INTRODUCTION TO MONETARY ACCOUNTS

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Overview

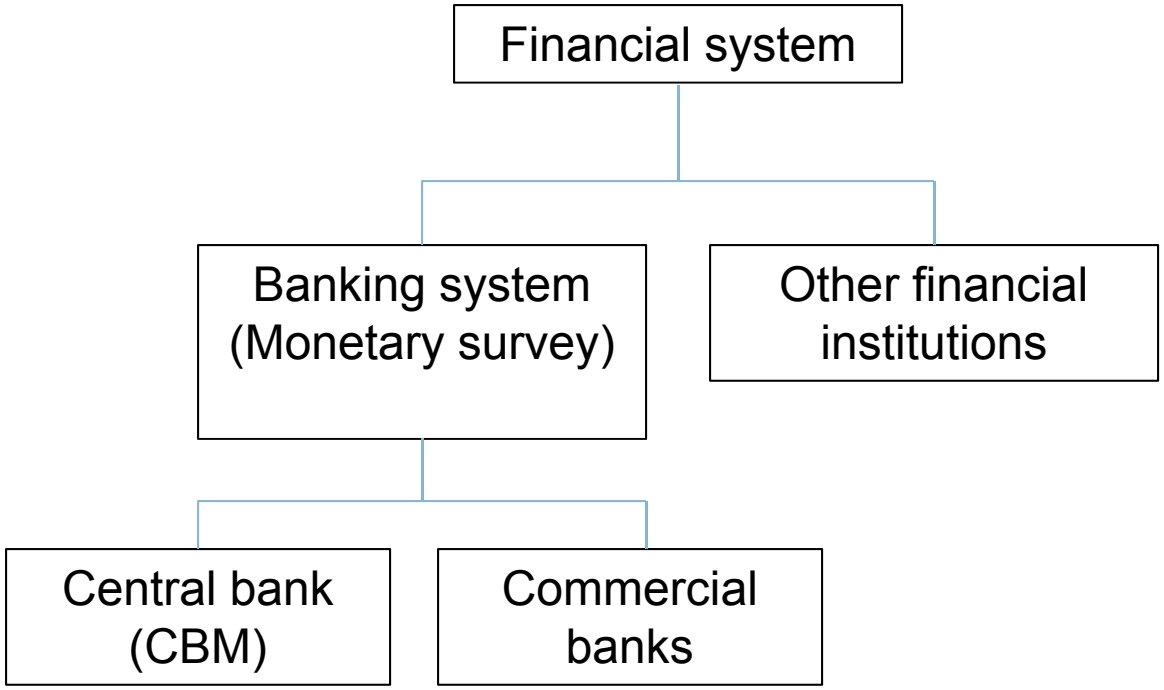
I. Introduction
II. Central Bank Accounts
III. Commercial Bank Accounts
IV. Monetary Survey

I Introduction—Monetary Statistics

Monetary statistics accounts are critical for analysis of monetary conditions and formulation as well as implementation of monetary policy

Understanding links between monetary policy and inflation, real economic activity, external account and foreign exchange rate will require going beyond monetary accounts

Introduction—Scope of the Financial System



Introduction—Myanmar Financial System

- Central bank = CBM
- Commercial banks =
  - ✓ State-owned commercial banks (MEB, MFTB, MICB, MADB)
  - ✓ Private commercial banks
- Other financial institutions =
  - ✓ Microfinance institutions
  - ✓ Financial leasing companies (Oriental Leasing Co. Ltd.)
  - ✓ Insurance companies (Myanmar Insurance)

II Central Bank Accounts

Selected functions of the central bank that have a direct impact on its balance sheet include

- ✓ Issuing of currency
- ✓ regulating the money supply (monetary policy)
- ✓ acting as banker of the government
- ✓ holding the country's foreign reserves (exchange rate policy)

Central Bank Accounts—Analytical Balance Sheet of Central Bank

RM = NFA + NDA

Net foreign assets (NFA)	**Reserve money (RM)**
Net domestic assets (NDA)	Currency issued
Net claims on the government (NCG)	Held in banks
Claims on commercial banks	Held outside banks
Claims on other resident sectors	Deposits (reserves) of commercial banks with central bank
Other items net	

Central Bank Accounts—Analytical Balance Sheet of Central Bank

Assets

- Net foreign assets

→ holding the country's foreign reserves (exchange rate policy)

- Net claims on government

→ acting as banker of the government

- Claims on commercial banks

→ regulating the money supply (monetary policy)

