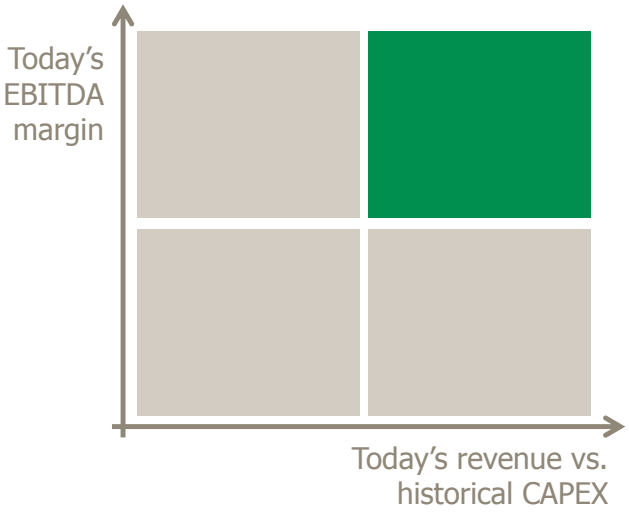
tefficient

Public industry analysis #13 2013

Mobile CAPEX efficiency

Invest – and conquer?



Why CAPEX? Today, most executives would answer that CAPEX is necessary for two reasons: To grow (or sustain) revenue *and* to reduce OPEX.

In reality, not all CAPEX is productive. Investment decisions might prove wrong. The return on an investment can be lower than expected when competition does the same (or the opposite). Implementation delays might lead to that the window of opportunity is missed.

Since mobile telecom – compared to other mature industries – is a CAPEX intense business, CAPEX efficiency is important.

This analysis introduces a simple way to compare CAPEX efficiency – looking at the effects on both revenue and OPEX. It shows that some mobile operators have a track record of high CAPEX efficiency, whereas others have not.

Comparing reported CAPEX numbers – the challenge

For a number of reasons, it is difficult to compare reported CAPEX figures of mobile operators:

- **Fluctuation**: CAPEX can fluctuate heavily year-on-year
- **Capitalisation**: Operators have different approaches to capitalisation of OPEX
- **License fees**: Some include license fees, some do not
- **Granularity**: Some report only integrated CAPEX figures, not split on mobile and fixed
- **Consistency**: Acquisitions – or creation of JVs – change what is consolidated

In order to work around some of these data issues, we have filtered out all operators that don't satisfy the following criteria:

- Mobile CAPEX reported…
- …without license fees
- …for the years 2008, 2009, 2010, 2011, 2012 and for 1H 2013
- …with an unchanged consolidation scope
- …and who also currently report mobile revenue and mobile EBITDA

In addition, since mature and maturing markets are quite different when it comes to CAPEX, this analysis is focused entirely on mobile operators in **mature markets**.

This leaves us with data from **50 mobile operators** globally.

Method

As mentioned, CAPEX is today deemed necessary for two reasons:

1. To grow (or sustain) revenue
2. To reduce OPEX

CAPEX, successfully applied in the past, should then have resulted in high revenue and low OPEX – today. (The days when it was sufficient to look at last quarter's CAPEX to revenue ratio are gone.)

Ideally, to analyse the CAPEX efficiency, we should use the cumulative CAPEX[1] from day 1, but to simplify – and to better reflect the "practical influence- and lifetime" of CAPEX – we are in this analysis truncating the cumulative CAPEX to *not* include CAPEX prior to 2008.

Figure 1 describes how **CAPEX efficiency** has been defined in this analysis.

