

How Money Actually Moves



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Value Touches Everything

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Learning Objectives:

TLO 2. Describe the processes by which money moves around the world and the information available to support investigations.

ELO 2.1 Explain the Real Time Gross Transfer Systems.

ELO 2.2 Explain the Automatic Clearing House process.

ELO 2.3 Describe the contents in Fedwire transfer and messaging.

ELO 2.4. Describe the contents in ACH transfers and processes.

ELO 2.5 Explain the SWIFT messaging process.

ELO 2.6 Describe the contents of SWIFT messaging.



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Financial Transfers for Banks, Businesses, and Government

- Can be time-critical transactions
- Same-day, instantaneous, or within acceptable periods
- Must be accurate with no room for error
- Need to deal with various currencies
- Can be leveraged by illicit actors as well

Use of these systems leaves footprints for us to follow

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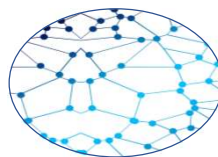
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The Value of Financial Information

- The information contained is not under the control of suspect parties and cannot be further manipulated.
- The systems are controlled by third parties, and they can be monitored live or otherwise accessed by legal means.
- The systems **MUST** contain accurate information or else transactions can fail.



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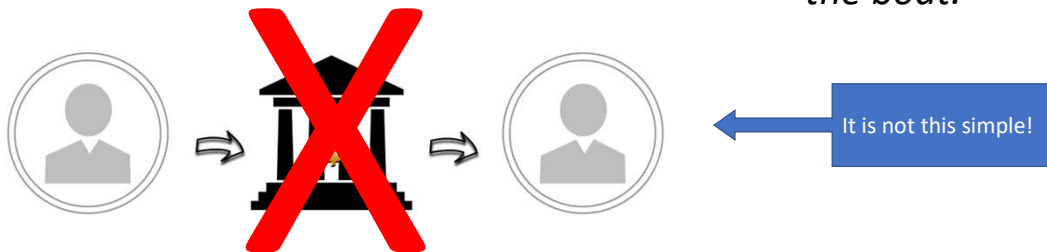


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Three Overall Rules For Financial Crime Investigators & Analysts:

1. Value touches everything
2. Money does not move without a purpose
3. Financial systems must contain accurate data

If all you get is a bank statement and checks, you are really missing the boat.



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Role of Real Time Gross Transfer Systems and Clearing Houses

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Financial Institution Payment Systems

- Real time gross transfer systems (RTGS)
- Each transaction is handled separately
- Transactions are one-way and difficult to reverse
- Process is a credit transfer system between members
- The process is expensive, so usually used for large amounts or time-critical transactions



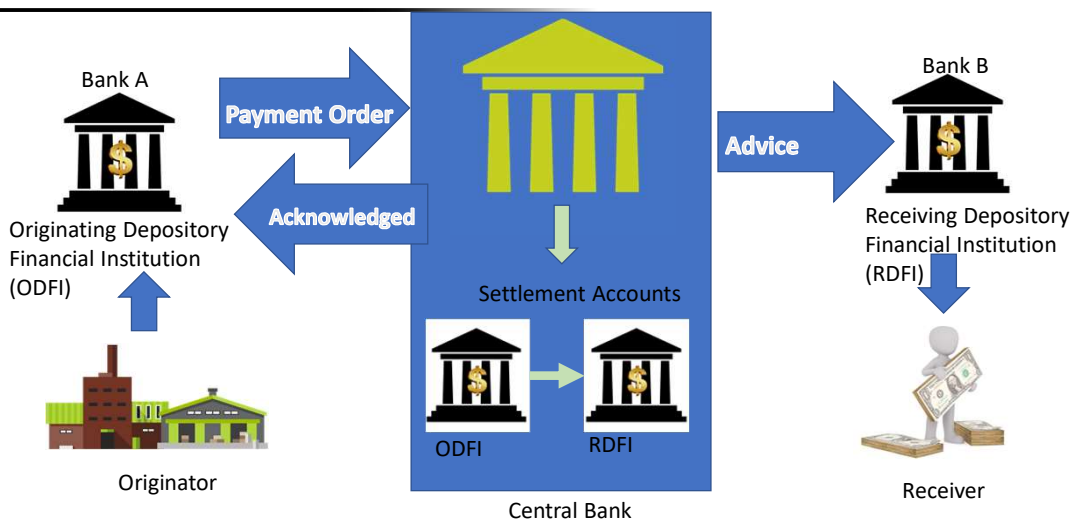
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FedWire Process (RTGS, generally)



