A simple SFC model

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Suppose that we have an economy with the following features:

- There are three sectors: firms, households and banks.
- **Firms** make investment by using retained profits and loans. A part of firms' profits is distributed to households.
- **Households** accumulate savings in the form of deposits.
- **Banks** provide firm loans by creating deposits. Banks' profits are distributed to households.

This is a model which includes only **private money** that is created when banks provide loans to firms.

Balance sheet matrix

	Households	Firms	Commercial banks	Total
Deposits	+M		-M	0
Loans		-L	+L	0
Capital		+K		+K
Total (net worth)	+M	$+V_t$	0	+K

Transactions flow matrix

	Households	Firms		Commercial banks		Total
		Current	Capital	Current	Capital	
Consumption	-C	+C				0
Investment		+I	-I			0
Wages	+W	-W				0
Firms' profits	+DP	-TP	+RP			0
Banks' profits	+BP			-BP		0
Interest on deposits	$+r_m M_{-1}$			$-r_m M_{-1}$		0
Interest on loans		$-r_l L_{-1}$		$+r_l L_{-1}$		0
Change in deposits	$-\Delta M$				$+\Delta M$	0
Change in loans			$+\Delta L$		$-\Delta L$	0
Total	0	0	0	0	0	0

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Households

- Wage income of households: $W=s_w Y$ (1)
- Capital income of households: $Y_c=DP+BP+r_m M_{-1}$ (2)
- Consumption expenditures: $C=c_1 W_{-1}+c_2 Y_{c-1}+c_3 M_{-1}$ (3)
- Deposits (identity): $M=M_{-1}+W+Y_c-C$ (4)

Firms

- Output: $Y=C+I$ (5)
- Total profits of firms (identity): $TP=Y-W-r_l L_{-1}$ (6)
- Retained profits: $RP=s_f TP$ (7)
- Distributed profits (identity): $DP=TP-RP$ (8)
- Investment: $I=g_k K_{-1}$ (9)
- Capital stock: $K=K_{-1}+I$ (10)
- Loans (identity): $L=L_{-1}+I-RP$ (11)

Banks

- Profits of banks (identity): $BP = r_l L_{-1} - r_m M_{-1}$ (12)
- Deposits (redundant identity): $M_{red} = L$ (13)

Auxiliary equations

- Potential output: $Y^* = vK$ (14)
- Capacity utilisation: $u = \frac{Y}{Y^*}$ (15)
- Growth rate of output: $g_y = \frac{Y - Y_{-1}}{Y_{-1}}$ (16)
- Leverage ratio: $lev = \frac{L}{K}$ (17)