

Eastern Caribbean Telecommunications Authority



Annual Telecommunication Sector Review

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ECTEL MEMBER STATES

*Commonwealth of Dominica
Grenada
The Federation of St Christopher (St Kitts) and Nevis
Saint Lucia
St Vincent and the Grenadines*

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1.0 International Trends in Telecommunications

1.1 Overview

The dynamics of rapid technological changes and the gradual merging of telecommunications and ICT service sectors in the environment of convergence will result in vast changes in the nature of businesses for many telecommunications providers. Globally, the structure of telecommunications revenues is evolving. According to the OECD Communications Outlook 2007, mobile revenues account for 40 per cent of all OECD telecommunications revenues. Voice communications continue to form a large part of telecommunications services demand with mobile subscribers surpassing fixed subscribers in the region of 3:1.

The ITU notes that for the period 1996 to 2006 the developing world saw a compound annual growth rate of 53 per cent in mobile subscribers while the least developed countries (LDC) saw an amazing 90 per cent rate. The ITU further notes that mobile subscribers outnumbered fixed subscribers by almost 9 to 1 in the LDC. However while mobile penetration in developed countries is at 54 per cent, it is still only 10 per cent in LDCs. This means that while an increasing number of persons have access to telecommunications there are still many people with limited or no access¹.

The increase in broadband subscribers in the developed world has facilitated the increased use of VoIP as a substitute for other forms of voice communications. The emergence of VoIP has led to a downward pressure on rates of international calls and the deterioration in the revenue streams of operators of traditional fixed and mobile voice operators. Broadband is quickly becoming the dominant technology for Internet access in the OECD area as 60 per cent of the area's 256 million subscribers currently have a broadband connection². In the developing world, growth in broadband Internet subscription has accelerated but remains far below its full potential. Internet penetration rates in developing countries in 2006 were around 17 per cent as stated in the September issue of the ITU News.

¹ September 2007 issue of ITU News

² OECD Communications Outlook 2007

The emergence of the market for triple-play is somewhat mixed with the demand for such services increasing significantly in some developed countries while growing more slowly in most developing countries. To deal with the threat of competition, traditional telecommunications providers are beginning to replace their existing infrastructure to allow for multi-play offers over their new networks.

Competition in telecommunications markets is no longer restricted by national boundaries. For example, broadband subscribers are beginning to subscribe to local phone services in other countries, and some countries are undergoing regulatory changes to address this development.

1.2 Technology and Product Development

Broadband is quickly becoming the dominant medium for service delivery among fixed and wireless networks. An OECD study in 2006 showed that 30 per cent of mobile operators offered a flat rate third generation data connection. In the past the telecommunications networks were designed to be service specific, however the movement from circuit switched to packet switched networks allows for greater flexibility to allow for the delivery of a wide range of new telecommunications services.

In many developed countries there has been rapid growth in demand for some converged telecommunications services. Fixed-mobile convergence, which has sprung up over the last two years, has brought savings and increased convenience to consumers to the extent that they do not need two separate fixed and mobile subscriptions. Some operators in the OECD offer a device which serves as a mobile phone outside the home but switches to a Bluetooth or Wi-Fi enabled landline inside the home³.

The converged wireless telecommunications network has been constrained by its limited coverage and bandwidth capacities. In the past, users wishing to access Internet through a wireless connection had options of only 3G and Wi-Fi. Operators are expanding their 3G networks in the OECD to provide higher data speeds to users. Several technologies, that operate as add-ons to the existing 3G networks are being introduced to eliminate the coverage, bandwidth and mobility gaps. In Korea operators launched an extensive

³ See OECD Communications Outlook 2007.

WiMAX-based network in Seoul called WiBro, which offers high-speed, mobile data to users.

Wired networks are being transformed from copper to fibre. In Japan, Korea and the United States, large firms are making their fibre networks more accessible to households to increase their demand for higher bandwidth and a greater variety of services.

The OECD Communications Outlook 2007 indicated that a majority of telecommunications operators will soon be all-in-one shops for voice, video and data. There has been a large increase in multiple-play subscriptions packaging video, voice and data together. These packages allow for a simple consolidated bill and are less expensive as a bundled package than services offered separately.

1.3 Service Trends

Growth in the telecommunications sector mirrors to some extent global economic growth. Telecommunications revenues as a per cent of GDP hovered around 3 per cent over the last several years in the OECD⁴ and in some developing countries, reflecting growth in competition, efficiency gains and innovations in the sector following liberalisation, which started in the early 1990s. Voice communications remained the key component of overall telecommunications services, with mobile being the most important revenue generator for some telecommunications firms. However, Internet services, in particular the growth in the demand for VoIP, may eventually lead to the reduction of the price of voice communications to zero.

It is estimated that 61 per cent of the 2.68 billion subscribers to mobile telephony are from developing countries. In the first quarter of 2007, China and India were identified as the fastest growing markets adding 200 million new subscribers⁵. Other significant contributors are Brazil, the Russian Federation and the Islamic Republic of Iran. In Latin America, the smaller markets such as Paraguay, Uruguay and Venezuela, recorded growth rates of over 50 per cent in 2006. In Africa, the growth in mobile subscribers was very high, with Nigeria recording a 74 per cent increase between 2005 and 2006.

⁴ See OECD Communications Outlook 2007.

⁵ See the September 2007 issue of the ITU News.

According to ITU News of September 2007, Nigeria is expected to outpace South Africa to become the continent's largest mobile market in 2007.

The global trends in Internet penetration were mixed with the markets in the richest countries approaching saturation while internet penetration in the developing world remained relatively low. The *ITU News* of September 2007, revealed that an estimated 70 per cent of broadband subscribers worldwide were from high income countries. In 2006, Internet penetration in the developed world was around 75 per cent compared with only 17 per cent in developing countries. However, the overall figures do not reflect the true distribution of broadband access. In particular, India and Vietnam accounted for 95 per cent of broadband subscribers in low income countries, while China had more than 95 per cent of broadband subscribers in the lower-middle income group during that period. It is anticipated that the potential for growth in Internet subscription will be mainly from the developing world.

Traffic patterns are beginning to reflect the shift in demand away from traditional fixed line services to mobile phone services. In the majority of markets in the developing and developed world, voice minutes are shifting away from fixed networks to mobile networks. This has been occurring in most OECD countries, for example in Iceland PSTN minutes fell by 44 per cent between 2003 and 2005⁶. However, with the decrease in mobile rates in some countries, providers are beginning to search for means of maintaining their revenue bases. Voice over IP has also caused a shift in the composition of total voice traffic and revenues.

1.4 Pricing Trends

Increased competition in the telecommunications markets has lead to downward pressures and changes in the structure of pricing and the varieties of services offered. Competition has been brought through Local-loop unbundling, which allows more than one operator to offer services on the same line. Infrastructure based competition between cable and communications networks have intensified as new technology has allowed operators to enter their rivals' traditional business areas contributing to a reduction in prices for consumers.

⁶ See the OECD Communications Outlook, 2007.

The change in the structure of pricing has been largely influenced by convergence and rise in broadband as the main form of internet access. Flat rate pricing is very common in the OECD countries especially for broadband internet access. To increase their competitiveness in the era of convergence, traditional fixed line operators and mobile operators are beginning to offer unlimited fixed and mobile calling rates for a range of services. Although wireline and wireless technologies may not be perfect substitutes for all data services the *OECD Communications Outlook 2007* stated that flat rate data offers on mobile networks are already competing with broadband connections to individual homes.

In both developed and some developing countries consumers have received more value from broadband services which are now being offered at higher speeds and reduced prices. However, in the Least Developed Countries, high broadband prices for relatively low-speed broadband access remain a constraint to consumers. The charges for broadband vary widely from a monthly rate of US \$0.10 per 100 kbps in Japan to US \$2000 per 100 kbps in the Cape Verde Islands⁷.

1.5 Regulatory Issues

The migration from the traditional circuit switch to packet switched or NGN Networks has lead to a rethinking of regulatory approaches worldwide. The *ITU News* issue of March 2007 reported that during the 7th ITU Global Symposium held in Dubai in February 2007, a set of guidelines for best regulatory practices were formulated to serve as a road map in the migration to NGN. The Best Practice Guidelines focussed on authorization, access, interconnection and interoperability, numbering, universal access and other pertinent areas. The Best Practice Guidelines would allow for: transparency; regulatory flexibility and technological neutrality to promote technological innovation; regulatory certainty for all competitors; and regular reviews to remove undue barriers to competition. Regulation should be investment friendly and should allow for incentives for efficient investment that are not distorted.

The marked increase in the demand for VoIP has resulted in increased competition with traditional voice communications and contributed to the

⁷ Page 16 of the ITU News issue of September 2007

change in the structure of the telecommunications markets. There have been various approaches to the regulation of VoIP operators in the market. This includes subjecting VoIP to the same regulatory framework as traditional PSTN voice or varying the regulation of VoIP in accordance with various classifications of the VoIP services offered. According to the *OECD Communications Outlook 2007*, in Canada, VoIP is defined as a service using the PSTN numbering plan and providing access to and from the PSTN. On the other hand, in the United States, where the regulatory treatment of IP enabled services was still under consideration, providers of interconnected VoIP services are required to meet a number of obligations including the provision of emergency access services, the facilitation of lawful surveillance activities and contribution to the Universal Service Fund.

Another area which is more susceptible to regulatory intervention is mobile termination. In many European countries providers of mobile termination have been designated as having significant market power and are therefore required to offer their services at cost oriented rates. In Austria, for example all Mobile Network Operators (MNOs) were designated as having significant market power on their respective markets; consequently, the operators were obligated in 2005⁸ to charge cost-oriented mobile termination rates following the concept of Long-run Average Incremental Cost (LRAIC). A similar approach has been taken in Belgium although the non SMP operator is temporarily free to define his termination rates.

1.6 Prospects

The future of the voice telecommunications markets remains uncertain. Despite the rapid growth in the mobile market over the last several years, the mobile services market is becoming saturated in the second generation market. Hence, the potential for growth in the mobile sub sector will depend entirely on the surge in demand for migration to third generation networks and the demand for additional services such as mobile television.

The growing need for providers to find alternative revenue streams may result in vast changes in the structure of telecommunications markets. The mode of business operations and the classification of operators may be quite varied as operators may choose between offering multifarious value added services over

⁸ OECD Communications Outlook 2007

their last mile connections or wireless networks, focusing on revenues derived mainly from data connectivity over their fixed line or wireless infrastructure. The change in the structure of markets may possibly lead to a reduction in competition in the telecommunications sector especially when only a few firms in various jurisdictions would have the capacity to provide a combined video, voice and data offering in the newly converged telecommunications environment. The closer integration of the broadcasting and telecommunications markets as the latter transforms to include more video services will also have implications for telecommunications sectors' legal and regulatory frameworks worldwide.

The migration to next generation networks based on Internet Protocol is underway. Some market analysts predict that in developed countries, there will be complete migration by fixed providers by 2012 and mobile providers by 2020. The ITU has predicted that at least 50 per cent of all international telecommunication traffic will be passing through IP networks⁹

⁹ See ITU News No. 2 of March 2007

2.0 Regional Trends in Telecommunications

2.1 Overview

In line with global trends, the region continues to experience growth in the mobile market and some decline in the traditional fixed line services. Internet penetration remains relatively low in the region though there has been a significant shift away from dial-up to high speed Internet access as the prices for broadband services fall mainly as a result of competitive pressures.

2.2 Fixed Voice Services

The market players in the fixed voice services remained largely unchanged across the region for the period under review. In Trinidad the incumbent Telecommunications Services of Trinidad and Tobago (TSTT) is the sole provider of fixed line services, while in The Bahamas there are currently two fixed line operators, the incumbent Bahamas Telecommunications Company (BTC) and entrant System Resources Group (SRG). In Barbados and Jamaica, the fixed line market continues to be dominated by the incumbent Cable & Wireless; however a new provider offering the triple play of voice, Internet access and cable TV has launched operations in Jamaica.

The decline in fixed line penetration has slowed and there has been a slight pick up in Jamaica and Trinidad and Tobago. Regionally, the decline in fixed line subscription is expected to be stemmed by the increased demand for broadband Internet access as DSL operators usually require a fixed line subscription for internet access and cable operators are increasingly offering triple play packages with voice, data and video at flat rates to consumers.

Fixed line penetration ranged from a high of 50 per cent in Barbados to a low of 13 per cent in Jamaica up from 11.9 per cent. Penetration in The Bahamas and Trinidad and Tobago is estimated at 25 per cent.

2.3 Mobile Voice Services

The structure of the mobile market in terms of market players has remained unchanged for the period under review. In Barbados, Jamaica and Trinidad, the incumbent Cable & Wireless and Digicel remain the major players offering mobile services. While licences have been issued to a third operator in Trinidad and Tobago and Jamaica, these operators have either failed to launch or have not made a significant impact in the market. In The Bahamas however, the incumbent retained its monopoly on the mobile market since the government revised its Telecommunications Sector Policy in 2002.

The mobile markets continued to expand during the period under review with growth in subscribers averaging 30 per cent. At December 2006 the number of mobile subscribers in Trinidad and Tobago was estimated at 1,654,921, having increased an impressive 78 per cent over the previous period. Mobile penetration in Trinidad was estimated at 126 per cent. In Barbados mobile penetration grew some 20 per cent, with the number of subscribers recorded at 275,796 or a 94 per cent penetration rate. Jamaica recorded 15 per cent growth rate to a 90 per cent penetration or 2.4 million subscribers.

2.4 Internet Services

While a number of new entrants have entered the Internet market, competition in that market does not appear to have fared as well as the mobile market since the incumbent remains the major supplier of Internet services regionally. For the new Internet Service Providers (ISPs), as well as the incumbent, broadband access represents the main avenue for growth in the internet market. Regionally, the market for broadband access continues to expand as subscribers substitute dial-up access for broadband because of the downward movement in the price of the latter and the superiority of broadband to dial-up. For the period under review, the number of Internet Service Providers in Jamaica stood at seven with three offering broadband access. There were six ISPs in Barbados, eleven in Trinidad and Tobago with five offering broadband access, and approximately twenty in The Bahamas.

Internet penetration in the region grew at a modest rate for the period under review but still remains well below its potential. Despite the slow growth in Internet penetration, the shift away from dial-up to broadband access continues as the rate of broadband substitution outpace the rate of overall growth in internet access. Trinidad and Tobago recorded a 12 per cent increase in the number of subscribers to just over 81, 000 representing a 6.2 per cent penetration.

For the review period 25 per cent of Internet subscribers in Trinidad and Tobago had high speed access. Barbados recorded a 17 per cent penetration rate with a total of 47, 133 Internet subscribers of which 60 per cent had high speed Internet access. Data on the total number of Internet subscribers in Jamaica and The Bahamas was not available when this report was being prepared. However broadband penetration in Jamaica is estimated at around 3 per cent up from 1.7 per cent. In The Bahamas broadband penetration is estimated at some 15.5 per cent, the highest penetration in the region.

Wireless broadband access is slowly gaining ground as regionally the incumbent and new entrants are now offering fixed wireless services. In The Bahamas the incumbent as well and three new entrants offer fixed wireless broadband Internet access. In its *Trends in Telecommunications Reform 2007*, the ITU remarked that the same factors (improved affordability, increased network coverage and new service options) that fuelled the rise in mobile penetration can promote wireless broadband access in developing counties as mobile handsets that support both voice and data become more affordable. The mobile move to mobile broadband services is still in its infancy in the region.

2.5 Trends in Pricing

Regionally, the price for telecommunications services has remained relatively flat for the review period after a general downward trend over the past few years as competition was introduced into the sector.

