International Monetary Economics

Lecture 3

Stephen Kinsella

Dept. Economics,
University of Limerick.
stephen.kinsella@ul.ie

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Agenda

Last Time

- Basic Macroeconomics, macro modeling.
- IS-LM

This time

- Money Supply/Money Demand theories
- Bernanke-Blinder Model
- Central Banking (see (2, Chapter 15,16 ))
In the news

1. Cya George kthnxbai.
2. BOS closing Halifax, 750 jobs gone
3. ronanlyons.com: 55% of jobs for young men have disappeared.
4. Irish banks to get further cash injection.
5. Euro ‘weakening’. Anyone care?
There is no reason for the Greek government to default. It is not in its interest and it can service its debt, whose size is half that of the Japanese government and the same order of magnitude as that of many other governments, including soon the UK and the US... Yet, markets can force the government to default if they refuse to refinance the parts of the debt that reach maturity. This is a pure case of self-fulfilling crisis...
Recap

Figure: IS-LM
Part I

Money Demand/Supply
Money Demand

Classical According to the Quantity Theory of Money, \((M/P)^d = kY\), where \(k\) is a constant measuring how much people want to hold for every euro of income.

Keynesian More realistic money demand function where the demand for real money balances depends on \(i\) and \(Y\): \((M/P)^d = L(i, Y)\).

Portfolio Emphasize role of money as a store of value; people hold money as a part of their portfolio of assets. Key insight: money offers a different risk and return than other assets. Money offers a safe nominal return, while other investments may fall in both real and nominal terms.

Transactions Emphasize role of money as a medium of exchange; acknowledge money is *dominated* asset and stress that people hold money, unlike other assets, to make purchases. They explain why people hold narrow measures of money like currency or checking accounts.
Classical Demand

Real i rate

S & I
S
I

i
i'

S'
Digression: Savings, Money and Interest rates

1. Savings depend on income but there is still a choice of how to hold one's savings
2. Desire to hold bonds vs money
3. Liquidity preference
4. Transactions demand for money
5. Precautionary demand for money
6. Speculative demand for money
7. Speculative demand is an asset demand
8. Will hold money if bond prices expected to fall and bonds if bond prices expected to rise
9. Will expect bond prices to fall if interest rates are expected to rise and vice versa
10. Different people may have different expectations but when interest rates are at very low levels most people will expect a rise rather than another fall and will want to hold money rather than bonds
Money Supply Theories

Horizontalist
1. The supply curve of money can best be represented as a **flat curve**, at given interest rate.
2. There can never be an excess supply of money.
3. Supply curve curve of credit can best be represented as flat curves, at a given interest rate.
4. Central banks can’t exert quantity constraints on reserves of banks.

Structuralists
- What about the reaction function of the central bank?
- Long-term and other market-determined rates “cause” the overnight rate
- What about credit rationing (shape of credit supply curve)?
- What about borrower’s/lenders risk?
- Surely the central bank does not always “accommodate” and hence exerts quantity constraints on bank reserves?
Money Supply Theories

- Horizontalists (New Consensus)
- Monetarists
- Verticalists (New Paradigm)

![Diagram showing MS and M with i and M axes for different theories.](image-url)
Part II

Bernanke Blinder
Story

1. Equilibrium rationing in loan markets is likely: this makes assets of banks even interesting as liabilities (money)

2. Adverse selection, moral hazard, and costly state verification are the micro-foundations of the rationing problems

3. Money versus credit: the Bernanke-Blinder model is a simple illustration

1. IS-LM assumes money is special. Money has no close substitutes and can be isolated in policy. The bond market is redundant by Walras’ Law.

2. Bonds include also loans and all kinds of private contracts and must so be considered to be a very rough capital market asset

3. The Stiglitz-Weiss: credit deserves more attention. So there is a further analysis of the bond market: what is the role of private versus public contracts?
Bernanke Blinder

1. Credit view: credit is special: loans! Bank supply loans and loan demand may suffer from net-worth problems (the balance sheet effect)
2. Information problems in financial markets make credit special
3. Credit-GNP relationship is more stable than Money-GNP-relationship
4. There is no direct assumption on credit rationing (see for this type of literature the credit availability doctrine (Radcliff report in the UK))
There is a choice between bonds and loans, $r$ is the interest rate on loans, $i$ on bonds.

