

# A world without blockchain

28 December 2016 :: 33C3  
Mark van Cuijk :: @phedny

This talk is not about politics

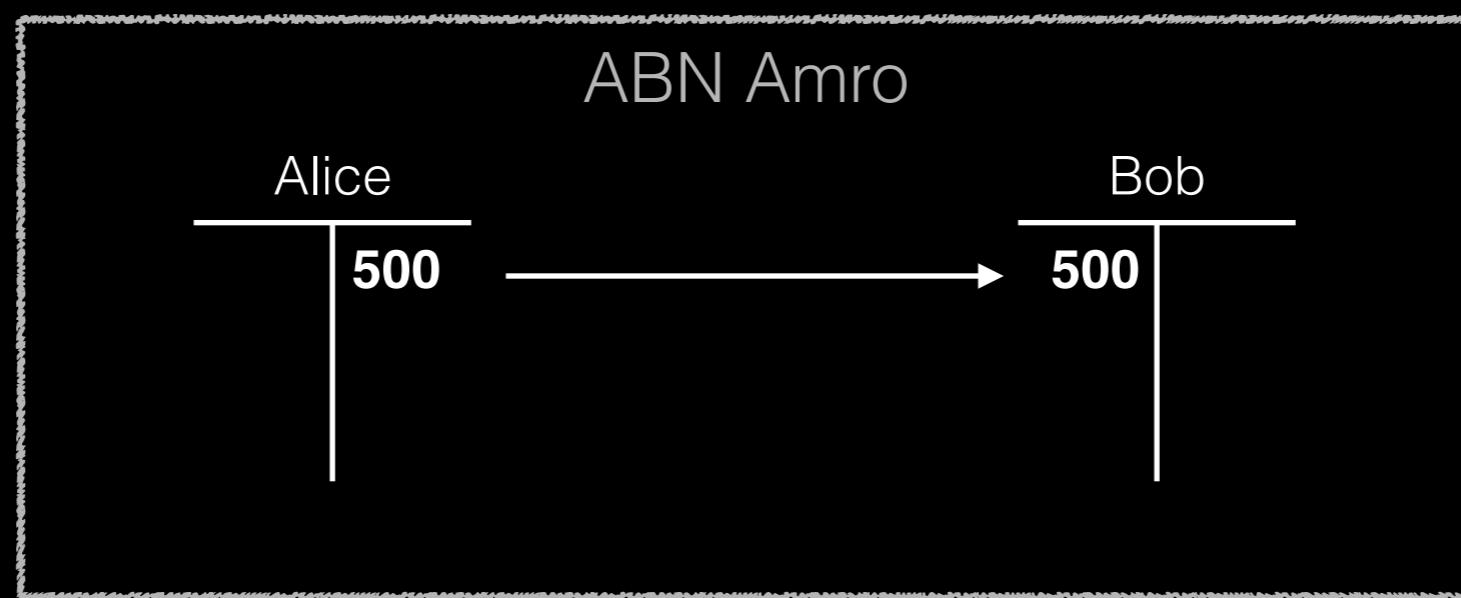
Banks have departments

Payment department

Risk averse

# Financial model

Book transfer



ABN Amro

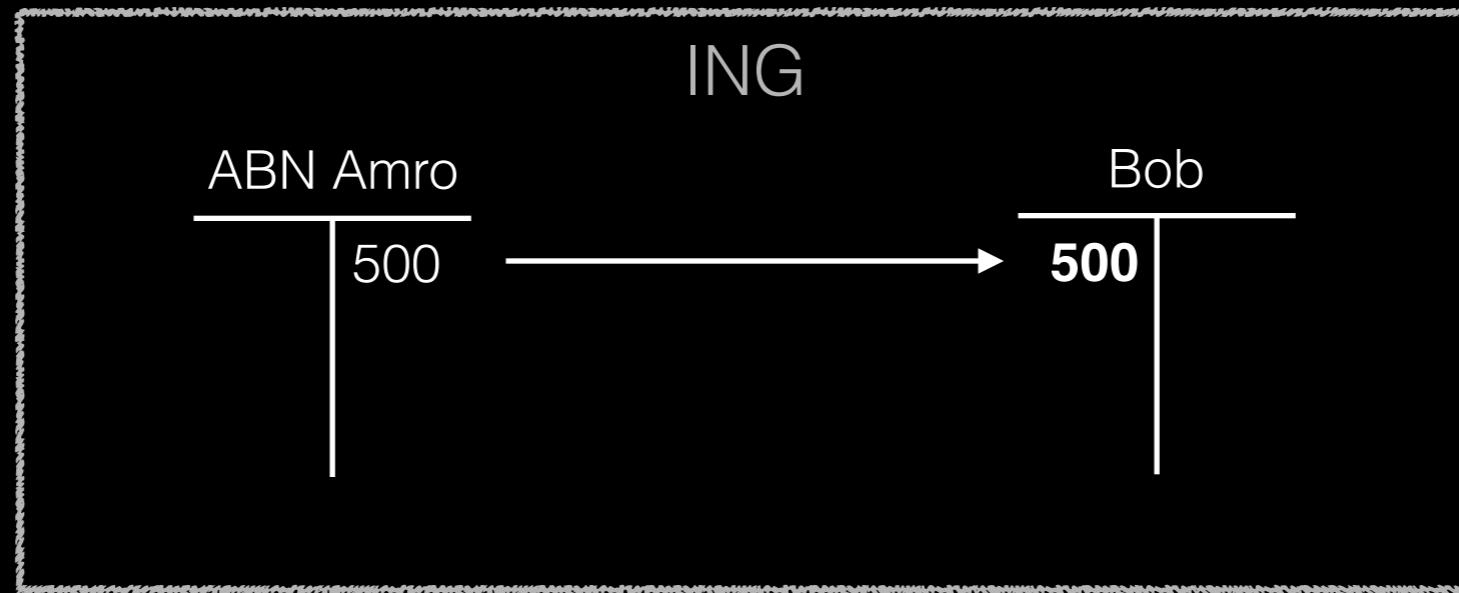
