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Macroeconomics and Finance textbooks misrepresentations of Money and Banking: An alternative way to teach, through balance sheets

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Some of the contentious parts in introductory Macro textbooks

- Role of banks as financial intermediaries
- Money multiplier and money creation
- Money market
- Open market operations

Myth Loans **funded** by deposits

Accounting implications of having deposits as **liabilities** not fully recognized

Macroeconomics textbooks reviewed

- Dornbusch, Bodman, Fisher and Startz Macroeconomics McGraw Hill 3rd edition
- Stonecash, Libich, Gans, King, Byford and Mankiw Principles of Macroeconomics Cengage 6th edition
- Mankiw Macroeconomics, Worth, 7th edition
- Hubbard, Garnett, Lewis, O'Brien Macroeconomics Pearson 4th edition,
- McTaggart, Findlay and Parkin Macroeconomics Pearson 7th edition
- Bernanke, Olekalns and Frank Principles of Macroeconomics McGraw Hill 4th edition
- Littleboy, Taylor and Weerapana Macroeconomics Cengage 2nd edition

Overview

- Hidden assumptions behind the story “loans are funded by deposits” to fit a balance sheet
- Critical dismantlement of the reasoning and corrections to be consistent with reality/accounting
- Guide on the different steps to teach money and banking fundamentals to avoid the traps

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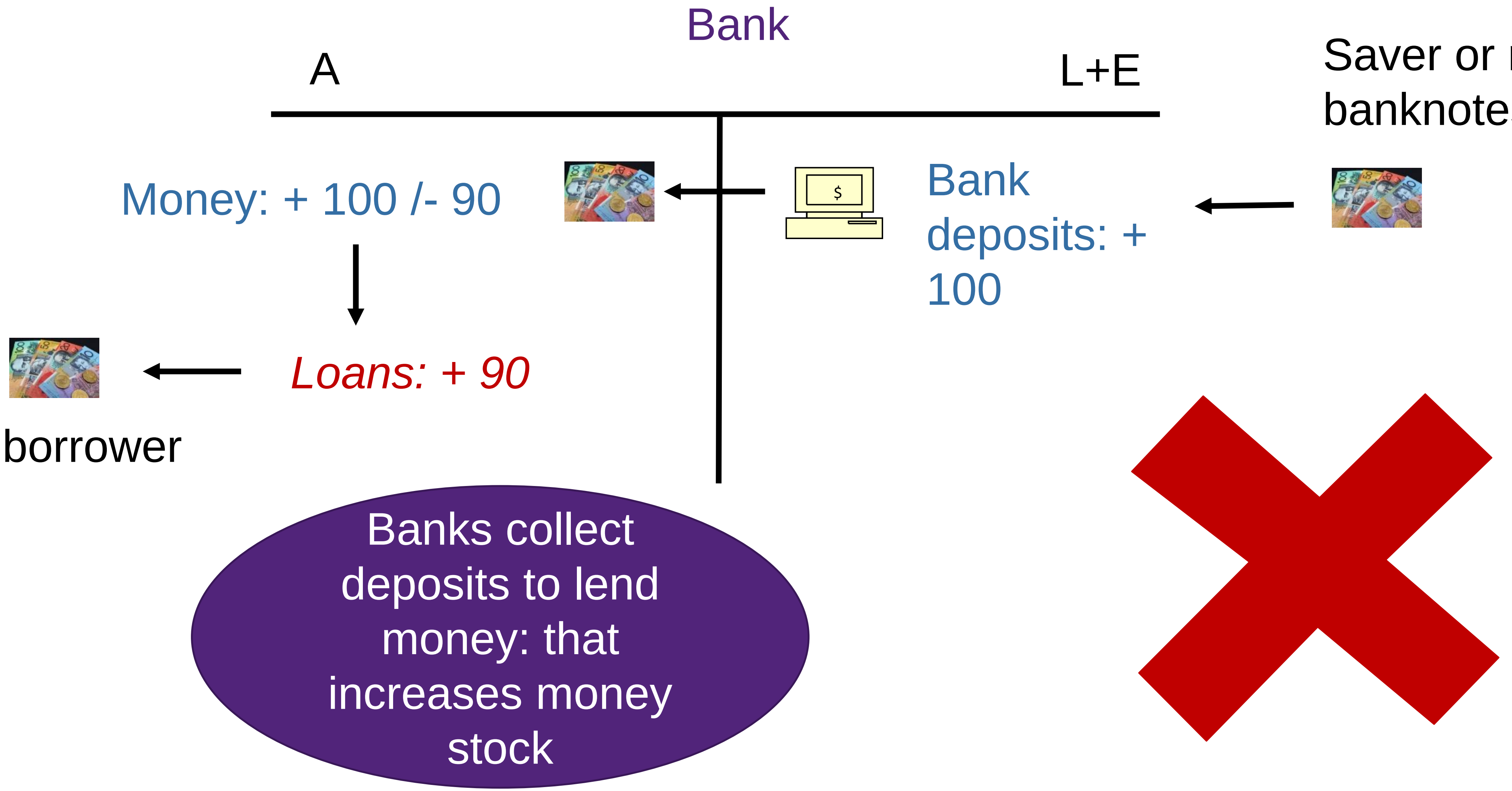
1 Myth: Loans are funded by deposits

