

The Impact of the Financial Crisis: Developments in the Mobile Telecommunications Industry in Africa

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Introduction

The financial crisis began in late 2007 in the sub-prime mortgages market in the United States of America (USA). By 2008, the situation had degenerated into a major crisis in the banking, finance and credit markets resulting in the bankruptcy of several high profile USA international banks and the subsequent bailout of some of these banks by the government. Some commentators have remarked that a financial crisis of this proportion has not been witnessed since the Great Depression of the 1930s. The IMF (2009) observes that the current financial crisis is more global in scope than in any other period of financial turmoil in the past 60 years, lending support to the commentators' views.

The USA is the largest economy in the world, and many foreign countries including advanced economies invest there. The major industrialized economies provide significant investment to emerging markets, accounting for more than 85 per cent of global outward FDI stock (SBG 2010). As a consequence, there are trade and investment linkages between the economies of the USA, advanced countries and emerging markets. Thus, although originating in the USA, the impact affected, first the economies of many developed countries and then spread to countries in the developing world.

At the outset of the crisis, the initial view was that Africa was 'decoupled' from the crisis. Schiere (2010) provides two reasons for this perspective.

Firstly, Africa had limited exposure to the crisis as the continent is not fully integrated into the global financial system. Secondly, the growing relationships with Asian countries, particularly India and China, made African countries less reliant on traditional development partners, which were suffering from a severe economic contraction. However, this perception proved incorrect as the financial crisis did affect Africa, leading to a drop in the rate of GDP growth to 2 per cent for 2008, 4 per cent for 2009 and 5.2 per cent for 2010 (*African Economic Outlook* 2009).

Although its origins are in the financial sector, the negative effects of the financial crisis soon spilled over into other sectors of the general economy, namely: energy and construction, insurance, mining, education, oil, aviation, IT, manufacturing, tourism, logistics, health care, agriculture, real estate, media, telecommunications industries, etc. These industries are being impacted by the crisis in different ways. This is understandable, given that industries have different features and relative importance to national economies. For example, Burger Consultants (2009) identify the energy and construction industries as drivers of national economies and therefore the least affected by the crisis.

The telecommunications sector is not only strategic, but an important contributor to job creation, GDP and the efficient running of businesses worldwide. Research by Frontier Economics on behalf of the Global System for Mobile Association (GSMA) found that the mobile industry in sub-Saharan Africa directly or indirectly employed more than 3.5 million people in 2006; contributed an average of 4 per cent to African countries' GDP; and accounted for 7 per cent of total government revenues in the region (Frontier-GSMA 2008). Since the outbreak of the financial crisis, it is important to step back and reflect on its impact on this critical industry.

This study examines how the financial crisis has impacted the mobile telecommunications industry in Africa. Adopting a single industry approach, the impact of the financial crisis on the industry is examined across key business performance dimensions, namely: robustness of demand on services, revenue, earnings before interest, taxes, depreciation and amortization (EBITDA), Average Revenue Per User (ARPU), operational capital expenditure and operational costs of key telecommunications operators in Africa.

The study is significant in that it analyses how the financial crisis affected a critical industry driving economic growth on the African continent. The insights obtained from the study are required as input by various governments in formulating telecommunications policy which will better support the industry and make it more resilient to future impacts or disruptions of the financial crisis on the industry.

The chapter is organized as follows: the first section provides an overview of the background to the international financial crisis. The second section examines transmission channels and the impact of the crisis on the global economy. An outline of the research focus and method, which is the basis of the empirical investigation, follows in the third section. The fourth section provides the findings of the study, while the fifth section touches briefly on the policy implications of the chapter. The sixth section concludes the chapter.

Overview of the Financial Crisis

Demystifying the Financial Crisis

Mishkin (1991) provides the following definition of a financial crisis: ‘a disruption to financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities’. Consequently, a financial crisis can steer an economy away from a position of high economic output in which financial markets perform well to a situation in which economic output sharply declines. Hence, the hallmarks of a global financial crisis are considerable economic slowdowns in most countries (Te Velde 2008).

