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Emerging Markets Telecom Valuation

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In 2001, mobile phones were capable of little more than voice calls and text messages, and cost, on average, around \$200; it seemed that mobile communications would not be affordable to anyone but the wealthy few in emerging markets for many years. By late 2003, however, things had started to change. The cost of mobile phones had fallen to a level below which relatively modest further falls in the cost of ownership would make mobile telephony affordable to much larger segments of emerging market populations. Since the end of 2002, the number of mobile subscriptions in emerging markets has grown from around 500 million to around 5 billion. In the early years of this growth, the financial markets' expectations of growth soared and then, triggered by the financial crisis, contracted. Valuations of mobile operators have followed a similar pattern. Nonetheless, an enormous amount of value has been created building mobile phone networks over the last 10 years. It is hard to think of another industry that has grown to such a scale so quickly, in so many regions, from such a modest starting point.

The speed and the extent of the industry's growth has contributed to the genesis of numerous disputes with, potentially, very significant amounts at stake. In order to assess quantum appropriately, it is often necessary to value the entity at the centre of the

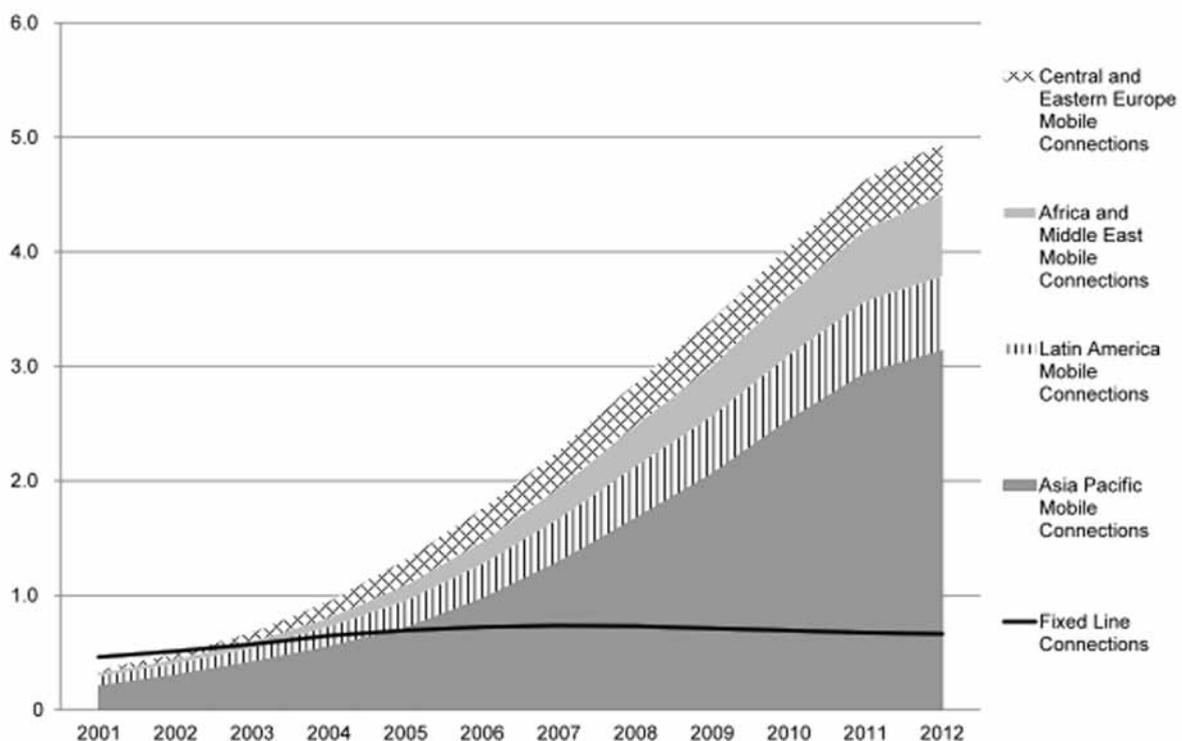
dispute. This article discusses the potential approaches to valuing telecom businesses in emerging markets and the factors important to consider in addressing the inherent challenges doing so.

Development of the telecoms industry in emerging markets

Emerging markets differ greatly. However, the appeal of communication is universal, and there are significant economic benefits associated with efficient communication. Before the advent of mobile technology, large sections of the population in emerging markets had little or no access to the communication technologies that those of us in developed markets tend to take for granted. For various reasons, the existing fixed-line infrastructure tended to be limited in its coverage, and unreliable or expensive. It certainly was not universally available.

In the early years of the 2000s, things began to change. The cost of semiconductors and screens, accounting for a significant proportion of the cost of manufacturing a mobile phone, began to fall quickly. The falling cost of components – combined with the adoption of a common set of technology standards across most of the world¹ and a greater focus by manufacturers on cost-effective ways of deploying and running infrastructure in challenging geographies – drove a

Figure 1: Mobile and fixed line subscriptions in developing markets (billions)



Source: Wireless Intelligence Database.

