Executive Summary

Few industries have experienced more wrenching changes over the past 20 years than the international long-distance telecom business. Service providers have weathered market liberalization, the enormous telecom industry market bubble (and its equally extreme aftermath), intense competition, rapid technological innovation, and non-stop price declines. Throughout this period, the industry has relied on steady traffic growth to help eke out modest revenue growth. Even greater challenges lie ahead: telcos must come to grips with competition from Internet-based services, like Skype and Google Voice, and make difficult decisions about investments in new infrastructure. Moreover, international voice traffic growth is decelerating, and revenue growth has reached a virtual standstill. The *TeleGeography Report* analyzes and quantifies the state of the international long-distance industry and assesses the factors that will shape it in the years ahead.

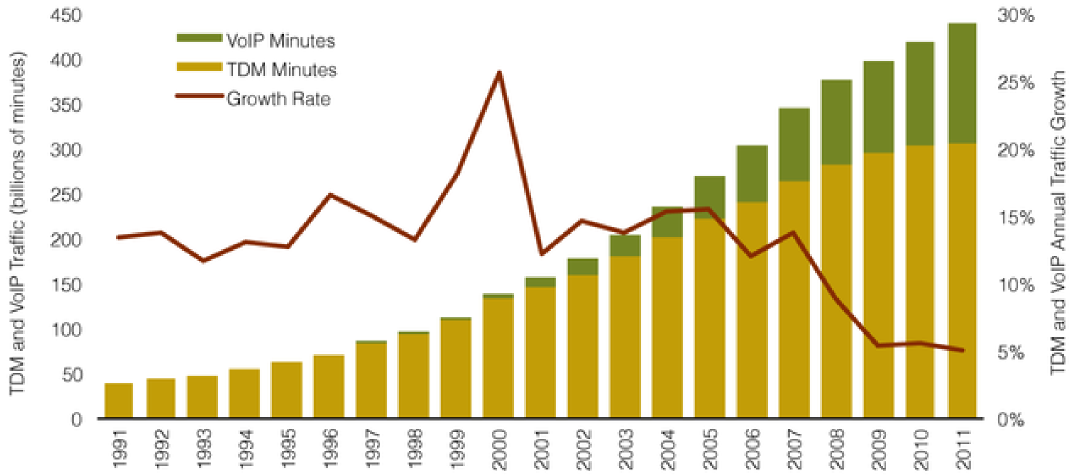
Traffic

Over the past 20 years, international voice traffic has grown at a compounded rate of just over 13 percent annually. Growth was especially rapid during the late 1990s and early 2000s due to a confluence of factors. A wave of market liberalization, which peaked in 1998, brought new entrants to the market, resulting in sharp declines in international calling rates. Mobile phones emerged as a mass-market product and gained hundreds of millions of new subscribers, creating new opportunities for consumers and business people to make calls. Calling cards and pre-paid services made international communications affordable to low-income immigrants, spurring call growth to developing countries, in particular.

Price reductions led to a surge in traffic growth that peaked at 25 percent in 2000. However the effects of price reductions began to fade after several years of rapid growth, and volume growth quickly returned to its historical trend of 12-16 percent annually. The era of double-digit growth came to an end in 2008, when traffic growth slowed to 9 percent, and further declined to approximately 5.5 percent in 2009 and 2010. Total international voice traffic grew from 397 billion minutes in 2009 to 419 billion minutes in 2010. Traditional time division multiplexed (TDM) international traffic grew 3 percent in 2010, to 303 billion minutes, while traffic carried as Voice over IP (VoIP) grew 14 percent, to 116 billion minutes. TeleGeography estimates that global traffic will grow 4 percent in 2011, to 438 billion minutes, 30 percent of which will be transported as VoIP (see Figure: International Call Volumes and Growth Rates, 1991-2011).

