

## **ECO401**

### **SHORT NOTES FROM LECTURE NO 34 TO 38**

#### **INFLATION AND DEFLATION:**

**Inflation** is a situation in which there is a continuous rise in the **general price level**. **Deflation** is the **opposite of inflation** and occurs when the general level of prices **falls**. The rate of inflation is the **percentage annual increase in average price level**.

#### **Pure inflation:**

**Pure inflation is a special case of inflation in which the prices of all the goods and services in the economy are rising at the same rate.** So if an economy produces three goods: **apples, shirts and cars**, and they cost **Rs. 5, Rs. 100 and Rs. 400,000** respectively in **1992**, while the prices in **1993** are **Rs. 6, Rs. 120 and Rs. 480,000**, and the prices in **1994** are **Rs. 9, Rs. 180 and Rs. 720,000**, respectively, then we can say that there was pure inflation of **20% in 1993 (over 1992)** and pure inflation of **50% in 1994 (over 1993)**.

#### **MEASUREMENT OF INFLATION:**

More generally, inflation (**in % p.a.**) is measured as  $[(Pt - Pt-1)/Pt-1]*100$  Where **Pt** refers to the **average price level prevailing in year t**, and **Pt-1** is the **average price level prevailing in period t-1**. The term average price level usually refers to the value of **an index**, like consumer price index or producer price index etc., which weights the **prices of goods** according to their share in the **total nominal GDP**.

Dates	Price level	Inflation (%)
30 <sup>th</sup> June 2000	100	.....
30 <sup>th</sup> June 2001	105	5%
30 <sup>th</sup> June 2002	107	1.9%
30 <sup>th</sup> June 2003	120	12.1%

#### **THEORIES ABOUT THE CAUSES OF INFLATION: THREE VIEWS ABOUT INFLATION:**

There are three views here:

- **The Traditional Keynesian Views,**

**Keynes** sees inflation and unemployment as opposite sides of the same coin, so is merely a result of excessive aggregate demand (**demand-pull inflation**). Assuming that increases in aggregate demand in a Keynesian world do have some output and employment

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impact, one can think of plotting the relationship between inflation and unemployment as trade-off: a downward sloping curve in **inflation unemployment space**. This curve is called the **Phillips curve names after the economist who first quantitatively** documented this trade-off in the context of the **UK economy in the 1950s and 60s**. The **Phillips curve** tradeoff can be summarized as follows: Lower unemployment can be achieved only at the cost of **higher inflation**. The policy prescription flowing from this particular diagnosis of inflation was simple: reduce aggregate demand by contractionary fiscal and/or monetary policies. **Keynes** looked inflation and unemployment as the opposite side of the same coin. If inflation **increases**, unemployment **decreases** and vice versa.

### Phillips Curve

**W.A. Philips** gave the idea of **Keynes** a formalized **shape** and draws the **Phillips curve** stating inverse relationship between **unemployment** and **inflation rate**. **Phillips's views** were consistent with the **Keynesian views**. The cost of reducing inflation is **unemployment** and the **cost of reducing unemployment is inflation**.

- **The cost push inflation,**

This view came to fore in the **1970s** when the world was confronted with a situation of rising prices but high unemployment (**stagflation**), something that demand-pull theories could not explain. It was observed that the two oil price shocks in the **1970s**, which were essentially supply side shocks (**because they increased the cost of production**), were capable of producing such a situation. In **AD-AS space**, such a supply shock would be shown by shifting the AS curve to the left (**and up**) causing prices to rise and output (**and employment**) to fall. In the context of the **Phillips curve**, the supply shock would be shown by shifting the **Phillips curve** out to the right, reflecting a structural shift in the inflation unemployment trade-off. The name given to the resulting higher inflation (**at any level of unemployment**) was **cost-push inflation**. The policy prescription appropriate for dealing with it, included supply-side measures such as developing alternative energy sources, fuel efficient technologies, production cost reduction methods, and reducing tax distortions (**that reduce the incentive to produce**), increasing competition (**in search of productivity gains**), removing price floors etc. **Keynesian** demand management policies were obviously not seen as relevant in this context. It is important to note that sometimes what appears as **cost-push inflation** is actually driven by higher demand. For e.g., let's say demand for property increases in an economy; this causes housing prices to rise, causing rents to rise, Real Output **Price AS AD1 AD2 P0 AD3 P1 Y\* AD4** Unemployment Inflation (%) causing workers to demand higher wages. Higher wages causes firms' production costs to increase prompting them to raise goods prices which in turn cause retail prices to rise. At every point of the whole chain, it is the costs that are rising (**rental costs,**

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*production costs, purchase costs of retailers*), but the cause of these rising costs is higher demand for property. This situation is often branded *cost-push illusion*.

