

## **Chapter 2: The payments system**

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### **TRUE/FALSE**

1. Barter is a system of exchange in which items (or services) are exchanged for each other.

ANS: T

This system requires a coincidence of wants in order for an exchange to occur.

PTS: 1

DIF: Easy

REF: *Introduction*

2. We are fast becoming a 'cashless society'.

ANS: F

The use of cash has declined, however it remains the most commonly used payment instrument. Cash is mostly used for small-value payments.

PTS: 1

DIF: Easy

REF: *Introduction*

3. A transaction is an agreement between a buyer and seller to exchange an item or service for payment (whether this is cash, a payment order or another item).

ANS: T

In this chapter, it is important to recognise the distinction between the settlement of a transaction and the settlement of the payment order that settled the transaction.

PTS: 1

DIF: Easy

REF: *2.1 Overview*

4. The clearing of retail payment orders refers to the actual payment of exchange settlement (ES) funds.

ANS: F

Clearing of retail payment orders is the process through which ADIs agree on the net payments required to settle payment orders drawn on their depositor's accounts.

PTS: 1

DIF: Moderate

REF: *2.1 Overview*

5. The payment order processing system for inter-ADI payments is the Reserve Bank's Information and Transfer System.

ANS: T

This system (RITS) is used to transfer funds between ADIs' exchange settlement accounts.

PTS: 1

DIF: Moderate

REF: *2.1 Overview*

6. In value terms, the payments system's major role is settling the payment instructions arising from transactions in the financial markets.

ANS: T

Table 2.1 shows that for 2012 average daily wholesale payments were \$150–167 billion versus \$60 billion in the retail system.

PTS: 1                      DIF: Moderate                      REF: 2.1 Overview

7. Financial institutions such as banks hold funds in exchange settlement accounts with the RBA.

ANS: T

These funds are used to satisfy the institutions' obligations under the payments system.

PTS: 1                      DIF: Moderate                      REF: 2.1 Overview

8. The Reserve Bank of Australia is responsible for minimising payments system risks, promoting the system's efficiency and promoting competition in the market for payment services.

ANS: T

It does this through the Payments System Board.

PTS: 1                      DIF: Moderate                      REF: 2.1 Overview

9. Payments in the retail payment system can be described as relatively low value and low volume.

ANS: F

These payments are low value, but high volume (i.e. numerous) compared to the wholesale payment system.

PTS: 1                      DIF: Easy                      REF: 2.2 The retail payments system

10. Providers of payment services process payment instructions that have been authorised by their customers.

ANS: T

Authorisation is made with either a PIN or a signature.

PTS: 1                      DIF: Easy                      REF: 2.2 The retail payments system

11. Retail payments can be defined as payments between shops (retailers) and their customers.

ANS: F

These are retail payments, but the term includes many other types of transactions such as the payment of salaries to employees using direct entries.

PTS: 1                      DIF: Easy                      REF: 2.2 The retail payments system

12. All payment instructions are settled on a deferred net settlement basis.

ANS: F

Only retail payment instructions are settled on a deferred net settlement basis, wholesale payment orders employ real-time-gross-settlement.

PTS: 1                      DIF: Moderate                      REF: 2.2.1 *Deferred net settlement*

13. The netting of payments in the clearing process for retail payment orders increases settlement risk in the system.

ANS: F

The netting of payments greatly reduces the amount of ES funds transferred and thus also the settlement risk ADIs are exposed to.

PTS: 1                      DIF: Moderate                      REF: 2.2.1 *Deferred net settlement*

14. The overnight delay in the settlement of retail payments between ADIs poses settlement risk.

ANS: T

This is because ADIs that are owed net payments do not receive the ES funds until 9 a.m. the next business day.

PTS: 1                      DIF: Moderate                      REF: 2.2.1 *Deferred net settlement*

15. An example of a direct credit to your account is when you are paid by your employer. An example of a direct debit is your monthly payment to your car insurer.

ANS: T

Direct credits are payments to a bank account, whereas direct debits are payments from a bank account.

PTS: 1                      DIF: Easy                      REF: 2.2.2(a) *Direct debits and credits*

16. Verification of a payment instruction's authorisation is always required before the instruction can be settled.

ANS: F

The verification of the signature on a cheque occurs after settlement. If the signature cannot be verified the payment may be reversed.

PTS: 1                      DIF: Difficult                      REF: 2.2.2(b) *Cheques*

17. A cheque deposited into your ADI account will not earn interest until it is verified.

ANS: F

The cheque is credited to your account immediately, and therefore earns interest, but access to the funds is delayed for around three days to allow verification.

PTS: 1                      DIF: Moderate                      REF: 2.2.2(b) *Cheques*

18. A cheque's BSB number identifies the bank and relevant branch of its depositor.

ANS: F

A cheque's BSB number identifies the bank and relevant branch of the drawer.

PTS: 1                      DIF: Moderate                      REF: 2.2.2(b) *Cheques*

19. Charge cards are issued by banks to allow customers to access their funds.

ANS: F

Charge cards are issued by companies (such as American Express and Diners Club) as payment instruments for their clients, and the amount owing must be paid on the due date.

