METHODOLOGICAL NOTE ON TRANSITION PATHS TO COST-ORIENTATION

Revision 1 of Contribution from the ITU Secretariat, 9th November 1998

Context

The Final Report of the Focus Group to ITU-T Study Group 3, submitted on 6th November 1998, takes the form of a new draft Annex E to ITU-T Recommendation D.140 (the final report is available at: http://www.itu.int/intset/focus/index.html). The report responds to the four tasks which the Focus Group was required to carry out. For the task of establishing "indicative target rates" for direct relations, a methodology is used which distributes countries according to their level of teledensity[1] and sets indicative target rates, based on the average of the lowest 20 per cent of published settlement rates, for each category. The proposed indicative target rates are shown in Table 1 which is extracted from the final report.

Table 1: Indicative target rates for direct relations (settlement rates)
Based on the average of the lowest 20 per cent of current published settlement rates in each teledensity group, and measured in SDRs per minute (T = telephone lines per 100 inhabitants)

Teledensity $T \leq 1$	$1 < T \leq 5$	$5 < T \leq 10$	$10 < T \leq 20$	$20 < T \leq 35$	$35 < T \leq 50$	$T > 50$
0.327 SDR	0.251 SDR	0.210 SDR	0.162 SDR	0.118 SDR	0.088 SDR	0.043 SDR

Source: ITU-T Study Group 3 Focus Group.

A further task required the Focus Group: "*to tailor transition paths taking into account the different stages of telecommunications development in different countries or regions*". The approach proposed in the final report is to use staged reductions. Thus each Administration/ROA, starting from its current settlement rates, would apply the necessary rate of reduction that would be enable it to reach the target rate for its category within three years (i.e., by year-end 2001). Those Administrations/ROAs which have already reached the target rate are encouraged to continue moving towards cost-orientation.

It is recognised that some Administrations/ROAs, notably the Least Developed Countries and other countries / territories with a low teledensity, may experience difficulties in attaining these target rates on schedule. Therefore, it is proposed that for those countries/territories, the transition path could be extended, up to the year 2004, as a function of their level of dependence on net settlement payments (see Table 2, which is from Table 3 of the Final report). Thus the staged reductions would need not necessarily be so steep.

In addition, it is recognised that some Administrations/ROAs may experience serious financial difficulties as a result of a sudden fall in the net settlement payment. For these countries, it is proposed that a smoother transition path might be negotiated with their major traffic partners. This "smoother" transition path could take several forms:

- The staged reductions could be negotiated on the basis of **volume-based settlement rates**. For instance, up to a certain volume of traffic, the settlement rate could be set at 0.3 SDR and thereafter at 0.2 SDR per minute.
- The staged reductions could be negotiated in **absolute amounts** (e.g., going down by 0.1 SDR per year) rather than by the same percentage each year. This would mean that the percentage reduction in the early years is less dramatic than in the later years.
- The accounting revenue could be split in a manner which deviates from 50/50 by a few percentage points. This type of **asymmetric arrangement** could be negotiated in advance, at any time during the

[1] A separate category, and target rate, is defined for small island states.

transition period, but applied retrospectively. For instance, asymmetric arrangements could be triggered if the net settlement payment were to fall by more than a certain amount in any given year.

- The **transition period could be extended**, by mutual agreement.

These are only examples of the sort of the arrangement that could be made to smoothen the transition period, for instance by making revenue stabilisation measures to assist the Administration/ROA which is the net recipient. The final report is not intended to be prescriptive. The exact form that a "smoother transition path" could take is better left to bilateral negotiations..

Table 2: Transition period as a function of dependence on net settlement payments
For the Least Developed Countries and countries / territories with a low teledensity

Net settlement payments (NSP) as a percentage of total telecommunication revenue (TTR)	*Target year for achieving target rate*
NSP < 10 per cent of TTR	year-end 2001
NSP between 10 - 20 per cent of TTR	year-end 2002
NSP between 20 - 30 per cent of TTR	year-end 2003
NSP greater than 30 per cent of TTR	year-end 2004

Note: 1. Calculations should be based on published data, from company accounts, on net settlement payments and total telecommunication revenue, valid for 1997 or most recent.
2. Data for net settlement payments and total telecommunication revenue should be valid for the country / territory as a whole, not just an individual Administration/ROA.
Source: ITU-T Study Group 3 Focus Group.

Asymmetric arrangements and non-reciprocal treatment

In paragraph E.5.1 of the Final Report, it is stated that the transitional arrangements towards cost-orientation could be implemented either in a symmetrical manner, with both Administrations/ROAs applying the same rate, or asymmetrically with the Administration/ROA with the high teledensity applying a lower rate than the Administration/ROA with the lower teledensity. It is proposed that asymmetrical arrangements could be applied at a rate which is *below* the indicative target rate of the Administration/ROA with the lower teledensity. So, for instance, in a relationship between an Administration/ROA in the 10-20 category (for which the indicative target rate is 0.162 SDR) and an Administration/ROA in the above 50 category, an asymmetric arrangement could be applied thus that the Administration/ROA in the higher teledensity category terminates traffic at 0.1 SDR per minute and the Administration/ROA in the lower teledensity category terminates traffic at 0.15 SDR per minute. Neither rate would necessarily be cost-oriented, but both would be below the indicative target rate for the 10-20 category (0.162 SDR per minute).