The term financial crisis is a broad term, which, in general, is applied to a variety of situations in which financial institutions or assets rapidly lose a significant portion of their value (Oxbridge Writers 2012). The term also refers to situations in which stock markets crash, there is a steep depreciation of currencies, loan defaults occur and other financial bubbles burst or recession sets in. The effects of a financial crisis fall in the human as well as financial category, causing substantial job losses to the former and drops in foreign investment, export earnings and volumes to the latter.

Channels of Transmission

Although the financial crisis originated in the US, it first spread to industrialized countries before developing countries were rapidly engulfed by the crisis. The crisis spread rapidly from the industrialized countries through multiple transmission channels, including declines in commodity prices, trade volumes, remittances and international credit (Ali, Dadush and Falcao 2009). These transmission channels demonstrate that there are linkages between the developed and undeveloped economies through trade, Foreign Direct Investment (FDI) and aid flows. As a consequence of falling prices and demand for their commodities, many countries have experienced sharp drops in primary commodity exports both in terms of volume and value of earnings.

In Africa, the global financial crisis affected economies in a multiplicity of ways. Ali (2009) argues that the global economic downturn was the major transmission channel of the financial crisis to African economies. Kasekende, Brixovia and Ndikumana (2010) assert this point, explaining that the global financial crisis impacted the continent mostly through real channels: deteriorated terms-of-trade, reduced demand for exports, declines in FDI, remittances, tourism and aid inflows. For relatively well-developed economies, the stock market was another transmission channel for the financial crisis (Soludo 2009; Te Velde 2008).

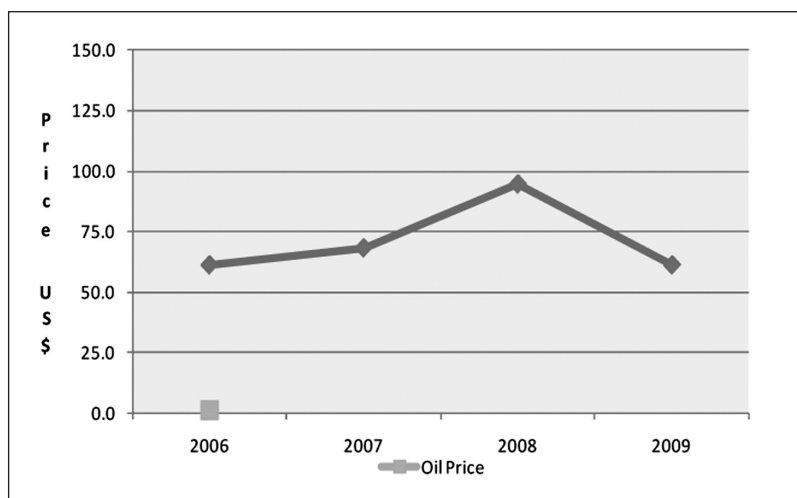
Impact of the Financial Crisis

The global financial crisis affected all economies, whether advanced, emerging markets or low-income countries, in different ways. The IMF (2009) asserts that, as the crisis developed, growth and trade effects began to affect all countries. Soludo (2009) identified five key areas in which the global financial crisis has affected the global economy: 1. declining real output growth; 2. weakened financial systems; 3. loss of jobs; 4. loss of confidence in financial markets leading to the reduced ability of these institutions to carry out their intermediation role in the economy; and 5. stock market losses. These factors are briefly discussed in the paragraphs that follow.

Declining Real Output Growth

The financial crisis resulted in a global slowdown in economic activity, pushing commodity prices lower. Commodity price drops of over 30 per cent were not uncommon during the height of the financial crisis. A case in point is copper and oil. Oil, a major international commodity, saw its price dip on the international market, inflicting damage on the earnings of oil exporting countries. Figure 8.1 captures the fluctuating prices of oil on the international market from 2006–09. It can be seen that the oil price fell by 35 per cent on its yearly price between 2008 and 2009.

Hence, the decline in export prices and, subsequent export volumes, represented a significant impact on the continent. In effect, the crisis reduced trade, which is the mainstay of economic growth in Africa.