PTS: 1                      DIF: Moderate                      REF: 2.2.2(c) *Debit, credit and charge cards*

20. Debit cards allow customers additional time to pay the amount due.

ANS: F

Debit cards access funds in the customer's deposit account only.

PTS: 1                      DIF: Moderate                      REF: 2.2.2(c) *Debit, credit and charge cards*

21. Electronic payment instructions have become the most important (in terms of their value) payment instructions.

ANS: T

Direct debits and credits are convenient and inexpensive and their adoption has largely replaced cheques.

PTS: 1                      DIF: Easy                      REF: 2.2.3 *The usage pattern of retail payment orders*

22. Credit and debit cards have become the most frequently used non-cash retail payment instruments.

ANS: T

These payments are widely used for relatively small transactions.

PTS: 1                      DIF: Moderate                      REF: 2.2.3 *The usage pattern of retail payment orders*

23. The increasing use of direct entries has resulted in a decline in the usage of cheques.

ANS: T

Direct transfers are cheaper and usually more convenient than cheques.

PTS: 1                      DIF: Easy                      REF: 2.2.3 *The usage pattern of retail payment orders*

24. The Payments System Board's (PSB) reform of credit cards reduced the interchange fees charged by the credit card companies, and eliminated the surcharge imposed by merchants when accepting credit card payments.

ANS: F

Interchange fees were reduced, but the PSB removed the ‘no-surcharge’ rule so that merchants could charge a surcharge for accepting credit card payments.

PTS: 1                      DIF: Moderate                      REF: 2.2.3 *The usage pattern of retail payment orders*

25. The introduction of explicit fees for the use of another ADI's ATM has improved efficiency within the retail payments system.

ANS: T

Previously the cost of using a ‘foreign’ ADI’s ATM (which is quite expensive) was not obvious. By informing people of the cost they are better able to make choices that minimise the fees they pay.

PTS: 1                      DIF: Moderate                      REF: *Industry Insight 2.1*

26. Real-time gross settlement operates during the business day.

ANS: T

Wholesale payment instructions are settled individually throughout the day.

PTS: 1      DIF: Easy      REF: 2.3 *The wholesale payments system*

27. RTGS clears payments and then places them in a queue for settlement.

ANS: F

The payments are placed in a queue, they are cleared individually throughout the day by checking the payer has sufficient ES funds, and if so, settlement occurs immediately.

PTS: 1      DIF: Moderate      REF: 2.3 *The wholesale payments system*

28. In the ‘early morning’ RTGS session, ADIs will increase their ESA balances through interbank transfers and by selling eligible securities to the RBA.

ANS: T

The ESA balances are increased to ensure they are sufficient to cope with their RTGS payments during the day.

PTS: 1                      DIF: Moderate                      REF: 2.3.1 RTGS operating day

29. RTGS can face liquidity problems which result from ADIs holding insufficient ES funds to meet their overall daily RTGS payment obligations.

ANS: F

ADIs ensure they have sufficient ES funds to meet their net daily payments. However, as payments are settled individually and the order of payments is unknown, it is possible an ADI will experience a shortage of ES funds at some stage throughout the day. This is a liquidity problem.

PTS: 1                      DIF: Moderate                      REF: 2.3.1 *RTGS operating day*

30. The problem of intraday illiquidity is overcome by banks being required to hold large ESA balances so they can cover their RTGS payments without relying on receipts.

ANS: F

Banks only need hold enough ES funds to cover their payment obligations by the end of the day. The RBA provides intraday repos and payment queue adjustments to ease liquidity pressures throughout the day.

PTS: 1                      DIF: Difficult                      REF: 2.3.2 *Intraday liquidity management*

31. The RBA's intraday repurchase agreements facilitate the smooth flow of the RTGS.

ANS: T

At the start of the day, ADIs can sell eligible securities to the RBA on the basis that the ADI repurchase the securities later that day for the same price. This is therefore an interest-free loan of ES funds to increase ES balances and ease liquidity pressures.

PTS: 1                      DIF: Moderate                      REF: 2.3.2 *Intraday liquidity management*

32. Banks earn no interest on their exchange settlement account balances.

ANS: F

The RBA pays interest equal to the cash rate less 25 basis points.

PTS: 1                      DIF: Easy                      REF: 2.4 *Management of ES funds by ADIs and the RBA*

33. Banks prefer to hold their liquid assets in the money market rather than in their exchange settlement accounts.

ANS: T

Banks earn the cash rate in the overnight inter-bank market (and generally earn more than the cash rate in the main security markets), whereas they earn 25 basis points less than the cash rate on their ESA balances. Note that the overnight inter-bank market is classified as part of the money market.

PTS: 1                      DIF: Moderate                      REF: 2.4 *Management of ES funds by ADIs and the RBA*

34. Banks in Australia are subject to a reserve requirement.

ANS: F

This is no longer the case in Australia.

PTS: 1  
RBA

DIF: Easy

REF: 2.4 *Management of ES funds by ADIs and the*

35. ADIs earn a margin over the cash rate for funds deposited in the inter-bank overnight market.

ANS: F

ADIs earn the cash rate for funds deposited in the inter-bank overnight market.

