

# BUSINESS CYCLES AND MACROECONOMIC POLICY INITIATIVES

## BUSINESS CYCLE

Today we are faced with higher unemployment levels, deflation in farm prices, disinflation in industrial prices, and inflation almost everywhere else.

These are cycles in all spheres of human endeavor, from stocks and bonds to commodities and political preferences and are generally known as *business* or *trade cycles*.

In this chapter, we discuss:

- Meaning of business or trade cycles

- Types of cycles

- Various phases of cycles

- Three important theories on business cycle

- Various remedial measures to rectify economic imbalances caused by these trade/business cycles

- Various business indicators and their practical applications in:

  - Forecasting recession

  - Buying and selling of stocks

## MEANING

Business cycle or trade cycle is a part of the capitalist system. It refers to the phenomenon of cyclical booms and depressions. Most acceptable definition is that given by Mitchell, *'Business cycles are a type of fluctuations found in the aggregate economic activity of nations that organise their work mainly in business enterprises. A cycle consists of expansions occurring at about the same time in many economic activities followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; this sequence of changes is recurrent but not periodic....'*

An important point to be noted in the case of business cycles is that business cycles are recurrent fluctuations (which are not *perfectly regular with uniform frequency and amplitude*) in aggregate employment, income, output and price level.

## TYPES OF CYCLES

Business cycles are usually classified as under:

1. *The 'Long Jugler Cycle'*- It showed that periods of prosperity, crisis and liquidation followed each other always in the same order and the duration is on the average nine and a half years.

2. *The Short Kitchin Cycle*. Also known as the *minor* cycle which is of approximately 40 months duration.

3. *The Very Long Kondratieff Cycle*. A very long cycle, of more than 50 years duration, has come to be known as the Kondratieff wave.

4. *Building Cycles*. Another type of cycle relates to the construction of buildings which is of fairly regular duration. Its duration is twice that of the major cycles and is on an average of 18 years' duration.

5. *Kuznets Cycle*. Simon Kuznets propounded a new type of cycle, the *secular* swing of 16-22 years which is so pronounced that it dwarfs the 7 to 11 years cycle into relative insignificance.

## PHASES OF A BUSINESS CYCLE

A standard business cycle is characterised by four distinct phases. They are (1) expansion or prosperity or the upswing or full employment, (2) recession or upper turning point, (3) contraction or depression or downswing, and (4) revival or recovery or lower turning point.

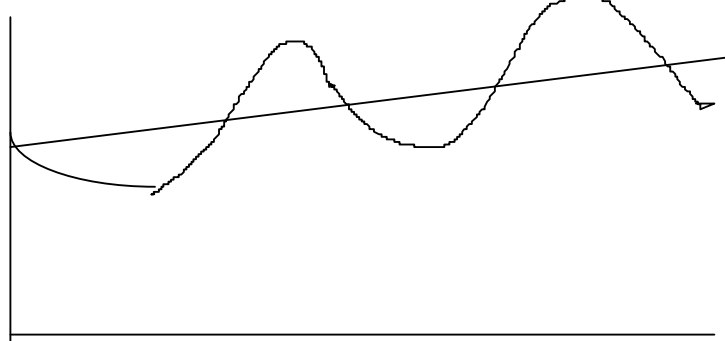


FIG. 1

### *Recovery or Revival Phase:*

The "originating forces" or "starters" may be exogenous or endogenous forces.

For example, as the semi-durable goods wear out necessitating their replacement in the economy. It leads to increased demand. To meet this increased demand, investment and employment increase. Industry begins to revive. Revival also starts in related capital goods industries. The process of revival becomes cumulative.

Revival occurs in stages.

- In early stages, there is considerable *excess* or *idle* capacity in the economy leading to increases in output without a proportionate increase in total costs.
- In later stages, output becomes less elastic, bottlenecks appear with rising costs, deliveries are more difficult and plants may have to be expanded. It leads to credit expansion.
- Thus the cumulative process of increase in investment, employment, output, income and prices will feed upon itself and becomes self-reinforcing.
- Ultimately, revival enters the prosperity phase.