There are several reasons why it may be appropriate to apply asymmetric arrangements during the transition to cost-orientation:

- To achieve a **faster rate of reduction in the total accounting rate**. In the methodological note on Universal Service Obligations (contribution 53), it is demonstrated that, in the case of Samoa, if an asymmetric split of 55/45 were to be applied, then a 15 per cent rate of reduction in the settlement rate could be applied instead of 13 per cent, without having an impact on the net settlement payments received by Samoa.
- **To stimulate increases in the volume of traffic**. The logic of this comes from the contributions from WIK [27] and TEMIC [33] which point to the possible existence of price elasticities of demand for international telephone traffic. The Administration/ROA in the developing country would therefore pay less for its calls to be terminated than the Administration/ROA in the developed country. In theory, the developing country could therefore reduce its collection charges at a faster rate than the developed one. This should therefore stimulate outgoing traffic from the developing country and may act to reduce any traffic imbalance between the two. Any possible decrease in the net settlement would be more than offset by the increase in collection charge revenue in the developing country.

- An asymmetric arrangement could be based on a prior agreement but applied retrospectively **in the event of a sudden fall in the net settlement payment.** The purpose of this would be to cushion the impact of the changing international telecommunications environment on those countries / territories which are considered the most vulnerable.

In addition to these proposed areas where asymmetric arrangements could be applied, it is also acknowledged that Administrations/ROAs in high teledensity countries may, *on a voluntary basis*, offer cost-oriented call termination at cost-oriented rates without requiring reciprocal treatment (see paragraph E.6.2 of the Final Report contribution). The rationale for allowing the possibility for this non-reciprocal treatment is two-fold:

- Firstly, recognising that many countries have made commitments under the **WTO agreements** relating to basic telecommunications, to apply principles such as non-discrimination, national treatment and most-favoured nation (MFN) status to market access, these same principles could in theory be applied also to the termination of international traffic. This is not explicitly covered by the existing WTO agreements, but might be covered by new WTO agreements concluded during the lifetime of the transition period (i.e., before 2001 or 2004). This would imply moving away from the bilateral regime of the ITU towards a multilateral accord. It is likely that such arrangements would be based on interconnection agreements rather than on settlement rates.
- Secondly, a non-reciprocal commitment to call-termination at cost-oriented rates could be offered in order to enhance **Universal Access** to telecommunications among the Least Developed Countries and other countries / territories with low teledensity. In general terms, these countries / territories produce very little outgoing international traffic. Thus the possible loss to the higher teledensity economy in offering this favourable treatment is likely to be minimal. Indeed, if the cost savings achieved by the low teledensity country are passed on to its consumers in terms of lower collection charges, then the net result could be a lower net settlement payable by the high teledensity country.

The purpose of this methodological note is to explore in more detail how the approach proposed for transition path in the Final Report to Study Group 3 might be tailored for different countries. In particular, this note uses data collected in the country case studies as an illustration of how these countries might be affected by the transition.

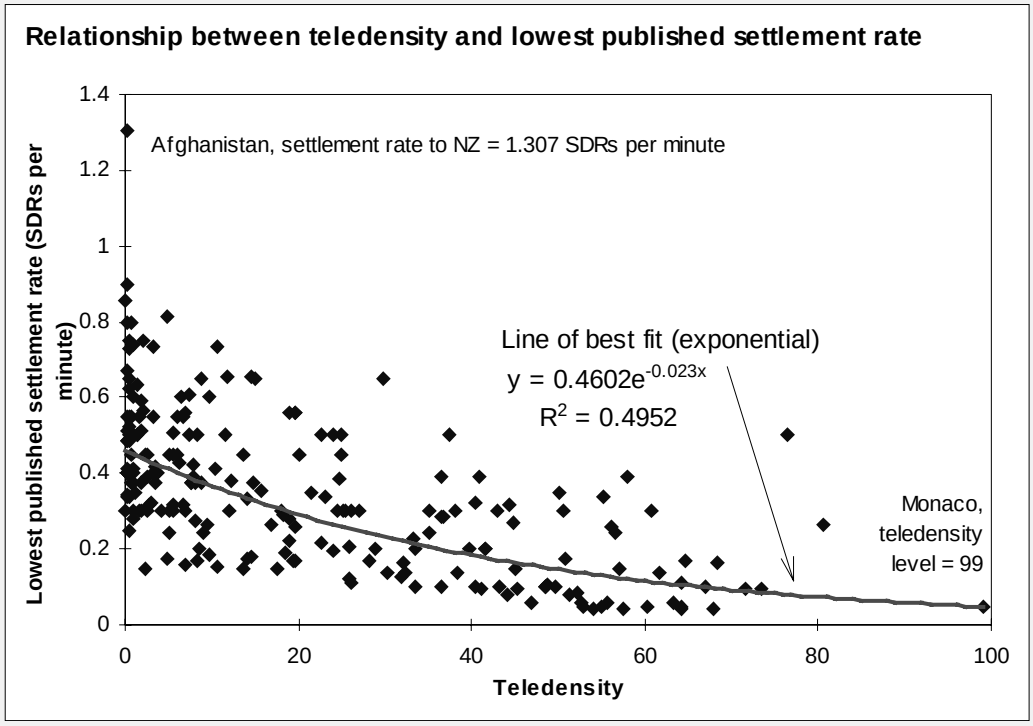
Relationship between teledensity and settlement rates

There is a well-established relationship between teledensity (telephone lines per 100 inhabitants) and level of economic development, as measured for instance by Gross Domestic Product (GDP) per capita. As a consequence, other factors which are correlated with level of economic development might also be expected to be correlated with teledensity. In particular, it might be assumed that settlement rates, and their underlying cost structures, would be inversely correlated with teledensity such that a rise in teledensity would be associated with a fall in the unit cost of terminating an international call. Figure 1 confirms this hypothesis. It shows the relationship between teledensity (telephone lines per 100 inhabitants) and lowest published settlement rates. Each dot on the chart represents at least one country or territory. The maximum values are highlighted. The chart shows a strong negative exponential correlation such that, as teledensity increases, settlement rates decrease. The value of the R^2 correlation co-efficient is 0.50 where 1.0 would equal perfect correlation. This correlation is statistically significant.