PTS: 1  
RBA

DIF: Easy

REF: 2.4 *Management of ES funds by ADIs and the*

36. Contagion risk refers to a domino effect initially caused by the settlement default of a single bank.

ANS: T

Contagion risk refers to the risk that settlement default by one bank could lead to other banks ultimately defaulting.

PTS: 1  
RBA

DIF: Moderate

REF: 2.4 *Management of ES funds by ADIs and the*

37. During the GFC, the banking system reduced their demand for ES funds.

ANS: F

The GFC increased demand for ES funds as some banks were unwilling to bear the credit risk posed by other banks in the overnight market (which is where banks would normally keep funds held in reserve).

PTS: 1  
RBA

DIF: Moderate

REF: 2.4 *Management of ES funds by ADIs and the*

38. Payments by the RBA increase aggregate exchange settlement balances.

ANS: T

Since the RBA holds its own funds, payments by it are credited to ADI exchange settlement accounts.

PTS: 1

DIF: Easy

REF: 2.4.1 *The RBA's maintenance of ES balances*

39. The RBA stabilises the financial system's liquidity by trading with ADIs to sterilise the impact on aggregate ES balances of payments to and by it.

ANS: T

The RBA's open market operations are concerned mainly with day-by-day stabilisation of aggregate ES balances to offset the impact of its transactions with the financial system, which are mainly on behalf of the government.

PTS: 1

DIF: Moderate

REF: 2.4.1 *The RBA's maintenance of ES balances*

40. On days when the RBA makes payments to ADIs on behalf of the government it will prevent unintentional changes to the cash rate by buying securities from ADIs.

ANS: F

On these days, the RBA will sell securities to ADIs so that aggregate inter-bank overnight balances (and the cash rate) remain unchanged.

PTS: 1

DIF: Difficult

REF: 2.4.1 *The RBA's maintenance of ES balances*



## MULTIPLE CHOICE

1. Identify the correct statement regarding cash:
- A. Cash is the most commonly used payment instrument.
  - B. Cash is frequently used for small-value payments (i.e. payments up to \$50).
  - C. The proportion of payments made with cash has been declining.
  - D. Cash is a payment instrument but not a payment order.
  - E. All of these.

ANS: E                      PTS: 1                      DIF: Moderate                      REF: *Introduction*

2. The account that a financial institution has with the RBA is known as a(n):
- A. fund settlement account
  - B. money settlement account
  - C. payment settlement account
  - D. exchange settlement account.
  - E. None of these.

ANS: D                      PTS: 1                      DIF: Easy                      REF: *2.1 Overview*

3. \_\_\_\_\_ is the process by which ADIs agree on their payments system obligations whereas \_\_\_\_\_ is the actual payment of ES funds.
- A. DNS; RTGS
  - B. Clearing; settlement
  - C. DNS; settlement
  - D. Settlement; clearing
  - E. RTGS; settlement

ANS: B                      PTS: 1                      DIF: Easy                      REF: *2.1. Overview*

4. As at 2013, real-time gross settlement is used to settle payment instructions from:
- A. the clearinghouses in the debt (Austraclear) and foreign exchange (SWIFT) markets
  - B. the retail payment system
  - C. the batch feeder facility used for share market trades.
  - D. None of these.
  - E. All of these.

ANS: A                      PTS: 1                      DIF: Difficult                      REF: *2.1. Overview*

5. Inter-ADI payment orders:
- A. transfer funds between accounts held with ADIs
  - B. must be cleared before they are settled
  - C. are settled by transfers of exchange settlement funds
  - D. include payment methods such as cheques and direct entry.
  - E. All of these.

ANS: E                      PTS: 1                      DIF: Moderate                      REF: *2.1 Overview*

6. As at 2013, different payment systems exist for the settlement of retail and wholesale payment instructions in Australia. The wholesale payment system:
- A. is, in total, of less daily value than retail payment system
  - B. settles on a real-time gross settlement basis
  - C. settles more transactions than the retail payment system
  - D. is used for all large transactions.
  - E. All of these.

ANS: B                      PTS: 1                      DIF: Moderate                      REF: 2.1 Overview

7. The organisation responsible for controlling risks and promoting competition and efficiency in the payment system is:
- A. the Australian Payments Clearing Association
  - B. Austraclear
  - C. the Payments System Board
  - D. the RBA's Payment Settlement Review Group
  - E. SWIFT.

ANS: C                      PTS: 1                      DIF: Easy                      REF: 2.1 Overview

8. Of the following, which is generally settled on a deferred net basis in Australia's payments system?
- A. Cash, EFTPOS instructions and cheques.
  - B. EFTPOS instructions, cheques and direct entries.
  - C. Cheques, financial markets transactions and direct entries.
  - D. Financial markets transactions.
  - E. More than one of these is true.

ANS: B                      PTS: 1                      DIF: Moderate                      REF: 2.2 *The retail payments system*

9. A personal identification number (PIN):
- A. authorises the transaction
  - B. verifies the transaction
  - C. settles the payment
  - D. authorises and verifies the transaction
  - E. authorises and verifies the transaction and settles the payment.