### *Prosperity or Full Employment : -*

- In the prosperity phase, demand, output, employment and income are at a high level leading to price rises.
- But wages, salaries, interest rates, rentals and taxes do not rise in proportion to the rise in prices. The gap between prices and costs increases the margin of profit.
- The increase of profit and the prospect of its continuance commonly cause a rapid rise in stock market values. The economy is engulfed in waves of optimism.
- Investments are mostly in fixed capital, plant, equipment and machinery. They lead to considerable expansion in economic activity by increasing the demand for consumer goods and further raising the price level.
- This encourages retailers, wholesalers and manufacturers to add to inventories. In this way, the expansionary process becomes cumulative and self-reinforcing until the economy reaches a very high level of production, known as the peak or boom.

The peak or prosperity may lead the economy to over full employment and to inflationary rise in prices. It is a symptom of the end of the prosperity phase and the beginning of the recession.

*Recession: -*

The seeds of recession are contained in the boom in the form of strains on the economic structure which act as brakes to the expansionary path. They are:

- Scarcities of labour, raw materials, etc. leading to rise in costs relative to prices; [This factor brings a decline in profit margins];
- Rise in the rate of interest due to scarcity of capital, [This makes investments costly and along with the first factor, lowers business expectations]; and
- Failure of consumption to rise due to rising prices and stable propensity to consume when incomes increase [Which leads to the piling up of inventories indicating that sales or consumption lags behind production].

These forces become cumulative and self-reinforcing.

Recession marks the turning period during which the forces that make for contraction finally win over the forces of expansion. Its outward signs are:

liquidation in the stock market,  
strain in the banking system and some liquidation of bank loans, and  
beginning of the decline of prices.

As a result, profit-margins decline further because costs start overtaking prices. Some firms close down while others reduce production and try to sell out of accumulated stocks. Investment, employment, incomes and demand decline. This process becomes cumulative.

Recession may be mild or severe. The latter might lead to a sudden explosive situation emanating from the banking system or the stock exchange, and a *panic* or *crisis* occurs associated with a collapse of confidence and sudden demands for liquidity. In the words of M.W. Lee, "A recession, once started, tends to build upon itself much as forest fire, once under way, tends to create its own draft and give internal impetus to its destructive ability."

*Depression: -*

Recession merges into depression when there is a general decline in economic activity. A depression is characterised by:

- mass unemployment;
- general fall in prices, profits, wages, interest rate, consumption, expenditure, investment, bank deposits and loans;
- factory closures; and
- A halt in the construction of all types of capital goods, buildings, etc.

These forces are cumulative and self-reinforcing and the economy is at the *trough*. The trough or depression may be short-lived or it may continue at the bottom for considerable time.

But, sooner or later limiting forces are set in motion which ultimately tend to bring the contraction phase to end and pave the way for the revival. A cycle is thus complete.

## THEORIES OF BUSINESS CYCLE

The behaviour of a business cycle is difficult to determine.

Attempts to explain them have brought forth a large number of theories.

Hawtrey's Monetary Theory of the Trade Cycle - "The trade cycle is a purely monetary phenomenon." It is the changes in the flow of monetary demand on the part of businessmen that lead to prosperity, and depression in the economy.

In his opinion, non-monetary factors like strikes, floods, earthquakes, droughts, wars, etc. may at best cause a partial depression, but not a general depression.

Criticism - Monetarists like Friedman have supported Hawtrey's theory. But the majority of economists have criticised him for overemphasising monetary factors to the neglect of non-monetary factors in explaining cyclical fluctuations.

Schumpeter's Theory of Innovations - Innovations in the structure of an economy are the source of economic fluctuations and trade cycles are the outcome of economic development (innovations) in

a capitalist society.

criticism - Not all innovations form part of the functions of a joint stock company.

Innovations are regarded as the routine of industrial concerns and do not require an innovator as such.

Too much importance is given to bank credit. But in the long run when the need for capital funds is much greater, bank credit is insufficient. For this, business houses have to float fresh shares and debentures in the capital market. Schumpeter's theory is weak in that it does not take these factors into consideration.

Keynes's Theory of the Trade Cycle - The Keynesian theory of the trade cycle is an integral part of his theory of income, output and employment.

Trade cycles are periodic fluctuations of income, output and employment.

