As has already been shown in previous chapters, the traditional mode of working, through bilateral correspondent relations, is increasingly under pressure. The paradigm of "nation shall speak unto nation" is slowly being overtaken by another, which might be characterized as "individual shall speak unto individual". International boundaries have less and less relevance to the ways that international communications are handled. This transformation is mainly driven by:

- the convergence of the traditional telecommunications industry with other communication sectors, which has blurred the boundaries between different modes of communication;
- the establishment of global alliances, which have promoted the development of a "carriers' carrier" market where the carriage of a call is separated from its origination and termination phases;
- the rapid growth in capacity, both in terrestrial cable and satellite networks, which has reduced the scarcity factor and is allowing service providers a high degree of choice over routing of traffic.

These changes are transforming bilateral one-to-one, relationships are into multilateral many-to-many relationships. In section 6.4 of this chapter, we examine the emerging multilateral trading environment, in particular the incorporation of international telecommunication services into the World Trade Organization (WTO) trade liberalization process. The Annex to this report provides more detail on the *General Agreement on Trade in Services* (GATS) which is the main outcome for telecommunications of the WTO process. Finally, in section 6.5 we pose the question "what does all this mean?" and attempt to interpret what these changes will imply for individual countries.

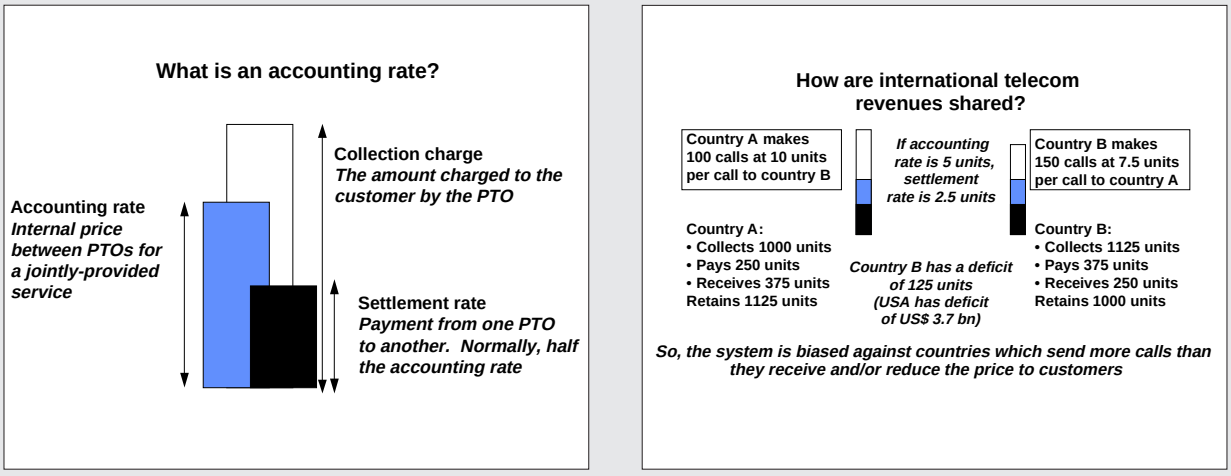
6.2 Pressures to reform the bilateral agreements regime

6.2.1 The accounting rate system and how it works

One of the main reasons that 20 European countries came together in 1865 to form what eventually became the International Telecommunication Union (ITU) was that they needed to develop a means of dividing the revenues from international services between origin, destination and transit countries. The methodology that they developed is still with us today, albeit in a format which has been progressively modified. It is based on a dual price system whereby, for each call, one price is charged to users by the originating PTO (the *collection charge*, or retail price, usually set in local currency units), and a second price is agreed by the terminating PTO and the originating PTO (the *accounting rate*, or wholesale price, usually set in international currency units such as US dollars or SDRs). This is used to determine the price charged to the originating PTO by the terminating PTO (the

Figure 6.1: How does the accounting rate system work?

Simple example showing application of accounting rates to international telecommunication services



Source: Adapted from ITU/TeleGeography Inc., *Direction of Traffic: Trends in International Telephone Tariffs*, Geneva, November 1996.