Central Bank Accounts—Analytical Balance Sheet of Central Bank

Liabilities

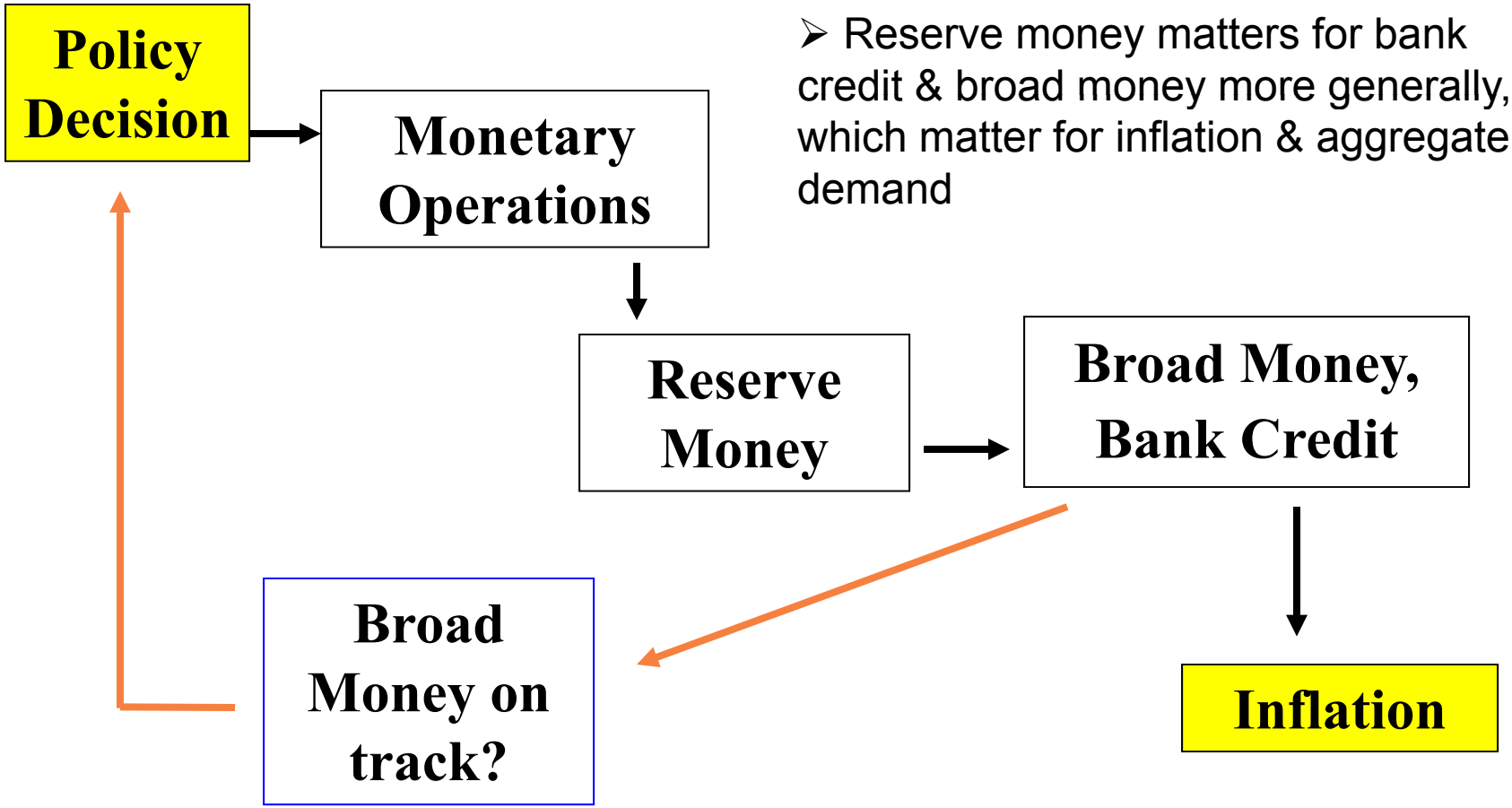
- Currency issued

→ Issuing of currency

→ Deposits of commercial banks with central bank→ regulating the money supply (monetary policy)

Central Bank Accounts—Why is Reserve Money Important?

- The central bank can control reserve money because it is 'created' on its own balance sheet
- Reserve money matters for bank credit & broad money more generally, which matter for inflation & aggregate demand

