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CHICAGO, ILLINOIS · JUNE 26-30

PLEASE FILL OUT YOUR EVALUATIONS



HFM Cash Flow:



A New Framework to Dramatically
Simplify Maintenance and Auditability of
Cash Flow Calculations

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Grant Thornton

An instinct for growth™

About Grant Thornton

One of the world's leading organizations of independent audit, tax and advisory firms

Grant Thornton LLP² (U.S.)

\$1.4 billion revenues

6,456 personnel³

529 partners

57 offices

Grant Thornton International Ltd¹

US \$4.7 billion revenues

40,197 personnel³

2,975 partners

725 offices





Your presenter

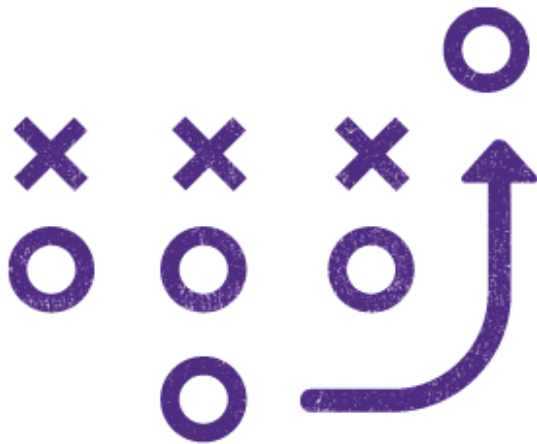
- 10+ years Oracle EPM consulting experience
- HFM, Essbase, Planning, DRM certified
- Leading Grant Thornton's team of HFM architects
- Speaks French, English, Portuguese
- Lives in San Francisco, California



Julien
Coudrette



Agenda for this session



- What is a cash flow statement
- Approaches to the cash flow
 - Manual
 - Automated



What is a cash flow statement



What is a cash flow statement

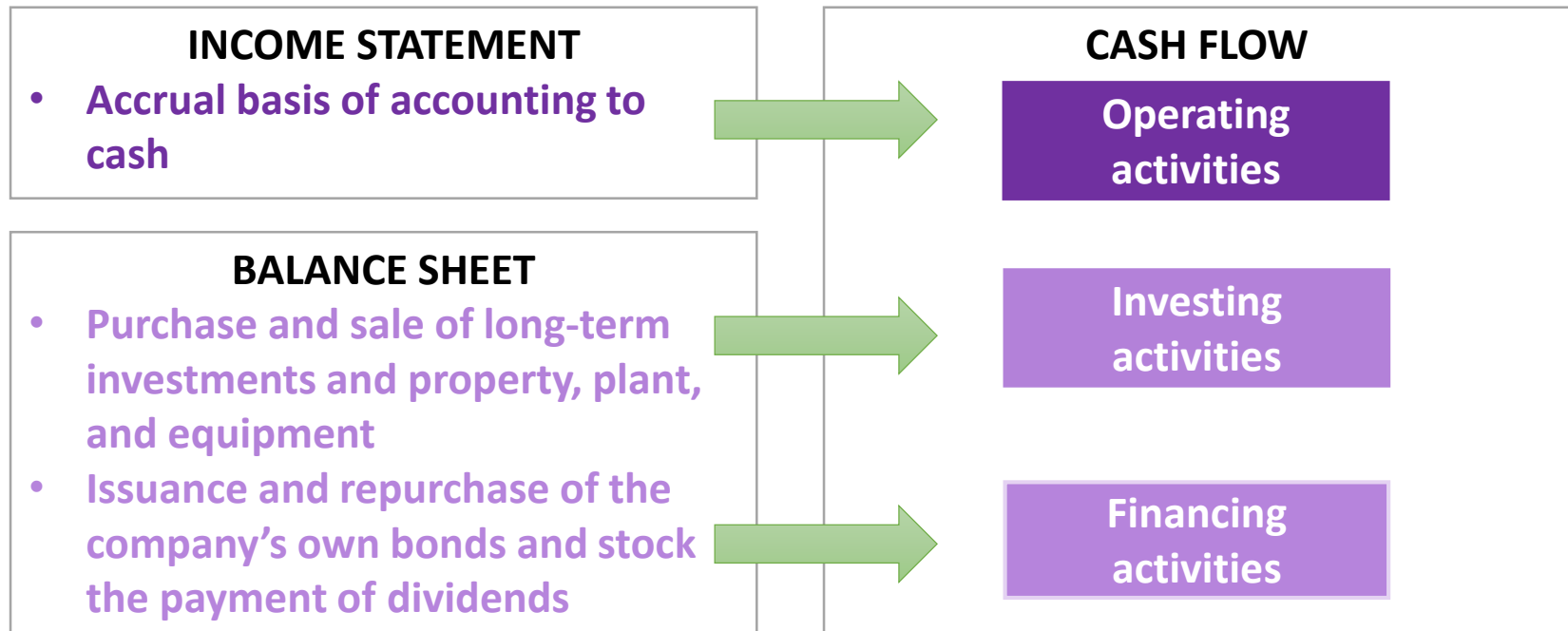
- One of the main financial statements
 - balance sheet, income statement, statement of stockholders' equity and cash flow statement
- Provides information for the cash generated and used during a certain period of time