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Fedwire Member Banks Both US Domestic and International Banks

0108141980C - OPS ACCT 1	BANK OF CANADA-OPER ACCT 1	NYNEW YORK	Y	N20080925
01081422NORGE	MORGE BANK- OPERATIONS ACCOUNT 1	NYNEW YORK	Y	N20081112
01081448SVEVIGES OPS ACCT1	SVEVIGES RIKSBANK-OPER ACCOUNT 1	NYNEW YORK	Y	N20110810
01081451AUSSI OPS ACCT 1	RESERVE BK OF AUSTRALIA-OPER ACCT 1	NYNEW YORK	Y	N20080925
01081464AFRICA	DEV.FUND AFRICAN DEVELOPMENT FUND-GEN ACCOUNT	NYNEW YORK	Y	N20150106
01081477AFRICA	DE EL FUNDACION DEVELOPMENT BK FUND FOR GLB	NYNEW YORK	Y	N20150107
01081493GORGIA	USAID ACCT/NATL BANK OF GEORGIA USAID ACCOUNT	NYNEW YORK	Y	N20081030
01081503SINGAPORE OPS	SINGAPORE OPS ACCT 1	NYNEW YORK	Y	N20090501
01081516KOREA OPS ACCT 1	BANK OF KOREA-OPERATIONS ACCOUNT 1	NYNEW YORK	Y	N20081125
01081529ZAMBIA RAMP	BANK OF ZAMBIA-RAMP ACCOUNT	NYNEW YORK	Y	N20081231
01081532ECB SLOVAKIA	ECB ACCT BK, NATL BK OF SLOVAKIA	NYNEW YORK	Y	N20081230
01081540AUSTRIA OPS ACCT	IOESTERREICHISCHE NATL BANK OPS ACCT	NYNEW YORK	Y	N20120417
01081541BELGIUM OPS ACCT1	BANQUE NATL. DE BELGIQUE OPS ACCT 1	NYNEW YORK	Y	N20120417
01081547CFRUS OPS ACCT1	CENTRAL BANK OF CYPRUS-OPS ACCT 1	NYNEW YORK	Y	N20091105
01081577FINLAND OPS ACCT1	SUOMEN PANKKI FINLANDS BK OPS ACCT	NYNEW YORK	Y	N20120418
01081590ELAP WASH	ELAP WASH ACCOUNT	NYNEW YORK	N	N20141107
01081613FRANCE OPS ACCT1	BANQUE DE FRANCE - OPS ACCT 1	NYNEW YORK	Y	N20120418
01081626GERMANY OPS ACCT1	DEUTSCHE BUNDESBANK OPER ACCT 1	NYNEW YORK	Y	N20090320
01081639GREECE OPS ACCT1	BANQUE DE GRECE OPS ACCT 1	NYNEW YORK	Y	N20141121
01081642IRELAND OPS ACCT1	CENT BK OF IRELAND OPS ACCT 1	NYNEW YORK	Y	N20100225
01081655ITALY OPS ACCT 1	BANCA D ITALIA OPS ACCT 1	NYNEW YORK	Y	N20151023
01081668LUXEMBOURG OPERACT1	CB LUXEMBOURG OPS ACCT 1	NYNEW YORK	Y	N20120418
01081671MALTA OPS ACCT 1	CENTRAL BANK OF MALTA OPS ACCT 1	NYNEW YORK	Y	N20091105
01081684NETHERLANDS OPS1	DE NEDERLANDSCHE BANK NV OPS ACCT 1	NYNEW YORK	Y	N20120418
01081697PORTUGAL OPS ACCT1	BANCO DE PORTUGAL OPS ACCT 1	NYNEW YORK	Y	N20091105
01081710BOSNIA CB	CENTRAL BANK OF BOSNIA AND HERZEGOVINA	NYNEW YORK	Y	N20171031
01081723SLOVENIA OPS ACCT1	BANK OF SLOVENIA OPS ACCT 1	NYNEW YORK	Y	N20120418
01081736PAIN OPS ACCT1	BANCO DE ESPANA OPS ACCT 1	NYNEW YORK	Y	N20100329
01081752MIGA ACCT GEN	MIGA ACCT GEN/FOREIGN DEPARTMENT	NYNEW YORK	Y	Y
01081778TANZANIA RAMP	BANK OF TANZANIA RAMP ACCT	NYNEW YORK	Y	N20031014
01081790MEXICO OPS ACCT1	BANCO DE MEXICO SA	NYNEW YORK	Y	N20100323
01081804BOTSWANA PULA FUND	BANK OF BOTSWANA PULA FUND	NYNEW YORK	Y	N20150326
01081817KENYA RAMP	CENTRAL BANK OF KENYA-RAMP ACCOUNT	NYNEW YORK	N	N20170126
01081832CB DES ACCT DE	REDESIGNATED ACCOUNT DE	NYNEW YORK	Y	N20090228
01081859FB SP OPS ACCT2	FRSBY SPECIAL OPERATIONS ACCOUNT 2	NYNEW YORK	Y	N20090304
01081868FB SP OPS ACCT 1	FRSBY SPECIAL OPERATIONS ACCOUNT 1	NYNEW YORK	Y	N20080327

