

# BC3402

## Tutorial 6 Q2

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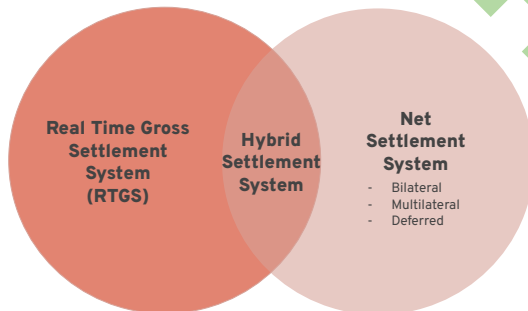
- (a) What are the different settlement models in wholesale payment systems? Briefly describe the advantages and disadvantages of each model.



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### Settlement Models in Wholesale Payment Systems



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### Real Time Gross Settlement System (RTGS)

- Processing and final settlement occur on a **continuous** basis throughout the processing day in real time
- Each payment is **processed individually**
- An RTGS system is generally used for large-value interbank funds transfers operated and organized by a country's central bank
- Examples: FedWire (US), CHAPS (Britain), TARGET2 (EU), CHATS (HK), SIC (Switzerland), MEPS+ (SG)

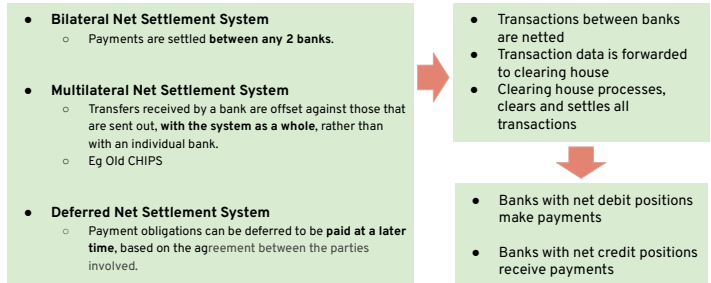
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## Real Time Gross Settlement System (RTGS)

<b>Advantages</b>	<ul style="list-style-type: none"> <li>Reduces Herstatt risk (Settlement risk) as the inter-bank settlement occurs instantaneously</li> <li>Payments are final, irrevocable and unconditional hence not subject to reversals</li> <li>RTGS leaves a smaller window of time for critical information to be vulnerable, thus mitigates cybersecurity threats</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>Banks need to hold a large amount of money with the central bank, as each transaction could be very large</li> <li>RTGS often incurs a higher charge than net settlement processes</li> </ul>

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## Net Settlement System



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## Net Settlement System

<b>Advantages</b>	<ul style="list-style-type: none"> <li>Smaller amounts need to be held as regular netting allows parties to only transfer the net amounts</li> <li>Allows banks to better manage their liquidity</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>Not real time, finality is achieved only upon completion of settlement</li> <li>Less beneficial to small banks due to small volumes of continuous netting (becomes a delayed RTGS)</li> <li>Exposes participants to greater risk as they extend large volume of payment-related intraday credit to each other</li> <li>Cash flow problems can arise when some member banks fail to pay by the agreed-upon due date</li> </ul>

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## Hybrid Settlement System

- Eg New CHIPS

<b>Advantages</b>	<ul style="list-style-type: none"> <li>Combines features of RTGS and Net Settlement System</li> <li>Achieve liquidity savings (by netting participants' positions)</li> <li>Limit payment system risk (intraday finality by providing for settlement throughout the processing day)</li> </ul>
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## (b) What is CHIPS? Describe how CHIPS operates?

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## What is CHIPS?

### Clearing House Interbank Payments System (CHIPS)

- Hybrid system within US
- Primary clearing house in the U.S. for large banking transactions
- Privately owned by a consortium of FI
- CHIPS acts as a netting engine that provides both clearing and settlement services to its customer banks → payments between parties are netted against each other instead of the full dollar value of both trades being sent

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## How CHIPS Operate?

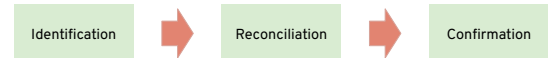
2 Steps in Processing Fund Transfers:

<b>Clearing</b>	<ul style="list-style-type: none"> <li>• <b>Transfer and confirmation of information between the payer</b> (sending financial institution) and <b>payee</b> (receiving financial institution)</li> </ul>
<b>Settlement</b>	<ul style="list-style-type: none"> <li>• Actual <b>transfer of funds</b> between the payer's financial institution and payee's financial institution</li> <li>• Settlement <b>discharge obligation</b> of payer financial institution to payee's financial institution with respect to the payment order</li> <li>• Final settlement are <b>irrevocable and unconditional</b></li> <li>• Finality of payment: <b>System's rules and applicable law</b></li> </ul>

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## How CHIPS Operate?

- Payment messages may be credit or debit transfers
- Most large-value funds transfer systems are credit transfer systems in which both payment messages and funds move from the payer financial institution to the payee financial institution
- Institution transmits a payment order to initiate a funds transfer
- Process of Payment Order for large value payment system:

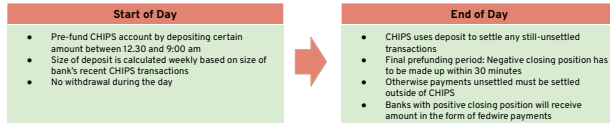


- Financial institution may contract with one or more third parties to help perform clearing and settlement activities

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## How CHIPS Operate?

- CHIPS provide **intraday** payment finality through a **real-time system**
- Payment Settlement either **individually**, **bilateral netting** or **multilateral netting**
- Payments with No Match: Payment not made till end of the day but is final as soon as it is made
- How Do Participants Facilitating Intraday Payments:



- CHIPS recently added electronic data interchange (EDI) capability which allow transmission of business information for payment along with their electronic funds transfers

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(c) In what ways is CHIPS different from the RTGS Fedwire?

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## CHIPS and RTGS Fedwire

- Both are competitors as settlement systems
- However, CHIPS is not just a competitor of Fedwire
- CHIPS is also a customer of Fedwire
- CHIPS pre-funding and ultimate CHIPS settlements are done over Fedwire

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## CHIPS and RTGS Fedwire

CHIPS	RTGS Fedwire
Hybrid settlement system	Gross settlement system
Delayed due to netting, hence suited for transactions that are <b>not time-sensitive</b>	<b>Real time</b> as transactions are processed individually, hence suited for transactions that are <b>time sensitive</b>
Less expensive charges	More expensive charges
Less funding required	More funding required
Privately owned by a consortium of financial institutions	Operated by the <b>Federal Reserve</b>
~50 member participants	~50,000 member banks

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**Thank  
you!**