Table 6.1: Setting the rules

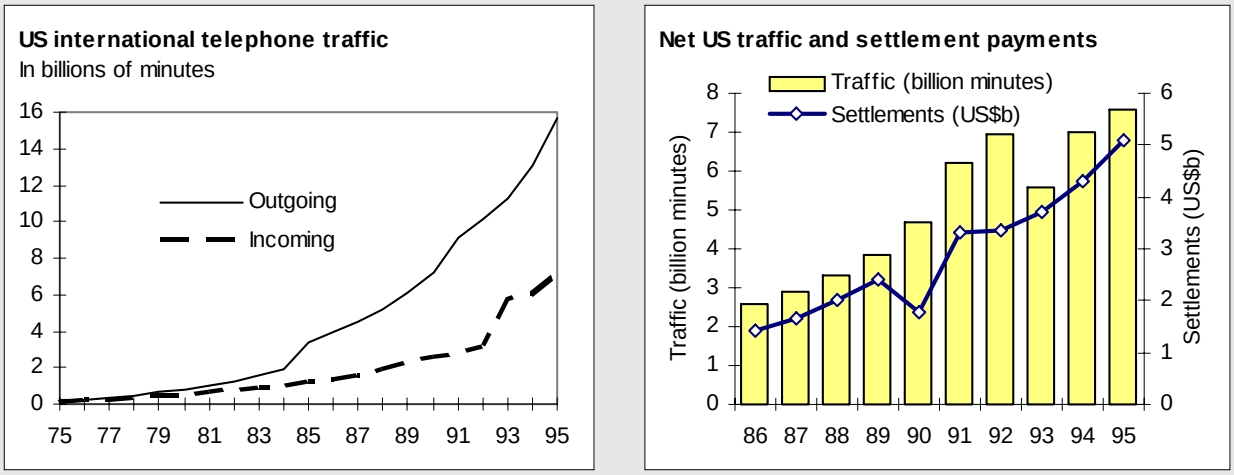
Major Treaties, Agreements, Recommendations and Memoranda of Understanding governing trade in telecommunications

Market area	*Relevant document*	*Creation date or update*	*Comments*
International telecoms	International Telecommunication Regulations (ITR) which incorporates by reference the ITU-T D Series Recommendations, notably D.140, D.150 and D.155 relating to accounting rates	ITR, last updated at WATT-C 1988 (Melbourne). D.140 (Sept. 1995) D.150 (Oct. 1992) D.155 (July 1996) E.164 (Aug. 1991)	The ITR establish "general principles which relate to the provision and operation of international telecommunication services offered to the public". Article 6 and Appendix 1 covers charging and accounting practices. The D-Series Recommendations set the basic framework within which accounting rates are negotiated on a bilateral basis. The E. Series define the international numbering plan.
International Freephone	ITU-T Recommendations E.152 and E.169	E.152 (July 1996) E.169 (Feb 1996)	The Recommendations define "Universal International Freephone Numbers" (UIFNs) that will enter into service in 1997, potentially creating new opportunities for international trade.
International telecom services	ITU-T Recommendations E.113 and E.116 for charge cards. D.116 for home country direct services	E.113 (March 1993) E.116 (Aug. 1992) D.116 (Feb 1992)	The Recommendations set the framework for the use of calling cards and home country direct services for international telecommunication services, thereby facilitating cross-border trade in telecommunications.
Radiocomm-unications	ITU Radio Regulations which are administered by the Radio Regulations Board (RRB)	Revised most recently in the WRC-95 Conference (Geneva)	The Radio Regulations aim to "facilitate equitable access to and use of the radio-frequency spectrum and the geostationary orbit". Through international conferences, different portions of the spectrum are allocated to specific services. Through notification procedures, individual countries apply to use specific satellite orbital slots.
Digital mobile communicat-ions	GSM-Memorandum of Understanding	GSM-MoU established in Sept. 1987, updated most recently in January 1996	Although GSM represents just one of many competing standards for digital mobile communications, it is the most advanced in terms of number of signatories. In trade terms, it is relevant because it facilitates roaming.
Global Mobile Personal Communicat-ions by Satellite (GMPCS)	GMPCS-Memorandum of Understanding	GMPCS-MoU established in February 1997 following WTPF-96 (Geneva)	Memorandum of understanding sets framework for the free circulation of terminals for use with GMPCS systems.
Trade in telecom equipment	General Agreement on Tariffs and Trade (GATT), now superseded by the World Trade Organisation (WTO)	Most recently revised in April 1994 (Marrakech) as result of conclusion on Uruguay Round of negotiations	The GATT sets out general trade principles, such as Most-Favoured Nation (MFN) or National Treatment, which establish a multilateral trade framework. Individual member countries provide national tariff schedules and commitments which cover, inter alia, trade in telecommunications equipment.
Trade in information technology (IT)	Ministerial declaration on trade in IT products	Established in Singapore, December 1996, at the WTO Ministerial meeting	Commits the signatories to progressive elimination of customs duties between 1997 and 2000 on a named list of products, including computers and telecommunication equipment.
Trade in value-added telecom services	General Agreement on Trade in Services (GATS), administered by the Council for Trade in Services of the WTO	Established in April 1994 (Marrakech) as result of conclusion of Uruguay Round of negotiations	The GATS contains three elements: a framework of general rules and disciplines; annexes addressing individual sectors (including one on telecommunications); and national schedules of market access commitments. The GATS does not, at present, cover basic (i.e. voice) telecommunications.
Trade in basic telecom services	Agreement negotiated by the Group on Basic Telecommunications (GBT)	Concluded in February 1997 and due to be implemented on 1st Jan 1998	The agreement spells out a basic set of regulatory principles for open market access in telecommunications. It also contains national schedules of market access commitments.
Internet	Request for Comments (RFC) series specify certain technical and operational aspects of the Internet. There are no relevant international treaties	RFCs are issued on a regular basis. RFC 920 (1984) and RFC 1591 (1994) describe procedures for domain names	The Internet is, for most purposes, unregulated though many common practices and procedures have implications for trade, notably the RFCs which describe the domain-naming system. Proposals for reforms have been advanced by the Internet International Ad Hoc Committee (IAHC).[1]