Keynes regards the trade cycle as mainly due to *a cyclical change in the marginal efficiency of capital (MEC), though complicated and often aggravated by associated changes in the other significant short-period variables of the economic system.*

Principal cause of depression and unemployment is the lack of aggregate demand. Thus in the Keynesian explanation of the trade cycle, *the cycle consists primarily of fluctuations in the rate of investment, and fluctuations in the rate of investment are caused mainly by fluctuations in the MEC.*

Criticism – This theory is superior to the earlier theories because it is more than a theory of the business cycle in the sense that it offers a general explanation of the level of employment, quite independently of the cyclical nature of changes in employment, although, he over emphasised MEC.

## REMEDIAL MEASURES

Most of the economists, who have studied the ill effects of business cycle say that prevention of the occurrence is better than cure.

To prevent trade or business cycle, the most important measure is macroeconomic policy initiatives and economic planning. As soon as the economy reaches full employment, stability measures (macroeconomic policy initiatives and administrative measures) will have to be taken.

### A. MACROECONOMIC POLICY INITIATIVES

*The two important tools of macroeconomic policy are fiscal policy and monetary policy.*

### POLICY TARGETS

The policy targets are the specific values, which a government attaches to its various objectives of macroeconomic policies. For instance, the government may have the following policy objectives:

- (1) to achieve full employment at the rate of 3 per cent unemployment;
- (2) to achieve price stability at an annual inflation rate of 4 per cent per annum; and
- (3) to attain the growth rate of 5 per cent per annum for the economy.

## POLICY INSTRUMENTS

Policy instruments are those exogenous variables that can be directly influenced by the government.

The government can influence macroeconomic policies by such instruments of *monetary policy* as bank rate, changes in reserve ratios, open market operations, selective credit controls, etc.

Similarly, it can also use such *fiscal policy* instruments as tax rates, budgetary policy, compensatory fiscal policy, etc.

## OBJECTIVES OF MACROECONOMIC POLICY

- Full Employment
- Price Stability (Inflation control)
- Economic Growth
- Balance of Payments

## CONFLICTS OR TRADEOFFS IN POLICY OBJECTIVES

The four policy objectives mentioned above are not complementary to each other.

*Full Employment and Economic Growth* - The majority of economists hold the view that there is no inherent conflict between full employment (4% unemployment) and economic growth.

However, certain economists argue that the unemployment rate increases as the growth rate rises.

Economic growth > re-allocation of resources (labour)

As workers are trained for specific jobs, they are displaced when the demand for the products of particular industries falls.

|  
unemployment

(This is particularly so, when growth is the result of technological innovations requiring more qualified workers > unskilled workers are thrown out of jobs with automation.)

Employment can however, increase with growth if demand expands faster than the productivity of labour.

*Economic Growth and Price Stability* – There is a conflict between the goals of economic growth and price stability. The rise in prices is inherent in the growth process.

The demand for goods and services rises as a result of stepping up of investments on a large scale and consequent increase in incomes.

This leads to inflationary rise in prices, especially when the level of full employment is reached.

In the long-run, when new resources are developed and growth leads to the production of more commodities, the inflationary rise in prices will be checked. But the rise in prices will be there with the growth of the economy.

*Full Employment and Price Stability* – Many studies (Philips, Samuelson, Solow and others) have established a conflict between the two objectives as explained in terms of the Philips curve.

Economists do not find any conflict between unemployment and price stability. They hold that so long as there are unemployed resources, there will be price stability. Prices start rising only when there is full employment of resources.

*Full Employment and Balance of Payments* - There is a major policy conflict between full employment and balance of payments.

Full employment is always related to balance of payments deficit. In fact, the problem is one of

maintaining either internal balance or external balance.

If there is a balance of payments deficit, then a policy of reducing expenditure will reduce imports but it will lead to increase in unemployment in the country.

If the government raises aggregate expenditure in order to increase employment, it will increase the demand for imports thereby creating disequilibrium in the balance of payments.

It is only when the government adopts expenditure-switching policies such as devaluation that this conflict can be avoided but that too temporarily.

*Price Stability and Balance of Payments* - There appears to be no conflict between the objectives of price stability and balance of payments in a country.

Fiscal and monetary policies aim at controlling inflation to discourage imports and encourage exports and thus they help in attaining balance of payments equilibrium. However, if the government tries to remove unemployment and allows some inflation within the economy, there appears a conflict between these two objectives.

For a rise in the price level will discourage exports and encourage imports, thereby leading to disequilibrium in the balance of payments. But this may not happen if prices, also rise by the same rate in other countries of the world.