Banks Database
FedACH and Fedwire routing numbers.

FedWire participants Search

Search FedWire Participant by State
AK AL AR AS AZ CA CO CT DC DE FL GA GU HI IA ID IL IN KS KY LA MA MD ME MI MN MO ND NE NY OH OK OR PA PR RI SC SD TN TX UT VA WI WY WA WV WV WY

Search FedWire Participant by Name

1 2 3 4 >>>

A E A FEDERAL CREDIT UNION
City: TAMM
State: AZ
Routing number: 32217037
Learn more about A E A FEDERAL CREDIT UNION

AERO FEDERAL CREDIT UNION
City: GLENDALE
State: AZ
Routing number: 32217004
Learn more about AERO FEDERAL CREDIT UNION

ALLIANCE BANK OF ARIZONA
City: PHOENIX
State: AZ
Routing number: 12210580
Learn more about ALLIANCE BANK OF ARIZONA

ARIZONA BUSINESS BANK PHOENIX
City: PHOENIX
State: AZ
Routing number: 12210580

Bank Info :: Home. FedACH and Fedwire routing numbers. ABA. (n.d.). Bankinfos.Org. <https://bankinfos.org/>

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Fedwire Message Content

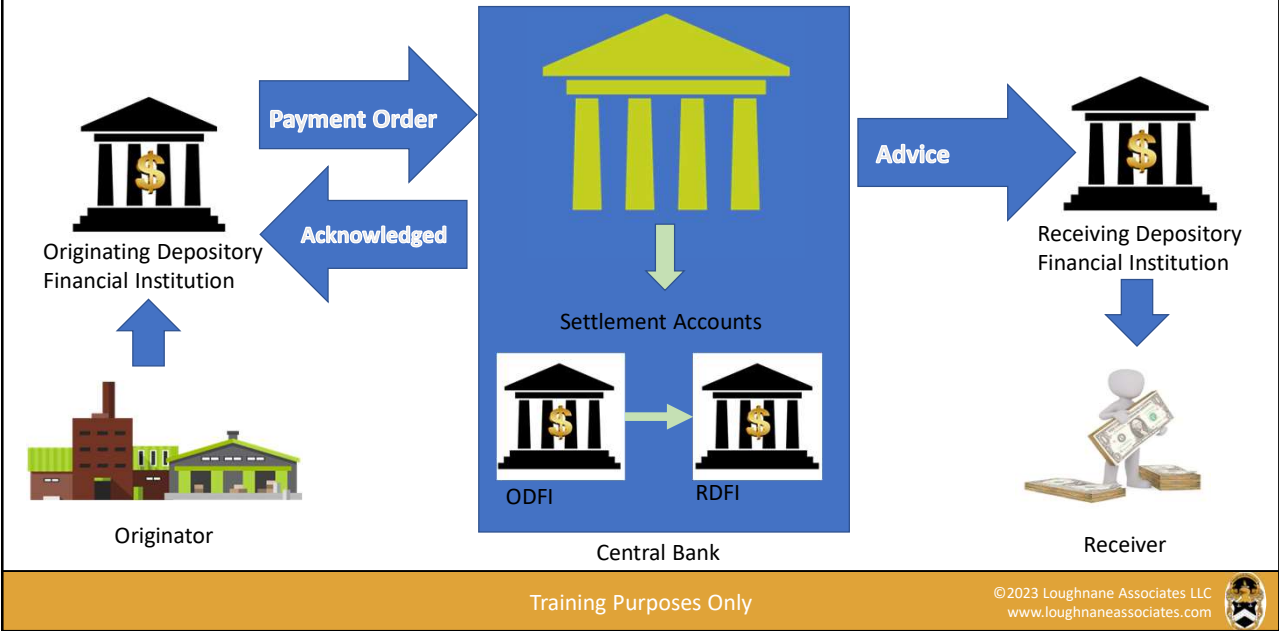
OMAD	←	Output Message Accountability Data
Type/Subtype	←	Type of transaction
OMAD	←	Output Message Accountability Data
IMAD	←	Input Message Accountability Data
Amount	←	Amount
Sender DI	←	Sender bank ABA#/Short bank name
Receiver DI	←	Receiver bank ABA#/ Short bank name
Business Function Code	←	Purpose of transfer, customer transfer
Beneficiary's FI	←	Identify beneficiary bank, account number
Beneficiary	←	Name, address, account
Reference for Beneficiary	←	Reference for beneficiary such as text, like "invoice," "fee," etc.
Originator's FI	←	Identification of originator's bank
Originator to BNF INF	←	Information from originator to beneficiary
FI to FI	←	Additional information about disposition of funds