Alice

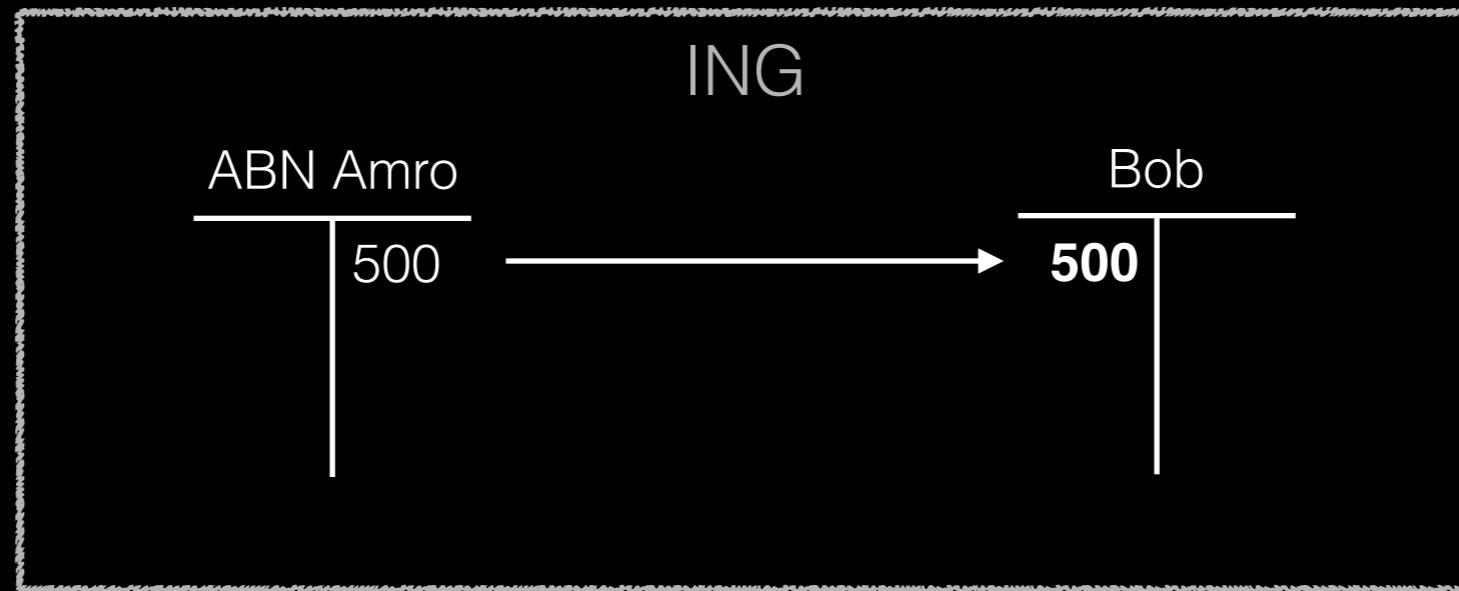
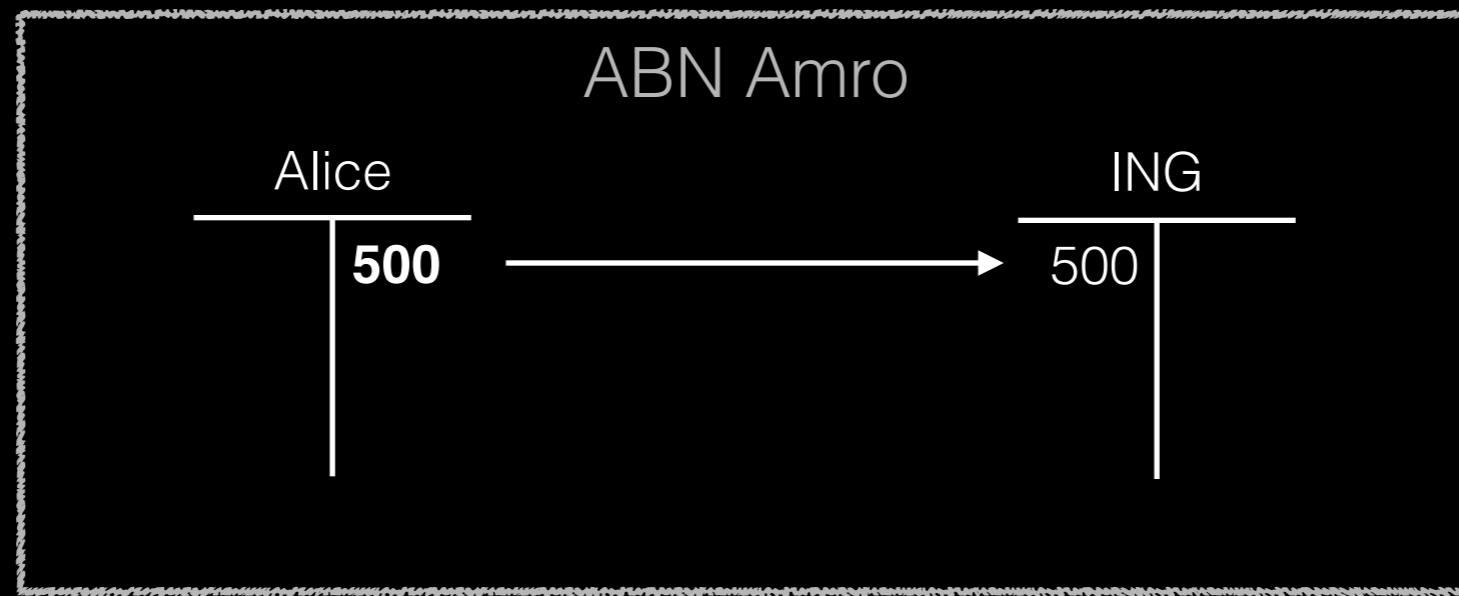
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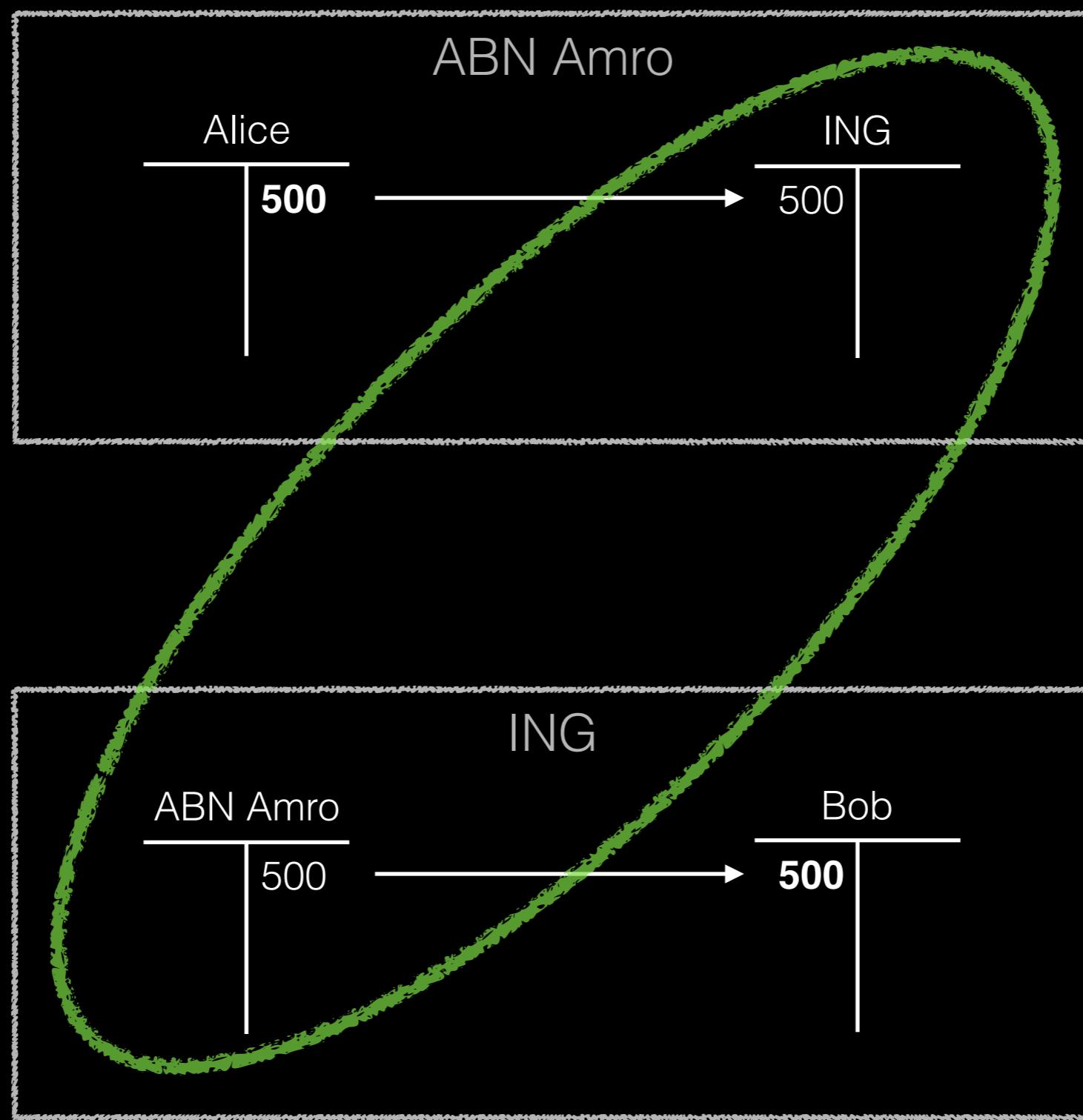
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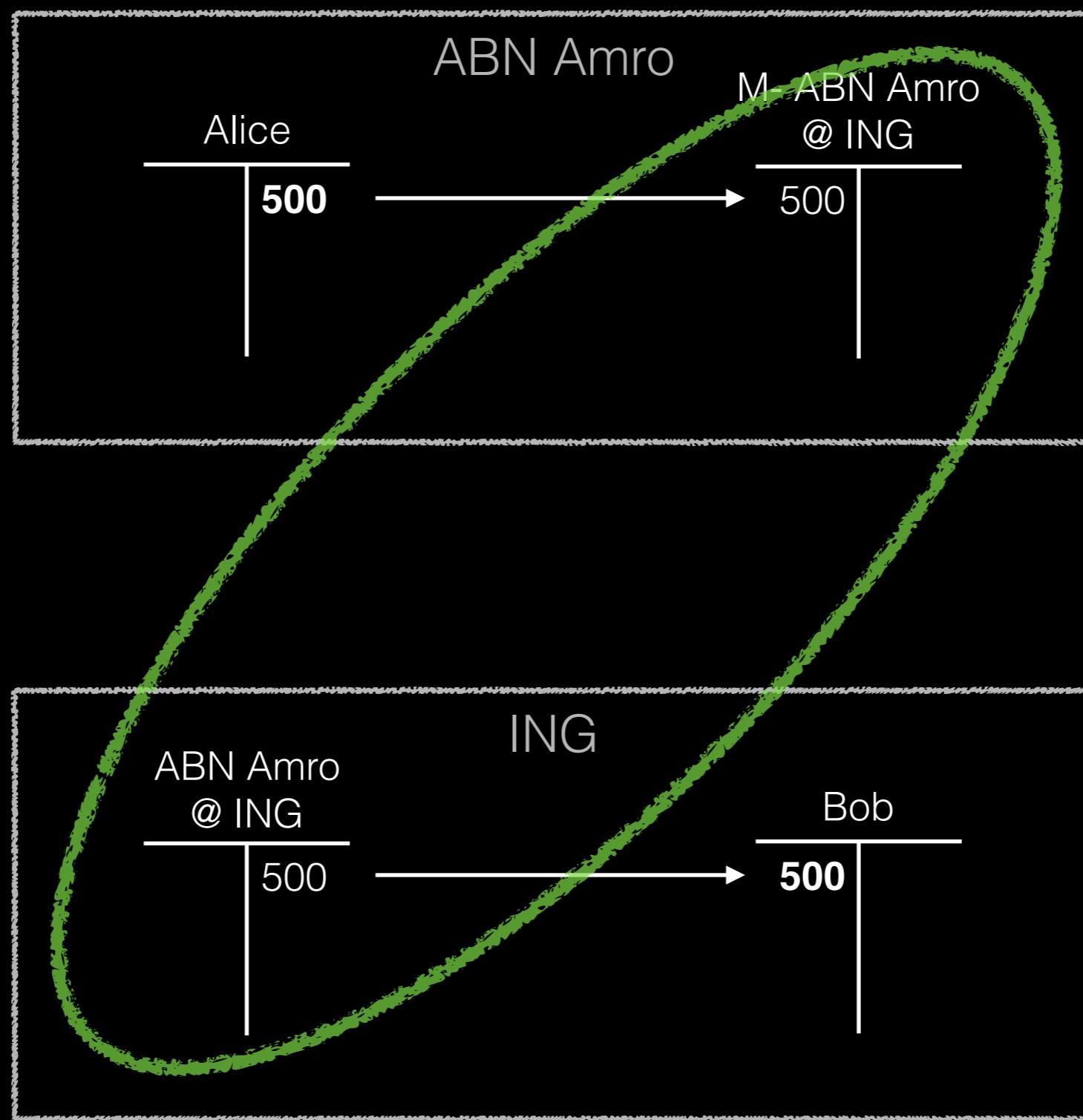
Bob