Funding of loans by deposits

- “Banks accept deposits and **use the funds** to make loans and to buy government bonds and other securities” (McTaggart, Findlay and Parkin p 472)
- “The banking system consists of banks that accept deposits from individuals and businesses and **use those deposits** to make loans” (Bernanke, Olekans and Frank p 202)
- “Banks collect surplus funds from savers and **allocate them** to those with a deficit o funds (borrowers)” (Casu, Girardone, Molyneux p 4)



Bank
A
L+E
Saver or new banknotes
Money: + 100 /- 90
Bank deposits: + 100
Loans: + 90
borrower
Banks collect deposits to lend money: that increases money stock

2 Corrections and new narrative

Correction 1: loans not in cash

- Loans are not provided in cash but directly in bank deposits
- Not an innocent simplification: banknotes can be assets for banks but bank deposits can only be liabilities for banks
- Creating new bank deposits when lending is inevitable

Bank

A	L+E
Loans: + 90 →	Borrower's Bank deposits: + 90

Loans create deposits

Correction 2: loans not constrained by funding

- In the multiplier story, loans are constrained by the deposits: one cannot lend more than the cash gathered through deposits
- Loans are ‘self’ funded so unlike a finance company, a bank does not need to raise money first in order to make a loan

Correction 3: reserves only needed for deposits management not for loan

- In the multiplier story, reserves are required to lend when in reality, they are required to anticipate loss of deposits
- Management of reserves is related to all deposits, not specifically the deposits created by loans.

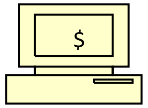
Correction 4: only fast way to acquire reserves is by borrowing, not waiting for cash to be deposited

- Issuing liabilities to the public may not attract reserves and may decrease deposits instead
- Reserves can easily be borrowed.
- Cash rate targeting implies all demand for reserves at that rate is accommodated

Deposits backed up by central bank deposits

Bank

A | L+E

Loans: + 90 → 

Bank deposits: + 90

Deposits at central bank : + 9 ← *Loans from central bank or from other banks: + 9*

Correction 5: requirement of capital to back up loans

- A requirement is capital regulation: the loan needs to be backed up by enough capital to absorb loss in case of default

Bank

A	L+E
Loans: + 90	Bank deposits: + 90 - 8
	Shares on issue: + 8

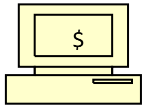
Loans backed up by regulatory capital

Bank

A	L+E
Loans: + 90	Bank deposits: + 90
Deposits at central bank : + 8	*Shares on issue: + 8*

Full alternative story

Bank

A	L+E
Loans: + 90	 Bank deposits: + 90 - 8
	Shares on issue: + 8
 Deposits at central bank : + 9	*Loans from central bank or from other banks: + 9*