Figure 2 uses the same basic format to illustrate how the Focus Group's target rates may be applied to different teledensity categories. The seven teledensity categories are shown in Table 1. The indicative target rate is defined as the average of the lowest 20 per cent of settlement rates in each category. It ranges from 0.327 SDR in the "below 1" teledensity category to 0.043 SDR in the "above 50" teledensity category.

Figure 1: Correlation between teledensity and lowest published settlement rates

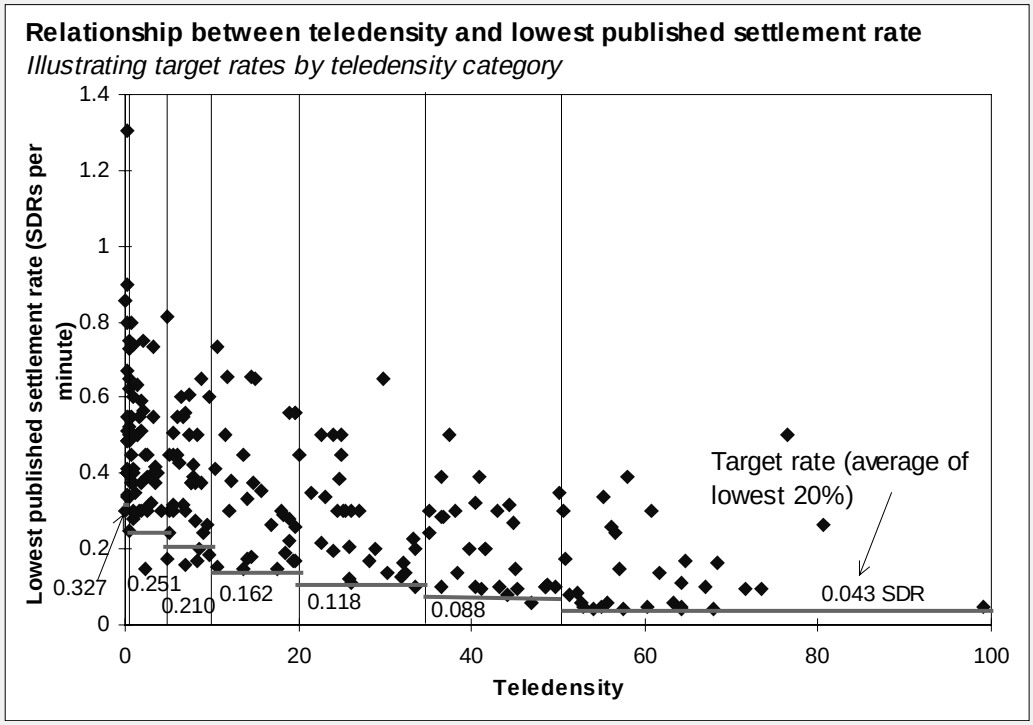
Teledensity data valid for 1 January 1998; settlement rate data valid up to 28 September 1998



Source: ITU World Telecommunication Indicators Database, FCC, OFTEL, TCNZ, Focus Group questionnaire.

Figure 2: "Indicative target rates" for different teledensity categories

"Target rate" defined as the average of the lowest 20 per cent of settlement rates in each category



Source: ITU World Telecommunication Indicators Database, FCC, OFTEL, TCNZ, Focus Group questionnaire.

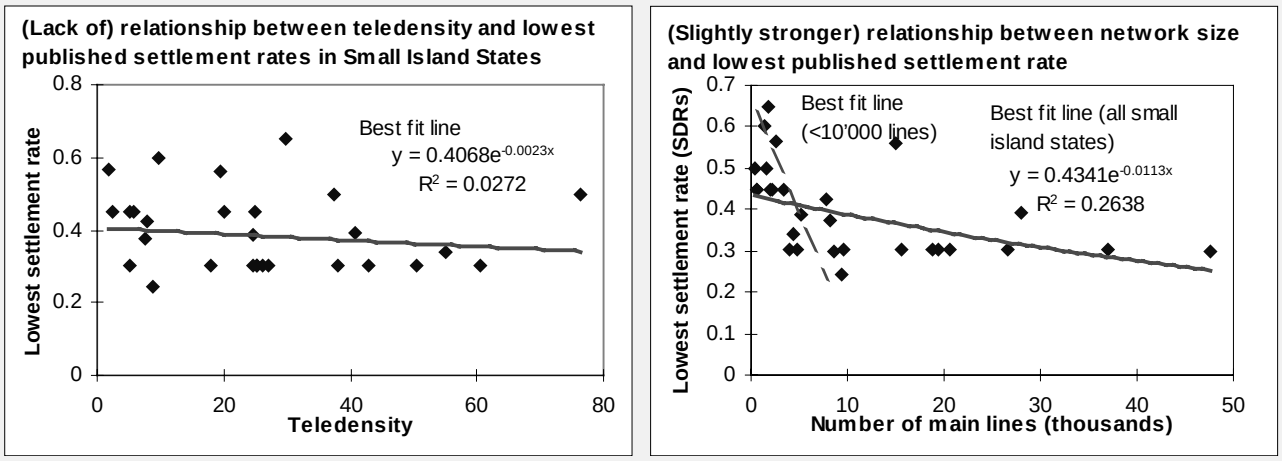
Small island states and Least Developed Countries

However, there remains two groups of countries / territories for which the correlation between teledensity and settlement rates is not so close. The first group is the small island states. This group of countries / territories are defined as having a population of less than 200'000 inhabitants, being distant from a continental mainland, off the main cable routes and therefore reliant on satellite communications. As shown in Figure 3, there is almost no evidence for any relationship between teledensity and settlement rates for this category (R^2 = 0.03 where 0 equals random distribution) which suggests that other factors are more important as a determinant of cost. A higher correlation (R^2 = 0.26) is obtained in the correlation between lowest settlement rates and network size (total number of main lines), especially at the low end (less than 10'000 lines). For this particular group of countries / territories, it appears that the total volume of international traffic is so small that there are no opportunities to gain economies of scale, and thus the unit traffic costs are proportionately higher than they would be in other economies (see contribution 59). For that reason, the Final Report proposes to treat this group of countries / territories as a special category see paragraph E.3.2). The average of the lowest 20 per cent of published settlement rates for the small island states is 0.292 SDR.

