

Spectrum Auction Risks Leaving Thailand Stranded in a Mobile Data Slow Lane

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NERA Economic Consulting is a global firm of experts dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges.

NERA's spectrum and auctions practice works around the world for regulators and bidders on allocation of frequencies for mobile and other uses.

The Thai communications regulator, NBTC, plans to sell spectrum in the 900 MHz and 1800 MHz bands in 2018. This is spectrum already used by dtac to provide 2G and 4G services, under a concession from CAT expiring in 2018. Dtac has no right of renewal and must compete in the auction if it wants to win back some or all of the spectrum.

NBTC's initial design of the award includes two proposals that may not support an efficient award process:

- to withhold some spectrum from the award in case of low participation in the auction (the so-called "N-1 rule"); and
- to adopt exceptionally high prices from a similar auction in 2015 as reserve prices.

These rules appear designed to maximise revenues from the auction. However, the unintended consequences may be lower auction revenue, unsold spectrum, an inefficient market outcome and mobile operators burdened with financial obligations that depress incentives to invest and compete in providing next-generation mobile broadband.

In this paper, expert economists from NERA Economic Consulting highlight research that suggests that enforcing such rules could leave Thailand stranded in a mobile data slow lane, constraining scope for future economic growth and putting at risk the government's vision for Thailand 4.0. The ultimate losers would be Thai taxpayers, subscribers and businesses.

Thailand has not released any new spectrum for 4G and is lagging far behind Western economies and many other Asian economies in releasing spectrum necessary to meet the growth in consumer demand for mobile broadband. The unintended consequence of the N-1 rule is that it may widen this gap further as it will likely lead to at least 10% of existing spectrum capacity being withheld from the market.

High reserve prices may also deter participation and lead to outcomes ultimately damaging to Thai consumers. The authors recently concluded a study for the GSMA on effective spectrum pricing which identified a relationship between high spectrum costs, lower network quality and higher retail prices. Recent developments in the Thai market are consistent with this relationship:

- Thailand has amongst the highest levels of spectrum prices in the world;
- it appears that Thai consumers already pay more for mobile data than their peers in many other Asian countries; and
- data gathered by OpenSignal suggests that Thailand is falling behind its peers in terms of 4G network speed and quality.

A plausible conservative estimate suggests that lowering reserve prices in the upcoming auction could lead to lower prices for mobile data and in turn create consumer benefits of at least THB 3,643 per capita over a 15-year licence term.

The paper recommends to abandon the N-1 rule and set reasonable reserve prices. This is ultimately to the benefit of Thai subscribers and the economy as a whole.



For future auctions, the NBTC should consider offering spectrum in smaller units that bidders can aggregate on a contiguous basis. This approach, which is used by many regulators worldwide, gives operators maximum flexibility to target different amounts of spectrum and allows for competition for incremental spectrum even in low participation scenarios.