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THE PRINCIPAL

Code Letter : LH3
T H E R A P I D R E S U L T S C 0 L L E G E.
This set of lectures contains:-
LECTURE 1 : The Trade Cycle.
LECTURE 2 : The Theory of Growth.
TEST LH3.
NOTE: The test on this set is bound in at the end of the book.
10470

THE TRADE CYCLE

A. INTRODUCTION

Prior to the publication of Keynes’ "General Theory" in 1936, the phenomenon of the Trade or Business Cycle occupied on important place in economic theory. The course of the cycle, which had a periodicity of from 7 to 11 years, fell into four phases : -

(a) Recession.
(b) Depression.
(c) Expansion.
(d) Boom and Peak.

Many theories were advanced to account for the fact that these cycles followed the same pattern. It was quite seriously argued, for example, that variations in solar activity (sun spots) correlated with variations in output, employment, income and prices through their influence on world harvests of staple foods and raw materials. The most important theories can be classified as follows:

(a) The Harvest Theory.
(b) The Psychological Theory.
(c) The Over-Investment Theory.
(d) The Under Consumption Theory.
(e) The Monetary Theory.

All these theories threw some light on aspects of the problem, but did not get to the root cause of the cycle. It was Keynes’ concept of the Multiplier, linking changes in income with changes in investment, that opened up a new line of approach.

B. FEATURES OF A BUSINESS CYCLE
Liege;
GE
An idealised version of a business cycle is represented here in Figure l where GE represents general economic activity and T represents time. The length of the cycle is measured from trough to trough (D) or from peak to peak i.e. B to F. As we have mentioned there are 4 phases. AB can be called the expansion phase. B is the turning point and is the peak or boom. BC is the second phase, called the recession phase. D is the lower
turning point and is known as the depression.
DE is the fourth phase and is known as the expansion phase.
1. EXPANSION.
The prolonged depression has led to a large volume of unemployment, to low wages, low prices, low profits and
poor rates
willing to
willing to
vesting it
success in
mism among
of interest. There are many people who are
lend to safe borrowers but few investors are
accept the risk of borrowing money and in-
in on enterprise which has so little hope of
view of the low prices and the general pessi-
the buying public.

However, at this stage some development will occur that will bring about a return of confidence. Before the trend to recovery can be initiated there must be this return of confidence.

Certain developments, taking place at just the right moment, can set recovery (revival) on its way. Among these we may include : -

(a) Government expenditure on public works.
(b) Government assistance to private enterprise (e.g., housing schemes).
(0) Government expenditure on a certain project (e.g., rearmament).
(d) A need for new houses because of population growth.
(e) Exploitation of new inventions which leads to new investment and activity.
(f) Assuming prices cannot fall any lower, entrepreneurs enter new production programmes.
(9) Firms deciding to replace or review out-of-date or worn plant and equipment while prices are low.
(h) If a country has experienced a long period of depression, the discovery of a valuable mineral deposit can bring about confidence and recovery.
(1) The building of railways can have a beneficial effect by creating confidence in the economic future.

As soon as the process starts, more people will have to be engaged in industry and that will mean a larger wages bill which, in due course, will lead to increased expenditure and thus to a further demand for goods. It is also obviOUs that many propositions which were not feasible during an earlier boom because of the higher interest rates which then prevailed, will now be paying propositions when the rate of interest is low. It is a feature common to all trade cycles that when the expansion starts, it starts in the capital goods industries, i.e. in the industries producing machinery and similar goods. The low rate of interest will be of particular importance to these industries since, as a rule, they require more capital than the consumption goods industries. From the capital goods industries, the development sereads to the other industries of the country and to agriculture.

BOOM

The expansion soon develops into a real boom with prices rising all round. This is very largely due to the policy of the banks who will be willing to expand credit for some time almost without limits.

This shows, as is now generally accepted, that the boom is in its effect very similar to any other inflationary develoPment, and that the depression represents a form of deflation.

While the general price level is rising during the boom, this does not represent equal proportionate rises in all prices. The prices of s e goods will rise faster than those of others. With increasing employment, bottlenecks arise in certain occupations. This may lead to higher wages and higher profits in these industries while tighter control still remains to be taken Up in other branches of industry.

The fact that luxury trades make a relative gain during the boom is a very important one, since it explains the greater instability of these industries. Similarly, manufacturers with high profits at their disposal will decide to invest part of them in their own businesses by purchasing new machinery, and having new premises built. Thus the capital goods industry and the building trade will show an equally marked cyclical tendency. The general high level of incomes will also lead to on increase in the consumption of imported goods and may, unless other countries have also already reached the stage of the boom, cause the balance of trade to become unfavourable.

RECESSION

In the same way that the depression contained within itself the seeds of the boom, so the boom contains within itself the seeds of another depression.

During the boom, the rate of interest has been rising gradually with the increased demand for loans.

The easiest way to reduce the demand for loans would be to increase the rate of interest, i.e. as the boom draws to its conclusion, the rate of interest rises rapidly.

Many manufacturers borrow in order to be able to carry on their production programme, and when they start their operations they may be able to count on a reasonable profit in view of the low rates of interest and the great expectations of any branch of industry. The rise in the rate of interest may come as an unpleasant surprise, and many capitol schemes may have to be cut short or cancelled altogether.

This means that the employment position in the capitol industries suffers, and some people in these trodes lose their jobs. This represents the first sign of the approaching depression. Unemployment leads to wage cuts in other trades, lower wages mean lower money incomes and this means less money expenditure. Business turns suddenly from good to bad.