Reinterpretation 1 Financial intermediation

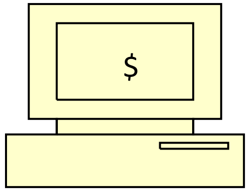
- If nobody provides the funding of the loans there is no intermediation by banks
- Better formulation: the bank offer products for savers and funding for borrowers but independently

Reinterpretation 2 Money multiplier

- The change in money base is not the cause of the loan and increase in money; it is the consequence of the creation of new deposits
- The causality is reversed

3 My way of teaching balance sheet ‘in action’

Step 1 Three forms of money

Type of money	Description	Symbol
Cash / currency	Notes and coins	
Private bank deposits	Deposits in accounts at banks held by households and nonbank companies	
Central bank deposits	Deposits in ESA at the central bank held by banks	

Bank

A	L+E
Cash	Bank deposits
Deposits at central bank	

Households and businesses

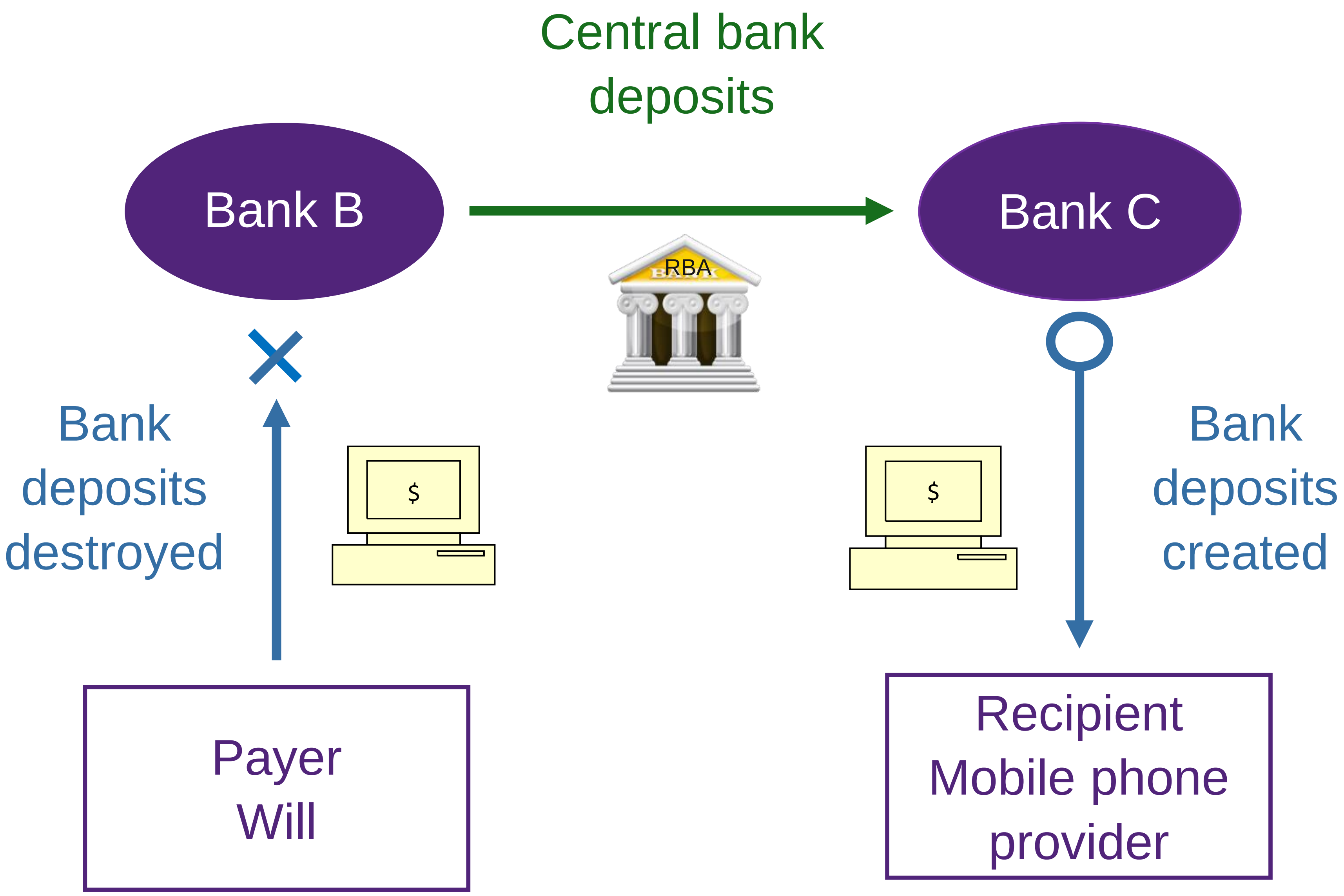
A	L+E
Cash	
Bank deposits	

Central Bank

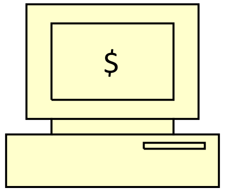
A	L+E
	Cash
	Deposits at central bank

Step 2 Bank as manager of payments for others

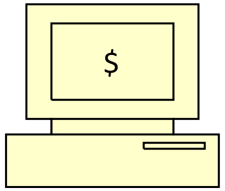
Will (account at Bank B) pays his bill to the mobile phone provider (account at Bank C)


Central bank
deposits
Bank B
Bank C
RBA
$
$
Bank
deposits
destroyed
Bank
deposits
created
Payer
Will
Recipient
Mobile phone
provider