Figure 8.1: OPEC Yearly Basket Oil Price

Source: www.opec.org/opec_web/en/data_graphs40.htm

Falling FDI

The financial crisis led to tighter credit conditions as financial institutions became more discreet in their lending approach leading to a situation where credit became scarce and more expensive. Expensive credit came about due to re-evaluation of risks. For transnational corporations (TNCs) in particular, this resulted in lower corporate profits which constrained their ability to carry out investments in both domestic and overseas economies. Correspondingly, private capital flows to developing regions consisting mainly of FDI, significantly slowed, in the process hindering economies that had been relying on these funds for crucial infrastructure projects.

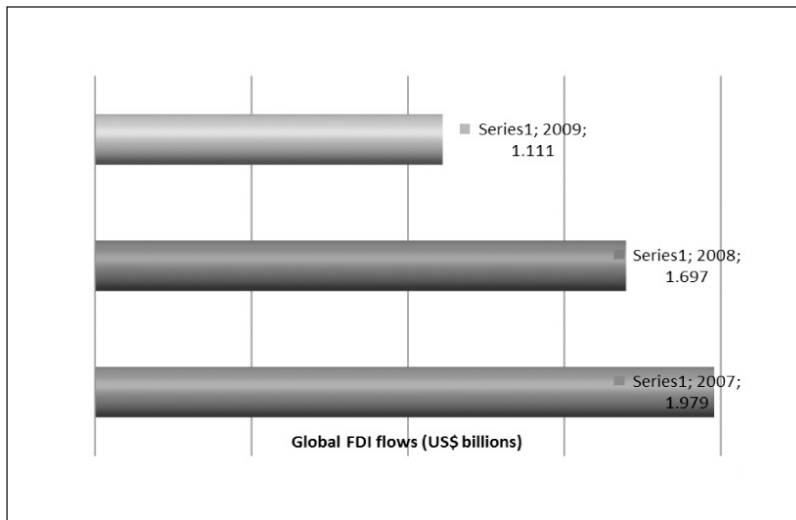
Directly as a result of the global financial crisis, global FDI inflows fell by 14 per cent from a record high of US\$1,979 billion in 2007 to US\$1,697 billion in 2008 (UNCTAD 2009). There was a further decline of 43 per cent from US\$1,979 billion in 2008 to US\$1,111 billion in 2009 (see Figure 8.2). This fall is unsurprising, given the severity with which the financial crisis and recession hurt advanced economies.

Weakened Financial Systems

At its height, the financial crisis affected the banking, finance and credit markets resulting in the bankruptcy of some high profile international banks. These banks had to be bailed out by their respective governments in order to prevent their collapse. In contrast to the severe impact of the financial crisis

on the financial sector in other regions, the effect on the African financial sector was relatively mild. Very few banks in Africa were directly exposed to off-balance sheet transactions such as securitization or derivatives; so Africa escaped the sub-prime and banking crises, and did not require bank rescue plans (AERC 2009).

Figure 8.2: FDI Flows Before (2007) and During the Financial Crisis (2008, 2009)



Source: UNCTAD, The World Investment Report 2009

Falling Remittances

As the financial crisis tightened, there were job losses in several countries. This affected many migrant workers who used to send money to their relatives in their home countries, resulting in a drop in remittances. Similarly, most countries are experiencing a slowdown in migrant remittances as a result of the weakening of economies in the West and in African advanced economies. Declining domestic and corporate spending continue to pose significant problems for tourism, affecting tourism revenues. The shrinking world economy meant Official Development Assistance (ODA) as well as voluntary flows were all affected. For example, in Kenya, remittances have been steadily falling since October 2008 from US\$ 61 million to US\$ 39 million in January 2009.

Collapse of Stock Market Prices

The performance of the stock market is one of the principal indicators of the health of an economy. The movement of stock market indices is a pointer to future economic outlook. A falling stock index, for example, reflects the darkening of the investment climate while a rising stock index points to increased investor confidence and soundness of the economy. In his paper, Te Velde (2008) identified the stock market as a transmission channel of the global financial crisis to the economies of less developed countries, noting that the global economic and financial crisis had dragged down stock market values. In some cases, stock markets crashed by as much as 70 per cent.

