Macroeconomic Theory Lecture 10

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Last time

- SFC models, simple flow of funds systems
- Your assignment

This time

- Structuralist/Keynesian economics
- Not just $G - T$
- Key readings for today: GD Cht 10, Taylor (2004), Reconstructing Macroeconomics, Chts 1, 2.

Basic idea

"What I have tried to do over the years is set up a framework for macroeconomics that relates to the institutional structure of an economy and the genuinely perceived behavioral patterns of consumers, business people, and so on. This approach stands in contrast to trying to derive everything a priori from assumptions about the profit maximization of business and the utility maximization of consumers"

Source: Lance Taylor, Interview in Challenge/September–October 20042004, pg. 108.

Chris Sims on the evolution of economic ideas

"The recent financial crash and recession was not predicted by the DSGE models. Predictions from probability models by construction will be subject to error. It is therefore not the existence of the errors, or even their size, that is a problem; it is that the errors in the forecasts from the DSGE's (and standard SVAR's, for that matter) were of a size that the models' probability structures implied should almost never occur."

Source: http://sims.princeton.edu/yftp/Nobel/NobelLect.pdf

Key idea: Institutions matter for the macroeconomy

- Well, duh.
- But how do you model those sensibly?
- Social accounting matrices.

Logic of using SAMs

Idea is to illustrate questions of model causality or closure, defined here as selection among various behavioural restrictions to append to SAM accounting balances to give an algebraically complete model.

Put more cleanly, how to move from social accounts to social relations?

Good example: how to distribute surplus product, either to capitalists or workers. Or, how do prices of commodities influence income distribution?

The 'skeleton' of the system is given by the SAM, and the model (just a bunch of equations really) gives us a set of rules which determine how the elements of the SAM change over time. The 'drivers' of the SAM are the assumptions we make about what causes what.

Let's look at Kalecki, 1943.

Institutions and Distributions

Table 1.1 A small SAM with production, income, expenditure, and flow of funds accounts.

	Current expenditures				
	Output costs (1)	Wages (2)	Profits (3)	Capital formation (4)	Totals (5)
(A) Output uses	aPX	PC		PI	PX
Incomes					
(B) Wages	wbX				Y_w
(C) Profits	πPX				Y_π
Flows of funds					
(D)			S_π	$-PI$	0
(E) Totals	PX	Y_w	Y_π	0	

Figure 1: Your first SAM. Source: Taylor, 2004, pg. 8

Social relations and accounting.

- The roles of different social actors are illustrated by the column structure of the Table

1. Firms' production operations and relations with their labour forces.
2. Workers' consumption
3. Rentiers' and corporations' saving
4. Long-term planning by firms interacting with financial markets sets investment.

Model

- Introduction of something like $(1 - a)PX$ into wage payments and profits.
- From the Output costs column (1) and Incomes rows (B) and (C) we have $(1 - a)PX = wbX + \pi PX = Yw + Y\pi$,
- where Yw and $Y\pi$ stand for wage and profit income flows in nominal terms.
- They are carried separately on the hypothesis that people who (mostly) get wages behave differently in economic terms from the corpo- rations and real persons who (mostly) share flows of profits, rents, interest, dividends, and capital gains. # Deriving a sort of multipler: $X = I/1 - a - wb = 1/\pi$

Implications

- The SAM is a circular flow model
- The value of output decomposes into intermediate purchaes, the wage bill, profits, each of which are accounted for as production costs.
- Wages and profit payments generate incomes.
- Wage incomes generate final consumer demands and intermediate purchases, which are also sales. Saving happens here when not all income flows are spent. So $S = PI$.
- Investment levels are set by firms. Investment plus demand for intermediate goods plus consumption gives us the means to realise total output.

Data problems

- Correlation is, like, *so* not causation?
- In practice the pairs (I, X) and (w, P) move together in the data.
- That doesn't mean change in I *causes* changes in X. It could be vice versa.
- This is why macro is so theory driven. A bunch of models 'fit' the facts the data give us.
- Keynes/Kalecki macro you'll look at today is very linear.