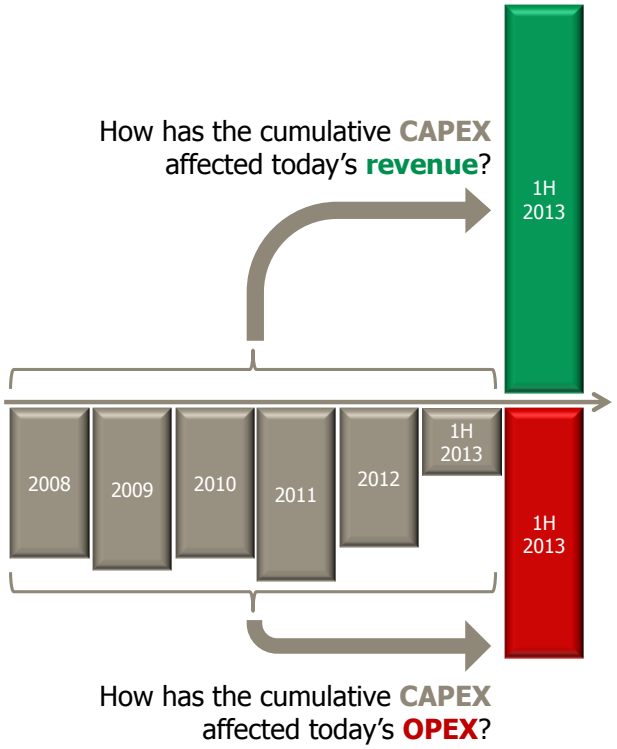


Figure 1. CAPEX efficiency as measured in this analysis

[1] Or the book values, but then we run into other comparability issues because of different depreciation criteria and the usual write-offs applied in conjunction with e.g. network swaps

CAPEX efficiency matrix

Figure 2 shows the CAPEX efficiency matrix for the 50 studied operators.

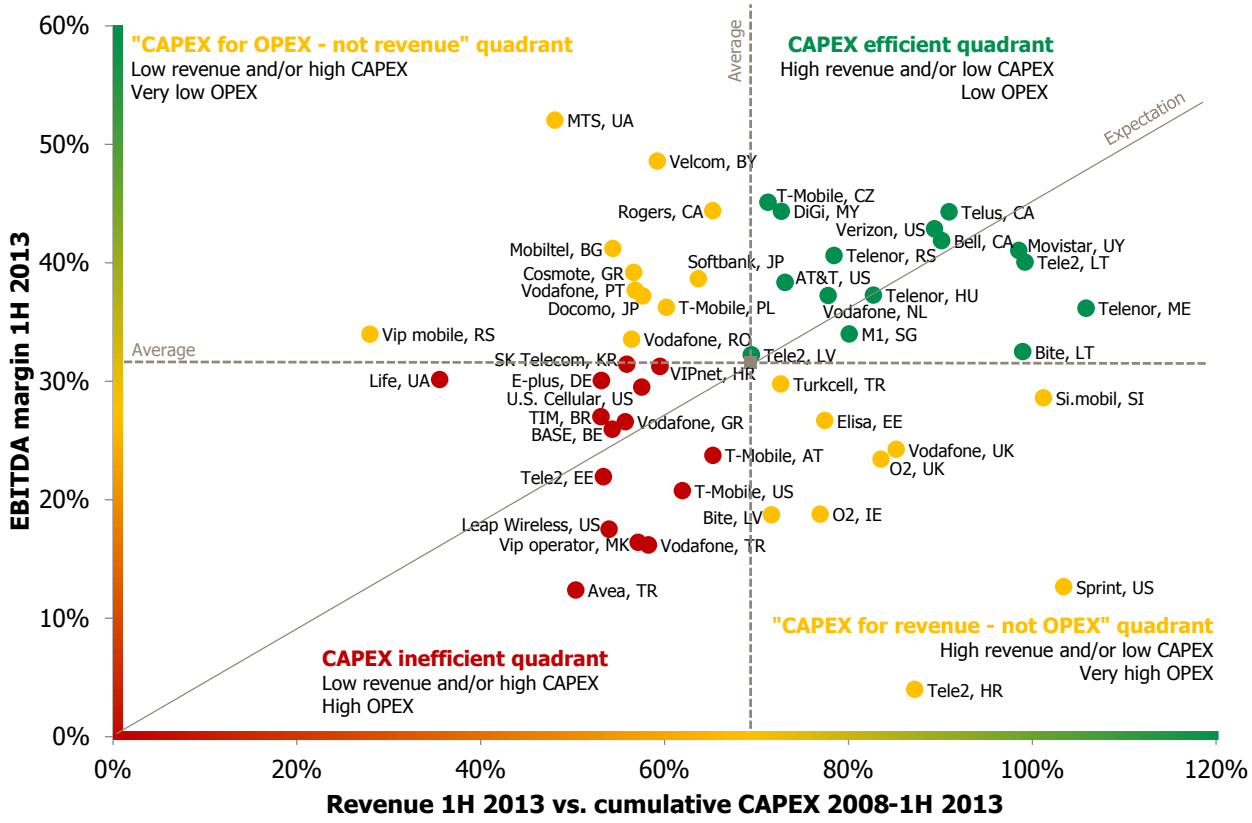


Figure 2. CAPEX efficiency matrix – for 50 mobile operators in mature markets fulfilling the criteria on reporting granularity and consistency

On the **horizontal** axis, we've plotted this ratio:

- Today's total mobile revenue (1H 2013) / Cumulative CAPEX 2008-1H 2013 (5.5 years)

Mobile operators to the **right** (like Telenor in Montenegro or Sprint in the US) have a high CAPEX efficiency when it comes to grow or sustain revenue: In comparison to the cumulative CAPEX, they have the highest revenue.