In summary, the impact of the financial crisis was declining real output growth; weakened financial systems; loss of jobs; loss of confidence in financial markets leading to the reduced ability of financial institutions to carry out their intermediation role in the economy; stock market losses. Was the mobile telecommunications industry affected by the financial crisis? This is most probable in view of the severity of the crisis. What was the nature of the impact? This study provides answers to these questions, by examining how the financial crisis impacted the mobile telecommunications industry in Africa.

The Mobile Telecommunications Industry

The mobile telecommunications industry exerts a positive and significant impact on economic growth. This impact is estimated to be twice as large in developing countries as it is in developed countries (Waverman, Meschi and Fuss 2005). There is now widespread recognition that telecommunications is no longer simply a convenient public service, but an enormously valuable economic resource, and an increasingly important infrastructure for economic growth and development. In their research, Roeller and Waverman (2001) concluded that a good communications network widens markets, creates better information flow, lowers transaction costs and substitutes costly physical transport.

Worldwide, the telecommunications industry is a high-revenue industry that makes a substantial and growing contribution to the world economy. The Telecommunications Industry Association (TIA) estimates that the industry's worldwide revenue was US\$3.85 trillion in 2009. Global telecommunications spending will grow at a rate of 6.3 per cent compound annual rate to US\$4.9 trillion in 2013 (TIA 2010). According to the GSA, the number of global mobile lines grew from 3.3 billion in 2007 to 4.5 billion in mid-2010. Africa accounts for only 8 per cent of the world's mobile lines.

Africa is now one of the world's fastest growing mobile markets, a long way since the first cellular call was made in Zaire (now DRC) in 1987. Research conducted by Frontier Economics on behalf of the Global System for Mobile Association (GSMA) found that the mobile industry in sub-Saharan Africa employed more than 3.5 million people directly or indirectly in 2006 and the industry contributed an average of 4 per cent to the region's GDP. The same report estimates that the mobile sector accounts for 7 per cent of the region's government revenues.

It is pertinent to examine the impact of the financial crisis on such a strategic industry on the continent. Hence, the focus of this study is on the mobile telecommunications industry in Africa.

Methodological Approach

The contemporary phenomenon under investigation in this study is the impact of the financial crisis, and the context is the mobile telecommunications industry in Africa. In order to assess the impact of the financial crisis on the industry, a trend analysis was carried out on key balance sheet and investment indicators *before* the onset of the financial crisis in the years 2006 and 2007 and *during* the financial crisis in the years 2008 and 2009.

Based on the multiple case study methodology, the trend analysis was constructed from annual reports of five transnational telecommunications operators: Millicom (with operations in seven African countries), MTN with 16, Orascom with seven, Vodacom with five and Zain (now Bharti Airtel) with 16. The five enterprises had a total of 233.1 million mobile subscribers at the end of 2009, representing 61.3 per cent of Africa's mobile customers. Clearly, the results of this study can be generalized to the rest of Africa.

From the databases, tables and graphs that vividly capture trends on the impact of the financial crisis were plotted. These diagrammatic presentations depict growth trends across a number of dimensions: telecommunications growth, revenue, ARPU, EBITDA and operational expenditure. The trend analysis is divided into two phases: before the financial crisis and during the financial crisis. The effect of saturation as a factor in influencing these results is analysed and discounted as a contributory factor.

The case study strategy is particularly valuable in answering the question, 'How did the financial crisis impact the telecommunications industry in Africa?' Multiple, diverse case studies provide greater coverage of the phenomenon and allow a greater amount of testing, elaboration of concepts and comparative analysis between cases (Yin 1994). This is precisely the aim of this study: to investigate the impact of the financial crisis on the telecommunications industry in Africa using several cases.

Impact of the Financial Crisis on Africa

Slackening Telecommunications Growth

The growth of mobile telecommunications services for MTN across its African operations increased by 37 per cent from 36.2 million lines to 49.4 million lines in 2007 (before the financial crisis); 36 per cent from 49.4 million lines to 67 million lines in 2008 (as the effects of the crisis began to be felt in the advanced economies of the world) and only 24 per cent from 67 million lines to 82.8 million lines in 2009 (as the consequences of the financial crisis engulfed Africa). Figure 8.3 below captures this growth trend.

Similarly, telecommunications growth for Millicom rose 65 per cent, from 3.4 million lines to 5.6 million in 2007, 63 per cent from 5.6 million lines to 9.1 million lines in 2008, and 35 per cent from 9.1 million lines to 12.2 million lines in 2009.