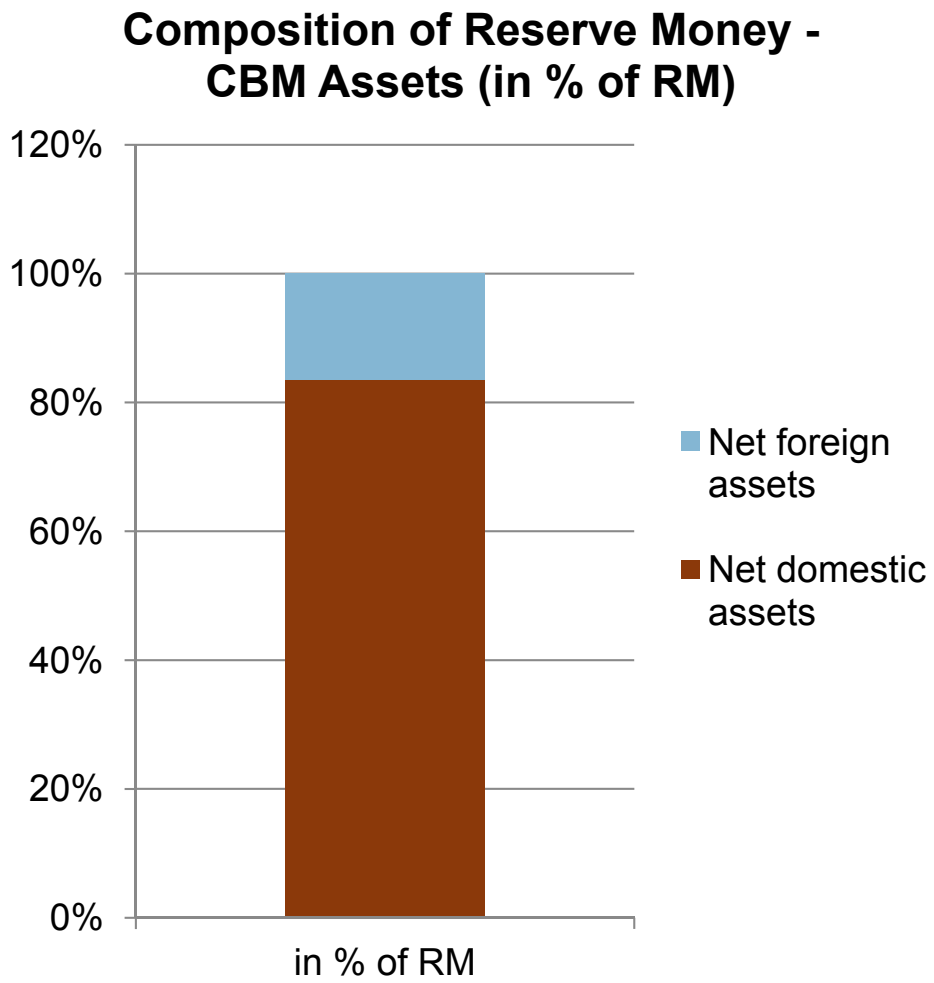


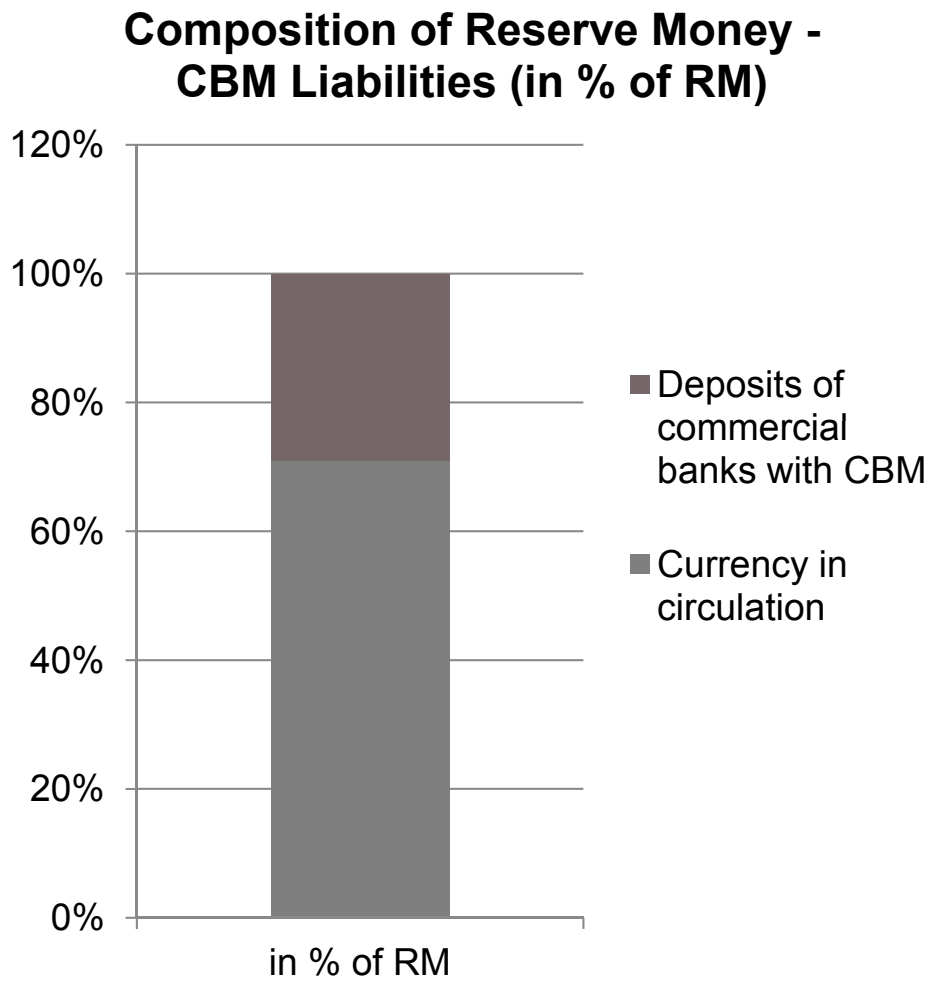
Central Bank Accounts—Main Components of CBM Balance Sheet

Exercise 1:

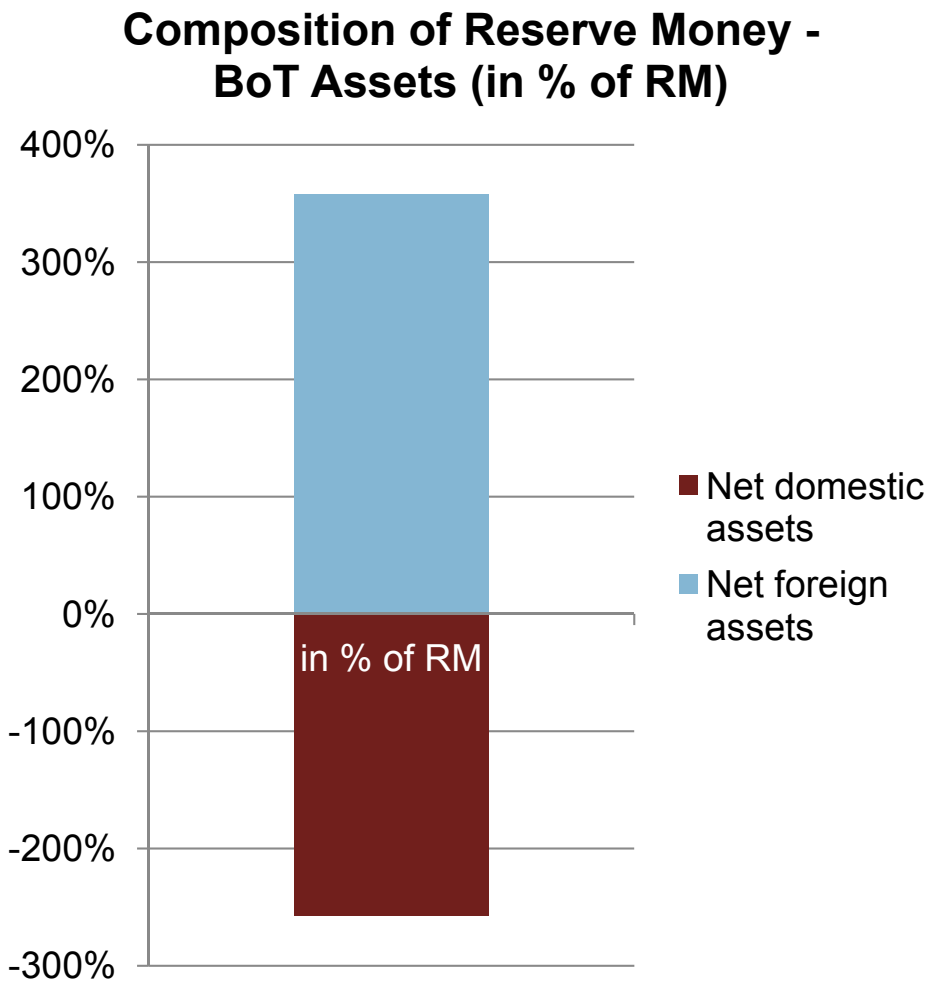
- Use monetary data from IFS database to portray the CBM balance sheet for 2012/13 in the form depicted in the previous slide
- Analyze the relative importance of the individual asset and liability components by expressing them in percent of reserve money
- How does the composition of the CBM balance sheet compare with that of the Bank of Thailand?