Since, during the boom, businesses stock up with goods and raw materials - a very wise precaution in view of the general tendency of prices to rise - they are able to carry on For a considerable time without having to reorder. However, by stopping their normal replacement demand, the branches of business dealing with the final consumer, deliver a severe blow to the sections which supply them with their goods.

DEPRESSION
Prices are low, there are abundant funds ahailable in the banks waiting to be invested, and there are thousands of unemployed clomouring for work.
During the depression, the necessary adjustments are being made in the economic system to adapt it to the changed circumstances. In industries in which high profits were being earned, without experience and without having anything new to offer, companies which have been developed during the boom, are now wound Up. Individuals who have over-reoched themselves on the stock exchange, pass through the bankruptcy courts. "Mushroom" shops which have been deve10ped to skim the consumer market have to close their shutters.
The high level of unemployment causes a reduction in imports, as people have less money to spend on such goods. Governments also try to save domestic employment by encouraging people to spend their money at home, and by cutting down imports through tariffs, quotas and similar means. However, since the imports of one country are the exports of another, such tendencies merely lead to on export of unemployment and depression to other countries, and little is saved in the long run.
THE MULTIPLIER
A change in total spending can lead to a greater change in the equilibrium level of national income. This is because expenditure on the port of anybody generates income for somebody else, and increased income, in its turn, leads to greater expenditure - which leads to Tore savings on the port of somebody .... 8.9. A invests in a typewriter (NB. money laid out on a non-consumable good, e.g. hardware is regarded as an investment). B, from whom he bought the typewriter, buys o lown-mower from C - who uses some of the extra money in his pocket to buy some trellis from D - who then buys 0 large ball of sisal twine to tie up some creepers. And so on, until the original R165 paid for the typewriter has been "used up" entirely, as it were, in a circulating flow of money into both investment and savings.

The diagram below illustrates very simply this function
of the Multiplier in a circulatory flow.
INVESTMENT INCOME CONSUMPTION SAVINGS
R2 500 R2 500 : R500 T R2 000
500 : 100 t 400
100 : 20 t 80
20 : 4 1 l6
4 : .8 1 3.2
.8 : .16 1 ..64
: ANgzgo 0N
s_lzs 6_25 E5
EQIE:
1. Total savings is equal to investment
. . _ Total incomes generated _ 3 125 _
2’ Multiplier _ Investment _ 2 500 _ 1’25
3. The marginal propensity to save : 1.25 (given)
Keynes also demonstrated that the rate of investment was
largely dependant on the marginal efficiency of capital
which in its turn,was dependant on expectations of entre-
preneurs regarding future prospects.
His basic concepts of the marginal propensity to consume,
the marginal efficiency of capital and liquidity preference,
were fundamental in the later dynamic theories of such lea-
ding economists as Harrod, Hicks and Hansen, to mention but
a few.
D’ THE ACCELERATION PRINCIPLE
The Acceleration Principle was the next concept to be explored.
It explained the effects of induced as distinct from voluntcrx
investment.

This principle holds that there is a certain normal relationship between the stock of real capital and the level of output. If, for example, an investment of R10 000 in plant and machinery is required to produce an annual output of R5 000 worth of consumption goods, then this ratio is 2.

If the demand for the product rises, then the amount of additional investment required will be twice the amount of the increase in demand. Hence the rate of increase in the stock of capital is a function of the rate of increase in consumption.

This explains why fluctuations in the heavy industries such as iron and steel, ship-building, engineering, etc., have been much greater than in consumption goods industries.

E. PERIODICITY

Capital goods industries (including those producing durable consumption goods such as motor cars) produce for two types of demand :-

(0) Replacement of worn-out machines.

(b) New machines.

The amount of replacement depends upon the existing stock of machines, their effective working life, and their age-distribution. Thus a stock totalling 100 machines with on effective working life of 10 years will require replacements 0t 10 machines per year, provided they were purchased at the same rate in the past.

If, however, 50 of the machines were purchased eight years ago and another 50 six years ago, then the replacement rate would be as follows:-

IEAB REPLACEMENTS
l __
2 __
3 50
4 _-
5 __
6 5O
7 _-
8 _-
9 50
10 -_

It therefore there is a sudden increase in the demand for the product and new machines are added to the existing stock during any one year, a wave of replacement will be created and superimpoSed on the existing pattern. This would not matter were new additions to be made at a constant rate, since in each year some would fall due for replacement, especially if such additions were small in relation to the total stock of capital.

Experience, however, shows that investment has always tended to be heaviest during the upswing phase of the cycle, so that there are likely to be recurring peaks of replacements depending on the life of the asset.

In periods of rapid technological progress, much equipment is discarded before it reaches the end of its effective physical life, to be replaced by newer and more productive equipment.

Note that in building, the long life of dwelling houses in particular, tends to lengthen the cycle, coupled with the fact that the annual construction is small in relation to the stock.

For inventories (stocks) the replacement period is short, which tends to shorten the cyclic effects.

F. INTERACTION 0F MULTIPLIER AND ACCELERATOR

There are thus two distinct relationships between Income (Output) and Investment.