A distinct trend of slackening growth in telecommunications numbers is clearly discernible for MTN and Millicom. On aggregate, all the five major operators in Africa showed a similar trend: the rate of subscriber growth fell steeply from 40 per cent in 2007, to 34 per cent in 2008 and 17 per cent in 2009.

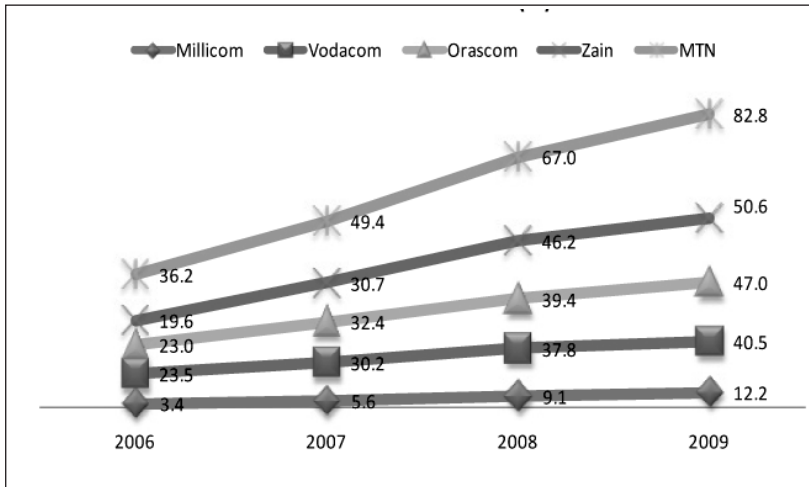
A key question to be answered here is: 'What was the cause of this trend?' Could the slackening of growth be due to saturation of the telecommunications markets? No. This phenomenon was not due to saturation. The markets in which these five operators were active during the period under discussion were not saturated.

The average voice penetration for Millicom across all its seven African markets in 2009 was under 25 per cent (Millicom 2009). The average for MTN across its 16 African markets was much higher at 49 per cent in 2009 (MTN 2009). Vodacom's average voice penetration across its five African markets was 40 per cent in 2009 (Vodacom 2009) while the average mobile penetration for Orascom across its seven operations was 51 per cent (Orascom 2009). Therefore, saturation of the markets was not the cause of this trend.

Slowing Revenue Growth

In order to assess the impact of the financial crisis on industry revenues streams, two factors were considered: first, whether revenue was growing or decreasing and second, the rate of change.

Figure 8.3: Customer Growth Trends Across Africa
(as viewed from TNCs)

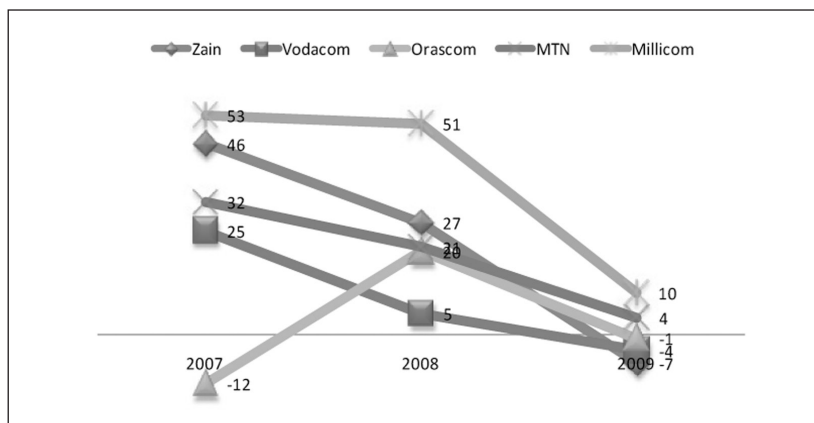


Source: Annual Reports (Millicom, Vodacom, Orascom, Zain and MTN from 2006-2007)

MTN registered revenue growth of 32 per cent in 2007 before the crisis, fell to 21 per cent in 2008 and dropped even further to 4 per cent in 2009 as the financial crisis gripped Africa (see Figure 8.4). Zain displays a similar trend 46 per cent revenue increase in 2007, 27 per cent in 2008 and a drop of -7 per cent in 2009.