Charges for monthly subscription for fixed line access remained unchanged and ranged from \$13 in Trinidad and Tobago, \$20 in Jamaica and a high of \$40 in Barbados and The Bahamas. There is no usage charge for fixed line customers in Barbados; therefore the charge for fixed to mobile calls is borne by mobile customers and is approximately \$0.47. Jamaica is comparable to the ECTEL Member States with a usage charge of \$0.04 per minute. In Trinidad and Tobago the usage charge varies from \$0.10 per call within a city, to \$0.10 per 60 or 90 seconds for calls between cities. In The Bahamas there is no charge for local calls but domestic long distance is charged at \$0.49.

Regionally there has been some shift away from the price differential for mobile calls on the same network (on-net calls) and calls between networks (off-net calls). In Jamaica and Trinidad and Tobago the incumbent offers a uniform *anyone* rate. Digicel however still offers on-net discounts. In Barbados as in the ECTEL Member States the discounting of on-net calls by up to 57 per cent continues.

There has been little movement in the rates for mobile to mobile calls between networks. Off-net rates ranged from \$0.95 to \$0.97 in Barbados, \$0.38 to \$0.66 in Jamaica and \$0.55 to \$0.68 in Trinidad and Tobago. On-net rates were at \$0.38 in Jamaica, ranged from \$0.41 to \$0.68 in Barbados and from \$0.49 to \$0.55 in Trinidad and Tobago.

Regionally, it was also noted that the rates for mobile to fixed lines offered by the incumbent was generally at a discount to the rates for other providers. In Barbados mobile to fixed rates ranged from \$0.85 to \$0.95, while in Jamaica rates ranged from \$0.38 to \$0.45 and in Trinidad and Tobago from \$0.55 to \$0.68.

There has been a general convergence of fixed to international and mobile to international rates across the region. In Barbados the rate for outgoing international calls from a fixed line or mobile phone was \$1.08 to the Caribbean and \$1.62 to \$1.75 for calls to the United States. In Trinidad and

Tobago the per-minute rate for outgoing international calls were \$0.63 to the Caribbean and \$0.53 to the United States. In Jamaica, however, there was still a price differential as international calls from a fixed line was \$0.64 compared to \$0.71 for calls originating from a mobile phone.

Regionally, the shift away from dial-up access is accelerating, however a number of customers still opt for this more affordable service. The rate for unlimited dial-up Internet access varies from a low of \$40 in Jamaica, \$68 in The Bahamas, \$80 in Barbados to a high of \$145 in Trinidad and Tobago. The rate for broadband access has been on the decline since liberalization of the telecommunications sector but has remained flat over the last period. The rate for 256Kbps ranged from \$81 in Jamaica, \$95 in Barbados to \$195 in Trinidad and Tobago. In The Bahamas, the incumbent BTC offered 256Kbps at \$95 however new entrant Cable Bahamas offers 1Mbps at \$30 for 10 hours.

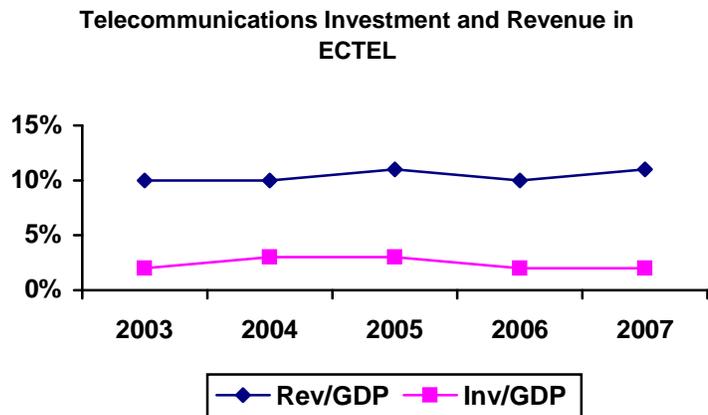
Flat Rate Plans

The *OECD Communications Outlook 2007* reports that flat rate calling and data plans are gaining prominence in the developed world with the rapid adoption of VoIP. Mobile operators have also started to offer the convenience of flat-rate plans to users. Regionally, the move to flat rate pricing has been much slower. Across the region the incumbent has introduced flat rate VoIP calling but the uptake has been constrained by low Internet penetration. In some jurisdictions the incumbent has also introduced a flat-rate alternative to the usage based calling for residential customers. However, no flat rate mobile calling package was available at the time of preparing this report.

3.0 Domestic Trends in Telecommunications

3.1 Overview

The telecommunications services sector continues to impact positively on the growth and development of the ECTEL Member States. ICTs are increasingly becoming essential inputs of production with the progression of countries of the sub-region from agricultural



to service based economies. For the period ended March 2007, the telecommunications¹⁰ sector was estimated to have contributed EC \$435.6 million¹¹, representing a sectoral share of 10.8 per cent of GDP, down from 11 per cent in the previous year. At March 2007, total investment by individual licensees was estimated to have grown by 33.5 per cent to EC\$ 148.2 million, or 2 per cent of GDP, remaining constant from the previous year. Total revenues earned by individual licensees was estimated to have increased by 10.7 per cent to EC\$ 789.8 million, or 11 per cent of GDP up one percentage point from the previous year.

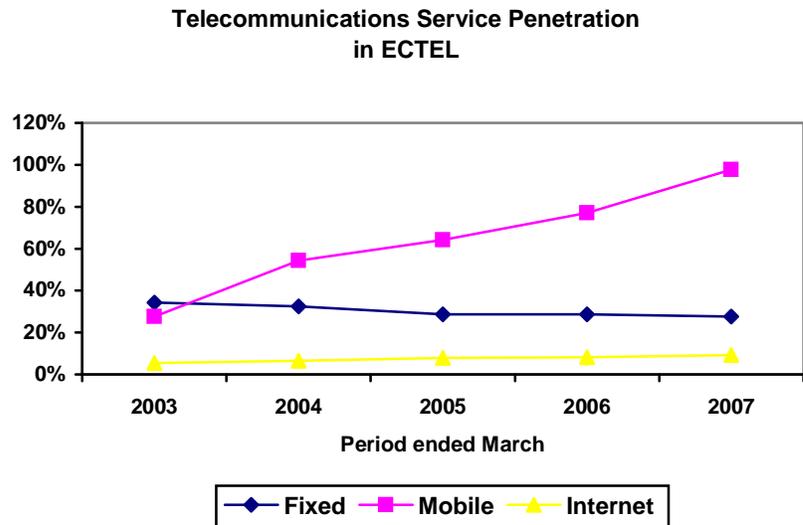
During the review period twelve new individual licenses were granted; four for Fixed Public Telecommunications, five for Internet Networks and Services and three for Submarine Cable. At March 2007 there were fifty-six (56) individual licensees and more than three hundred and eighty (380) class licensees.

Voice services remained the key drivers of the telecommunications sector and mobile voice communications remained dominant as consumers today continue to demand affordable rates and convenience. In some of the ECTEL Member States, traffic patterns are beginning to show the growing substitution away from fixed line to mobile phone services. Moreover, the number of active mobile subscribers outnumbered the number of fixed lines in service on average by 3.6 to 1 at the end of March 2007. Mobile

¹⁰ The Communications sector is used as a proxy for the Telecommunications Sector.

¹¹ Based on Eastern Caribbean Central Bank GDP estimates.

penetration increased by approximately 23.3 percentage points to an average of 98 per cent, while activity in the fixed line market slowed, with penetration falling on average by 0.9 percentage points to 27.5 per cent. With the increasing availability of broadband, data services are gaining importance. However, penetration in the Internet services market, remained below its potential in some measure as the price of computers and Internet access remained as hurdles to increased penetration. Internet access penetration grew by a modest 1.2 percentage points to an average of 9.3 per cent.



Activity in the telecommunications sector in the ECTEL Member States, like in many developing economies has been fuelled by robust competition in the mobile market and continued efforts to increase internet service penetration. New entrants and existing providers are deploying more advanced telecommunication networks and infrastructure to adapt to the new competitive environment and prepare for Next Generation Networks (NGN) and converged services.

During the review period, a new entrant landed a new fibre optic submarine cable system which will eventually link all the ECTEL Member States and a number of other Caribbean States to US mainland via Puerto Rico. This new submarine cable infrastructure will comprise a minimum of four fibre pairs, which will allow for increased international connectivity of up to 30 Gbps per fibre pair on each island. The increased capacity is expected to result in a reduction in the price of IP bandwidth and international connectivity and an increase in the number of resellers of telecommunications services. The expansion of the delivery of broadband services and increased capacity to local and international operators at more affordable rates will facilitate the modernization of private and public services. Businesses and residential

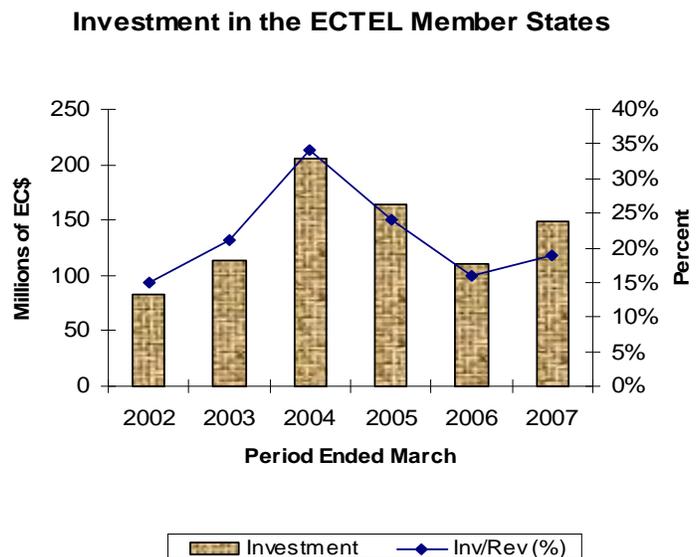
consumers engaging in research, training, socio-cultural and other activities will benefit directly from this expansion in the telecommunications sector.

The intense competition in the mobile market and the stimulation of the demand for broadband as the major form of Internet access has led to a fall in the prices for telecommunications services. The most significant cost savings were experienced by consumers of 256 kbps broadband Internet access with average cost savings estimated at 21.1 per cent and consumers enjoying a 34 per cent fall in the monthly rate in three of the ECTEL Member States. The overall cost savings on average for mobile consumers was 1.2 per cent in the review period with the largest savings (3.1 per cent) being received by consumers who made mobile to mobile calls. There was a nine per cent reduction on average in the rate for international calls made to US and Europe. The rates for regulated fixed line calling and rates for fixed line international calling to the Caribbean remained unchanged which means that consumers enjoyed real savings on these services due to economy wide inflation.

3.2 Revenue, Investment and Employment

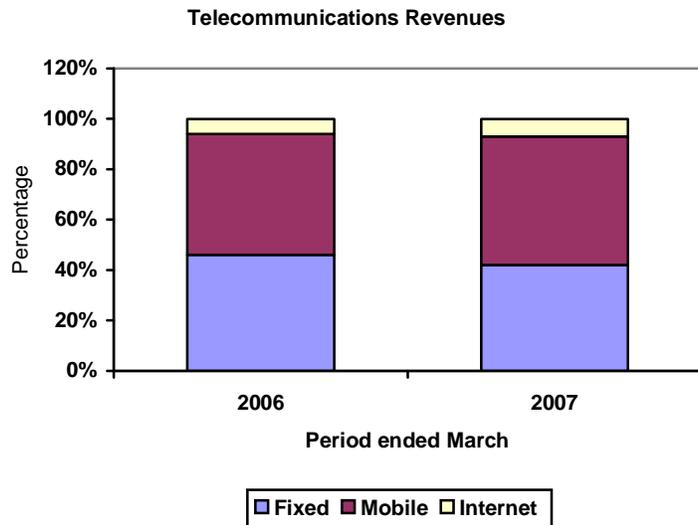
Movements in total revenue, investment and employment are key indicators of the performance of various telecommunications services markets and their contribution to the overall economy.

There was resurgence in investment in the telecommunications sector, largely being driven by the landing of a new submarine cable system in the ECTEL Member States, and operators responding to technological developments and changes in consumer demand by improving infrastructure. Overall investment increased by 33.5 per cent to



EC\$148.2 million, or 2 per cent of GDP. At March 2007, investment as a percentage of revenues increased to 19 per cent up from 16 per cent in 2006.

The composition of telecommunications service revenue changed slightly during the review period. Revenue from mobile services outpaced fixed line revenue and was estimated to account for 51 per cent of the total revenues for the period ending March 2007 up from 48 the previous period. Fixed line services accounted for 42 per cent of total revenue; a reduction from 46 per cent at March 2006. Internet services revenues while still relatively small increased by one percentage point to 7 per cent of total revenue.



Employment recorded by Individual Licensees increased marginally (0.1 per cent) to over 1360 at March 2007. While total employment in the telecommunications sector in the ECTEL Member States is not readily available, it is estimated that more than 3,000 persons have availed themselves of opportunities to participate in the sector in areas such as customer premise services, retail outlet for the sale and service of mobile handsets and accessories as well as the sale of phone cards and electronic top-up service for prepaid mobile customers.

3.3 Market Players

During the review period, twelve new individual licenses were granted; three for Fixed Public Telecommunications, five for Internet Networks and Services and three for Submarine Cable. Since liberalization, there have been fifty-six (56) approved individual licensed operators and more than three hundred and eighty (380) class licensees. Supply in the fixed line market remained under the control of the incumbent in all the Member States. Even in Dominica with Marpin Telecoms and Broadcasting offering fixed line services the incumbent has virtually one hundred percent market share in fixed line voice service.

The Internet services market is also dominated by the incumbent. The incumbent remains the sole provider of Internet service in Grenada and Saint Lucia. Cable companies offer an alternative high speed Internet service in Dominica, St. Kitts and Nevis and Saint Vincent and the Grenadines.

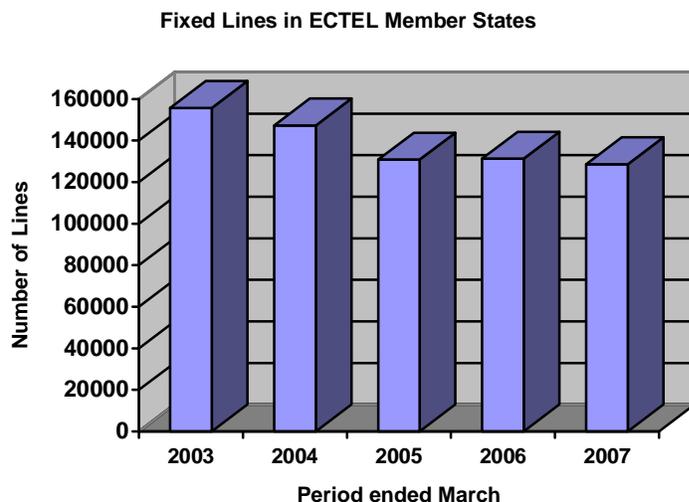
The mobile market is the most competitive with two significant providers in all Member States and a third provider in Dominica and St Kitts and Nevis. Following a long period of inactivity, the submarine cable market expanded as a new submarine cable system was introduced to the ECTEL Member States.

3.4 Voice Communications

In line with global trends, the structure of the voice telecommunications sub-sector in the ECTEL Member States is evolving as growth in the fixed line market continues to be constrained by consumers' increased preferences for mobile phones. Increasingly, traditional voice services are being challenged by the emergence of Voice over Internet Protocol (VoIP). The potential of VoIP as a true substitute to traditional voice in the ECTEL Member States is however constrained by the relatively low Internet penetration and high cost of broadband services when compared to the availability and cost of mobile services.

3.4.1 Fixed Line Service

In the review period, the number of fixed lines in service fell 2 per cent to 128,557 following a 0.4 per cent increase in the previous year. In the ECTEL Member States average fixed line penetration stood at 27.5 per cent at March



2007. The general decline in lines in service has slowed and the growth in the demand for broadband Internet access may stem this decline as high speed Internet access via DSL or cable still requires a fixed line subscription. This may however be only a temporary reprieve as a number of new entrants have signaled their intention to launch fixed

wireless services. It is widely expected that such services will make high speed Internet access much more affordable to consumers.