#### PROBLEM OF COORDINATION OF MACROECONOMIC POLICY OBJECTIVES

We have seen above that there are four policy goals, which often conflict with each other. The problem is one of achieving them simultaneously. Full employment, economic growth and price stability are the major objectives of economic policy. They are essential for the internal balance of the economy. But balance of payments equilibrium is also an essential policy objective, because a disturbance in the balance of payments has serious effects on growth, employment and prices. This objective, therefore, requires external balance.

The theory of economic policy has centred around two distinct problems. First, the relation between the number of policy objectives and the number of policy instruments; and second, the assignment of policy instruments to the realisation of the objectives.

Tinbergen was the first economist to lay down that the number of policy instruments must be equal to the number of objectives. If there are more objectives than policy instruments it means that there are not enough tools to achieve the policy objectives. The system is undetermined.

On the other hand, if the number of policy instruments are more than the number of objectives, then there is not one combination of tools and objectives that will solve the problem, but any number. The system is over determined. Thus the number of policy tools must equal the number of targets for economic policy to be successful. This has come to be known as the Tinbergen Principle or the fixed targets approach.

In order to achieve given objectives with the same number of policy instruments, the second problem of the assignment of instruments to targets arises. The formulation of the assignment problem will eventually lead to equilibrium values of the objectives, despite lack of coordination between them.

## FISCAL MEASURES

Fiscal Policy is a powerful instrument of stabilisation. The government may offset undesirable variations in private consumption and investment by anti-cyclical variations of public expenditures and taxes.

Arthur Smithies defines fiscal policy as "a policy under which the government uses its expenditure and revenue programs to produce desirable effects and avoid undesirable effects on the national income, production and employment. "

Though the ultimate aim of fiscal policy is the long-run stabilisation of the economy, yet it can only be achieved by moderating short-run economic fluctuations. In this context, Eckstein defines fiscal policy as "changes in taxes and expenditures which aim at short-run goals of full employment and price-level stability. "

### *Instruments of Fiscal Policy*

Fiscal policy through variations in government expenditure and taxation profoundly affects national income, employment, output and prices. An increase in public expenditure during depression adds to the aggregate demand for goods and services and leads to a large increase in income via the multiplier process. However, a reduction in taxes has the effect of raising disposable income thereby increasing consumption and investment expenditures of the people.

On the other hand, a reduction of public expenditure during inflation reduces aggregate demand, national income, employment, output and prices; while an increase in taxes tends to reduce disposable income and thereby reduces consumption and investment expenditures.

Thus, the government can control deflationary and inflationary pressures in the economy by a judicious combination of expenditure and taxation programs. We can discuss below the various *instruments* of fiscal policy.

**Budgetary Policy- Contracyclical Fiscal Policy** - The budget is the principal instrument of fiscal policy. Budgetary policy exercises control over size and relationship of government receipts and expenditures. We discuss below the common budget policies that can be adopted for stabilising the economy.

*(a) Budget Deficit-Fiscal Policy during Depression* - As we know, the recession or depression occurs when aggregate demand decreases due to a fall in private investment. Private investment may fall when businessmen become highly pessimistic about making profits in future, resulting in decline in marginal efficiency of investment. As a result of fall in private investment expenditure, aggregate demand curve shifts down creating a deflationary or recessionary gap. It is the task of fiscal policy to close this gap by deficit budgeting. When government expenditures exceed receipts; larger amounts are put into the stream of national income than they are withdrawn. Thus, the budget deficit has an expansionary effect on aggregate demand irrespective of whether the fiscal process leaves marginal propensities unchanged or whether a redistribution of disposable receipts occurs.

There are two fiscal methods to get the economy out of recession: (i) *Increase in Government Expenditure to cure Recession* - The expansionary effect of a budget deficit through increased government expenditure is to raise income. The increase in income is greater than the increase in government expenditure resulting in increased consumption. Thus, the budget deficit is always expansionary.

(ii) *Reduction of taxes to cure Recession* - Alternative fiscal policy measure to overcome recession to achieve expansion in output and employment through budget deficit may also be secured by reduction in taxes and without government spending.

Reduction in taxes tends to leave larger disposable income in the hands of the people and thus stimulates increased consumption expenditure. This, in turn, would lead to increase in aggregate demand output, income and employment.