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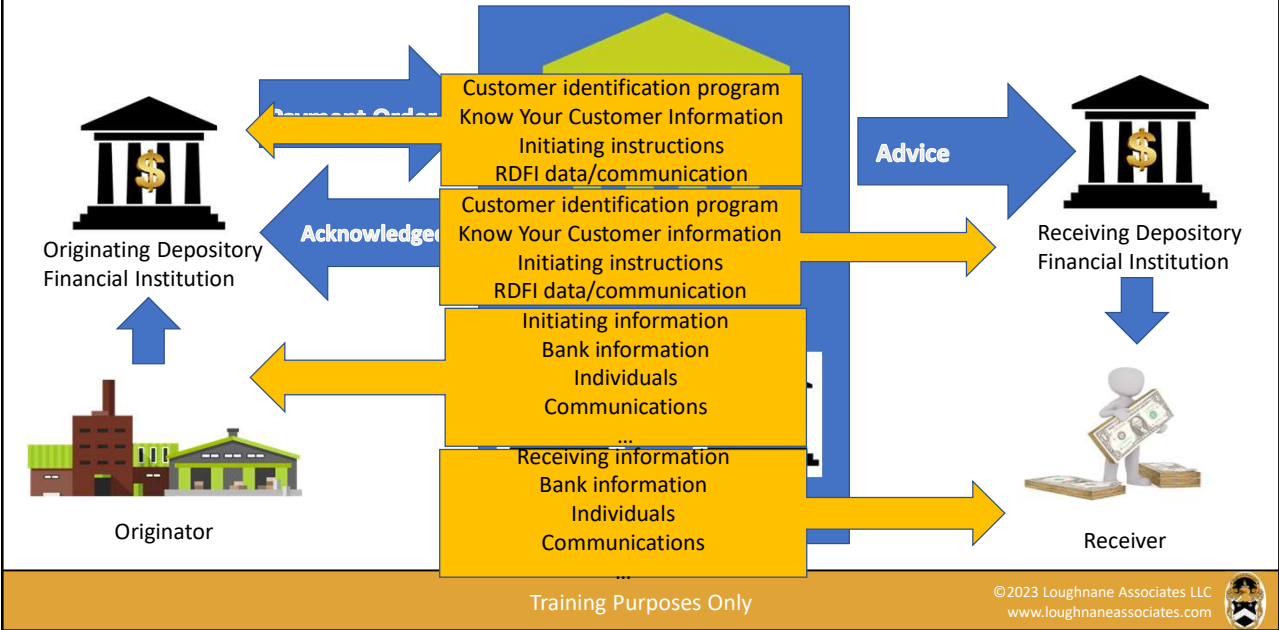


Information Sources



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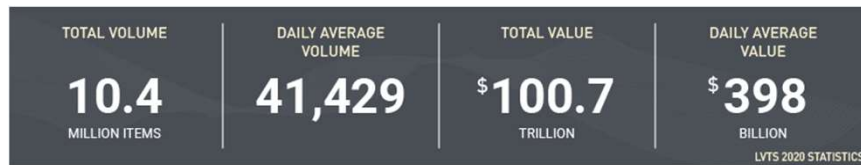
Information Sources



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Canada – Large Value Transfer System

- Settlements take place in member accounts with the Bank of Canada at the end of each day
- Uses SWIFT messaging (MT205 and MT209)
- Payments in Canadian dollars across the country between FIs
- Members connect via Canadian Payments Association Services Network - owned by Payments Canada (payments.ca)
- Funds are credited in “near real-time”



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Canada – LVTs Members (payments.ca)

OUR DIRECTORIES | INDUSTRY INFO | RESOURCES | ABOUT US

Home > Our Directories > Participant Financial Institutions

OUR DIRECTORIES

- Participant Financial Institutions
- Financial Institutions Branch Directory
- Financial Institutions File
- Corporate Creditor Identification Number Database
- Self-Accredited Cheque Printers
- Retail System (ACSS) Direct and Group Clearers
- High-Value System (LVTs) Participants