ANS: D                      PTS: 1                      DIF: Moderate                      REF: 2.2 *The retail payments system*

10. The very large number of retail payment orders:
- A. exposes receiving institutions to significant settlement risk
  - B. includes cash, cheques and EFTPOS
  - C. are netted, which greatly reduces the settlement amounts
  - D. are settled on a same-day basis.
  - E. All of these.

ANS: C                      PTS: 1                      DIF: Moderate                      REF: 2.2.1 *Deferred net settlement*

11. Which payment mechanism is pre-authorised and verified?

- A. Direct entries.
- B. Credit and debit cards.
- C. EFTPOS.
- D. Cheques.
- E. None of these.

ANS: A

PTS: 1

DIF: Easy

REF: 2.2.2 (a) *Direct debits and credits*

12. Which payment mechanism allows organisations to make payments to, and receive payments from, large groups?

- A. Direct entries.
- B. Credit and debit cards.
- C. EFTPOS.
- D. Cheques.
- E. All of these.

ANS: A

PTS: 1

DIF: Easy

REF: 2.2.2(a) *Direct debits and credits*

13. Which statement regarding cheques is INCORRECT?

- A. Cheques were once the principal form of payment order.
- B. The cheque verification process means that funds are not credited to the depositor's account for several days.
- C. Cheques are authorised by the drawer's signature.
- D. Cheques are a written instruction.
- E. Cheque payments can be dishonoured.

ANS: B

PTS: 1

DIF: Moderate

REF: 2.2.2(b) *Cheques*

14. Which of the following is a retail payment order but is not settled using DNS?

- A. Cash.
- B. Cheques.
- C. Debit cards.
- D. Charge cards.
- E. Direct entries.

ANS: D

PTS: 1

DIF: Moderate

REF: 2.2.2(c) *Debit, credit and charge cards*

15. Which retail payment mechanism has experienced the most dramatic decline in usage?

- A. Cash.
- B. Cheques.
- C. Credit cards.
- D. Debit cards.
- E. Direct entry.

ANS: B

PTS: 1

DIF: Easy

REF: 2.2.3 *The usage pattern of retail payment orders*

16. Which retail payment mechanism has experienced the most dramatic increase in usage (when measured in terms of the value of transactions)?
- A. Cash.
  - B. Cheques.
  - C. Credit cards.
  - D. Debit cards.
  - E. Direct entry.

ANS: E                      PTS: 1                      DIF: Easy                      REF: 2.2.3 *The usage pattern of retail payment orders*

17. Which retail payment order displays a very high number of transactions but relatively low total value of transactions?
- A. Cash.
  - B. Cheques.
  - C. Credit and debit cards.
  - D. Direct debits.
  - E. Direct credits.

ANS: C                      PTS: 1                      DIF: Moderate                      REF: 2.2.3 *The usage pattern of retail payment orders*

18. Which of the following statements is NOT true about the wholesale payments system?
- A. It has very few participants compared to the retail system.
  - B. The main participants are banks and dealers.
  - C. Transactions are settled on a deferred net settlement basis.
  - D. It transfers funds between exchange settlement accounts of the payer and the payee.
  - E. It mainly settles financial markets transactions.

ANS: C                      PTS: 1                      DIF: Easy                      REF: 2.3 *The wholesale payments system*

19. During the early morning RTGS session (7.30am to 8.45am) ADIs will:
- A. settle their DNS payment obligations
  - B. make inter-bank ES transfers and sell eligible securities to the RBA
  - C. net settle their daily RTGS payment obligations.
  - D. All of these.
  - E. None of these.

ANS: B                      PTS: 1                      DIF: Moderate                      REF: 2.3.1 *RTGS operating day*

20. The RBA provides two mechanism to help ADIs manage period of intraday illiquidity. These are:
- A. intraday repos and payment queue adjustments
  - B. the inter-bank overnight market
  - C. open-market operations and the cash rate
  - D. the overnight market and intraday repos
  - E. overnight funds from the RBA and payment queue adjustments.

ANS: A                      PTS: 1                      DIF: Easy                      REF: 2.3.2 *Intraday liquidity management*

21. The auto-offset process within RTGS:
- A. involves searching the payment system queue for offsetting payments
  - B. increases efficiency in the payments system
  - C. reduces the amount of ES funds ADIs require
  - D. keeps uncleared payments in the queue for later retesting.
  - E. All of these.

ANS: E                      PTS: 1                      DIF: Moderate                      REF: 2.3.2 *Intraday liquidity management*

22. Contagion (within the payments system) is NOT:
- A. likely
  - B. serious
  - C. the collapse of the payments system
  - D. less likely because of RTGS
  - E. potentially devastating to the economy.

ANS: A                      PTS: 1                      DIF: Moderate                      REF: 2.4 *Management of ES funds by ADIs and the RBA*

23. An ADI that requires additional exchange settlement funds to meet its retail payment obligations at 9am can:
- A. borrow from the RBA at the cash rate
  - B. draw on its reserves held in the overnight inter-bank market
  - C. purchase additional money-market securities
  - D. sell a parcel of bonds
  - E. delay the payment until later that day

ANS: B                      PTS: 1                      DIF: Moderate                      REF: 2.4 *Management of ES funds by ADIs and the RBA*

24. Exchange settlement accounts:
- A. must be in credit
  - B. hold funds that belong to banks and other financial market dealers
  - C. earn a return of 25 bps less than the cash rate
  - D. are the means of settling transactions between institutions.
  - E. All of these.