(o) The level of income is a function of the rate of investment (multiplier).
(b) The level of investment depends upon the rate of change in income (accelerator).
At first sight, these two appear to be irreconcilable.
If investment is constant over time, the multiplier will bring about a constant level of income, but a constant level of investment requires a constant increase in income.
Both conditions can, however, be satisfied if the income in each period is a multiple of the income in the previous period. Thus if income grows at a constant rate of, say, 20% a year, the propensity to save is V2 (multiplier : 2) and the capitol output ratio is 3:1, the result can be illustrated as follows :-

Period	Income	Investment	StOCk 0f Ca 1tal at start of Period
1	100.0	50	N50
2	120.0	60	N00
3	144.0	72	N60
4	172.8	86.4	N32
5	207.4	103.7	518.4

50 long as the variables do not change, the expansion illustrated above will in theory continue indefinitely.
If the rate of investment were to rise because of a change in business expectations, in the rate of interest, or in the marginal propensity to save, then a cumulative expansion would take place.
Conversely, a full in the rate of investment would bring about a cumulative contraction.
Such explosive expansions or contractions would not, however, in themselves lead to cyclic fluctuations. Some other factors must inhibit indefinite expansion and turn it into a contraction. Such factors are found in :-

G. FLOORS AND CEILINGS

l

4

A cumulative expansion requires ever-increosing utilisation of productive resources, particularly of labour. Once the level of full employment is reached, no Further increase in output is possible unless productivity rises through technological innovation, better management or factor substitution. This provides the ceiling. Once the rate of increase in income falls off, a reversal takes place.

The necessity to finance additional investment provides another restraint. This requires an expansion of the money supply. Under 19th century gold standard conditions, expansion would eventually be checked by the "rules of the game" i.e. the necessity to maintain convertibility into gold. Under 20th century monetary management, the monetary authorities now control the money supply and can take appropriate action to restrict or to stimulate further growth.

In the case of a cumulative contraction, the floor will be reached when net investment falls to zero, i.e. when capital goods industries are producing for replacement only.

The economic system will thus oscillate between its upper and lower limits. Where the multiplier is low, i,e. the M.P.S. is high, fluctuations will tend to be smaller than where the multiplier is high.

H. TRADE CYCLE THEORIES

Let us discuss the five theories we mentioned earlier in some detail.

1. THE HARVEST THEORY

This "agricultural" or "sun-spot" theory is one of the earliest explanations of the Trade Cycle. It was developed by W.S. Jevans - an economist in the nineteenth century. He analysed agricultural output figures and came to the conculsion that annual variations in output were part of a rhythmic pattern. This pattern he determined was the result of a ten-year period of solar heat brought about by regular variations in sun-spots. Recurring deficiencies in heat, he said, reacted upon harvests and economic activity. To Jevons, variations in the goodness of harvests were sufficient to produce cycles of depression, activity, exitement and collapse.

In short: -

The Harvest Theory stresses the influence of climatic conditions on agriculture and economic activity.

The Harvest Theory - a separate agricultural theory - has since been disputed for the following reasons :

(0) There is no uniformit in the len th of the "weather cxcles". (Jevons’ successors have in turn altered the period - 11 years, 3 and a half years and 8 years have been suggested).

(b) "Weather cycles" do occur in agricultural output, but it has not been groved that thex control cxcles in total Broduction outeut.

(c) Agricultural fluctuations are merelx one of monx s
timuli in the economic sxstem.

(d) The Trade Cycle is greatly concerned with that branch of industry which does not obtain its raw
.________.___.__________
materials from agriculture, namely the capital goods industry.

2. THE PSYCHOLOGIC5& THEORY

The Psychological Theory is referred to as the theory of over-confidence or over-optimism.

The view adopted is that rhythmic cyclical changes are caused by "mutual generations of optimism and pessimism". It is said that the "mental tone" of entrepreneurs
. . . ---e--------T-T--
varies and gives rise to errors of undue optimism or pessimism in business forecasts.

Through mutual suggestion the errors or excesses extend to all business. There is no doubt that psychology plays an important role in industrial fluctuations. For example, during an industrial boom - a period of strong excitement, an excited man swings from one extreme to the other, thus producing a change from optimism to pessimism.

The essential feature of this theory is that minds of entrepreneurs do not work independently. When an entrepreneur is optimistic so are the others and business as a whole is good. When an entrepreneur is pessimistic it is because business appears to be bad. The psxcological theorx draws attention to the human factor, which cannot be disregarded once a boom or depression has started.

However, this theory also has defects, viz., it does not explain either the basic causes of a crisis, or its recurrence at regular intervals, or the fluctuations in the purchasing power of the community. It explains the menus by which the repercussions of some apparently trivial event may be widened.

3. THE OVER-INVESTMENT THEORY

The basis of the Over-Investment Theory is that during the upswing of the Trade Cycle, there is over-invest-ment in the industries producing ca ital oods as compared with those industries producing consumer goods. The production of capital goods is too great, with the result that there is a serious maladjustment in the structure of Eroduction. This maladjustment causes the breakdown of a boom.

In other words : -

The Over-Investment Theory is based on the view that there is maladjustment in the structure of production, due to over-investment in the capital goods industries.

During the downswing, the crisis is centred on the capital goods industries, which are much more seriously effected by the Trade Cycle than the consumer goods industries.

The most important adherents of the Over-Investment Theory believe that behind this maladjustment lies the monetary forces operating under the banking system. These forces lead to excessive investment in capital goods industries, which results in maladjustment.

This School has contributed a great deal to the Trade Cycle Theory by : -

(0) analysis of the maladjustment in the structure of production brought about by credit expansion in the prosperity phase of the boom; and

(b) explanation of the breakdown of the boom as a consequence of this maladjustment.

4. THE UNDER CONSUMPTION THEORY

This theory is very popular. It attributes the basic cause of a crisis to the unequal distribution of national income between the different classes of society. For example, the wealthy class has a surplus of income over expenditure, which it saves.