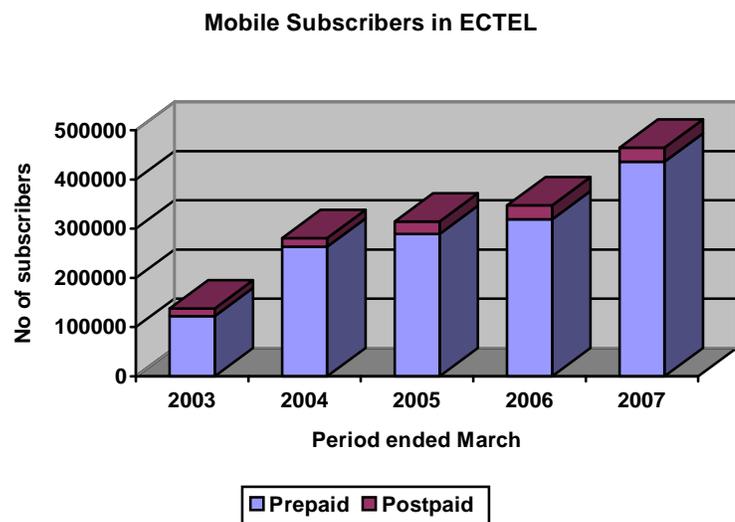
Licenses for Fixed Public Telecommunications were issued to three new entrants at March 2007. A total of fifteen Fixed Public Telecommunications licences have been issued since 2001. However, with the exception of Dominica, there is still a de facto monopoly in the provision of fixed line services in the ECTEL Member States. The incumbent has indicated that it is in the process of upgrading its system from a PSTN to an IP-based network to allow for increased flexibility to enable the provision of converged services in an NGN environment.

Traffic patterns are beginning to reveal some degree of substitutability of fixed wire line services with mobile services. Total domestic traffic from fixed voice communications decreased by 19 per cent to 604 million minutes with fixed to fixed calls accounting for 86 per cent of local fixed calls, down from 89 per cent in the previous period. Overall calls from a fixed line accounted for 59 per cent of local calls down from 76 per cent at March 2006.

3.4.2 Mobile

Activity in the mobile telecommunications sub-sector continued to dominate overall telecommunications sector development in the ECTEL Member States. For the period ended March 2007, competition in the sector remained intense, as the providers

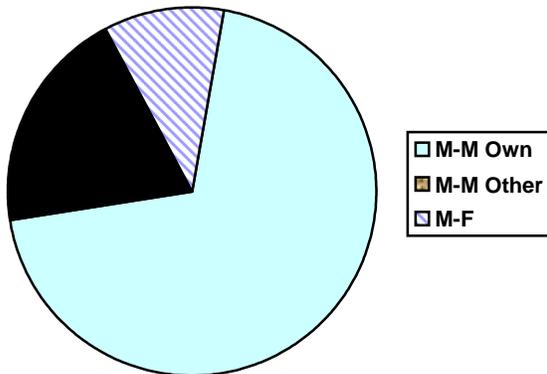
remained focused on marketing strategies to expand their market shares and profitability in the market. Total active mobile subscribers increased by 34 per cent to an estimated 465,394, following an increase of 11 per cent in the previous year. Correspondingly, penetration increased from 74.7 per cent at March 2006 to 98 per cent at March 2007. Among the active subscribers, growth in prepaid subscription remained prominent, registering an estimated



435,931, an increase of 34 per cent over the previous year and accounting for 94 per cent of total mobile subscribers. In keeping with the growth in subscription and penetration, mobile service revenues increased 17.9 per cent to an estimated EC\$402.3 million.

During the review period the structure of the mobile telecommunications market remained unchanged. The supply side of the market remained unchanged with two mobile providers in Grenada, Saint Lucia and St Vincent and the Grenadines and three players in Dominica and St Kitts and Nevis. Investments were incurred largely for routine maintenance of existing infrastructure, although there was the installation of an additional mobile switch in Grenada. To satisfy the growing demand, there was a noticeable increase in the number of cell phone agents in some of the Member States.

Composition of Mobile Traffic in ECTEL Member States



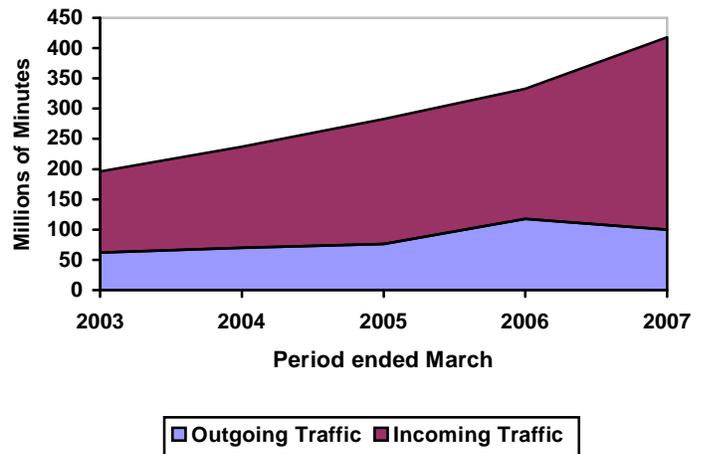
Mobile telecommunications providers remain focused on expanding their sources of revenue by encouraging usage of mobile services with promotions for on-net calling and SMS text messaging. Local traffic from mobile phones was estimated at approximately 420 million minutes representing 41 per cent of total domestic voice traffic up from 24 per cent in the previous period.

Ninety (90) per cent of traffic originating from a mobile phone terminated on a mobile network. This supports the global trend of substitution away from fixed line voice services. Mobile to mobile on-net calls accounted for about 70 per cent of total domestic mobile traffic, mobile to mobile off-net calls represented 19.4 per cent with mobile to fixed accounting for 10.5 per cent of domestic mobile calls. SMS text messaging has been steadily gaining importance as a cost effective alternative to voice. Close to 100 million text messages were sent for the period under review.

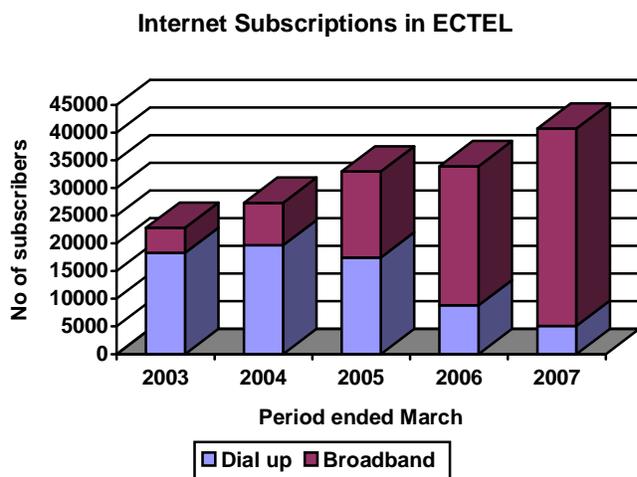
3.4.3 International Voice

Activity in the global market continues to influence developments in the international voice telecommunications market. The ratio of incoming traffic to outgoing traffic increased to 3 to 1 at March 2007, up from 2 to 1 in 2006. Total incoming international traffic was estimated at 318 million minutes, an increase of 48 per cent over the previous period, while total outgoing international traffic fell by 3.9 per cent to an estimated 114 million minutes. Reversing the trend observed in local calling, incoming calls to fixed lines more than doubled while incoming calls to mobiles fell by 17 per cent. Fifty Four (54) per cent of outgoing calls originated from a mobile phone up from 53 per cent in the previous period, while 27 per cent of incoming calls terminated on a mobile network down from 48 per cent.

Incoming and Outgoing International Traffic



3.5 Internet Services



Activity in the Internet sub-sector was spurred by the promotion of broadband as the primary form of Internet access. Total Internet subscribers increased by 19.8 per cent to roughly 40,638, with broadband's share increasing to 77 percent in the review period. Internet penetration continued to be low as the service remains

unaffordable to a large number of consumers due to the relatively high cost of computers, which are complements to the consumption of Internet services by households. It is expected that with the introduction of wireless broadband services and affordable mobile handsets with voice and data capabilities, the

market for Internet access could experience significant growth as in the mobile voice market. For the period under review, Internet penetration ranged from a low of 6.6 per cent in Grenada to 18.8 per cent in St. Kitts and Nevis. Overall average penetration edged upwards from 8.1 per cent at March 2006 to 9.3 per cent at March 2007.

During the review period five new Internet and Network Services licences granted. However, the Internet services market still remains a de facto monopoly in three of the ECTEL Member States. The landing of a new submarine cable system is expected to contribute to increased capacity and competition in the market for Internet services. Sales of dial up Internet packages have narrowed as providers move away from the circuit switch, time-sensitive technologies towards broadband services made available with the more efficient packet switched converged networks.

3.6 Trends in Pricing

For the period under review there have been some downward movement in the overall prices of telecommunications services as the prices for broadband services continue to decline and mobile providers offer discounts and promotions on on-net calling and text messaging. The actual price index for regulated services in the ECTEL Member States, recorded an average reduction of 3.5 per cent for the period under review.

Rates for monthly access, local fixed to fixed and fixed to mobile calling which are regulated under the Price Cap plan, remained unchanged between April 2006 and March 2007. Table one presents the rates for fixed services under the Price Cap Plan.

Table 1: Rates for Fixed Services

EC (\$)	March 03	March 04	March 05	March 06	March 07
Range of Monthly Rental	17-54	20.40-26.40	20.40-26.40	20.40-26.40	20.40-26.40
Local fixed to Fixed (peak)	0.09	0.09	0.07	0.07	0.07
Local Fixed to Mobile (peak)	0.81	0.81	0.76	0.71	0.71

The mobile market continues to be characterised by offerings of discounted rates for calls on the same network relative to rates offered for calls across networks thus encouraging increased on-net usage. The rates for calls on the

same network were between 10 cents and 47 cents lower than rates for calls between networks. In Saint Lucia both mobile operators had differentials of 10 cents, the lowest in the ECTEL region. However, Grenada which has the lowest rate for on-net calls also recorded the highest differentials of 39 cents and 47 cents between on-net and off-net calls. Given that a number of customers possess more than one handset, providers were able to benefit from increases in on-net traffic and revenue by regularly offering reductions of on-net prices during short term promotions.

There has however been very little movement in the rates for mobile to mobile calls in general. The rates for calls between networks remained in the range between 75 cents and 89 cents while on-net rates ranged between 38 and 75 cents. The rates for mobile to fixed calls also remained flat in the range of 40 cents to 85 cents. SMS text messaging, an affordable alternative to mobile voice, is growing in popularity especially among the youth. At March 2007, the rates for local SMS text messaging ranged from 9 cents to 20 cents per message.

In the ECTEL Member States there has been some convergence of the rates for international calls from fixed line and mobile phones, especially from the incumbent, and a move to a single rate for wider regions like the Caribbean, the USA and UK and the rest of the world. The average rate for a call to the United States from a fixed line was \$1.24, while the average rate for a call to the United States from a mobile phone was \$1.18.

For the period under review the price for broadband Internet packages was further reduced, and the incumbent, the main provider of internet service also significantly reduced the number of dial-up packages available to new customers. These actions have further fuelled the substitution away from dial-up access. The monthly rate for broadband ADSL services with download speeds of 256 kbps was reduced by 33.6 per cent to \$99 down from \$149 in Grenada, Saint Lucia and St. Vincent and the Grenadines. In St. Kitts and Nevis, broadband ADSL service with download speed of 512 kbps was offered at \$99 while the rate for this service was reduced by 40 per cent from EC\$249 to EC\$149 in the other ECTEL Member States.

Flat Rate Plans

The rapid adoption of VoIP has resulted in flat rate calling and data plans gaining prominence in the developed countries. Flat rate calling plans are more common on fixed networks but mobile operators also offer the convenience of flat-rate plans to users. While the providers in the ECTEL Member States have embraced flat rate pricing for broadband Internet access, the move to flat rate pricing for voice services has been much slower. The price for international calling has been under pressure from external nomadic VoIP providers. In response to external forces the incumbent introduced flat rate VoIP calling, but uptake has been constrained by low Internet penetration and the add on charges associated with taking up the VoIP package in addition to fixed line and Internet access charges.

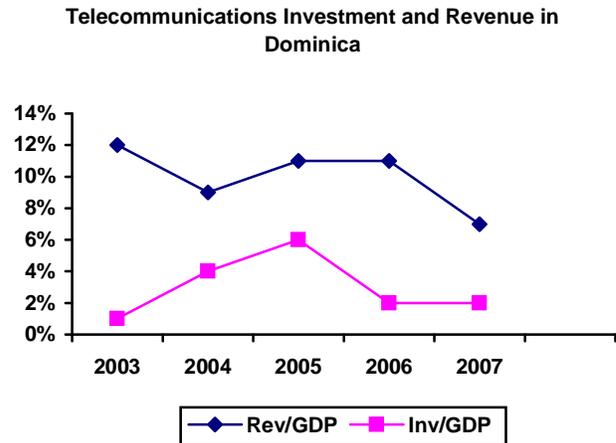
Locally, the decline in the revenue from traditional fixed line services has led to efforts by the sole provider to introduce differentiated service elements. During the review period an unlimited fixed to fixed residential calling package was introduced at a rate of \$25 monthly. The introduction of this new option allows residential customers to choose a plan based on per minute usage or a flat rate package for fixed to fixed calls to other residential customers.

The emergence of 3G mobile technology and convergence will mean that increasingly providers will be under pressure to provide flat rate pricing.

4.0 Dominica

4.1 Overview

In 2006, the telecommunications¹² sector in Dominica was estimated to have contributed EC\$42.5 million, representing a sectoral share of 9.2 per cent of GDP, up from 9.1 per cent in the previous review period. At March 2007, total investment by individual licensees grew an estimated 30 per cent to EC\$20.7 million or approximately 2 per cent of GDP and 37 per cent of sector

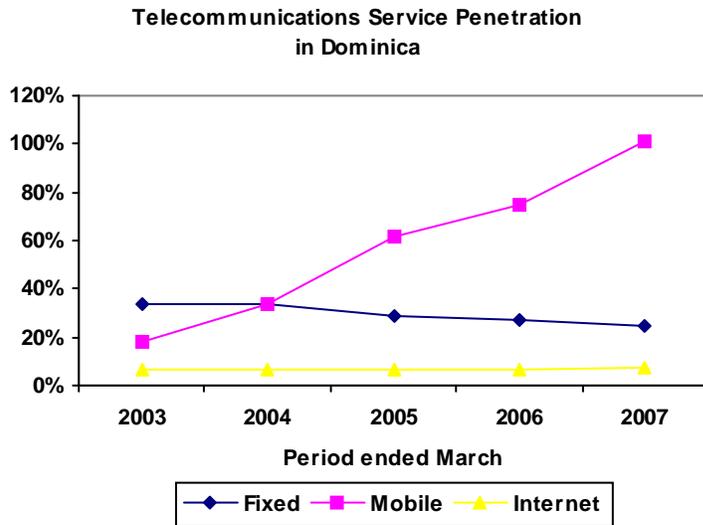


revenue. Increased investment in the sector was largely attributable to capital expenditure incurred in the landing of a new submarine cable system in Dominica and network expansion by mobile providers. Direct employment by individual licensees fell by 7.3 per cent to approximately 273 at March 2007

Total revenue earned by individual licensees was estimated to have declined some 36.9 per cent to EC\$56.4 million or 7 per cent of GDP. Mobile service revenues outpaced fixed line revenues almost 2 to 1 and accounted for 55.7 per cent of the total revenues up from 47 per cent in the previous year. Fixed line revenues accounted for 25.7 per cent of total revenues down 19 percentage points from 44 per cent in the previous period in keeping with the decline in traffic originating from fixed lines. Revenue from Internet services represented the smallest share of total revenue but increased to 18.5 per cent up from 9 per cent in the previous review period.

