

PUBLIC FEEDBACK ON ALLOCATION OF SPECTRUM BANDS TO MCMC

QUESTION 1(i): Award mechanism (700MHz)

1. The 'beauty contest' award mechanism is sub-optimal, because in a market economy such as Malaysia, (i) mobile service providers price according to competitive forces and demand, and therefore IT IS appropriate to impose the discipline of market forces to discover the price of a key input, radio spectrum, that network providers are willing to pay. Underpricing spectrum has two possible effects – operators may go on to make super-normal profits, OR use the spectrum inefficiently, or under-utilise it.
2. The claim that the 700MHz spectrum cost may restrict network deployment implies future investment in service using this spectrum is a function of spectrum cost; this is an incorrect presumption especially for 4G and 3G service, in two ways. **Firstly**, from an economic theory tells us that in an oligopolistic structure such as telecoms sector, price is administered according to what the market/consumers can accept and adjusted along the way according to price elasticity. The cost of the spectrum will not reduce network deployment because the main determinant of return on network investment, Is NOT spectrum cost but price of the service, which is a function of competitive forces. Price is administered according to demand, by network providers. Since network providers all report healthy returns on equity and return of capital invested, strongly suggests there is no restriction on network deployment due to spectrum cost.

Secondly, service providers are mostly recovering a sunk cost, and although would not like to see that sunk cost increase, are capable of accepting it (see Returns on capital table).

Mobile operators will use this 700MHz spectrum to offer a service that already exists (enhance 3G or 4G bandwidth), costs are very well known, and a substantial part of the investment has already been recovered after years of service. Therefore there is little uncertainty as to the investments required to enhance, extend or continue the service. This implies that an auction of spectrum will also result in rational pricing, because both demand and network deployment cost are well-known. An auction process should be used to allocate the spectrum.

Thirdly, evidence from neighbouring countries (Thailand and Singapore) is that an auction of spectrum does not restrict MNO's from network deployment. (see a more detailed discussion of this in answer to Question 5.

QUESTION 1 (ii) Timeline

1. In my view, the issues associated with when the spectrum should be made available are: (a) the Axiata-Digi merger. The spectrum should only be allocated after it has been determined whether the merger is going ahead, or being abandoned, because the number of players in the industry is a pertinent factor in spectrum allocation.
(b) A spectrum auction of all spectrum to be allocated across 700MHz, 2300MHz and 2600 MHz should be held simultaneously, using multiple round system, with all bids opened at each round, and visible to all bidders, is ideal. Discovering the price or cost of spectrum at different point in time is sub-optimal, because it does not allow players to exert demand for more spectrum of one type, versus another, given the different prices. Network operators may want more at 700MHz, and willing to give up, some at 2100MHz, given differing prices.

QUESTION 2 Optimum spectrum block per operator

Different operators may differ in view on technical optimality of spectrum. They should be allowed to express this preference for one type of spectrum vs another via a simultaneous auction of all spectrum.

An auction of **blocks of 2 x 5MHz** will allow players to place bids at different prices for each block they want to use. Most will bid high for the first 2 blocks, to secure a minimum, but one of two may be willing to pay an exceptional price to secure expanded bandwidth.

QUESTION 3 (i) Award mechanism (2600MHz)

Since the 2300 MHz spectrum is to be used for LTE and various spectra (700, 2100, 2300, 2600 MHz) are increasingly capable of being utilised in a technology neutral manner, this increases the argument for an auction, which would allow MNOs (mobile network operators) to decide for themselves what combination of spectrum each one prefers to use, given the spectrum price and MNO preferences.

My Reply to Question 1 remains relevant here.

QUESTION 3 (ii) Timeline

Timeline should be after the conclusion or non-approval of any outstanding merger proposal. Auction should be simultaneous with other auctions.

QUESTION 4 Optimum spectrum block

Given that 9 blocks of 10 MHz, are available, 3 blocks should as 10 MHz blocks, and 6 blocks should be auctioned as 5 MHz blocks.

QUESTION 5: Award mechanism and timing (2600MHz)

The award of spectrum should be by auction, which do not restrict or reduce an MNO's ability to deploy its network. Why? Because:

1. MNOs are rational, already know the cost of deploying and operating a network and so are able to make rational decisions about what the spectrum is worth, as an input into the provision of a mobile service.
 2. Evidence from Thailand and Singapore, both countries that utilise auctions to allocate spectrum, **show no evidence of restricted ability to roll out a service after spectrum auctions**. Firstly, both have also achieved mobile penetrations of over 100. Secondly, the same MNOs remain in operation after many years, without exiting the market, which suggest that despite the price of auction determined they remain sufficiently profitable to want to stay in the sector and in business. Thirdly, if we examine the Return on Capital Employed of these MNOs, all report positive ROCE regardless of whether in Malaysia, Thailand or Singapore.

MALAYSIA MNOs	8-Year Avg ROCE	SINGAPORE MNOs	8-Year Avg ROCE
Maxis Bhd	15.7%	M1 Ltd	19.8%
DiGi.com Bhd	73.4%	StarHub Ltd	31.8%
Axiata Group Bhd	7.1%	Singapore Telecommunications Ltd	8.1%
THAILAND MNOs	8-Year Avg ROCE		
True Corp PCL	3.0%		
Total Access Communication PCL	13.9%		
Advanced Info Service PCL	38.4%		

Although there many nuances and several company issues that explain the differences between the ROCE for various companies within a country, and between countries, this is not the scope of the question raised. The key point of the tables above is that auctioning spectrum is not an impediment to network deployment.