Supporters of this theory contend that the savings of the wealthy class are excessive because they lead to the production of more goods than the community as a whole can afford to buy at the prices which are remunerative to entrepreneurs.
In other words : -
The Under Consumption Theory attributes the basis of a crisis to the fact that savings are applied to capital purposes and productive power is increased beyond the amount needed to supply consumption goods that can be bought at remunerative prices.
These savings are used for capital purposes either by direct investment or by the creation of credit by banks where these savings are deposited. Industries producing capital goods become more active; and, the increased total wage bill of industry initiates a trend to greater activity in consumer goods industries.
E23, as the wealthier class over-saves, too small a percentage of income is spend on consumer goods.
Increase in workers' pay (due to increased activity needed in consumer goods industries) proves to be insufficient to maintain demand for the increased output of goods.
What, then, does the Under Consumption Theory contribute to the Trade Cycle Theory? It is the analysis of the results of over-saving, especially by the wealthier class of entrepreneurs and share-holders, that this School makes its greatest contribution to Trade Cycle Theory.

THE MONETARY THEORY
There are several variations of Monetary Trade Cycle Theory. Some adherrents emphasise the overeexponsion of credit, others stress the slowness with which interest rates are adjusted to equilibrium level, while still other advocates stress moladjustments that arise between saving and investment. However, all these adherrents of the Monetary Theory have one feature in common they attribute Trade Cycles to defects in the monetorx, financial and banking organisation.
The best known and the most clearly expressed explanation of the Monetary Theory is that of R.G. Howtrey. (He was an English economist,fumous for his writings on Monetary Theory and Practice). Let us review Hawtrey’s Theory.
Hawtrex’s Theorx
According to Hawtrey, the Trade Cycle is simply a replica, on a small-scole, of a monetary inflation and deflation. Business activity, he says, is stimulated initially by some external factor. Traders then increase their purchases in order to replenish stocks and they borrow from banks to finance their increased purchases. The activity of borrowing brings into circulation more money which provides workers with on increased income. The rise in consumers’ incomes leads to a further increase in demand for consumer goods and, in turn, to a further increase in troders’ demands for loans.
In this way, a vicious circle begins that leads to still further demands for loans. The banks encourage the trade expansion by granting credit liberally and by on expansionary policy.
However, this expansion of credit cannot continue indefinitely. Eventually, the bunks take measures to restrict further expansion of credit. The Central

Bank initiates this by refusing further money to the commercial banks. In turn, the commercial banks find it necessary to call in some of their loans.
At this stage, a contraction in activity occurs.
Consumer’s incomes fall; consumer demand for goods diminishes; traders order less from producers; and, producers are forced to lower prices to clear stocks.
A vicious downward spiral of prices begin. The down-swing in the Trade has started, and depression results.
Revival begins only when the reserves of banks are built Jp during the depression. When the banks’ reserves are large enough they expand credit and another cycle begins.
Howtrey states that the regular swing from boom to deBression and vice versa is caused bx the instabilitx of credit.
Howtrey attributes the loan to the exeansion of bank credit.
If Hawtrey is correct, it seems that a change in banking policy should be sufficient to eliminate the Trade Cycle.
Such a step would lead to an improvement. E21, you must remember that the expansion of credit is the result rather than the cause of the change in business activity.
The forces which initially give rise to the expansion of trade may not necessarily be monetary.
(Although the banks can check the creation of credit, they cannot control the speed at which money is circulated).
Hawtrey’s theory is useful in that it indicates that the capitalist credit system plays a large role in Trade Cycles and that monetary authorities should be alert to the credit policies of banking institutions.

RECONCILIATION OF TRADE CYCLE THEORIES

Trade Cycles have been occurring ever since the end of the eighteenth century. However, no two cycles are identical. It should be said that most explanations advanced by economists are valid to a certain degree. However, the most feasible Trade Cycle Theory is the one that incorporates certain aspects of all the theories we have discussed. The theory that succeeds in this respect is that of Lord Keynes.

This famous economist (1883 - 1946) is best known for his two great books, the "Treatise on Money" (1930) and the "General Theory of Employment, Interest and Money" (1936). The theories which he put forward may be termed "Keynesian Socialism".

Let’s consider his theory in detail.

KEYNES’ THEORY

Keynes’ reasoning on the Trade Cycle includes change in the rate of interest, under-consumption, over-investment and psychological concepts. The tendency to consume (high in lower income groups) and to save (high in higher income groups) is also considered.

Moreover, he analyses the relationship between incomes, consumption expenditure, savings, investment and the maintainance of a reasonable level of employment.

Keynes demonstrates that the community’s expenditure of consumption and investment goods determines the level of economic activity. As incomes rise, savings tend to increase; and, the fall in expenditure causes the economy to spiral down into depression.

In order to avoid depression, he says, expenditure is necessary. The policy that has developed from this factor is that the Government is responsible during periods of depression. The Government must be responsible for creating public works to generate the expenditure that will end unemployment, says Keynes.

I. l REMEDIES AND PALLIATIVES I

It is necessary to control the Trade Cycle if it cannot be eliminated. There is no agreement on the cause of Trade Cycles, nor on the cure. Nevertheless, it is important to consider suitable remedies.

l.