However, reduction in taxes is not so expansionary via increased consumption expenditure because the tax relief may be saved and not spent on Consumption. Businessmen may not also invest more if the business expectations are low.

Therefore, to safeguard against such eventualities the government should follow the policy of reduction in taxes with increased government spending. Then its multiplier effect will be much higher, if we assume that some consumption and investment expenditure would also increase due to tax relief.

(b) *Surplus Budget - Fiscal policy during Boom* - Surplus in the budget occurs when the government revenues exceed expenditures. The policy of surplus budget is followed to control inflationary pressures within the economy. It may be through *increase in taxation or reduction in government expenditure or both*. This will tend to reduce income and aggregate demand by the multiplier times the reduction in government or/and private consumption expenditure (as a result of increased taxes).

(c) *Balanced Budget Multiplier* - Another *expansionist* fiscal policy is the balanced budget. In this policy the increases in taxes and in government expenditures are of an equal amount. This has the impact of increasing net national income. This is because the *reduction* in consumption resulting from the tax is not equal to the government expenditure. This is explained in terms of what is known as the *balanced budget theorem*.

Compensatory Fiscal Policy - The compensatory fiscal policy aims at continuously compensating the economy against chronic tendencies towards inflation and deflation by manipulating public expenditures and taxes. It, therefore, necessitates the adoption of fiscal measures over the long-run rather than once-for-all measures at a point of time. When there are deflationary tendencies in the economy, the government should increase its expenditures through deficit budgeting and reduction in taxes.

This is essential to compensate for the lack in private investment and to raise effective demand, employment, output and income within the economy. On the other hand, when there are inflationary tendencies, the government should reduce its expenditures by having a surplus budget and raising taxes in order to stabilise the economy at the full employment level. The compensatory fiscal policy has two approaches:

(a) *Built-in Stabilisers*. The technique of built-in-flexibility or stabilisers involves the automatic adjustment of the expenditures and taxes in relation to cyclical upswings and downswings within the economy without deliberate action on the part of the government. Under this system, changes in the budget are automatic and hence this technique is also known as one of automatic stabilisation.

The various automatic stabilisers are corporate profits tax, income tax, excise taxes, old age, survivors and unemployment insurance and unemployment relief payments. As instruments of automatic stabilisation, taxes and expenditures are related to national income. Given an unchanged structure of tax rates, tax yields vary *directly* with movements in national income, while government expenditures vary inversely with variations in national income.



In the downward phase of the business cycle when national income is declining, taxes, which are based on a percentage of national income automatically decline, thereby reducing the tax yield. At the same time, government expenditures on unemployment relief and social security benefits automatically increase. Thus there would be an automatic budget deficit which would counteract deflationary tendencies.

On the other hand, in the upward phase of the business cycle when national income is rising rapidly, the tax yield would automatically increase with the rise in tax rates. Simultaneously, government expenditures on unemployment relief and social security benefits automatically decline. These two forces would automatically create a budget surplus and thus inflationary tendencies would be controlled automatically.

Built-in stabilisers have certain *advantages* as a fiscal device. *First*, the built-in stabilisers serve as a cushion for private purchasing power when it falls and lessen the hardships on the people during deflationary period. *Second*, they prevent national income and consumption spending from falling at a low level. *Third*, there are automatic budgetary changes in this device and the delay in taking administrative decisions is avoided. *Fourth*, automatic stabilisers minimise the errors of wrong forecasting and timing of fiscal measures. *Lastly*, they integrate short-run and long-run fiscal policy.

*Limitations of Built-in Stabilisers* - The effectiveness of built-in stabilisers as an automatic compensatory device depends on the elasticity of tax receipt, the level of taxes and flexibility of public expenditures.

The greater the elasticity of tax receipts the greater will be the effectiveness of automatic stabilisers in controlling inflationary and deflationary tendencies. But the elasticity of tax receipts is not so high as to act as an automatic stabiliser. *Second*, with low level of taxes even a high elasticity of tax receipts would not be very significant as an automatic stabiliser during a downswing. *Third*, the built-in stabilisers do not consider the secondary effects of stabilisers on after-tax business incomes and of consumption spending on business expectations. *Fourth*, this device keeps silent about the stabilising influence of local bodies, state governments and of the private sector economy. *Fifth*, they cannot eliminate the business cycle. At the most, they can reduce its severity. *Sixth*, their effects during recovery from recession are unfavourable.