Activity in the telecommunications sector continued to be fuelled by robust competition and growth in the mobile market and continued efforts to expand Internet services penetration. The number of active mobile subscribers outnumbered the number of fixed lines in service by 4 to 1 at the end of March 2007. Mobile penetration increased by approximately 26.6 percentage points to 101.2 per cent, while activity in the fixed line market slowed as

¹² The Communications sector is used as a proxy for the Telecommunications Sector.



penetration fell by 2.4 percentage points to 25 per cent. Penetration in the Internet services market picked up slightly from 6.4 per cent to 7.2 per cent.

4.2 Market Players

For the period under review one individual licence was issued for the landing of a new submarine cable system. This new submarine cable will comprise a minimum of four fibre pairs, which will allow for increased international connectivity of up to 30 Gbps per fibre pair. This is expected to spur a reduction in the price of international bandwidth and connectivity resulting in increased activity and reduced retail rates for high speed Internet access and international calling. The increase international connectivity is also expected to energize the market for resellers of telecommunications services.

Since 2001, eleven individual licences have been issued: four for Fixed Public Telecommunications, three for Public Mobile Telecommunications, three for Internet Network and Services and one for Submarine Cable. Twenty-seven (27) class licences have been issued: one International Simple Voice Resale (ISVR), 16 Amateur Radio, 6 Maritime Mobile Radio and 4 Local Mobile Radio operators. Two Customer Premises Equipment providers (CPEs) were registered with the NTRC.

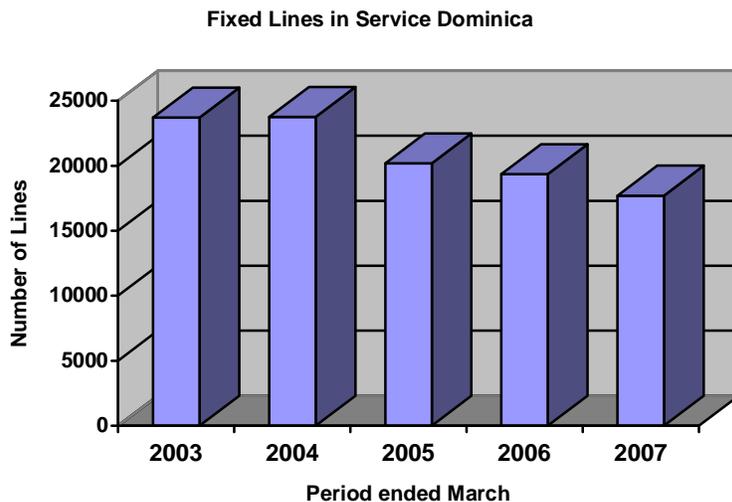
The number of active service providers remained unchanged from the last period with two fixed service provides, three mobile provides and two internet service providers. Telecommunications operators in Dominica continue to be focused on the provision of the traditional telecommunications services and have been slow to adopt emerging wireless and converged telecommunications services including the multi-play services.

The incumbent operator has indicated that it has commenced the transition from PSTN to the packet switched technology to prepare for the inevitable change in the structure of the market. New entrants will have the opportunity to utilize the resources of the new submarine cable and their own networks to possibly penetrate the traditional service markets and introduce new and innovative services.

4.3 Voice Communications

The structure of the voice telecommunications sub-sector is evolving as growth in the fixed line market continues to be constrained by consumers' increased preferences for mobile phones and to a lesser extent the emergence of VOIP for international voice communications.

4.3.1 Fixed Line



In the review period, the number of fixed lines in service fell by 8.5 per cent to 17,702 in 2007, following a reduction of 4.1 per cent in the previous year. As a result penetration fell by 3.1 percentage points to 25.0 per cent.

The structure of the fixed line market remained unchanged with two suppliers of fixed line services. One of the suppliers has made progress in upgrading the technology and infrastructure from a PSTN to an IP-based network to allow for increased flexibility to enable the provision of voice, data and other content-based services.

Prices of domestic fixed line services, which are currently regulated under the Price Cap Plan, remained unchanged from the previous period with the peak

local fixed to fixed calling rate at \$0.07 and the off-peak rate at \$0.04. The peak rate for fixed to mobile calling was \$0.71 and off-peak rate \$0.69.

There was a noticeable decline in all categories of local domestic fixed wire-line traffic. Overall, local traffic from a fixed line fell 41.5 per cent to approximately 40.9 million minutes and accounted for 49.7 per cent of total domestic traffic.

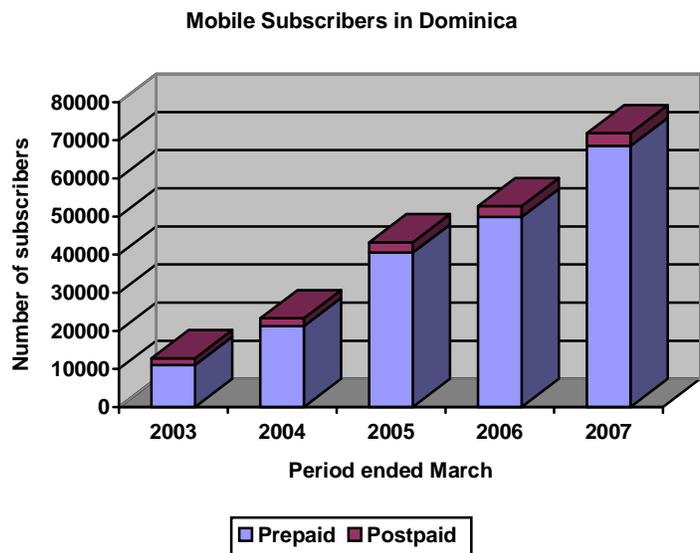
4.3.2 Mobile

The mobile telecommunications sub-sector remained buoyant with intense promotional campaigns by the two large mobile providers. Total active mobile subscribers increased by 36.2 per cent to approximately 71,820, representing an increase in penetration of 26.6 percentage points to 101.2 per cent at the end of March

2007. Among the active subscribers, growth in prepaid subscription remained prominent, reaching 68,483 and accounted for 95 per cent of total mobile subscribers.

The rates for mobile calls remained unchanged in the review period. Rates for calls within the same network (on-net) were at least 20 cents lower than off-net rates, encouraging on-net calling. On-net rates ranged between 50 cents and 60 cents while off-net rates ranged between 75 and 85 cents. The rates for mobile to fixed calls remained in the range of 55 to 80 cents. At March 2007, local mobile traffic was recorded at 41.3 million minutes and accounted for 50.3 per cent of total local traffic. The majority of traffic, 92 per cent, was mobile to mobile.

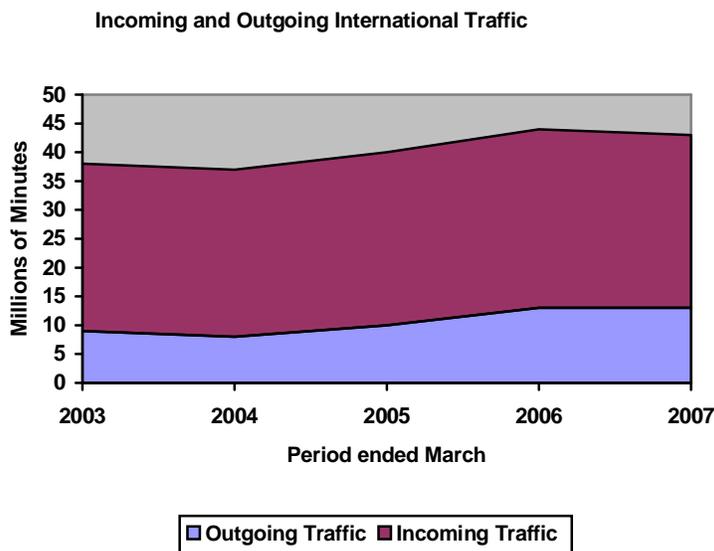
SMS messaging is gradually becoming an essential communications tool for a large number of consumers. In seeking to increase their revenue bases, some



providers have sought to simplify the SMS rates from a 3-tier structure to a two-rate structure. SMS rates range from 20 cents to 40 cents for local text messaging and 40 cents to 55 cents for international text messaging.

4.3.3 International Voice

Total outgoing traffic increased 4 per cent to just over 13 million minutes; the ratio of total incoming traffic to outgoing traffic fell from 2.4 to 1 in the

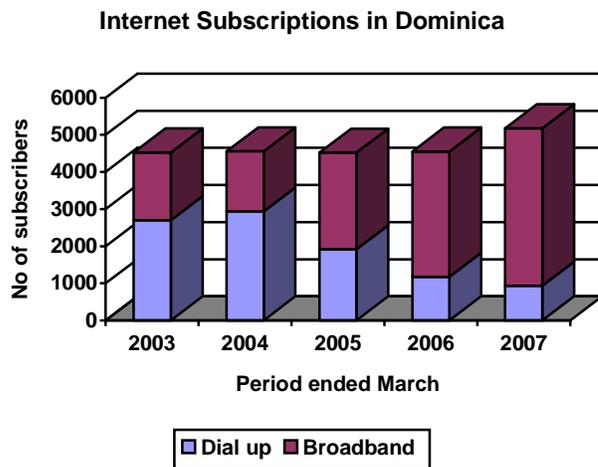


previous period to 2.2 to 1 at March 2007. Fifty-nine (59) per cent of outgoing international calls originated from a mobile phone up from 54 per cent. For incoming traffic, the ratio of calls terminating on a mobile to calls terminating on a fixed line increased from 0.61 to 1 to 0.67 to 1, in keeping with the growth in mobile phone penetration.

The international voice services sub-sector is unregulated and has been under pressure from VoIP providers. In response, the incumbent fixed line provider introduced a VoIP in 2005. The number of active VoIP subscribers increased some 48.6 per cent within one year of the launching of this service.

The rates for international service have remained largely unchanged. The rate to fixed lines in the ECTEL Member States was 50 cents from a fixed line and ranged from 50 to 99 cents from a mobile phone. The rate for calls to mobile phones ranged from \$0.85 to \$1.00. The rate for calls to the United States and Europe from a fixed line was reduced from \$1.65 to 99 cents and ranged from \$0.99 to \$1.30 from a mobile phone.

4.4 Internet



Activity in the Internet sub-sector was spurred by the promotion of broadband as the superior option of Internet service for consumers. Total Internet subscribers increased by 11.5 per cent to roughly 5,074 with broadband accounting for 81.6 per cent of total subscribers compared with 74 per cent in the

previous year. Despite an increase in the demand for broadband, Internet penetration remained low as the service remains unaffordable to some segments of the population. A number of consumers are also constrained by the lack of affordability of desktop and laptop computers, which are required for access at the household level. Penetration edged upwards by 0.7 percentage points to 7.2 per cent.

In Dominica, Internet service is currently provided by two suppliers, the incumbent Cable & Wireless and Marpin Telecoms and Broadcasting, both providing high speed Internet access. Cable & Wireless also offers dial-up access. The investments by one additional submarine cable licensee is expected to contribute to increased capacity and competition in the Internet market as providers may have more options to choose from the infrastructure market to begin offering their services. Dial-up Internet packages offered to new customers has narrowed as the incumbent is encouraging consumers to move away from dial-up to broadband access.

The monthly rate for Internet access for broadband ADSL with download speeds of 256 kbps remained unchanged at \$129 monthly; rates for download speeds of 512 kbps remained at \$199. Dial-up rates also remained unchanged at \$46 for 20 hours and \$69 for unlimited access.

5.0 Grenada

5.1 Overview

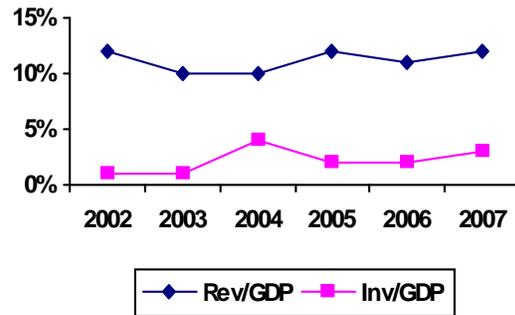
The telecommunications¹³ sector was estimated to have contributed EC\$94.9 million to GDP, representing a sectoral share of 13.1 per cent up from 11.9 per cent for the previous review period as the sector continues to impact positively on overall economic growth. Total revenue for the sector was estimated to have increased by 10.5 per cent

to EC\$173 million or 12 per cent of GDP. Revenue from mobile services just outpaced fixed line revenues and accounted for 47.5 per cent of the total revenues at March 2007, compared with 46.9 per cent in the previous year. This was closely followed by fixed line revenues, accounting for 46.2 per cent down from 47.6 per cent. The share of Internet service revenues increased from 5.4 per cent to 6.3 per cent in the review period.

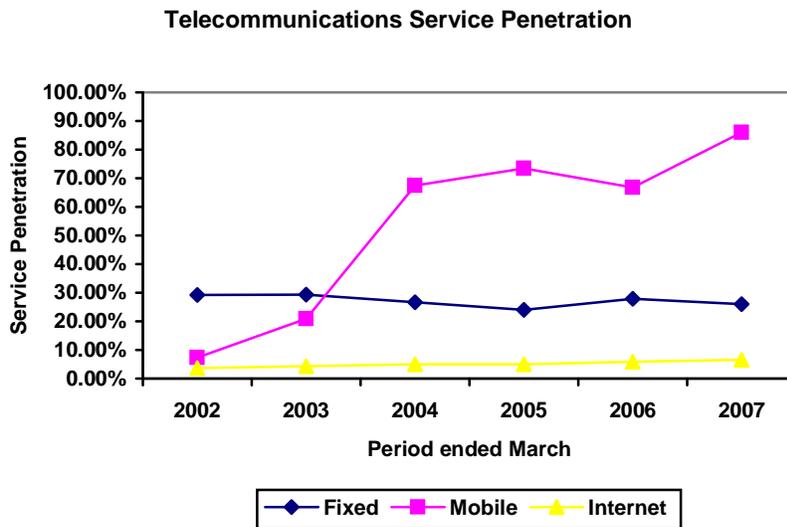
For the review period total investment in the sector was estimated to reach EC\$40.1 million or 3 per cent of GDP, representing an increase of 35 per cent over the previous year. The resurgence of investment in the sector was mainly a result of expenditure associated with the landing of a new submarine cable system in Grenada. Investment as a percentage of revenues increased to 23 per cent up from 19 per cent in the previous period. Direct employment recorded by individual licensees grew by 4.4 per cent to approximately 216 at March 2007.

Growth in the telecommunications sector was again led by activity in the mobile market. Mobile phone subscription continues to increase as various segments of consumers today consider mobile phone services as a necessary commodity on a daily basis. The number of active mobile subscribers outnumbered the number of fixed lines in service by 33 to 1 at the end of March 2007.

Telecommunications Investment and Revenue in Grenada



¹³ The Communications sector is used as a proxy for the Telecommunications Sector.



Mobile penetration increased by approximately 20 percentage points to 86 per cent, while activity in the fixed line market remained subdued with penetration decreasing by 2.0 percentage points to 26 per cent. Penetration in the Internet services market, which remains

far below its potential grew marginally (less than one percentage points) to 6.6 per cent.

As in most developing economies, activity in Grenada's telecommunications sector has been fuelled by robust competition in the mobile market and efforts at increasing penetration in the Internet services market. New entrants and existing providers are in the process of deploying advanced telecommunication networks and infrastructure to adapt to the new competitive environment and the imminence of convergence. The incumbent operator has indicated that it has commenced the transition from PSTN to the packet switched technology to deal with the inevitable change in the structure of the sector.