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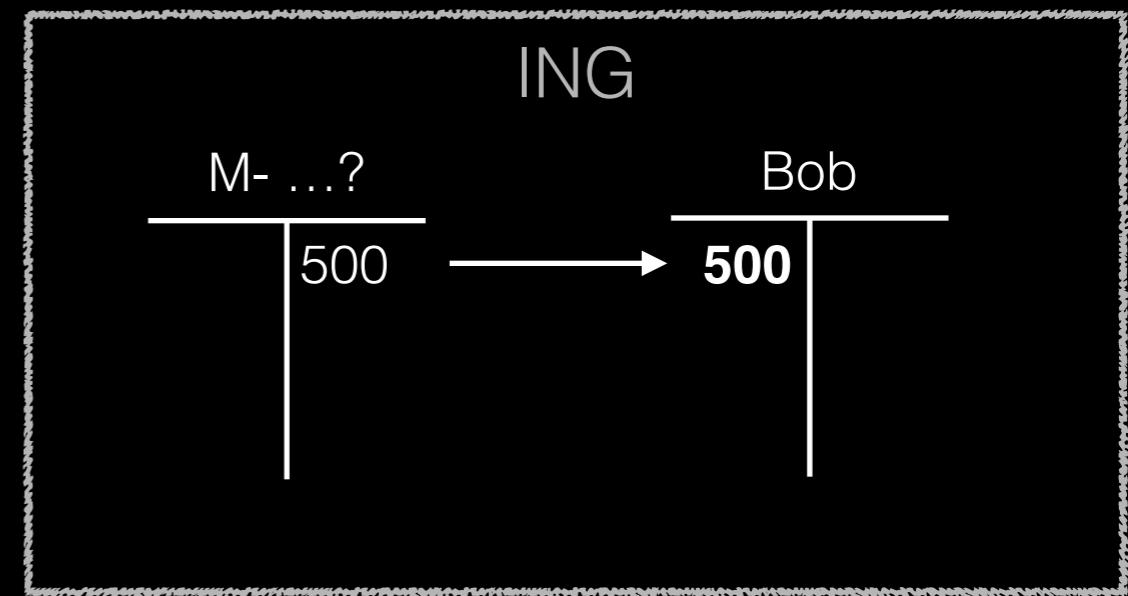
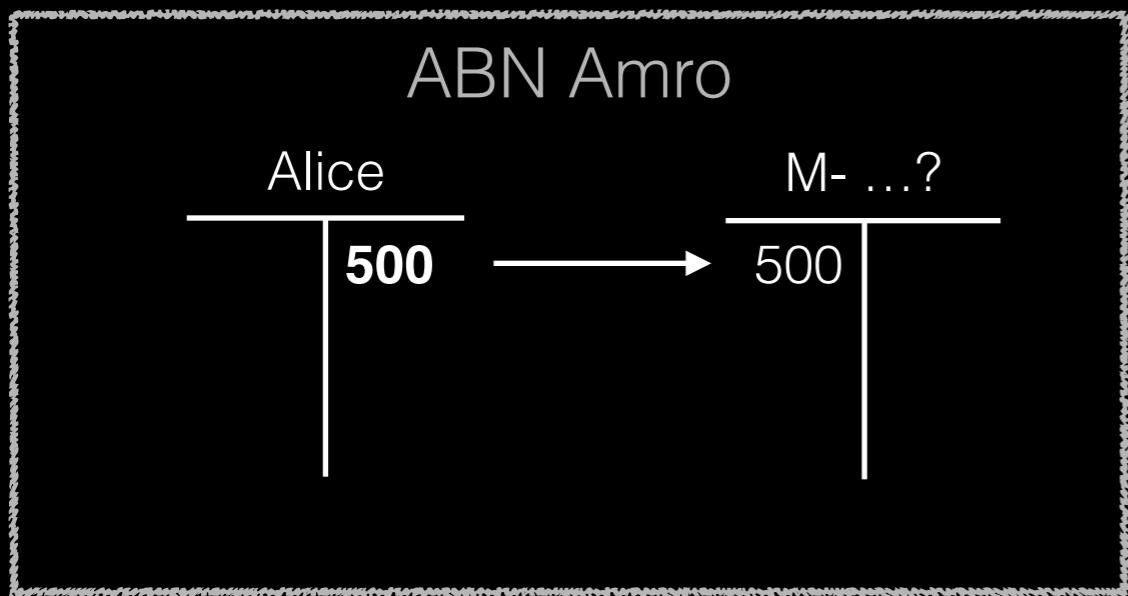