Participant Financial Institutions

Search

Institution number	Financial institution	Class	Street address	City	Province	Postal code
366	China Construction Bank Toronto Branch	Authorized foreign banks	181 Bay Street, Suite 3650	Toronto	ON	M5J 2T3
328	Citibank, N.A.	Authorized foreign banks	123 Front Street West, 10th Floor	Toronto	ON	M5J 2M3
330	Comerica Bank	Authorized foreign banks	Suite 2200, South Tower, Royal Bank Plaza, P.O. Box 61	Toronto	ON	M5J 2J2
265	Deutsche Bank AG	Authorized foreign banks	199 Bay Street, Suite 4700, Commerce Court West	Toronto	ON	M5L 1E9

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Clearing House Interbank Payments System (CHIPS)

- 90% of US dollar funds transfers move transnationally
- Recent figures reveal an approximate average of 280,000 transactions per day with a total monetary value of \$1.4 trillion

Fundamentals of the Funds Transfer Process. (unk). U.S. Department of the Treasury Financial Crimes Enforcement Network.
https://www.fincen.gov/sites/default/files/shared/Appendix_D.pdf

- System in the United States
- Like Fedwire, provides a real-time final settlement system
- Provides transmission and settlements services
- Unlike Fedwire, CHIPS is owned by the financial institutions that use it:



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Automated Clearing House (ACH) Systems

- FedACH and Clearing House Interbank Payments System (CHIPS) are Electronic Payments Networks (EPN)
- Receive ACH files about payments from ODFIs
- Edit and sort payments, and deliver the payments to RDFIs and settle the payments by crediting and debiting the depository financial institutions' settlement accounts
- Business-to-Business payments exchange both data and funds with trading partners, facilitating an automated process of updating their accounts receivable and accounts payable systems



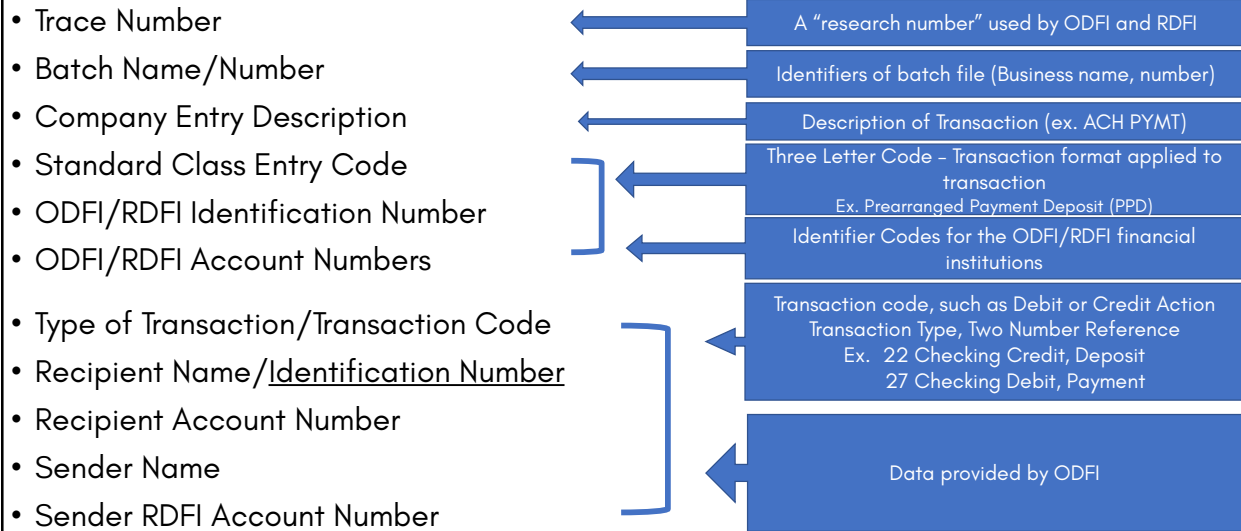
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ACH Data (formatted to NACHA guidelines)