The second group which needs to be treated differently is the Least Developed Countries (LDCs). The 48 LDCs defined by the United Nations General Assembly, plus the three countries which are treated by the international community "as if" they were LDCs, are regarded as being among the most vulnerable to changes in the global economy. The majority (36) of the LDCs fall into the "below 1" teledensity category. However, the rest, including the three "as if" LDCs, have a higher teledensity. In some cases the level of teledensity is inflated by tourism (e.g., in the Maldives, Gambia). If the LDCs were treated as a single group, the average is the lowest 20 per cent of published settlement rates would be 0.312 SDR. In both the case of small island states and LDCs, it is proposed that a principle of free choice should apply whereby the countries / territories in the category can freely choose either an indicative target rate for the relevant group or for the teledensity category. It is presumed that they will select whichever is the higher target.

Figure 3: Small island states

Relationships (or lack of them) between lowest published settlement rates (in SDRs per minute) and teledensity and network size



Source: ITU World Telecommunication Indicators Database, FCC, OFTEL, TCNZ, Focus Group questionnaire.

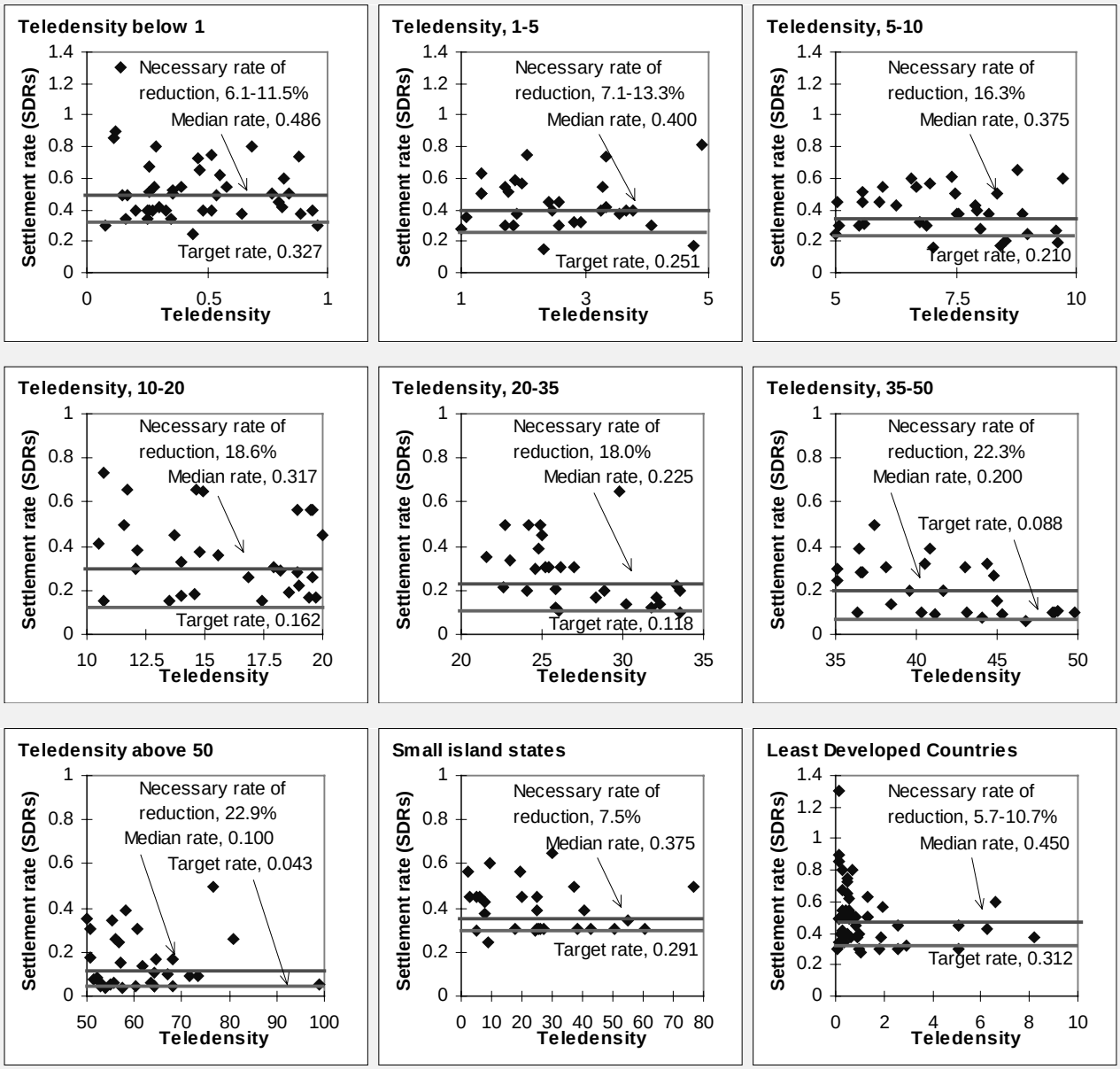
Transition paths

In order to analyse likely transition paths, from current settlement rates to target rates, it is necessary to define first a "typical" economy within each teledensity category. This might be done by taking the median value, i.e., the economy which currently stands at the midpoint between the lowest and the highest settlement rate in each category. Figure 4 shows the target and median value in each of the seven defined teledensity categories plus the small island states and LDC groups. It also shows the rate of reduction that would be necessary to move from the median value to the target by year-end 2001 (i.e., within 3.25 years) or by year-end 2004 (i.e., within 6.25 years). This corresponds to the target years shown in Table 2.