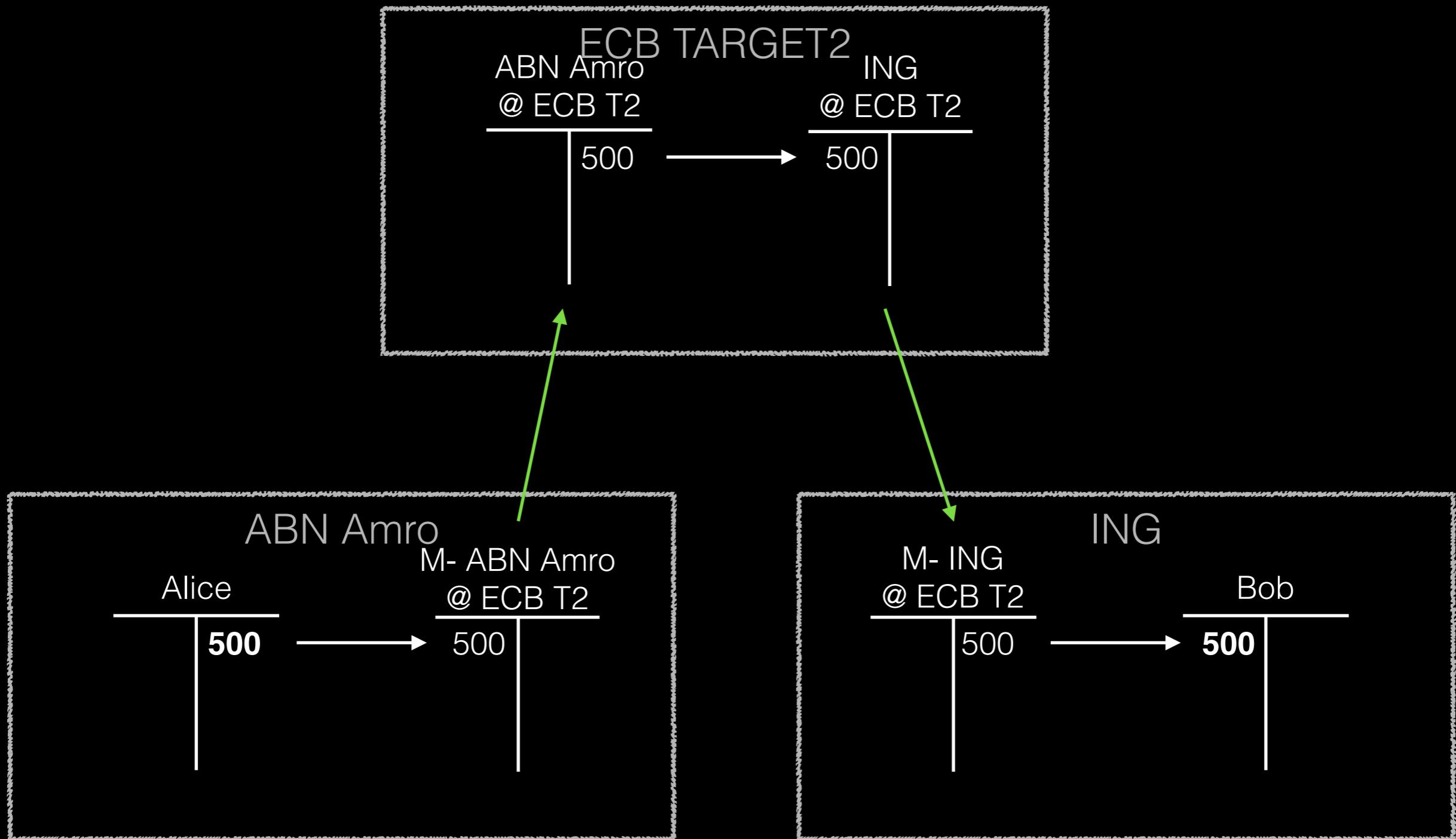






Risk averse



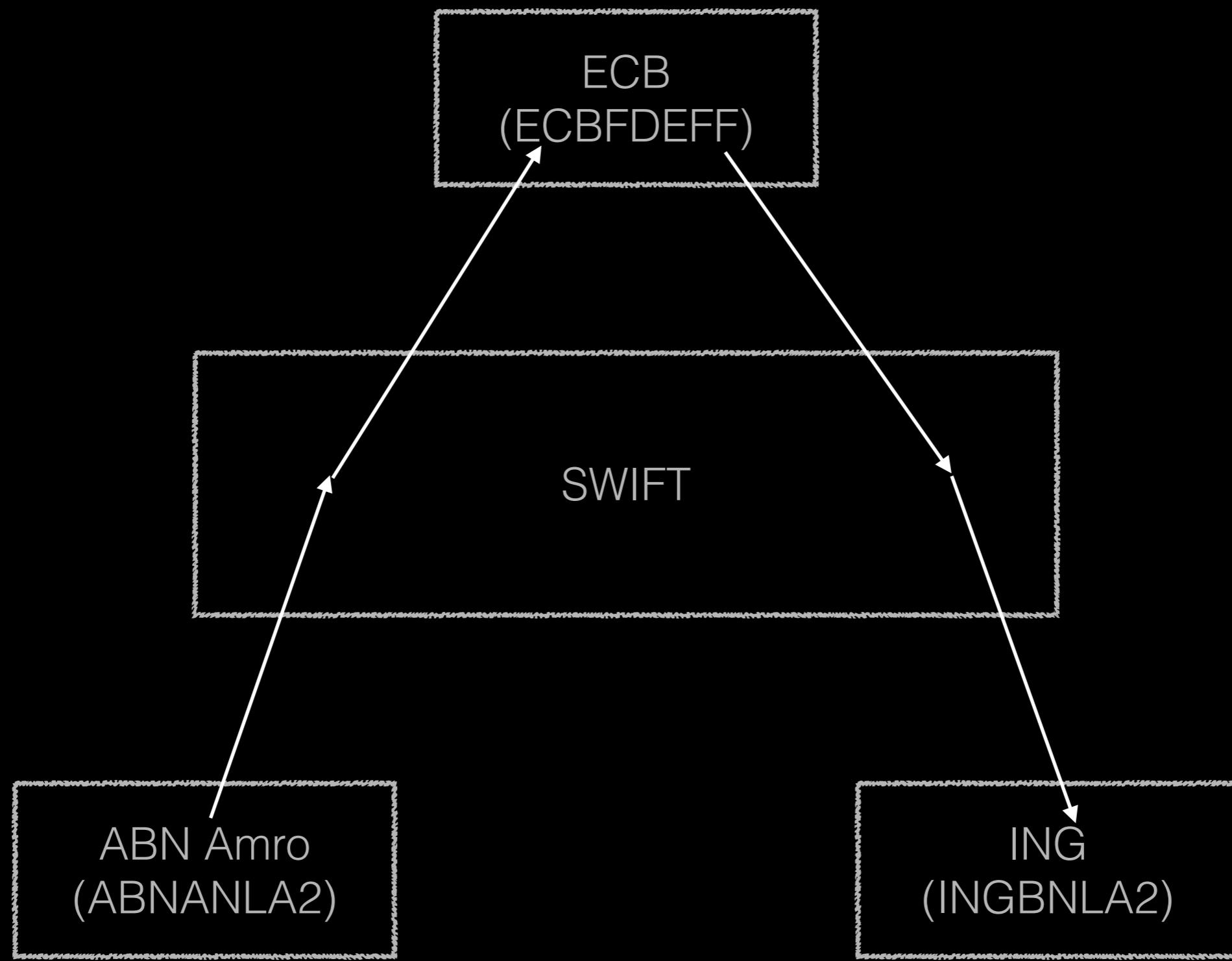


# Interbank messaging

# SWIFT

*Society for Worldwide Interbank Financial Telecommunication*

# Communication network



# Message definitions

MT and MX

MT for Message Type

MTxxx

*MT103, MT202, MT910, ...*

# MX in XML

*PACS.008, PACS.009, CAMT.054, ...*

**MT103**

*Single Customer Credit Transfer*

{1:F01AAAAGRA0AXXX0057000289}{2:O1030919010321BBBBGRA0AXXX00570001710103210920N}{4:  
:20:5387354  
:23B:CRED  
:23E:PHOB/20.527.19.60  
:32A:000526USD1101,50  
:33B:USD1121,50  
:50K:FRANZ HOLZAPFEL GMBH  
VIENNA  
:52A:BKAUATWW  
:59:723491524  
C. KLEIN  
BLOEMENGRACHT 15  
AMSTERDAM  
:71A:SHA  
:71F:USD10,  
:71F:USD10,  
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-}{5:{MAC:75D138E4}{CHK:DE1B0D71FA96}}