The average KPI value for the 50 operators is 69% – marked with the vertical dotted grey **Average** line.

But CAPEX is also important when it comes to OPEX. On the **vertical** axis, we've therefore plotted:

- Today's mobile EBITDA margin (1H 2013)

Mobile operators at the **top** (like MTS in Ukraine, Velcom in Belarus or T-Mobile in Czech Republic) have a high EBITDA margin. This means that their OPEX is low – relative to their revenue. An effective use of CAPEX can be one explanation behind a high EBITDA margin.

The average EBITDA margin for the 50 operators is 32% – marked with the horizontal dotted grey **Average** line.

One thing to have in mind, though, is that the EBITDA margin depends on the revenue. Since revenue takes part also in the KPI on the horizontal axis, we need to realise that the two axes aren't independent and that we therefore should expect operators to clutter along the grey **Expectation** line. Operators with high revenue should tend to score well on both axes. Operators with low revenue should tend to score poorly on both axes.

The adherence to the Expectation line is very low, though – indicating that CAPEX and OPEX generally are more important than revenue when it comes to finding explanations to positions in the Figure 2 matrix.

Operator categorisation

Let's try to categorise operators based on which quadrant they are in in Figure 2.

CAPEX efficient operators

This is where you want to be. Not only do the mobile operators have high current revenue in comparison to their cumulative CAPEX – they also have a low OPEX in comparison to revenue. To generalise, the operators in this quadrant are:

	In small countries	Belonging to cost focused operator groups	In countries with only three operators	Market leaders
Verizon US				✓
AT&T US				
Movistar Uruguay	✓		✓	
Vodafone Netherlands			✓	
T-Mobile Czech Republic			✓	✓
Telenor Montenegro	✓	✓	✓	
Tele2 Lithuania	✓	✓	✓	✓
Tele2 Latvia	✓	✓	✓	
M1 Singapore	✓		✓	
Telenor Hungary		✓	✓	
DiGi Malaysia		✓	✓	
Bite Lithuania	✓	✓	✓	
Telenor Serbia		✓	✓	
Telus Canada			(✓)[2]	
Bell Canada			(✓)[2]	

[2] De facto, see part on Canada

CAPEX inefficient operators

This is where you want to avoid being. Not only have operators used a lot of CAPEX in comparison to their current revenue – they also have a high OPEX in comparison to revenue. To generalise, the operators in this quadrant are:

	Challengers with small market share	In very competitive markets
Life Ukraine	✓	
Avea Turkey	✓	✓
Vodafone Turkey	✓	✓
Tele2 Estonia	✓	
T-Mobile US	✓	✓
Leap Wireless US	✓	✓
U.S. Cellular US	✓	✓
Vip Macedonia	✓	
E-plus Germany	✓	
SK Telecom Korea		✓
T-Mobile Austria		✓
TIM Brazil		✓
VIPnet Croatia		
BASE Belgium	✓	
Vodafone Greece		

"CAPEX for revenue – not OPEX" operators

In the lower, right quadrant, the current revenue is healthy in comparison to the cumulative CAPEX, but the EBITDA margin is low. To some extent, operators in this quadrant can be seen as underinvested as they do generate good revenue. It is quite difficult to generalise the operators in this quadrant, but some of them are:

	In markets with heavy handset subsidisation	Challengers with small market share
Sprint US	✓	
Vodafone UK	✓	
O2 UK	✓	
Tele2 Croatia		✓
Bite Latvia		✓
Si.mobil Slovenia		
O2 Ireland		
Elisa Estonia		
Turkcell Turkey		

"CAPEX for OPEX – not revenue" operators

In the upper, left quadrant, the current revenue is low in comparison to the cumulative CAPEX, but the EBITDA margin is still high. To generalise, the operators in this quadrant are:

	In countries with high population	Number 2s
MTS Ukraine	✓	✓
Rogers Canada	✓	
Vodafone Romania	✓	✓
T-Mobile Poland	✓	
Softbank Japan	✓	
Docomo Japan	✓	
Velcom Belarus		✓
Vodafone Portugal		✓
VIP mobile Serbia		
Cosmote Greece		
Mobiltel Bulgaria		

Highlighting in-market differences

By identifying the mobile operators within one and the same market, interesting differences can be spotted. Let's look at **United States**, **Turkey** and **Canada** – national markets for which we have good operator representation in the matrix.

