

# Sectoral balances ensures a stock flow consistent structure

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# Stock and Flow accounting

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### The balance sheet accounting ensures:

- 1 Someone's (financial) asset is someone's (financial) liability.
- 2 Someone's wealth is someone's debt.





## Non-financial flows between sectors

The table shows a simple example of non-financial sectoral flows of the real economy, called the non-financial transactions in the national accounts.

	Households	Firms		Banks	Government	Rest of the world
		current	capital			
Consumption	-C	+C				
Investment		+I	-I			
Govt. expenditure		+G			-G	
Exports		+X				-X
Imports		-M				+M
Wages	+W	-W				
Profits		F				
Taxes	-T	-T			+T	



# Combining the financial and non-financial transactions

Combining the financial and non-financial transactions:

Lets introduce a few financial flows:

	Households	Firms		Banks	Government	Rest of the world
		current	capital			
<b>Real flows:</b>						
Consumption	-C	+C				
Investment		+I	-I			
Govt. expenditure		+G			-G	
Exports		+X				-X
Imports		-M				+M
Wages	+W	-W				
Profits		F				
Taxes	-T	-T			+T	
<b>Financial flows:</b>						
changes in Deposits	- $\Delta D$			+ $\Delta D$		- $\Delta D^*$

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But interest is paid on deposits by the banks and received by the owners:

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Real flows:		current	capital			
Consumption	-C	+C				
Investment		+I	-I			
Govt. expenditure		+G			-G	
Exports		+X				-X
Imports		-M				+M
Wages	+W	-W				
Profits		F				
Taxes	-T	-T			+T	
<b>Financial flows:</b>						
changes in Deposits	$-\Delta D$			$+\Delta D$		$-\Delta D^*$
interest on Deposits	$+r(D)$			$-r(D)$		$+r(D^*)$

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# Combining the financial and non-financial transactions

## Combining the financial and non-financial transactions

We now add change in Loans (F4) to the flows – same logic.

	Households	Firms		Banks	Government	Rest of the world
Real flows:		current	capital			
Consumption	-C	+C				
Investment		+I	-I			
Govt. expenditure		+G			-G	
Exports		+X				-X
Imports		-M				+M
Wages	+W	-W				
Profits		F				
Taxes	-T	-T			+T	
<b>Financial flows:</b>						
changes in Deposits	- $\Delta D$			+ $\Delta D$		- $\Delta D^*$
interest on Deposits	+ $r(D)$			- $r(D)$		+ $r(D^*)$
changes in Loans			+ $\Delta L$	- $\Delta L$		
interest on loans		- $r(L)$		+ $r(L)$		

# Example of Transactions in the Danish economy



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Non-financial transactions 2015	Household		Government		Financial corp.		Non-financial corp.		ROW		
	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	
Cons	-955 867						955 867				0
Gov			-520 797				520 797				0
Investment		-87 460		-73 292		-11 373	400 467	-228 342			0
Exports							1 119 546		-1 119 546		0
Imports							-969 507		969 507		0
[GDP]											2 027 170
Taxes				282 192			-285 510		3 319		1
Other taxes on production				47 698			-47 698				0
Subsidies D31				-17 786			17 905		-119		0
Subsidies D39				-23 308			30 593		-7 285		0
gross operating surplus		153 111		58 754		48 628	-260 493				0
Wages		1 038 827					-1 049 056		10 229		0
Property income:		81 589		-12 118		28 338	-23 731		-74 078		0
Current taxes on income, wealth, etc.		-553 757		616 572		-10 359	-42 613		-9 844		-1
Social contributions		-165 900		20 195		145 022	0		683		0
Social benefits other than social transfers in kind		418 132		-352 425		-68 599	0		2 891		-1
Other current transfers		19 702		-37 106		-890	-20 357		38 651		0
Adjustment for the change in pension entitlements		76 423				-76 423					0
Savings		-112 260	112 260	-61 871	61 871	-65 717	65 717	-346 210	346 210	185 592	-185 592
Capital transfers			1 221		-19 469		-1 330		12 219		7 359
NP - Acquisitions less disposals of non-produced non-financial assets			-1 830		3 660		0		-1 667		-163
Net lending (+) / net borrowing (-) (from capital accounts)			24 192		-27 229		53 014		128 420		-178 397