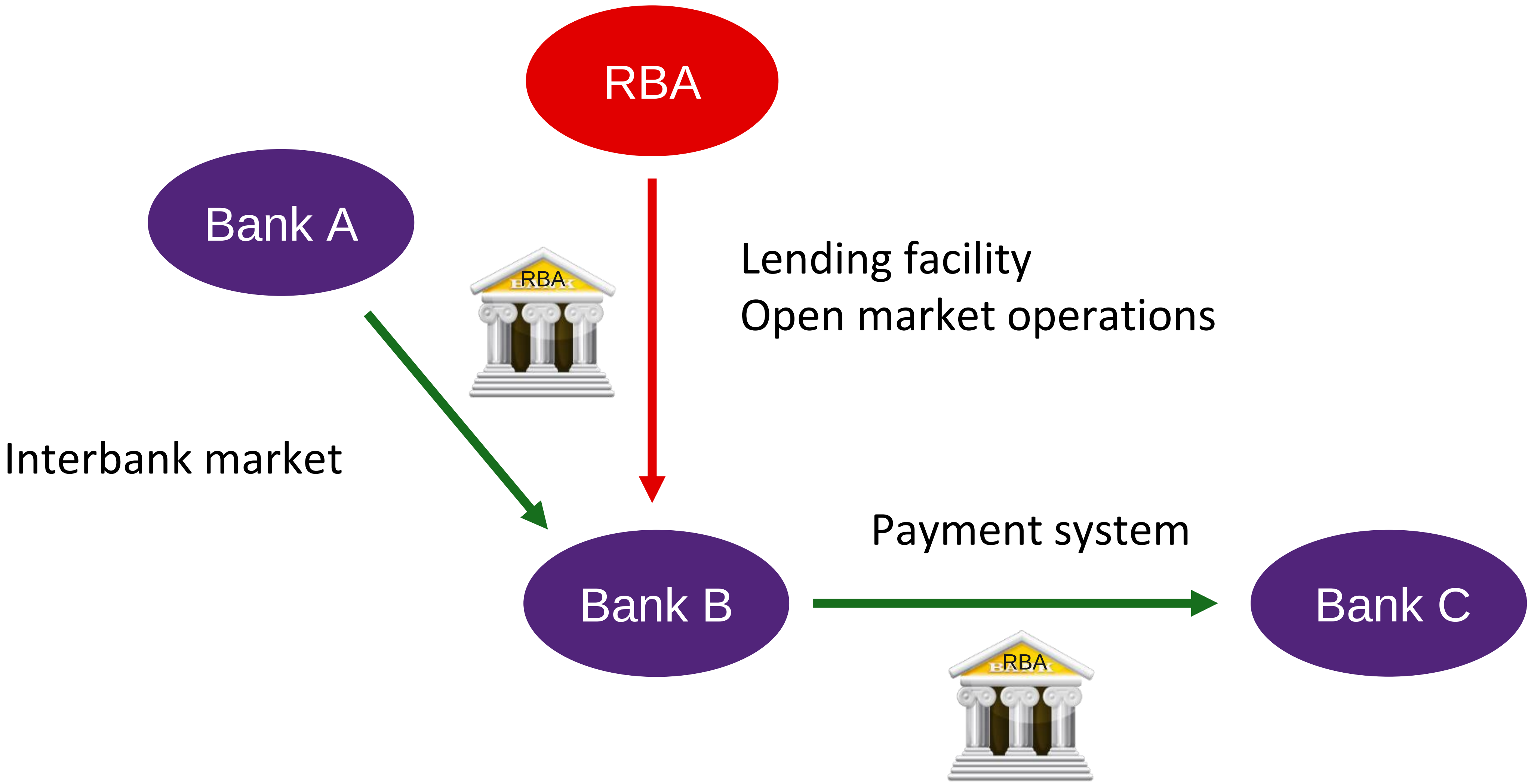
Bank B

A	L+E
	
Deposits at the central bank : - 45	Will’s deposits : - 45

Bank C

A	L+E
	
Deposits at the central bank : + 45	Mobile phone company’s deposits : + 45