ANS: E                      PTS: 1                      DIF: Easy                      REF: 2.4 *Management of ES funds by ADIs and the RBA*

25. Uncertainty during the GFC led some banks in Australia to increase:
- A. cash holdings
  - B. deposits in the inter-bank market
  - C. ES funds
  - D. reserves of money and bond market securities
  - E. their borrowings from the RBA.

ANS: C                      PTS: 1                      DIF: Difficult                      REF: 2.4 *Management of ES*

*funds by ADIs and the RBA*

26. Planned changes to the settlement of retail payments will place additional liquidity pressures on ADIs. The RBA plans to help ADIs cope through:
- A. increasing the interest rate on ESA balances
  - B. increasing the interest rate in the overnight inter-bank market
  - C. intraday repos
  - D. open repos
  - E. requiring a liquidity reserve.

ANS: D                      PTS: 1                      DIF: Difficult                      REF: 2.4 *Management of ES funds by ADIs and the RBA*

27. The RBA conducts market operations:
- A. to offset the impact of its own or government transactions upon the cash rate
  - B. once a month only
  - C. to offset the impact of transfers between ADIs on the cash rate
  - D. secretly, so that the market does not know its position
  - E. All of these.

ANS: A                      PTS: 1                      DIF: Moderate                      REF: 2.4.1 *The RBA's maintenance of ES balances*

28. Which of the following would put downward pressure on the cash rate?
- A. Payments between ADIs.
  - B. Sales of securities by the RBA to ADIs.
  - C. Payments of taxation from ADIs to the RBA.
  - D. Welfare payments by the RBA (on behalf of the government) to ADIs.
  - E. All of these.

ANS: D                      PTS: 1                      DIF: Difficult                      REF: 2.4.1 *The RBA's maintenance of ES balances*

## SHORT ANSWER

1. Define a payment order and explain the two steps required to process them.

ANS:

A payment order is an instruction to an ADI to transfer funds from the drawer's account to the depositor's account. Every day vast numbers of payment orders must be processed.

Orders are first cleared – this refers to the steps through which institutions agree to the terms of a transaction. In other words, the amounts that ADIs owe each other from payment orders need to be calculated and agreed to.

Settlement is the actual transfer of value for cleared amounts that completes the transaction. ADIs hold funds with the RBA in their exchange settlement accounts to facilitate these inter-ADI payments.

PTS: 1                      DIF: Moderate                      REF: 2.1 Overview

2. Briefly describe the two broad categories of payment orders.

ANS:

The first category is wholesale payment orders. These are used to settle large financial market transactions and to transfer funds between ADIs or between ADIs and the RBA. These payments are processed through real-time gross settlement.

The second category is retail payment orders. These are payment orders by individuals and firms to settle their transactions (such as cards, cheques and direct entries) and are processed through deferred net settlement.

PTS: 1                      REF: Easy                      REF: 2.1 Overview

3. Identify and briefly explain three differences between the retail and wholesale payment systems.

ANS:

Purpose: The wholesale system comprises payments between financial institutions that result from trading in the financial markets, payments between ADIs and payments between ADIs and the RBA. The retail system is all other payments – that is, the payments of individuals as well as normal business payments.

Settlement arrangements: The wholesale system employs real-time gross settlement, where individual payments are settled with ES funds immediately after being cleared. The retail system uses cash and payment orders such as cheques, cards and direct entry. Payment orders require behind-the-scenes processing and are settled on a deferred net basis.

Scale: In aggregate, payments within the wholesale system are low in volume but high in value, whereas the retail system is basically high-volume but low-value.

PTS: 1                      DIF: Moderate                      REF: 2.1 Overview

4. Explain why institutions have exchange settlement accounts and describe the main features of these accounts.

ANS:

Exchange settlement accounts are accounts that financial institutions have at the RBA that enable institutions to make payments to each other, and so enable them to offer payment services to their customers. The main features of these accounts are:

- Accounts cannot be overdrawn.
- They are a safe place for funds.
- The RBA pays interest on the end-of-day balances at the cash rate less 25bps.

PTS: 1                      DIF: Easy                      REF: 2.1 Overview

5. Explain the responsibilities of the Payments System Board.

ANS:

The Payments System Board has responsibility for:

- controlling risk in the financial system;
- promoting the efficiency of the payments system; and
- promoting competition in the market for payment services, consistent with the overall stability of the financial system.

PTS: 1                      DIF: Easy                      REF: 2.1 Overview

6. Why do retail payment orders require authorisation and verification? How is this achieved?

ANS:

Authorisation is required to instruct the ADI to transfer funds from the drawer's account in order to settle a transaction. It can be achieved through either a signature or a personal identification number (PIN).

Verification is required to ensure the person authorising the payment order is the account holder, and so reduces fraud. A PIN verifies (as well as authorises) the payment order, whereas a signature needs to be examined. This can be by the merchant at the point of sale by checking the signature against the card, but cheques must be transported back to the drawer's bank for inspection.