# Example of Transactions in the Danish economy

Financial transactions	HH		Gov		FC		NFC		ROW	
	Δ ASSETS	Δ LIABILITIES	Δ ASSETS	Δ LIABILITIES	Δ ASSETS	Δ LIABILITIES	Δ ASSETS	Δ LIABILITIES	Δ ASSETS	Δ LIABILITIES
Monetary gold and special drawing rights (SDRs)				:	1430	1345			1344	1429
Currency and deposits	23782		-51882	606	-181259	-424489	-15645	0	-241865	-42986
Debt securities	-11026	-242	-3798	-81237	-316458	120939	226021	-7901	49452	-87367
Loans	0	46819	529	6699	19662	-77555	-80586	-50499	-17067	-2926
Equity and investment fund shares/ units	113138	:	7237	:	110841	105156	260518	319810	9570	76337
Insurance, pensions and standardised guarantee schemes	20643	0	160	0	-1218	22539	2004	0	-289	-1239
Financial derivatives and employees stock options	263	0	-2861	0	-23948	0	-11640	0	0	-38186
Other accounts (receivable/payable)	-75	75956	-52334	-1789	60532	-131368	212624	203467	9511	83991
	146725	122533	-102949	-75721	-331848	-384778	593296	464877	-190688	-12376
<b>Net lending (+) / net borrowing (-) (from financial accounts)</b>	<b>24192</b>		<b>-27228</b>		<b>52930</b>		<b>128419</b>		<b>-178312</b>	



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# Why so much emphasis on tight-accounting rules?

- 1 Important to understand which sector is accumulating flows.
- 2 Important to detect debt problems.
- 3 The information is later used in defining the structure of the model, known as **stock-flow consistent models**.

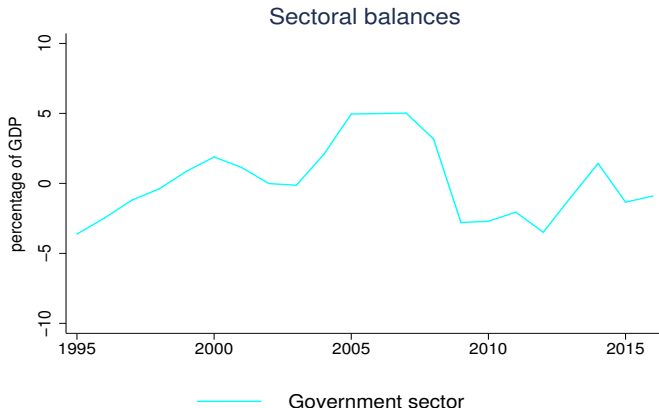


# Importance of flow accounting



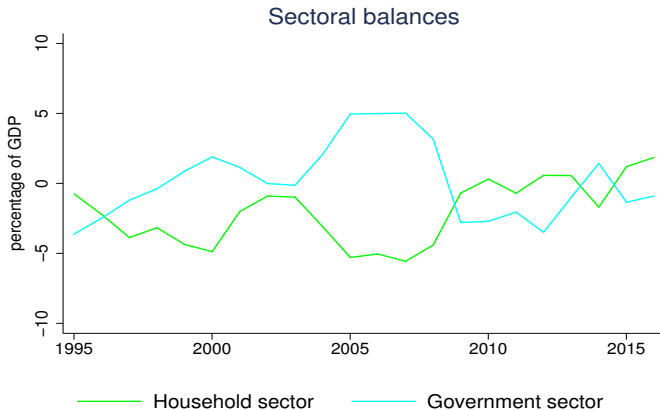
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## Sectoral balances of the Danish economy