What is a cash flow statement

- Shows what activities impact the cash and cash equivalents



Let's start
with a very
simplified B/S

Cash

A/P

A/R

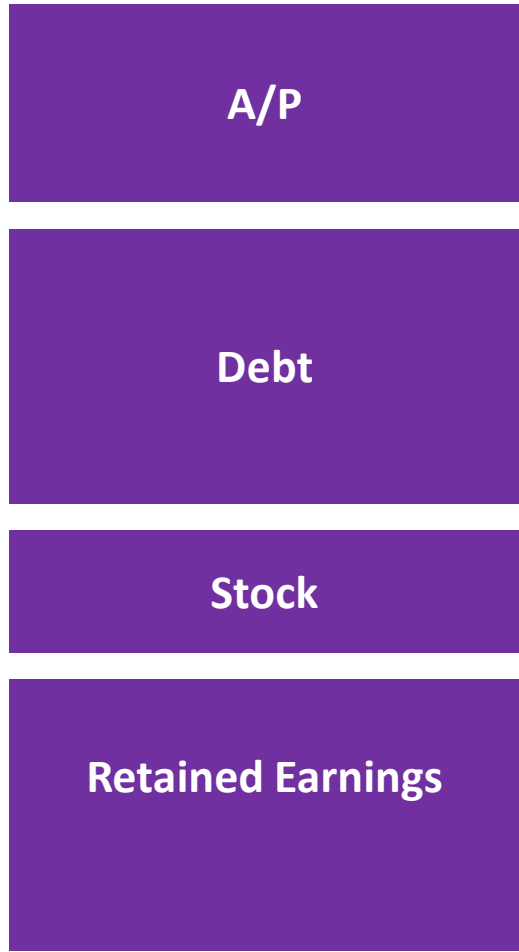
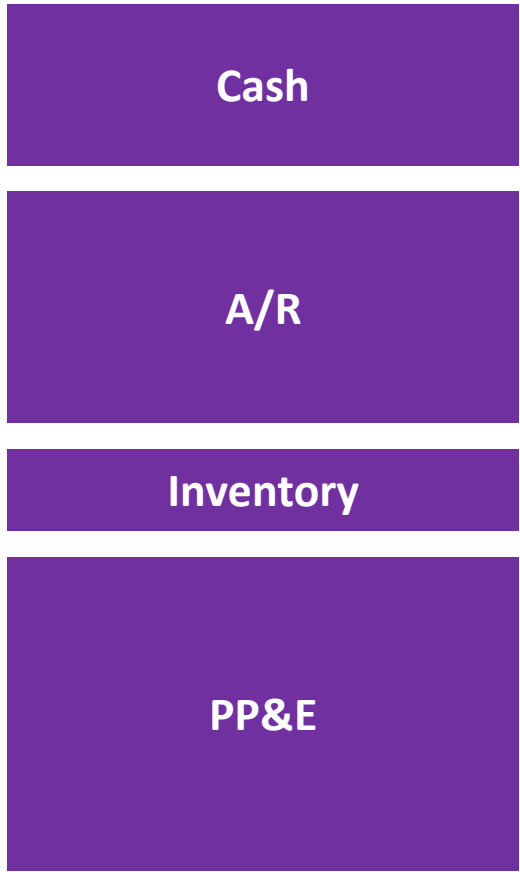
Debt