The "necessary rate of reduction" tends to be faster in the higher teledensity categories. For instance, to move from the median rate to the target rate within three years would require an average rate of reduction of 22.9 per cent per year for the above 50 category but only 11.5 per cent for the below 1 category. Indeed, for those very low teledensity economies with a degree of dependence on net settlement payments in excess of 30 per cent of total telecommunications revenue, the necessary rate of reduction would be only 6.1 per cent in order to reach the target rate by year-end 2004. For the small island states, the necessary rate of reduction would be 7.4 per cent per year, and for LDCs, it would be between 5.7-10.7 per cent per year, depending on the target year.

Figure 4: Correlation between teledensity and lowest published settlement rates in different teledensity categories, and for small island states and LDCs

Transition paths between median values and indicative rates by year end 2001 (or year end 2004)



Note: The necessary rate of reduction is shown to 2001 for all categories. For the following categories, the necessary rate of reduction to 2004 is also shown: Below 1 and 1-5 teledensity, Least Developed Countries.

Source: ITU World Telecommunication Indicators Database, FCC, OFTEL, TCNZ, Focus Group questionnaire.

Comparing the Focus Group transition path with the FCC benchmarks

One relevant comparison is how application of the Focus Group methodology, based on indicative target rates defined through analysis of existing settlement rates, would compare with an alternative approach, such as that based on imposition of the FCC benchmarks. Annex Tables 1 and 2 compare the Focus Group approach with that of the FCC. For each category defined, the median value is taken (and the nearest equivalent among the different income groups defined in the FCC Benchmark Order) and a likely transition path is plotted (not taking into account any use of asymmetric arrangements). The range of annual reduction necessary for typical countries / territories (median values) to reach target rates under the Focus Group's methodology is shown in Table 3. The necessary rate of reduction is lowest for those with a high dependence on net settlement payments, and is also lower among the teledensity categories, the small islands states and the LDCs. For LDCs and low teledensity countries with a high degree of dependence on net settlement payments, which are therefore most vulnerable to any sudden change in the international telecommunications environment, the proposed rate of reduction is between 5 and 7 per cent. For small island states, the necessary rate of reduction would be some 7 per cent per year. For other countries, the necessary rate of reduction is between 10-23 per cent per year for a median value country, depending on the teledensity, with the average reduction being 16 per cent per year.

The figures attained by applying the Focus Group's methodology contrast markedly with those that would be necessary if the FCC's "Benchmark" methodology were applied. The FCC methodology makes no allowance for dependence on net settlement payments. In almost all cases the average rate of reduction necessary under the FCC's methodology is steeper than even the worst case under the Focus Group methodology. In particular, for low income countries, the FCC's necessary rate of reduction would be between 22 and 28 per cent per year. For middle income countries, the necessary rate of reduction is between 31 and 38 per cent per year, while high income countries would need to a achieve a reduction equivalent to a 50 per cent cut in one year during the remaining three months of 1998. Application of the FCC methodology would be particularly disadvantageous to small island states especially for those such as Cayman Islands, New Caledonia or British Virgin Islands that are categorised as being high income and which currently have settlement rates of around 0.3 SDR per minute. In order to comply with the FCC benchmark for the upper middle income group, they would be required to cut their settlement rate to 0.112 SDR within three months. This represents an annualised rate of reduction in excess of 95 per cent!

Table 3: Comparison of necessary rates of reduction applied to typical (median) countries / territories under application of Focus Group target rates and FCC benchmarks

For different teledensity categories, small island states and LDCs, and their nearest equivalent under the FCC Benchmark Order

Teledensity category	*LDCs and low teledensity countries with net settlement payments **<10%** of Total Telecoms Revenue, plus all other countries*	*Net settlement payments **10-20%** of Total Telecoms Revenue*	*Net settlement payments **20-30%** of Total Telecoms Revenue*	*Net settlement payments **> 30%** of Total Telecoms Revenue*	*Nearest equivalent FCC benchmarks*
Below 1	-11.5%	-8.9%	-7.3%	-6.1%	-21.6%
1-5	-13.4%	-10.4%	-8.5%	-7.2%	-27.9%
LDCs	-10.7%	-8.3%	-6.7%	-5.7%	-25.5%
5-10	-16.3%				-27.9%
10-20	-18.7%				-30.7%
20-35	-18.0%				-38.7%
35-50	-22.3%				-49.7%
50 plus	-22.9%				-49.7%
Small islands	-7.4%				-35.1%
Simple average	**-15.7%**	**-9.2%**	**-7.5%**	**-6.3%**	**-34.1%**

Note: The simple average is an unweighted mean of the necessary rates of reduction from the median value for the different categories used in the Focus Group analysis and in the FCC benchmarks. Columns 2 and 6 relate to the Focus Group targets and the FCC benchmarks respectively. Columns 3 to 5 show the targets as a function of dependency on net settlements. It is assumed that this would be limited to countries in the below 1, 1-5 and LDC categories.