Note: This listing is intended to be indicative, not exhaustive.

Figure 6.2: Growing divergence

United States international message telephone traffic, 1975-95, and net traffic and settlement payments 1986-95



Note: Net traffic is outgoing minus incoming traffic, in minutes. Net settlements are settlement payouts less settlement receipts from foreign carriers (excluding transit traffic).

Source: ITU World Telecommunication Indicators Database, Federal Communications Commission.

settlement rate, usually half the accounting rate). If there is an imbalance in the volume of incoming and outgoing traffic, then the originating PTO which generates more traffic pays for the difference to compensate the terminating PTO (the *net settlement payment*).

Under the guidance of Study Group 3 of the former CCITT (now the ITU Telecommunication Standardization Sector, or ITU-T), an elaborate set of Recommendations have been developed for most types of international traffic based on a simple 50:50 sharing of the accounting rates. The system generally worked well provided that five conditions held true:

- collection charges were approximately equal for the same call made in different directions (symmetry);
- incoming and outgoing traffic was approximately in balance for each main bilateral relationship between countries;
- collection charges, even for off-peak discounts and volume discounts, were never lower than accounting rates;
- inflation rates and exchange rates were relatively constant between countries;
- international services were jointly-provided by monopoly partners.

However, in the modern era these conditions are breaking down. Technological change is reducing the cost of providing services, particularly on the trans-Atlantic route. But the pace of change has been uneven. In particular, the benefits of network modernization are only partially reflected in accounting rate cuts and are even less evident in reduction of prices paid by end-users. Cost differences, exacerbated by exchange rate fluctuations, have generated significant differences in the level of accounting rates between countries. Consequently, imbalances in the traffic flow between countries have begun to grow.

6.2.2 Growing imbalance

As traffic flows have become unbalanced, so have settlement payments, leading to large deficits in some countries such as the United States, Sweden or Australia, and large surpluses in others countries such as Mexico and Germany. There are many reasons why traffic flows are unbalanced, including socio-economic, cultural and technical factors. However, the policy focus has been on the variations in traffic flow caused by market structure or tariff differences, over which policy-makers may have some influence. Figure 6.2 shows the growing divergence between outgoing and incoming traffic in the United States since 1975. The United States has been a net exporter of calls throughout the period. However, while incoming traffic grew by 20.8 per cent per year, outgoing traffic grew by 24.0 per cent per year. Thus, a surplus of outgoing over incoming traffic of 51 million minutes in 1975 had become a surplus of 8.6 billion minutes (including Canada and Mexico) by 1995. As can be seen from the right-hand side of Figure 6.2, this surplus

on outgoing traffic translated into a net US deficit on settlement payments of some US$ 5.1 billion in 1995.