Inventory

Stock

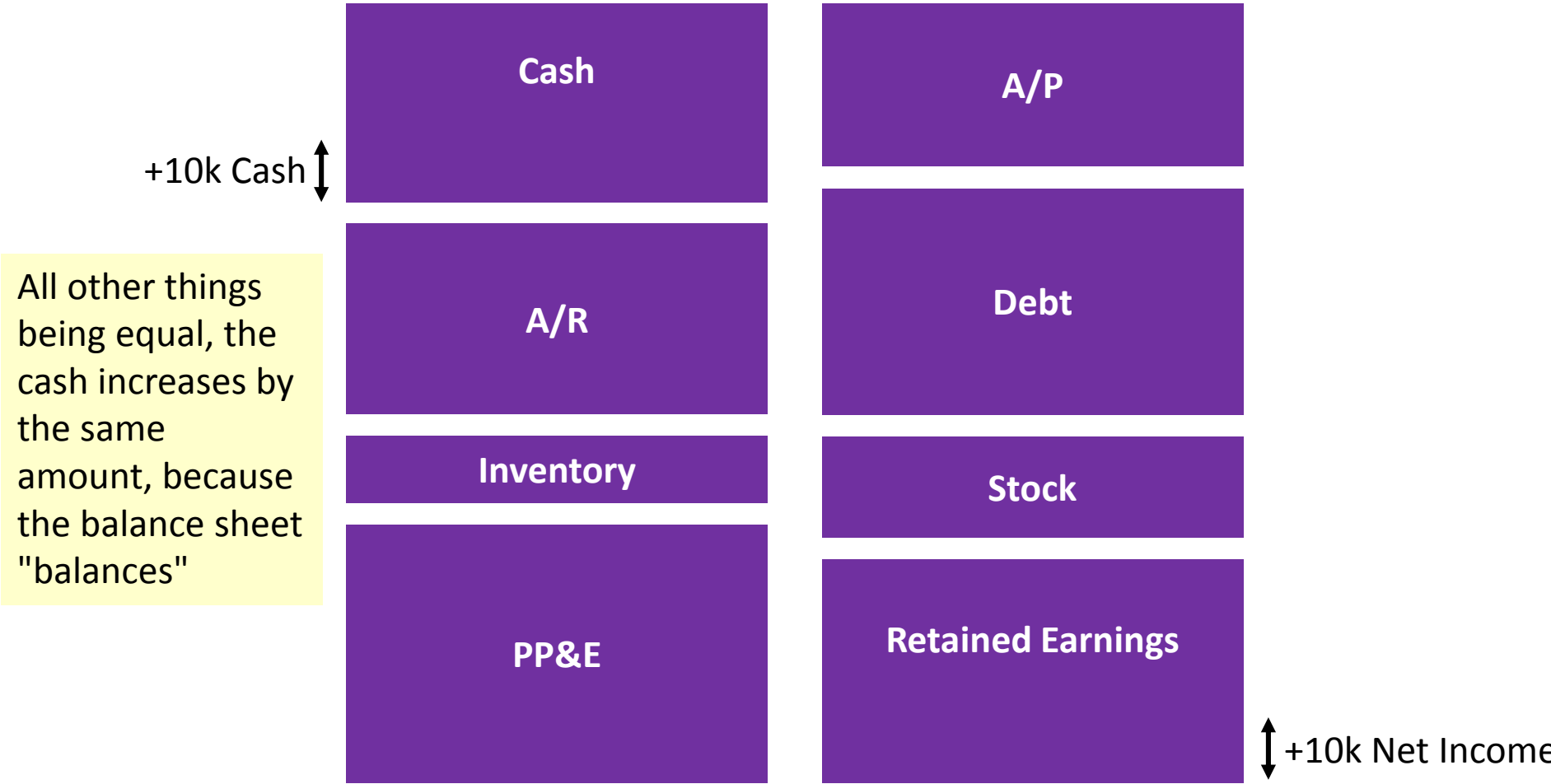
PP&E

Retained Earnings

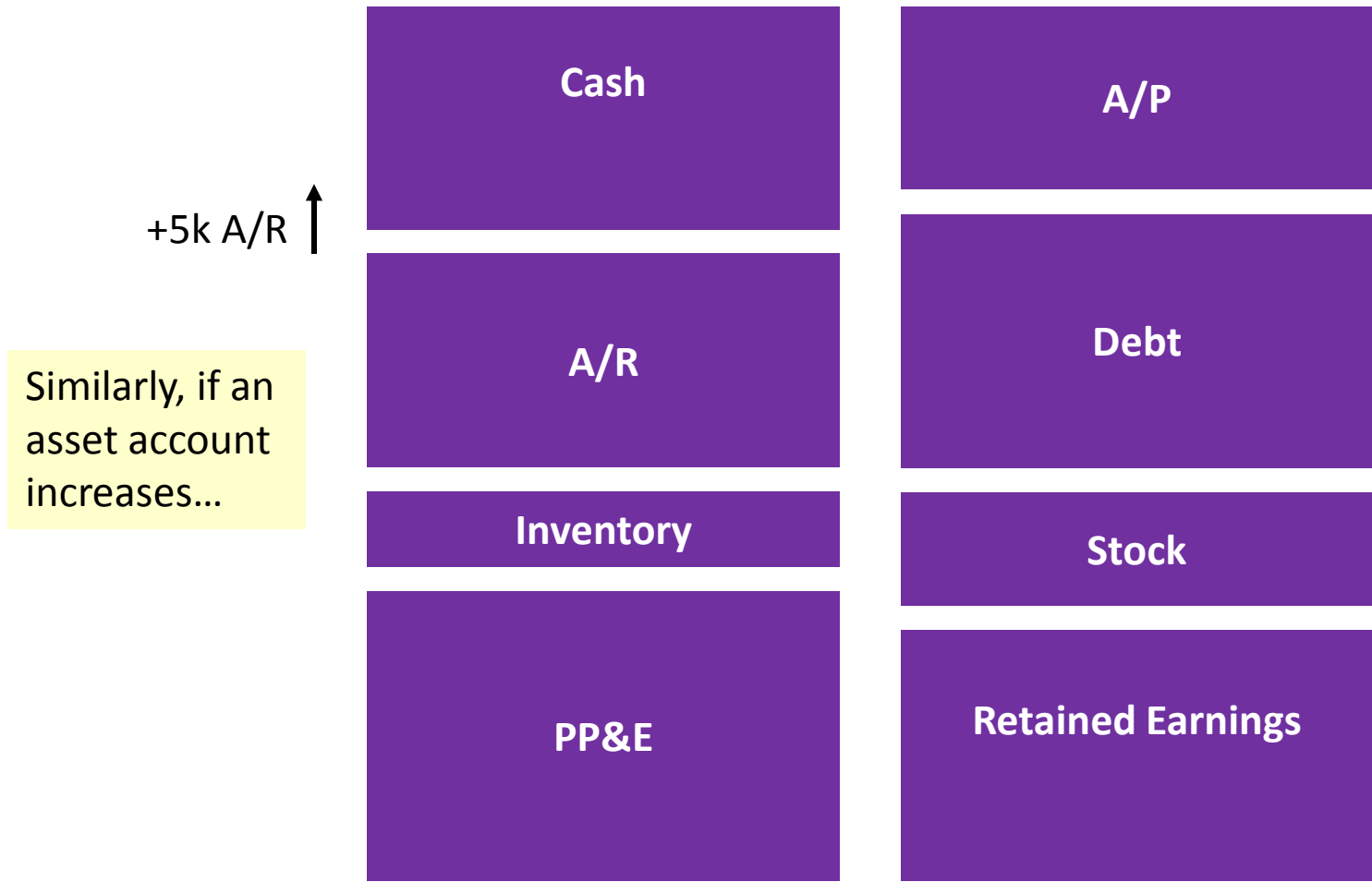


The entity generates some income

↕ +10k Net Income



All other things being equal, the cash increases by the same amount, because the balance sheet "balances"





Cash decreases by the same amount!

