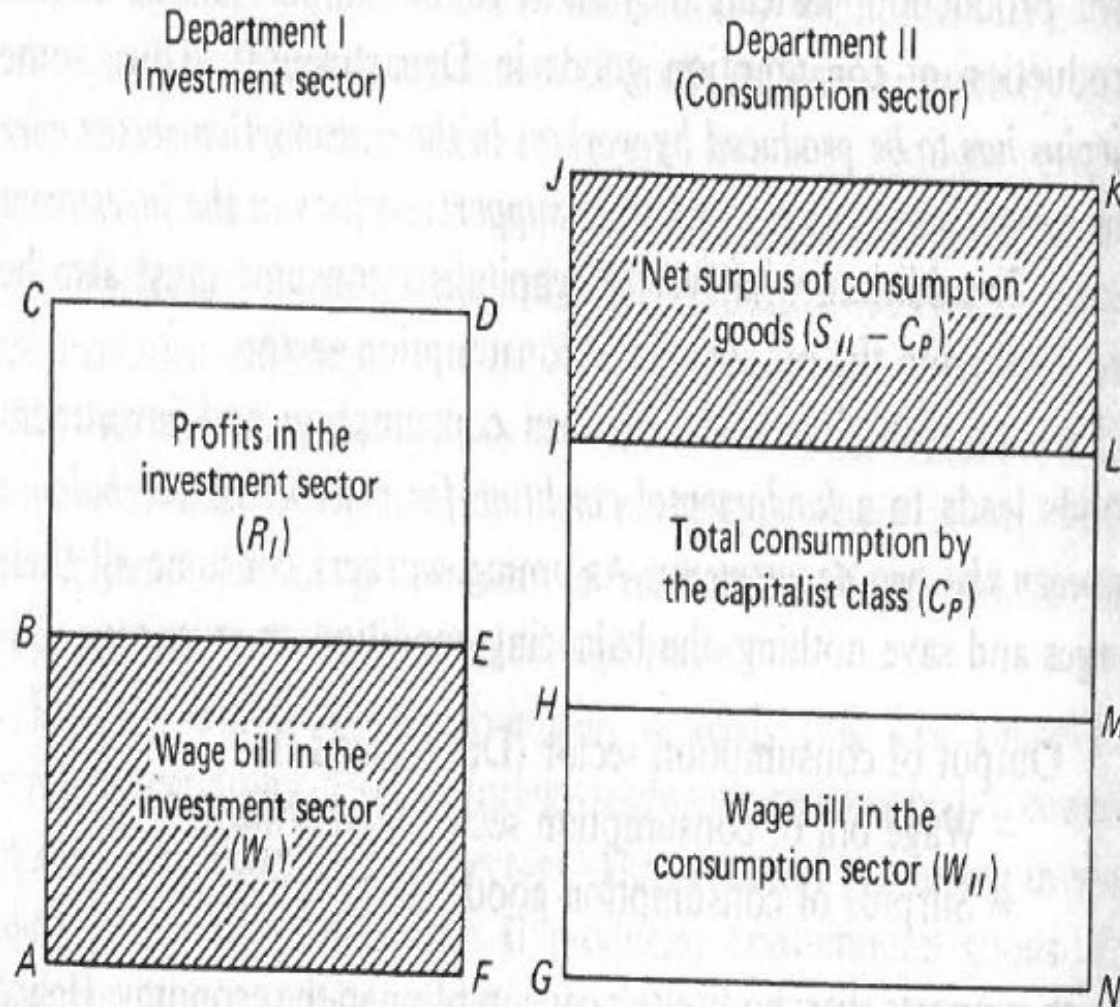
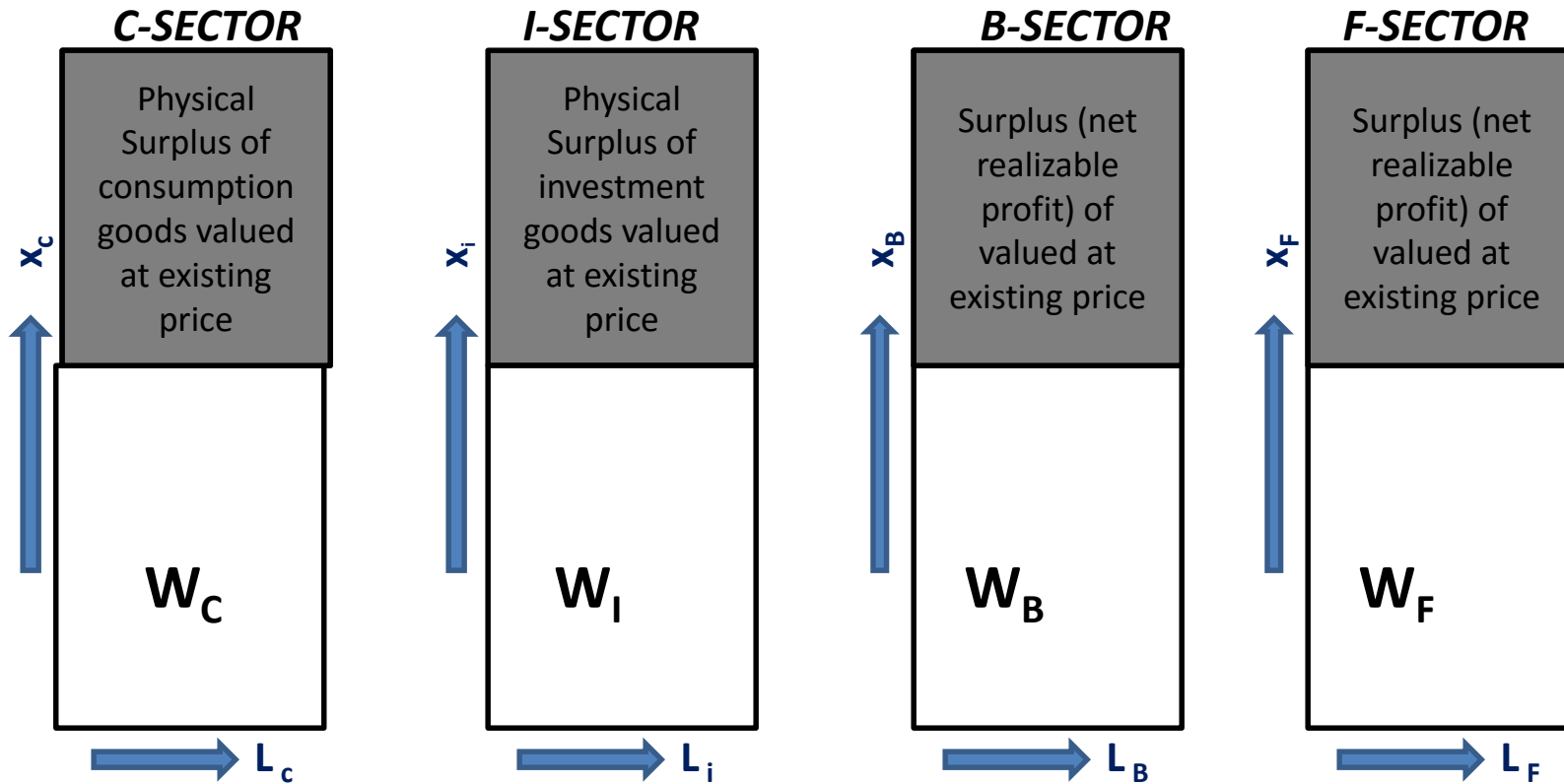


