



---

## *Blockchain and the evolution of institutional technologies*

by

**Dr Brendan Markey-Towler**

*Researcher and Sessional Lecturer*

*School of Economics, University of Queensland  
Australia*

**Date** : 11 March 2019 (Monday)  
**Time** : 10:30 a.m. – 12:00 noon  
**Venue** : MB205, Main Building, The University of Hong Kong

### **Abstract:**

For the past century economists have proposed a suite of theories relating to industrial dynamics and technological change. Together they have been described as a general model that can be applied to all new innovation. This model however does not apply well to ‘institutional technologies’. This class of technologies minimises transaction costs to facilitate economic exchange and resolve coordination problems, and has been previously largely ignored by industrial dynamics. The importance of institutional technologies is revealed by blockchain and other distributed ledger technologies. Firms, governments, markets, clubs and commons are also institutional technologies. The slow evolution of these institutional technologies has masked their dynamic importance. This paper develops a new model of institutional choice and evolution. We incorporate institutions into a replicator dynamic model, revealing the key role of entrepreneurs who propose and disseminate institutional rules. This paper provides an analytic framework for the integration of evolutionary economics and new institutional economics.

### **Bio-sketch:**

Brendan Markey-Towler is a behavioural economist and institutional cryptoeconomist presently affiliated with the University of Queensland and RMIT University Blockchain Innovation Hub and interested in the behavioural, institutional and evolutionary economics of innovation, entrepreneurship and technology. He is a member of the Global Advisory Board of Economists Without Borders Australia, and the author of two books: *An Architecture of the Mind: A Psychological Foundation for the Science of Everyday Life* (Routledge, 2018) and with Nicholas Johnson of the World Economic Forum, *Internet, Artificial Intelligence, Blockchain: Economics of the Fourth Industrial Revolution* (Routledge, forthcoming). He has published widely in leading journals of evolutionary and institutional economics in particular, including the *Journal of Evolutionary Economics*, the *Journal of Institutional Economics* and the *Cambridge Journal of Economics*. He has also written widely for general audiences in *The Conversation* and *The Spectator Australia* and regularly appears in national media speaking on economics, and completed a range of consulting projects for industry. He holds a PhD in economics as well as a Bachelor of Economics with First Class Honours and a University Medal from the University of Queensland.

---