5.2 Market Players

During the review period a total of six new individual licences were granted, comprising two fixed public, three Internet networks and services and one submarine cable licence. This brings to sixteen the number of individual licences issued in Grenada since 2001. Forty-four (44) class licences have also been issued. Currently there are no registered Customer Premises Equipment providers. The number of active service providers in Grenada remained unchanged from the previous period with the incumbent Cable & Wireless as the sole provider of fixed and Internet service, and Cable & Wireless and Digicel as the providers of mobile services. Of the six new

licensees, the Submarine Cable and one Internet Networks and Services operators commenced initial investments.

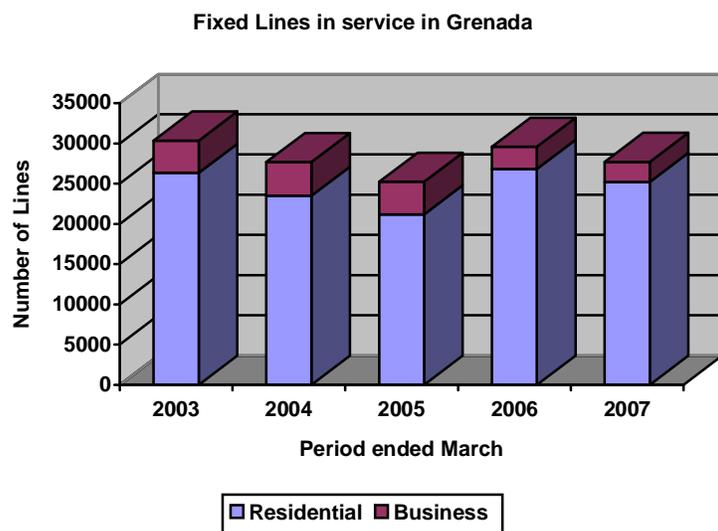
The new submarine cable linking Grenada to other Caribbean states and the Internet backbone will comprise a minimum of four fibre pairs, which will allow for international connectivity of up to 30 Gbps per fibre pair. The increased capacity should result in a reduction in the price of IP bandwidth and international connectivity and a potential for an increased number of resellers of telecommunications services. The expansion of the delivery of broadband services and capacity to local and international operators at more affordable rates will facilitate the modernization of private and public services. Businesses and residential consumers engaging in research, training, socio-cultural and other activities will benefit directly from this expansion in the telecommunications sector.

5.3 Voice Communications

The structure of the voice telecommunications sub-sector is evolving as growth in the fixed line market continues to be constrained by consumers' increased preferences for mobile phones as a substitute commodity for domestic voice telecommunications and to a lesser extent the emergence of VoIP for international voice communications.

5.3.1 Fixed Line

In the review period, the number of fixed lines in service decreased by 6.4 per cent to 27,701, following an increase of 17.3 per cent in the previous year. This led to a decrease in penetration of 2.0 percentage points to 26 per cent. Despite



a decrease in penetration, fixed line services revenue grew by 7.1 per cent to EC\$79.9 million, however, its share of total telecommunications revenue fell from 47.6 per cent in 2006 to 46.2 per cent in 2007.

Two Fixed Public Telecommunications licences were issued to new entrants¹⁴, however the incumbent Cable & Wireless is still the sole provider of fixed line services. The incumbent was in the process of upgrading its network from a PSTN to an IP-based network to allow for improved quality of service and increased flexibility to enable the provision of voice and data services.

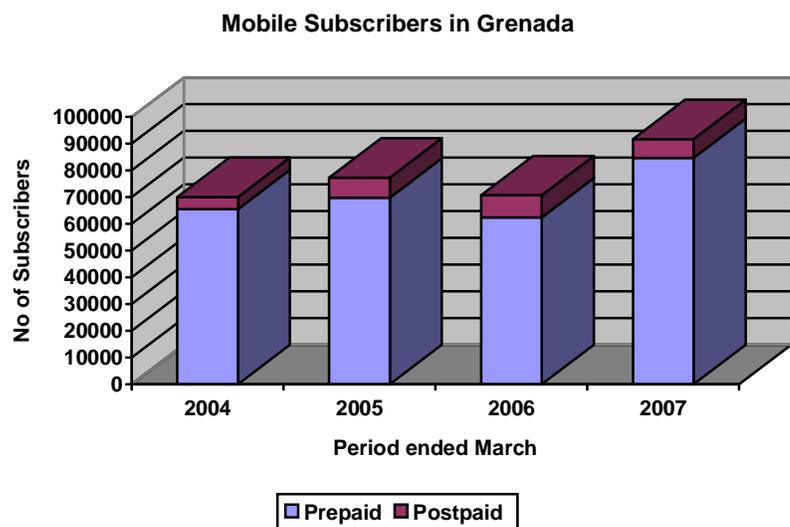
Prices of domestic fixed line calls, which are currently regulated under the Price Cap Plan, remained unchanged from the previous period with peak local fixed to fixed calling at \$0.07 and off-peak rates at \$0.04. Peak rate for fixed to mobile calling was \$0.71 and off-peak rate at \$0.69.

Despite the reduction in the number of fixed lines in service, fixed line calls continued to dominate local outgoing traffic. Total domestic traffic from fixed voice communications increased by 13.7 per cent to 308 million minutes, on account of a 15 per cent increase in fixed to fixed traffic. Moreover, the share of domestic fixed line traffic was 80 per cent of total domestic traffic up from 78 per cent at March 2006.

5.3.2 Mobile

Activity in the mobile telecommunications sub-sector continued to dominate overall sector developments as providers focused on expanding market shares and penetration. Total active mobile subscribers increased by 29.7 per cent to 91,677

representing an increase in penetration of 19.5 percentage points to 86 per



¹⁴ Digicel and Grenada Cablevision Ltd.

cent at the end of March 2007. Among the active subscribers, growth in prepaid subscription remained prominent, accounting for 92 percent or 84,640 mobile subscribers. In keeping with the growth in subscription and traffic, mobile revenues increased by 11.8 percent to EC\$82.2 million.

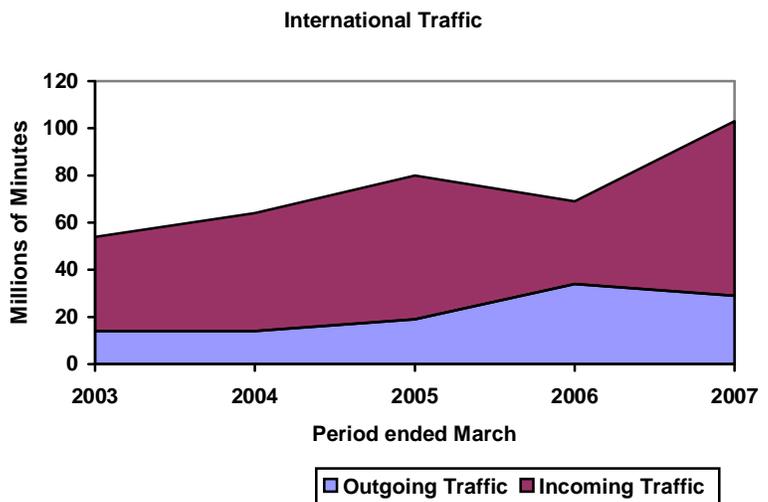
During the review period the structure of the mobile telecommunications sub-sector remained largely unchanged with two competitors in the market. Investment in mobile telecommunications was mainly to increase capacity to meet the growing demand. Providers also focused on expansion in the number of customer care service centres, technical/administrative expenses and the routine maintenance of the existing infrastructure.

Rates for on-net calls remained at least 39 cents lower than off-net rates, with the latter ranging from 79 to 85 cents a minute. There were reductions of over 40 per cent in some on-net rates and mobile to fixed rates. On-net rates ranged from 38 to 40 cents and mobile to fixed rates ranged from 40 to 85 cents.

Mobile traffic accounted for 20 per cent of total local traffic, and increased by 5.5 per cent to 79 million minutes in 2006/2007. Mobile to mobile on-net calls accounted for more than 60 per cent of total local mobile traffic, driven largely by discounts during short term promotions.

5.3.3 International Voice

The ratio of incoming traffic to outgoing traffic increased from 1.03 to 1 in 2006 to 2.55 to 1 in 2007 as total outgoing traffic fell 15.3 per cent to 29 million minutes. An estimated 73 per cent of outgoing international traffic originated from a mobile phone. The incoming calls to the fixed lines increased almost three-fold with 77 per cent of incoming traffic terminating on a fixed line up from 42 per cent last period.



International rates are unregulated and remained unchanged for the review period. The rate for calls to fixed lines in the ECTEL Member State was 50 cents from a fixed line and ranged from 50 to 85 cents from a mobile phone. Calls to the United States and United Kingdom were 90 cents from a fixed line and ranged from 90 to 95 cents from a mobile phone.

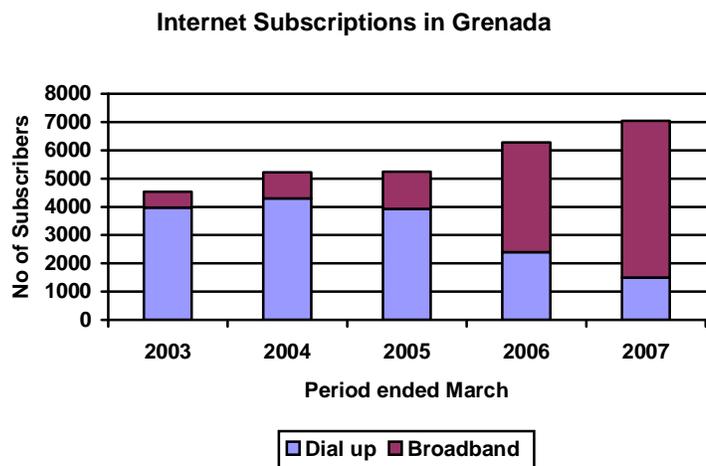
International voice service has been under pressure from external VoIP providers. In response, the incumbent Cable & Wireless introduced a VoIP service in 2005. The number of subscribers to this service has increased almost two-fold from the previous year.

5.4 Internet

Activity in the Internet sub-sector was led by the promotion of broadband as the primary form of access to Internet. Total Internet subscribers increased by 12.1 percent to approximately 7,038, with broadband accounting for 79 per cent of total subscribers compared

with 61.8 per cent in the previous year. Despite an increase in the demand for broadband, Internet penetration remained low as the service remains unaffordable to some segments of the population. Overall penetration edged upwards by 0.7 percentage points to 6.6 per cent. To stimulate the growth in demand for broadband service, customers were offered higher speeds at more affordable rates than in previous years.

During the review period three additional Internet services licences were granted. Although one new entrant has started initial investments, the incumbent remained the sole provider of Internet services. The investments by one additional submarine cable licensee is expected to contribute to increased capacity and competition in the Internet market as the new entrants may have more options to choose among the various infrastructure providers to begin offering their services. Cable & Wireless has reduced the number of



dial-up packages offered to new customers in an effort to encourage almost complete migration to broadband access.

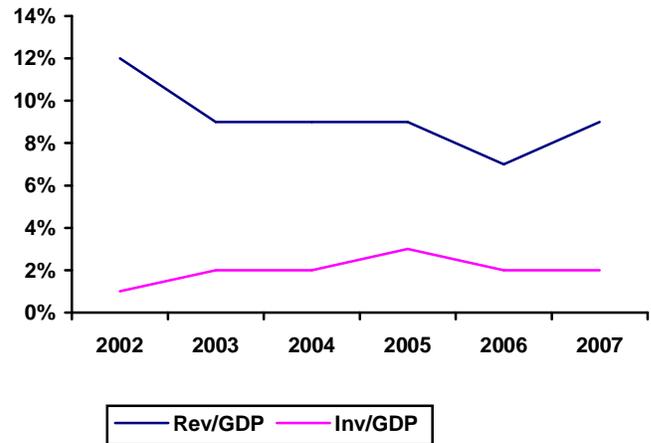
The monthly rate for broadband ADSL access with download speeds of 256 kbps was reduced by 33.6 percent from \$149 to \$99 monthly and the rate for broadband ADSL access with download speeds of 512 kbps was reduced by 25 percent from EC\$199 to EC\$149. Dial-up rates remained unchanged at \$60 and \$129 for the 20 hr and unlimited packages respectively.

6.0 Saint Kitts and Nevis

6.1 Overview

In Saint Kitts and Nevis the telecommunications¹⁵ sector was estimated to have contributed just under EC\$72 million, representing a sectoral share of 11.2 per cent of GDP, up from 10.4 per cent over the previous review period. At March 2007 total investment by individual licensees fell 6.1 per cent to an estimated EC\$21.7 million or 2 per cent of GDP. On the other hand, total revenue for individual licensed operators increased by 35.2 per cent to approximately EC\$123 million or 9 per cent of GDP up from 7 per cent in 2006. Investment as a percentage of revenues fell from 25 per cent in 2006 to 18 per cent in 2007. Direct employment recorded by individual licensed providers fell by 1.3 per cent to 157 at March 2007.

Telecommunications Investment and Revenue in Saint Kitts and Nevis



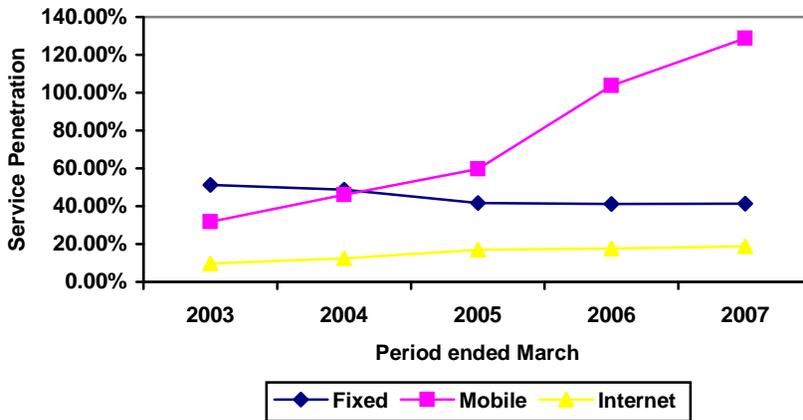
Fixed line revenues accounted for 46.7 per cent of the total revenues in 2006/07 compared with 52 per cent in the previous year. This was closely followed by Mobile services' revenues, accounting for 43.7 per cent up from 38.5 per cent in 2006. Internet services revenues had the lowest share which increased from 9.4 per cent 2006 to 9.5 per cent in 2007.

Activity in the telecommunications sector continued to be fuelled by robust competition in the mobile market and efforts to expand Internet services penetration and in particular broadband deployment. Mobile phone subscription continues to increase as consumers today demand the convenience and affordability of mobile phone services. The number of active mobile subscribers outnumbered the number of fixed lines in service by 3.1 to 1 at the end of March 2007. Mobile penetration, which surpassed 100 per cent last period increased a further 25 percentage points to 128.7 per cent, while growth in the fixed line market remained relatively flat with penetration

¹⁵ The Communications sector is used as a proxy for the Telecommunications Sector.

growing by 0.2 percentage points to 41.3 per cent. St. Kitts and Nevis has the

**Telecommunications Service Penetration
in Saint Kitts and Nevis**



highest Internet service penetration in the ECTEL Member States and Internet services penetration edged up 1.2 percentage points to 18.8 per cent from 17.6 per cent a year earlier.

6.2 Market Players

For the period under review no individual licence was issued. Since 2001, eleven individual licences and sixteen class licences have been issued. The number of active telecommunications providers remained unchanged from the previous review period. Cable & Wireless was the sole provider of fixed line services but there was active competition in the market for mobile and Internet services. St Kitts and Nevis, like Dominica, has three mobile providers - Cable & Wireless, Digicel and UTS-CariGlobe. In the Internet service market, while Cable & Wireless is still the main provider, The Cable also provides high speed Internet access in St. Kitts and Caribbean Cable Communications provides high speed Internet access in Nevis.

The telecommunications services offered is still mainly the traditional services with some providers positioning themselves for multi-play offerings. At the end of March 2007, the incumbent operator indicated that it had started the transition from PSTN to the Packet switched technology to prepare for the inevitable change in the structure of the market.