Overall, if the Focus Group methodology is applied, the average rates of reduction that would need to be applied by a typical (median) country / territory are around 6 per cent per year (between 1999 and 2004) for an LDC or a low teledensity country with a high dependence on net settlements ranges, 7 per cent for small island states (between 1999 and 2001) and around 16 per cent per year (between 1999 and 2001) for other

countries. On the other hand, if the FCC methodology is applied (for different target year-ends between 1998 and 2002) the average necessary rate of reduction would be some 34 per cent year. The FCC methodology implies a rate of reduction which is at least twice as fast as that required by the Focus Group methodology and, in some cases, is up to five times faster.

Worked examples: Country case studies

In order to understand how the transition might work in an actual country, rather than for the typical (median) cases analysed in the Annex Tables and Figure 4, it is helpful to look in more detail at the case study countries. These were selected as they represent those countries which are potentially among the most vulnerable to changes in the international telecommunications environment.

Table 4 shows the data required to apply the Focus Group methodology to the case study countries, namely:

1. their teledensity,
2. their current lowest published settlement rate,
3. the indicative target rate of their teledensity category, small island category or LDC category
4. their net settlement payment as a percentage of their total telecommunication revenue, and consequently (for LDCs and low teledensity countries) their target year,
5. and the necessary rate of reduction that would be required to reach the target rate by the target year.

Three of the case study countries are either already below the target rate (Lesotho, Samoa) or could reach it relatively easily (Uganda). For these countries, a rate of reduction of 5 per cent per year is proposed so that they continue to move towards cost-orientation. Two other countries (Senegal and Sri Lanka) may find it difficult to reach the target rate by the year 2001 as they have a relatively high dependence on net settlement payments, but should be able to reach the target by year-end 2003 and 2004 respectively by applying rates of reduction of around 12 per cent per year. India and Mauritania would need to reduce their settlement rates by 18 per cent per year, but this is largely a reflection of the fact that they are starting from such a high base. These are precisely the kind of low teledensity country that would benefit from the use of asymmetric arrangements, as provided for paragraph E.5.1, or non-reciprocal treatment, as provided for in paragraph E6.2 of the Focus Group report. Finally, Bahamas and Colombia would need to reduce their rates by some 18-22 per cent per year. Neither is especially dependent on net settlements and they both have a much higher teledensity level than the other case study countries.

The case study countries would benefit also from the proposed target rates for transit shares, so that the actual percentage reductions may be lower than those shown in Table 4.

Table 4: Transition path for case study countries applying Focus Group targets

Teledensity, lowest published settlement rates and target rates (in SDRs per minute), dependency on settlement payments, target year and necessary rate of reduction

Country	*Teledensity at 1/1/98*	*Lowest published settlement rate (SDRs)*	*Target rate (SDRs)*	*Net settlement payments as a % of total telecoms revenue*	*Target year end*	*Necessary rate of reduction per year*
Bahamas	33.33	0.225	0.118	1.1%	2001	-18.01%
Colombia	14.8	0.375	0.162	7.7%	2001	-22.73%
India	1.86	0.592	0.251	12.6%	2002	-18.27%
Lesotho (1)	0.96	0.300	0.327	<0%	2001	*-5.00%*
Mauritania	0.55	0.622	0.327	0.8%	2001	-17.93%
Samoa (1)	5.06	0.300	0.312	40.8%	2001	*-5.00%*
Senegal (1)	1.32	0.633	0.312	29.3%	2003	-12.59%
Sri Lanka	1.7	0.550	0.251	37.5%	2004	-11.80%
Uganda (1)	0.25	0.337	0.327	6.5%	2001	*-5.00%*

Note: (1) Lesotho, Samoa, Senegal and Uganda are LDCs. Samoa is also a small island state. It is presumed that countries will choose the higher target rate which is applicable to them.

Source: ITU/CTO country case studies, ITU-T Study Group 3 Focus Group.

It is worth contrasting the transition path the case study countries would undergo if they followed the Focus Group target rates with the one prescribed by the FCC (Table 5). In every single case, the FCC is prescribing a transition path which is faster and more exacting. For the nine case study countries, the FCC's recommended rate ranges between 12 and 93 per cent with the average being 36 per cent per year. For the Focus Group target rates, the range is between 5 and 23 per cent with the average being 13 per cent per year, or around one third. Furthermore, while the Focus Group methodology recognises the difficulty which those countries which are highly dependent on net settlements may face, the FCC does not. Indeed, for the three countries with the highest level of dependency (Samoa, Senegal and Sri Lanka) The FCC prescribes an average rate of reduction of between 28 and 49 per cent per year, with no guarantee that they would benefit from lower transit shares.

Table 5: Transition path for case study countries applying FCC benchmarks

Income group, lowest published settlement rates and target rates (in SDRs per minute), target year and necessary rate of reduction

	Income Group	*Lowest published settlement rate (SDRs)*	*Target rate (SDRs)*	*Target year-end*	*Necessary rate of reduction per year*
Bahamas	High	0.225	0.112	1998	-93.86%
Colombia	Lower middle	0.375	0.142	2000	-35.01%
India	Low	0.592	0.173	2001	-31.50%
Lesotho	Low (T<1)	0.300	0.173	2002	-12.15%
Mauritania	Low (T<1)	0.622	0.173	2002	-25.99%
Samoa	Lower middle	0.300	0.142	2000	-28.28%
Senegal	Lower middle	0.633	0.142	2000	-48.52%
Sri Lanka	Low	0.550	0.173	2001	-29.94%
Uganda	Low (T<1)	0.337	0.173	2002	-14.52%

Source: ITU/CTO country case studies, FCC.