Figure 2: Valuations of selected developing market mobile operators (US\$ billion)

Company name	Country or region	Year end 2001		Current value as at 1 August 2013	
		Enterprise value	Equity value	Enterprise value	Equity value
China Mobile	China	64.6	65.5	155.5	215.0
America Movil	Latin America	14.4	13.0	109.1	75.7
MTN Group	Africa	2.4	1.8	35.9	35.5
Advanced Info Service	Thailand	3.6	2.7	26.7	27.2
Chunghwa Telecom Co	Taiwan	14.7	14.4	22.6	24.5
Telef Brasil	Brazil	7.9	6.3	23.7	23.1
Bharti Airtel	India and Africa	N/A	1.7 (Feb 2002)	34.0	22.7
Mobile Telesystems	Russia and CIS	3.5	3.6	25.7	19.6
Vimpelcom	Russia and CIS	1.1	1.0	39.8	17.7
Turkcell Iletisim Hizmet	Turkey	6.7	4.3	10.9	12.9
Maroc Telecom	Morocco	n/a	8.4 (Dec 2004)	11.4	9.8
Millicom International Cellular SA	International	2.0	0.6	10.7	8.0
Orascom Telecom Holding	Africa, Middle East and Asia	1.3	0.3	5.9	3.4
Indosat	Indonesia	1.1	0.9	4.6	2.6

Source: Bloomberg and Capital IQ.

rapid fall in the total cost of ownership of mobile communications. As the cost of mobile technology fell, it became affordable for, and accessible to, large proportions of the population.

The result has been very rapid growth of mobile telecom businesses over a wide range of emerging markets in the past decade, such that mobile operators dominate their respective telecommunications sectors on many metrics, including value. Mobile subscriptions in developing markets of around 5 billion now exceed fixed-line subscriptions by a factor of over seven. The growth by region is illustrated in figure 1 and figure 2, above, shows the increase in value achieved by selected operators over a similar period.

We have valued both fixed-line and mobile businesses in emerging markets in dispute contexts. In some of those markets, such as Eastern Europe, fixed-line technologies are now attracting investment and evolving to deliver high-speed broadband. However, the majority of the disputes we have been involved in relate to mobile businesses. This is partly a function of the fact that there are now more mobile operators, but it is also due to the speed of the sector's development and the scale of the opportunities that arose from it. The remainder of this article focuses on the approaches to valuing mobile operators.

Introduction to the industry and its value drivers

In principle, a mobile operator's business model is simple and does not vary materially by region or by country. A mobile operator:

- acquires or is awarded a licence that gives it a right to operate through exclusive access to radio spectrum – usually one of a limited number of national licences;
- invests in network infrastructure, the most significant part of which is the construction of sites with antennas and electronics distributed about its territory;
- attracts subscribers who buy credits, allowing them to make calls (airtime) using the operator's network. Some subscribers have monthly contracts and pay in arrears, although this is less common in emerging markets; and

- incurs operating costs through activities that include marketing to consumers, running the network, customer support activities and administrative functions, paying distributors or retailers to sign up new subscribers or to sell airtime, and paying owners of other networks to which calls are made (offset in whole or part by money received from other operators for the calls its own subscribers receive).

Therefore, operators have the potential to earn greater profits and be more valuable in countries that have:

- larger populations, offering a larger number of potential subscribers;
- higher incomes per capita, as more of the population can afford a phone and subscribers are able to spend more on calls and messaging;
- less challenging terrain or weather conditions, as this makes it cheaper to build and maintain the network;
- a more concentrated population geographically as less investment is required to achieve adequate coverage of the territory for the service launch;
- better infrastructure (eg, access to reliable electrical power); and
- lower levels of political and economic risk, crime and corruption.

Within a given country, the more valuable operators will tend to be those that are expected to leverage their network investment and fixed costs more effectively through sustaining a higher market share of subscribers, achieving higher average revenue per subscriber (ARPU), or supporting those revenues with lower operating costs. The market share of subscribers in the growth years can be a particularly important driver of value, for reasons set out later.

That these various factors influence value in the way that they do is mostly intuitive. However, many of the factors that influence value are interdependent, and how one goes about forecasting them reliably to determine value is not trivial.

Valuing telecom operators in emerging markets

Valuation methods

As with companies in many other sectors, telecom operators are typically valued using discounted cash flow (DCF) models and valuation metrics derived from market transactions in comparable companies (transactions in either listed shares on exchanges, or in larger blocks of shares or entire companies). Each method has its benefits and its limitations.