FIGURE 1

International Call Volumes and Growth Rates, 1991-2011



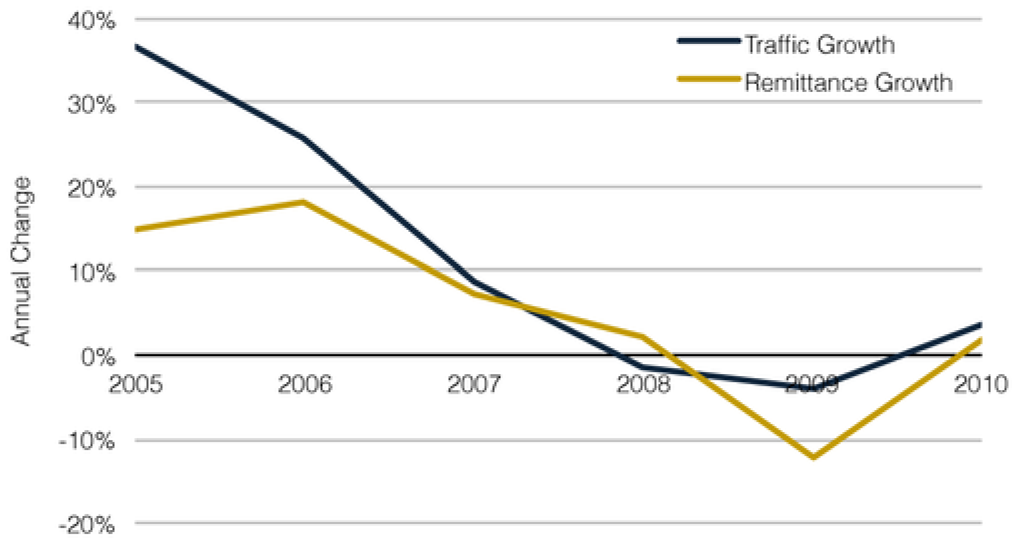
Notes: Data for 2011 are projections based on half-year results. VoIP traffic reflects international traffic transported as VoIP by carriers, and excludes PC-to-PC traffic.

Source: TeleGeography

What accounts for the rapid deceleration in traffic growth? One factor is the deep recession of 2007-2009, which affected both business demand and individuals' ability to pay for international calls. International migration has been a particularly important driver of traffic growth from the U.S. to Latin America. The rapid expansion of the U.S. housing market in the 2000s provided ample employment for migrant workers from Latin America, which led to sharp increases in both international voice traffic and remittance payments to Latin America. The collapse of the U.S. housing market, and the deep recession that began in late 2007, had a clear impact on both remittance payments and international call volumes to Latin America. Call volumes and remittance payments resumed growth in 2010, but are still well below historical trends (see Figure: Change in Traffic and Foreign Remittances to Latin America, 2005-2010).

FIGURE 2

Change in Traffic and Foreign Remittances to Latin America, 2005-2010



Notes: Traffic reflects TDM and VoIP.

Source: TeleGeography, World Bank

Economic conditions are not the only challenge confronting the international calling market. Increasingly, international voice communications no longer require a telephone or an international carrier. The share of international traffic routed via computer-to-computer VoIP services has skyrocketed. Cross-border traffic routed via Skype, by far the dominant provider of consumer VoIP service, is projected to grow by an astonishing 47 billion minutes in 2011, to 145 billion minutes. Demand for cross-border communications has not declined; rather, tens of millions of consumers have discovered that they can communicate without the service of a telco. If Skype's traffic were added to the volume of international phone calls, international voice traffic would have grown 13 percent in 2011.

