## A Model of Collateral<sup>\*</sup>

Yu Awaya<sup>†</sup>

Hiroki Fukai<sup>‡</sup>

Makoto Watanabe<sup>§</sup>

October 23, 2017

## Abstract

This paper presents a simple equilibrium model in which collateralized credit emerges endogenously. Just like in repos, individuals cannot commit to the use of collateral as a guarantee of repayment, and both lenders and borrowers have incentives to renege. Our theory provides a micro-foundation to justify the borrowing constraints that are widely used in the existing macroeconomic models. We explain why assets are often used as collateral, rather than as a means of payment, why there is a tradeoff in assets between return and liquidity, and what kinds of assets are useful as collateral.

**Keywords:** collateral; search; medium of exchange; voluntary separable repeated game

JEL Classification Numbers: C73, E30, E50

<sup>\*</sup>We are grateful to Narayana Kocherlakota, Randy Wright, and seminar participants in The Summer Workshop on Money, Banking, Payments, and Finance, 2017 at the Bank of Canada, Search Theory Workshop/Rokko Forum at Kobe University, Search Theory Workshop at Kyushu University for their helpful comments and encouragements. Awaya acknowledges financial support from NSF Grant (SES-1626783).

<sup>&</sup>lt;sup>†</sup>University of Rochester. Address: 208 Harkness Hall, Rochester, NY 14627, US. Email: Yu-Awaya@gmail.com

<sup>&</sup>lt;sup>‡</sup>Kyushu University. Address: 744 Motooka W2-1023, Nishi-ku, Fukuoka-shi, Fukuoka 819-0395, Japan. E-mail: fukai.hiroki@gmail.com

<sup>&</sup>lt;sup>§</sup>Vrije Universiteit Amsterdam. Address: DeBoelelaan 1105, 1081 HV Amsterdam, The Netherlands. Email: makoto.wtnb@gmail.com