Step 3 Management of reserves



Bank in deficit

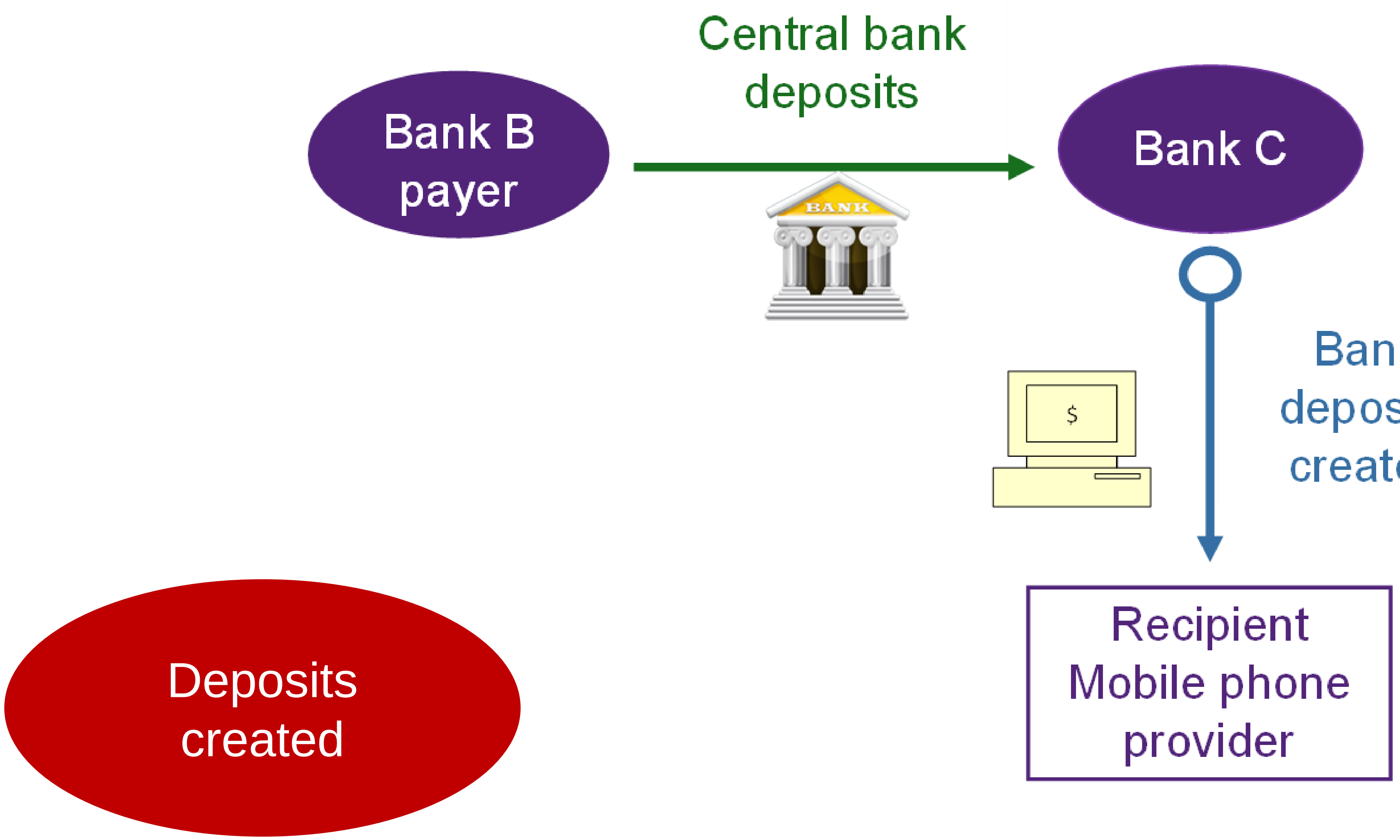
A	L+E
 Deposits at central bank : +	*Loans from central bank or from other bank: +*

