

Warehouse Banking
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Discussion by
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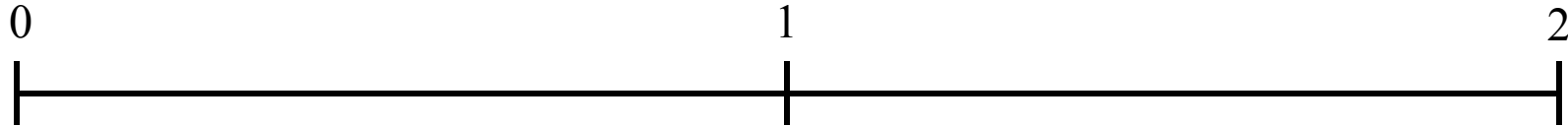
Introduction

- Paper develops a model of intermediation based on historical development of banking that started with warehousing
- Derives a set of results that are quite different from the traditional literature
- Model is an economics one in the sense it is a parable rather than a finance one that is closely modeled on institutional details

Issues in the current banking literature

- Most banking models are real in the sense that they involve real allocations and do not focus on monetary aspects
- In practice, many of the issues we are interested in are monetary – e.g., central banks print money to solve problems in the banking system
- Key issue is how monetary factors are absorbed in the financial system as opposed to affecting the real economy
- This model does not explicitly have money but combines real and contractual effects in a novel way to model liquidity

Structure of the model



Farmer endowment e

Borrows B from warehouse

Invests i in grain and $w\ell$ in labor

Laborer labor ℓ

Deposits $w\ell$ in warehouse

Farmer produces y

Repays warehouse

or diverts and stores

with depreciation δ

All consume

- Everybody risk neutral
- Warehouse allows storage without depreciation δ
- Leontief production – employ grain and labor in fixed ratio to produce output = $A \min \{i, \ell\}$
- Output is not pledgable
- Can obtain receipts for deposits – these are a form of “liquidity”

Role of warehousing

Basic problem is that farmer has to credibly pay the laborer

- No Warehousing: This is achieved by paying the worker in grain up front so output = $A^{1/2} e$ at date 1 but then this is stored and depreciates so

$$\text{total consumption} = (1-\delta) A^{1/2} e$$

- Warehousing without liquidity creation: Farmer stores output without depreciation so

$$\text{total consumption} = A^{1/2} e$$

How can the allocation be improved?

- It would be better to give worker a promise to pay $w\ell$ because then all the grain can be used to invest
- First-best: Farmer can make credible promise to worker to pay them and can deposit output in the warehouse so

$$\text{total consumption} = Ae$$

Liquidity creation by the warehouse

- Suppose the warehouse creates liquidity by giving “receipts” to the farmer who uses them to pay the worker then this liquidity allows more grain to be invested and a higher output to be obtained
- Important issue is that the receipts must be credible for the worker so that he knows he will be paid
- Key point of the model is that as long as $\delta > 0$
credible receipts $>$ amount of grain stored

because the farmer can be excluded from the financial system between dates 1 and 2 if he defaults

Comment 1

- Terminology used in the paper of “fake receipts” is a little sensational – perhaps “credible commitments” would be better as the bank can issue more promises to repay than it has grain in storage but it is not doing anything dishonest in terms of promises to pay
- These credible commitments are really a form of private money and help improve the efficiency of the economy
- This is a very nice insight that is different from other models of banking

Comment 2

- Particular assumption to ensure defaulting farmer is excluded from the financial system between dates 1 and 2 if he defaults is not particularly credible as a description of reality (original bank farmer deposits in sells debt to second bank that defaulting farmer deposits in and this bank can then seize the grain)
- It would be helpful to clarify that there are many other ways to achieve this exclusion (e.g. reputation) – this is the sense in which the model is a parable rather than a description of reality

Application 1 – Narrow banking

- Narrow banking is not desirable in this model because it prevents private liquidity creation

Comment 3: Actual narrow banking proposals argue the assets of the bank should be Treasuries where the commitment power of the government is used to make them credible but maybe the point is that Treasuries are like grain and there is a limited supply of them

Application 2 – Bank capital and liquidity creation

- Extension of the model introduces (unobservable) effort for the warehouse to prevent spoilage and this creates a role for capital
- Main result is that increasing equity increases liquidity creation

Comment 4: Very nice result and quite different from standard models

Application 3 – Monetary policy

- Extension of the model introduces a central bank that sets an interest rate that the warehouse can deposit at
- Main result is that a tightening of monetary policy increases liquidity creation

Comment 4: Again a nice result but here model is rather partial equilibrium – the budget constraint of the central bank should be modeled

Concluding remarks

- An interesting model that incorporates real aspects in a simple and tractable way
- Applications are still at an early stage of analysis
- In my view the model has significant potential to provide many new insights about banking