PACS.008

*FI To FI Customer Credit Transfer*

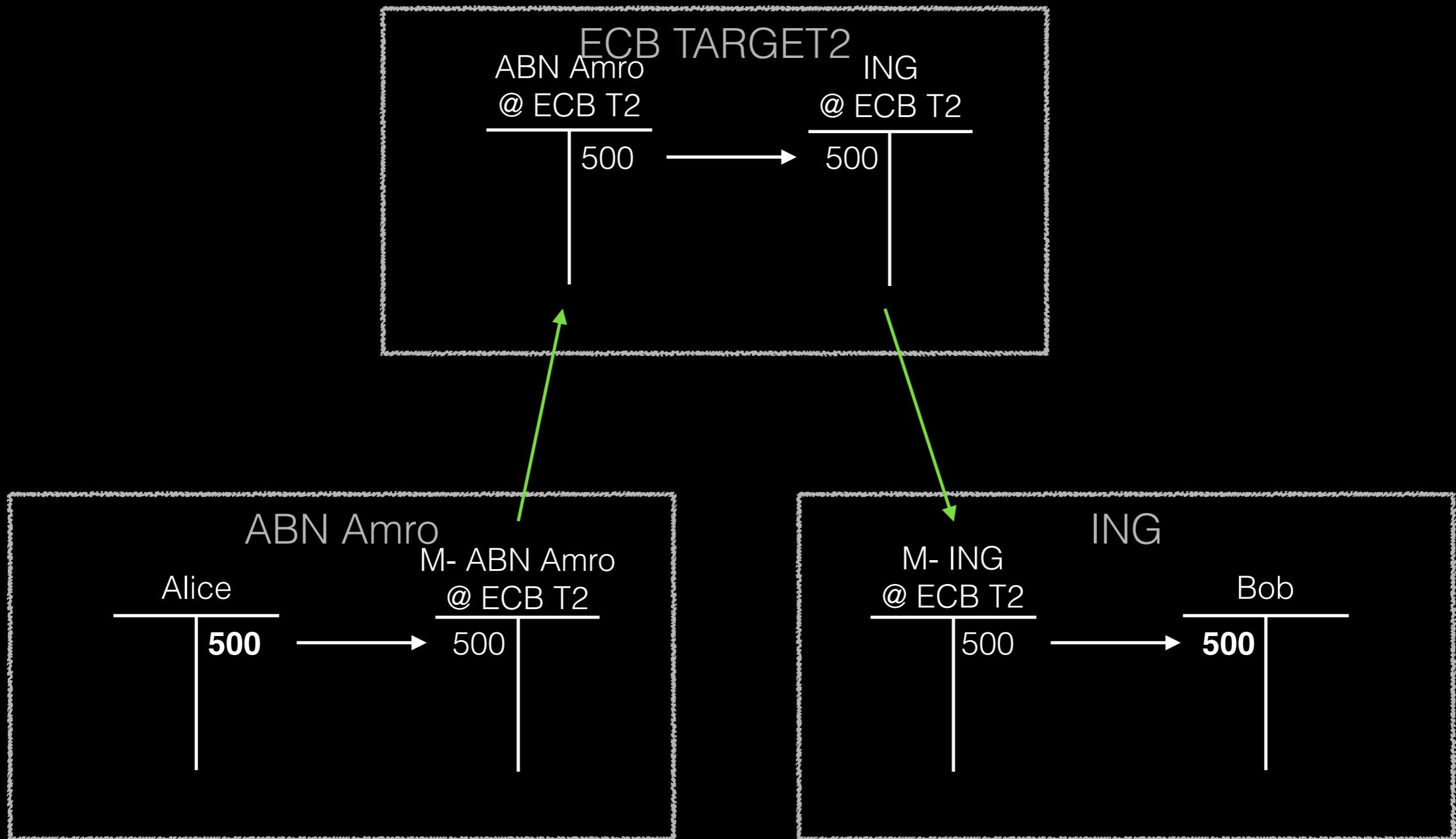
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<SCLSCT:RcvgInst>AAAADEBBXXX</SCLSCT:RcvgInst>
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<SCLSCT:FIToFICstmrcdtTrf xmlns="urn:iso:std:iso:20022:tech:xsd:sct:pacs.008.001.02">