Economists, Therefore, suggest that built-in stabilisers should *be* supplemented by discretionary fiscal policy.

(b) *Discretionary Fiscal Policy*. Discretionary fiscal policy requires deliberate changes in the budget by such actions as changing tax rates or government expenditures or both. It may generally take three forms: (i) changing taxes with government expenditure constant, (ii) changing government expenditure with taxes constant, and (iii) variations in both expenditures and taxes simultaneously.

The *first* method in which taxes are reduced, while, keeping government expenditure unchanged, they increase the disposable income of households and businesses. This increases private, spending. But the amount of increase will depend on whose taxes are cut, to what extent, and on whether the taxpayers regard the cut temporary or permanent. If the beneficiaries of tax cut are in the higher middle income group, the aggregate demand will increase much more than if they belong to the lower income group. If they are businessmen with little incentive to invest, tax reductions will not induce them to invest. Further, if the taxpayers regard tax reductions as temporary, this policy will again be less effective. This policy is more effective in controlling inflation by raising taxes because high rates of taxation will reduce disposable income of individuals and businesses thereby curtailing aggregate demand.

The *second* method is more useful in controlling deflationary tendencies. When the government increases its expenditure on goods and services, keeping taxes constant, aggregate demand goes up by the full amount of the increase in government spending. On the other hand, reducing government expenditure during inflation is not so effective because of high business expectations in the economy, which are not likely to reduce aggregate demand.

The *third* method is more effective and superior to the other two methods in controlling inflationary and deflationary tendencies. To control inflation, taxes may be increased and to fight depression, government expenditure may be raised.

*Limitations of Discretionary Fiscal Policy* - Success of the discretionary fiscal policy depends upon proper timing and accurate forecasting. *First*, accurate forecasting is essential to judge the stage of cycle, through which the economy is passing. *Second*, there are delays in proper timing of public spending.

In fact, discretionary fiscal policy is subject to two time lags. *First*, there is the "decision lag", the time required in studying the problem and taking the decision. The lag involved in this process may be too long. *Second*, once the decision is taken, there is an "execution lag". It involves expenditure, which is to be allocated for the execution of the program. *Third*, certain public works projects are so cumbersome that it is not possible to accelerate or slow them down for the purpose of raising or reducing public spending on them.

*Conclusion* - Despite the higher multiplier effect of government spending as against changes in tax rates, the latter can be operated more promptly than the former. Emphasis has thus shifted to taxation as the best fiscal device for controlling cyclical fluctuations. Thus when the turning point of a business cycle is already underway, discretionary fiscal action tends to strengthen the built-in stabilisers, as has been the experience of most of the western economies.

#### Monetary Measures

Since expansionary monetary policies cause trade cycle, these should be brought under control. Monetary factors may not directly cause the business cycle but when once the business cycle occurs, the monetary factors aggregate the effects of trade cycle.

During the inflationary period, the central bank should control money supply by means of bank rate policy, open market operations and changing the reserve ratios. The central bank also has to follow selective credit controls. By so doing, the occurrence of recession and depression may be prevented. Stability rather than growth should be objective of monetary policy, when once the economy attains full employment of all productive resources.

#### Administrative Measure

Another solution lies in adopting economic planning. It is through planning that business cycle can be brought under control and stability can be maintained.

#### IDENTIFICATION OF TURNING POINTS

The statistical time series called business cycle indicators have proven to be useful tools for analyzing the alternating waves of economic expansion and contraction known as the business cycle.

## TYPES OF CYCLICAL INDICATORS

The cyclical indicators are classified into three categories - leading, coincidental and lagging - based on the timing of their movements.

The leaders are those series that tend to shift direction in advance of the business cycle, and for this reason they get the lion's share of the attention.

The coincident indicators, such as employment and production, are broad series that measure aggregate economic activity; thus they define the business cycle.

Finally, the lagging indicators tend to change direction after the coincident series and help warn us when structural imbalances are developing within the economy.

### *Methods of Using Cyclical Indicators.*

*Composite Indexes* - In an effort to surmount the shortcomings of the individual indicators, we combine the best of them into composite indexes, specifically into three separate indexes made up of leading, coincident and lagging indicators.

These composite indexes serve as handy summary measures of the current behaviour of the cyclical indicators. Because they are averages, they tend to smooth out some of the volatility of individual series.