A DCF valuation requires explicit forecasts of the performance of the company being valued. Consequently, it requires more work than a market-based valuation exercise, but is better able to reflect accurately factors that are specific to the company and the market it operates in. However, a DCF valuation is only as good as the assumptions it is based on. If the assumptions are flawed, or do not reflect contemporaneous market expectations, then the valuation will also be flawed.

A market-based or multiples-based valuation is usually faster to perform and will reflect market sentiment and expectations as it is based on metrics derived from actual market transactions, which are presumably the result of significant analysis performed by rational and well-informed market participants. However, care must be taken when selecting comparable companies and adjusting for factors that differ between companies or the markets they operate in.² The valuation metric most commonly used in the valuation of telecom operators is enterprise value to earnings before interest, tax, depreciation and amortisation (EV/EBITDA).³

Ideally, one would assess value using both methods and lend greater weight to the method that, in the circumstances, seems more robust. If there are reasons to think that the company being valued is unlike other companies or that there have been few transactions in the shares of comparable companies in the relevant period, then greater weight might be given to the DCF valuation results. Alternatively, if it is not possible to produce reliable forecasts – perhaps due to an inability to access sufficiently granular financial and operational data – greater weight might be given to the market based valuation results.

Whichever method is used, a business only has a value if investors and potential investors expect to be able to generate a return from it, and the scale of that value depends on the scale of the expected return. A reliable valuation must, therefore, reflect the expectations of well-informed market participants at the valuation date.

Important considerations in an emerging market telecom valuation

The large majority of emerging market subscribers buy their own phone and pre-pay for their calls, and the large majority of the revenue that is derived from them is through voice calls and text messages, rather than other data. Unlike in many developed markets, in emerging markets a relatively small proportion of the subscriber base is tied in to fixed-period contracts with subsidised phones.

Further, the large majority of emerging market mobile operators deploy the same network technology acquired from one or more of the same small group of equipment suppliers, and their subscribers have access to the same universe of mobile phones.⁴ Many markets have been through the same transition before, both developed and developing. The main services sold by mobile operators in emerging markets – namely, voice calls and text messages – are commodities, assuming a reasonable quality of service, and consumers tend to be price sensitive. One might imagine, therefore, that mobile operators are very similar, that markets are competitive and that valuing a mobile operator is a simple exercise.

In fact, getting it right is hard. In markets or industries that are growing or immature, determining a reasonable set of longer-term expectations is more difficult than usual because the speed and the extent of future growth is unknown, and the distribution of value between industry participants may change significantly – either through changes in market shares or through a transfer of value to consumers through increased competition. Consequently, the range of potential outcomes, and resulting valuations, is broad.

This is particularly true of capital intensive businesses such as telecoms. Typically, they are cash-flow negative for a number of years as they invest more in building their networks than they earn in profits. To do this, they require external funding, often partially in the form of debt. The combination of a debt burden today and the prospect of positive cash flows a few years away means that the value of the equity in the business can be very sensitive to the assumed future industry value and its split among the industry participants.

Indeed, there are many examples of seasoned industry participants and financial investors making acquisitions that turn out to be based on optimistic expectations of their ability to execute as planned, or of the economic or business environment in which the target company operates. See figure 3.

Figure 3: Selected emerging market operator goodwill impairments (US\$ million)

Acquirer	Target	Country (Target)	Date acquired	Amount spent on acquisition (US\$m)	Goodwill impairment (US\$m)	% of total investment impaired
Vodafone	Telsim	Turkey	May-06	4,670	3,490	75%
Vodafone	Hutchinson Essar	India	May-07	10,915	3,590	33%
Vodafone	Ghana Telecom	Ghana	Aug-08	900	390	43%
France Telecom	Telekomunikacja Polska	Poland	2000-2005	5,215	1,165	22%
France Telecom	Mobinil/ECMS	Egypt	Jul-10	3,541	1,738	49%
Telenor	Mobi63	Serbia	Aug-06	1,921	335	17%
Telenor	Uninor	India	Mar-09	1,161	217	19%
VimpelCom	URS	Ukraine	Dec-06	231	54	23%

Source: Annual reports and press releases.

Figure 4: Selected emerging market operator market capitalisations (indexed to 100)

Source: Bloomberg and Capital IQ.

Similarly, equity market participants have found it difficult to predict market developments accurately. Growth expectations rose in the period to early 2008, and then fell, with equity valuations following a similar pattern. The volatility of the market capitalisations of selected mobile operators over the last decade is illustrated in figure 4, above. Their market capitalisations have been indexed to 100 on 1 January 2002, or at the first data point available. In several of the cases shown, market valuations doubled between late 2006 and late 2007, and halved again by the end of 2008.