Summing up in the words of *Hazrat Ali (AS)*, “*high inflation together with a deteriorating law and order position are hallmarks of the worst possible government.*”

- **THE MONETARISTS VIEW**

In economics, the quantity theory of money is a theory emphasizing the positive relationship of overall prices or the nominal value of expenditures to the quantity of money. *Monetarists* located the causes of inflation in the *Quantity Theory of Money (QTM)*, which provided an explanation for inflation totally independent from that for unemployment. *QTM* states:  $MV = PQ$ , where *M is the real money supply*, *V is the velocity of money (the no. of times money is circulated in the economy in a year)*, *P is the price level and Q is the real output*. Assuming a *constant V* and a *stable (natural rate) output Q\**, changes in *P* could be explained totally by changes in *M*. A stable *M* would imply a stable *P*. Thus the *Monetarist key* to solving the inflation problem was a stable money supply set to grow at the rate of growth of natural rate *output (Q\*)*. For *Monetarists*, the concern was not the government’s expansionary fiscal policy per se, but the manner in which the fiscal deficit was financed. If the government financed its deficit by borrowing from the central bank (*i.e. printing money, and thus expanding money supply*), *this would be tantamount to inflationary finance* of the budget. If, however the government financed the deficit by borrowing from banks or the retail savers, then there would be little inflationary consequences.

#### Monetarism and Philips curve:

It is also instructive to see how *Monetarist’s* viewed the *Phillips curve*, and the inflation-unemployment tradeoff. *Monetarists* believed that the economy generally gravitated around a full-employment or natural rate level, and any positive output or employment impact of inflationary demand policies would have be limited. The duration and extent of this limited impact would depend on how much money illusion private agents suffered from.

#### Money illusion:

*Money illusion* is when agents base their decisions on their expectations about inflation (*set in period t-1*), so that when government driven actual inflation (*increase in prices and wages*) in period t exceeds expected inflation, agents view the increase as real rather than nominal, and therefore erroneously spend more than they should.

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### Adaptive expectations:

In setting expectations for period  $t+1$ , however, they learn from the previous period, raising their inflationary expectations based on the outcome in period  $t$ . Only an inflation rate higher than this new expected rate can convince them to spend more. The net effect of learn and error process is that inflation rises very steeply in response to continued demand-injections by government until the effect on spending and employment is **virtually zero – a vertical Phillips curve**. This is how **Monetarists** characterized the long-term tradeoff between **output** and **inflation**, i.e. that there was no trade-off and that expansionary demand policies (**i.e. expansionary monetary policy**) translated fully into higher inflation with no impact on employment whatsoever.

### THE BALANCE OF PAYMENTS (BOP):

**BOP** is an accounting record of a **country's transactions** with the rest of the world. To illustrate the related concepts in a **non-complicated** way, we shall assume a two-country world (**Pakistan and the US**), and view things from the **Pakistani side**.

### Explanation:

The balance of payments (**or BOP**) measures the payments that flow between any individual country and all other countries. It is used to summarize all **international economic transactions** for that country during a specific time period, usually a year. The **BOP** is determined by the **country's exports** and **imports of goods, services, and financial capital**, as well as **financial transfers**. It reflects all payments and liabilities to foreigners (**debits**) and all payments and obligations received from foreigners (**credits**). **Balance of payments** is one of the major indicators of a country's status in **international trade**, with net capital outflow. Before we can fully grasp the **BOPs**, it is important to develop an understanding of the market for foreign exchange. Foreign exchange, in the **Pakistani context**, simply means **US dollars (note that foreign exchange from the US's point of view would be Pak rupees)**.