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</GrpHdr>

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```



# TARGET2 is RTGS

*Real-Time Gross Settlement system*

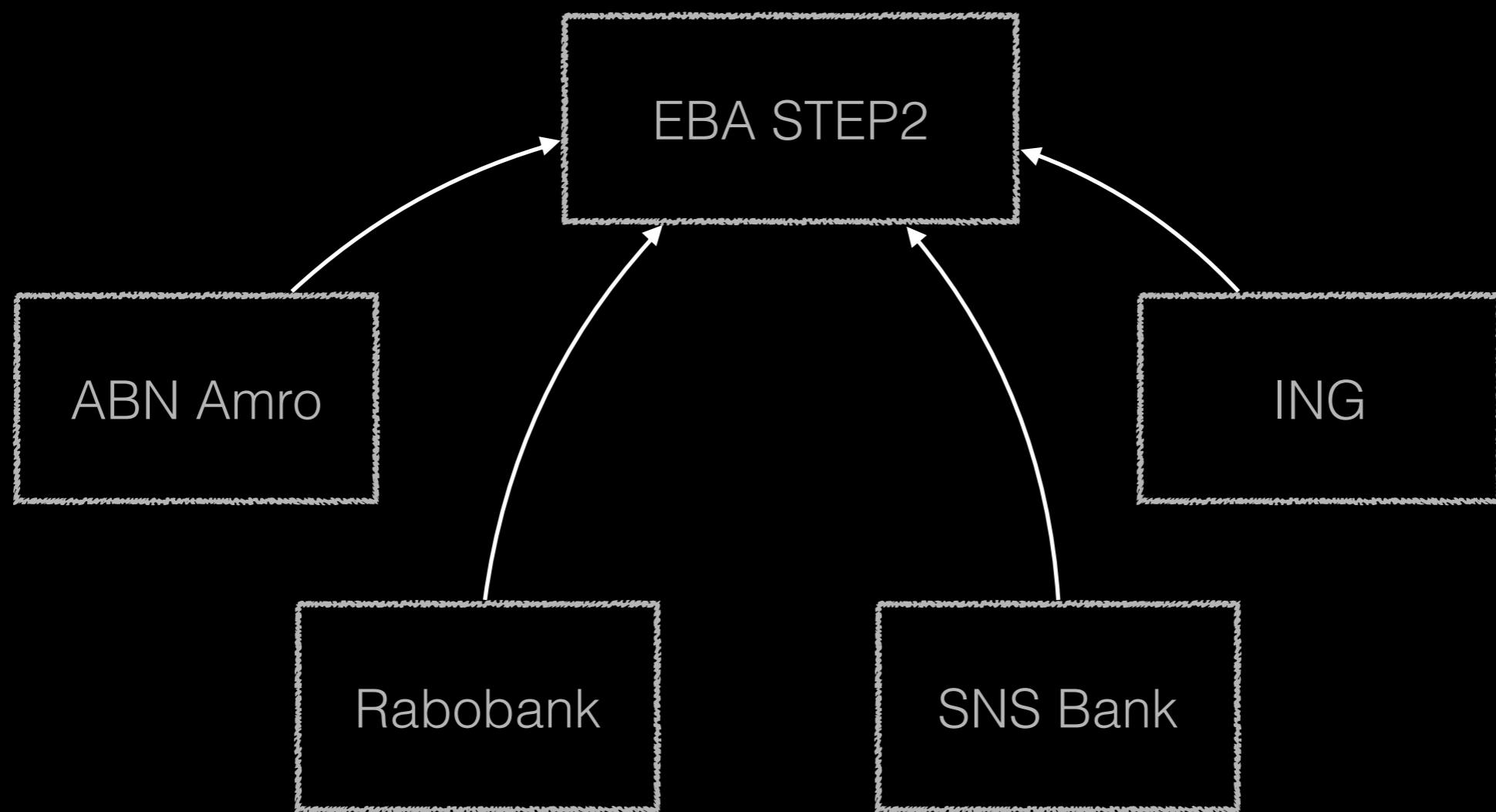
# TARGET2 transactions are expensive

*Option A: EUR 150/month + EUR 0.80/transaction*

*Option B: EUR 1875/month + EUR (0.125 ~ 0.60)/transaction*

# Netting batches

ECB TARGET2



ECB TARGET2

EBA STEP2

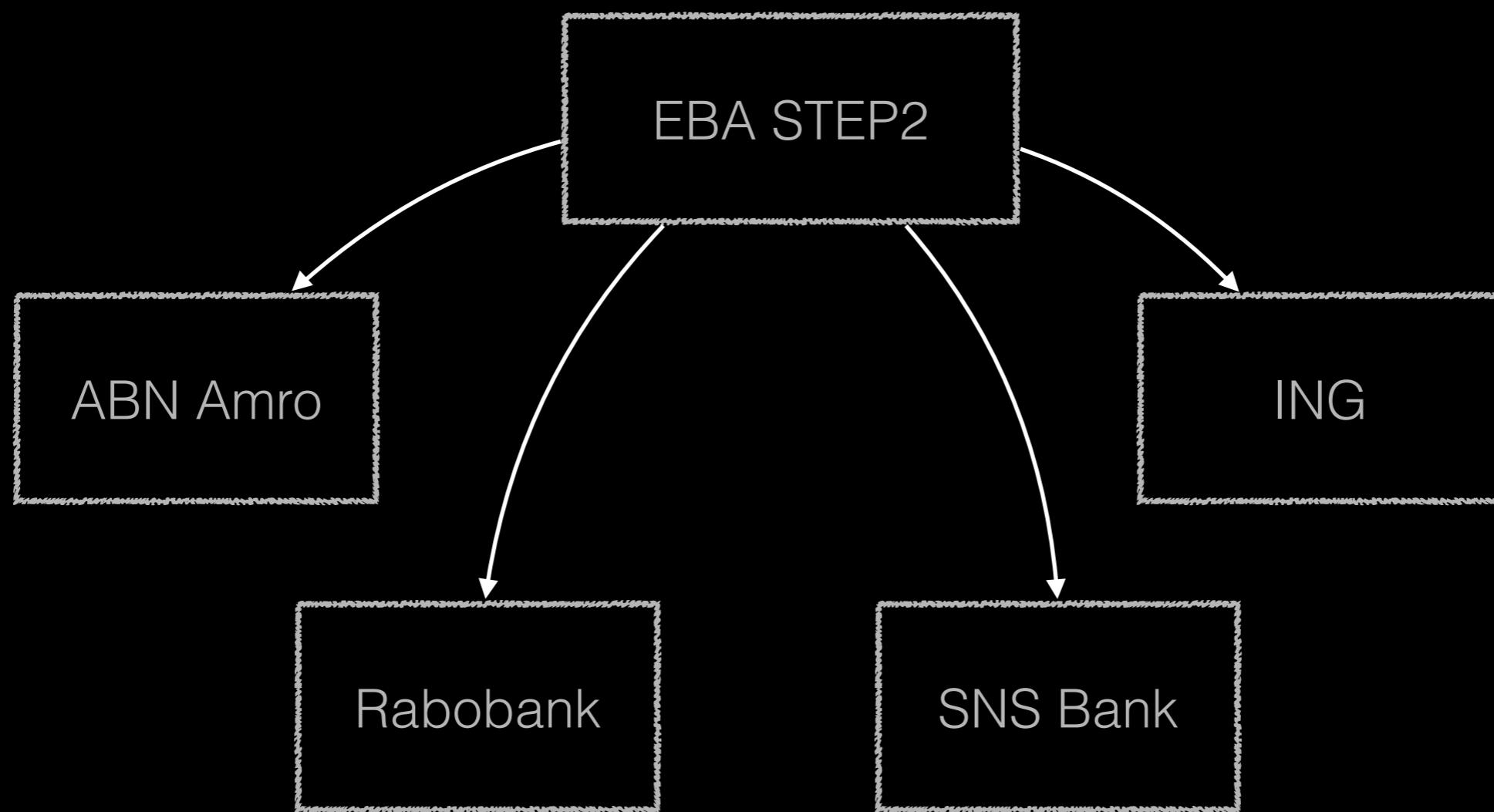
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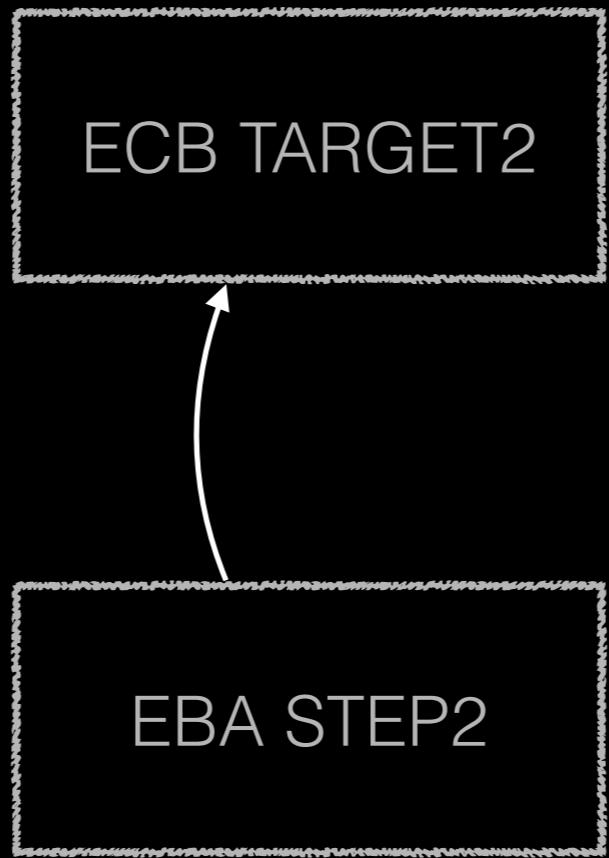
ING