Loan demand $Ld = L(r, i, y)$, with $y$ being GNP.

Bank balance sheet: Reserves ($R$) + loan supply ($Ls$) + required reserves ($tD$) + excess reserves ($E$) = deposits ($D$).

Loan supply = $Ls = l(r, i)D(1 - t)$.

Bond demand $Bb = b(r, i)D(1 - t)$.

Excess reserves demand $E = e(i)D(1 - t)$ with adding-up restrictions on $l$, $b$, and $e$.

Loan equilibrium: $L(r, i, y) = l(r, i)D(1 - t)$.

Deposit supply is $1 / (e(i)(1 - t) + t)R = m(i)R$.

$R = tD$. 
Bank Behaviour

1. Deposit demand $D = D(i, y)$
2. Equilibrium $D(i, y) = m(i)R$, where $m(i)$ is the money multiplier
3. Bond market is the Walrasian market
4. Goods market $y = Y(i, r)$
Solving the model

1. Substitute \( D(i, y) = m(i)R \) into the loan market equilibrium \( L(r, i, y) = l(r, i)D(1 - t) \) and solve for \( r : r = f(i, y, R) \)

2. \( fi > 0 \) as long as the money multiplier is not too interest elastic, \( fy > 0, fR < 0 \)

3. Substitute \( r = f(., ., .) \) into the IS-curve to get \( y = Y(i, f(i, y, R)) \)

4. \( Yi < 0 \): the Commodities and Credit (CC)-curve
Comparative Statics

The BB model is affected in the following ways by different shocks:

<table>
<thead>
<tr>
<th>Rise in</th>
<th>Income</th>
<th>Money</th>
<th>Credit</th>
<th>Interest Rate on bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Reserves</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Money Demand</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Credit Supply</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Credit Demand</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Commodity Demand</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Table: Effects of Shocks on Observable Variables. (1, pg. 438.)
Example

Manipulating the BB model

Suppose a central bank engages in open market operations and decreases the level of bank reserves $R$. Show graphically how this affects output $Y$. Give an intuitive explanation, making sure to distinguish between the interest rate channel and the bank lending channel.
Summary: CC-LM Model

1. CC-curve is affected by changes in reserves $R$, while the IS-curve is not.
2. CC-curve becomes the IS-curve again, if: loans and bonds are perfect substitutes, or if commodity demand is insensitive to the loan rate.
3. If money and bonds are perfect substitutes the LM-curve is horizontal (liquidity trap), but monetary policy still effective in CC!
Comparative Statics

1. Expenditure shock shifts CC like IS
2. Money demand shock shifts LM
3. Rise in bank reserves is expansionary through LM and CC! But this creates an identification problem (see hereafter)
4. Increase in credit supply shifts the CC-curve outward

Summary

- Information asymmetry make credit special: probably a low substitution with bonds
- Credit view includes the bank lending channel and the balance sheet channel
- Credit view affects both firms/households and bank behaviour
Part III

Central Banking
Independence vs Non-independence of CBs.

Functions: monetary policy: control $MB = C + R$

Produce banknotes: Seigniorage.

Intervene in/regulate forex markets

Monitor financial risks (macro prudential role)

Actually operate ECSB system

Manage ECB’s foreign reserve assets

Defining some eurosystem policies

Process is: CB → Banks → Depositors → Borrowers and back again.

Work closely with NCBs-these guys do have something to do.

Mediates with interbank lending. Central banks can implement monetary policy by influencing the interest rate charged in this market.

Work in Euribor markets. Overnight rates for lending. (http://www.euribor.org/)
Figure: Federal funds rate since 1960.
Write down two things you remember from today

My Summary:
- Bernanke-Blinder
- Central Bank Behaviour/Functions/Money Demand
References