-5k Cash ↑
+5k A/R ↑

Cash

A/R

Inventory

PP&E

A/P

Debt

Stock

Retained Earnings

It is not always that simple

- The change in balance does not always provide enough details to derive cash flow



- Example

New buildings:

PPE: +5000

Cash accounts: - 5000

Cash flow statement:

Investing activities:

$(PPE = 5000) * -1 = -5000$

FX impacts:

PPE: +50

Cash accounts: - 50

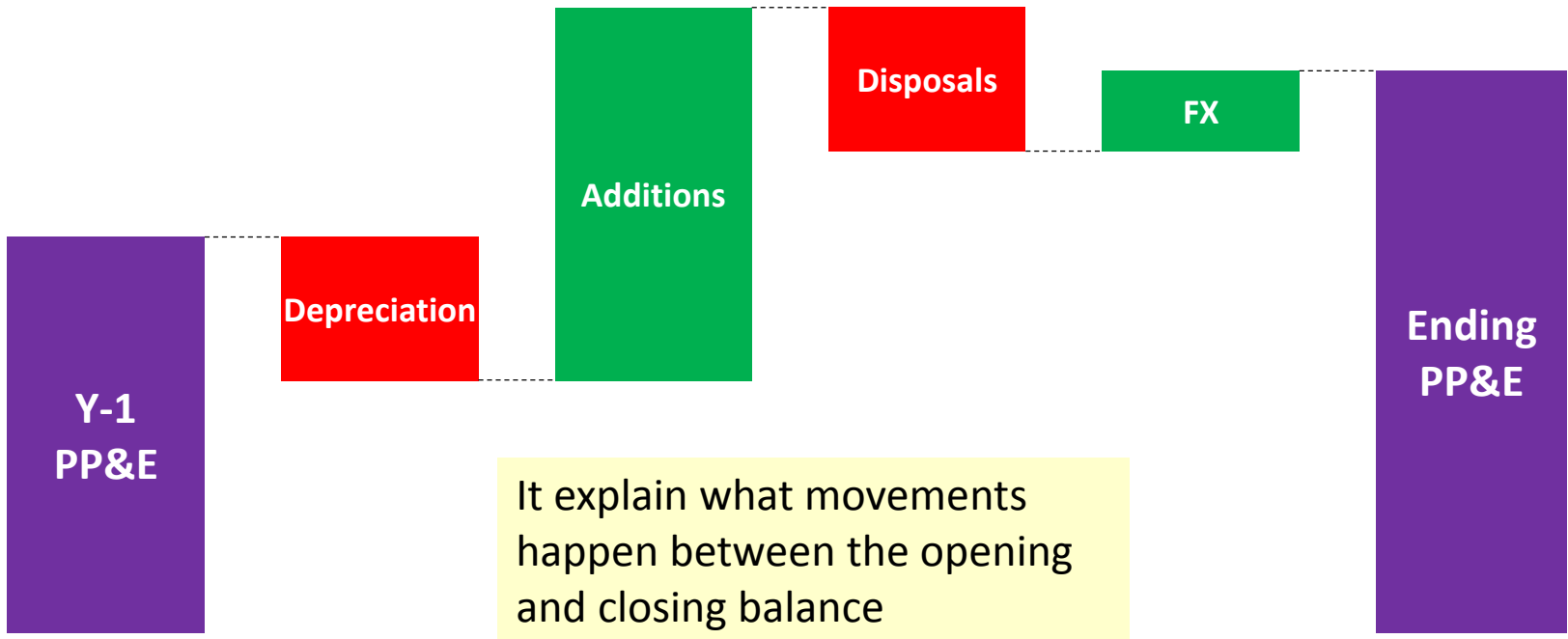
Cash flow statement:

Foreign Exchange :