6.3 Voice Communications

The structure of the voice sub-sector is changing with growth in the fixed line market being dampened due to a shift in consumers' tastes in favour of mobile phones and the emergence of VoIP for international voice communications.

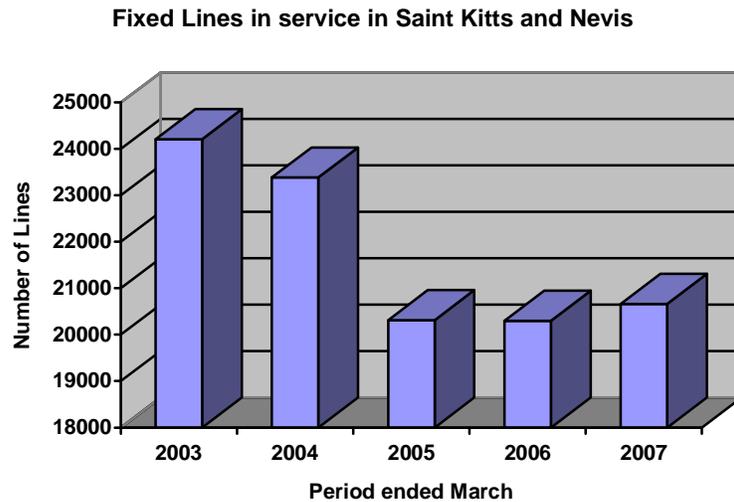
6.3.1 Fixed Line

The number of fixed lines in service grew by 1.8 per cent to 20,660 at March 2007, following a reduction of 0.1 per cent in the corresponding period a year earlier. As a result penetration increased by 0.2 percentage points to 41.3 per cent. Fixed

line services revenue increased by 21.5 per cent to EC\$57.4 million or 46.7 per cent of total revenue. The fixed line market has remained a de facto monopoly. There has been progress made by the incumbent in upgrading the technology and infrastructure from a PSTN to an IP-based network to allow for increased flexibility to enable the provision of voice, data and other content-based services.

Prices of domestic fixed line calls, which are currently regulated under the Price Cap Plan, remained unchanged from the previous period with peak local fixed to fixed calling at \$0.07 and off-peak rates at \$0.04. Peak rate for fixed to mobile calling was \$0.71 and off-peak rate at \$0.69.

The shift away from fixed to mobile calling was evident by the noticeable decline in all categories of local fixed line traffic during the review period. Overall local fixed traffic fell 42.9 per cent to an estimated 67.1 million minutes and accounted for 46 per cent of local traffic.



6.3.2 Mobile

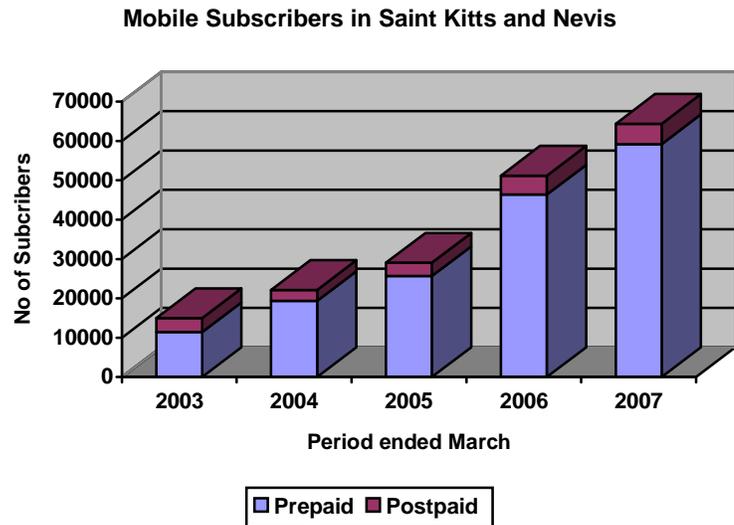
The mobile telecommunications sub-sector remained buoyant with intense on-net promotional campaigns by the mobile providers. Total active mobile subscribers increased by 25.7 per cent to approximately 64,346. Mobile penetration, already over the 100 per cent mark

increased by a further 25 percentage points to 128.7 per cent, the highest in the ECTEL Member States. Among the active subscribers, prepaid subscription increased by 27.7 per cent and accounted for 92 per cent of subscribers

The rates for mobile calls remained unchanged in the review period with on-net calls being offered at a discount of up to 39 cents on off-net rates encouraging on-net calling. Rates for on-net calls ranged from 50 to 65 cents while the rate for calls between networks was 89 cents and mobile to fixed calls were 85 cents per minute.

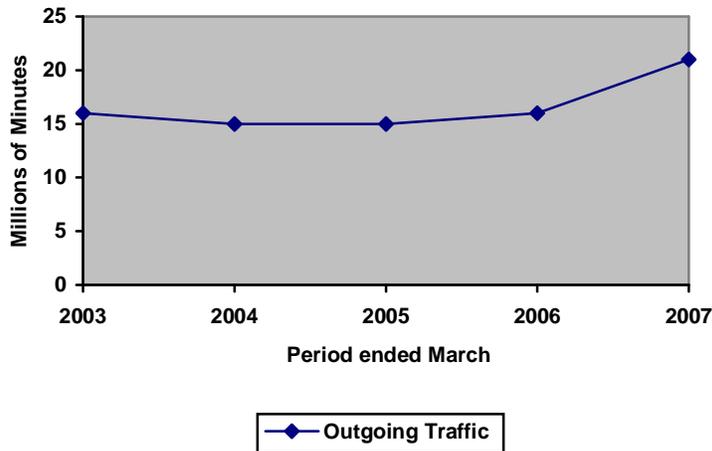
SMS text messaging is gradually becoming an essential communications tool for a large number of consumers. The rates for local SMS text messaging ranged from 9 to 20 cents while international rates fell from 60 cents to 40 cents.

At March 2007, local mobile traffic was estimated at 79.5 million minutes and accounted for 54 per cent of total local traffic supporting the assertion that customers are moving away from fixed to mobile voice services and in particular on-net calling. Mobile to mobile on-net calls accounted for 87 per cent of total local mobile traffic.



6.3.3 International Voice

Outgoing International Traffic in St Kitts and Nevis



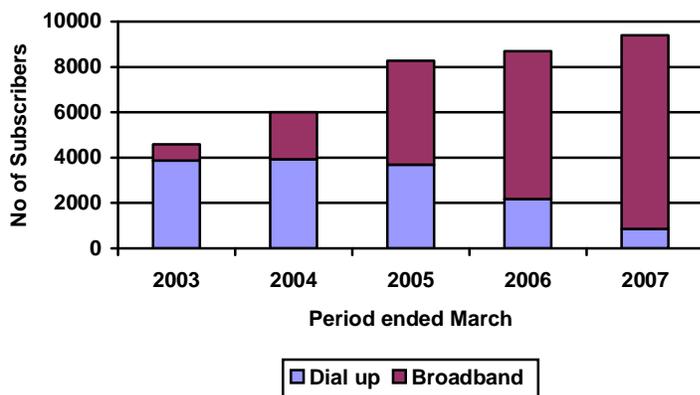
Total international outgoing traffic was estimated to have increased 32 per cent to 20.5 million minutes while the ratio of total incoming traffic to outgoing traffic fell from 2.2 to 1 in the previous period to 1.7 to 1 at March 2007.

The international voice services sub-sector is unregulated and has been under pressure from VoIP providers. In response, the incumbent fixed line provider introduced a VoIP in 2005. The number of active VoIP subscribers has more than doubled since it was launched in 2005.

The rates for international service were unchanged from the previous period. The rate to fixed lines in the ECTEL Member was 50 cents from a fixed line and ranged from 50 to 85 cents from a mobile phone. The rates to mobile phones ranged from \$0.85 to \$1.00. The rates for calls to the United States and the United Kingdom ranged from \$1.30 to \$1.39.

6.4 Internet

Internet Subscriptions in Saint Kitts and Nevis



Activity in the Internet sub-sector continued to be fuelled by rapid deployment of broadband as consumers increasingly embrace high speed Internet rather than dial-up as the main form of Internet access. Total Internet subscribers increased by 8.1 per cent to roughly 9,395 with broadband accounting for 91

per cent of total subscribers compared with 75 per cent in the previous year.

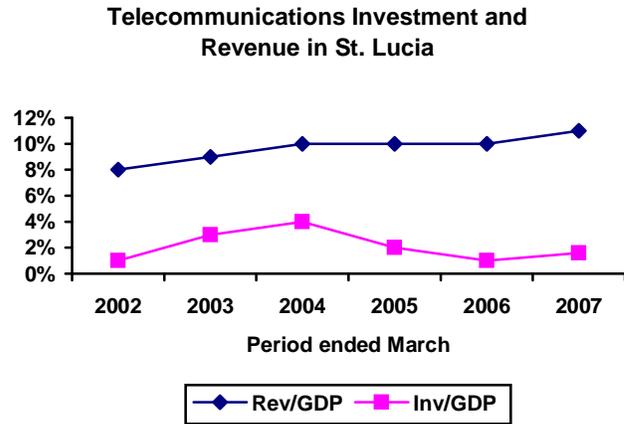
Despite an increase in the demand for broadband, Internet penetration remained low as the service rates and desktop computers remain unaffordable given the uneven distribution of wealth among the population. During the review period, penetration edged upwards by 1.2 percentage points to 18.8 per cent.

The Internet market in St Kitts and Nevis is competitive with all service providers, namely the incumbent, Cable & Wireless and cable operators, The Cable and Caribbean Cable Communications offering high speed Internet access. The incumbent also offers dial-up access. For the period under review, the monthly rate for 512Kbps, the lowest ADSL download speed available, remained unchanged at \$99. The incumbent has scaled back its dial-up offerings to new customers to encourage the complete move to broadband access.

7.0 Saint. Lucia

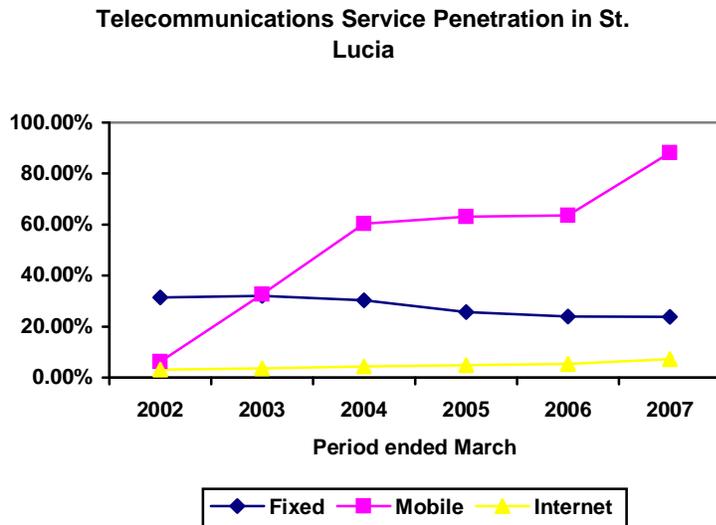
7.1 Overview

It was estimated that the telecommunications sector in Saint Lucia contributed some EC\$151 million to GDP for the review period. This contribution of 10.8 of GDP was down from an 11.4 per cent contribution in the previous review period. Total revenue for the sector was estimated to have increased 21.2 per cent to EC\$282 million or 11 per cent of GDP. Revenue from mobile services outpaced revenue from fixed line services and accounted for 54 per cent of total telecommunications revenues of individual licensed providers. Fixed revenues contributed 42 per cent and Internet service accounted for the lowest share of revenue of 4 per cent in 2007.



At March 2007, total investment by individual licensed providers was estimated to have increased 76 per cent to EC\$39 million or 1.6 per cent of GDP. The resurgence of investment in the sector, for the review period, was in most part due to capital expenditure associated with the landing of a new submarine cable system. Investment as a percentage of revenue was 13.7 per cent up from 9.5 per cent in the previous period. Direct employment recorded by individual licensed providers grew 3 per cent to just over 560.

The mobile market continued to dominate growth in the telecommunications sector. Traffic patterns support the increasing substitutability of mobile phone service for fixed line services. The number of active mobile subscribers outnumbered the number of fixed lines in service by 3.7 to 1 at the end of March 2007. Mobile penetration increased by 24.6 percentage points to 88.1 per cent, while activity in the fixed line market remained subdued with penetration dipping by 0.1 percentage points to 23.8 per cent. Penetration in the Internet services market, which remains far below its potential grew by 1.9 percentage points to 7.3 per cent.



Overall developments in the Saint Lucia's telecommunications sector have been fuelled by robust competition in the mobile market and efforts at increasing broadband deployment and overall penetration in the Internet services market.

7.2 Market Players

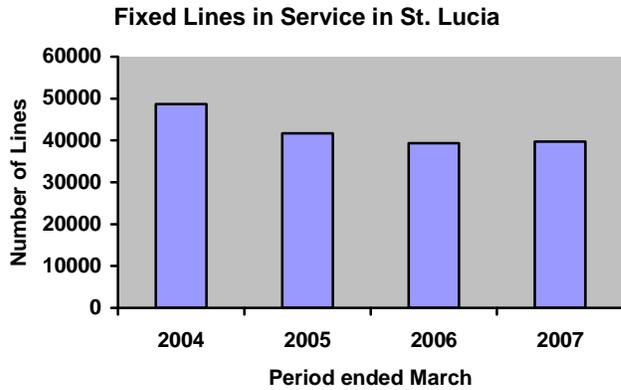
During the review period two Internet Networks and Services licences were issued. This brings to eight the number of individual licences issued in Saint Lucia since 2001. Nine class licences have also been issued. Currently there are eleven registered Customer Premises Equipment providers. The number of active service providers in Saint Lucia remained unchanged from the previous period with the incumbent Cable & Wireless as the sole provider of fixed and Internet service and Cable & Wireless and Digicel as the providers of mobile services.

7.3 Voice Communications

The structure of the voice telecommunications sub-sector is evolving, as growth in the traditional fixed line market continues to be constrained by consumers' increased preferences for mobile phones as a substitute, and to a lesser extent the emergence of the use of VoIP for international voice communications.

7.3.1 Fixed Line

In the review period, the number of fixed lines in service increased by 0.8 per cent to 39,688. However, the growth in lines was more than offset by the estimated expansion of the population resulting in a decrease in penetration by 0.1 percentage points to 23.8 per cent. Fixed line services revenue grew by 21.6 per cent to approximately EC\$119 million and accounted for 42 per cent of telecommunications revenue.



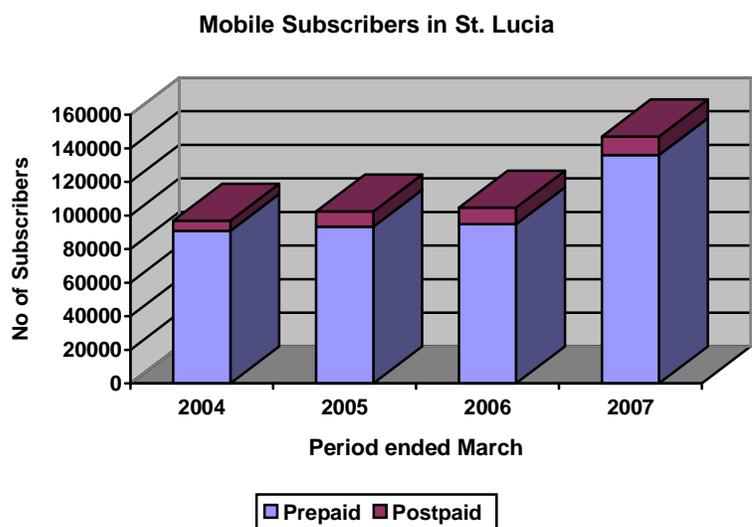
Cable & Wireless remains the sole provider of fixed line services, and has indicated that it is in the process of upgrading its network from a PSTN to an IP-based network to allow for improved quality of service and increased flexibility to enable the provision of voice and data services.