Conclusions

This methodological note has indicated how transition paths towards cost-orientation could be applied, using the indicative target rates defined in the Final Report of the Focus Group to ITU-T Study Group 3. The methodological note has described the case of both typical countries (represented by the median value in each teledensity group) and specific countries (represented by the nine case study countries). For typical countries, the necessary rate of reduction is, on average, around 16 per cent per year, with faster rates of reduction required by countries with a higher teledensity. For LDCs and low teledensity countries with a high dependence on net settlements, the rate of reduction is around 6 per cent per year, and for small island states it is 7 per cent per year. For the individual case study countries, the range is between 5 and 23 per cent per year and the average rate of reduction is some 13 per cent per year. These levels are consistent with the global average achieved over the last three years.

The methodological note contrasts the transition paths recommended by the Focus Group with that prescribed by the FCC. In virtually every single case, the FCC transition path would be more exacting, with the average rate of reduction being around 34 per cent per year for median value countries and 36 per cent per year for the case study countries. Furthermore, the FCC methodology takes no account of the special needs of small island states or other countries / territories with a high level of dependency on net settlement payments.

In conclusion, it can be seen that the Focus Group's draft recommendations are consistent with the downward direction in which settlement rates have been heading in recent years under pressure from market forces. In those countries where market forces are not effective, or where it is not possible to apply cost models, the indicative target rates provide useful guidance on the direction of cost trends while taking into account the realities and individual circumstances of different countries. While the process of providing guidance on cost trends is not a substitute for the operation of the market, and while the indicative target rates do not necessarily represent true cost-orientation, they nevertheless provide an important step *towards* cost-orientation, which is the primary goal of the Focus Group's work.

Annex Table 1: Comparison between application of target rates (as defined in D.140 draft new Annex E) and FCC Benchmarks

As a function of dependency on net settlement payments as a percentage of total telecommunication revenue, for low teledensity countries / territories and LDCs

Category	Target rates / year		Focus Group				FCC Benchmark	
		Dependency	<10%	10-20%	20-30%	30%+		
Focus Group	Focus Group	3Q-1998 Median	**0.486**	**0.486**	**0.486**	**0.486**	3Q-1998	**0.487**
T < 1	0.327SDR	end-1998	0.472	0.475	0.477	0.479	end-1998	0.461
	Year-end: 2001-04	end-1999	0.418	0.433	0.442	0.449	end-1999	0.361
		end-2000	0.370	0.394	0.410	0.422	end-2000	0.283
FCC	Benchmark :	end-2001	**0.327**	0.359	0.380	0.396	end-2001	0.222
Low + T < 1	0.173SDR	end-2002		**0.327**	0.353	0.371	end-2002	**0.173**
	Year-end: 2001	end-2003			**0.327**	0.349		
		end-2004				**0.327**		
		Average (per year)	**-11.5%**	**-8.9%**	**-7.3%**	**-6.1%**	**Average (per year)**	**-21.6%**
Category	Target rates / year		Focus Group				FCC Benchmark	
		Dependency	<10%	10-20%	20-30%	30%+		
Focus Group	Focus Group	3Q-1998 Median	**0.400**	**0.400**	**0.400**	**0.400**	3Q-1998	**0.500**
1 < T < 5	0.251 SDR	end-1998	0.387	0.390	0.392	0.393	end-1998	0.465
	Year-end: 2001-04	end-1999	0.335	0.349	0.358	0.365	end-1999	0.336
		end-2000	0.290	0.313	0.328	0.338	end-2000	0.242
FCC	Benchmark :	end-2001	**0.251**	0.280	0.300	0.314	end-2001	**0.173**
Low income	0.173SDR	end-2002		**0.251**	0.274	0.292		
	Year-end: 2001	end-2003			**0.251**	0.271		
		end-2004				**0.251**		
		Average (per year)	**-13.4%**	**-10.4%**	**-8.5%**	**-7.2%**	**Average (per year)**	**-27.9%**
Category	Target rates / year		Focus Group				FCC Benchmark	
		Dependency	<10%	10-20%	20-30%	30%+		
Focus Group	Focus Group	3Q-1998 Median	**0.450**	**0.450**	**0.450**	**0.450**	3Q-1998	**0.450**
LDC	0.312 SDR	end-1998	0.438	0.441	0.442	0.444	end-1998	0.421
	Year-end: 2001-04	end-1999	0.391	0.404	0.413	0.418	end-1999	0.314
		end-2000	0.350	0.371	0.385	0.395	end-2000	0.234
FCC	Benchmark :	end-2001	**0.312**	0.340	0.359	0.372	end-2001	**0.173**
Low income	0.173SDR	end-2002		**0.312**	0.335	0.351		
	Year-end: 2001	end-2003			**0.312**	0.331		
		end-2004				**0.312**		
		Average (per year)	**-10.7%**	**-8.3%**	**-6.7%**	**-5.7%**	**Average (per year)**	**-25.5%**

Annex Table 1: Comparison between application of target rates (as defined in D.140 draft new Annex E) and FCC Benchmarks (continued)

Notes to the Table

Notes: **Columns 1 and 2** show the approximate matching between the below 1 and the 1-5 teledensity categories established by the Focus Group plus the Least Developed Country category and their equivalent under the FCC's income group classification. **Column 3** shows the year-end deadlines established by the Focus Group. Deadlines after year-end 2001 (i.e., 2002,2003, 2004) are a function of dependency on settlement rates as a percentage of total telecommunications revenue (see Table 1). **Columns 4 - 7** show the starting point (the median value within each category on 28th September 1998) plus the end point (the target rate) for different countries according to their level of dependency (<10%, 10-20%, 20-30&, 30+%) on net settlements as a percentage of total telecommunication revenue. The figures in between the median value and target show the end of period value that would need to be attained in order to achieve progressive staged reductions. The "Average (per year)" figure shows the necessary rate of reduction to attain the target rate. **Column 8** shows the year-end deadlines established by the FCC in its "Benchmark Order". **Column 9** shows the starting point (the median value within each category on 28th September 1998) plus the end point (the target rate) for countries within that category. The median value for the income groups is sometimes higher than for the equivalent teledensity groups due to the fact that the former tend to encompass a greater number of countries / territories. Furthermore, the matching of teledensity categories with income groups is far from exact. The figures in between the median value and target show the end of period value that would need to be attained in order to achieve progressive staged reductions. The "Average (per year)" figure shows the necessary rate of reduction to attain the target rate. Where this period is less than one year (i.e., between 28 September 1998 and 1 January 1999, the quarterly rate is multiplied by four to obtain the annualised rate.