coming from $(PPE = 50) * -1 = -50$

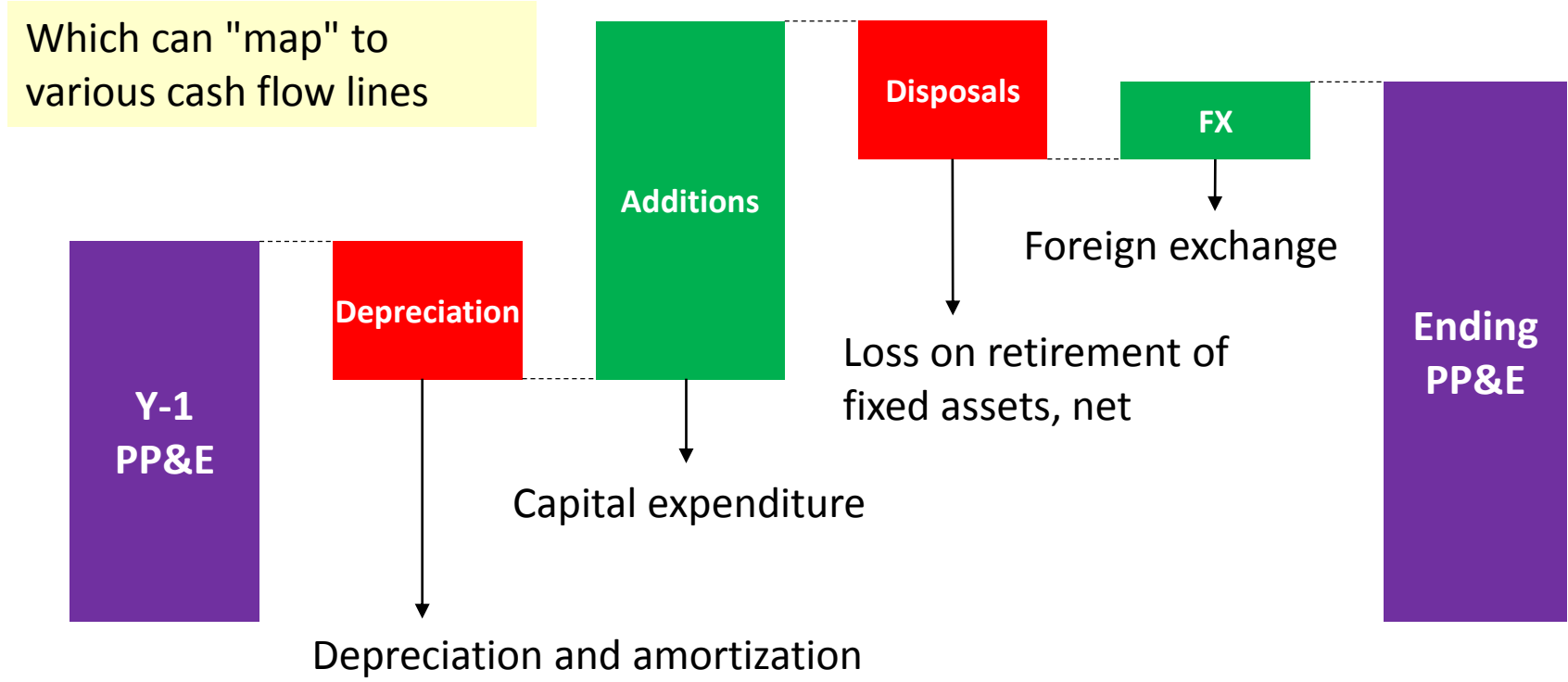


Roll forwards provide the details





Roll forwards provide the details





Inputs needed to generate cash flow

- For some B/S accounts:
 - Change in balance
 - FX
- For other B/S accounts:
 - Roll forward details
- Also need details from some P&L accounts
 - For the cash to balance:
need to impact one cash flow and offset another





Approaches to generate a cash flow statement

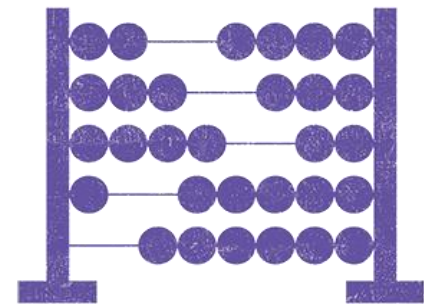


Outside of HFM?



Cash flow in Excel

- **Main issues**
 - Tedious manual process
 - Formulas everywhere
 - Difficulty to prove the FX
 - Plugs in some places
 - Relies on a single person
(who is probably trying to leave because of that)
 - Can only be created for the top entity





Automation using Cash flow accounts



Automation using Cash flow accounts

- The cash flow hierarchy seats in the Account dimension
- At the same level as your
 - Income Statement
 - Balance Sheet

Account	January
[None]	
▷ Rates	
▷ NetProfit	
▷ TotalAssets	
▷ TotalLiabEquity	
▷ OtherInfo	
▷ ExchangeRates	
▷ CostAllocation	
▷ CashFlow	
▷ KeyMetrics	
▷ Validation	

Automation using Cash flow accounts

- **Best-case scenario:**
 - Calculation relies on UDs on the accounts
 - Each UD being defined in the HFM rules
 - The HFM rules define the calculations for each UD
- **Worst-case scenario:**
 - Cash flow calculations are 100% hard-coded
 - Impact of foreign exchange is ignored





For example...