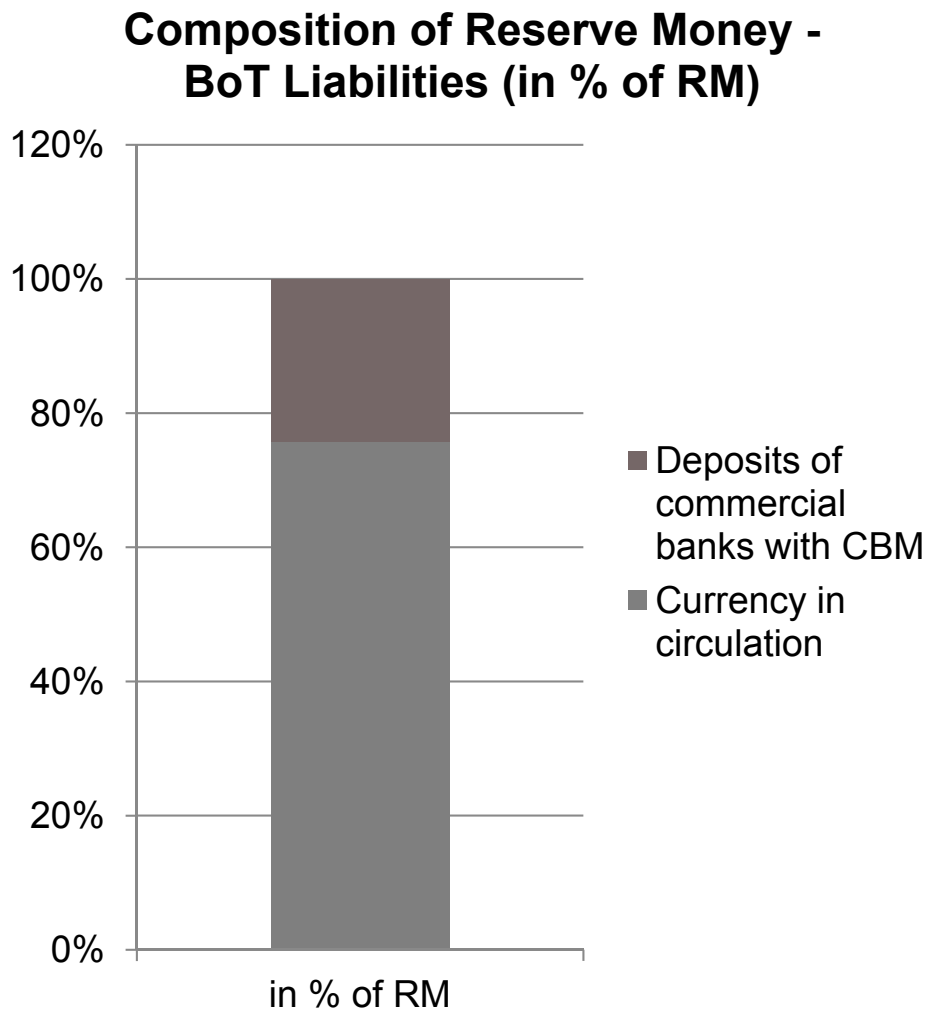
Central Bank Accounts—Main Components of CBM Balance Sheet





Central Bank Accounts—Comparison with Bank of Thailand Balance Sheet





Central Bank Accounts—Central Bank Balance Sheet Examples

- Example: On the first day of its operations, central bank decides to issue the currency (Kyat 100) in exchange for foreign currency.

Assets		**Liabilities**	
CB's Net Foreign Assets	**100**	**Base money**	**100**
Foreign exchange	100		
CB's Net Domestic Assets			

- Example: Central bank sells gov't securities (worth Kyat 30).

Assets		**Liabilities**	
CB's NFA	**100**	**Base money**	**70**
Foreign exchange	100		
CB's NDA	**-30**		
Net domestic credit	-30		

Central Bank Accounts—Changes in CBM Balance Sheet

Exercise 2:

- Take a look at the CBM balance sheet for February 2014: what is new?
- Compare the balance sheet in February 2014 to February 2013: what are the main changes? (And why not compare February 2014 to the end of 2012/13, i.e., March 2013?)
- Start with the balance sheet of February 2013 and simulate the effect of foreign exchange inflows—what are the corresponding transactions and how do they affect the balance sheet?
- What does this analysis have to do with the IS-LM-BP diagram that is used in academic monetary policy analysis?