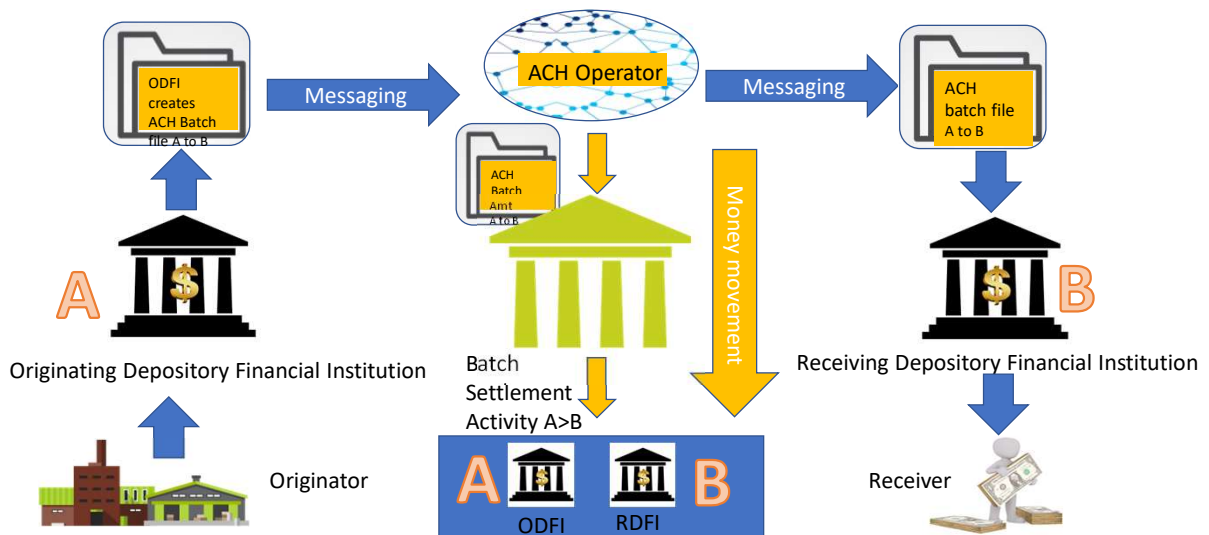
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ACH Process (FedACH and Clearing House)



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SWIFT Messaging

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SWIFT – A "Virtual Messenger"

- Banks use VPN lines, email, telex, fax, or specialized messaging providers such as SWIFT
- SWIFT is an electronic process used to communicate financial and business information between banks
- Banks exchange instructions, confirmations, and reports



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Why SWIFT?

- Used if two banks don't have direct relations between themselves, perhaps through intermediary banks or correspondent accounts
- There can be as many as four (or more) banks in a single transfer
- Any given transfer relies on the banks concerned exchanging information



SWIFT CTF Policy

- "SWIFT is global, thus SWIFT users around the world are not subject to a single set of rules, but to a variety of different compliance rules - such as those that might relate to illicit and terrorist financing. "
- SWIFT does not monitor or control the messages going through system
- Legitimacy rests with the Financial Institutions
- "...effectively acting as a secure postman..."
- KYC, AML and CTF responsibilities rest with the banks



Illicit Finance Focus

1. Remain in compliance with internal policy and rules
2. Assist system users with support needed for their own compliance
 - Setting messaging standards
 - Sanctions Screening system
 - (Transaction Screening, Name Screening, Sanctions Testing)
3. Modified Cover Payment message processes for information sharing
4. Ordering and Beneficiary Information is embedded in messages

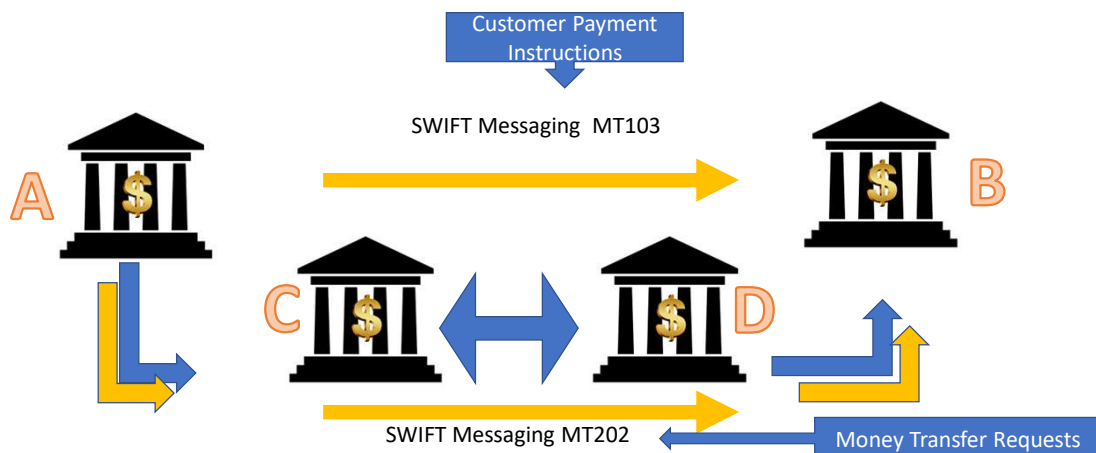
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Cross Border Payments “Cover Payments”