Inequality and injections

- Economy's income distribution may well be driven by injections/leakages.
- EG. A $X = Y_p + T + M$ world. = Say $X = C_p + I_p + G + NX$ where X is aggregate supply of goods available for purchase, Yp is private income, T is net taxes, G is government spending and NX is net exports.
- Let private saving be $s_p = (Y_p + G + NX)/(s_p + t + m)$, import propensity be $m = M/X$ and tax rate is $t = T/X$.
- Multiplier is $X = (I_p + G + NX)/(s_p + t + m)$ as usual.
- Economy's real financial balance is

$$\dot{(}D) + \dot{Z} + \dot{A} = (I_p - s_p X) + (G - tX) + (NX - mX)$$

- Here D, Z and A are net changes per unit time in claims against the private sector, in government debt, and in foreign assets.

Stop me if you've seen this before.

- This equation shows a macro balance where claims against one institutional entity must grow when its demand contribution to X exceeds X itself.
- EG $NX < mx$, net foreign assets are declining, while $G > tX$ mean the government is running up debt.
- Contractionary demand from the rest of the world, say, requires one of the other sectors to hold higher liabilities or lower assets.
- Because $\dot{(D)} + \dot{(Z)} + \dot{(A)} = 0$ adjustment processes are unavoidable.
- Ratios like D/X, Z/X and -A/X are stock flow relations. When they get out of whack, something may well be going wrong elsewhere.