Prices of fixed line calling, which are currently regulated under the Price Cap Plan, remained unchanged from the previous period with peak local fixed to fixed calling at 7 cents and off-peak at 4 cents per minute. The peak rates of fixed to mobile calls was 71 cents and off-peak at 69 cents

The evidence of rapid substitution away from fixed line calling becomes clearer with the share of domestic fixed line traffic decreasing from 70.4 per cent to 45.4 per cent of total domestic traffic. Total domestic traffic from fixed voice communications fell by 48 per cent to an estimated 103 million minutes at March 2007.

7.3.2 Mobile

Expansion of the mobile market continued during the review period. At March 2007, total active mobile subscribers increased by 40.6 per cent to 147,030, representing an increase in penetration by 24.6 percentage points to



88.1 per cent at the end of March 2007. Among the active subscribers, prepaid accounted for 92 per cent or 135,596 representing an increase of 43.5

per cent over the previous year. The mobile market is now the largest in terms of subscribers and revenues with revenue from mobile services accounting for 53.5 per cent of total sector revenue.

Cable & Wireless and Digicel are the two mobile service providers, unchanged from the previous period. Investment in mobile telecommunications remained below the peak levels following liberalization as the productive capacity of the current infrastructure has been sufficient to meet the increasing demand. Consequently, providers focused on expansion in the provision of customer care, technical and administrative expenses and the routine maintenance of the existing infrastructure.

The rate for calls between networks remained at a 10 cents premium to on-net rates and ranged from 80 to 85 cents. On-net rates ranged from 70 to 75 cents but consumers would have benefited from discounted on-net rates and free SMS text messages as both providers offered a number of promotions during the review period.

Mobile providers remain focused at expanding their product offering and sources of revenue and at the end of 2006, one provider introduced a desktop mobile handset with similar features to a fixed line phone to increase the use of mobile phones at business locations. There were also efforts to increase mobile data demand by ensuring the availability of affordable data compatible mobile handsets.

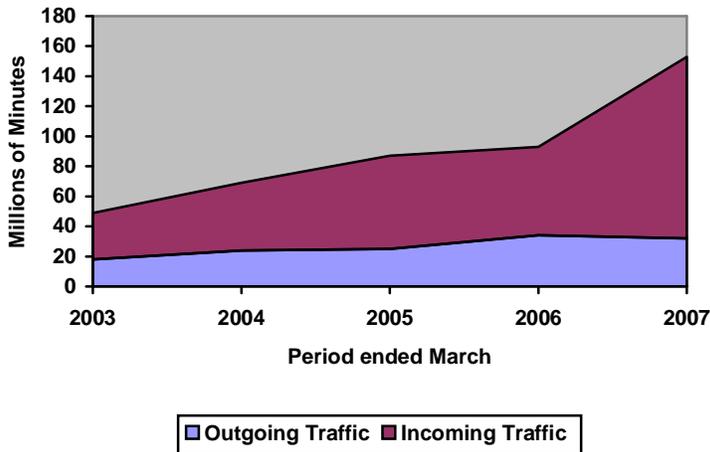
Mobile traffic accounted for 54.6 per cent of total domestic traffic, increasing by 49.8 per cent to more than 120 million minutes at the end of the review period. Mobile to mobile on-net calls accounted for just under 60 per cent of total local mobile traffic, driven largely by discounts during short term promotions.

7.3.3 International Voice

Activity in the global market affected the international voice telecommunications market as evidenced by an increase in the ratio of flows of incoming traffic to outgoing traffic to from 1.7 to 1 in 2006 to 3.8 to 1 in 2007. Total outgoing calls fell 5.7 per cent to just over 32 million minutes with roughly half the calls originating from a mobile phone up from 41 per cent last period. Incoming calls to the fixed lines increased more than three-

fold as a result traffic from the fixed lines accounted for nearly 77 per cent of total traffic.

Incoming and Outgoing International Traffic in St Lucia



International rates are unregulated and have remained constant over the last period. The rates for calls to a fixed line in the ECTEL Member States was 50 cents from a fixed line and ranged from 50 to 85 cents from a mobile phone, while calls to mobile phone ranged from \$0.85 to \$1.00. The rate for calls to

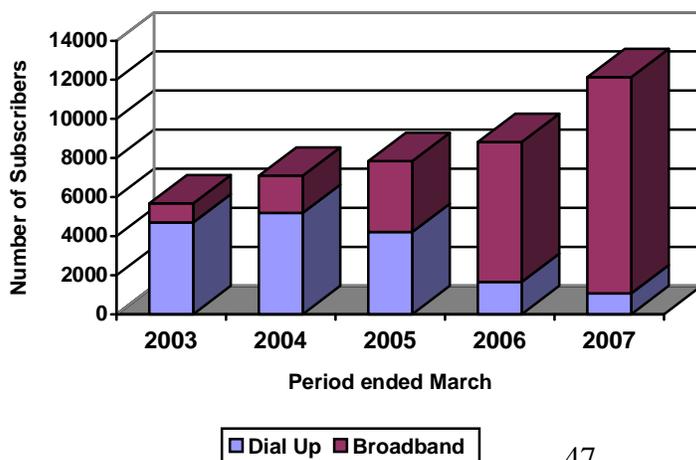
the United States and United Kingdom market was \$1.25 from a fixed line and ranged from \$1.25 to \$1.30 from a mobile phone.

International voice service from a fixed line in particular, has been under threat from VoIP providers. In response Cable & Wireless introduced a VoIP service in 2005.

7.4 Internet

Activity in the internet sub-sector was led by expansion in broadband deployment as the primary form of access to Internet. Total Internet subscribers increased by 38 per cent to 12,143, with broadband accounting

Internet Subscriptions in St. Lucia



for a 91 per cent share of total subscribers compared with 81 per cent in the previous year. Despite an increase in the demand for broadband, internet penetration remained low as the service continues to be unaffordable and

therefore inaccessible to some segments of the population. Overall penetration edged upwards by 1.9 percentage points to 7.3 per cent. Broadband Internet demand was being stimulated through the offering of higher speeds at more affordable rates than in previous years.

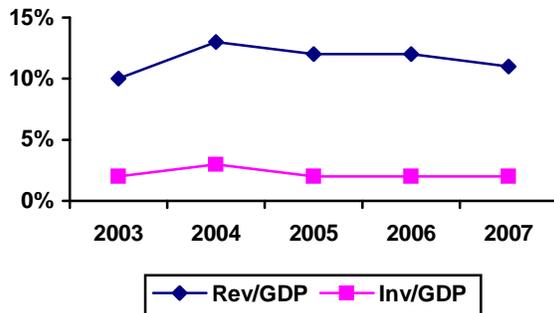
During the review period two additional Internet Network and Services licences were granted. However, the supply side of the internet market remained a de facto monopoly since liberalization. Cable & Wireless has scaled back on dial up internet packages being offered to new customers to encourage adoption of high speed Internet access.

In order to attract new customers and to encourage dial up customers to switch to broadband internet services, the rates for ADSL packages were reduced. Monthly rates of broadband ADSL access with download speeds of 256 kbps were reduced by 33.6 per cent or from \$149 to \$99 monthly. The rates for broadband ADSL access with download speeds of 512 kbps were reduced by 25 per cent from EC\$199 to EC\$149. The rates for dial-up access remained constant at \$60 for 20 hours and \$129 for unlimited access.

8.0 Saint Vincent and the Grenadines

8.1 Overview

Telecommunications Investment and Revenue in Saint Vincent and the Grenadines

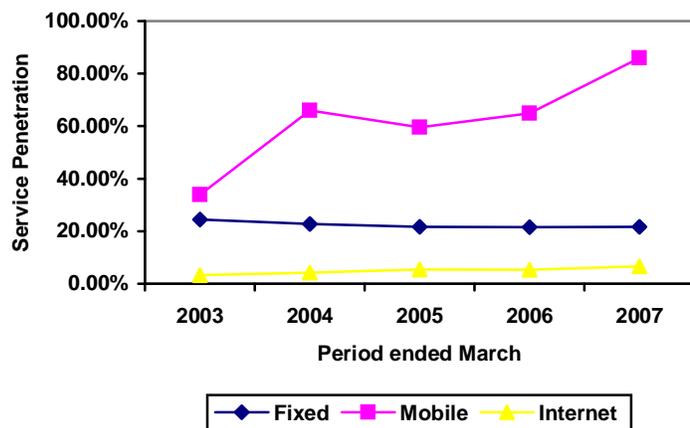


In 2006, the telecommunications¹⁶ sector in St Vincent and the Grenadines was estimated to have contributed EC\$73.8 million, representing a sectoral share of 9.7 per cent of GDP, down from 10.2 per cent for the previous year in review. At March 2007, total investment by individual licensed providers grew by 32.8 per cent to EC\$27 million, or

approximately 2 per cent of GDP and 17.4 per cent of sector revenue. Increased investment in the telecommunications sector was due in large part to capital expenditure associated with the landing of a new submarine cable system in St Vincent and the Grenadines. Direct employment by individual licensed providers fell by just under one per cent to roughly 158 at March 2007.

Total revenue earned by individual licensed operators increased an estimated 8 per cent to EC\$155.5 million or 11 per cent of GDP. Mobile service revenue outpaced fixed line revenues and accounted for 54 per cent of the total revenues compared with 47 per cent in the previous year. Fixed line revenues, accounted for 41 per cent down from 48 per cent in 2006. Internet services revenue accounted for 5 per cent, the smallest share of total revenue up from 4 per cent in 2006.

Telecommunications Service Penetration in Saint Vincent and the Grenadines



¹⁶ Communications used as a proxy for telecommunications

Growth in the mobile market continued to dominate activity in the telecommunications sector, with expansion of broadband deployment also making a positive contribution. The number of active mobile subscribers outnumbered the number of fixed lines in service by 4.0 to 1 at the end of March 2007. Mobile penetration increased by approximately 21 percentage points to 85.9 per cent, while growth in the fixed line market remain flat, penetration increased slightly (0.03 percentage points) to 21.7 per cent. Penetration in the Internet services market, which still remains below its true potential, grew by 1.3 percentage points to 6.6 per cent.

8.2 Market Players

During the review period two new individual licenses were granted - one Fixed Public Telecommunications and one Submarine Cable. The new fibre optic submarine cable which will link St Vincent and the Grenadines and the rest of the Caribbean to the Internet backbone will comprise a minimum of four fibre pairs, which will allow for increased international connectivity of up to 30 Gbps per fibre pair. The increased capacity is expected to result in a reduction in the price of IP bandwidth and international connectivity resulting in increased activity and reduced retail rates for high speed Internet access and international calling.

Since 2001, ten individual licences have been issued, two for Public Fixed Telecommunications, three Public Mobile Telecommunications, four for Internet Network and Services and one Submarine Cable. Two hundred and eighty-six (286) class licences have been issued and there are currently fourteen registered Customer Premise Equipment providers.

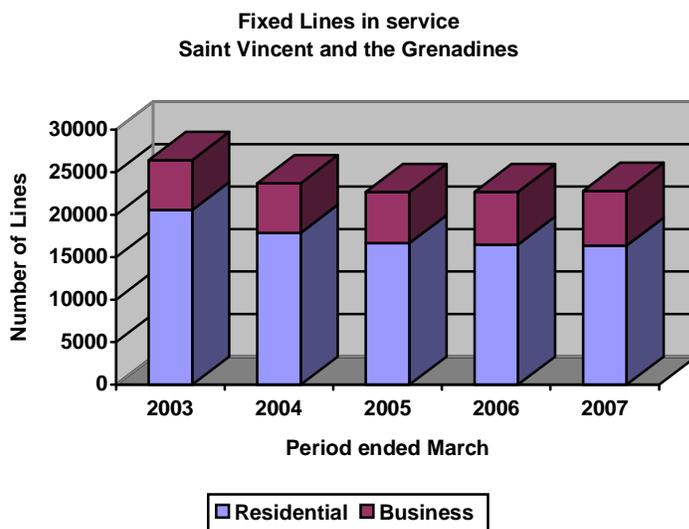
The number of active service providers remained unchanged since the last period. Cable & Wireless is the sole provider of fixed line services; Cable & Wireless and Digicel offer mobile services, and Cable & Wireless and Karib Cable offer Internet access. Telecommunications operators in St. Vincent and the Grenadines continued to be focussed on the provision of the traditional telecommunications services and have been slow to adopt emerging wireless, 3G and converged telecommunications services including multiple-play services.

At the end of March 2007, the incumbent indicated that it had started the process of transition from PSTN to the IP based network to prepare for inevitable change in the structure of the market. New entrants will have the opportunity to utilize the resources of the submarine cable and their own networks to possibly penetrate the traditional telecommunications service markets but also introduce new innovative services.

8.3 Voice Communications

The structure of the voice telecommunications sub-sector is evolving as growth in the fixed line market continues to be constrained by consumers' increased preferences for mobile phones as a substitute commodity for voice telecommunications and to a lesser extent the emergence of VoIP for international voice communications.

8.3.1 Fixed Line



In the review period, the number of fixed lines in service edged upwards by 0.5 per cent to 22,806 at March 2007, following marginal growth (0.1 per cent) in the previous year. As a result penetration edged upwards by 0.03 percentage points to 21.7 per cent. Despite the growth in fixed line service, revenue from

fixed lines dipped by 8.2 per cent to EC\$64 million.

Cable & Wireless remained the sole provider of fixed line services at March 2007. The incumbent indicated that it was in the process of upgrading its fixed network from a PSTN to an IP-based network to allow for increased flexibility to enable the provision of voice and data services in the era of convergence.

Prices of domestic fixed line services, which are currently regulated under the Price Cap Plan, remained unchanged between April 2006 and March 2007.

The peak rate for fixed to fixed calls was 7 cents with off-peak rates at 4 cents. The peak rate for fixed to mobile calls was 71 cents and off-peak rate was 69 cents. To combat the decline in fixed line usage, Cable & Wireless was in the process of introducing an unlimited residential fixed to fixed calling package at a rate of \$25 monthly. This gives consumers the option of selecting a per minute or flat rate option for local residential calls.

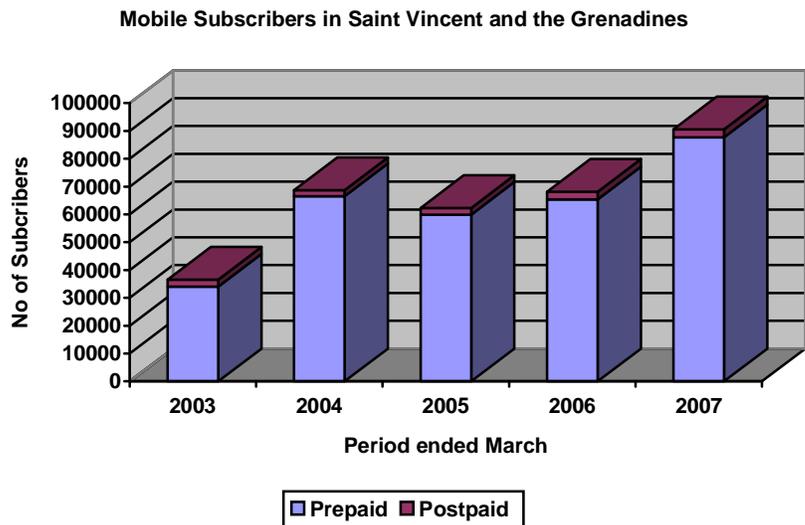
Traffic patterns are beginning to reveal some degree of substitution away from fixed wire-line services with mobile services. Total domestic outgoing traffic from fixed voice communications decreased by 5.7 per cent to approximately 85 million minutes and accounted for 46 per cent of local traffic.