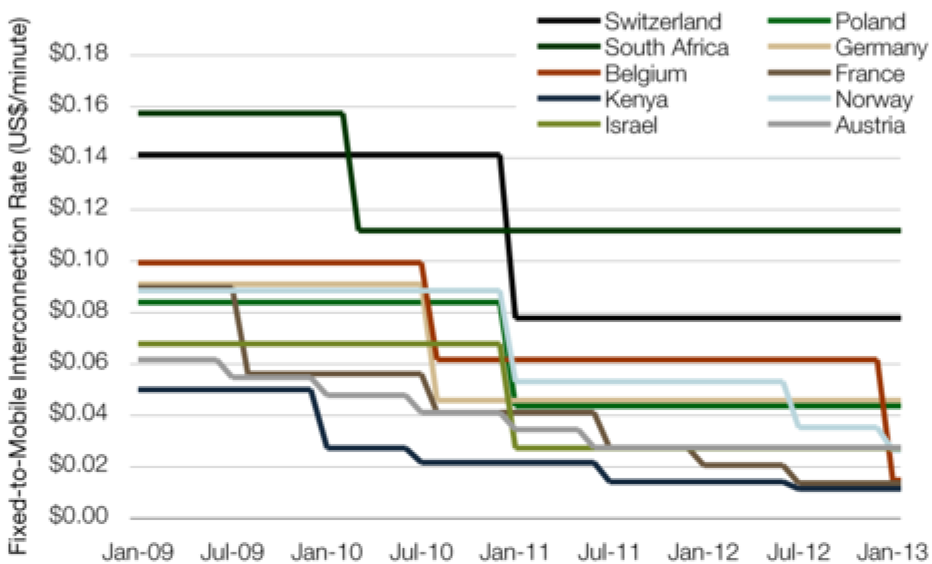
Mobiles

Mobile operators and their subscribers are a key driver of the international calling market. The number of mobile phones in service overtook the number of fixed lines in 2002, and by 2010 mobiles accounted for 82 percent of total global phone lines. In 2010, 42 percent of international call traffic originated on mobile phones, while 57 percent of international traffic was terminated to mobile phones.

Mobiles play a particularly important role in the wholesale market. In 2010, mobile-terminated calls accounted for 61 percent of wholesale traffic, and 81 percent of wholesale carrier revenues. Mobiles account for a disproportionately large share of wholesale revenues because mobile network interconnection rates (the per-minute fees carriers pay to destination network operators to terminate calls on their networks) are often several times higher than fixed-network termination rates. The high cost of mobile interconnection has attracted the attention of regulators, and carriers in many countries are being required to reduce their mobile network interconnection rates to levels more in line with fixed-network charges (see Figure: Mobile Interconnection Rate Declines, 2009-2013).

FIGURE 3

Mobile Interconnection Rate Declines, 2009-2013



Notes: Regulated mobile interconnection rates of largest mobile operators in these countries. Local values are shown here converted to U.S. dollars at October 2010 exchange rates.

Source: TeleGeography

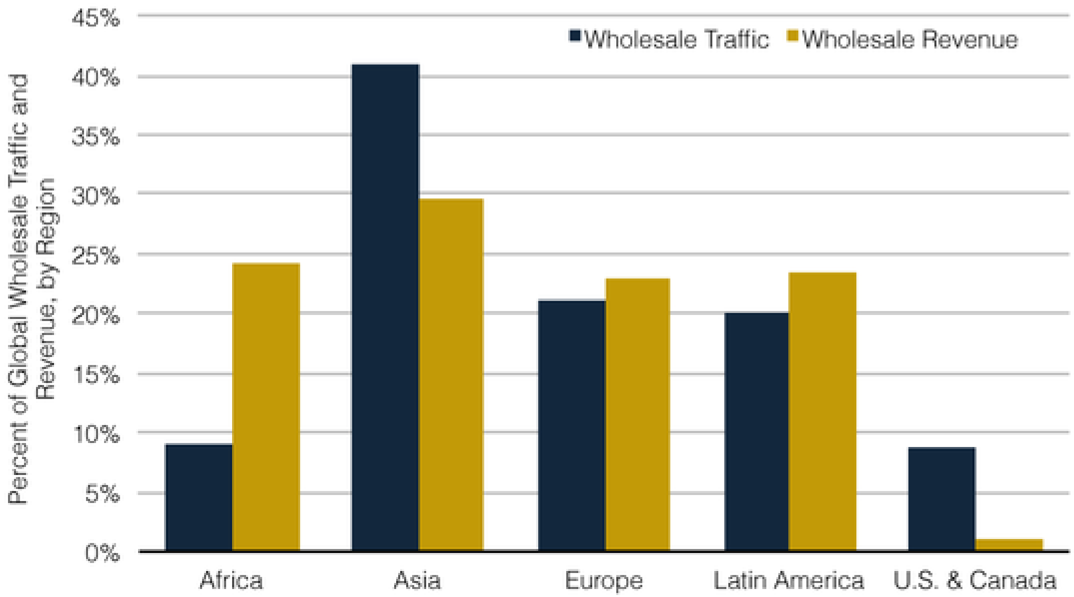
Wholesale

A highly developed international wholesale voice service market has emerged in the past decade, greatly increasing the efficiency of the marketplace. Slightly more than 61 percent of international call traffic was terminated by wholesale carriers in 2010.