Example: Schularick and Wachtel, 2014

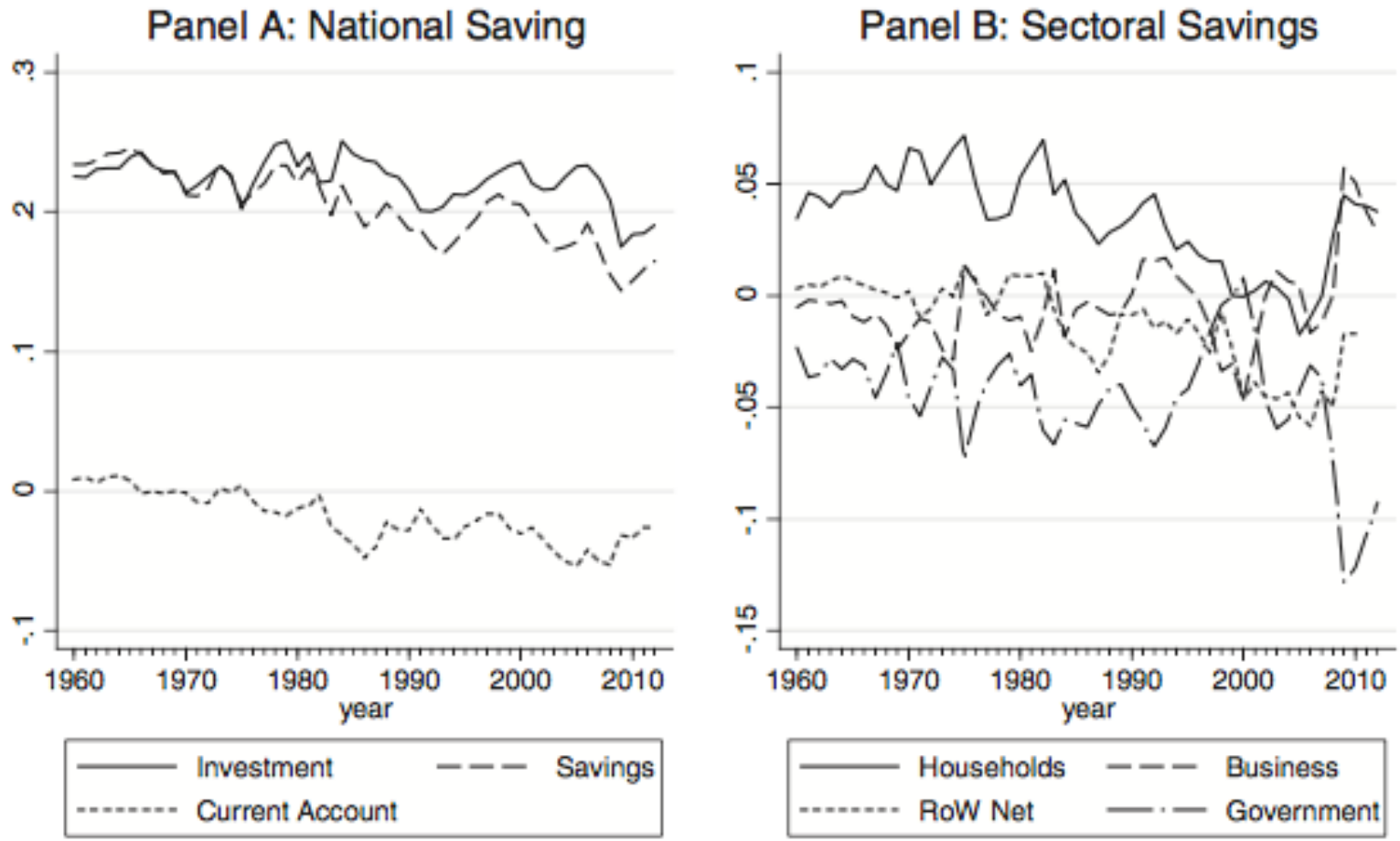

Figure 1 US Saving and Investment as % of GDP. *Note*: Panel A shows gross domestic investment, national savings and the current account balance from the NIPA. Panel B shows the net financial investment of each sector.

Figure 2: Source: The making of American's Imbalances, CESifo Economic Studies, Vol. 60, 1/2014, 62–88

A model of investment constrained growth (GD, cht 10)

- Imagine a world where saving β is constant. Growth rate of wealth is
- $1 + g_k^s = \beta(1 + r) = \beta(1 + v - \delta)$.
- Keynesian models need someone to decide to do some investment.
- Robinson's banana: people will target the growth rate of investment such that $g_k^i + \delta = \eta v$.
- Here η is a measure of animial spirits, greed and fear, etc.
- Growth rate of capital stock is where $g_k^i = g_k^s$
- Prices adjust according to $w = (1 - \pi)ux$ where u is the rate of capacity utilisation.

Growth and distribution

- Growth distribution schedules now given by

$$w = ux - vk = x(u - v/p)$$

and

$$c - ux - (g_k + \delta)k = x(u - (g_k + \delta)/\rho)$$

- Key point: growth distribution schedule is investment-constrained now.