8.3.2 Mobile

Activity in the mobile telecommunications sub-sector continued to dominate the overall telecommunications sector development. In 2006/07, competition in the sector remained intense, as the two providers remain focussed on marketing strategies

to expand their market shares and profitability in the market. Total active mobile subscribers increased by 32.8 per cent to 90,521 representing an increase in penetration of 21 percentage points to 86 per cent at the end of March 2007. Among the active subscribers, growth in prepaid subscription remained prominent, increasing by 34 percent to 87,666 and accounting for 97 per cent of total mobile subscribers. In keeping with the growth in subscription, and penetration, mobile revenues increased 23.1 per cent to EC\$84.1 million.

Cable & Wireless and Digicel remained two active mobile operators for the review period. Investments incurred were mainly for routine maintenance of



existing infrastructure. To meet the needs of the growing demand, there was a noticeable increase in the number of cell phone agents.

There were no movements in mobile rates during the review period. The rates for calls on the same network were at least 15 cents lower than off-net rates. On-net rates ranged between 70 cents and 85 cents while off-net rates were all at 85 cents. The rates for mobile to fixed calls remained at 0.80 to 0.85 cents at March 2007. Providers take advantage of the fact that a number of consumers have more than one handset and offer promotional discounted on-net rates to encourage on-net use thereby boosting traffic and revenue.

Mobile telecommunications providers remain focused at expanding their sources of revenue. There were campaigns to expand the consumption of mobile services through the reduction of some SMS rates and promotion on mobile data services by offering more affordable data compatible mobile handsets.

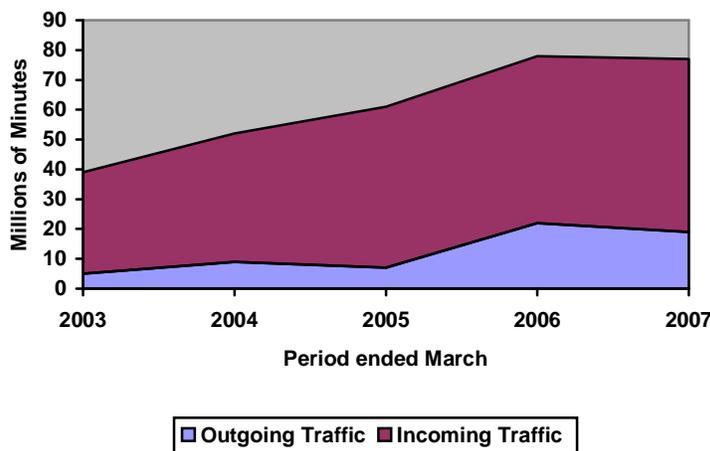
Total domestic mobile traffic was recorded at approximately 100 million minutes and accounted for 54 per cent of total domestic traffic. Seventy-four (74) per cent of domestic mobile traffic was mobile to mobile on-net calls.

8.3.3 International Voice

External activity continued to influence the international voice market as was evidenced by an increase in the ratio of flows of incoming traffic to outgoing

traffic from 2.6 to 1 in 2006 to 3 to 1 in 2007. Total outgoing calls fell 13.2 per cent to just under 19 million minutes with roughly 60 per cent of the calls originating from a mobile phone, up from 50.3 per cent last period. Total incoming calls increased 4.1 per cent while incoming calls to the fixed lines increased some 47.2 per

Incoming and Outgoing International Traffic in St Vincent and the Grenadines

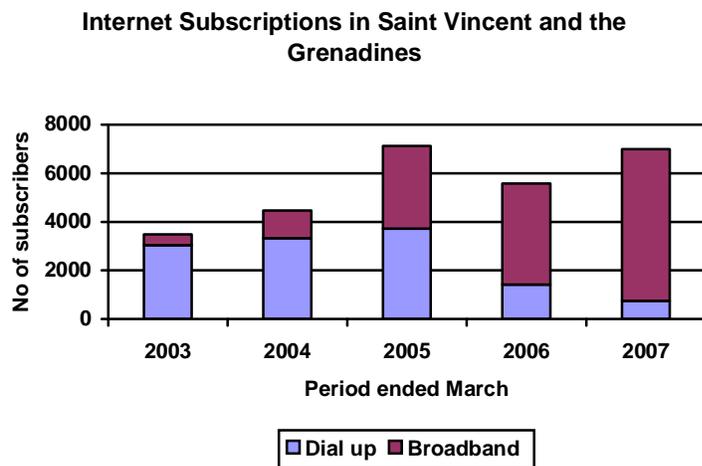


cent, and accounted for 61 percent of total incoming traffic.

International rates remained unregulated in the review period. There were some upward movements in rates, with some rates having been increased by 15 per cent for the period under review. The rates for calls to a fixed line in the ECTEL Member State was 50 cents from a fixed line and ranged from 50 to 85 cents from a mobile phone, while calls to mobile phone ranged from \$0.85 to \$1.00. The rate for calls to the United States and United Kingdom market was \$1.65 from a fixed line and ranged from \$1.300 to \$1.65 from a mobile phone.

International voice service from a fixed line in particular, has been under threat from VoIP providers. In response Cable & Wireless introduced a VoIP service in 2005 and the number of active subscribers increased three-fold since the launch of the service.

8.4 Internet



Activity in the internet sub-sector was spurred by the promotion of broadband as the primary form of internet access. The number of Internet subscribers increased by 25.4 percent to 6,988, with Broadband's share of total subscribers at 89.2 per cent increasing from 74.5 per cent in the previous review period.

Internet penetration however remains below potential as the service is still unaffordable to large segments of the population. Moreover, the average consumer is unable to subscribe to Internet services if that consumer is unable to obtain a computer which is necessary for Internet access. Overall penetration edged upwards by 1.3 percentage points to 6.6 per cent. The thrust of broadband deployment led to increases in options for customers as higher speeds were made more affordable.

The Internet market in St Vincent and the Grenadines has two active service providers, namely, Cable & Wireless and the cable operator Karib Cable. Both providers offer high speed Internet access while Cable & Wireless also offers dial-up access.

To attract new customers and to encourage dial up customers to switch to broadband Internet services, the rates offered for ADSL packages were reduced. The monthly rate for broadband ADSL access with download speeds of 256 kbps was reduced by 33.6 per cent from \$149 to \$99. The rates for ADSL access with download speeds of 512 kbps was reduced by 40 per cent from EC\$249 to EC\$149. The incumbent has scaled back its dial-up offerings to new customers to encourage the complete move to broadband access. Dial-up rates remained unchanged at \$60 for 20 hours and \$129 for unlimited access.

9.0 Notes and Statistical Tables

9.1 Notes on Statistical Tables and Data

1. All figures have been rounded to the nearest million, thousand, and whole number or to the second decimal place.

- -- denotes 'nil'
- 0.0 denotes 'negligible'
- n.a. denotes 'not available'
- ** denotes 'not applicable'

All dollar amounts are in Eastern Caribbean dollars (EC\$). Where it was necessary to convert from another currency to Eastern Caribbean dollars the following exchange rates were used:

JA\$1 = EC\$0.0375

TT\$1 = EC\$0.4240

BD\$1 = EC\$1.35

US\$1 = EC\$2.70

The telecommunications statistics in this report are subject to revision from time to time to ensure accuracy. Some data in this report has been restated from the Telecom Sector Review 2005/06 to reflect updated information.

2. Telecommunications revenues are the revenues received from providing telecommunications services.
3. Fixed line penetration is obtained by dividing the number of fixed line subscribers by the population and multiplying by 100.
4. Mobile penetration is obtained by dividing the number of cellular subscribers by the population and multiplying by 100.
5. Internet penetration is obtained by dividing the number of Internet subscribers by the population and multiplying by 100.
6. Outgoing international traffic is the total telephone traffic measured in minutes that originated from a fixed or mobile phone in the specified state with a destination outside the state. Local and international traffic does not include traffic for Cingular Wireless, this was not available at the time of publication.)
7. Residential fixed line access charge is the recurring fixed charge for subscribing to the Public Switched Telephone Network (PSTN).

8. Telecommunications investment is the expenditure associated with acquiring ownership of plant and property used for telecommunications service and includes land and buildings.
9. Employment refers to the total number of staff employed by a telecommunications provider. This does not include sub-contract staff.
10. The data for populations are the mid-year estimates from the Eastern Caribbean Central Bank.
11. Gross Domestic Product (GDP) data is based on the Eastern Caribbean Central Bank's estimates.
12. Rates for services are peak rates except where stated otherwise. There is a 50 cent surcharge on international calls to mobile phones in the Caribbean region.

9.2 STATISTICAL TABLES

Table 2: Telecommunications Revenues (EC\$ Million)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	\$83	\$68	\$82	\$89	\$56
Grenada	\$114	\$114	\$142	\$157	\$173
St Kitts and Nevis	\$84	\$88	\$98	\$91	\$123
Saint Lucia	\$169	\$204	\$218	\$233	\$282
St Vincent and the Grenadines	\$95	\$137	\$135	\$143	\$155
	\$545	\$611	\$676	\$712	\$790

Source: ECTEL/operators

Note: Includes estimates where ECTEL did not receive data from the operators

Table 3: Fixed Line Penetration

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	34%	34%	27%	27%	25%
Grenada	29%	27%	24%	28%	26%
St Kitts and Nevis	52%	49%	42%	41%	41%
Saint Lucia	32%	30%	26%	24%	24%
St Vincent and the Grenadines	25%	23%	22%	22%	22%

Source: ECTEL/operators

Table 4: Mobile Penetration

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	18%	33%	61%	75%	101%
Grenada	21%	67%	73%	67%	86%
St Kitts and Nevis	32%	46%	60%	104%	129%
Saint Lucia	33%	60%	63%	64%	88%
St Vincent and the Grenadines	34%	64%	60%	65%	86%

Source: ECTEL/operators

Note: Includes estimates where ECTEL did not receive data from the operators

Table 5: Internet Penetration

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	6%	7%	6%	6%	7%
Grenada	4%	5%	5%	6%	7%
St Kitts and Nevis	10%	13%	17%	18%	19%
Saint Lucia	4%	4%	5%	5%	7%
St Vincent and the Grenadines	3%	4%	5%	5%	7%

Source: ECTEL/operators

Note: Includes estimates where ECTEL did not receive data from the operators

Table 6: Local Traffic Originating from a Fixed Line

(Millions of minutes)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	84	72	60	70	41
Grenada	330	461	248	271	308
St Kitts and Nevis	154	117	110	118	67
Saint Lucia	n.a.	n.a.	n.a.	196	103
St Vincent and the Grenadines	101	113	100	90	85
	669	763	518	745	604

Source: ECTEL/operators

Table 7: Local Traffic Originating from a Mobile Phone

(Millions of minutes)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	n.a.	n.a.	n.a.	n.a.	41
Grenada	6	18	42	74	79
St Kitts and Nevis	5	15	15	n.a.	79
Saint Lucia	8	51	60	82	124
St Vincent and the Grenadines	9	31	42	52	100
	27	115	159	208	423

Source: ECTEL/operators

Table 8: International Outgoing Traffic

(Millions of minutes)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	9	8	10	13	13
Grenada	14	14	19	34	29
St Kitts and Nevis	16	15	15	16	21
Saint Lucia	18	24	25	34	32
St Vincent and the Grenadines	5	9	7	22	19
	62	70	76	118	114

Source: ECTEL/operators

Table 9: International Incoming Traffic

(Millions of minutes)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	29	29	30	31	30
Grenada	40	50	61	35	74
St Kitts and Nevis	n.a.	n.a.	n.a.	34	35
Saint Lucia	31	45	62	59	121
St Vincent and the Grenadines	34	43	54	56	58
	134	167	207	215	318

Source: ECTEL/operators

Table 10: Residential Fixed Line Access Charge
(EC\$)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	20.00	24.00	24.00	24.00	24.00
Grenada	54.00	54.00	26.40	26.40	26.40
St Kitts and Nevis	22.00	24.00	24.00	24.00	24.00
Saint Lucia	22.00	26.40	26.40	26.40	26.40
St Vincent and the Grenadines	17.00	20.40	20.40	20.40	20.40

Source: ECTEL/operators

Table 11: Local Fixed to Fixed Calling Rate
(EC\$ per minute)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Day	0.09	0.09	0.07	0.07	0.07
Evening	0.08	0.08	0.05	0.04	0.04
Weekend	0.06	0.06	0.05	0.04	0.04

Source: ECTEL/operators

Table 12: Local Fixed to Mobile Calling Rate
(EC\$ per minute)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Day	0.81	0.81	0.76	0.71	0.71
Evening	0.80	0.80	0.75	0.69	0.69
Weekend	0.78	0.78	0.75	0.69	0.69

Source: ECTEL/operators

Table 13: Outgoing International Rate from a Fixed Line
(EC\$ per minute)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
ECTEL States	0.50	0.50	0.50	0.50	0.50
C&W Caribbean	0.66	0.66	0.66	0.66	0.66
Non C&W					
Caribbean	0.99	0.99	0.99	0.84 - 0.99	0.84 - 0.99
US and Europe	1.65	1.65	1.65	0.90 - 1.65	0.90 - 1.65
Rest of World	2.20	2.20	2.20	1.25 - 2.20	1.25 - 2.20

Source: ECTEL/operators

Table 14: Telecommunications Investment
(EC\$ million)

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	8	26	46	16	21
Grenada	13	51	26	30	40
St Kitts and Nevis	17	17	38	23	22
Saint Lucia	57	78	35	22	39
St Vincent and the Grenadines	18	34	20	20	27
	113	205	164	111	148

Source: ECTEL/operators

Note: Includes estimates where ECTEL did not receive data from the operators

Table 15: Employment in Telecommunications

	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07
Dominica	277	278	288	294	273
Grenada	172	190	183	207	216
St Kitts and Nevis	122	120	140	159	157
Saint Lucia	386	408	428	541	557
St Vincent and the Grenadines	157	147	169	159	158
	1114	1143	1208	1360	1361

Source: ECTEL/operators

Note: Includes estimates where ECTEL did not receive data from the operators

Table 16: Mid-year Population
(Thousands)

	2002	2003	2004	2005	2006
Dominica	70	70	70	71	71
Grenada	104	104	105	106	107
St Kitts and Nevis	47	48	49	49	50
Saint Lucia	159	161	162	165	167
St Vincent and the Grenadines	108	104	104	105	105

Source: ECCB

10.0 Individual Licensees in the ECTEL Member States

Table 17: Individual Licensees in the ECTEL Member States as at March 2007

LICENCE	FIXED PUBLIC NETWORK	PUBLIC MOBILE TELECOMS	INTERNET NETWORK AND SERVICES	SUBMARINE CABLE
Dominica	Cable & Wireless Marpin Telecoms and Broadcasting Sat Telecommunications †	Cable & Wireless Orange Dominica Digicel	Cable & Wireless Marpin Telecoms and Broadcasting Sat Telecommunications †	Middle Caribbean Network
Grenada	Cable & Wireless Global Network Partners† Trans-World Telecoms Caribbean† Grenada Cable Vision† Digicel†	Cable & Wireless Digicel Global Network Partners† Trans-World Telecoms Caribbean†	Cable & Wireless Global Network Partners† Grenada Cable Vision† Digicel† Grencomm†	Southern Caribbean Fiber
St Kitts and Nevis	Cable & Wireless The Cable† Caribbean Cable Communications†	Cable & Wireless UTS-CariGlobe Wireless Ventures	Cable & Wireless The Cable Nevis Communication Corporation† Caribbean Cable Communications	Southern Caribbean Fiber
Saint Lucia	Cable & Wireless Antilles Crossing	Cable & Wireless Digicel	Cable & Wireless Antilles Crossing† Link Technologies†	Antilles Crossing
St Vincent and the Grenadines	Cable & Wireless Digicel†	Cable & Wireless Digicel	Cable & Wireless Digicel Karib Cable (KelcomInternational)	Southern Caribbean Fiber

Source: ECTEL/NTRCs

† Were not operational at March 2007