Central Bank Accounts—Changes in CBM Balance Sheet

Difference February 2014 to February 2013

Assets	**1,364.5**	**Liabilities**	**1,364.5**
Net foreign assets	*1,514.5*	*Reserve money*	*1,364.5*
Foreign assets	1,583.8	Currency in circulation	1,327.4
		Deposits of commercial	
Foreign liabilities	69.3	banks with CBM	37.0
Net domestic assets	*-150.0*	*Memorandum items:*	
Domestic credit	443.7	Deposit auctions	90.0
Claims on central government (net)	330.5		
Claims on commercial banks (net)	113.2		
Other	0.0		
Other items net	-593.7		

III Commercial Bank Accounts

Selected functions:

- Facilitate savings by offering deposits
- Offer loans by transforming deposits into loans
- Commercial banks are an important channel for the transmission of monetary policy

Commercial Bank Accounts—Analytical Balance Sheet of Commercial Bank

Assets	Liabilities
Net foreign assets (NFA)	**Deposits**
Net domestic assets (NDA)	Demand deposits
Claims on the central bank	Time and saving deposits
○ Currency held in vaults	Foreign currency deposits
○ Deposits at the central bank	**Liabilities to the central bank**
Domestic credit	
○ Net credit to the government	
○ Credit to private sector	
Other items net	

Commercial Bank Accounts—Central Bank Balance Sheet Examples

Central bank sells Kyat 100 in treasury bills to commercial banks:

Commercial Bank Balance Sheet

Assets		Liabilities	
Net Foreign Assets	**…**	**Deposits**	**…**
Net Domestic Assets	**0**	Demand deposits	…
Claims on central bank	-100	Time and saving deposits	…
Currency held in vaults		Foreign currency deposits	…
Reserves	-100	**Liabilities to the central bank**	**…**
Domestic credit	+100		
To the government	+100		
To other resident sector	…		
Other items net	…		

Commercial Bank Accounts—Central Bank Balance Sheet Examples

Central bank sells Kyat 100 in treasury bills to ODCs:

Central Bank Balance Sheet

Assets		Liabilities	
Net Foreign Assets	**…**	**Reserve money (RM)**	**-100**
Net Domestic Assets	**-100**	Currency issued	…
Net claims on the gov.	-100	Held in banks	…
Claims on commercial banks	…	Held outside banks	…
Claims on other res. sector	…	Deposits of commercial banks	-100
Other items net	…		

Commercial Bank Accounts—Central Bank Balance Sheet Examples

Central bank conducts deposit auction over Kyat 100:

Commercial Bank Balance Sheet

Assets		Liabilities	
Net Foreign Assets	**…**	**Deposits**	**…**
Net Domestic Assets	**…**	Demand deposits	…
Claims on central bank	…	Time and saving deposits	…
Currency held in vaults		Foreign currency deposits	…
Reserves	0	**Liabilities to the central bank**	**…**
Current CBM deposits	-100		
Other CBM deposits	+100		
Domestic credit	…		
To the government	…		
To other resident sector	…		
Other items net	…		

Commercial Bank Accounts—Central Bank Balance Sheet Examples

Central bank conducts deposit auction over Kyat 100:

Central Bank Balance Sheet

Assets		Liabilities	
Net Foreign Assets	**…**	**Reserve money (RM)**	**-100**
Net Domestic Assets	**-100**	Currency issued	…
Net claims on the gov.	…	Held in banks	…
Net claims on commercial banks	-100	Held outside banks	…
Claims on commercial banks	…	Current account deposits of commercial banks	-100
Liabilities to commercial banks (other deposits)	+100		
Claims on other res. sector	…		
Other items net	…		

IV Monetary Survey

Consolidated balance sheet for the banking system:

- Add up balance sheets for the central bank and commercial banks, but …
- … before doing so, consolidate common items on the two balance sheets!

Consolidation of Central Bank and Commercial Bank Balance Sheets

Central Bank

Assets	Liabilities
Net Foreign Assets	**Reserve money (RM)**
Net Domestic Assets	Currency issued
Net claims on the government	Held in banks
Claims on commercial banks	Held outside banks
Claims on other resident sector	Deposits of commercial banks
Other items net	Other deposits

Commercial Banks

Assets	Liabilities
Net Foreign Assets	**Deposits**
Net Domestic Assets	Demand deposits
Claims on the central bank	Time and saving deposits
Currency held in vaults	Foreign currency deposits
Deposits at the central bank	**Liabilities to the central bank**
Domestic credit	
Other items net	

Consolidation of Central Bank and Commercial Bank Balance Sheets

Central Bank	
Assets	Liabilities
Net Foreign Assets	**Reserve money (RM)**

Monetary survey	
Assets	Liabilities
Net Foreign Assets	**Broad money (M2)**
Of the central bank	Narrow money (M1)
Of the commercial banks	Currency in circulation
Net Domestic Assets	Demand deposits
Net credit to the government	Quasi money
Credit on the other resident sector	Time and saving deposits
Other items net	Foreign currency deposits

Commercial Banks	
Assets	Liabilities
Net Foreign Assets	**Deposits**
Net Domestic Assets	Demand deposits
Claims on the central bank	Time and saving deposits
Currency held in vaults	Foreign currency deposits
Reserve deposits at the central bank	**Liabilities to the central bank**
Domestic credit	
Other items net	