The reduction in collection charges and accounting rates has had some impact on the deficit (for instance, the deficit per surplus minute has fallen from US$ 1.42 in 1983 to US$ 0.59 in 1995) but, nevertheless, the overall growth in traffic is so strong that it almost overrides the effect of this reduction. The question, therefore, is not so much "why the imbalance?" but, rather, "why the difference in the rates of growth between outgoing and incoming traffic?" In recent years, this can be largely explained by the adoption by US-based carriers of alternative calling procedures.

6.2.3 Alternative calling procedures

"Alternative calling procedures" depart from the traditional concept of international telecommunications as a jointly-provided service. Few countries permit *infrastructure* competition in the provision of international services, but the level of *service* competition is nevertheless growing and consumers are increasingly becoming aware of the need to choose between an expanding range of service options. These include:

- **Calling cards**: these are in effect telephone credit cards which enable a subscriber to make calls when abroad using a personal identification number, and to have those calls billed to their home account. For the operators offering the service, this helps maintain brand loyalty among major customers, provides a form of competition in foreign markets as well as allowing a way into potentially lucrative financial services markets.

- **Country-direct services**: this service, more correctly termed *call re-origination*, enables a traveller when abroad to call a particular number which establishes contact with an operator in the home country. From there, the call can be switched to the chosen number. For the operator, the range of advantages is similar to those of calling cards with the added bonus of being able to charge a premium rate for the service provided by the operator. For the subscriber, the main advantage is that it eliminates the requirement of having to find out local details for dialling codes or charges, or to deal with operator services in a foreign language. Market access for both calling card services and country-direct services is usually negotiated at the same time as the negotiation of the accounting rate.

- **Refile:** a second type of call re-origination service, this exploits differences in the collection charge and/or the accounting rate between countries with traffic routed by the least cost path. In particular, this form of alternative calling exploits asymmetric accounting rates between countries. So, for instance, if the combined accounting rates between United Kingdom and the United States and the United Kingdom and France was lower than that between France and the United States, there would be an incentive to route calls between France and the United States via the United Kingdom as this would be the least cost route. Refile is often used in association with international private lines (IPLs) so that, in the example above, traffic on the UK/US route, where international simple resale is permitted, might be aggregated onto a leased line and would then break out into the PSTN for delivery to other European destinations.

- **Call-back**: this service is usually offered in competition to established public telecommunication operators and can potentially offer substantial savings. Most US-based call-back services rely on uncompleted call signalling systems. This type of call-back service solicits pre-subscribed customers in a foreign country to dial a US telephone number and, after a certain number of rings, to hang up. The US call-back company then initiates a call to the foreign telephone number and when the foreign caller answers, they receive a US dial tone from the switch at the reseller's US location. The customer can then place a call in the United States or to a foreign destination. The customer does not pay the US carrier or the foreign carrier for the initial uncompleted call. In contrast, other call-back services provide foreign customers a US dial tone by using the foreign carrier's outbound service to establish an initial connection with a reseller's call conferencing unit. That unit then redials the calling party's number, thus requiring the foreign caller to pay for the initial call. Alternatively, inbound international "800" numbers can be used to establish a connection to the resellers US facility. In such cases, the foreign caller only pays the call-back provider for the second US call and the reseller recoups the cost of the inbound international "800" number from its charges for this second call.

- **International simple resale (ISR)** is now permitted in a growing number of countries and on particular bilateral connections. The principle behind ISR is that a company can gather traffic to a particular destination from a variety of different customers

and then route it via an international leased line. The company offering the service is thus able to charge its clients per minute while paying only a fixed-rate fee to the operator from whom it leases the line. The service requires the ability to lease lines from the PTO which can be connected to the public switched network at both ends.

- **International virtual private network services (IVPNS)** are commonly offered by the major PTOs or alliances of PTOs. They offer to individual clients the chance to gain the benefits of a private network (facilities such as short number dialling, centralized billing, call discounts etc.) while retaining the flexibility of the public network. The establishment of private international networks has been enabled by the liberalization of the ITU-T D Series Recommendations, in particular Recommendations D.1 and D.6 which previously restricted the use of international leased lines for the carriage of third party traffic. IVPNs have also been facilitated by the formation of PTO alliances which are specifically targeting this part of the market, for instance Concert or Unisource.