PTS: 1                      DIF: Easy                      REF: 2.2.1 Deferred net settlement

7. Briefly explain the settlement process for retail payment orders.

ANS:

Retail payment orders are settled on a net deferred basis. Netting is part of the end-of-day clearing process in which all payments to and from a particular institution are offset against each other to determine a single payment (or receipt) for each ADI. Settlement is deferred because the actual transfer of netted amounts occurs at 9 a.m. the next day through exchange settlement accounts.

PTS: 1                      DIF: Easy                      REF: 2.2.1 Deferred net settlement



8. Assume that there are three banks in Australia: Alpha, Beta and Delta. On a particular day:
- Alpha customers deposit payment instruments (such as cheques) from Beta of \$56 and from Delta of \$34.
  - Beta customers deposit payments totalling \$71 from Alpha, and \$65 from Delta.
  - Delta customers deposit payments of \$47 from Alpha and \$45 from Beta.

Use the following grid to determine the banks multilateral net obligations to the system on this day.

		Receiving bank			Total payments
		Alpha	Beta	Delta	
Paying bank	Alpha				
	Beta				
	Delta				
Total receipts					
Less total payments					
Multilateral net position					

ANS:

		Receiving bank			Total payments
		Alpha	Beta	Delta	
Paying bank	Alpha	–	71	47	118
	Beta	56	–	45	101
	Delta	34	65	–	99
Total receipts		90	136	92	
Less total payments		118	101	99	
Multilateral net position		-28	35	-7	

Alpha will have to pay \$28, and Delta \$7, from their exchange settlement accounts. This \$35 will go into Beta's ESA.

PTS: 1

DIF: Moderate

REF: 2.2.1 *Deferred net settlement*

9. Explain the difference in the cost of processing cheques and EFTPOS instructions.

ANS:

The authorisation (i.e. signature) of a cheque must be verified (after settlement), whereas an EFTPOS instruction is authorised and verified simultaneously by the PIN. The extra processing required by cheques means they are a more expensive and less efficient payment mechanism.

PTS: 1

DIF: Moderate

REF: 2.2 *The retail payments system*

10. List and describe the main types of retail payment instruments.

ANS:

Retail payment instruments include cash and payment orders (or instructions).

The main retail payment orders are:

- Cheques – a dated, paper-based instruction to the drawer's ADI to pay the stated party the stated sum.
- Direct entry—Direct debits and credits are pre-authorised and verified orders that are processed electronically. They allow organisations to make payments to large groups, such as salary payments, and to receive payments from large groups, such as insurance payments.
- Debit, credit and charge cards—Debit cards allow ADI customers to access funds in their accounts using ATMs and EFTPOS, whereas credit and charge cards provide the holder with credit up to a certain limit. Charge card balances must be paid in full on the monthly billing date while credit cards only require a minimum payment but will charge interest on the balance.

PTS: 1

DIF: Easy

REF: 2.2.2 *Payment orders*

11. Give a brief description of the direct entry system.

ANS:

The direct entry system allows businesses to make arrangements with their ADIs to make payments to the accounts of large groups such as clients and employees (direct credits) and to receive payments from such groups (direct debits).

The most common examples of direct credits are salary payments to employees and social security payments by the RBA. Commonly used direct debits include loan payments to ADIs, insurance premium payments and the payment of telephone, gas and electricity bills

PTS: 1

DIF: Easy

REF: 2.2.2(a) *Direct debits and credits*

12. Most Australian shops accept payments via EFTPOS but not by cheque. What advantages does EFTPOS (and other electronic instruments) have over cheques for the shopkeeper? What are the advantages for the customer?

ANS:

The advantages of electronic instruments to the shopkeeper are:

- Greater reliability – cheques can be dishonoured or flawed in other ways.
- Greater efficiency – the process of verifying signatures takes time. In the case of cheques, this means there is a delay in the funds becoming available. Also, cheques must be physically transported to the ADI for deposit.

The advantages of electronic instruments to the customer are the lower cost – ADI fees on electronic payments are lower than those on cheques. Most people also find the electronic payments to be more convenient.

PTS: 1

DIF: Moderate

REF: 2.2.2(b) *Cheques*

13. What trends can be observed in the usage pattern of retail payment orders and what factors do you think are driving these changes?

ANS:

The main long-term trend is the shift from paper-based instructions (cheques) to electronic orders, particularly direct entry, with debit cards the preferred method (over credit cards) for consumer purchases. These changes are being driven by:

- Technology – electronic payments are much cheaper to process.
- The fees (and rewards) that apply to different payment orders.
- Convenience – for most people electronic payments are more convenient.

PTS: 1

DIF: Moderate

REF: 2.2.3 *The usage pattern of retail payment orders*

14. Explain the Payments System Board's planned innovations to the retail payment system.

ANS:

The PSB aims to replace DNS with a faster and more efficient system by 2016. Its plans include:

- Direct entry payments are to be settled in cleared batches throughout the day so that settlement is mostly 'same-day'.
- The ability to settle other payments using real-time gross settlement on a 24/7 basis.
- The ability to send more remittance information with electronic transfers.
- A more efficient settlement system for cheques.