### THE MARKET FOR FOREIGN EXCHANGE:

The market for foreign exchange (**or dollars**) in **Pakistan** works like the market for any other commodity (**like apples, oranges etc.**). We have an **upward sloping supply curve** and a **downward sloping demand curve**. We operate in the same price-quantity **framework, noting**, however, that quantity in this context means the quantity of dollars and price in this case means price per dollar, i.e. the rupee price of a dollar. However, the latter is simply the **Rupee/US\$** exchange rate, and hence we can label the vertical axis accordingly. The foreign exchange (**currency or forex or FX**) market exists wherever one currency is traded for another. It is by far the largest financial market in the world, and includes trading between **large banks, central banks,**

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*currency speculators, multinational corporations, governments, and other financial markets and institutions.*

### Exchange rate:

In finance, the exchange rate (*also known as the foreign-exchange rate, forex rate or FX rate*) between two currencies specifies how much one currency is worth in terms of the other. For example an exchange rate of **123 Japanese yen (JPY, ¥)** to the **United States dollar (USD, \$)** means that **JPY 123** is worth the same as **USD 1**.

### HISTORY OF EXCHANGE RATE IN PAKISTAN:

During the past five decades, *Pakistan's foreign* exchange regime has been moving towards a *deregulated* and *market-oriented direction*:

Before the **1970s**, *Pakistan* linked its currency, rupee, to the **Pound Sterling**. With the economic influence of the **USA** getting more apparent, in **1971**, *Pakistan* linked rupee to the **U.S. Dollar**. *Pakistan* fell into a budget deficit in **1982**, when the strengthening **U.S. Dollar** made remittances abroad through official channels slumped. The plunging black market rate suggested that the rupee pegged to the **U.S. Dollar** largely deviated from the underlying economic realities. In this view, *Pakistan* put the rupee on a controlled floating basis, with the currency linked to a trade-weighted currency basket. In **1998**, to alleviate the financial crisis in *Pakistan*, the authorities adopted a multiple exchange rate system, which comprised of an official rate (*pegged to U.S. dollar*), a **Floating Interbank Rate (FIBR)**, and a composite rate (*combines the official and FIBR rates*). *Export proceeds, home remittances, invisible flows, and "non-essential" imports* can be traded at the **FIBR** rate. With the economy recovering from the crisis in **1999**, the three exchange rates were unified and pegged to the **U.S.** within a certain band. This band was removed in **2000**.

Now, *Pakistan* is maintaining a floating rate. Under this exchange rate system, each bank quotes its own rate depending on its short and long positions. Strong competition, however, means the exchange rates vary little among the banks. Under the prevailing **Exchange Control Act, the State Bank of Pakistan** on application may authorize any person or institution to deal in the foreign exchange market. By virtue of this vested authority, the **SBP** may determine the extent to which a Bank would be authorized to deal in various currencies.

### DEVALUATION:

This is the act of reducing the price (*exchange rate*) of one nation's currency in terms of other currencies. This is usually done by a government to lower the price of the country's exports and raise the price of foreign imports, which ultimately results in

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greater domestic production. A government devalues its currency by actively selling it and buying foreign currencies through the foreign exchange market.

### **REVALUATION:**

This is the act of increasing the price (*exchange rate*) of one nation's currency in terms of other currencies. This is done by the government if it wants to raise the price of the country's exports and lower the price of foreign imports. This is an appropriate action if the country is running an undesired trade surplus with other countries. The procedure for revaluation is for the government to buy the nation's currency and/or sell foreign currencies through the foreign exchange market.

### **APPRECIATION:**

This is a more or less permanent increase in value or price. *"More or less permanent"* doesn't include temporary, short-term jumps in price that are common in many markets. Appreciation is only those price increases that reflect greater consumer satisfaction and thus value. While all sorts of stuff can appreciate in value, some of the more common ones are *real estate, works of art, corporate stock, and money*. In particular, the appreciation of a nation's money is seen by an increase in the exchange rate caused by a *growing, expanding, and healthy economy*.

### **DEPRECIATION:**

This is a more or less permanent decrease in value or price. *"More or less permanent"* doesn't include temporary, short-term drops in price that are common in many markets. It's only those price declines that reflect a reduction in consumer satisfaction. While all sorts of stuff can depreciate in value, some of the more common ones are *capital, real estate, corporate stock, and money*. The depreciation of capital results from the rigors of production and affects our economy's ability to produce stuff. A sizable portion of our annual investment is thus needed to replace depreciated capital. The depreciation of a nation's money is seen as an increase in the exchange rate.

### **PARTS OF BOP:**

The BOPs can be divided into three parts:

- ❖ Current account,
- ❖ Capital account
- ❖ Changes to reserves.