Wholesale traffic and revenues are not distributed evenly around the world; certain regions account for disproportionate shares of traffic and revenues. For example, more than 75 percent of traffic to South America, Sub-Saharan Africa, Central Asia, and Central Europe was routed via wholesale carriers. Conversely, only 40 percent of traffic to western Europe was terminated by wholesale carriers. If anything, wholesale revenues are distributed even more unevenly. Just 40 routes account for 62 percent of global wholesale revenues. Calls terminated in Africa accounted for just nine percent of global wholesale traffic, but 24 percent of revenues. Conversely, calls to Asia generated 41 percent of wholesale traffic but only 29 percent of revenues, due to very low termination costs to large destinations such as China and India.

FIGURE 4

Share of Global Wholesale Traffic and Revenue by Region, 2010



Notes: Data reflect TDM and VoIP traffic.

Source: TeleGeography

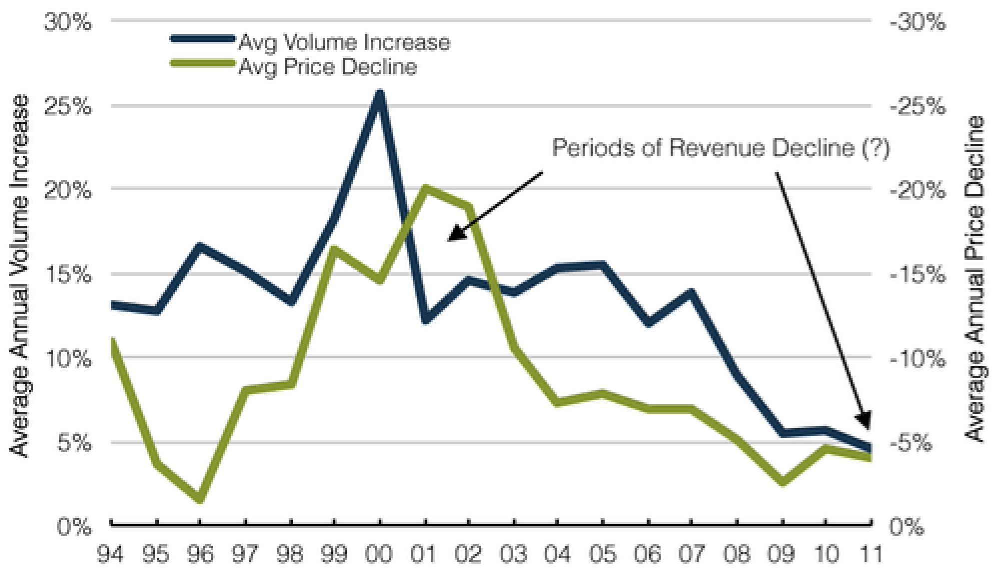
Average wholesale prices have fallen at a compounded rate of just over seven percent annually since 2002. Through 2008, wholesale traffic grew rapidly enough to offset these price declines. That dynamic changed in 2008, when traffic growth slowed and global wholesale revenues declined 2 percent. Wholesale revenues continued to decline in 2010, though at a slightly slower pace. The decline in wholesale revenue has been driven by a wide range of factors, including the slowdown in volume to Latin America, a major wholesale destination; an intense price war in South Asia that has driven down average wholesale rates by more than 80 percent since 2005; and declines in mobile termination rates due to regulatory mandates, particularly in Europe.

Prices & Revenues

Retail volume growth and price declines are in a delicate balance. Over the past several years, traffic growth has been sufficient to offset price decreases, and industry revenues from retail services have held steady. Market developments can tip this scale easily. If computer-based VoIP erodes traffic growth further, or if carriers are no longer able to maintain prices, revenues will surely fall (see Figure: Global Traffic Rate of Price Decline versus Volume Growth, 1994-2011).