United States

Figure 3 below is a repetition of Figure 2 – with the only difference that the US operators are highlighted.

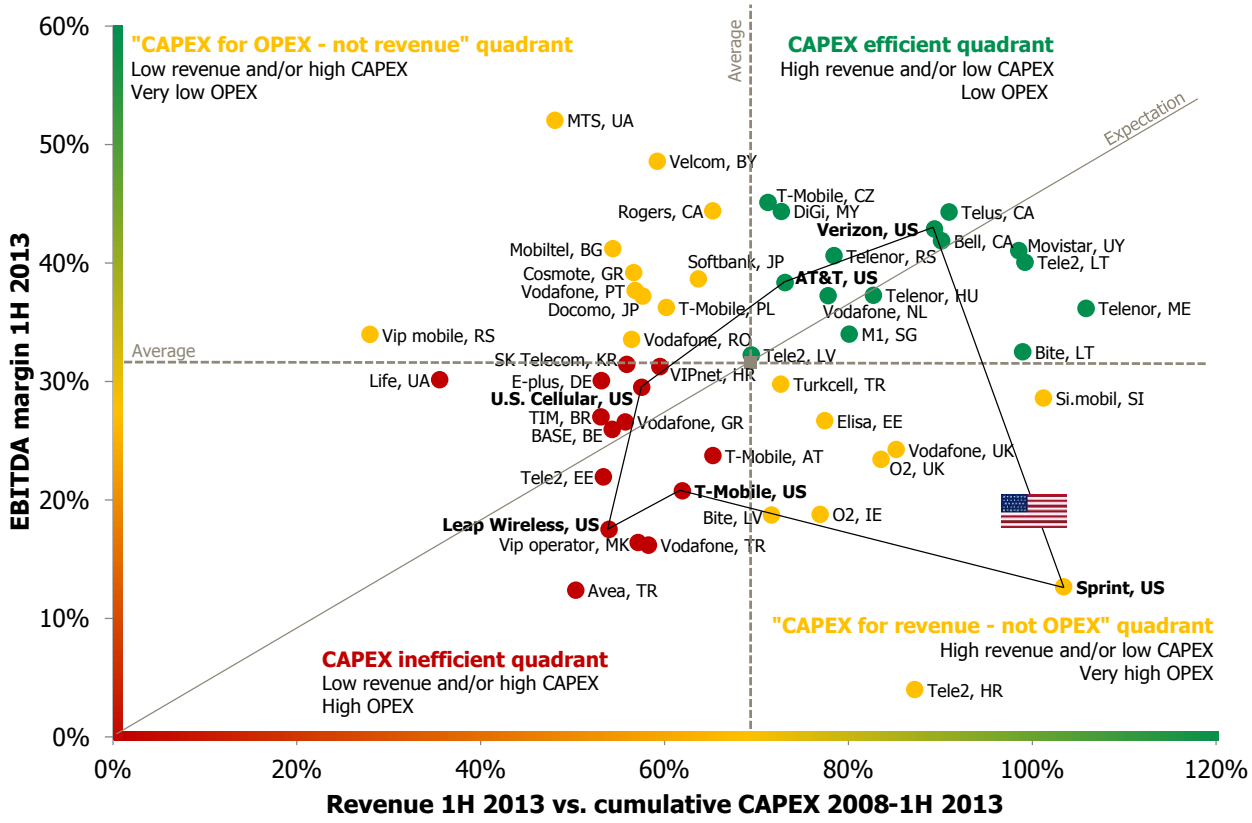


Figure 3. The matrix with US mobile operators highlighted

The US operators shown are the current number 1, 2, 3, 4, 5 and 6 in the US.

In Figure 3 – as well as in reality – **Verizon** is the winner. They do not end up in the right, upper, quadrant because they have put little money into CAPEX – on the contrary, Verizon has led the 4G LTE deployment of the US market and everyone else is playing catch-up. Verizon also invented the first shared mobile data plan and were courageous enough to stop sales of all other contract plans. Thanks to these initiatives and its strengthened #1 position, Verizon has a great top line and a good EBITDA margin.