Because valuations (and the expectations that drive them) have changed so much over time, the date of valuation in an arbitration can be a significant determinant of the value and the estimate of loss. For example, a valuation conducted as at a date in late 2007 may well result in a higher figure than a valuation of the same entity as at a date in 2009 or 2010. This is because even though the industry is likely to have been less mature (and riskier) at the former date, expectations of growth would probably have been materially more optimistic than at the latter date, and events that could not have been known in late 2007 (such as the extent of the financial crisis) cannot be taken into account in a 2007 valuation (ie, no use of hindsight).

How does one assess how long it will take for the number of subscriptions to exceed the population? What will ARPU be when it does? How might market shares evolve? What margin can be earned? And how much needs to be invested? In order to be able to answer these questions sensibly, and thereby forecast and value future cash flows sensibly, or identify comparable companies for the purposes of determining a reasonable range of valuation multiples, several factors should be considered in addition to the value drivers set out above. The following section outlines how a number of these factors can impact business performance and how they might be taken into account in a valuation exercise.⁵

Macroeconomic growth

Forecast GDP growth can differ significantly between emerging markets. As consumer businesses, mobile operators are affected by the performance of the economy in which they operate. Rising incomes usually allow more of the population to afford a phone, which can itself contribute to economic growth. Therefore, the greater the predicted economic growth rate, the faster one might expect penetration to rise and the more one might expect consumers to spend on their phones.

Comparing the GDP growth forecasts of the subject company's country with those of countries with markets at similar stages of development will indicate whether industry growth forecasts underpinning a DCF model appear reasonable, given what is (or was) expected in similar markets, and whether valuation multiples derived from companies in similar markets will tend to understate or overstate the potential value of similar assets in the subject company's country.

Country risk

Mobile operators collect all of their revenue from consumers in local currency, tend to purchase network equipment in hard currency and often have some hard currency denominated debt. They rely on a government licence to operate, have infrastructure in hundreds or thousands of sites, and often rely on third parties to manage subscriptions and sales of airtime. Consequently, they are exposed to both macroeconomic volatility and political risk, and the general level of crime and corruption in the country.

These country-specific risks are referred to in valuation collectively as 'country risk', and the degree of country risk should be properly reflected in a valuation.⁶ The higher the risks faced by investors, the lower the value they place on the asset. In a DCF valuation, country risk can be accounted for in two ways: it can be reflected as a cost in the cash-flow forecasts to reflect, for

example, the incremental costs of insurance against asymmetric downside risks, or the ongoing costs associated with operating in difficult markets; alternatively, or in addition, it can be incorporated as an adjustment to the discount rate to reflect the risk of macroeconomic volatility. Similarly, in a market-based valuation a higher level of country risk could be reflected in a downward adjustment to the expected EBITDA or in a downward adjustment to the valuation multiple, depending on the types of risk being considered. The scale of any adjustment to the valuation multiple might be assessed with reference to valuation discounts suffered by companies in countries with similar risk profiles.

Regulation

In markets that are not mature, forecasting industry profitability over the long term can be difficult. In the early years of the industry's development, governments and regulators put in place regimes that allow mobile operators to earn relatively high margins to compensate them for the risks they undertake investing. As the industry grows and becomes more cash generative, however, the authorities will often act to limit or extract excess returns – partially for the benefit of consumers and partially for the benefit of the state. They can do this by:

- issuing licences to new entrants with accompanying directives that allow the new entrants' subscribers to connect via competitors' networks (roaming) as it builds its own network;
- charging significant fees for renewing licences or issuing new licences (eg, for additional spectrum); and
- reducing mobile termination rates (MTRs) and other regulated prices, or introducing legislation to make it easier for subscribers to switch between mobile operators (eg, mobile number portability).⁷ MTRs can be particularly important as they tend to result in asymmetric pricing between 'on-net' and 'off-net' calls.⁸ This pricing asymmetry creates an incentive for subscribers to join the same network as those they call most frequently, which in turn gives the operator with the leading market share an advantage attracting new subscribers – the 'network effect'. In other words, a strong market share in the early years of the market can become self-reinforcing as the market continues to grow.

When considering the value of a mobile operator, and in particular how profit margins may evolve in the long term, the potential impact of regulation is important – particularly if operators are earning very high margins. Naturally, some regulators have a history of being more benign, and others of being more proactive in addressing competitive issues. The regulator's track record or any political regime changes need to be considered when factoring regulatory risks into the valuation.

Access to finance

In valuation, practitioners often assume that the subject company has access to finance should it require it. The reality can be quite different and this can have a significant impact on the ability of an operator to compete effectively. Therefore, it can also be an important factor in a valuation of the business if one is valuing the business in the hands of a particular owner (or owners).

In the growth years, mobile operators tend to invest more than they earn in profits, and as a result require external finance (ie, shareholder investment or debt). In many cases, the rate of network roll out, and the capacity for new subscribers it creates, is a major factor influencing how many new subscribers are signed up. Those operators with the best access to finance (eg, subsidiaries of multinationals with highly cash generative operations elsewhere) can invest more aggressively and are more likely to

build leading market shares, or at least maintain market share. As noted above, a leading market share can become self-reinforcing.