Rabobank

SNS Bank

ECB TARGET2



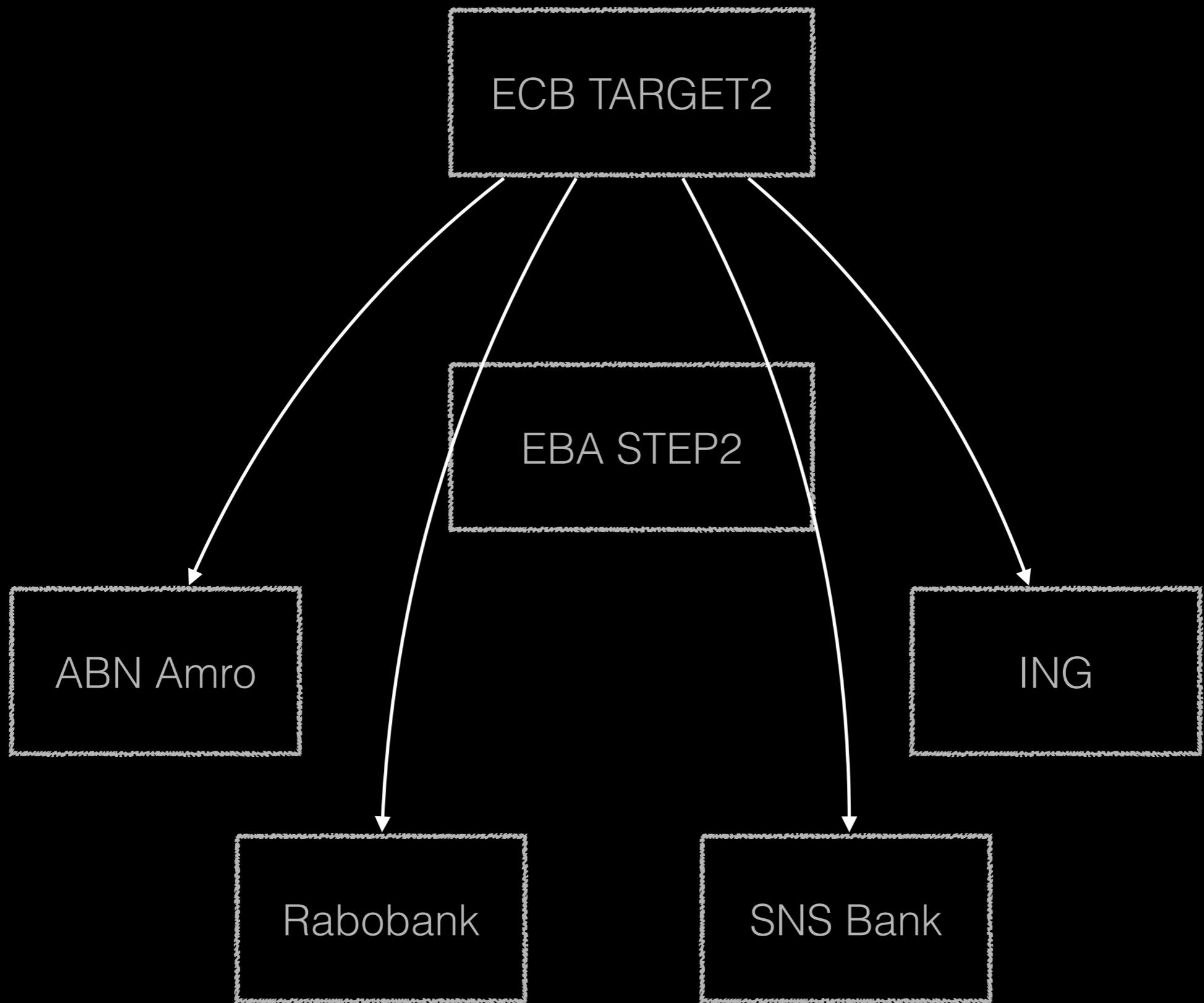


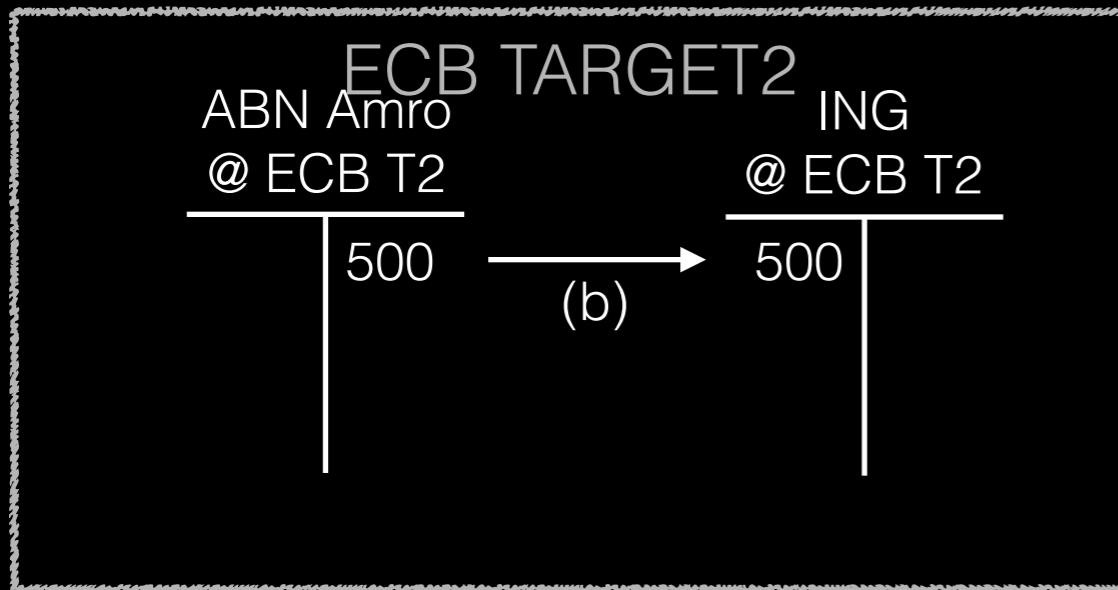
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ING

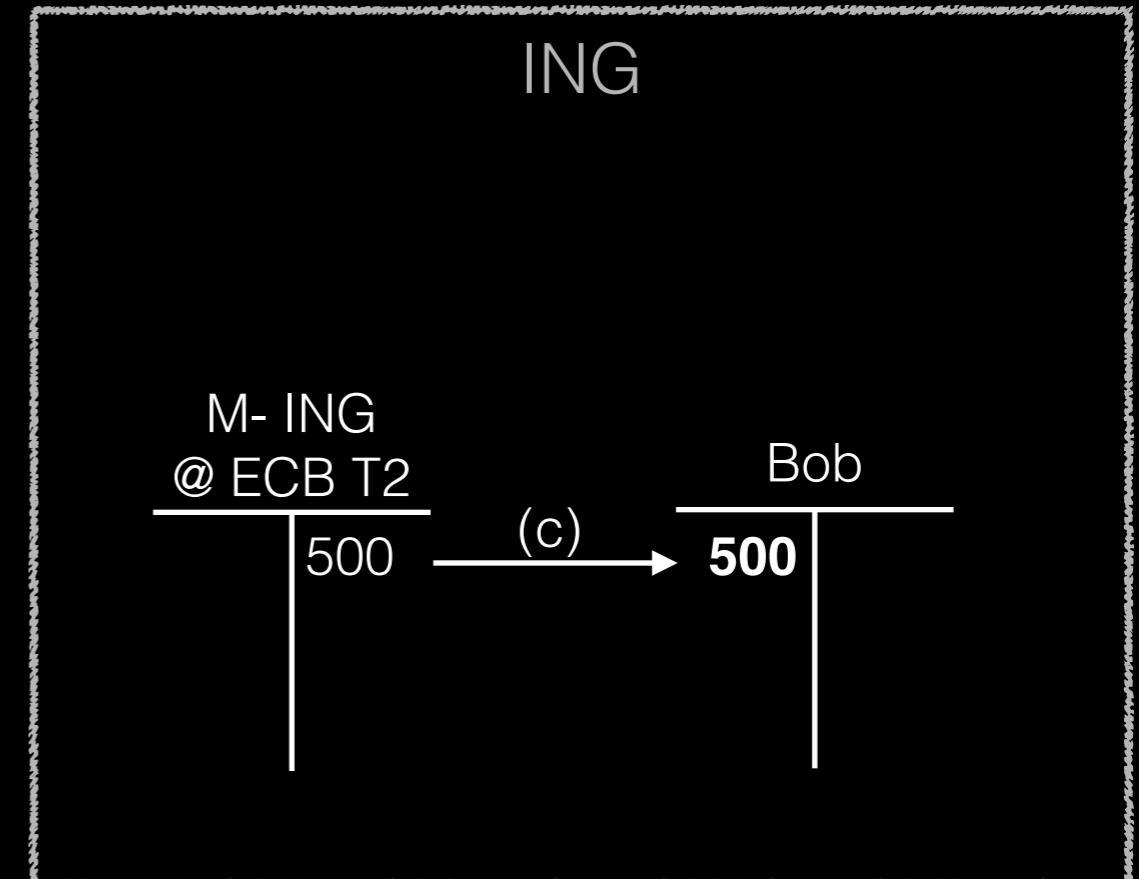
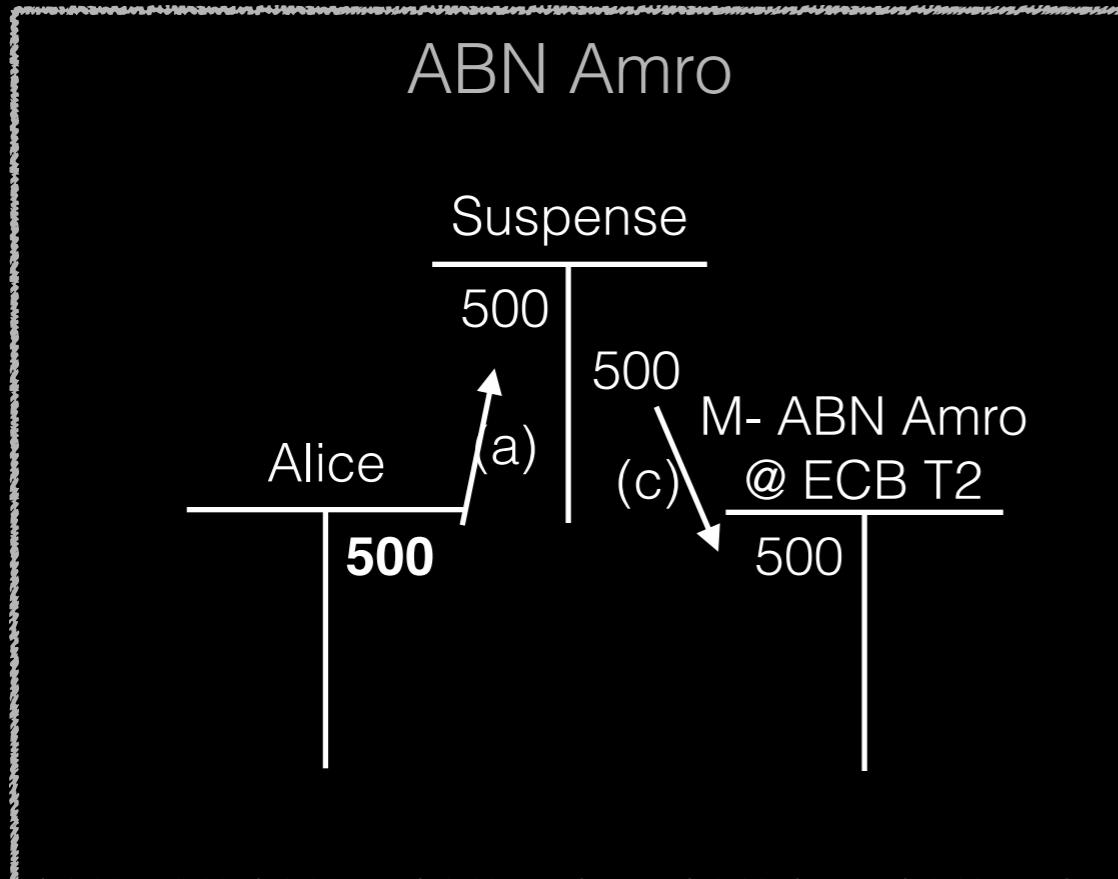
Rabobank