Annex Table 2: Comparison between application of target rates (as defined in D.140 draft new Annex E) and FCC Benchmarks

For teledensity categories 5-10, 10-20 and 20-35

Category	Target rates / year		Focus Group		FCC Benchmark
Focus Group	Focus Group	3Q-1998 Median	**0.375**	3Q-1998	**0.500**
5 < T < 10	0.210 SDR	end-1998	0.360	end-1998	0.325
	Year-end: 2001	end-1999	0.301	end-1999	0.274
FCC	Benchmark:	end-2000	0.252	end-2000	0.224
Low income	0.173SDR	end-2001	**0.210**	end-2001	**0.173**
	Year-end: 2001				
		Average (per year)	**-16.3%**	**Average (per year)**	**-27.9%**
Category	Target rates / year		Focus Group		FCC Benchmark
Focus Group	Focus Group	3Q-1998 Median	**0.317**	3Q-1998	**0.324**
10 < T < 20	0.162 SDR	end-1998	0.302	end-1998	0.299
	Year-end: 2001	end-1999	0.246	end-1999	0.207
FCC	Benchmark :	end-2000	0.200	end-2000	**0.142**
Lower-middle	0.142SDR	end-2001	**0.162**		
income	Year-end: 2000				
		Average (per year)	**-18.7%**	**Average (per year)**	**-30.7%**
Category	Target rates / year		Focus Group		FCC Benchmark
Focus Group	Focus Group	3Q-1998 Median	**0.225**	3Q-1998	**0.262**
20 < T < 35	0.118 SDR	end-1998	0.215	end-1998	0.237
	Year-end: 2001	end-1999	0.176	end-1999	**0.142**
FCC	Benchmark :	end-2000	0.144		
Upper-middle	0.142SDR	end-2001	**0.118**		
income	Year-end: 1999				
		Average (per year)	**-18.0%**	**Average (per year)**	**-38.7%**

Annex Table 2: Comparison between application of target rates (as defined in D.140 draft new Annex E) and FCC Benchmarks (continued)

For teledensity categories 35-50, 50 plus and small island states

Category	Target rates / year		Focus Group		FCC Benchmark
Focus Group	Focus Group	3Q-1998 Median	**0.200**	3Q-1998	**0.133**
35 < T < 50	0.118 SDR	end-1998	0.189	end-1998	**0.112**
	Year-end: 2001	end-1999	0.147		
FCC	Benchmark :	end-2000	0.114		
High income	0.112SDR	end-2001	**0.088**		
	Year-end: 1998				
		Average (per year)	**-22.3%**	**Average (per year)**	**-49.7%**
Category	Target rates / year		Focus Group		FCC Benchmark
Focus Group	Focus Group	3Q-1998 Median	**0.100**	3Q-1998	**0.133**
T < 50	0.043 SDR	end-1998	0.094	end-1998	**0.112**
	Year-end: 2001	end-1999	0.073		
FCC	Benchmark :	end-2000	0.056		
High income	0.112SDR	end-2001	**0.043**		
	Year-end: 1998				
		Average (per year)	**-22.9%**	**Average (per year)**	**-49.7%**
Category	Target rates / year		Focus Group		FCC Benchmark
Focus Group	Focus Group	3Q-1998 Median	**0.375**	3Q-1998	**0.375**
Small island	0.292 SDR	end-1998	0.368	end-1998	0.342
states	Year-end: 2001	end-1999	0.341	end-1999	0.222
FCC	Benchmark :	end-2000	0.316	end-2000	**0.142**
Lower-middle	0.142SDR	end-2001	**0.292**		
income	Year-end: 2000				
		Average (per year)	**-7.4%**	**Average (per year)**	**-35.1%**

Notes: **Columns 1 and 2** show the approximate matching between the 5-10, 10-20, 20-35, 35-50 and 50 plus teledensity categories established by the Focus Group plus the small island states category. and their equivalent under the FCC's income group classification. **Column 3** shows the year-end deadlines established by the Focus Group. **Column 4** shows the starting point (the median value within each category on 28th September 1998) plus the end point (the target rate) the median country in each category. The figures in between the median value and target show the end of period value that would need to be attained in order to achieve progressive staged reductions. The "Average (per year)" figure shows the necessary rate of reduction to attain the target rate. **Column 5** shows the year-end deadlines established by the FCC in its "Benchmark Order". **Column 6** shows the starting point (the median value within each category on 28th September 1998) plus the end point (the target rate) for countries within that category. The median value for the income groups is sometimes higher than for the equivalent teledensity groups due to the fact that the former tend to encompass a greater number of countries / territories. Furthermore, the matching of teledensity categories with income groups is far from exact. The figures in between the median value and target show the end of period value that would need to be attained in order to achieve progressive staged reductions. The "Average (per year)" figure shows the necessary rate of reduction to attain the target rate. Where this period is less than one year (i.e., between 28 September 1998 and 1 January 1999, the quarterly rate is multiplied by four to obtain the annualised rate.