Conversely, operators whose future network investment may be limited by financial constraints are more likely to lose market share because the number of new subscribers for whom an acceptable level of service can be maintained is limited by the available network capacity. The ability to win back market share, potentially an expensive price-driven undertaking, will also be affected by financial constraints. Funding constraints are more likely to be a factor in entities with complex shareholder structures or with leading shareholders without strong balance sheets. A government shareholding can also have an adverse impact on decision-making and access to finance.⁹

Avoiding basic modelling errors when performing a DCF valuation

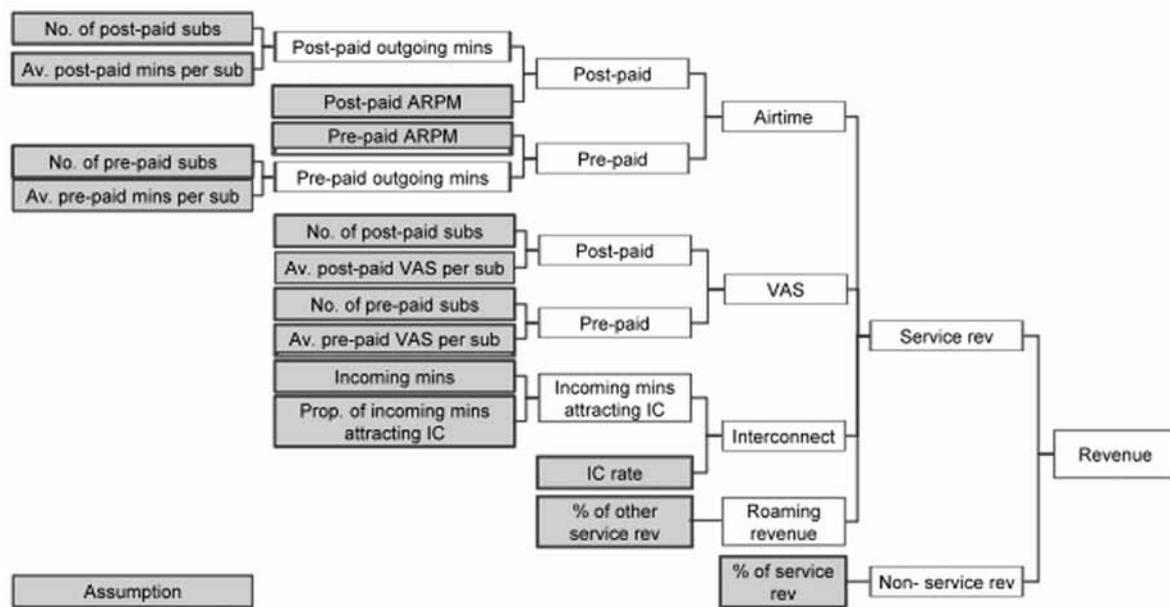
Many of the key variables in a valuation model are interrelated. For example, in the mobile communications industry, the faster the pricing of calls is reduced, the faster one might expect the usage of each subscriber and the number of subscribers to grow. The more subscribers there are, and the more they are expected to use their phones, the greater the required network capacity and the greater the level of operating costs that are call volume related. The net effect of all these changes on the revenues and profit margins that an operator may earn in the future is far from clear.

Yet in practice, key value drivers such as ARPU and EBITDA are sometimes simply assumed or modelled individually. This simplistic approach can have unintended consequences. A set of variables forecast in this way may be plausible individually, but implausible in aggregate as the long-term profit forecasts are inconsistent with what might be expected in a competitive or regulated market.

When building a DCF model, it is preferable to model the business at a sufficiently granular or detailed level to allow the main components of revenue and costs to be calculated from the fundamental behaviours, factors or activities that drive them. So rather than assume an ARPU, one would instead forecast the average phone usage of subscribers in minutes of use and multiply it by a per-minute tariff forecast. This call revenue figure would be added to an estimate of interconnect revenue (derived from an estimate of incoming calls and the MTR) and an estimate of other revenues from data or value added services. The same estimates of average phone usage should be the basis for calculating certain operating costs, such as interconnect costs and transmission costs, as well as the required capital investment in the network. See figure 5.

Basing a valuation model on the fundamental drivers of the business in this way, and making sure that all the major effects of a change in the assumed level of those drivers are captured in the model, ensures that the financial forecasts are internally consistent.

Naturally, a more detailed model requires more, rather than fewer, assumptions. However, analysis of historic financial statements and management information (both historic and forecast if available) should allow most revenue and cost-driver forecasts to be extrapolated from the past in a way that reflects expectations of corporate and market developments. This should ensure that the underlying driver-forecasts and the resulting forecast financial performance are plausible. If the modelling has been performed correctly then one would normally expect to observe certain relationships between certain variables in the model.