Investment constrained growth and distribution

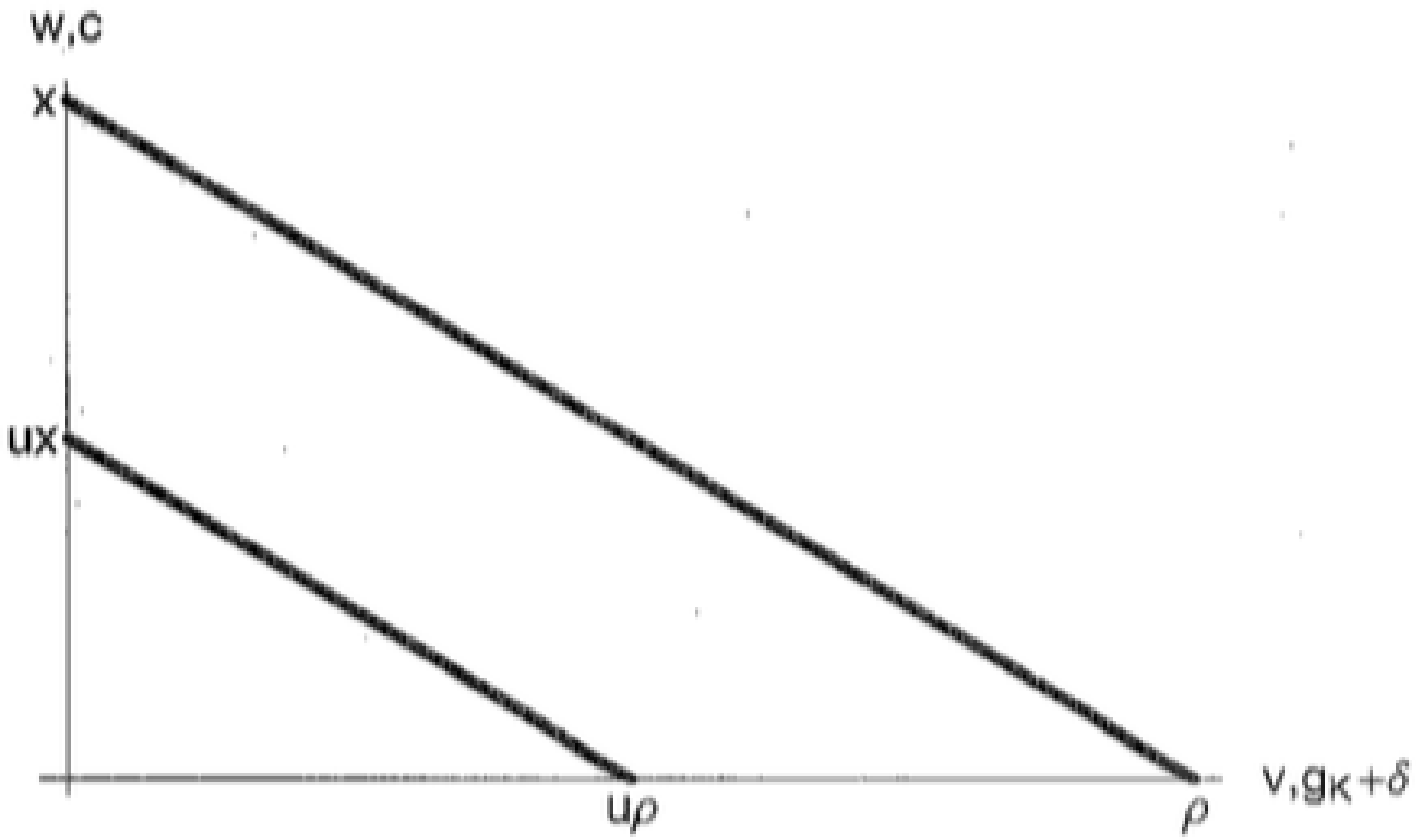

Figure 10.2: When capacity utilization is lower than 1, the growth-distribution schedule shifts inward parallel to itself, so that actual labor and capital productivity, ux and $u\rho$, fall proportionately, while capital intensity, k, remains constant.

Figure 3: Source: GD, P 181

Equilibrium growth and distribution:

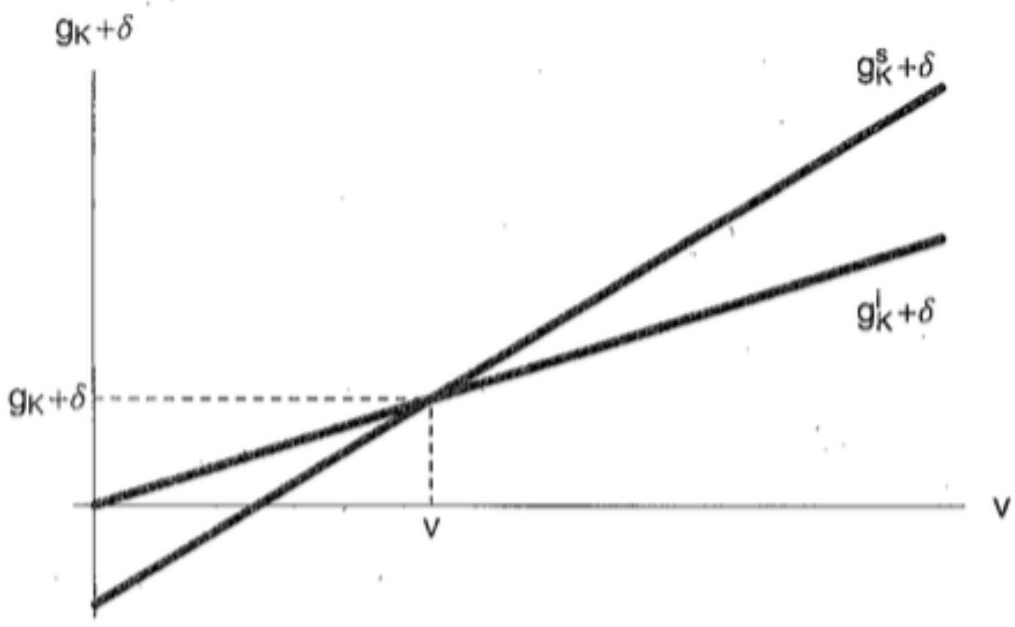

Figure 10.3: For each rate of profit the Cambridge equation determines the growth rate of capital consistent with capitalists' saving plans, and the Robinson investment function determines the growth rate of capital consistent with entrepreneurs' investment plans. Since the Cambridge equation has a lower intercept and higher slope than the Robinson investment function, under the assumption that $\beta > \eta$, there is a unique equilibrium level of the profit rate, v, and the gross growth rate of capital, $g_K + \delta$. The equilibrium capacity utilization rate is then $u = v/\pi\rho$.