The simplest model of capitalism without finance

Figure 2.1 *Shaded areas ABEF and IJKL are equal.*



THE SIMPLEST MODEL WITH FINANCE



In the simplest model of capitalism with finance

- (1) All wages (and salaries) are consumed i.e. spent on the consumption sector (C)
- (2) All profits are saved
- (3) No government but there is a banking sector (B) regulated by a central bank which is also lender of last resort.
- (4) No foreign trade of capital flows in the closed economy .
- (5) The finance sector (of investment banks , mutual funds) is not regulated by the central bank and has no lender of last resort.
{In reality " too big to fall " argument of "moral hazard " from that}

Realization of surplus of the consumption sector into money profit

(1) How the market is provided for surplus beyond 'self – consumption ' by workers in the consumption sector.

Equation (1) $W_I + W_B + W_F = (\text{Surplus})_c = \mathbf{Su}_c = R_c$

(2) Note if other sectors (I, B, F) smaller or bigger, There would be less or more demand for surplus of C.

(3) If wage (in terms of consumption goods) is smaller more surplus is available in C sector , but less surplus is needed by other sectors. Therefore , 'other things equal ' , lower wage rate makes the problem of surplus realization into profit greater, but more generation of surplus.

'

‘Value added’ by a sector is wage + profit
(after all raw materials are netted out)

Value added by sector I = I = $x_I L_I$

Value added by sector B = B = $x_B L_B$

Value added by sector F = F = $x_F L_F$

Value added by sector C = C = $x_C L_C$

Value added per worker : x_j ($j = I, B, F, C$)

Potential profit (with or without realization into money profits):

$R_C^*, R_I^*, R_B^*, R_F^*$

As above,

Equation(2): $W_I + W_B + W_F = R_C^* = R_C$

Unrealized potential profit is addition to inventories
notionally valued at existing price.