AT&T doesn't feature the same high EBITDA margin as Verizon – much explained by a strong exposure to margin diluting equipment sales. Compared to Verizon, AT&T was later into LTE, but is definitely using CAPEX to catch up. AT&T even passed Verizon on cumulative CAPEX (since 2008) by the end of 2012. Higher CAPEX and lower revenue gives AT&T a weaker position – again compared to Verizon – also on the horizontal axis in Figure 3.

Sprint, the US number 3, has had a difficult ride trying to migrate a quickly declining Nextel customer base onto the Sprint platform. At the same time, Sprint needs to get out of CDMA and into LTE – the same journey as Verizon. Sprint's position shows that the cumulative CAPEX, compared to Verizon and AT&T, has been low: Most likely a consequence of a long period of low EBITDA margin – Sprint has not been able to fund the CAPEX that would have been required[3].

Number 4 US carrier, **T-Mobile**[4], has also been slow into LTE – partly due to AT&T's acquisition not happening as planned which made CAPEX dip around 2011. On the OPEX side, T-Mobile's strategy is (yet more outspoken this year with the new management and the "uncarrier" initiative) to avoid taking part in the expensive handset subsidy game played by essentially all other US operators.

Also **U.S. Cellular** and **Leap Wireless** (to be acquired by AT&T) are in the CAPEX inefficient quadrant.

Let's compare the US operator CAPEX levels further in two graphs. First the CAPEX per (annualised) year:

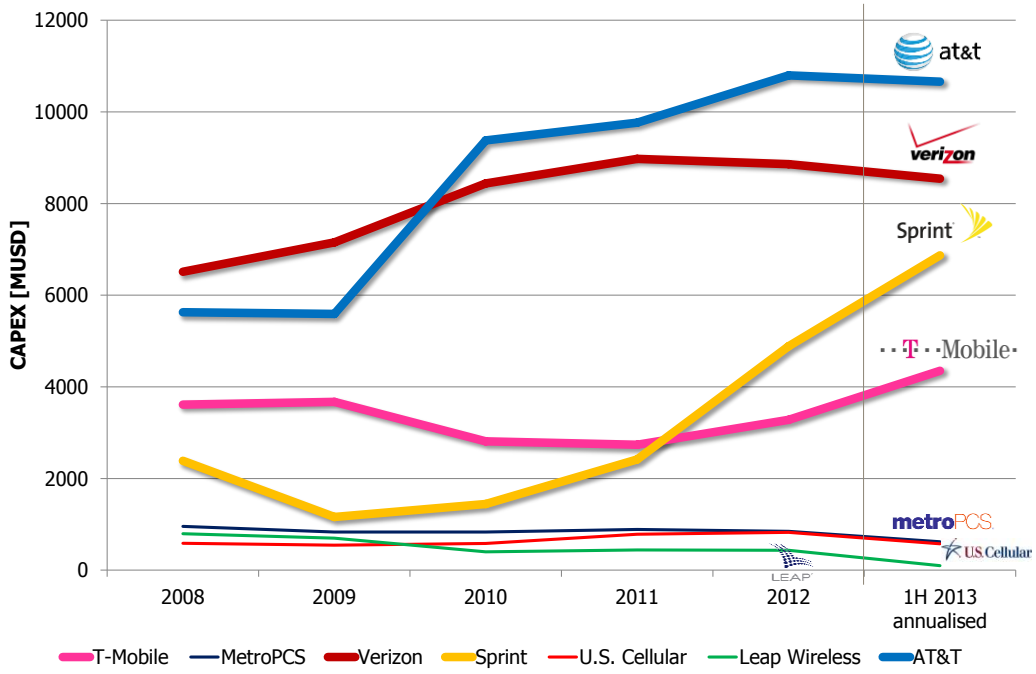


Figure 4. US mobile operators' yearly CAPEX 2008-1H 2013[5]

[3] With Softbank as owner, this is said to change
[4] The acquisition of MetroPCS happened only in second quarter 2013 and is not yet affecting T-Mobile's position in Figure 3
[5] MetroPCS' last operative quarter as a stand-alone company was Q1 2013 – now part of T-Mobile. The annualized 2013 CAPEX is therefore based on MetroPCS' Q1 2013 CAPEX only.

