

MEMORANDUM

To: The House Committee on Commerce and Economic Development

From: Oliver R. Goodenough, Professor and Executive Director of the Center for Legal Innovation,
Vermont Law School

Re: Making Vermont's Legal Structure Hospitable to e-Commerce

Date: March 9, 2016

This memorandum will provide background and a summary for my testimony to the Committee on March 9, 2016. I am a professor of law at Vermont Law School and co-director of its Center for Legal Innovation. I also have affiliations with the Thayer School of Engineering at Dartmouth College, the Grossman School of Business at UVM, the CodeX Center for Legal Informatics at Stanford University, and the Office of Financial Research at the U.S. Department of the Treasury. The views I express here are entirely my own and do not reflect the views of any of the institutions with which I am affiliated.

It is broadly accepted that a hospitable legal environment can help to encourage economic development, often at little or no cost to the state that creates it. This can be particularly important in the realm of new technological applications. Maximizing the benefits and minimizing the detriments of an advance like the blockchain is not simply a matter of technology. As the economist Paul Romer notes:

“Economic growth is driven by the coevolution of two sets of ideas, technologies and rules. Governments can increase the rate of growth—in ways that benefit all citizens—by creating systems of rules that are both encouraging of and responsive to new technologies.”¹

That said, it is also important that hospitality to an aspect of economic development not be at the expense of the more general public good. Getting this balance correct is the continual challenge facing a law and policy body such as this Committee and the Legislature more broadly.

Last spring, this Committee and its Senate counterpart invited me to make suggestions on targets in our Vermont laws where legal innovation might support economic development, particularly

1 Paul Romer, *Bio*, available at <http://www.leighbureau.com/speakers/promer/romer.pdf>. For a more developed discussion, see Paul Romer, *Process, Responsibility, and Myron's Law*, in *IN THE WAKE OF THE CRISIS: LEADING ECONOMISTS REASSESS ECONOMIC POLICY*. (Olivier J. Blanchard, David Romer, A. Michael

Spence and Joseph E. Stiglitz, eds., Forthcoming MIT Press, 2012), available at <http://pages.stern.nyu.edu/~promer/Myron.pdf>.

in the context of technological innovation and change. While I suggested several contexts for consideration, chief among them was the possibility of providing explicit legal recognition for the use of blockchain technology as a means of confirming the authenticity of digital records. Even a year ago, there was considerable excitement in the tech, finance and business communities over the potential for applying blockchain approaches in a number of contexts. This interest and activity has only increased since last year. Below I set out links to a few of the most prominent reports on these developments.

- A report by the consulting firm McKinsey & Company from December, 2015, entitled: Beyond the Hype: Blockchains in Capital Markets, available at: <http://www.mckinsey.com/industries/financial-services/our-insights/beyond-the-hype-blockchains-in-capital-markets>
- A report by the Bank of England from 2014 on the promise of blockchain in financial markets, available at: <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q3digitalcurrenciesbitcoin1.pdf>
- A pair of cover stories by the *Economist* Magazine from its October 31, 2015 edition, available at: <http://www.economist.com/news/leaders/21677198-technology-behind-bitcoin-could-transform-how-economy-works-trust-machine> and <http://www.economist.com/news/briefing/21677228-technology-behind-bitcoin-lets-people-who-do-not-know-or-trust-each-other-build-dependable>
- A story from the August, 31 2015 edition of the New York Times, available at http://www.nytimes.com/2015/08/31/business/dealbook/bitcoin-technology-piques-interest-on-wall-st.html?_r=0

This Committee and its Senate counterpart were intrigued by the possibility of providing a legal framework for blockchain activity. Deliberations on a particular approach, however, elicited concerns both within the legislature and from other branches of government that a less time-pressured opportunity for consideration would be useful. As a result, a study group was directed to convene, consisting of the offices of the Secretary of State, the Commissioner of Financial Regulation, and the Attorney General in consultation with one or more Vermont delegates to the National Conference of Commissioners on Uniform State Laws and with the Center for Legal Innovation at Vermont Law School. I contributed to the process as the representative of the Center for Legal Innovation. The report of this study group was provided to the Legislature on January 15 of this year.

While the report speaks for itself, I believe its conclusions can be summarized as:

1. The blockchain approach constitutes a highly robust and tamper-resistant means of establishing the contents and authenticity of records maintained through a valid application of blockchain technology.
2. Given the current integrity of public record keeping in Vermont, the advantages of a blockchain approach would not outweigh the costs of adopting it for our official state records at this time.

3. There is significant interest, activity and investment in the private sector around blockchain approaches. Creating a framework of legal recognition under Vermont law for blockchain activity would have the potential for bringing some of the economic activity to Vermont, with minimal increase in risk of damage to other aspects of the public good.

A more detailed technical explanation is available in the brief report *Blockchain in Vermont: A Primer*, prepared for the study group by Jeremy A. Hansen, PhD, Certified Information Systems Security Professional and Assistant Professor of Computer Science, Norwich University, a copy of which is separately available to the Committee.

As an appendix, the study group's report contained a suggestion for possible legislative drafting for recognition of blockchain technology in the private context. This suggestion has served as the starting point for the bill now before this Committee. A goal of this language was to recognize the distinction between the authenticity of the record, which a blockchain is exceptionally good at establishing, and the validity of the contents of that record, which can be variable, and to make it clear that recognition is extended only to the former.

I appreciate the opportunity to once again share my thoughts on blockchain recognition with the Committee. In my verbal testimony I hope to be able to answer questions about the report and its conclusions and to discuss the specific language of the proposed statute currently under consideration.