FIGURE 5

Global Traffic Rate of Price Decline versus Volume Growth, 1994-2011



Notes: Data reflect both TDM and VoIP volumes. Periods where volume increases outpace average price declines mark a period of revenue growth. When price declines outpace volume increase, revenue declines. Data for 2011 are projections.

Source: TeleGeography

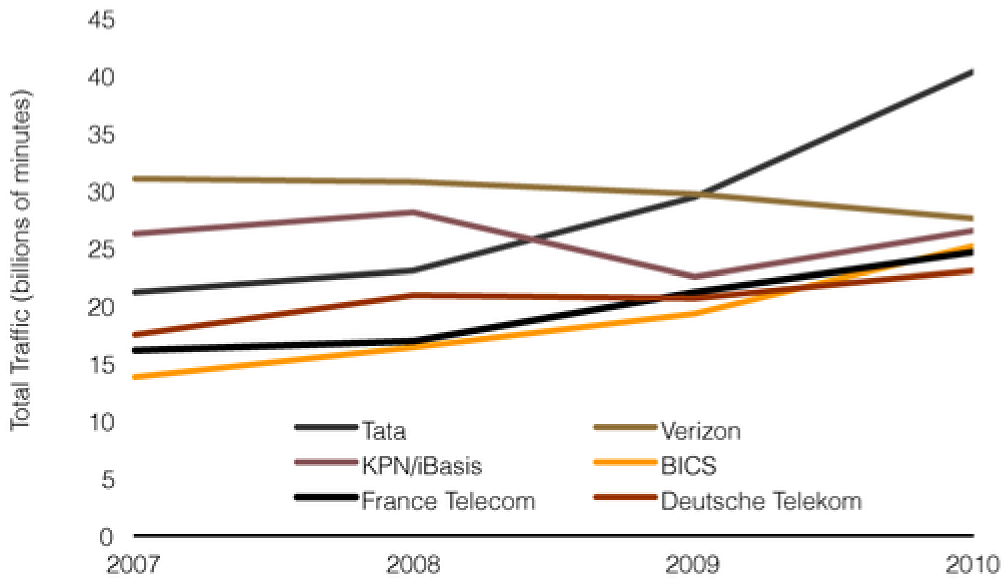
Carriers

Carriers' strategies for dealing with the challenging circumstances of the international wholesale market are diverging, perhaps none more obviously than those of Tata Communications and Verizon. Tata has sought to position itself as a consolidator of the international long-distance market, and has aggressively pursued volume growth. In June 2009, Tata announced a 5-year agreement with BT to become BT's primary supplier of voice termination services outside of several countries in which BT operates an extensive domestic network. Thanks to this transaction, and to aggressive business development strategies, Tata's traffic volumes grew 36 percent in 2010, topping 40 billion minutes. BICS, too, has pursued a strategy of aggressive growth, increasing volume by more than 30 percent in 2010 (See Figure: Traffic Volumes of Top Carriers, 2007-2010).

Conversely, Verizon, long the largest carrier in TeleGeography's ranking, has taken the opposite approach, deliberately allowing volumes and gross revenues to decline in pursuit of higher margins. If present trends in the international voice market continue—and TeleGeography believes they will—a growing number of carriers can be expected to opt for a strategic retreat from the international voice market.

FIGURE 6

Traffic Volumes of Top Carriers, 2007-2010



Source: TeleGeography

Outlook

TeleGeography projects that carrier-transported international voice traffic will grow approximately 4 percent annually between 2011 and 2016, less than one-third the typical growth rate achieved in the past 20 years. Challenging years, and difficult decisions, lie ahead for international carriers, for many reasons.

Traffic growth is slowing. For the past decade, telcos relied on double-digit traffic growth to offset continuous price declines. However, traffic growth has slowed sharply, and if retail prices had declined in line with historical trends, retail revenues would have started to decline in 2009. However, the pace of retail price declines slowed somewhat, enabling telcos to eke out small increases in global revenues from retail services.

Further price declines loom. Regulatory pressure is driving down the mobile network interconnection rates that carriers pay to connect calls to mobile networks in countries around the world. These interconnection rates are largely a pass-through cost, paid by end users. Nevertheless, declining interconnection rates will drive down wholesale termination rates, and further depress gross wholesale revenues.