One explanation to Verizon's leadership might well be its steady, high, CAPEX level. It took AT&T time to match it – and both Sprint and T-Mobile have had long periods of low CAPEX not helping them to convince and keep customers.

Figure 5 shows the cumulative CAPEX for the US operators.

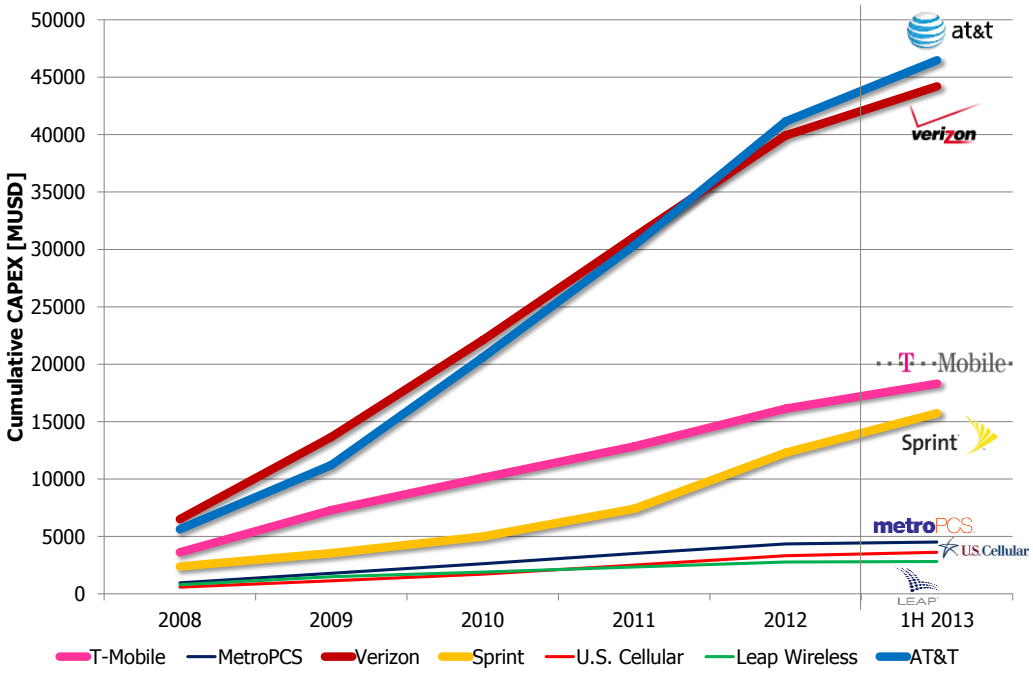


Figure 5. US mobile operators' cumulative CAPEX 2008-1H 2013[6]

The US mobile operators are clearly split into three leagues. Even though T-Mobile – and especially Sprint – are trying to catch-up, it will be impossible to reach the cumulative CAPEX levels of AT&T and Verizon. T-Mobile and Sprint will have to try to apply its more limited CAPEX in a more effective way than AT&T and Verizon – so that it has a yet greater impact on revenue and OPEX.

As to the third tier operators, MetroPCS is part of T-Mobile since Q2 2013 and Leap Wireless is about to be acquired by AT&T.

[6] MetroPCS' last operative quarter as a stand-alone company was Q1 2013 – now part of T-Mobile. For MetroPCS, the 1H 2013 CAPEX is therefore actually just the Q1 2013 CAPEX.

Turkey

Figure 6 below is a repetition of Figure 2 – with the Turkish operators (all three in market) highlighted.

