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Money and credit as means of payment: A new monetarist approach ☆

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Abstract

We study the choice of payment instruments in a model with money and credit, where sellers must invest in a record-keeping technology to accept credit and buyers have limited commitment. Our model captures the two-sided market interaction between consumers and retailers that can generate multiple equilibria. Limited commitment yields an endogenous debt limit that depends on monetary policy. Money and credit coexist for a range of parameters, and bargaining related hold-up problems can lead to inefficiencies in the adoption of monitoring technologies. Changes in monetary policy generate multiplier effects in the credit market due to complementarities between consumer borrowing and the adoption of credit by merchants.
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1. Introduction

Much of the U.S. economy runs on debt, owed primarily to the development of credit cards that serve both as a payment instrument and a means for unsecured borrowing.[1] However, recent data suggest while consumers are increasingly relying on credit cards, they are not completely abandoning cash (Foster et al., 2011; Briglevics and Schuh, 2013). As consumers change the way they pay and businesses change the payments they accept, it is increasingly important to understand how consumer behavior affects merchant behavior and vice versa. This dynamic often generates complementarities and network externalities, a key feature of the retail payment market. These trends in the payments landscape raise many questions for monetary theory and policy. Under what conditions can money and credit coexist? Can improved access to record-keeping drive out money? And in economies where both money and credit are used, how does monetary policy affect output and welfare through the credit channel?

To address these questions, we propose a unified model of money and credit that integrates several insights from modern monetary theory, and is also analytically tractable and amenable to policy analysis. Instead of taking payment arrangements as given, our approach is in the tradition of New Monetarist Economics where the use of money and credit arise endogenously.[2] To capture the two-sided nature of actual payment systems, our model focuses on the interaction between consumers (buyers, or borrowers) and retailers (sellers, or lenders). The fundamental distinction between monetary and credit trades is that the former is settled on the spot while the latter involves delayed settlement and record-keeping to track transactions and enforce repayment. While many economies now feature the widespread adoption of both money and credit, getting money and credit to coexist in theory is a more delicate issue. A key insight from Kocherlakota (1998) is that so long as credit is feasible, there is no social role for money, and if money is valued, then credit cannot be sustained.

To generate a role for both money and credit, our model features two frictions motivating payment decisions: imperfect record-keeping and limited commitment. For credit to be feasible, we introduce a costly record-keeping technology that monitors and records transactions. As in Nosal and Rocheteau (2011), a seller who invests in this technology can accept an IOU from a buyer. Moreover, we follow a long tradition that views limited commitment as a key friction underlying credit market behavior. Lenders cannot force borrowers to repay debts, and default triggers a punishment that banishes agents from all future credit transactions (Kehoe and Levine, 1993; Alvarez and Jermann, 2000). In that case, a defaulter can only trade with money. Debt contracts are self-enforcing and the possibility of default yields an endogenous upper bound on credit use.

Our model generates three endogenous payment regimes: one with money only, one with credit only, and one with both. Both money and credit are used when some sellers (either exogenously or endogenously) accept cash and credit while others only take cash. However, we show

[1] Unsecured credit refers to loans not tied to other assets or secured by collateral. Credit card loans account for roughly half of all unsecured debt in the United States (Federal Reserve, 2005). The number of payments made by general-purpose credit cards rose from 15.2 billion to 19.0 billion between 2003 and 2006 in the U.S. (Gerdes, 2008).

[2] A discussion of the New Monetarist approach is in Williamson and Wright (2010) and a textbook treatment is in Nosal and Rocheteau (2011).

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