PTS: 1

DIF: Difficult

REF: 2.2.3 *The usage pattern of retail payment orders*

15. Explain recent reforms by the PSB to credit cards, debit cards and ATMs. What has been the overall goal of these reforms?

ANS:

Reforms to credit cards included reducing interchange fees and removing the no-surcharge rule on merchants. Interchange fees are charged between institutions when processing payments. In relation to credit cards, these fees were too high and enabled the card companies to offer rewards to encourage card use. The no-surcharge rule meant that merchants could not pass on to card users the cost of accepting credit card payments.

In relation to debit cards, the PSB set a standard fee that banks could charge, which reduced the cost to users. The PSB also made explicit the cost of using 'foreign' (i.e. another ADI's) ATMs in order to encourage competition between ATM owners and to enable users to be better informed in their choice of payment methods.

The goal of these reforms is to improve the efficiency of the retail payments system by better aligning the cost to users with the cost of providing services

PTS: 1

REF: Difficult

REF: 2.2.3 *The usage pattern of retail payment order*

16. Explain how a bank's payment for a wholesale parcel of bonds is settled and how the settlement process differs from the settlement of a retail payment order.

ANS:

A bond transaction is settled three days after the trade date. When the payment is due, it is made as a real-time gross settlement transfer of exchange settlement funds. On the due date, the payment will be queued within the RTGS system for individual processing throughout the day. When it reaches the top of the queue, it is cleared by checking the payer has sufficient ES funds, and if so, the payment is immediately settled.

Retail payment orders, on the other hand, are settled on a net deferred (i.e. overnight) basis. This involves firstly clearing the payments. At the end of the day ADIs agree on the net amounts required to settle the payment orders of their depositors. Settlement occurs at 9 a.m. the next day with a payment of the net amounts using ESAs.

PTS: 1 DIF: Moderate REF: 2.2.1 *Deferred net settlement*; 2.3 *The wholesale payments system*

17. Clearly explain how RTGS settles financial markets transactions.

ANS:

Payment instructions are received from SWIFT and Austraclear and placed in a queue within the RTGS system for individual processing throughout the day. RTGS clears each instruction by checking the payer has sufficient ES funds, and if so, the payment is immediately settled by a transfer of the specified amount of ES funds from the paying to the receiving bank.

PTS: 1                  DIF: Easy                  REF: 2.3 *The wholesale payments system*

18. Describe the daily timetable for RTGS settlements.

ANS:

The daily RTGS sessions are:

- An early morning session (7.30 to 8.45 a.m.) where ADIs can make inter-bank transfers and enter into intraday repos with the RBA. The purpose of this session is to ensure ADIs have sufficient ESA funds to manage their RTGS payments throughout the day.
- DNS payment obligations are settled at 9 a.m.
- Throughout the day RTGS payments are cleared and settled individually.
- At the end of the day, ADIs can transfer ES funds to establish their desired overnight balance.
- An after-hours session settles the AUD leg of foreign exchange transactions (simultaneously with the foreign currency leg in the UK and Europe).

PTS: 1                      DIF: Difficult                      REF: 2.3.1 RTGS operating day

19. Why is intraday liquidity management of ESAs required?

ANS:

Each day ADIs are required to hold sufficient ESA funds to meet their overall daily RTGS payment obligations. However as payments are settled individually throughout the day and the order of payments is unknown, it is possible an ADI will experience a shortage of ES funds at some stage throughout the day. This could potentially cause gridlock in RTGS and requires ADIs to manage their intraday liquidity.

PTS: 1

DIF: Moderate

REF: 2.3.1 RTGS operating day

20. Explain how the RBA helps ADIs manage periods of intraday illiquidity.

ANS:

Two mechanisms are available to ADIs provided they have sufficient ES funds to meet their RTGS obligations by days' end. These are RBA repos and the auto-offset process.

An RBA repo is an interest free loan of ES funds from the RBA to the ADI. It is arranged by the RBA agreeing to purchase eligible securities on the basis that the ADI will purchase them back later in the day at the same price.

The auto-offset process within RTGS will keep payments which it was unable to clear for later retesting. It can also look for offsetting payments between two ADIs and pre-clear these payments.

PTS: 1

DIF: Easy

REF: 2.3.2 Intraday liquidity management

21. What is an RBA repo? How do they help a bank to manage its intraday liquidity requirements?

ANS:

An RBA repo is a transaction in which an ADI sells securities to the RBA at the start of the day on the basis that they will be bought back for the same price later that day. They are effectively an interest-free loan of ES funds to the ADI.

RTGS places considerable intraday liquidity pressure on banks. Funds loaned through repos are received before 9 a.m. and so provides the ADI with extra ES funds to enable RTGS payments throughout the day. Figure 2.6 shows that ADIs substantially increase their ESA balances each day using repos.

PTS: 1

DIF: Moderate

REF: 2.3.2 Intraday liquidity management

22. Define settlement risk and contagion risk (within the payments system).

ANS:

The main risk to the payments system is that payment instructions will not be settled because an ADI is unable to meet its obligations – this is inter-ADI settlement risk.