Figure 5: Illustration of potential approach to modelling revenue of a mobile operator

Key: IC = interconnect; rev = revenue; subs = subscribers; VAS = value added services; No. = number; mins = minutes; av. = average.

Source: FTI Consulting.

ARPU usually continues to fall as market penetration rises. A major driver of the revenue forecast is the expected ARPU. In the early years of the industry's evolution in a given country, network capacity is limited so prices tend to be high and subscribers more wealthy (and less price sensitive), resulting in high ARPU. As networks are expanded, prices are lowered to encourage more usage from existing subscribers and more of the population to enter the market. It is also often the case that new entrants are introduced, putting further downward pressure on prices. The net effect in most markets is that ARPU declines as penetration of mobiles through the population increases. Increased usage from existing customers is usually not sufficient to outweigh the effect of lower prices and the advent of progressively lower income groups with lower average usage. The variation in reported ARPUs as market penetration has progressed is shown for a selection of larger developing markets in figure 6. Of those markets shown, only Russia has experienced a sustained reversal in the downward ARPU trend.

Capital expenditure and network traffic forecasts should be consistent

Capital expenditure is a key input into any DCF model of a mobile operator. Ensuring that the capital expenditure forecasts are consistent with the forecasts underpinning revenues is likely to mean that the overall model will be more reliable. Typically, more network capacity will be associated with more subscribers and with greater usage per subscriber (eg, if pricing is lowered significantly or the customer mix is expected to change).

The complication is that the relationship between capital expenditure and increased network traffic is not linear – it can be a lot cheaper (up to a point) to add capacity to existing infrastructure than to build new infrastructure (eg, for greater geographic coverage). Nonetheless, if a historic relationship between capital expenditure and traffic growth can be observed, it should be

possible to forecast a sensible relationship and thereby derive capital expenditure forecasts that reflect the falling cost of network equipment and are consistent with revenue forecasts.¹⁰

Operating expense forecasts should be consistent with forecast growth

Modelling operating expenses is difficult to do accurately as there are many different types of cost, many different factors driving them, and detail in financial statements is often limited. Nonetheless, it is usually appropriate to model them approximately to ensure that the variations over time in operating costs (and the resulting profit margins) are consistent with the forecast development of the business and the competitive environment.

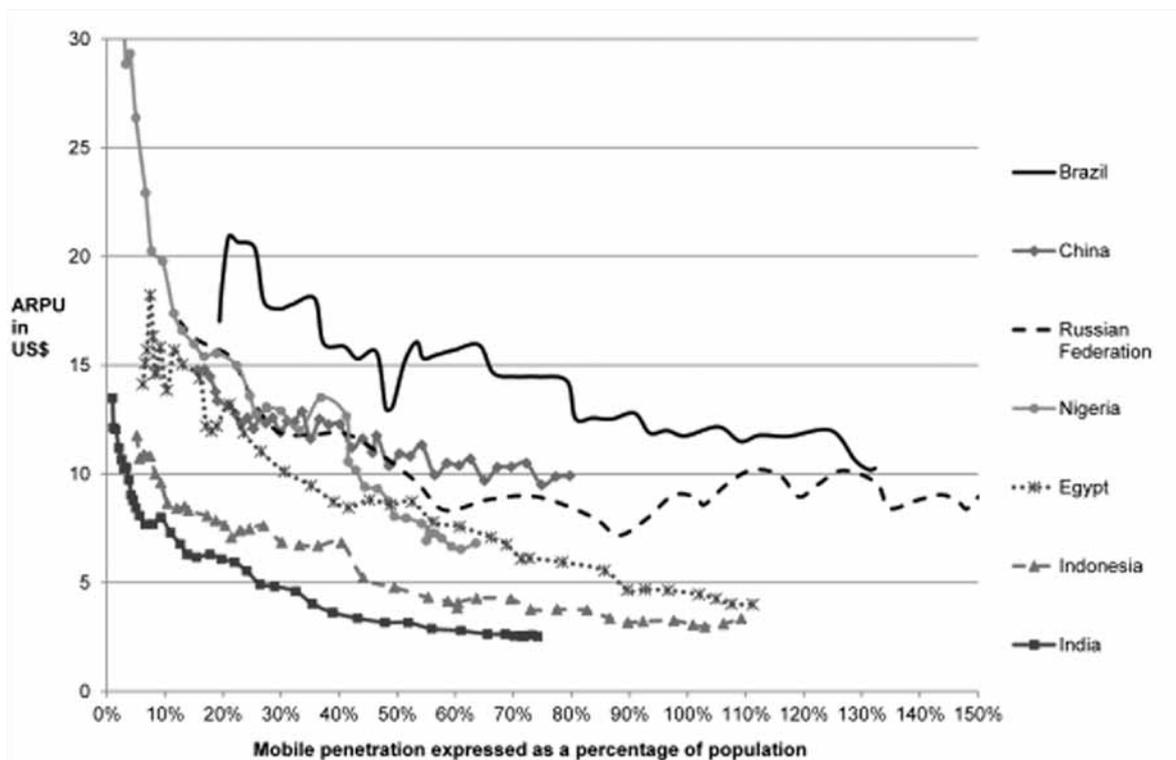
To do this exercise properly, the valuer needs to identify the primary drivers of each category of cost and estimate the relationship between the driver and the cost. For example:

- costs that vary directly with revenues, such as discounts offered to third-party distributors, could be modelled as a percentage of outgoing call revenues;
- costs that vary with the aggregate level of network traffic, such as transmission costs, could be linked to forecast network traffic; and
- costs that tend over time to be affected by customer numbers, such as customer-support costs or call-centre costs, might be modelled in proportion to subscriber numbers.

Excess returns can be earned in perpetuity only in exceptional circumstances

Excess returns can be thought of, loosely, as the profits earned from an asset in excess of the ongoing cost of financing the acquisition or creation of the asset (the cost of capital). Companies do earn excess returns now and again, particularly when demand exceeds expectations.¹¹ Over time, however, competitors tend to react by competing for the lucrative business that yield the very high profits,

Figure 6: ARPU and penetration of mobile subscriptions (US\$ and %)



Source: Wireless Intelligence Database.

and profitability returns to 'normal' levels through price reductions. As a general rule, in a competitive market it is unusual for a company to be able to earn excess returns over a long period. Leaving aside collusion, in cases where excess returns are earned over extended periods, the company usually has one or more structural advantages that make it hard for competitors to compete effectively (eg, economies of scale or ownership of intellectual property).

On the whole, unless a mobile operator does enjoy structural advantages over its competition, valuation models should not anticipate that the operator will earn returns on its invested capital well in excess of its cost of capital in perpetuity. Even if an operator does enjoy structural advantages, it is quite possible that the regulator will act to undermine them. Calculating forecast returns in perpetuity is a relatively simple check that can be performed to ensure that the forecast performance of the subject company is not overly ambitious and the valuation overstated.

Determining a plausible valuation multiples range

The strength of a market-based valuation is that the value of the subject company is inferred from actual transactions undertaken by well-informed market participants that are (or were) not party to the dispute. The observed transactions only provide a relevant valuation benchmark, however, if they relate to companies that are similar and occurred at a similar time.

It is not uncommon in emerging market valuations to find that the most closely comparable companies are part of larger groups, and therefore that there are not many closely comparable listed companies or transactions in similar companies close to the valuation date. Consequently, the valuation exercise may not be precise and can suggest a relatively wide valuation range for the subject company. This is illustrated in figure 7, below: the range of EV to EBITDA valuation ratios for listed telecom operators

in Africa is wide. In these circumstances, it is seldom appropriate to take an average. A useful indicator of value can be arrived at if proper consideration is given to selecting the most appropriate benchmarks from the range – more often than not some will be more suitable benchmarks than others.

Figure 7: EV to EBITDA ratios of selected mobile operators in Africa

Company	EV/EBITDA ratio as at 1 August 2013
Vodacom Group Ltd	7.10
Mobile Telecommunications Co	6.35
Safaricom Ltd	6.20
MTN Group Ltd	6.13
Maroc Telecom	6.08
Millicom	5.85
Mobinil-Egyptian Mobile Services	5.65
Econet Wireless Zimbabwe Ltd	4.33
Orascom Telecom Holding	3.29
Vodafone Egypt	3.12

Source: Bloomberg.

In assessing the suitability of a given company or transaction as a valuation benchmark, or whether an adjustment to the implied valuation is appropriate, a number of factors should be considered, including:

- the characteristics of the markets it operates in and how those characteristics are expected to evolve, including the penetration of mobile subscriptions, the number of operators, regulatory developments, GDP per capita and tax rates;
- the characteristics of the company itself, including its profitability and market share, for example, as different companies in the same market may have different growth prospects;
- the liquidity of traded shares and the shareholder structure of listed companies;
- any circumstances that might imply that a transaction was not at arm's length, or that the price may have been affected by non-monetary considerations (such as status or political influence) or potential gains beyond the entity itself, such as synergies; and
- commentary from analysts and the management of the companies being considered, if available, to understand what the market and the companies themselves expect, and therefore what is likely to be implicit in their valuations.

Considering the factors above not only facilitates the selection of a peer group of the more closely comparable companies, but may also allow the valuer to determine that the value of the subject company is more likely to fall in a particular part of the implied valuation range.

Summary

FTI Consulting has been asked to provide expert evidence in a number of cases requiring the valuation of an emerging market telecom operator, including expropriation cases, ownership disputes, and shareholder disputes. In most of these cases, the amounts at stake are large, a function of the staggering growth of the industry, and the value created, over the last decade or so.