CREDIT CONTROL

You should be aware by now that some form of credit control is necessary. Credit selection is likely to be more effective than an absolute limitation of credit. Credit control involves co-operation between the commercial banks and the Central Bank. An appeal for co-operation from the commercial banks, rather than compulsory subservience, is likely to achieve credit control. However, any rash interference concerning credit control with the authority of the commercial banks might be disadvantageous. It is the "man-on-the-spot" (the local bank manager, for example) who must distinguish between credit which is required for speculative purposes and credit which is needed for genuine trade promotion. Moreover, the Central Bank should endeavour to secure the co-operation of the public and other banks. (This can be effectively determined by means of propaganda). But, you must remember that it is extremely difficult to control the speed of circulation.

INVESTMENT CONTROL

Investment control may be either absolute or Bersuasive. When absolute investment control (i.e., direct Government interference is in operation, capital issues may not be turned out by any new or existing enterprise unless permission from the Treasury has been obtained. Absolute investment control represses private enterprise. It can only be enforced in times of national crisis, such as war.

Persuasive investment control may take the form of propaganda - encouraging people to save, to buy Government loans, or to "spend while prices are low".

In times of over-optimism the Government may seek the co-operution of the commercial banks. The lending policy of banks may curb a tendency to excessive speculation.

3. SOCIALISATION OF INDUSTRY

There are some people who believe the cause of boom and depression to be found in the capitalist system of private enterprise.

The only successful remedy for Trade Cycles, they propose, would be complete sociolisation of industry on Russian lines. Arguments for and against this remedy are based on those of private enterprise and a planned economy.

4. EQUALISATION OF INCOMES

Supporters of the Under Consumption (or Over-Saving) Theory recommend a system of taxation which would secure equality of incomes. Equalisotion of incomes implies increased taxation on the wealthier classes.

However, this suggested remedy is not viable because it is the savings of the wealthier classes that provide the bulk of money needed For investment (i.e., investment funds).

5. PUBLIC WORKS

A popular proposal to minimise the effects of depression is that public authorities plan a programme of public works in order to alleviate the distress which results from unemployment. (This, of course, is the remedy Favoured by followers of J.M. Keynes).

Public works schemes of this nature have not achieved much success, however. Apart from financial difficulties, it has been found that there is the risk of misdirecting machinery and materials from what could be more useful projects.

STATE BUDGETING FOR A DEFICIT

It is suggested that Central and Local Governments budget for deficits during periods of depression and compensate for the deficit during times of prosperity and, consequently, lower the burden of taxation when profits are low.

In the past, attempts to stimulate recovery by means of borrawing and spending have had little success, because of the belief that it is not feasible to have and unbalanced budget. The orthodox view is that a deficit in the national budget is symbolic of certain weaknesses in the Government. As a result of this view business-men may be prudent.

Many economists agree that to budget for a deficit is sound policy during a depression, providing it is followed by surplus budgeting during succeeding prosperous years.

A POLICY OF PROTECTION

The Government might adopt a policy of protecting home industry by restricting imports in order to control the Trade Cycle. Theoretically, it is possible that a policy of protection imposed during a period of un-employment creates additional employment. However, in practice, this is not a viable policy as it could have an adverse effect on other countries which might react against it by purchasing less exports from that protecting country and, consequently, no net gain to that protecting country might follow.

J. l IRADE CYCLES IN PRACTICE I

Since 1945, discussions about the trade cycle have been largely academic. The built-up of industry and the rate of cconanic growth in industrial countries since the Second World Nor, have been interrupted by periods of recession, but there is no significant evidence of any "cycle" as such. The intervention of governments in economic life, ranging from national plans to minimal persuasion, has also obscured such cyclical movements, even if they did exist. 1herc have been no depressions as such since World War II, there have only been recessions. It has been suggested that the cycle has not become obsolete but has actually just change: its character.

activity.

7. Many theories wore advanced to explain the causes of the Trude Cycle, some being conflicting, some complementary, but none complete.

3. The concept of the Multiplier opened up a new field. Coupled with the Keynesian concepts of the marginal efficiency of capital and liquidity preference, this laid the foundation for further developments in the theory.

4. The Accclоruior principle explained how voluntary investment i5 supplemented by induced investment, resulting from increases in consumption demand.

10.
11.
THE TRADE CYCLE. WPAOE 23.
Periodicity can be partially explained by the fact that capital goods industries produce for replacement as well as for net capital increase. Any large increase in the latter will tend to set up a wave in replacement, the length of the cycle depending on the effective working life of the asset.
The interaction of the multiplier and the accelerator would appear to produce instability. A constant level of investment will produce a constant level of income but a constant level of net investment requires a constant increase in income and consumption.
If, however, income increases at d constant rate, then the two factors will prodUCe a steadily expanding output, so long as the multiplier and the capitol/output ratio-do not change.
If these variables do change, an explosive expansion (or contraction) would take place.
Such an expansion will cease when it comes up against the full employment ceiling. Conversely, a contraction will cease when it reaches the floor at zero net investment.
We then looked at the 5 Trade Cycle theories in the some detail.
Remedies and Polliatives.
(a) Credit Control
(b) Investment Control
(c) Sociolisation of Industry
(d) Equalisation of incomes
(e) Public works
(f) State Budgeting for a deficit.

lPROGRESS QUESTIONS I

What part is played by either the Multiplier or the Accelerator in producing cyclical fluctuations in income (output)?

QUESTION 1

QUESTION 2

"The level of income depends upon the rate of investment, but the level of investment itself depends upon the rate of change to income". Explain how this paradox can be reconciled.

QUESTION 3

Outline the essential features of a trade cycle.

QUESTION 4

Comment on the following statements: -

(a) In order to explain a Trade Cycle it is necessary to show why there are fluctuations in national expenditure.

(b) Fluctuations in investment lie at the heart of the Trade Cycle.

