVC that lead to social upgrading in terms of the patterns of usage associated with this value chain.

First, social upgrading induced by mobile phones is significant, but it is still limited in scope. Because of the high concentration among leading brands

Figure 2. Value creation and capture for Apple’s iPhone 4 (in US\$)<sup>9</sup>



### Notes

- Xing, Y. and Detert, N. (2010). *How the iPhone Widens the United States Trade Deficit with the People’s Republic of China*. Manila: ADB Institute.
- OECD (2011). *Global Value Chains: Preliminary Evidence and Policy Issues*. DSTI/IND(2011)3. Paris: OECD.







“ With mobile phones, people can save time, send money more safely, avoid middlemen and access critical resources. ”

and suppliers in the mobile phone GVC, employment growth has been limited to a few countries and regions. Even where the employment benefits can be found, the quality of the jobs created is often poor: workers suffer low wages and excessive working hours and are under high work pressure caused by lead firm practices, such as last-minute changes, and suppliers' draconian management styles at the workplace and beyond.

Second, the mobile phone GVC relies on the widespread use of casual workers, from forced labour in African mining to student interns at Foxconn factories and shift workers at Indian call centres. The benefit of economic upgrading is distributed unevenly across a segmented workforce, between core, regular workers (high-skilled, high-paid) and precarious ones (lower-skilled, low-paid), creating a new social division among workers even in the same workplace.

While the shortage of skilled labour may push firms to upgrade economically to maintain profits, many suppliers with thin margins continue to seek low-cost, casual workers, who are often forced to meet buyers' high standards without being adequately trained. In October 2012, about 4,000 workers allegedly walked out in Foxconn's Zhengzhou factory after Apple and Foxconn tightened the quality monitoring of the scratch-prone aluminium case for the iPhone 5.<sup>10</sup>

Third, while affordable mobile phones make mobile service accessible to a wider population, many of the low-end phones are produced by small producers, with little brand recognition and thin margins, increasing the likelihood of poor working conditions. The extensive use of outsourced labour to reduce costs may help generate a large number of jobs, but the value captured by each remains very small, if not non-existent.

However, shifting end markets in developing countries present new opportunities for social upgrading, with a profound impact on the social conditions of the poor, women and rural populations in particular. With mobile phones, people can save time, send money more safely, avoid middlemen and access critical resources. Enabling direct contact between employers and migrant workers or between small farmers and wholesale buyers reduces transactions costs and makes markets more effective.

Many of these benefits are mutually reinforcing, and together they can lift many out of poverty by offering new life opportunities.<sup>11</sup> For example, Ghanaian farmers use mobile phones to access price information; in Kenya they are widely used for money saving; village women in Uganda share farming instructions and mobilize meetings; and software engineers can address local problems with innovative apps.

## Notes

10. Bloomberg News (2012). 'Apple choice of iPhone aluminum said to slow down output'. Bloomberg BusinessWeek, 10 October.
11. Piontak, R. (2012). *Calling for Better Crops: an Exploration of Social Upgrading through Two Mobile Phone-based Agricultural Extension Projects in Uganda*. Report prepared for Capturing the Gains.

*Capturing the Gains brings together an international research network to examine economic and social upgrading in business communities across the developing world.*

*The programme explores the connections between business competitiveness and social prosperity with attention to firm innovation, trade expansion, labour standards and decent work.*

*Its research allows policy-makers and business leaders to better understand the relationship between business growth and poverty reduction in the global South.*



### Key recommendations

- **Social upgrading can spur economic upgrading:** Expansion of the Indian IT software services sector has led to an increase in the remuneration of workers. This social upgrading, as well as the entry of newer players, has eroded IT service margins and, in turn, forced IT software companies to move up the value chain. As a result, they have taken up both provision of end-to-end services and development of software products for mobile telecom.
- **Enhancing the effectiveness of private governance is critical:** The codes of conduct of global lead firms have been ineffective, with factory audits focused only on productivity, not working conditions. The first step is paying suppliers reasonably to cover the costs of adequate compensation and training for workers. This should be based on heightened awareness of the potential negative impact of business strategies on workers in the supply chain. Increasing transparency along the supply chain is essential for effective private governance.
- **Public governance needs to complement private governance:** The balance between public and private governance, and economic growth and social upgrading, is critical for the government. Strong and effective labour law enforcement is vital. Public governance should focus on improving social support for workers across the board: regular and casual, men and women, including basic education and skills training. The government can play an important role in social upgrading on the 'blind' side of the value chain, such as in the informal sector, where private governance tends to fall short.
- **Promoting competition and entrepreneurship is key to spreading the gains:** Mitigating the negative consequences of consolidation, promoting competition and ensuring entrepreneurial opportunities for mobile diffusion and job creation are important. Regulators and policymakers should pay more attention to the opportunities and challenges of low-end markets and pro-poor innovations. Facilitating the inclusion of small and medium-sized firms, women and minorities is to be prioritized. In addition, there needs to be an adequate monitoring of working conditions and provision of the right skills and training for new business opportunities like apps development and mobile service.
- **Mobile phones can help to empower workers and the poor:** Mobile phones are a unique tool to empower workers and the poor as change agents because they can offer various new life opportunities. Stakeholders should pay attention to creative and innovative (often bottom-up) ways to use mobile phones to clear obstacles to social upgrading. Such obstacles are mutually enforcing; gendered roles, for example, hinder women from accessing financial and educational resources that can help in the developmental use of mobile phones. Incorporating the perspectives of workers and users is important in identifying the obstacles and finding the solutions to sustainable upgrading.