' Cash Flow Accounts

```

HS.Exp "A#CFINCOME=A#300.W#YTD" & vAllTops & "+ A#9000.W#YTD" & vAllTops & "- A#8900.W#YTD" & vAllTops
HS.Exp "A#CFBEGPER=A#1010.P#Last.Y#Prior" & vAllTops

HS.Exp "A#CF010.C2#CFCalc= -A#MPEOCA.C2#047" & vNoC2 & "-A#MOA.C2#047" & vNoC2 & "+A#MLTD.C2#047" & vNoC2 & "+A#
HS.Exp "A#CF020.C2#CFCalc=A#MAPAE.C2#070" & vNoC2 & "+A#MCS.C2#070" & vNoC2 & "+A#MRE.C2#070" & vNoC2
HS.Exp "A#CF030.C2#CFCalc= -A#MAR.C2#050" & vNoC2
HS.Exp "A#CF040.C2#CFCalc= -A#MPPE.C2#041" & vNoC2 & "-A#MOA.C2#041" & vNoC2
HS.Exp "A#CF050.C2#CFCalc= -A#MINV.C2#059" & vNoC2
HS.Exp "A#CF060.C2#CFCalc= -A#MOA.C2#068" & vNoC2
HS.Exp "A#CF070.C2#CFCalc= -A#MOA.C2#069" & vNoC2 & "-A#MPEOCA.C2#071" & vNoC2
HS.Exp "A#CF077.C2#CFCalc= -A#715000" & vAllTops
HS.Exp "A#CF080.C2#CFCalc= -A#1250.C2#099" & vNoC2 & "-A#1500.C2#099" & vNoC2 & "+A#2250.C2#099" & vNoC2 & "+A#
HS.Exp "A#CF090.C2#CFCalc=A#MLTD.C2#082" & vNoC2
HS.Exp "A#CF100.C2#CFCalc=A#2500.C2#099" & vNoC2
HS.Exp "A#CF120.C2#CFCalc= -A#1050.C2#099" & vNoC2 & "-A#1051.C2#099" & vNoC2 & "-A#MAR.C2#099" & vNoC2 & "-A#M
HS.Exp "A#CF130.C2#CFCalc= -A#1100.C2#099" & vNoC2 & "-A#1110.C2#099" & vNoC2 & "-A#MINV.C2#099" & vNoC2 & "-A#M
HS.Exp "A#CF140.C2#CFCalc= -A#MPEOCA.C2#099" & vNoC2 & "-A#MPEOCA.C2#Diff" & vNoC2 & "- A#1150.C2#099" & vNoC2 &
HS.Exp "A#CF150.C2#CFCalc= -A#MOA.C2#099" & vNoC2 & "-A#MOA.C2#Diff" & vNoC2 & "-A#160050.C2#099" & vNoC2
HS.Exp "A#CF160.C2#CFCalc=A#MAPAE.C2#Diff" & vNoC2 & "+A#2010.C2#099" & vNoC2 & "+A#2050.C2#099" & vNoC2 & "+A#
HS.Exp "A#CF170.C2#CFCalc=A#2240.C2#099" & vNoC2 & "+A#2700.C2#099" & vNoC2
HS.Exp "A#CF175.C2#CFCalc=A#2600.C2#099" & vNoC2
HS.Exp "A#CF180.C2#CFCalc= -A#MPPE.C2#040" & vNoC2 & "-A#MPPE.C2#Diff" & vNoC2 & "-A#MPPE.C2#099" & vNoC2 & "-A#
HS.Exp "A#CF185.C2#CFCalc= -A#145010.C2#099" & vNoC2
HS.Exp "A#CF190.C2#CFCalc= -A#MOA.C2#067" & vNoC2

```



Main issues of this approach

- Intersection between B/S and Cash flow is impossible
- Black box if you didn't develop it yourself
- Have to maintain logic in HFM Rules
- Figuring out issues is time consuming





Grant Thornton's approach: Cash flow that works





BS x CF intersection!

- The cash flow hierarchy seats in the Roll Forward dimension
- ... And intersects with the Account dimension, and more specifically:
the Balance Sheet!

RollForward	Account	Balance_Sheet - Balance Sheet
▲ CF_END - Ending Balance - Cash		1,200.00
▲ CF_TOTAL - Total Change in Cash		1,200.00
▲ CF_OPERATING - Net Cash Provided By Operating Activities		1,600.00
▲ CF_CHANGES - Changes in Assets and Liabilities		500.00
CF_AP - Accounts Payable and Accrued Liabilities		500.00
CF_NET_INCOME - Net Income		700.00
CF_DEPRECIATION - Depreciation and Amortization		400.00
▲ CF_INVESTING - Net Cash From Investing		-800.00
CF_PPE_PURCH - Purchase of PP&E		-800.00
▲ CF_FINANCING - Net Cash From Financing		400.00
CF_REVOLVER_ISSUE - Issuance of Revolver Debt		400.00
CF_ERROR - Cash flow balancing error		0.00



Back to our example...

Cash

A/R

Inventory

PP&E

A/P

Debt

Stock

Retained Earnings



		Assets				Liabilities and Equity			
	Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE
BEG		100	150	50	200	120	180	90	110

These will be our beginning balances



		Assets					Liabilities and Equity			
		Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE
Balance Sheet activity	BEG		100	150	50	200	120	180	90	110
	CHG		-							
	DEPR									
	ADD									
	DISP									
	NET_INC									
	FX									
	END		100	150	50	200	120	180	90	110
Cash Flow Statement	CF_BEG	100	(100)							
	CF_INCOME	-								
	CF_AR	-								
	CF_DEPRECIATION	-								
	CF_PPE_DISP	-								
	CF_OPERATING	-		-	-	-	-	-	-	-
	CF_PPE_PURCH	-								
	CF_INVESTING	-		-	-	-	-	-	-	-
	CF_FX	-		-	-	-	-	-	-	-
	CF_TOTAL	-		-	-	-	-	-	-	-
CF_END	100	(100)	-	-	-	-	-	-	-	