- **Voice over data networks**. Traditional telephony relies on continual occupancy of a telephone circuit for the duration of a call, even when no one is speaking during a conversation. This technology is called circuit-switching and the technical standards used are defined in the ITU-T G Series Recommendations. However, it is also possible to send voice over a data network which uses a packet switching technique such as X.25, Frame Relay or the Internet. The most popular form of voice over data networks at present is so-called Internet telephony which uses the User Datagram Protocol (UDP) to facilitate real-time voice conversations. There are an estimated 50'000 users worldwide. The attraction of Internet telephony lies in the tariff structure conventionally applied by Internet Service Providers (ISPs) which is normally based on unlimited usage for a flat-rate fee. It is also fully independent of distance or international boundaries. In addition to "amateur" use of voice over data networks, large users are increasingly experimenting with sending voice over private data networks as a way of avoiding excessive international telephone charges. Indeed, some telephone carriers are even using voice over data internally within their networks as a way of providing access to markets where data communications markets are liberalized but voice communications are not. In the context of accounting rate reform, voice over data is significant in that it permits accounting rate by-pass because data communication networks tend to employ alternative revenue division mechanisms, such as half-circuits or sender-keeps-all.

There are many additional types of alternative calling procedures which depart in some way from the classical model of international telecommunications as a jointly provided service. Research recently carried out by Study Group 3 of the ITU Telecommunication Standardization Sector, for instance listed no fewer than nine different types of call-back operation. It is not surprising that this part of the market has attracted the most attention because of the large number of new market entrants that have been tempted. It is possible to set up a business as a call-back operator for less than US$ 10'000 which would pay for a personal computer, some routing software, and the rental of a few telephone lines. Indeed, the main operational costs are for marketing rather than network operation.

Even though PTOs castigate the activities of call-back operators, the main users of alternative calling procedures are the PTOs themselves. The main reason that the US outgoing call surplus has accelerated in recent years is because of US carriers providing calling card and home country direct services. These types of calls show up in the statistics as US-originated calls, even though the caller may be in a foreign country. As a result, the US share of total international traffic has grown from 21 per cent in 1985 to 26 per cent in 1995. Even though the US paid out some US$ 7.5 billion in 1995, the total receipts earned by US carriers amounted to US$ 14.1 billion.

6.3 Beyond accounting rates

6.3.1 Developing country concerns

The reform of the accounting rate system has been a leading topic on the agendas of international organizations such as the ITU, the OECD or the WTO for many years. However, those that propose reform face one stark problem: those that do well out of the existing system greatly outnumber those that fare badly. While few countries officially report their losses and gains on settlement payments, it is possible to infer a great deal from bilateral traffic patterns.[2] The settlement payouts from just one country, the United States, are so great as to put most other countries, especially developing countries, into surplus. For instance, as Table 6.2 shows, there are some countries for whom more than half of their total annual telecommunication revenues come from just the United States. Accounting rate reform is thus a topic

which strikes right at the heart of a telephone company's profit and loss account.

If settlement payments benefited only, or even mainly, developing countries, there would be less clamour to reform the system. Unfortunately, this is not the case. The largest net settlement is to Mexico, an OECD Member state, which received some US$ 876 million from US carriers in 1995. Several other OECD countries, including Canada, Japan and the Republic of Korea received net settlements in excess of US$ 100 million. By contrast, sub-Saharan Africa as a whole received just US$ 125 million, or 2 per cent of the total. Some of the poorest economies, such as Somalia, made net payments to the United States. Thus, if the main purpose of the settlements payment were to redistribute wealth, it would be a poorly designed tool.

However imperfect the accounting rate system is in practice, it does finance network growth in areas of the world that might otherwise be falling further behind in the development of telecommunication infrastructures. By shifting resources from developed economies to developing ones, the accounting rate process serves to promote "organic", or self-sustaining network growth. The challenge is to combine these benefits of the accounting rate system with the flexibility of alternative systems that are more amenable to the introduction of competition. For developing countries, any move away from traditional accounting rates holds some dangers. They will need to build up domestic revenues to replace the decline in settlement payments received in foreign exchange. On the other hand, developing countries may benefit from the move away from 50:50 revenue division (which assumes that their costs are the same as their calling partners) to a system in which capacity prices can be charged according to local costs (often higher in developing countries). Developing countries would like to see the 50:50 basis for revenue division shifted in their favour, perhaps to 60:40. Resolution 22 of the ITU Plenipotentiary Conference, Kyoto 1994, specifically recognises that this can take place and that the resulting revenues could be used for network development. However, there has been little enthusiasm for introducing accounting rates which deviate from a 50:50 split.