These TNCs registered considerable drops in revenue growth rates, with Vodacom and Zain actually registering negative growth. All the firms reported that exchange-rate depreciation was a major contributing factor to the slowing growth rate of revenue. MTN (2009) said of its slowing revenue growth in Ghana, 'Although local currency revenue increased by 25.1 per cent for the period, significantly ahead of subscriber growth, this translated into a 6.3 per cent decline in revenue in rand terms to R5.7 billion at December 2009 due to the combination of rand strength in the second half of the year and weakness in the Ghanaian cedi, particularly in the first half of the year.'

Figure 8.4: Revenue Growth Rates for Telecommunications TNCs in Africa



Source: Annual Reports (Millicom, Vodacom, Orascom, Zain and MTN from 2006-07)

Similarly, Vodacom (2009), commenting on the slowing of its revenue growth said, ‘A solid financial performance was achieved in the year ending 31 March 2009; even as the global economic downturn deepened its bite in the Group’s operating markets. Higher inflation, driven largely by fuel and food prices, rising cost of debt and currency weakness were features of the operating conditions in South Africa, as was the impact of the commodity price slump on the resources sector. In the DRC, this affected the country’s mining-reliant economy severely.’ Hence, slowing revenue growth was due to exchange rate depreciation, and as we saw in the commentary, this was induced by the financial crisis.

EBITDA

EBITDA is an important measure of operational profits. It allows one to analyse the performance of a company’s operations while eliminating all non-operating and non-recurring items such as depreciation and amortization, interest expense, taxes and one-time charges such as professional fees, or other non-recurring costs.

Millicom posted a 42 per cent rise in EBITDA from US\$2.86 billion to US\$4.05 billion in 2007 before the crisis, slowed to 20 per cent from US\$4.05 billion to US\$4.85 billion in 2008 and fell significantly to one per cent from US\$4.85 billion to US\$4.79 billion in 2009 as the effects of the financial crisis were felt in Africa (see Figure 8.5). Orascom showed a comparable pattern, with revenue growth of 17 per cent from US\$1.34 billion to US\$1.57 billion

in 2007, 22 per cent from US\$1.57 billion to US\$1.91 billion in 2008 and a spectacular collapse from US\$1.91 billion to US\$1.72 billion to -10 per cent in 2009.

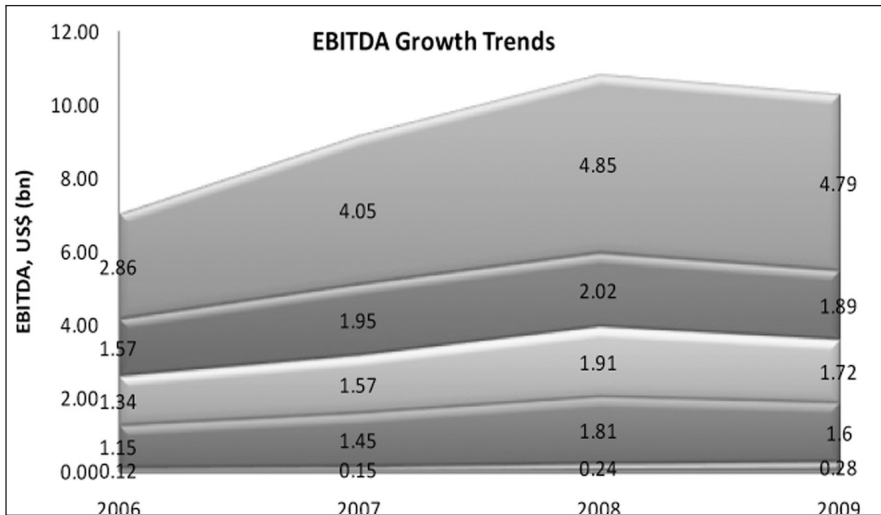
All the major TNCs operating in Africa registered considerable drops in revenue growth rates, with Orascom even registering a negative growth rate.