Adding our roll forwards

and cash flows



		Assets					Liabilities and Equity			
		Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE
Balance Sheet activity	BEG		100	150	50	200	120	180	90	110
	CHG		10							
	DEPR									
	ADD									
	DISP									
	NET_INC									10
	FX									
	END		110	150	50	200	120	180	90	120
Cash Flow Statement	CF_BEG	100	(100)							
	CF_INCOME	10								10
	CF_AR	-								
	CF_DEPRECIATION	-								
	CF_PPE_DISP	-								
	CF_OPERATING	10		-	-	-	-	-	-	10
	CF_PPE_PURCH	-								
	CF_INVESTING	-		-	-	-	-	-	-	-
	CF_FX	-		-	-	-	-	-	-	-
CF_TOTAL	10		-	-	-	-	-	-	10	
CF_END	110	(100)	-	-	-	-	-	-	10	

An increase in retained earnings generated by the income

Gets copied to the cash flow line, but still on the same column



		Assets				Liabilities and Equity										
		Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE						
Balance Sheet activity	BEG		100	150	50	200	120	180	90	110						
	CHG		5	5	Similarly, a change on an assets account											
	DEPR															
	ADD															
	DISP															
	NET_INC									10						
	FX															
END			105	155	50	200	120	180	90	120						
Cash Flow Statement	CF_BEG	100	(100)	Results in a change on the appropriate cash flow line												
	CF_INCOME	10														10
	CF_AR	(5)								5						
	CF_DEPRECIATION	-														
	CF_PPE_DISP	-														
	CF_OPERATING	5		5	-	-	-	-	-	-	10					
	CF_PPE_PURCH	-														
	CF_INVESTING	-		-	-	-	-	-	-	-	-					
	CF_FX	-		-	-	-	-	-	-	-	-					
CF_TOTAL	5		5	-	-	-	-	-	-	10						
CF_END	105	(100)	5	-	-	-	-	-	-	10						



		Assets				Liabilities and Equity				
		Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE
Balance Sheet activity	BEG		100	150	50	200	120	180	90	110
	CHG		5	5						
	DEPR					(10)				
	ADD					30				
	DISP					(20)				
	NET_INC									10
	FX									
	END		105	155	50	200	120	180	90	120
Cash Flow Statement	CF_BEG	100	(100)							
	CF_INCOME	10								10
	CF_AR	(5)		5						
	CF_DEPRECIATION	10				(10)				
	CF_PPE_DISP	20				(20)				
	CF_OPERATING	35		5	-	(30)	-	-	-	10
	CF_PPE_PURCH	(30)				30				
	CF_INVESTING	(30)		-	-	30	-	-	-	-
	CF_FX	-		-	-	-	-	-	-	-
	CF_TOTAL	5		5	-	-	-	-	-	10
CF_END	105	(100)	5	-	-	-	-	-	10	

Multiple roll forwards?

No problem!



		Assets				Liabilities and Equity				
		Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE
Balance Sheet activity	BEG		100	150	50	200	120	180	90	110
	CHG		5	5						
	DEPR					(10)				
	ADD					30				
	DISP					(20)				
	NET_INC									10
	FX		1	2	1	4	2	3		3
	END		106	157	51	204	122	183	90	123
Cash Flow Statement	CF_BEG	100	(100)							
	CF_INCOME	10								10
	CF_AR	(5)		5						
	CF_DEPRECIATION	10				(10)				
	CF_PPE_DISP	20				(20)				
	CF_OPERATING	35	-	5	-	(30)	-	-	-	10
	CF_PPE_PURCH	(30)				30				
	CF_INVESTING	(30)	-	-	-	30	-	-	-	-
	CF_FX	1		2	1	4	2	3	-	3
	CF_TOTAL	6	-	7	1	4	2	3	-	13
	CF_END	106	(100)	7	1	4	2	3	-	13

Effect of exchange rates are fully traceable



		Assets				Liabilities and Equity				
		Total B/S	Cash	A/R	Inventory	PP&E	A/P	Debt	Stock	RE
Balance Sheet activity	BEG		100	150	50	200	120	180	90	110
	CHG		5	5						
	DEPR					(10)				
	ADD					30				
	DISP					(20)				
	NET_INC									10
	FX		1	2	1	4	2	3		3
END			106	157	51	204	122	183	90	123
Cash Flow Statement	CF_BEG	100	(100)							
	CF_INCOME	10								10
	CF_AR	(5)								
	CF_DEPRECIATION	10				(10)				
	CF_PPE_DISP	20				(20)				
	CF_OPERATING	35				(30)	-	-	-	10
	CF_PPE_PURCH	(30)				30				
	CF_INVESTING	(30)				30	-	-	-	-
	CF_FX	1		2	1	4	2	3	-	3
	CF_TOTAL	6	-	7	1	4	2	3	-	13
CF_END	106	(100)	7	1	4	2	3	-	13	

We prove that the ending cash position per the cash flow statement matches the balance sheet!



Benefits of this approach

Now:

- your cash flow is intersected with the Balance Sheet accounts allowing full traceability of the calculations
- all unused Balance Sheet information during calculation is available for verification





Going one step further

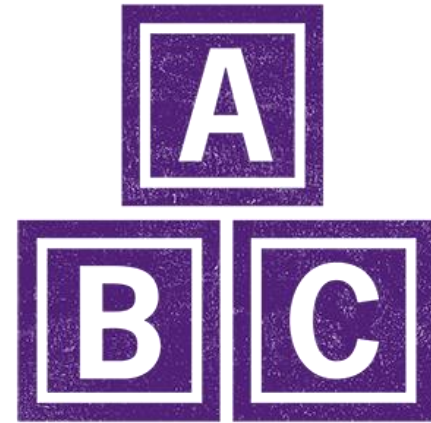
How does HFM know how to map data
from your balance sheet activity
to your cash flow ?