6.3.2 Options for reform

Within the international telecommunication community, there is increasing pressure to revise the system of bilateral accounting rates. The pressure is coming from a number of directions, but mainly from operators in those countries which make large net outpayments. They would like to see accounting rates reduced, in line with technological improvements, so that they are closer to cost, and would like to see principles of symmetry and non-discrimination enforced. ITU-T Recommendation D.140 foresees a progressive reduction in accounting rates towards cost over five years. Efforts within ITU-T Study Group 3

Table 6.2: United States settlement payments to selected economies
Latin America & Caribbean, 1995

Economy	*Inpayment (US$m)*	*Outpayment (US$m)*	*Net payment (US$m)*	*As % of inpayment*	*Telecom Revenue, 1995 (US$m)*	*Net payment as %*
El Salvador	82.9	5.4	77.4	93.4%	168.8	45.9%
Guatemala	67.9	8.5	59.3	87.4%	197.2	30.1%
Haiti	44.2	6.3	37.9	85.8%	73.0	51.9%
Honduras	59.0	5.0	54.0	91.6%	129.7	41.7%
Jamaica	126.9	27.1	99.7	78.6%	313.6	31.8%
Mexico	1'124.3	248.7	875.7	77.9%	6'509.1	13.5%
Nicaragua	28.5	4.3	24.2	85.1%	35.5	68.3%
Trinidad & Tobago	52.7	18.2	34.6	65.5%	162.6	21.3%

Note: The table shows settlement payments from United States carriers (July 31st filing) for 1995. Telecom revenue is total revenue from all telecommunication services, including domestic as well as international.
Source: ITU World Telecommunication Indicators Database, FCC.

to define the cost of providing international telecommunication services have concentrated on the methodological problems of defining legitimate costs (ITU-T Recommendation D.140 and its annexes). Data from the United States, which is one of the few countries that publishes accounting rate data, shows that, since 1990, average accounting rates have fallen by some 9 per cent per year with particularly dramatic falls in relations with Western European countries (19 per cent per year). Over the same period, average international telephone charges have fallen by just 3 per cent per year (Figure 6.3). The fact that accounting rates are falling at a rate three times as fast as call charges suggests that accounting rates are not the only cause, or even the main cause, of excessive international telephone charges.

The US Federal Communications Commission (FCC) is pushing hard to reduce accounting rates and is threatening to authorize its national carriers to reduce them unilaterally without waiting for agreement from their international calling partners. The *Notice of Proposed Rulemaking (NPRM)* in the matter of international settlement rates issued on 19 December 1996[3] proposes to update the "benchmarks" or price caps which the FCC has calculated for accounting rates of specific routes. The benchmarks show the aggregate cost of international transmission facilities, international gateway switches and the national extension charge in each partner country. At the time of writing, the NPRM was in the comments period and it is not clear whether the moves proposed will conflict with the United States' obligations as a signatory to the GATS and the *International Telecommunication Regulations*. Nor is it even evident that a reduction in accounting rates would have any impact on the US net settlements deficit. Between 1990 and 1995, when the average US accounting rate fell by 43 per cent (see Figure 6.3), the US net settlements deficit *rose* by US$ 3.3 billion, or 289 per cent (see Figure 6.2). The NPRM does little to address the distortion in the direction of traffic flows, largely caused by the adoption by US carriers of alternative calling procedures, which gives rise to the settlements payments deficit.

Rather than reduce accounting rates, as the United States is trying to do, some countries would prefer to abandon the whole system and replace it with a system that provides genuine incentives for price-cutting and which offers more flexibility for the establishment of innovative, new international services such as freephone numbers, International Virtual Private Networks (IVPNs) or online computer services, notably the Internet. A number of alternative revenue-division mechanisms already exist and several are described in the ITU-D Series Recommendations for application in different services:

- **Call termination charges** are currently used in the public telegram service and some countries favour the extension of this approach to international telephone services. A call termination fee would be similar, if not identical, to the national extension tariff charged for, say, mobile interconnection. The call termination fee approach was originally pioneered at the OECD[4] where work on accounting rates has been in progress since 1991. There are several advantages to this approach including: transparency (the call termination fees charged by a country would be open for all to see); non-discrimination (the same terms for call termination would be available to all-comers); and assistance to developing countries (who would be free to set their own call termination fees rather than having to negotiate them bilaterally). However, the establishment of unilateral call charges would imply the abandonment, in part at least, of the principle of equal division of revenues from a particular route.