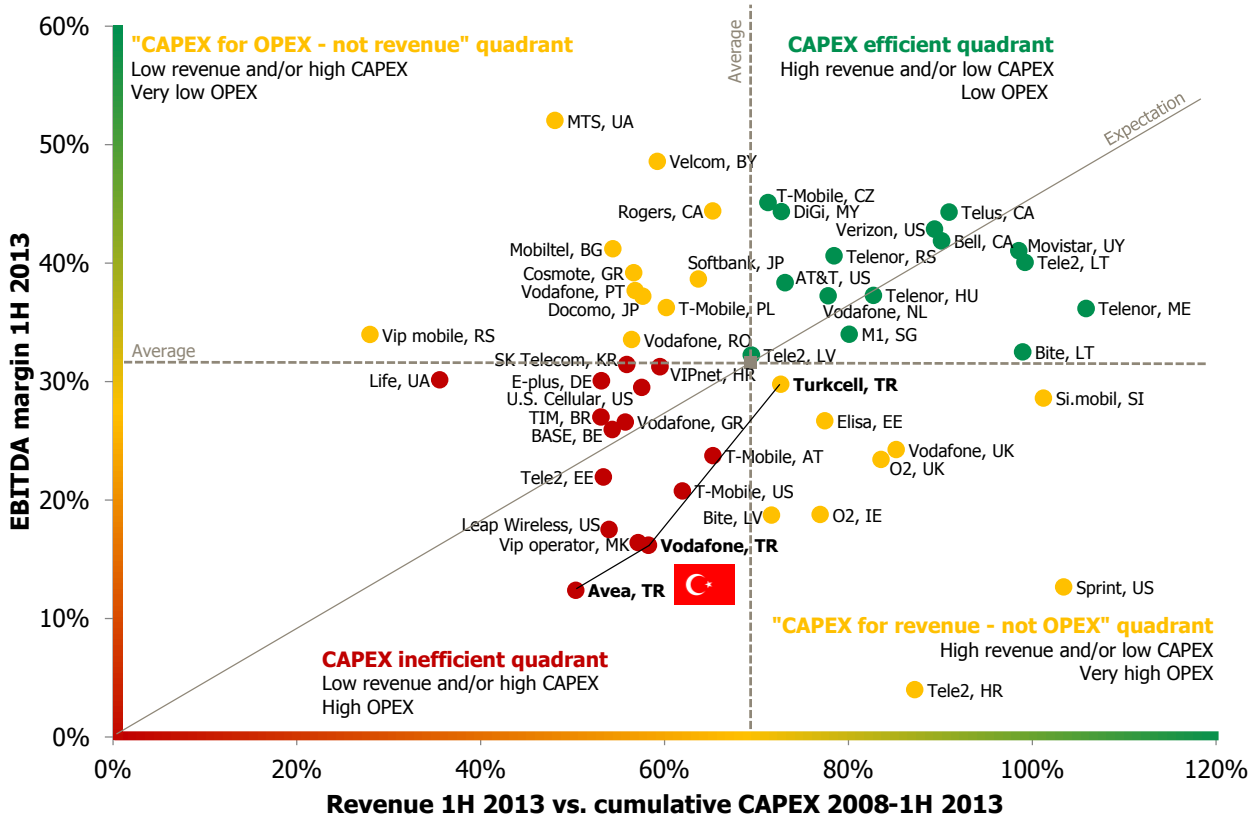


Figure 6. The matrix with Turkish mobile operators highlighted

Market leader **Turkcell** is best positioned in Figure 6, but does not reach into the green quadrant due to a lower than average EBITDA margin. Both **Vodafone** and **Avea**[7] have really low EBITDA margins battling for the market that Turkcell leaves behind. Investment levels have been high in both cases, but the revenue isn't yet in place.

[7] Held by fixed incumbent Türk Telekom

Canada

Figure 7 below is again a repetition of Figure 2 – now with the three major Canadian operators highlighted.