### **Explanation:**

- ❖ **Current account**



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The current account balance is essentially the trade balance (**exports minus imports**), but with net factor receipts from abroad added. If the exchange rate is fixed, then changes in reserves must mirror the combined balance on the current and capital accounts in order to bring the overall **BOPs** to zero. If the exchange rate is floating, then changes to reserves can remain zero, as the adjustment burden is borne by the exchange rate which appreciates (**depreciates**) in response to a joint surplus (**deficit**) on the current and capital accounts.

### Current account balance (+ or -)

➤ *Goods or visible balance (+ or -)*

(+) Exports

(-) Imports

➤ *Services or invisible balance (+ or -)*

(+) Exports

(-) Imports

➤ *Income and transfers (+ or -)*

(+) Factor income from abroad, e.g. **worker remittances, dividends, interest**

(-) Factor payments, e.g., **MNC profits, interest on debt**

### ❖ THE CAPITAL ACCOUNT

**The capital account generally provides a direct picture of the net asset position of a country vis-à-vis the rest of the world.** If the capital account stays in surplus year after year, this indicates the country's increasing indebtedness to the rest of the world. If however, the capital account stays in deficit year after year, this means **the country's indebtedness to the rest of the world is falling.**

At the introductory level, **BOP** problems normally refer to a deficit on the current account, since the **Capital account** is assumed to be passive. Thus external disequilibrium is usually associated with a situation where the trade balance (**exports – imports**) is in deficit.

### ❖ CHANGES TO OFFICIAL FOREIGN EXCHANGE RESERVES (+ OR -):

(+) Sales of foreign exchange by government, i.e. drawdown of reserves

(-) Purchase of foreign exchange by government, i.e. build-up of reserves

Balance of payments (**1+2+3 =0, or net errors and omissions**)

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## CONCEPT OF ECONOMIC GROWTH AND GROWTH RATE:

### ECONOMIC GROWTH:

Economic growth is increase in an economy's level of production, output or income.

The growth rate of a country's real GDP can be negative, positive or zero. A growth rate of between 2- 3% is considered normal for mature developed countries; for LICs, 5-7% is considered healthy and 7%+ excellent.

### ACTUAL & POTENTIAL GDP:

The **GDP** gap or the output gap is the difference between **actual GDP** and **potential GDP or potential output**. The calculation for the output gap is  $Y - Y^*$  where  $Y$  is **actual output** and  $Y^*$  is **potential output or the natural level of output**. If this calculation yields a positive number it is called an **expansionary gap** and **indicates an economy in expansion; if the calculation yields a negative number it is called a recessionary gap and indicates an economy in recession**.

### Formula:

The percentage **GDP** gap is the actual **GDP** minus the **potential GDP** divided by the **potential GDP**.

$$(Actual\ GDP - potential\ GDP) / Potential\ GDP.$$

### Actual GDP – potential GDP

**Potential GDP**

### REAL VS NOMINAL GDP:

**Nominal GDP** measures the value of output during a given year using the prices prevailing during that year. Over time, the general level of prices rises due to inflation, leading to an increase in **nominal GDP** even if the volume of goods and services produced is unchanged. **Real GDP** measures the value of output in two or more different years by valuing the goods and services adjusted for inflation. For example, if both the "**nominal GDP**" and price level doubled between **1995** and **2005**, the "**real GDP**" would remain the same. For year over year **GDP growth**, "**real GDP**" is usually used as it gives a more accurate view of the economy.

### Relation between Real GDP and Nominal GDP:

**Nominal GDP** is calculated using current prices whereas **real GDP** uses constant prices. The difference between the **nominal GDP** and **real GDP** is due to the inflation



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rate in market. The relationship between *inflation, real GDP* and *nominal GDP* is explained by *Fisher Equation*.  $Real\ GDP = Nominal\ GDP - Inflation$

#### Capital widening:

*Capital widening* is a term used to describe the situation where capital stock is increasing at the same rate as the labor force, thus capital per worker remains constant. The economy will expand in terms of aggregate output, but productivity per worker will remain constant.

#### Labor:

Human capital also matters for economic growth. Quantity as well as the quality of labor should also be considered. This is also *an engine of growth*.

#### Land:

*Pakistan* is an agrarian country in which land matters much. *Japan* and *Korea* has been grown rapidly because they have used their scarce land very efficiently.

#### Raw materials:

If stock of raw materials increases economy will produce more output which will increase growth rate of output. Technical knowledge: If there are technical advancements then production will increase, growth rate of output will also increase. The factors of technological advancements are learning by doing, *invention, innovation etc.*

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