Leveraging CellTexts and Data forms

- Target Cash Flow is entered:
 - Balance Sheet accounts
 - For the entire change in balance
 - Or by roll forward
 - Income Statement accounts



- By inputting a CellText on the desired POV



Leveraging CellTexts and Data forms

- Behind the scenes, the HFM rules will
 1. Read the mapping
 2. Apply it to the cash flow
- Which means:
 - No need to update VB Script rules
 - Mapping is human readable / writable





Demo



We notice an error on our cash flow statement (it does not agree to our cash balance)

RollForward	Balance_Shi
▲ CF_END - Ending Balance - Cash	1,200.00
▲ CF_TOTAL - Total Change in Cash	1,200.00
▲ CF_OPERATING - Net Cash Provided By Operating Activities	1,700.00
▲ CF_CHANGES - Changes in Assets and Liabilities	600.00
CF_AP - Accounts Payable and Accrued Liabilities	600.00
CF_NET_INCOME - Net Income	700.00
CF_DEPRECIATION - Depreciation and Amortization	400.00
▲ CF_INVESTING - Net Cash From Investing	-800.00
CF_PPE_PURCH - Purchase of PP&E	-800.00
▲ CF_FINANCING - Net Cash From Financing	400.00
CF_REVOLVER_ISSUE - Issuance of Revolver Debt	400.00
CF_ERROR - Cash flow balancing error	-100.00

RollForward	Account	Balance_Sh	Total_Assets - Total Assets	Total_Current_Assets - Total Current Assets	Cash - Cash	Total_Accounts_Receivable - Total Accounts Receivable
▲	CF_END - Ending Balance - Cash	1,200.00	500.00	100.00		100.00
▲	CF_TOTAL - Total Change in Cash	1,200.00	500.00	100.00		100.00
▲	CF_OPERATING - Net Cash Provided By Operating Activities	1,700.00	-400.00			
▲	CF_CHANGES - Changes in Assets and Liabilities	600.00				
	CF_AP - Accounts Payable and Accrued Liabilities	600.00				
	CF_NET_INCOME - Net Income	700.00				
	CF_DEPRECIATION - Depreciation and Amortization	400.00	-400.00			
▲	CF_INVESTING - Net Cash From Investing	-800.00	800.00			
	CF_PPE_PURCH - Purchase of PP&E	-800.00	800.00			
▲	CF_FINANCING - Net Cash From Financing	400.00				
	CF_REVOLVER_ISSUE - Issuance of Revolver Debt	400.00				
	CF_ERROR - Cash flow balancing error	-100.00	100.00	100.00		100.00

We can simply expand the balance sheet hierarchy to find where the error comes from!

We just go to the form that defines the mapping

	Default CF for account
10010520_7009 - Petty Cash (10010520-7009)	
10010520_7036 - Petty Cash (7)	
10010520_800 - Petty Cash - CDN (10010520-800)	
10010520_801 - Petty Cash - US (10010520-801)	
10010520_BOX - Petty Cash - Box	
10010720 - INVESTMENTS - SHORT TERM	
10010720_7001 - Investments - Money Mkt	
10010720_CITC - INVESTMENTS - SHORT TERM - CITC	
10010720_CITI - INVESTMENTS - SHORT TERM - CITI	
10010720_HAR - INVESTMENTS - SHORT TERM - HAR	
10010720_HAR1 - INVESTMENTS - SHORT TERM - HAR1	
10011741	
Total_Accounts_Receivable - Total Accounts Receivable	CF_AR
Gross_Excluding_Intercompany - Gross Excluding Intercompany	
10011112 - Trade Acc Receivable	

And enter the target cash flow for the Total AR account

By the way: this is a parent account, all the detailed accounts inherit this mapping!



Let's
recalculate
...

Problem
solved!

RollForward	Account	Balance_Sh
▲	CF_END - Ending Balance - Cash	1,200.00
▲	CF_TOTAL - Total Change in Cash	1,200.00
▲	CF_OPERATING - Net Cash Provided By Operating Activities	1,600.00
▲	CF_CHANGES - Changes in Assets and Liabilities	500.00
	CF_AR - Accounts Receivable	-100.00
	CF_AP - Accounts Payable and Accrued Liabilities	600.00
	CF_NET_INCOME - Net Income	700.00
	CF_DEPRECIATION - Depreciation and Amortization	400.00
▲	CF_INVESTING - Net Cash From Investing	-800.00
	CF_PPE_PURCH - Purchase of PP&E	-800.00
▲	CF_FINANCING - Net Cash From Financing	400.00
	CF_REVOLVER_ISSUE - Issuance of Revolver Debt	400.00
	CF_ERROR - Cash flow balancing error	0.00



To wrap up

Grant Thornton new approach brings you:

- Ownership of the cash flow mapping by functional admins
- Traceability
- No VB Script maintenance
- Cash flow is not a black box anymore





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