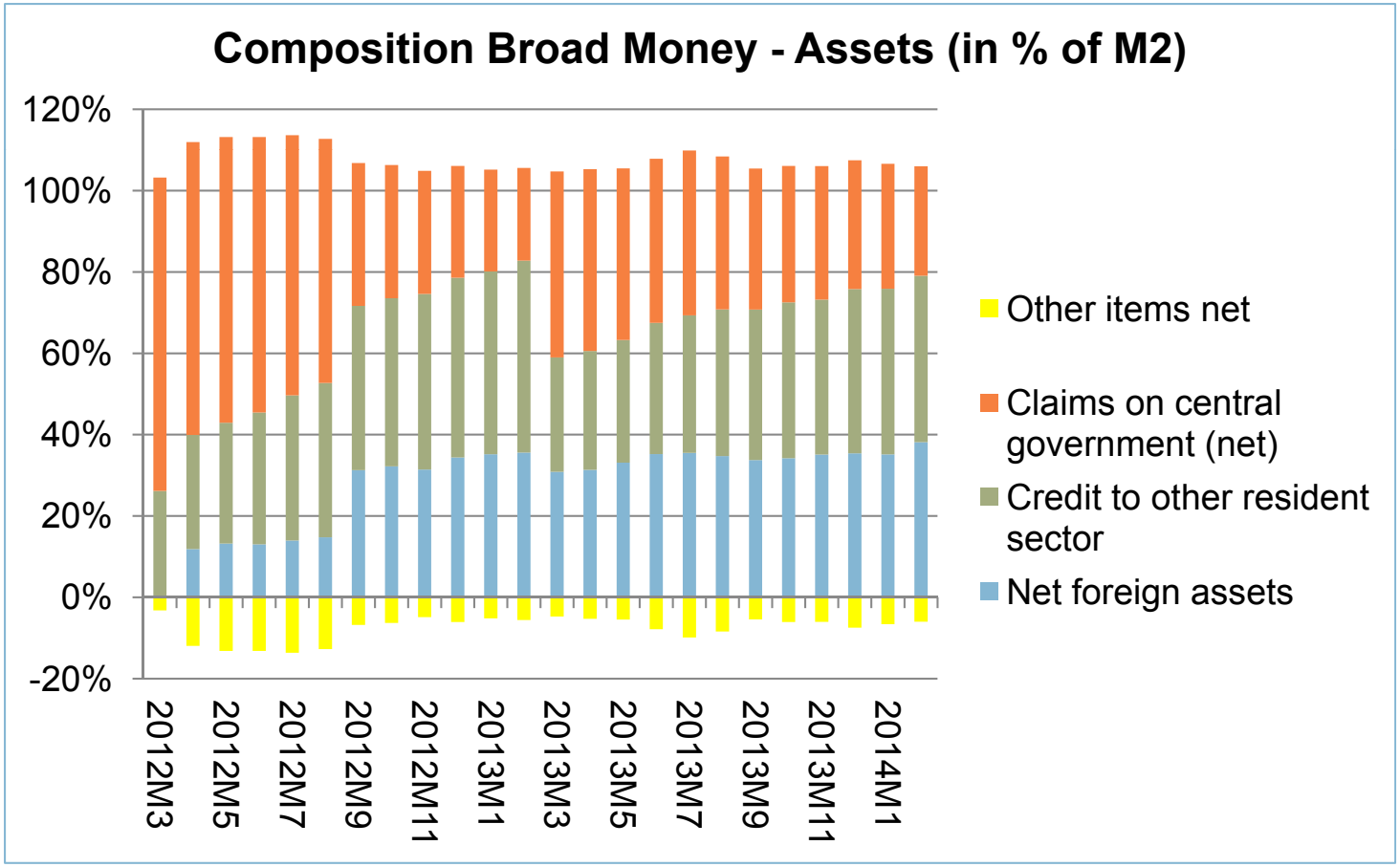
Monetary Survey—Analysis

Exercise 3:

- Take a look at the composition of the monetary survey in the past year—what are the main components and how did they change during the year? Any ideas what is behind these developments?
- What do you make of the evolution of credit growth?
- Looking at the liability side, what is the source of liquidity?
- What does this analysis have to do with the IS-LM-BP diagram that is used in academic monetary policy analysis?