NOTES ON QUESTIONS 1 - 3

All questions are fully answered in the lectures.

NOTES ON QUESTION 4

(a) National expenditure refers to consumers' expenditure on goods and services (consumption) and expenditure on fixed and working capital (investment)

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Economic fluctuations are caused by changes in national expenditure. During a typical boom period, output and prices are high and expenditure is high whereas, during a typical slump period, output and prices are low and so is expenditure low.

In order to understand a Trade Cycle one must explain why there are fluctuations in national expenditure. There are several theories which show how these fluctuations come about.

Investment is expenditure on fixed and working capital. Another type of expenditure is that on consumers’ goods and services. The latter type is paid out of current income and alterations do not follow any cyclical pattern.

Investment, on the other hand, is paid out of borrowing or past savings. Investment is more likely to vary independently of the present national income and consequently it is a cause of fluctuations in income.

It has been found that fluctuations in investment have always been much greater than fluctuations in consumption. During periods of recession, the tendency has been for the fall in national income to be confined to investment; consumption has remained stable or has increased. For example, in the depression of the 1930’s investment in the U.S.A. fell by over 90% while consumption fell by less than half.

Since 1945, investment has fluctuated considerably, but consumption has increased every year. Many economists agree that investment in capital industries lies at the heart of the Trade Cycle.

USE THIS PAGE FOR MAKING NOTES

THE THEORY OF GRCWTH

A. INTRODUCTION

Economic growth can best be regarded as the increase in potential real level of output that can be produced by an economy from one year to the next. Apart from an increase in the available capital stock, by way of investment, such growth can also be achieved by technical progress.

Economic growth has become a subject of great importance since World War II. Its significance lies to a great extent in political considerations as well as in the fact that, based on macroeconomic analysis, governments had found ways and means of solving the problem of excessive unemployment, especially by maintaining a sufficient level of aggregate demand. This turned economists attention to the problem of supply, that is, economic growth. Economic growth determines how rapidly and by how much the standard of living can be raised.

We can distinguish between economic growth and economic development. Economic develoement is the process of growth that takes place in developing or underdeveloped countries. Growth in these countries requires a long-term, complete reorganisation of the economy and its technology. Economic growth, however, refers to the process of raising capacity in highly developed countries. The basic shape of the economy is already a modern one.

So far it would seem that economic growth is something of a necessity. There are many, however, who doubt whether continued economic growth is such a good thing, and whether it is efficient in raising the well-being of the economy. It is pointed out that this can only be achieved at the cost of air, water and soil pollution as well as ever-increasing traffic congestion in urban aress.

As we progress through this lecture you will notice that growth does not depend on any one factor. It is the outcome of the interacting forces of supply (labour, capital, technologY) and demand (consumption, investment, government spending and exports).

B. THE PRODUCTION POSSIBILITY BOUhDARY
1. Any society has a limited assortment of resources which can be used to produce a selection of goods and serV1ces.
(a) A full-employment economy can only produce one selection of goods at the expense of some other selection.
(b) The production-Eossibilitx frontie; shows society’s choice.
GOOD X
OLW
GOOD Y
In this example, for the sake of simplicity we can assume that there are only 2 choices for production, good X and good Y. If all resources were used to produce good X, there would be a maximum amount of X that could be produced. This would be shown at point A on the graph. At the other extrang point B shows the quantity of good Y that could be produced it all resources were devoted only to its production. These are the 2 extreme possibilities; but if we are prepared to give up some X we can produce some Y.

For instance the following diagram shows how on economy chooses between
(a) current consumption and
(b) capital goods (machines etc.) which make possible production of additional amounts of both goods in the future.
TODAY. FUTURE.
Capital Investment
Capital
Current Consumption. Current Consumption.
Three countries start at the same level of possibilities but country 1 does little investing for future production, country 2 saves a little more from current consumption, whilst country 3 is investing a good deal in capital goods and sacrificing much of current consumption.
In the next year country 3 has forged ahead of the other two having more of both capital and consumptive goods.
C. THE CLASSICAL THEORIES OF SMITH AND MALTHUS
1. Adam Smith author of "Wealth of Nationsj had a theory of dynamic development.
(a) This was the labour theory of value, where labour value alone determined price.

(b) He used the concept of the hypothetical "golden agey
where land was freely available for 01L and capital
accumulation had not yet begun.
(c) Thus real wages get all the national income and growth
takes place as population grows.
2. Thomas Malthus pointed out the fatal flaw in this expanding
economy. As population continues to expand, more labourers
begin to crowd the existing land, diminishing returns set in.
(a) The increasing lobour-lond and decreasing output-lond ratios
(b)
mean on increasing contribution pf each marginal worker to
declining real wage rates.
Secondln as the frontier of land disappears land becomes
scarce, private property ownership begins, and rent is
charged in relation to the now scarce land.
3. Malthus wrote his "Essay on the Principles of Population" in
179% but it still has relevance today.
(a) He put forward the proposition that there is a universal
(b)
tendency for population, unless checked by food supply,to
grow at a geometric progression.
Because of the action of the law of diminishing returns,
Food production tends to fail to keep up with this growth of
population which will therefore have a tendency to outstrip
food supply.
The Malthusicn equilibrium emerges when the wage has fallen
to subsistence leveL below which the supply of labour
will not reproduce itself.
Above this leveh population would continue to grow; below it
population would die off.