Figure 4: Source: GD, P 184

The long run

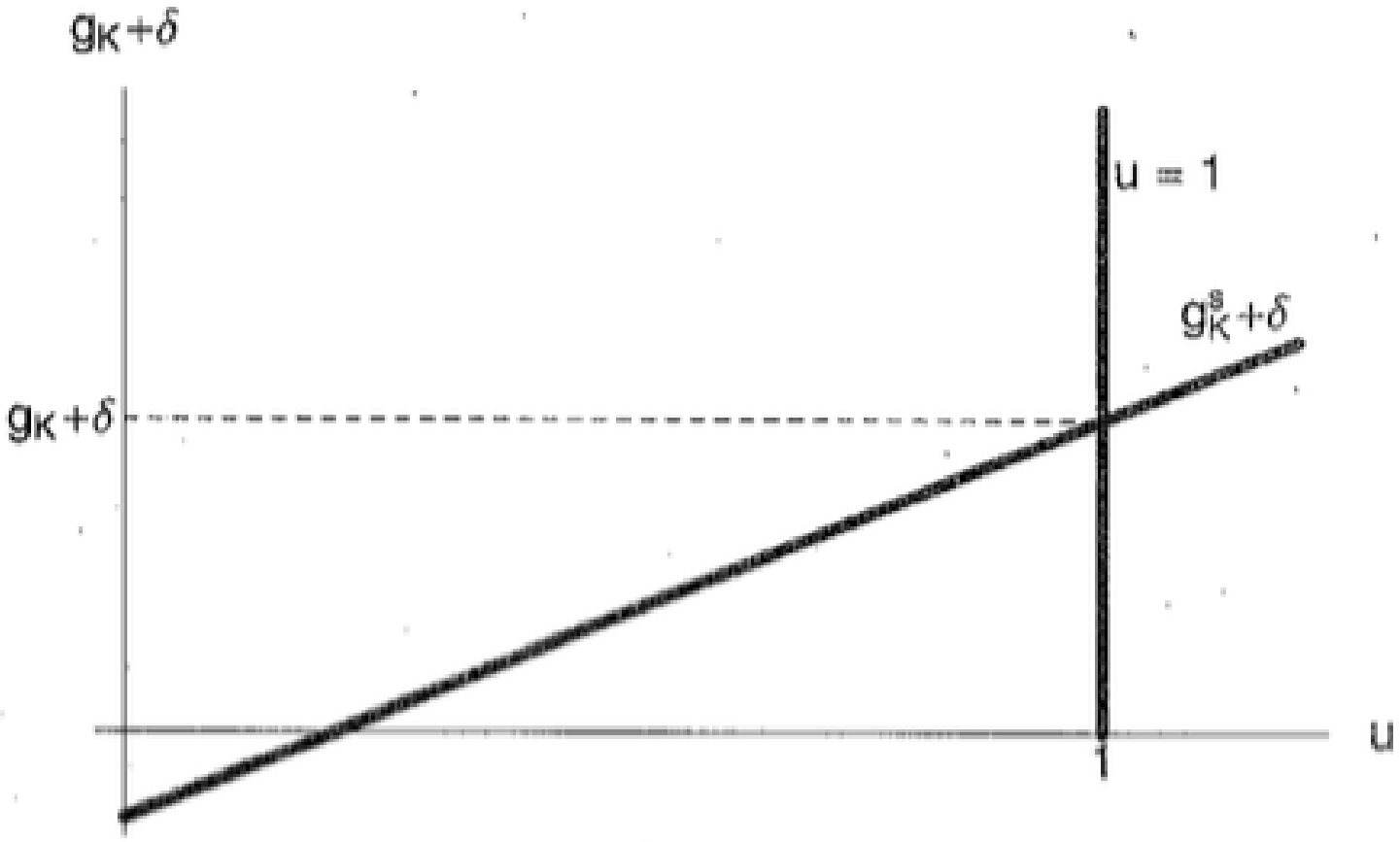

Figure 10.6: In long run equilibrium investment demand adjusts to saving, and the Cambridge equation again determines the rate of growth of capital.

Figure 5: Source: GD, P 192

Summary

- Structuralist and Keynes/Kalecki models emphasize

1. Accounting
2. Social relations between agents/sectors
3. Role of psychology in investment
4. Capacity utilisation constraints in productive processes.
5. Keynes/Kalecki built models where Say's law doesn't hold anymore.