The valuation of companies in fast-growing industries in relatively risky countries is no easy task. One need only look at the volatility of listed emerging market operator valuations in recent years to see the impact of evolving expectations on value.

There are, however, a number of things that a valuer can do to produce a more robust, and for the purposes of dispute proceedings, more reliable valuation. They include:

- performing both DCF and market-based valuations if possible, as each method has its merits (at the very least they provide a sense check for each other, even if the results of one method are given greater weight);
- thinking carefully about the characteristics of the country, the telecoms market and the company when forecasting performance or assessing how the valuation of the subject company might compare to similar listed companies or the subjects of transactions;
- building a relatively granular financial model to ensure that underlying drivers of performance are forecast explicitly and are reasonable, and that the model is internally consistent; and
- checking that forecast returns in the long run are plausible given the competitive position of the subject company and potential regulatory developments.

Notes

- 1 Much of the world adopted the GSM standard for its mobile communications. This meant that there were significant economies of scale in manufacturing both network equipment and phones.
- 2 It is obvious that meaningful indicators of value can only be derived from transactions in assets that are comparable and that operate in similar markets. However, it can also be important to consider the nature of the shareholding that has changed hands, as well as both the timing and the circumstances of the transaction.
- 3 EBITDA is a proxy for the cash-generating potential of the business, before taking into account the required network investment to support it or the tax payable on the earnings.
- 4 There are some notable exceptions to this: China Unicom and Reliance in India deployed CDMA, a very different technology to GSM. Careful consideration should be given to market proposition and the business plan when valuing a CDMA operator in emerging markets, particularly if it is a niche player pursuing a data-only strategy. It will probably not be appropriate to value sub-scale CDMA operators using multiples derived from GSM based operators, for example, as their growth prospects may well be very different.
- 5 This is not intended to be an exhaustive list.
- 6 Country risks and how they should be treated in valuation were addressed in an article by James Searby of FTI Consulting titled 'The Country Risk Premium in International Arbitration', published in *The European and Middle Eastern Arbitration Review 2011*. www.fticonsulting.com/global2/media/collateral/united-states/the-country-risk-premium-in-international-arbitration.pdf
- 7 When a call is made from subscriber X on one network to subscriber Y on another network, subscriber X is usually billed for the call and subscriber Y pays nothing. However, subscriber Y's network operator requires payment for the use of its network completing the call (known as 'terminating' the call). Therefore it charges subscriber X's network operator a fee, called the termination rate (the MTR for mobile operators). In most markets, the MTR is set by the regulator.
- 8 'On-net' calls are to subscribers on the same network; 'off-net' calls are to subscribers on a rival operator's network. An off-net call attracts a charge (the MTR) for the operator whose subscriber initiated the call, whereas the marginal cost of an on-net call is negligible.
- 9 It is not uncommon for one mobile operator in a market to have the government as a shareholder. In some of these cases, budgetary issues have restricted access to finance, and political considerations have slowed decision-making, including the award of contracts to build the network. Consequently, this operator will often underperform.
- 10 To the extent that forecasts incorporate a decline in the cost of equipment per unit of added capacity, one would normally assume that costs decline for a finite period only. The cost of some components will continue to fall, but it is also the case that periodically large parts of networks have to be replaced and this can be costly.
- 11 A company can also earn returns below the cost of capital they have invested. Over time, however, returns either have to improve, or the investors will withdraw their capital and invest it in better opportunities.



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Richard Edwards is a managing director in the economic and financial consulting practice of FTI Consulting and based in London. Prior to joining FTI Consulting, he spent over eight years as an equity research analyst with Citigroup and Execution, and six years as a management consultant with McKinsey & Company and Arthur Andersen's Business Consulting Group.

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As an equity analyst, Mr Edwards led coverage of European telecom equipment and alternative telecom operators. In 2003, while at Citigroup, he was ranked 3rd by Extel. As a consultant, he has worked with clients across a range of sectors and disciplines.



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FTI Consulting, Inc is a global business advisory firm dedicated to helping organisations protect and enhance enterprise value in an increasingly complex legal, regulatory and economic environment. FTI Consulting professionals, who are located in all major business centers throughout the world, work closely with clients to anticipate, illuminate and overcome complex business challenges in areas such as investigations, litigation, mergers and acquisitions, regulatory issues, reputation management and restructuring.

The economic and financial consulting practice provides detailed damages and valuation calculations for arbitration or litigation. Our work is based on economic, accounting, and finance evidence, that we analyse in order to quantify the financial effects of the alleged actions of the parties. Our reports are prepared in a fashion that is easily understood by judges and arbitrators. Our testifying experts have significant experience in delivering clear and concise opinion evidence in arbitral and judicial hearings.

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