Wholesale revenues are fragile. Only three regional wholesale market segments—mobiles in northern Africa, Sub-Saharan Africa, and the Middle East—experienced meaningful revenue growth in 2010. Outside of these three regional markets, wholesale revenues were largely flat or declined. If volume growth were to slow, or price declines in these three regional markets were to accelerate, wholesale industry revenues could decline significantly. The relatively small number of healthy wholesale markets also suggests that wholesale carriers that do not serve these markets are already facing significant challenges.

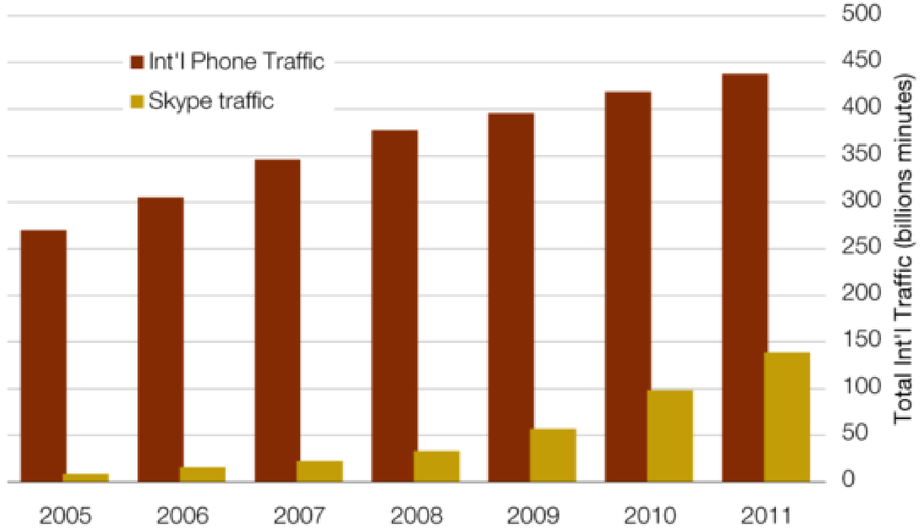
Large wholesale opportunities are ever harder to find. The international wholesale voice business has been driven sequentially by the wave of market liberalization of the 90s (particularly in Europe), the emergence of mobiles as a mass-market service in wealthy economies, and then by the spread of market liberalization and mobile telephony to large developing-country markets. Volume growth to many emerging market countries is slowing, while brutal price wars have drained many established markets of their profits. It's hard to see what high volume and high-revenue opportunities lie on the horizon.

International voice ≠ international phone calls. Demand for cross-border communications may be almost insatiable. However, callers no longer need the services of a telco to talk to friends, family, and business partners abroad—an IP connection and a software based service, such as Skype, will suffice. While international phone traffic growth has slowed to the low single digits, TeleGeography projects that cross-border Skype-to-Skype traffic will grow 48 percent in 2011, to approximately 145 billion minutes. The volume of international traffic routed via telcos is more than three times greater than Skype's cross-border volumes. However, their growth rates differ dramatically: TeleGeography projects that Skype is on track to add 47 billion minutes of international traffic in 2011, more than twice as much as all the telephone companies in the world, *combined* (see Figure: Total International Phone and Skype Traffic, 2005-2011). Given these immense traffic volumes, it's difficult not to conclude that at least some of Skype's growth is coming at the expense of traditional carriers. If all of Skype's on-net traffic had been routed via traditional telcos, global cross-border telephone traffic would have increased 14 percent in 2010, and would be projected to grow 13 percent in 2011.

The pressure on carriers from VoIP service providers will continue to mount rapidly in the coming years. As the availability of wireless and fixed broadband connectivity spreads, and the number of devices capable of making and receiving VoIP calls proliferates, video game consoles, computer tablets, iPods, and even some new televisions.

FIGURE 7

Total International Phone and Skype Traffic, 2005-2011



Notes: Total traffic reflects TDM and VoIP telephone traffic transported by carriers, and international PC-to-PC Skype traffic. Traffic from Skype-to-phone service is included in the telephone traffic totals.

Source: TeleGeography

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