Bank in surplus

A	L+E
 Deposits at central bank : -	
Loans to another bank: +	

Step 4 Deposit creation/destruction when bank is part of a transaction with the public

Bank B pays its own bill to the mobile phone provider (account at Bank C)

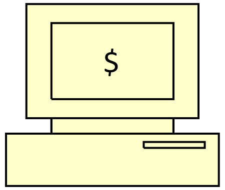

Central bank deposits
Bank B payer
Bank C
BANK
$
Bank deposits created
Recipient Mobile phone provider
Deposits created

Bank B - payer

A	L+E
	Equity Accumulated profits: -
Deposits at the central bank : -	

Pays with central bank money

Bank C- bank of payee

A	L+E
	
Deposits at the central bank : +	Mobile phone provider bank deposits : +

receives private money

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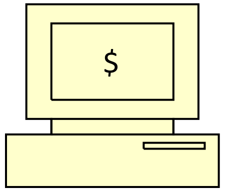
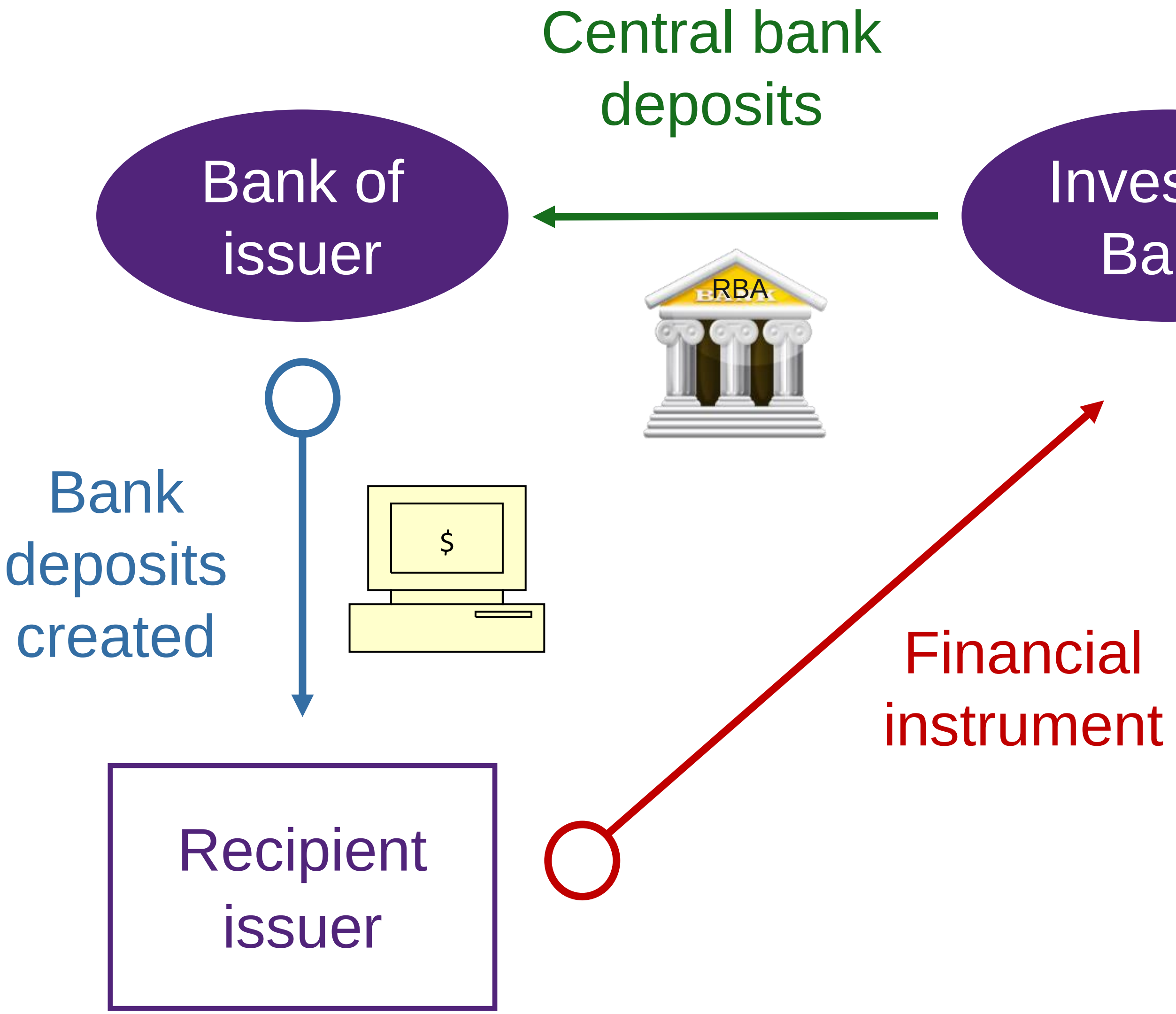
Bank B - payer