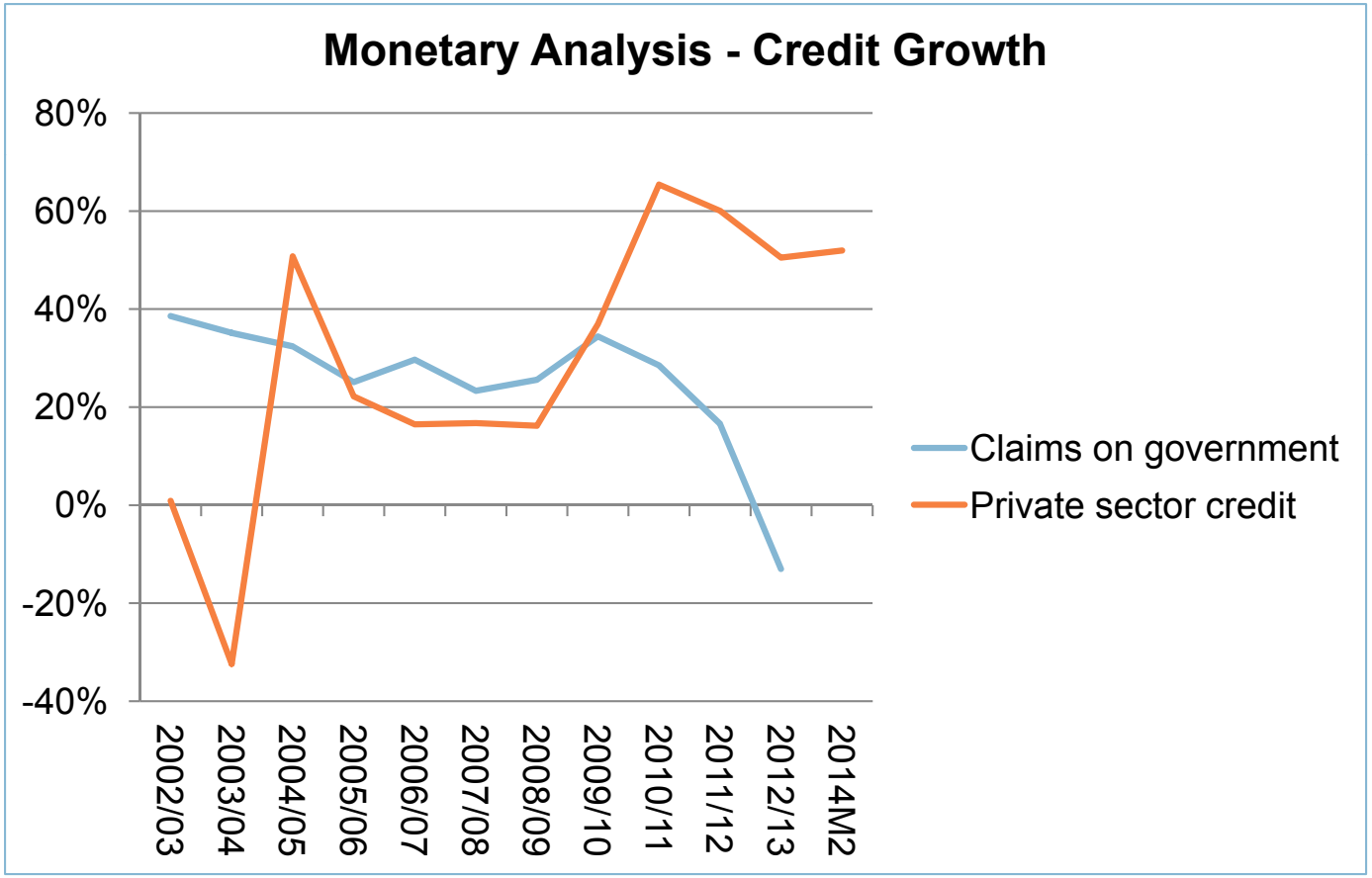
Monetary Survey—Composition

Composition of the asset side of the monetary survey since 2012/13:



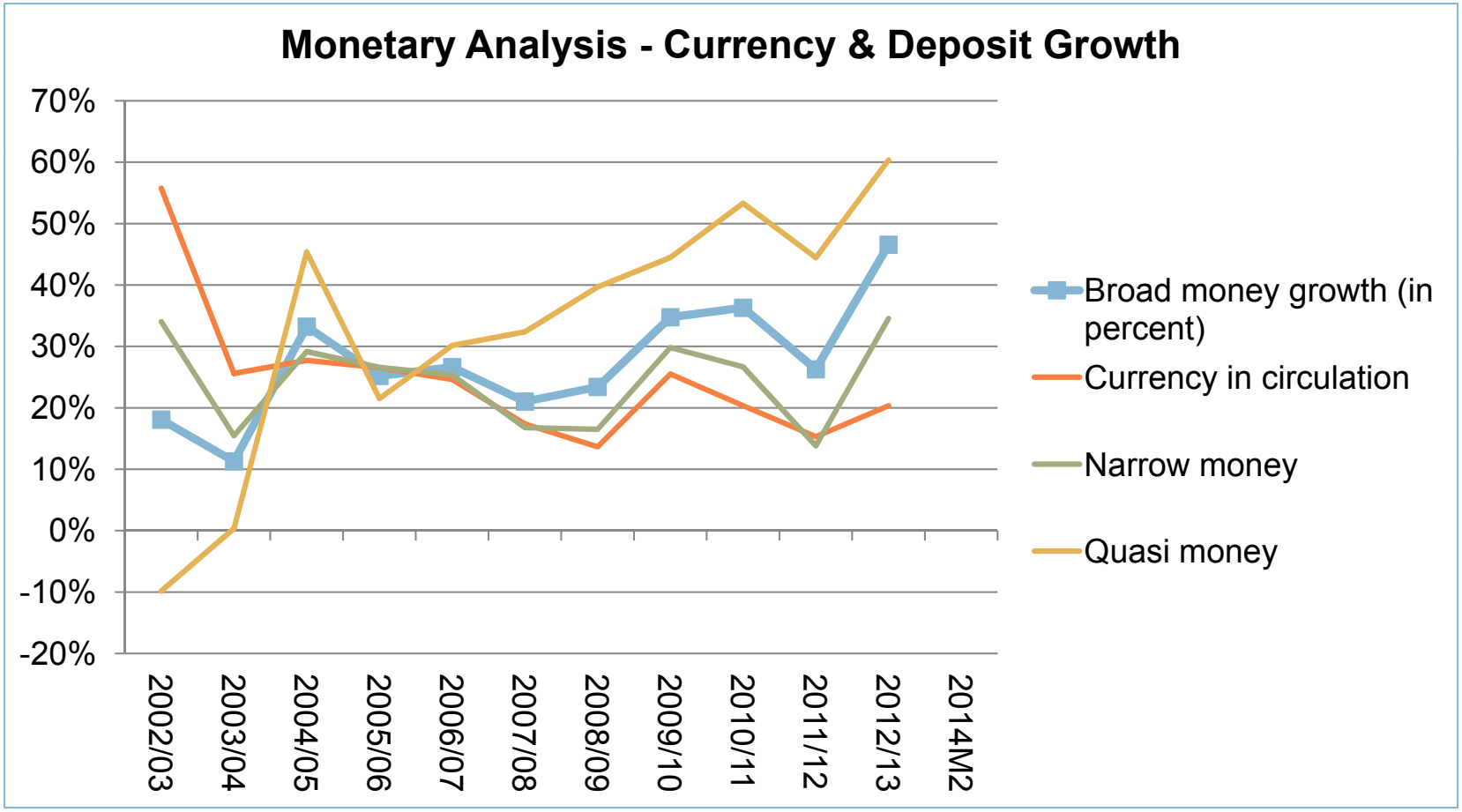
Monetary Survey—Credit Growth

Credit growth developments since 2002/03:



Monetary Survey—Deposit Growth

Currency and deposit growth developments since 2002/03:



Monetary Survey—Assessing Money Growth

How can you assess whether money growth rates are appropriate in the sense that they do not pose a risk for macroeconomic stability?

