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A model of banknote discounts

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Abstract

Prior to 1863, state-chartered banks in the United States issued notes—dollar-denominated promises to pay specie to the bearer on demand. Although these notes circulated at par locally, they usually were quoted at a discount outside the local area. These discounts varied by both the location of the bank and the location where the discount was being quoted. Further, these discounts were asymmetric across locations, meaning that the discounts quoted in location A on the notes of banks in location B generally differed from the discounts quoted in location B on the notes of banks in location A. Also, discounts generally increased when banks suspended payments on their notes. In this paper we construct a random matching model to qualitatively match these facts about banknote discounts. To attempt to account for locational differences, the model has agents that come from two distinct locations. Each location also has bankers that can issue notes. Banknotes are accepted in exchange because banks are required to produce when a banknote is presented for redemption and their past actions are public information. Overall, the model delivers predictions consistent with the behavior of discounts.
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1. Introduction

Between 1783, when the United States won independence from Great Britain, until the passage of the National Currency Act in 1863, the largest component of U.S. currency in circulation was notes issued by state-chartered banks. These banknotes were dollar-denominated promises to pay

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specie to the bearer on demand and were distinguishable by issuing bank. Virtually all banks that existed during this period issued banknotes. Since the country had approximately 325 banks in 1820, close to 850 banks in 1840, and more than 1500 in 1860, large numbers of distinct currencies were in circulation in the country throughout the antebellum period.

Banknotes circulated in the location of the issuing bank, and the notes of at least some banks also circulated outside the local area. In the vernacular of the day, such banknotes were known as "foreign notes." We know this from several sources. The balance sheets for virtually every bank during this period have an asset account for notes of other banks, and the balance sheets for banks in several states have separate account listings for out-of-state notes. An 1842 report of banks in Pennsylvania lists the banks' holdings of notes of other banks by bank. It shows that Pennsylvania banks held the notes of banks in at least 61 cities and in 15 other states. The clearing system for New England banknotes run by Suffolk Bank in Boston cleared a large volume of notes. Such a system would not have been necessary if the circulation of banknotes had been entirely local. Finally, banknotes bearing the stamp of a business in another location are still in existence.

Due to the concurrent circulation of a large number of notes of different banks, specialized publications, generically called banknote reporters, came into existence. They were usually published by a note broker or in conjunction with one. They were published at least monthly (or more frequently in some cases), and each issue listed virtually all of the banks in existence in the country at the time and quoted the discount at which the notes of each bank would be exchanged for notes of local banks (banks in the city where the reporter was published). In other words, banknote reporters listed the exchange rates of the notes of each bank in the country in terms of local banknotes. Banknote reporters are known to have been published in many cities, including New York, Philadelphia, Boston, Pittsburgh, Cleveland, Cincinnati, Chicago, and Zanesville (OH).

If we examine the discounts quoted in banknote reporters, four facts emerge:

(1) Local banknotes were always quoted at par.
(2) " Foreign" banknotes usually were quoted at a discount to local banknotes, and this discount varied by the location of the bank and the reporter.
(3) Discounts were asymmetric across locations, meaning that the discounts quoted in location A on the notes of banks in location B generally differed from the discounts quoted in location B on the notes of banks in location A.
(4) Discounts on foreign notes were higher when those notes were not being redeemed at par.

The purpose of this paper is to build a model that can qualitatively match these facts about banknote discounts. The model we construct builds on the basic search model of money by Shi [5] and Trejos and Wright [6]. To attempt to account for the locational differences in banknote discounts, our model has agents that come from two distinct locations, whereas the Trejos–Wright framework implicitly assumes that all agents are in one location. In addition, unlike the model of Trejos–Wright, our model does not have fiat money but instead has banknotes issued by banks in the two locations. We find that an equilibrium exists in which these banknotes are valued and act as media of exchange.

We model the fact that banknotes had to be redeemed in specie on demand by adapting the [2] innovation that banks are required to produce when a banknote is presented for redemption and their past actions are public information. We present two versions of the model. In the first, banks are threatened with permanent autarky if they ever fail to produce the same quantity of goods when their notes are presented for payment as they obtain when issuing a note. We refer to this case as par redemption. In the second, banks are allowed to suspend payments on their notes by