SNS Bank





- (a) After customer submits payment order, set money aside
- (b) Clearing house instructs T2 to transfer central bank money
- (c) After banks receive batch from clearing house and notification from T2, credit beneficiary accounts



# International cross-currency payments

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ALMANAC  
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**STRENGTH IN DEPTH ACROSS THE WORLD.**

For details see pages 181/182

**THE  
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**Volume Two: BRANCHES**

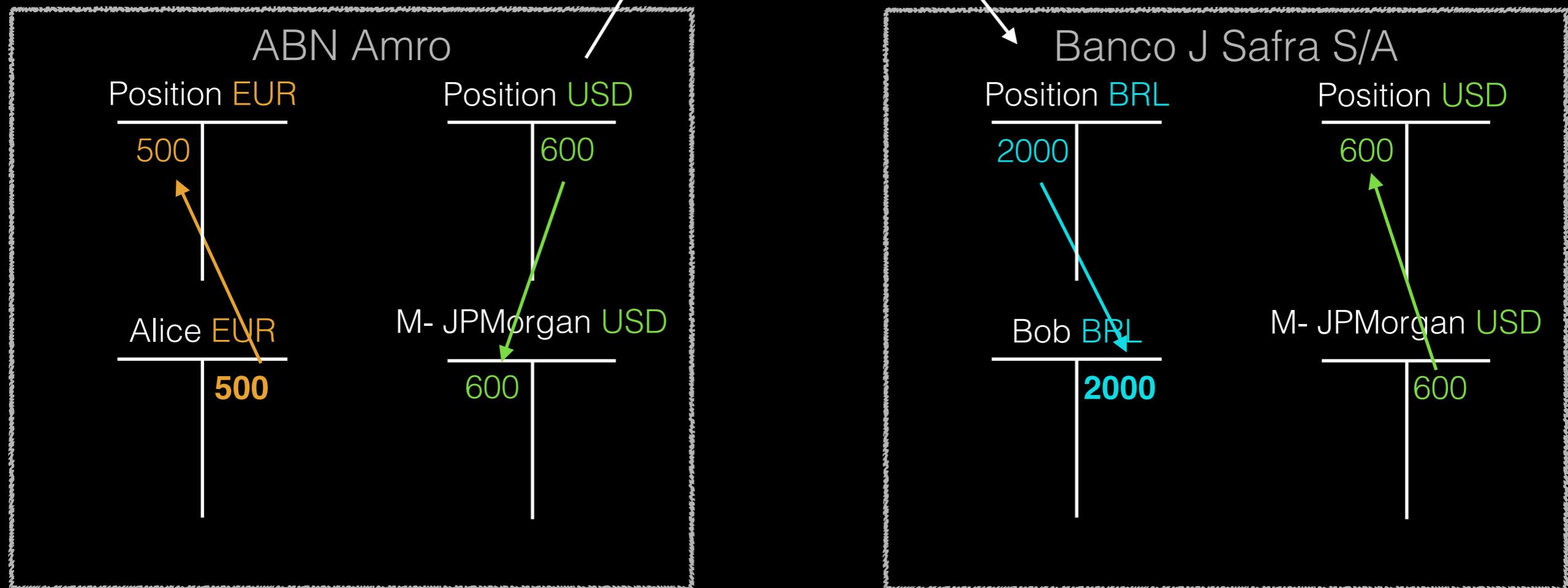
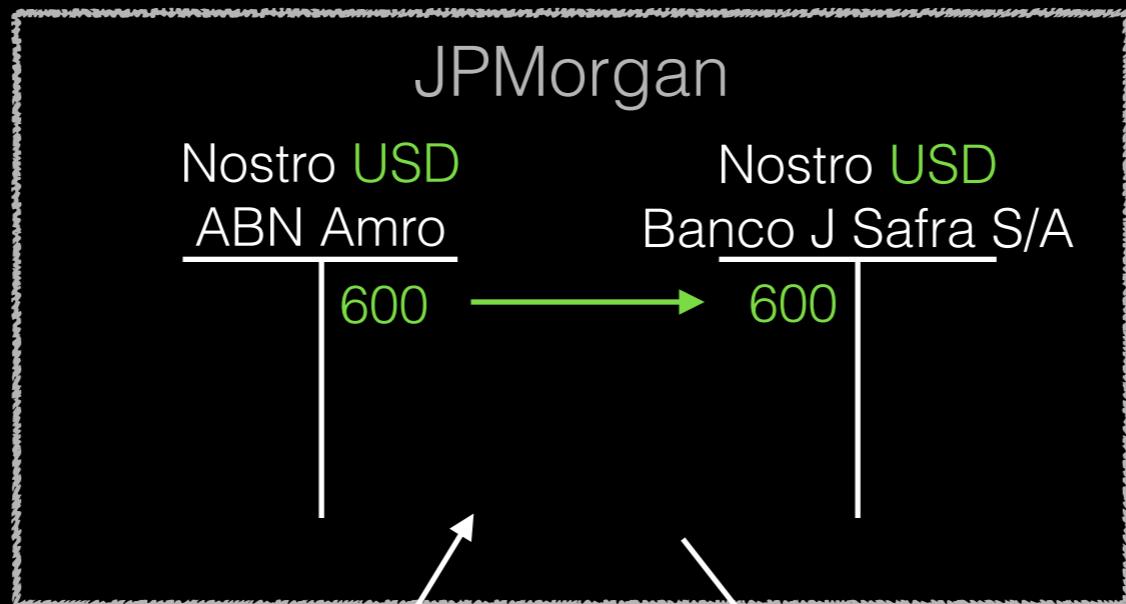
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