- High credit growth rates, sustained over time, can lead to a buildup of financial (and macroeconomic risk), but they may also signify beneficial financial sector development and financial deepening → the dividing line is thin
- Does money supply growth exceed money demand significantly? If so, this could be inflationary. Assess money demand by:
  - estimating money demand function, or
  - consider evolution of velocity

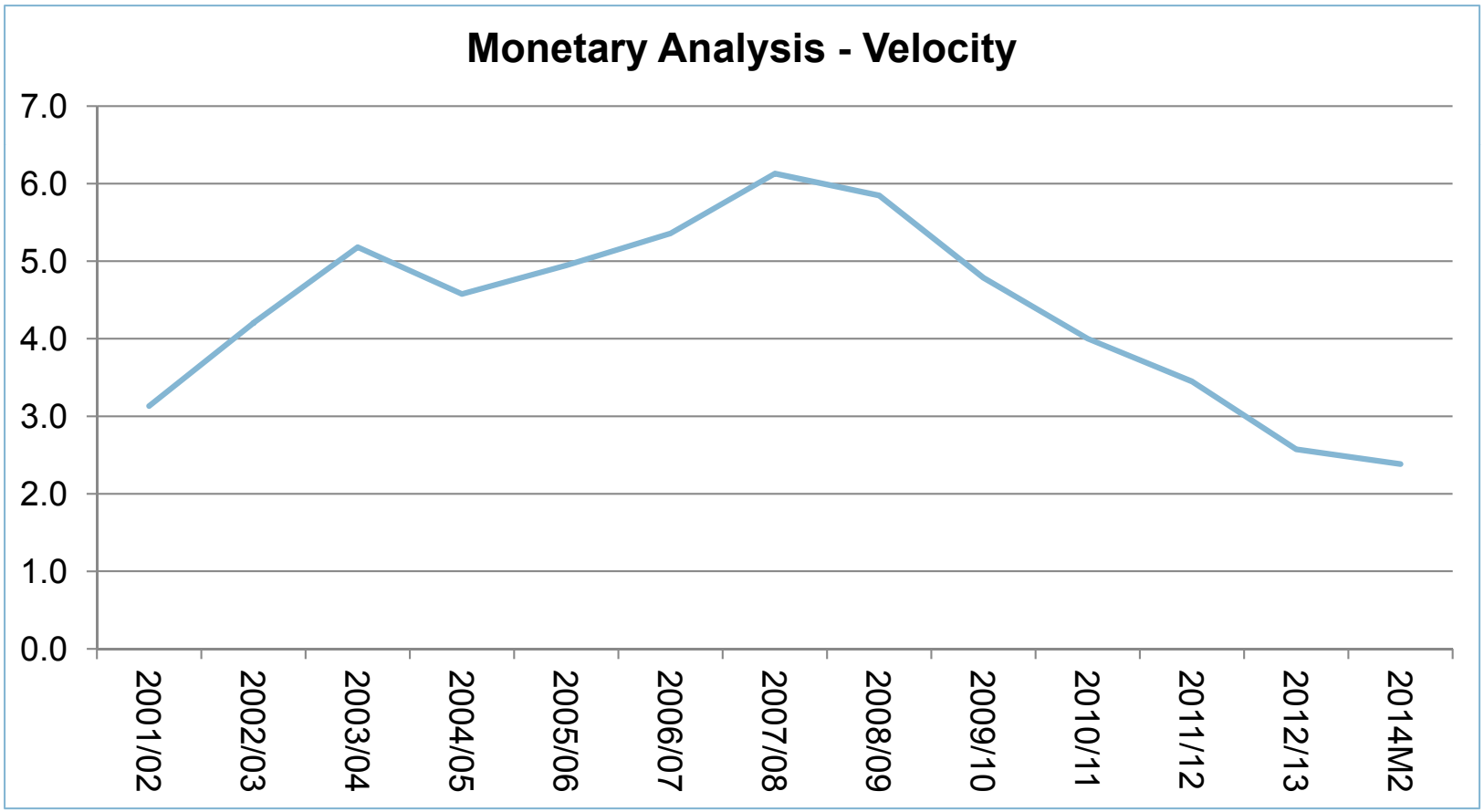
Monetary Survey—Assessing Money Demand via the Velocity Approach

Velocity approach is based on Quantity Theory of Money:

- M*V = P*Q
- Rewrite to obtain the velocity of circulation:
  V = P*Q / M = GDP / M
- Try to approximate the equilibrium path for velocity through trends or other methods → is actual velocity close to trend? If not, this indicates a possible imbalance between money demand and supply

Monetary Survey—Velocity

Velocity developments since 2001/02:



Monetary Survey—Assessing Money Demand via the Velocity Approach

- For monetary programming (deriving a money growth target), proceed as follows:
  1. Determine equilibrium velocity (see previous slide)
  2. Determine the amount of money demand (M^D) given equilibrium velocity and expected GDP:
     M^D = GDP / Velocity
  3. Create a monetary program such that money supply is consistent with money demand, i.e.,
     set $M^S = M^D$

Monetary Survey—Why is M2 Money?

Why is M2 "**money**"?

Because it is what the economy can use to make payments and economic transactions:

- Currency in circulation: "**cash**"
- deposits constitute a means of payment, as one can write checks (not so common in Myanmar), or make transfers, or withdraw cash against deposits

Monetary Survey—Is This All We Need to Understand Money?

No!

- Monetary survey does not exist in a vacuum

→ Link to other sectors

- In our exercises, private sector deposits and credit to private sector was completely unaffected by any changes to central bank balance sheet

→This is not right—we need to consider money creation in more detail!