So, $(Su)_C \equiv R_C^*$ (identity)

But $(Su)_C = R_C^*$ (equation)

The equation is satisfied only when

$$R_C^* - R_C = 0$$

i.e. no unplanned accumulation of inventories or no unplanned unsold goods.

$$(B - W_B)^* = R_B$$

$$(I - W_I)^* = R_I$$

$$(F - W_F)^* = R_F$$

Total value added by non-consumption good sectors:

$$\text{Equation(3): } B + I + F = (R_B^* + R_I^* + R_F^*) + (W_B + W_I + W_F)$$

Endogenous Money : Modern Credit System.

There is cash (and demand deposit) created as liability of the Central Bank.

Banks have access to central bank cash/ liability as their lender of last resort. But they can credit vis-à-vis the public for all profitable lending outlets which makes bank credit –(money) demand determined i.e. endogenous money supply (Deposits follow rather than precede, and also gap can be filled by inter-bank money market borrowing and by the lender of last resort in extreme cases).

This means there is no excess money supply or inventories unlike consumption and investment sector.

Demand determined potential=actual profit of banks i.e. Equation(4) , * $R_B = R_B$

By similar argument where financial sector borrowing and derivative/ swap agreements for the financial sector.

Equation(5) , $R_F^* = R$

The only difference (and a root cause of crisis) is there is no lender of last resort and no supervision, but money guaranteed by central bank as its own liability (cash) or of the supervised banks (demand deposits) are needed for final settlement in case of default/margin contraction.

From equation (and identities),

(2), (3), (4) and (5)

Equation (6) $B+I+F = (R_B + R_{I^*} + R_F + R_C) = R$

[only unsold investment goods remain as inventories in (6). Also consumption goods, if not all is sold]

$B = N$, can be interpreted as the net interest income of banks on the credit advanced (assuming that is the only operation deposit banks perform)

$F = I_F =$ demand-determined

size of the financial market=financial investment

i.e. investment in financial markets on securities/derivates etc. by other sectors.

Equation (7): $I_R + I_F = (R - B) = \text{Profit net of interest payments} = \pi.$

($I_R = I$ for notational symmetry)

(7) is the fundamental equation we would explain its implications.

Equation (7) is of fundamental importance for three main reasons.

(1) It is a special case of expenditure (demand) and income (output) equality also known as investment saving equality. It can be generalized to more complicated cases where only part of profit or wage is saved, mixed income households earning both profit and wage and borrowing from banks. In this special case, I_R represents demand for real goods and services, I_F represents demand for investment in paper assets (claim on income from profit). Saving equals profit because all profit and no wage is saved.

- (ii) It shows that investment is a mixture of partly real expansion of productive capacity and partly portfolio investment as claims of existing (secondary market) or newly created (primary market) (It is both making and buying, and not a micro-economic 'make' versus 'buy' choice).
- (iii) The sector producing real investment goods may over- (or under)-produce with unplanned inventory accumulation to make the equation an identity with insufficient profit realization. The finance sector in contrast holds no unplanned inventories but has perfectly elastic supply potential adjusting instantaneously to demand.

Adjustments

If I_R increases, there may be quantity adjustment or price-wage adjustment to change distribution to result in more profit (= saving).

If I_F changes there will be similar adjustment, more supply of financial securities at fixed price or a rise in security prices and potential capital gains resulting in more profit (= saving)

In case of capital gains the system has a tendency to destabilize as high expected capital gains can shift investment expenditure in favour of capital gains.

If total investment increases (because capital gains make banks healthier and households more credit worthy) both real sector and financial sector expand. If the composition change sufficiently in favour of financial investment, real economy may stagnate while the financial economy expands (elasticity condition real and financial investment)

<u>example</u>	$I_R + I_F$	I_R	I_F
	10	7	3
	15	6	9

To interpret the relevance of the model recall its basic assumption that each sector is vertically integrated through physical inputs and self-sufficient, except for financial linkages, in so far as it can grow on its own without being dependent to other sectors in terms of physical input supply. The interlinkages are essentially due to demand for physical goods and credit requirements.

That is, consumption sector (C) produces a homogeneous consumption good for all classes, but only workers consume for simplification of exposition. Similarly the investment sector (I) produces capacity creating or enhancing good for all sectors.

Banks (B) deal in lending credit money as ultimate means of settlements guaranteed by the central bank. They lend against future income streams of the other sectors. Workers do not borrow for simplified exposition.

Financial sector(F) buys debts of other sectors and securitizes them and guarantees them internally through credit rating without central bank supervision or guarantee, and sell them to the other sectors which now becomes the assets held by other sectors.