GOLDEN RULE OF ACCUMULATION

-EDMUND PHELPS

Paper No.CC409(Intermediate Macroeconomics -II)
UNIT I:ECONOMIC GROWTH

Ms. Monica,
Ass. Professor,
Dept. Of Economics,
Patna Women's College.

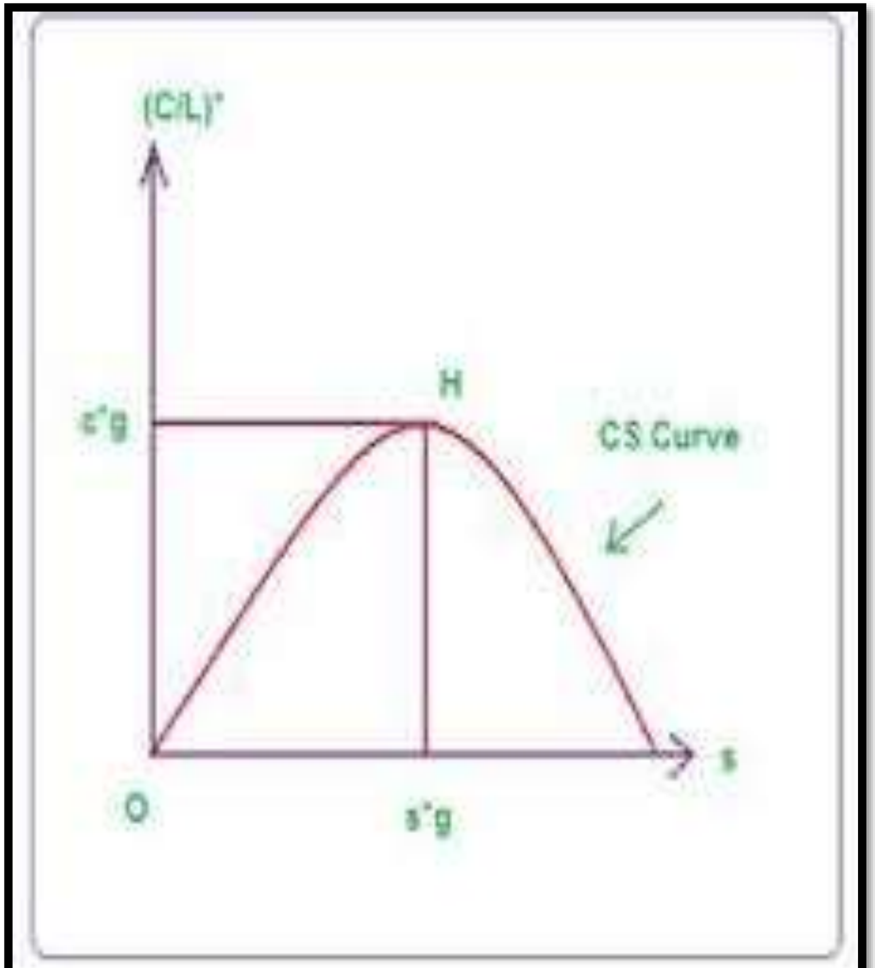
Introduction

- According to Golden rule of accumulation,in a golden age per capita consumption is maximised when

SAVING RATE = PROFIT RATE

- The steady state ,value of k which maximises consumption per worker is called Golden rule level of capital which is coined by Edmund Phelps and denoted by k*g.

Graphical Explanation



Golden age per capita consumption is shown on the y-axis and saving rate on the horizontal axis.
As we move along CS curve ,per capita consumption increases at low levels of saving.
It is golden rule saving rate s*g that per capita consumption is maximised at c*g level of per capita consumption. This is the highest point H on the Cs curve.

Determining Golden Rule level of Capital

- Determine the steady-state consumption per worker.
- Since, Y=C+I
- Steady-State Output per worker=f(k*)

C*=Y-I

C*= f(K*)-δK*

- An increase in steady state capital has 2 effects:

→ positive(↑K↑ Q)

→ negative(more K , more Q to replace worn out K)

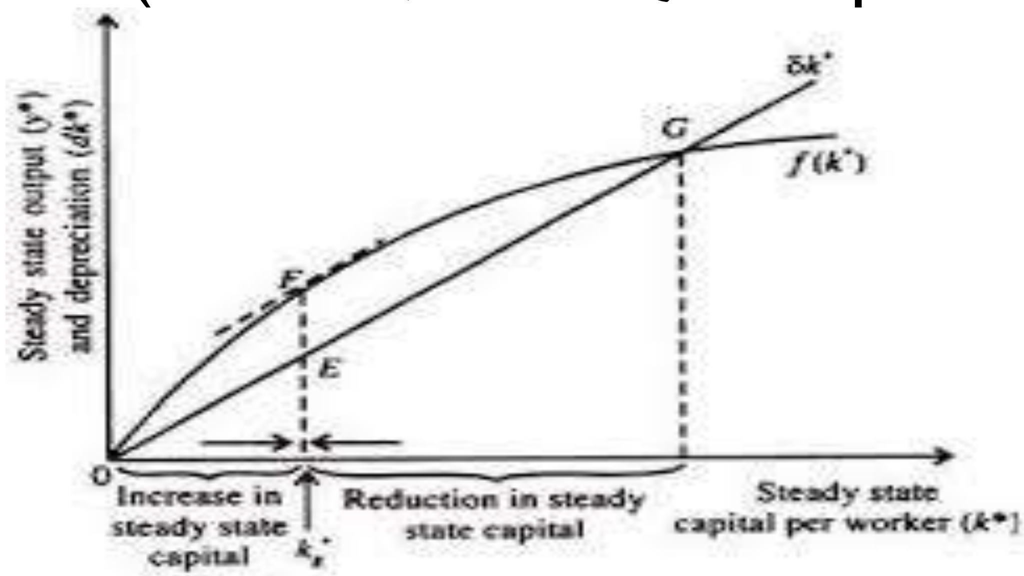


Fig. 4.7 Steady State Consumption

Golden rule steady state can be found by 2 ways:-

Looking at Steady-State Consumption

Looking at MPK

- **At the Golden Rule Level of Capital is characterised by k* where the slope of both the production function(i.e MPK) and depreciation line(i.e δ)**.We have,MPK = **δ**
- Golden rule Capital stock is a condition used by policy makers for finding out capital stock for an economy which maximises level of consumption.

$C^*=f(k^*)-\delta k^*$ $dc^*/dk^*=f'(k^*)-\delta$

$\Rightarrow f'(k^*)=\delta$

Conclusion:

- The golden rule relates to maximisation of per capita consumption,so it can be represented using output(Q),Saving(s),Investment(I) and Capital stock (k).
- Golden rule capital stock uses k* as a variable to show steady-state capital stock per worker.
- Optimal Consumption and saving leads to Capital Formation.