Average Revenue Per User (ARPU)

ARPU is an expression of the income generated by a typical subscriber per unit time in a telecommunications network. The ARPU provides an indication of the effectiveness of the revenue-generating potential. ARPU has continued to fall across Africa for the past five years or so as competition forces prices down. However, there are discernible differences between the rate of decrease before and after the financial crisis.

Orascom recorded a drop in ARPU of 5.19 per cent from US\$12.13 to US\$11.50 in 2007, worsening to 6.96 per cent from US\$11.50 to US\$10.70 in 2008 and plummeting 12.80 per cent from US\$10.70 to US\$9.33 in 2009 as the financial crisis hit hard (Table 8.6).

Figure 8.5: EBITDA Growth Patterns for Telecommunications TNCs in Africa



Source: Annual Reports (Millicom, Vodacom, Orascom, Zain and MTN from 2006-07)

Millicom registered a fall in ARPU of 9.6 per cent from US\$9.20 to US\$8.31 in 2008, accelerating to 20.5 per cent from US\$8.31 to US\$6.60 in 2009 as the financial crisis began to bite harder.

Table 8.1: ARPU Trends Across Africa

Mobile Operator	ARPU (US dollars)			
	2006	2007	2008	2009
MTN	n/a	17.40	12.44	10.00
Millicom	n/a	9.20	8.31	6.60
Orascom	12.13	11.50	10.70	9.33
Vodacom	n/a	9.26	9.17	8.84

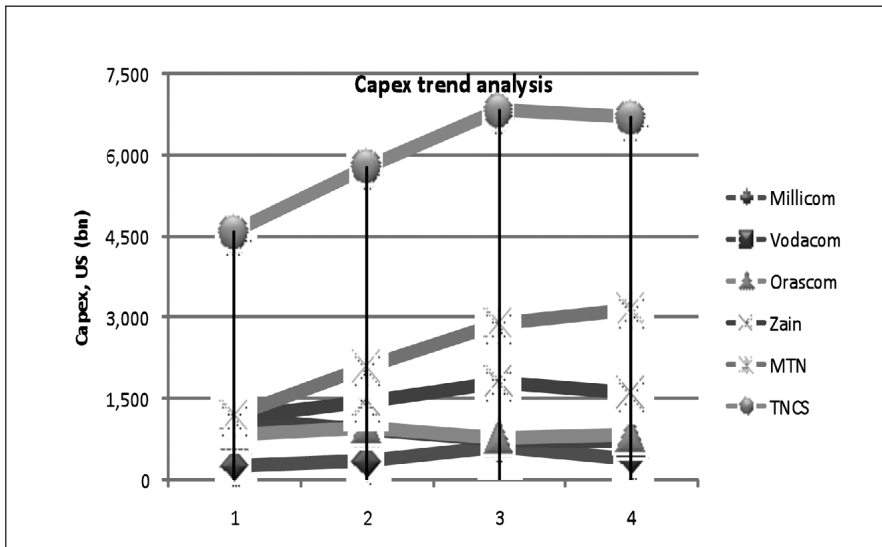
Source: Annual Reports (Millicom, Vodacom, Orascom, Zain and MTN from 2006-07)

Commenting on the causes of the weakening of its ARPU, Millicom (2009) said, 'Africa was by no means immune from the effects of the global economic crisis in 2009. Overall, weaker economies have led to lower ARPUs and steadier penetration growth, and we have suffered from significant currency depreciation in Ghana and to a lesser extent in DRC and Tanzania.'

The resultant economic weaknesses evident in different countries emanating from the effect of the financial crisis have led to lower ARPUs. As a result, the trend of falling ARPU has intensified as operators offered several promotions, cut prices in order to retain customer numbers in a tough operating environment.

Operational Capital Expenditure

In 2006, the total operational capex between the five TNCs rose 26 per cent from US\$4.58 billion to US\$5.79 billion before the financial crisis began, grew 18 per cent to US\$6.83 billion as the crisis began to bite and grew at an even slower rate of -2 per cent to US\$6.70 billion as the effects of the financial crisis were felt across Africa (see Figure 8.7). On average, operators actually cut operational capex by a significant 20 per cent between 2008 and 2009.