- **Facilities-based interconnection payments**, in which the PTO originating the call pays for the use of certain facilities used to terminate the call, such as transmission lines, switches or the local loop, according to cost. This form of payment is already used in calculating compensation when a call transits via a third country and is expected to be introduced among the countries of the European Union after 1st January 1998. Interconnect fees have an advantage in that they are conceptually easy to understand. However, they are open to abuse because they are often negotiated with an in-built bias to the operator who receives more calls than it originates. Interconnection agreements are generally negotiated on the basis of market power rather than actual costs or needs. Facilities-based interconnection charges differ from call termination charges in that they are non-transparent (they are confidential and not intended for publication) and fully discriminatory (they are the outcome of negotiations and can therefore be expected to vary considerably, even when offered by the same incumbent).

- **Sender keeps all**, in which the PTO originating the call keeps all of the revenues it collects. This is already practised in some parts of the world for instance between the UK and Ireland, or in the

former Soviet Union. The Internet also uses a sender-keeps-all methodology, albeit with some volume-based peer-to-peer payments. The main drawbacks with sender-keeps-all are that it does little to promote network development (in that there are no financial flows from the core to the periphery of a network) and there is little possibility for allocating different priorities to different traffic streams. Furthermore, sender-keeps-all cannot be sustained unless there are balanced traffic flows within a network, which is patently not the case in either the telephone network or the Internet.

- **International private leased lines** (IPLs) are used as a means for service providers to obtain capacity from network operators (the capacity owners), primarily in submarine cables and terrestrial-based systems. These service providers use the leased capacity to provide Internet, private and closed user group network services including international managed data network services, facsimile, and various kinds of value-added service. Where permitted, they also provide voice and other basic telecommunication services to third parties. The network operators own the capacity at each end of some given facility for hypothetical, matching half-circuits, each terminating at some notional mid-point under the ocean or at a border. Thus, the price charged is independent of the level of usage.

- **Volume- or value-based payments**, in which the compensation paid by the sending country is tied more directly to the volume or value of calls sent. It is possible to imagine a bilateral agreement based on different payments on a descending unit cost scale according to the volume of calls sent. The US carrier AT&T has already started implementing what it calls "growth based accounting rates", whereby the existing accounting rate is frozen for today's level of traffic and any new "growth" traffic is traded at a lower accounting rate. The major disadvantage of this system is that it is difficult to implement, because of the intensive statistical requirements, and it is difficult to predict future revenue flows. Nevertheless, it would be possible to combine some element of volume- or value-based settlement payments with the other revenue-division options discussed here.

These options are unlikely to completely replace accounting rates. Rather, it is likely that carriers will develop a menu of different options to choose from according to the specific requirements for different routes or different relations. Ultimately, it is competition rather than elaborate pricing methodologies which will bring lower prices to telecommunication consumers.

The accounting rate system is overdue for reform for the simple reason that it rewards inefficiency and acts as a brake on price reductions. However, there are many vested interests in the telecommunication sector which will resist change. PTOs around the world have made a very profitable business out of international calling and will not be willing to agree to changes until they have worked out all the possible ramifications. In theory, competition should speed the reform of the accounting rate system, but in practice this is not working as expected because certain regulators, notably in the United States, impose a uniform accounting rate on competing carriers and apply the principle of proportional return of traffic. This greatly reduces the benefits of competition and tends to promote the cartelization of prices.

Of the options listed above the best alternative to accounting rates would appear to be a combination of call termination fees at the national level and facilities-based usage payments for international transit. This approach would fit well with the WTO model of trade liberalization, although accounting rates have not been specifically covered in the GATS agreement on basic telecommunications as they are not considered to be a government measure. However, it is difficult to see how any change might be implemented:

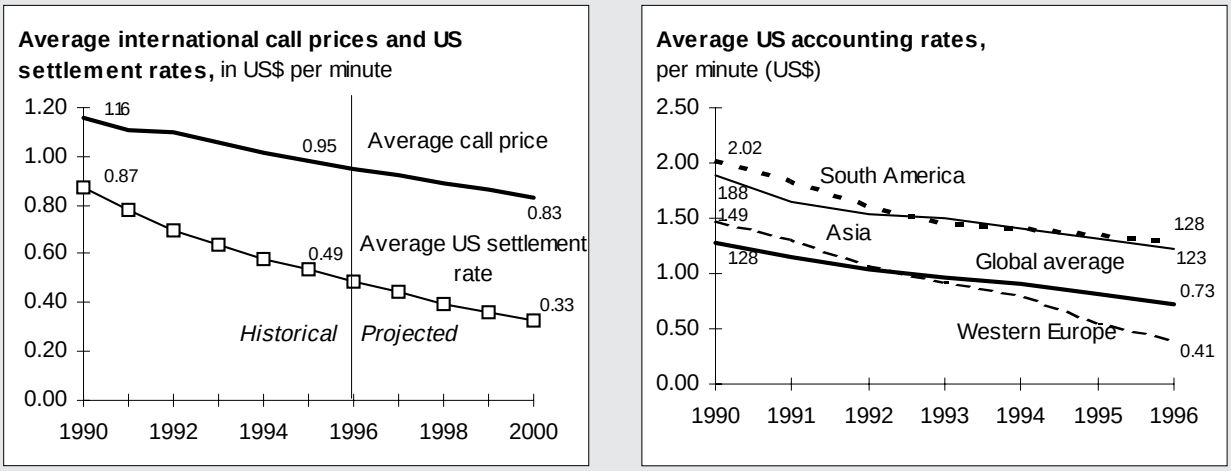
- The most likely scenario is that a group of countries agree to adopt an alternative system and then that group steadily grows as other countries join.

- An alternative scenario is that the percentage of international traffic which passes over networks using accounting rates progressively diminishes as the volume of traffic on the Internet, private networks, satellite or terrestrial mobile networks and end-to-end service networks grows.

- A third scenario would see an acceleration of the current trend to reduce accounting rates to the point at which they become so low as to be irrelevant, and on individual routes carriers agree to move to sender-keeps-all.

In practice, it is likely to be a combination of all three trends which will coexist in different regions of the world and for different services. Ultimately, the system of accounting rates has more to do with commercial power rather than with refinements of methodology

Figure 6.3: Who said accounting rates were the cause of high international telephone charges?
Average price per minute for international traffic (peak rate) and average US settlement rates and accounting rates



Note: All measurements are shown in US dollars. In the left chart, the "average call price" is calculated by taking the average peak rate tariff for each of 27 leading economies to their top twenty destinations, weighted by their annual traffic to those destinations. The "average US settlement rate" is based on a weighted average of the US settlement rate with those same economies. The figures for accounting rates in the right chart are based on FCC data and reflect simple averages for the regions concerned.
Source: ITU/TeleGeography Inc. *Direction of Traffic: Trends in International Telephone Tariffs*, Geneva, November 1996, FCC.

or principles for trade liberalization. When it is in the interest of the PTOs to reform the accounting rate system, they will do so.

Next we return to the historical narrative and consider how the developments in the multilateral trading environment, specifically within the WTO framework, are likely to affect international telecommunication services.

6.4 Towards a multilateral trading system

The Uruguay Round was the 8th round of negotiations held by the GATT and the first to include telecommunications and other services in its negotiating agenda.[5] Initially, the telecommunications community was concerned that the Uruguay Round negotiations would undercut national authority and change the international telecommunication system. Proponents of bringing telecommunications under a trade regime, however, contended that this simply reflected reality. Telecommunications is the backbone of world trade—in goods and services—and, so it was argued, this must be recognized in international economic relations. The sector was starting to be liberalized and the commercially tradable characteristics of telecommunications were beginning to be recognized.

Throughout the eight years of negotiations to achieve agreement in the Uruguay Round, telecommunications officials had a role in the preparation of the *General Agreement on Trade in Services* (GATS: see Annex), part of an overall agreement which concluded the Round. They were particularly instrumental in developing the Telecommunications Annex, the most elaborate of all the sector-specific annexes, but the negotiations were handled mainly by trade economists who viewed telecommunications not only as an important service sector in its own right but also as providing *electronic highways* that would facilitate trade in other sectors, within countries and across borders. Such highways, many negotiators believed, should be minimally regulated, as a means to promote external trade such as tourism, finance, insurance, data processing, maritime shipping, accounting and management consulting and various business services.[6]

6.4.1 Liberalizing trade in services

Nearly 40 years of experience with the GATT had shown the benefit of multilateral rules for trade in goods where business enterprises in GATT Member countries could trade with each other under conditions of fair and undistorted competition. Reductions in tariffs achieved in successive rounds of negotiations had stimulated major growth in merchandise trade.