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Law Enforcement Requests To SWIFT (EU-US TFTP Agreement)

- SWIFT will not disclose to any third party without customer permission
- US Law Enforcement Requests are processed through the OFAC Terrorist Finance Tracking Program (TFTP)
- SWIFT is required to provide only data the Treasury Department believes will be necessary in combating terrorist financing, based on past analyses focusing on message types and geography, as well as perceived threats and vulnerabilities

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SWIFT Subpoenas Must Be Detailed

- Searches are narrowly tailored to minimize the extraction of messages that are not relevant to a terrorism investigation
- The data provided by SWIFT are searched to extract only information that is related to an identified, preexisting terrorism investigation
- This means that every search that is conducted must specifically cite and record documented evidence supporting the belief that the target is connected with terrorism or its financing

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SWIFT BIC Codes

- The standard format of Business Identifier Codes (BIC)
- It is a unique identification code for a particular bank
- BIC codes are used for messaging between FIs
- The SWIFT code consists of 8 or 11 characters:
 - **“BIC-8” refers to 8-digit code for the FI’s primary office**
 - **“BIC-11” is an 11-digit code points to a specific branch**



<http://www.thswiftcodes.com/countries/>

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Sample of BIC Codes (US)

No	Bank or Institution	City	Branch Name	Swift Code
1	1ST CENTURY BANK, N.A.	LOS ANGELES,CA		CETYUS66
2	1ST ENTERPRISE BANK	LOS ANGELES,CA		FEBKUS6L
3	1ST UNITED BANK	BOCA RATON,FL		HEMSUS3M
4	3M COMPANY	ST. PAUL,MN		MMMCUS44
5	ABACUS FEDERAL SAVINGS BANK	NEW YORK,NY		AFSBUS33
6	ABBAY NATIONAL TREASURY SERVICES LTD US BRANCH	STAMFORD,CT		ANTSUS33
7	ABBVIE, INC.	CHICAGO,IL		ABBVUS44
8	ABEL/NOSE CORP	NEW YORK,NY		ABENUS3N
9	ABERCROMBIE AND FITCH CO.	NEW ALBANY,OH		ANFCUS33
10	ABN AMRO CAPITAL USA LLC	NEW YORK,NY	(SEC FINANCING)	FTSBUS33SFI
11	ABN AMRO CAPITAL USA LLC	NEW YORK,NY		FTSBUS33
12	ABU DHABI INTERNATIONAL BANK INC.	WASHINGTON,DC		ADIBUS33
13	ACI CAPITAL GROUP, LLC	NEW YORK,NY		ACIXUS33
14	ACUPAY SYSTEM LLC	NEW YORK,NY		ACPYUS33
15	ADP CLEARING AND OUTSOURCING SERVICES INC.	NEW YORK,NY		ADPCUS33
16	ADP GLOBAL PROXY SERVICES	EDGEWOOD,NY		ADPGUS33

MMMC= 3M Company
US = United States
44 = Primary Office

FTSB = ABN AMBRO Cap.
US = United States
44 = 33 Primary Office
SFI = Branch (Sec Finance)

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Checks

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Bank Checks

- Written instructions that direct the bank to pay the bearer a specific amount.
- Checks can be cashed or deposited.
- **Restrictive Endorsement:** Ensures that a check will be deposited into a specific account
- **Blank Endorsement:** The back of a check is signed without any added restrictions.
- The funds are drawn from the payor's bank account. It is another way to instruct the bank to transfer funds from the payor's account to the payee or the payee's account.



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Check Types

Certified check

- A check for which the issuing bank guarantees that enough cash will be available in the holder's account when the recipient decides to use the check. A certified check also verifies that the account holder's signature on the check is genuine.

Cashier's check

- A check drawn from the bank's own funds, not the customer's, and signed by a cashier or teller. Unlike a regular check, the bank, not the check writer, guarantees payment of a cashier's check

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Check Types

Payroll check

- Checks employers use to pay their employees. Payroll checks are issued for work performed during a given pay period. Checks are typically remitted to employees as physical checks or electronic deposits into employees' bank accounts using electronic funds transfer (EFT).