Figure 8.6: Capital Expenditure Trends in Africa

Source: Annual Reports (Millicom, Vodacom, Orascom, Zain and MTN from 2006-07)

UNCTAD (2009) argues that tighter credit conditions, expensive loans, plummeting stock prices and shrinking corporate profits have greatly diminished the value of, and scope for, crossborder mergers and acquisitions (M&As). In addition, slackening demand for goods and services has caused companies to cut back on their investment plans in general. Operational costs have also risen because the financial crisis has boosted the cost of capital for the mobile industry, a capital-intensive industry.

Millicom (2009), in its annual report says of its capital expenditure programmes,

Inward investment programmes have been put on hold, and the fall in commodity prices has seen the mothballing of some mining projects and put pressure on GDP. In markets like Tanzania, the impact on the important tourism trade has also been felt.

Policy Implications

The effect of the financial crisis on Africa led to a drop in the growth rate of GDP to 2 per cent for 2008, 4.1 per cent for 2009 and 5.2 per cent for 2010 (*African Economic Outlook* 2009). On the other hand, although the telecommunications industry was affected by the global telecommunications

industry, registering much slower growth than previously, growth in the sector was still higher than the growth of the overall economy on the continent, demonstrating its resilience. This resilience is partly explained by the fact that the telecommunications services are deemed an essential item in household budgets.

In fact, because of this resilience, the telecommunications industry played a major role in supporting accelerated growth, through a partnership between private investment and supportive regulation. Companies from other industrial sectors were able to use telecommunications solutions in deploying value-added interventions to improve their performance, such as real-time inventory and procurement management or video and teleconferencing. The companies also focused more closely on efficiently controlling their operating expenses, executing transformation programmes and precisely managing commercial costs.

The results in this study show that the telecommunications industry is a bellwether industry in times of economic and financial crisis, resilient in itself and shielding other industries. So what is the policy implication for this position? As a consequence, policy makers must continue to recognize the critical role that the telecommunications industry plays, and increase competition in the industry to make it more efficient. Firstly, independent regulation in the industry must be strengthened so that the competitive playing field is evenly balanced. As much as possible, regulators must be financially independent and be shielded from political interference. Fair regulation motivates industry players and increases investment in a given country.

Secondly, governments must encourage investments in the telecommunications sector so that the service reaches wider populations of the country. Investments in both voice and data technologies are necessary in order to expand the services offered. Policy makers must come up with incentives to attract investors in this critical industry. This may entail making it easier to do business in the country and the elimination of corrupt business tendencies.

Finally, policy makers must adopt the use of telecommunications services for both individuals and companies. Companies must be encouraged to embrace telecommunications services in order to reduce costs and save time. The increasing use of e-recruitment, video and teleconferencing, e-procurement, a paperless office will not only save time and money but in the event of a financial crisis, prepare companies to respond better.

Conclusion and Recommendations

The conclusions and recommendations of this study are briefly discussed in the paragraphs that follow.

Conclusion

The global economic crisis created unfavourable foreign currency fluctuations in many African countries. Consequently, the telecommunications market was characterized by reduced interest and investment income and higher financing costs, profoundly affecting TNCs' top and bottom lines. Across all mobile operators, a distinctive trend of slowing growth, slackening revenue growth, falling ARPU and EBITDA is consistent. This is because the global financial crisis has exerted pressure on consumers to restrain telecommunications spending.

This study shows that the effect of the global economic crisis on the mobile telecommunications industry was felt in 2008 and 2009. The effect for 2009 was worse than the effect of 2008, suggesting that there was a time lag between the effects of the global crisis being felt in the advanced economies and Africa. This is understandable, given that it takes time for the transmission channels of trade and remittances to reach the continent.

Recommendations

Governments should bolster telecommunications regulation so that it becomes independent in the true sense of the word. In addition, governments should encourage companies from other industrial sectors to deploy telecommunications solutions to improve their efficiency. Value-added services such as real-time inventory and procurement management or tele- and videoconferencing improve business performance. This will go a long way to making companies more efficient and better prepared to survive in a financial crisis.

Hence, although the telecommunications sector was itself affected by the global financial crisis, albeit on a smaller scale, the industry actually played a role in helping countries weather the effects of the global financial crisis. Governments could look to this critical industry in future financial crises to help other industries to weather the storm better.

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