Use of composite indexes is consistent with the traditional view of the business cycle developed by Burns and Mitchell. In particular, composite indexes can reveal common turning point patterns in a set of economic data in a clearer and more convincing manner than the behavior of any individual component.

Although the composites exhibit a certain degree of timing irregularity, it is reasonable to expect the composite leading index to lead the business cycle, and the composite lagging index to lag -- and they do so with considerable but incomplete reliability. On occasion even the turning points in the coincident index, the most regular of the three composites, miss the official peak and trough months of the business cycle.

*Diffusion Indexes* - Diffusion indexes, which measure the proportion of a set of indicators that are rising, provide another source of useful, but often neglected, information about the business cycle. They tell us how widespread a particular business cycle movement (expansion or contraction) has become. Various databases include diffusion indexes over two different time spans, one month and six months, for the components of the leading, coincidental, and lagging indexes. The one month span indexes tend to be erratic; signals from six-month diffusion indexes are much more reliable.

The composite and diffusion indexes are not redundant even though both indexes are based on the same set of data. On occasion, they move in different directions. The composite index differentiates between small and large overall movements in the component series, while the diffusion index measures the breadth of a general movement, not the size. The difference is often very useful when attempting to either confirm or predict cyclical turning points.

There is no single time series that fully qualifies as an ideal cyclical indicator. However, the cyclical indicators included in the next section have been subjected to, and have survived, following statistical and economic tests.

- *Conformity* - The series must conform well to the business cycle.
- *Consistent Timing* - The series must exhibit a consistent timing pattern as a leading, coincidental or lagging indicator.
- *Economic Significance* - Its cyclical timing must be economically logical.
- *Statistical Adequacy* - The data must be collected and processed in a statistically reliable way.

- *Smoothness* - Its month-to-month movements must not be too erratic.
- *Currency* - The series must be published on a reasonably prompt schedule, preferably within a month.

#### SOME IMPORTANT CYCLICAL INDICATORS

Examples of the *leading indicators*:

- Average weekly hours, manufacturing:
- Average weekly initial claims for unemployment insurance
- New orders - consumer goods and materials
- Contracts and orders for plant and equipment
- Building permits, new private housing units
- Change in book value, manufacturing and trade inventories
- Change in sensitive materials prices, index
- Stock prices, index of most common stocks
- Money supply
- Corporate profits after tax, quarterly
- Index of net business formation
- Index of consumer confidence

Examples of *coincidental indicators*:

- GDP in current dollars
- Employees on non-agricultural payrolls
- Personal income less transfer payments in constant dollars
- Index of industrial production
- Manufacturing and trade sales
- Sales of retail stores
- Total unemployment rate

Examples of the *lagging indicators*:

- Unemployment rate, average duration of unemployment
- Ratio, manufacturing and trade inventories to sales
- Change in labor cost per unit of output in manufacturing
- Average prime rate
- Outstanding commercial and industrial loans
- Ratio, consumer installment credit to personal income
- Change in Consumer Price Index for services
- Business expenditures, new plant and equipment

#### PRACTICAL APPLICATIONS OF CYCLICAL INDICATORS

*Forecasting Recessions* - Followers of the cyclical indicators are keenly aware of problems that arise when interpreting the leading index. The long-standing rule of thumb that a three-month decline signals a recession has given at least one false signal during 6 of the last 8 expansions. However, few economists actually use such an inflexible rule. Most require a significant downward movement in the index - of at least 1 per cent - and declines in the majority of the component series.

One reason, it is imprudent to forecast recession using a simple, inflexible rule is consistent with that recessions are not dated using a simple, inflexible rule. The Australian economy is continually evolving and is far too complex to be summarized by one economic series. Official recession dates are determined from a multitude of indicators (however, one can measure it with a simple formula - say, by defining a recession as three consecutive quarters of decline in GDP) and there is no agreed upon formula for setting peak and trough dates.

Forecasting a peak, which is usually considered more important than forecasting a trough, has to be considered an even harder task than determining one after the fact.

Even though the composite leading index has flaws, and is not 100 percent reliable, it can be used

along with the corresponding diffusion index to give useful signals about the likely direction of the economy. Historical analysis shows that a negative growth rate over a six-month period of between 1 to 2 percent for the leading index and declines in at least half of the components (i.e., the six-month diffusion index falling below 50 percent) is a reasonable criteria for a recession warning.