Traditional check

- Checks to instruct the bank to transfer funds from the payor's account to the payee's account. The funds are drawn from the payor's bank account.

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Two Sides of a Check



FRONT



BACK

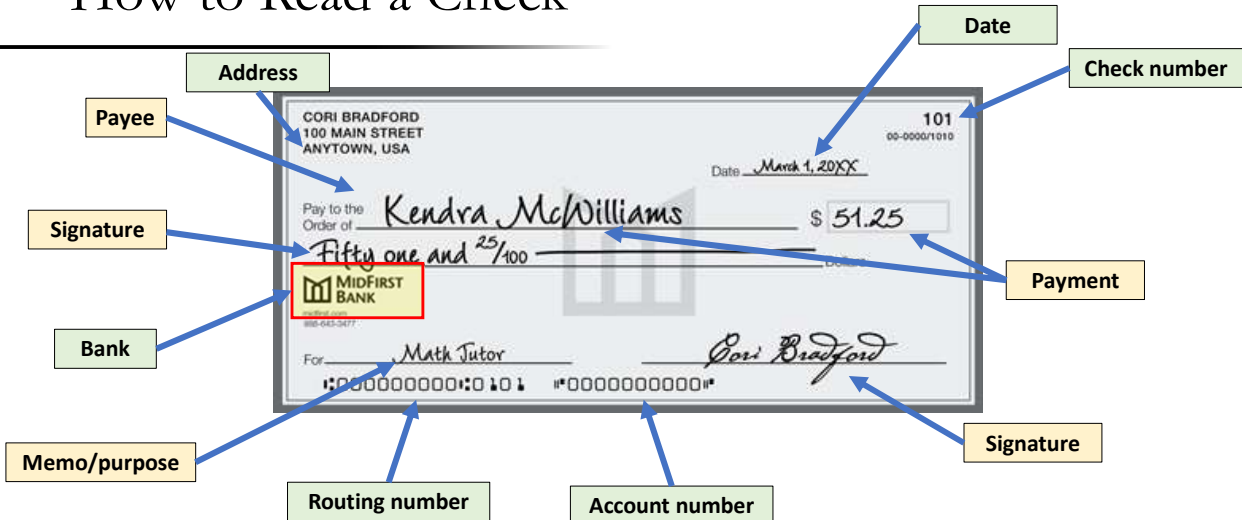
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How to Read a Check

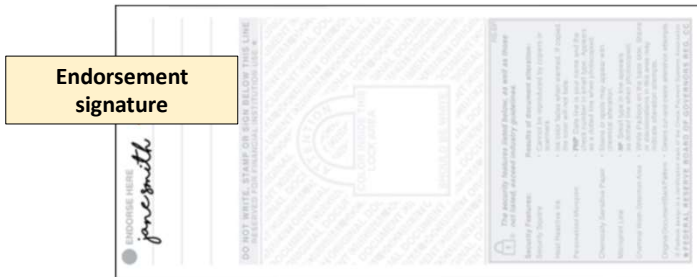


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- **Signed by the payee**
- **Must be aware if this is a restrictive or blank endorsement**



Criminal Exploitation of Checks

- Bank customers can become money mules who write checks from accounts funded by criminal proceeds.
- The payees can control **funnel accounts** that receive deposits
 - Teller, ATM deposit, or mobile banking check scanning
- Front companies can use commercial checking accounts to transfer funds globally.
- Criminal players can exploit all four types of checks.
- Cashier's checks are used to store or hide funds.
 - Usually bearer-cashable check



Criminal Exploitation of Checks

- Check can be exploited in many forms by criminal actors to fund unlawful activity or to launder proceeds of crime.
- Some illicit finance tactical uses:
 - Placement of proceeds into funnel accounts
 - Use to move funds
 - Layer the proceeds
 - Used in TBML operations
 - Fund funnel accounts using money mules with checks
 - Many others

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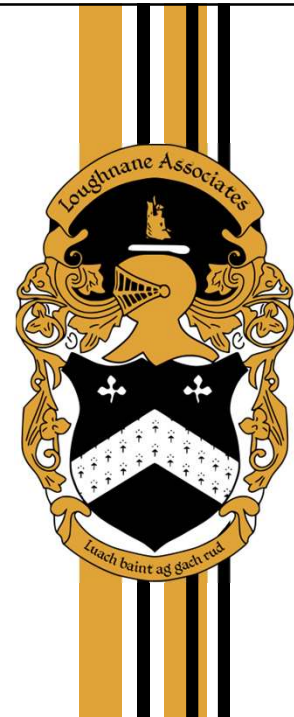
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Questions?

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