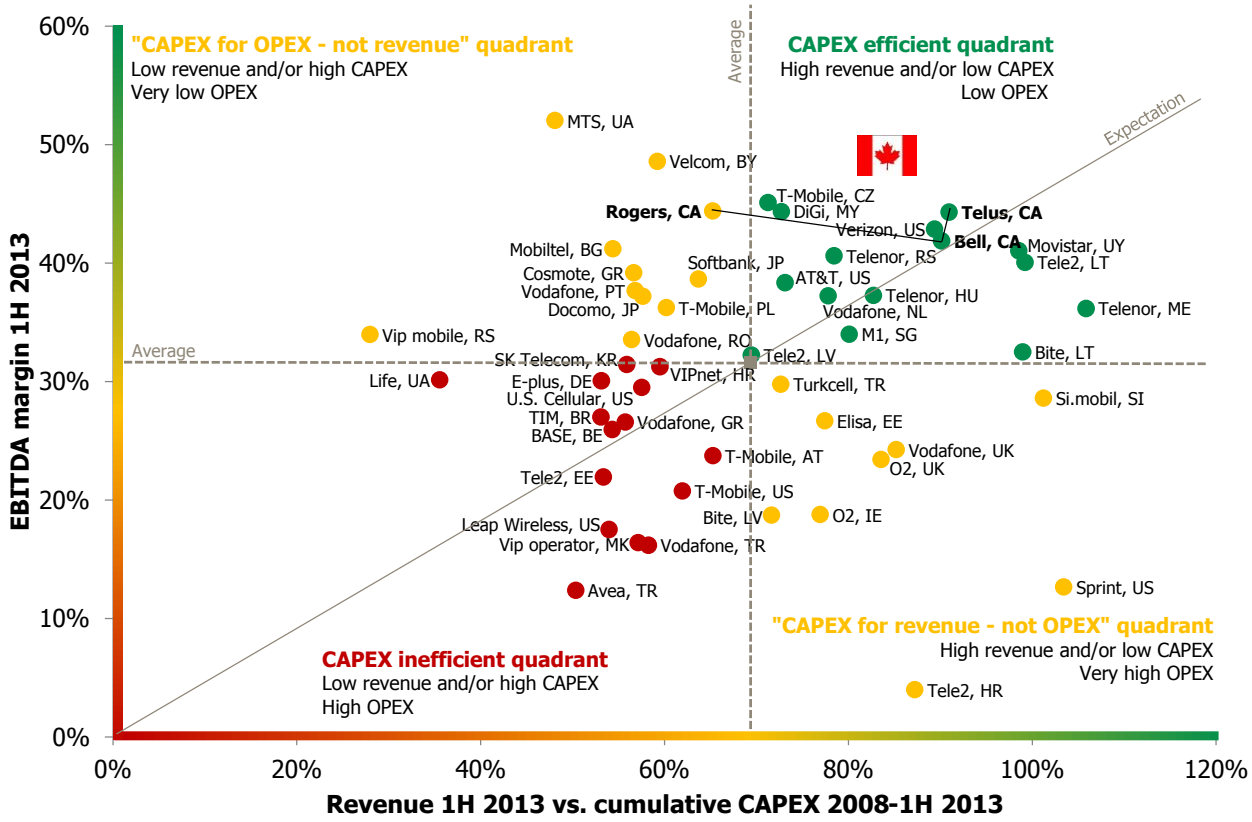


Figure 7. The matrix with Canadian mobile operators highlighted

What makes the Canadian comparison interesting – compared to e.g. USA or Turkey – is the small vertical separation between the three major mobile operators. They all have EBITDA margins above 40% which suggests competition issues[8]. Rogers, Telus and Bell jointly control about 95% of the Canadian subscriptions.

Consequently, we should expect Rogers, Telus and Bell to rate well also on the horizontal axis – since revenue generation should be easier compared to fiercely competitive markets. This is also true – even though significant CAPEX has been put into HSDPA and 4G LTE networks. With high CAPEX in 2011 and 2012, market leader **Rogers** fall into the upper left quadrant, but **Telus** and **Bell** are both in the upper right. Why? Telus and Bell are – based on a commercial agreement – accessing each other's networks in parts of Canada[9] – leading to higher CAPEX efficiency compared to Rogers. Telus and Bell entered WCDMA and LTE from the CDMA camp, whereas Rogers came from GSM.

[8] Late newcomers Wind Mobile, Mobilicity and Public Mobile (neither in the graph due to lack of reporting) have really struggled to gain market share and with their profitability, partly attributed to Canadian rules forbidding foreign control

[9] Thanks to Nick Edwards of Northstream for pointing this out

Conclusion

CAPEX continues to be a **necessity for long term leadership** within mobile markets.

But it's **not just about the money**: Investment decisions might prove wrong. The return on an investment can be lower than expected when competition does the same (or the opposite). Implementation delays might lead to that the window of opportunity is missed.

It's also important that the CAPEX budget **addresses *both* revenue and OPEX** – as different CAPEX initiatives clearly have the potential to improve both.

In the CAPEX efficiency matrix introduced in this analysis, the winners are found in the upper right corner. These operators have strong top lines in relation to cumulative CAPEX – and they have better than average EBITDA margins.

The deep dive into the CAPEX figures of the US operators indicates that Verizon's leadership only partly should be attributed to deep pockets – also timing, ability to target CAPEX right and long-term steadiness matter. AT&T has used more CAPEX (cumulatively over the studied period) compared to Verizon, but is using much more now than in the past. Both Sprint and T-Mobile have had long periods of relative underinvestment which has contributed to leaving them behind.

To give a concluding recommendation, it will have to come in two, sequential, steps:

1. **Increase CAPEX efficiency** by directing it – with surgical precision – towards both revenue and OPEX improvements
2. Once 1 is done: **Use *more* CAPEX**, not less

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