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**VALUATION APPROACH FOR 5G SPECTRUM IN
SRI LANKA**

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Master of Science

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Dissertation submitted in partial fulfillment of the requirements for the
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DECLARATION

I declare that this is my own work and this Dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or Institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text. I retain the right to use this content in whole or part in future works (such as articles or books).

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Date: 16/06/2023

The supervisors should certify the Dissertation with the following declaration.

The above candidate has carried out research for the Master of Science Dissertation under our supervision. We confirm that the declaration made above by the student is true and correct.

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Signature of the Supervisor:

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Name of Supervisor: Dr. Kasun Hemachandra

Signature of the Supervisor:

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ABSTRACT

The radio spectrum is a scarce and vital resource. Every country in the world has sovereign control over its spectrum. Demand for the spectrum in terms of mobile communication-related applications is increasing continuously. As a result, demand for additional spectrum acquisition is also increased. 5G technology, as the latest generation of mobile telephony, having many advanced features have opened many doors to other industries such as virtual reality, the Internet of Things(IoT), smart cities, smart health care, etc., and demand for them is trending. As a result of its technological advancement of 5G technology, network operators are keen enough to migrate to 5G considering its economic benefit. Due to the excessive demand for the spectrum, the true value of the spectrum has gone up drastically. Therefore, the understanding of the true value of the spectrum has become a deem requirement to acquire them at the right price. The main objective of this research is to identify a suitable method to estimate the value of the 5G spectrum of Sri Lanka. A literature survey compares techniques used for estimating the value of the spectrum. More specifically, this research tests the suitability of multivariate regression analysis to estimate the value of 5G spectrum. This study estimates the value of 5G spectrum in Sri Lanka using multivariate regression analysis and compares its accuracy with the historical auction prices.

Keywords: Spectrum Valuation, Spectrum Auctions, Regression Analysis, Econometrics

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