It should also be recognized that a "false signal" from either the leading index or an alternative set of cyclical indicators is not necessarily a flaw--sometimes they are quite insightful. Many economists believe that the index warned appropriately that the risk of a recession had increased. It is as though the leading index spotted conditions that often lead to a tropical storm, but turned out to be nothing more than a rain shower.

#### *When to Buy and Sell*

"Buy when the streets are running with blood."

(Baron Rothschild, about 1815.)

Just as the economic cycle proceed from pessimism to mild optimism to excessive enthusiasm, so do these stages in the stock market.

In the first stage of the bull market, people are still influenced by bad times just experienced. The public is skeptical and the market is generally underpriced. As a result, there are many good values at this time. Generally, this is the best time to buy stocks, during or shortly after a serious economic contraction when an important prior low in the stock market is broken.

By the second stage, an increasing number of people begin to recognize the favorable economic prospects and start buying stocks, though cautiously. This would indicate a shift in popularity from the blue chips to the growth stocks.

In the third stage, economic boom, people tend to lose their cautiousness and bid up the prices of unseasoned stocks to ridiculous heights, for they expect that soon the improving business conditions will justify such prices. However, this overoptimism sets up the conditions for a serious contraction. Thus time to leave the crowd and sell is during the third stage of the bull market.

#### *Picking Stocks*

Each stock does not participate equally in the broad bull and bear markets. To begin, we need some basis for classifying stocks according to their similar characteristics, since there are too many stocks to handle separately.

We generally recognize two important sectors in the stock market: *the blue chips*, the leading companies in those industries that have established an important role within the structure of the Australian economy; and *the speculatives*, those companies that are now in the process of proving (or failing to prove) themselves. The speculative sector includes a growth segment, and it is this segment which is more important to stock market profits.

The difference between blue chip and speculative stocks is in the risk that the players perceive. When perceptions of risk increase following a serious contraction, the blue chip - with their conservative pricing - are the stocks to own. During the recession, these blue chip stocks undergo severe damage as these companies fail to deliver higher rates of earnings growths. When this happens, investors begin looking for those companies which are achieving superior rates of earnings growth - or growth stocks.

Growth stocks, as they more fully reflect the growth that occurs during the expansionary phases of the cycle, usually capture investor favor through the growing recognition of these superior rates of growth. Of course, the sector to which a stock may belong. As time goes on, the leading growth stocks become blue chips.

#### CAUTIONS AND CONCLUSION

Business cycles are recurrent fluctuations in aggregate employment, incomes, output, and price levels. We know now that no cycle is perfectly regular with uniform frequency and amplitude.

Identification of business cycles with the help of cyclical indicators or interpretation of business cyclical indicators is more complex than simple graphs can convey.

It is important to recognize that any economy is continually evolving and it is too complex to be completely summarized with just a few economic series or statistics. Although prior business cycles have shown patterns that are likely to be repeated to some degree, and should be watched for when predicting turning points, recessions can start and end quite quickly for a variety of reasons.

Economists continue to debate the relative importance of the various factors that affect aggregate demand and supply—such as monetary policy, oil price shocks, and business confidence—and the manner in which business cycles are propagated. Similarly, there is often a wide range of opinion among forecasters about the most-likely trend for the economy. Therefore, it is unreasonable to believe that any single indicator or even set of indicators would always give true signals and never fail to foresee a turning point.

Other, more technical issues must also be considered when analyzing the cyclical indicators. First, delays in the availability of data shorten the effective lead of the leading indicators. Second, many of the indicators are subsequently revised and thus it is only much later that they give an unambiguous picture of what is happening in a particular sector of the economy. Third, some indicators occasionally skip a business cycle altogether or show an extra cycle.

These complications confound our ability to quickly perceive the development of a turning point in the economy. Nonetheless, thoughtful and pragmatic analysis of the cyclical indicators yields important information about the business cycle. Since this type of analysis requires enough data to reliably determine a change in cyclical direction, it may turn out that leading indicators tell you where you're going only about the time you get there. But even if that is all that can be said about the indicator approach to business cycle analysis (and many would argue otherwise), such information is nevertheless very useful, because it provides an earlier signal of a turn in the economy than can reliably be found by using other analytical approaches.