(d)
(e)

However what Molthus failed to anticipate was the miracle of technological progress.
(1)
(ii)
In the next century technological innovation shifted the production-possibility frontiers rapidly outward, so offsetting diminishing returns.
Even though medical improvements prolonged human life and lessened checks on population growth, the use of birth control methods checked the biological reproductive capacity of, unfortunately, the most intelligent section of the community.
However his doctrine is still relevant when looking at the population behaviour of countries like India and China, where balance of numbers and food supply is a vital factor.
4. In the West, technical change has enabled economic development to continue by shifting the productivity curve of labour upwards.
D. RICARDO, MARX AND SOLOW MODELS
1.
These theories stress the process of accumulating capital goods faster than the growth in population and labour hours. This is called the "deeeening of caBital".
When
one factor of production (capital) grows faster than the other factor (labourl given unchanging technical conditions then:-
(a)
(b)
(C)
(d)
Output will not grow in proportion to the growth of capital.
Capitol return, the interest rate, will fall as capital deepens.
The competitive woge return to relatively scarce labour will rise.
Howeven higher wage rates do not necessarily mean a higher percentage shore of product for labour. This is because the increase in capital relative to labour might offset the decline in the interest rate and the rise in wages.

(e) The capital/output ratio will rise in the absence
of technological change.
3. In fact technical change has offset diminishing returns.
4. Historically, there have been a number of basic trends
in economic development in advanced industrial countries.
(a) Population has grown,but not so fast as capital stock.
There has thus been a process of deeeening of caeitol.
(b) Wage rates have risen.
These 2 facts fit in with the classical and
neo-classical theories, but:-
(c) The rate of interest has moved up and down with the
____
business cxcle; there has not been a steady downward
trend of either interest or profit.
(d) The caeitalgouteut ratio has been approximately
constant in advanced industrialized nations this
century.
(i) These two facts of history are incomgatible
with the basic law of diminishing returns under
deepening of capital.
(ii) Technical innovation explains these facts.
The neoeclassicol theory cannot hold in
static form.
5.
Professor Solow has come Up with the following conclusion
in terms of America’s development.
(0) "Less than half of the increase in America’s
productivity per capita and in real wages can be
accounted for by the increase of the capital itself.
Considerably more than half of the increase in
productivity seems to be attributable to technical
change, to scientific and engineering advance,
to industrial improvements and to "know-how" of
management and educational training of labour".

In fact, of course, technical innovation and investment interact as new techniques are incorporated in new plant equipment.
Most economists today think that scientific and engineering progress has been the most important factor for growth in the advanced economies.
E. MODERN ADVANCED GROWTH THEORIES
1.
Joseph Schumpeter emphasized the r6le of the innovator in technical improvements. He maintained that innovation periodically pushes the diminishing returns curve upwards and outwards.
(a) A period of technological change and invention is followed by one in which profits due to innovation are competed away; The accumulation of capital stock rises once again leading to diminishing returns and a fall in interest.
(b) Then another era of technical development evolve; and the system repeats the process of development.
As we learnt earlier in the lecture, in the absence of technological change capital accumulation allows output to grow; diminishing returns then set in, with a smoothly growing capital output ratio as capital deepening takes place.
(a) Technical change, historically, seems to have provided the extra productivity needed to offset the statistical diminishing returns, keeping the measured capitul/output ratio constant
(b) Many economists today feel that any attempt to increase capital accumulation beyond the rate needed by the annual growth in output will be unsuccessful. They feel that the result would be excess capacity leading to a squeeze on profits,followed by a tall in private investment.

3. The Horrod-Domur growth models, developed by Professor E. Domor in America and Sir Roy Horrod in Englandluse the concept of the "natural rate of growth"..(2). Thls "9" is determined by population growth and technical change.
(a) 1g for exomplq labour supply grows at 1% a year and technical change makes it possible for labour efficiency to grow at 2%, then the number of "efficiency units of "labour" L is growing at 3% per year.
(i) The natural growth rate is the % growth per year of labour supply expressed in "efficiency units".
(ii) For balanced growth to take place, output and capital should be growing at the some natural rate per annum.
(b) If 5 denotes capital and Q is the National Income, and if both are to grow at the balanced rate, the necessary percentage of income that needs to be saved is given by the Hcrrod equation.
5 2 9 (K/Q)-
Fiscal and monetary policies can speed up technical changes and hence capital formation. Such policies can help the system grow faster than the natural rate uf growth of the working population.
5. Professors Joan Robertson and Nicholas Koldor of Cambridge University do not believe that saving causes fast growth. They maintain that fast growth produces high profits which will then induce thrift which further speeds up capital formation.
r . LHQW ’ TQHCW
1, An effective development plan to stimulate growth must include:-
(o) Improvements in tho quontit
y and quality of the population
and the natural
resources available to a country.

(b) An increase in the stock of capital goods.
(c) Attempts to improve scientific and technical knowledge must be made.
Historically, increased technical productivity has been largely responsible for the achieved rates of growth; thus one of the most important aspects of any economic plan to stimulate growth must include exeonded research.
(a) This should include public as well as private research, since businessmen normally only conduct research projects which are likely to be profitable to them.
(b) The difficulty here is that whilst military research appears to be an acceptable area for government interference, it is often difficult for governments to justify the subsidisotion of non-militury scientific reseOICh-
One of the best ways a community can increase the quantity of its labour force and so stimulate growth is for the government to increase its support of educational institutions and to provide public funds for scholarships.
The spending of public money on training facilities for the population is just as much a form of investment as the buying of capital goods.
Capital accumulation is the other factor which is of importance in maintaining growth.
(a) It is here that a mixed economy can help the community to increase its own rate of growth.
(b) Fiscal and monetary policies can be used to step up the country’s rate of growth in the following ways:-
(i) An expansionary monetary policy, together with low interest rate; will increase the net copital-formotion component of the national product.