A	L+E
Does not pay	 Mobile phone provider bank deposits : +
	Equity Accumulated profits: -

Bank B pays its own bill to the mobile phone provider (account at the same bank)

Deposits created



The bank buys a financial asset from the public; the issuer has an account in another bank

Deposits created

Bank - investor

A | L+E

Deposits at the central bank : -

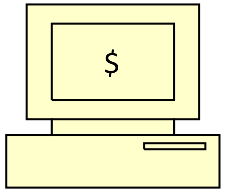
Financial instrument : +

pays with central bank money

Bank of issuer

A | L+E

Deposits at the central bank : +

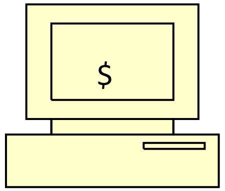


Issuer's deposits : +

receives private money

Bank - investor

A	L+E
Financial instrument : +	Issuer's deposits : +
Does not pay	receives private money



The bank buys a financial asset and the issuer has an account at the same bank

Deposits created

Bank

A	L+E
Loans: + 90	Borrower's Bank deposits: + 90

Loans create deposits

Conclusion

- The way textbook teach the money multiplier is damaging for student understanding of money and banking
- Better to spend more time and teach the right story up front in introductory class
- Use the two papers of BoE as your benchmark

Money in the modern economy: an introduction

By Michael McLeay, Amar Radia and Ryland Thomas of the Bank's Monetary Analysis Directorate.[1]

- Money is essential to the workings of a modern economy, but its nature has varied substantially over time. This article provides an introduction to what money is today.
- Money today is a type of IOU, but one that is special because everyone in the economy trusts that it will be accepted by other people in exchange for goods and services.
- There are three main types of money: currency, bank deposits and central bank reserves. Each represents an IOU from one sector of the economy to another. Most money in the modern economy is in the form of bank deposits, which are created by commercial banks themselves.

Money creation in the modern economy

By Michael McLeay, Amar Radia and Ryland Thomas of the Bank's Monetary Analysis Directorate.[1]

- This article explains how the majority of money in the modern economy is created by commercial banks making loans.
- Money creation in practice differs from some popular misconceptions — banks do not act simply as intermediaries, lending out deposits that savers place with them, and nor do they 'multiply up' central bank money to create new loans and deposits.

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