The failure of one ADI to settle its payments system obligations impairs the ability of other ADIs to meet their obligations. The risk that this will lead to the collapse of the payments system is known as contagion risk.

PTS: 1                      DIF: Moderate                      REF: *2.4 Management of ES funds by ADIs and the RBA*

23. What is the inter-bank overnight market?

ANS:

The inter-bank market makes up a small section of the money market that was established to provide a safe location for reserves of ES funds. It allows banks to deposit funds with one another and earn the cash rate on their overnight balances. ADIs can move funds immediately between the inter-bank market and their ESAs. Banks prefer to leave surplus funds in the overnight market because here they earn the cash rate compared to the cash rate less 25 bps in ESAs.

PTS: 1                      DIF: Moderate                      REF: *2.4 Management of ES funds by ADIs and the RBA*

24. What arrangements does the RBA offer ADIs that are unable meet their intraday repo obligations?

ANS:

The RBA will allow the ADI to repurchase the securities the following day at a price that imposes a penalty interest rate of the cash rate plus 25 bps. The penalty rate discourages ADIs from becoming reliant on the facility and means it is rarely used. The arrangement is available to ADIs that have miscalculated their ES fund requirements or are experiencing operational (as opposed to solvency) problems.

PTS: 1                      DIF: Moderate                      REF: *2.4 Management of ES funds by ADIs and the RBA*

25. An ADI calculates that it will need to increase its ES funds in order to be able to settle its payment system obligations that day. How can it do so?

ANS:

The ADI would most likely use the inter-bank market, where it can draw down its deposits with or borrow from other ADIs at the cash rate. Alternatively, the ADI could sell some of its money market securities in order to receive ES funds later that day.

PTS: 1                      DIF: Moderate                      REF: *2.4 Management of ES funds by ADIs and the RBA*

26. What are market operations?

ANS:

Market operations are when the RBA buys or sells securities with the intention of either stabilising the financial system's liquidity or to change the system's liquidity (to implement monetary policy).

PTS: 1

DIF: Easy

REF: 2.4.1 *The RBA's maintenance of ES balances*

27. What is the impact of RBA payments on the financial system's liquidity and how is this managed?

ANS:

Transactions made by or to the RBA when it acts on its own or the government's behalf impact the balances in ES accounts. For example, on pension payment days, there is a significant transfer of funds from the government's accounts (with the RBA) to the banks. Without management, this increase in the supply of ES funds would likely decrease the overnight cash rate (which would flow through to other rates).

To avoid unintended changes in the cash rate, the RBA conducts liquidity management. This consists of market operations to offset the impact of other transactions. For example, on pension payment days, the RBA will typically sell securities to the system. These transactions are normally conducted through repurchase agreements.

PTS: 1

DIF: Moderate

REF: 2.4.1 *The RBA's maintenance of ES balances*

28. What is the financial system's liquidity? How is it managed by the RBA?

ANS:

The financial system's liquidity can be defined as aggregate ES balances at the start of the day plus or minus the impact of payments to or from the RBA. If this is in deficit (because of payments to the RBA), ADIs would need to replenish their ESAs by drawing down funds in the inter-bank market and this could cause the cash rate to rise. However the RBA will avoid such unintentional changes to the cash rate through its market operations. In this case it would buy securities from ADIs, and the payment for these replenishes the ADIs ES funds. Likewise, if the RBA's payments to the system caused liquidity to increase, this would be offset by the RBA selling securities to the ADIs. The RBA uses the same process of market operations (generally through inter-day repos) to enact changes to the cash rate in line with its monetary policy stance.

PTS: 1

DIF: Difficult

REF: 2.4.1 *The RBA's maintenance of ES balances*

**ESSAY**

1. Distinguish between the settlement of transactions and the settlement of payment instructions. Provide an overview of the scale of payments instructions in Australia and explain how these instructions are settled.

ANS:

Essay answers will need to be individually marked.

PTS: 1                      DIF: Moderate                      REF: 2.2 *The retail payments system*

2. Describe the main retail payment instruments and how they are settled. What reforms to the retail payment system are planned?

ANS:

Essay answers will need to be individually marked.

PTS: 1                      DIF: Easy                      REF: 2.2 *The retail payments system*

3. Review the trends in the use of retail payment instruments. What factors are driving these changes?

ANS:

Essay answers will need to be individually marked.

PTS: 1                      DIF: Moderate                      REF: 2.2 *The retail payments system*

4. Describe Australia's wholesale payment system.

ANS:

Essay answers will need to be individually marked.

PTS: 1                      DIF: Easy                      REF: 2.3 *The wholesale payments system*

5. What are exchange settlement accounts? What is their role in the payments system and how they are managed by ADIs?

ANS:

Essay answers will need to be individually marked.

PTS: 1                      DIF: Moderate                      REF: 2.3 *The wholesale payments system*

6. Discuss the importance of the inter-bank overnight market to Australia's financial system.

ANS:

Essay answers will need to be individually marked.

PTS: 1                      DIF: Moderate                      REF: 2.4 *Management of ES funds by ADIs and the RBA*