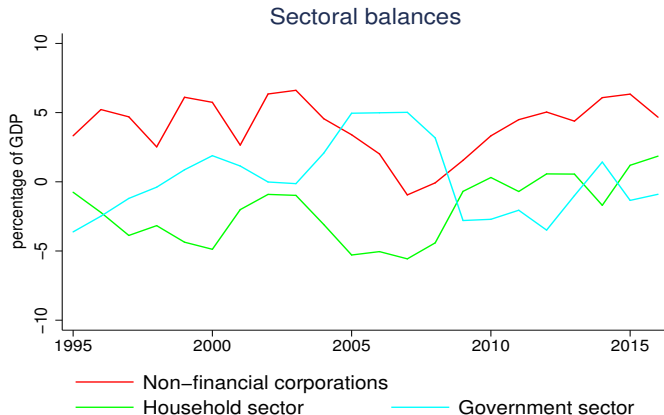
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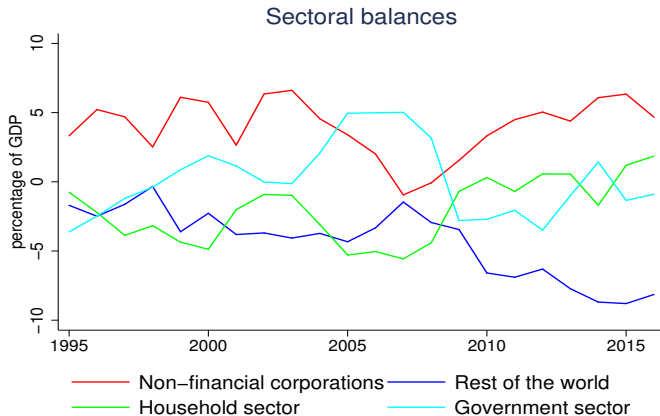
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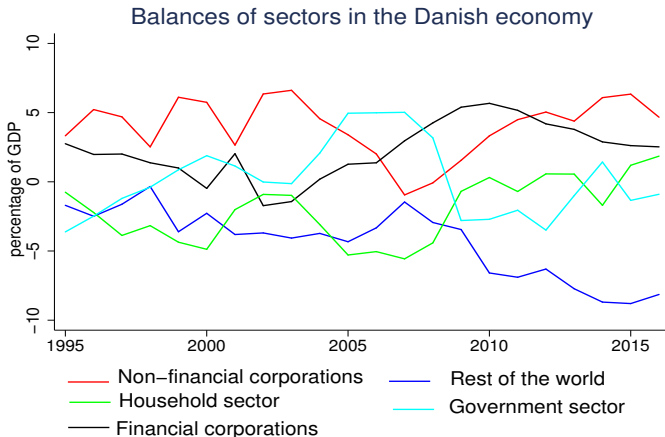
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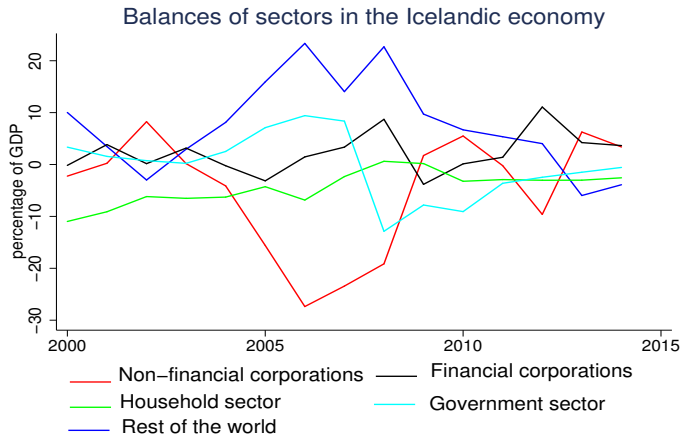
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## Sectoral balances of the Danish economy



# Importance of flow accounting

## Sectoral balances of the Icelandic economy



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1. The framework can link the real and financial sectors.



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1. The framework can link the real and financial sectors.
2. The models have the potential to explain debt dynamics.



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## Comparison:

- 1 Financial sector plays a passive role in traditional models:
  - Deficit on the real side of the economy is financed through borrowing (usually there is no feedback effect from borrowing to real economic activity)
- 2 Financial sector plays as an active role in SFC models:
  - Deficit on the real side of the economy is financed through borrowing. BUT, in all SFC models there is a feedback effect from financing activity to real economic activity



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## The way forward

- 1 Models differ in their explanations and interpretations of economic behaviours.
- 2 All macroeconomic models have their own strengths and weaknesses.
- 3 Macroeconomic models should be more open to integrate realistic features from other disciplines.
- 4 Current macroeconomic models should also pay considerable attention to the balance sheet analysis along with the flows.
- 5 The focus should be on understanding the link between financial flows and the real sector.



Thank you!