(ii) A restorative fiscal policy can get rid of
inflationary tendencies by cutting back disposable
incomes and consumption.

IS GROWTH DESIRABLE

Many people, especially in the late 1960’
have questioned the desirability of furth
It may be attributed to the growing aware
associated with economic growth. Among the most commonly
known of these costs are more rapid depletion of natural re-
sources, pollution, urban problems such as noise pollution,
traffic congestion and crime.
s and early 1970’s
er economic growth.
ness of the costs

Economic growth increases the amount of goods and services
available to society. It does not, however, necessarily en-
sure a more equitable distribution of income.

All in all, the best course seems to be that we should advo-
cate continued growth, but at the some t ’
policies which prohibit or penalise any
threaten the environment in any great we
ime insist on
activities that
y.

S U M M A R Y.

(1) The roduction- ossibilit
frontier concept can be used
to illustrate the productio
n possibilities of an economy.

(a) Any society has a limited assortment of resources
which can be used to produce a selection of goods
and services.

(b) The advance of the modern mi
__wed econom has been
the most notable economic development of the
twentieth century.

(2) (a) The labour theor of value was put forward by classical
economist Adam Smith.
x
(i) It was set in the "golden age’
accumulation had begun and wh
available to all.
’ before capital
en land was freely

(ii) Labour alone determined pricing and distribution.
(b) Malthus pointed out the fatal flaw:-
(i) land scarcity emerges so that cost of production must include rent as well as wage payments.
(ii) Population growth is affected by diminishing returns so increased output does not take place as population expands.
(3) Deeeening of caeital - was stressed in the theories of Ricardo, Marx and Solow.
(a) This concept implies a process whereby capital is accumulated faster than growth of supply of labour.
(b) Without technical change, an increase in capital per head of population will not be matched by a proportionate increase in output per capita because of diminishing returns.
(c) This means capital deepening lowers the profit rate, raises real wages and raises the capital/output ratio.
(4) Technical innovation - seems to have provided the extra productivity needed to offset the statistical diminishing returns.
(a) JoseEh Schumeter emphasised the r61e of the innovator in technical improvements and in the dynamic growth of the economy.
(b) Historically it has been shown that technical change must be considered. Despite land scarcity and population growth there has been a constant capital, output ratio and approximate constancy of the investmentIincome ratio and of the profit and interest rate.
(c) Many economists believe that technical innovation is more important than capital accumulation in texpanding growth.
(d) The Harrod-Domar concept of "natural rate of growth" is determined by population growth and technical change.
It K & Q are to grow at this balanced rate the required rate of saving is s : g (K/Q).
(9) Fiscal and monetary policies can speed up capital formation.

(5) Growth glans for development must involve:-
(a) Capital formation.
(b) Resource utilization.
(c) Improved technology.
(d) Birth control.
Remember C.R.I.B.
The modern mixed economy has shown an ability to grow at sustained rates in the mid-twentieth century.

PROGRESS QUESTIONS

(1) Using the analysis of the production - possibility frontier, show how technical advance outstrips capital investment alone.
(2) Outline the Malthusian theory of population. Why do you think it has relevance today?
(3) Discuss briefly any one of the modern theories of growth?
(4) What are the main causes of economic growth? Does the entire population always benefit from economic growth?

NOTES ON TYPICAL QUESTIONS

QUESTION 1.
COUNTRY A. COUNTRY B.
High Investment Highly Inventive
4.:
C
w
E 44
.p C
m m
0 E
) 4-4
c U)
H a:
e
c
H
Consumptlon Consumptlon
These graphs should give you a good indication of the content for this answer.

Question 2 and 3 are quite straight forward and should present no difficulties.

QUESTION 4.

Economic growth is the result of the interaction between demand for output and the supply of factors of production.

It is important to define economic growth and then discuss what makes an economy grow. This you can find in the notes. It is important to mention the casts of economic growth and to indicate that the benefits are distributed according to the quantity and quality of the factor services employed (labour, land, capital).

9288.

IUSE THIS PAGE FOR MAKING NOTES I

Code Letter LH3
T H E R A P I D R E S U L T S C O L L E G E.
ECONOMICS.
TEST LH3.
(Time allowed: 1% hours).
Notes: 1. Credit will be given for neotness and method.
2. Answer Ell questions.
3 Scale of marks is indicated at the end of each
question.
4. Leave sufficient space at the head of your answer
paper for tutor’s comments.
5. Answer each question on a seearate sheet of paper.
6. Attach this entire question paper to your answers.
7. PLEASE FILL IN STUDENT DETAILS ON THE FORM AT THE
END OF THIS TEST AND ATTACH IT TO YOUR ANSWERS.
------ oOo------
w-
Explain the nature of the business cycle and consider whether it
is still a useful tool of economic analysis in the contemporary
world. (20 marks)
QUESTION 2.
Discuss R.G. chtrey’s monetary theory of the Trade Cycle.
(20 marks)
QUESTION 3.
How is growth achieved? (20 marks)
TOTAL: 60 marks.

Please fill in
m w: ED333333
mass m 51:13:
(Obtainable from your Programme of Studies)
....
YOUR SUBJECT: ....
Nov attach YOUR ANSWERS to this test, tearing it out along the perforation, and Host BOTH to the address appearing on the inside back of this book.
The test Hill be returned with your corrected script and a model answer.
10470

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Once you have completed the test contained in this set of lectures please post it to:

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