WHAT IS THE CIRCULAR FLOW OF INCOME? EXPLAIN AND ILLUSTRATE UNDER WHAT CONDITIONS THE FLOW WILL EXPAND OR CONTRACT AND THE CONCEQUENCES FOR INCOME AND THE PRICE LEVEL. MAKE CLEAR ANY ASSUPTIONS YOU MAKE.

The purpose of this essay is to explain what the circular flow of income is and show the several conditions, under which the flow will expand or contract. Furthermore, via examples and diagrams, we are going to illustrate the consequences for income and price level. The circular flow of income is very useful as a model for understanding the working of an economy. It shows how national income can increase or decrease because of changes in the various flows.

In order to explain the circular flow of income, we have to deal with two kinds of variables: stock variables and flow variables. Stock variables are measured at a particular point in time whereas flow variables are measured over a period. A prime example of stock concepts is wealth, which consists of the resources that help to satisfy human wants and it includes everything that is valued by a society. These resources are often referred to as factors of production and they are usually classified as follows:

a) Land, which consists of the natural resources provided free by nature,

b) Capital, which consists of the means of production that have been made by people and

c) Labor, which consists of human resources.

On the other hand, income is a flow concept, which is normally measured over a period of year. The flow of income can be measured at three points:

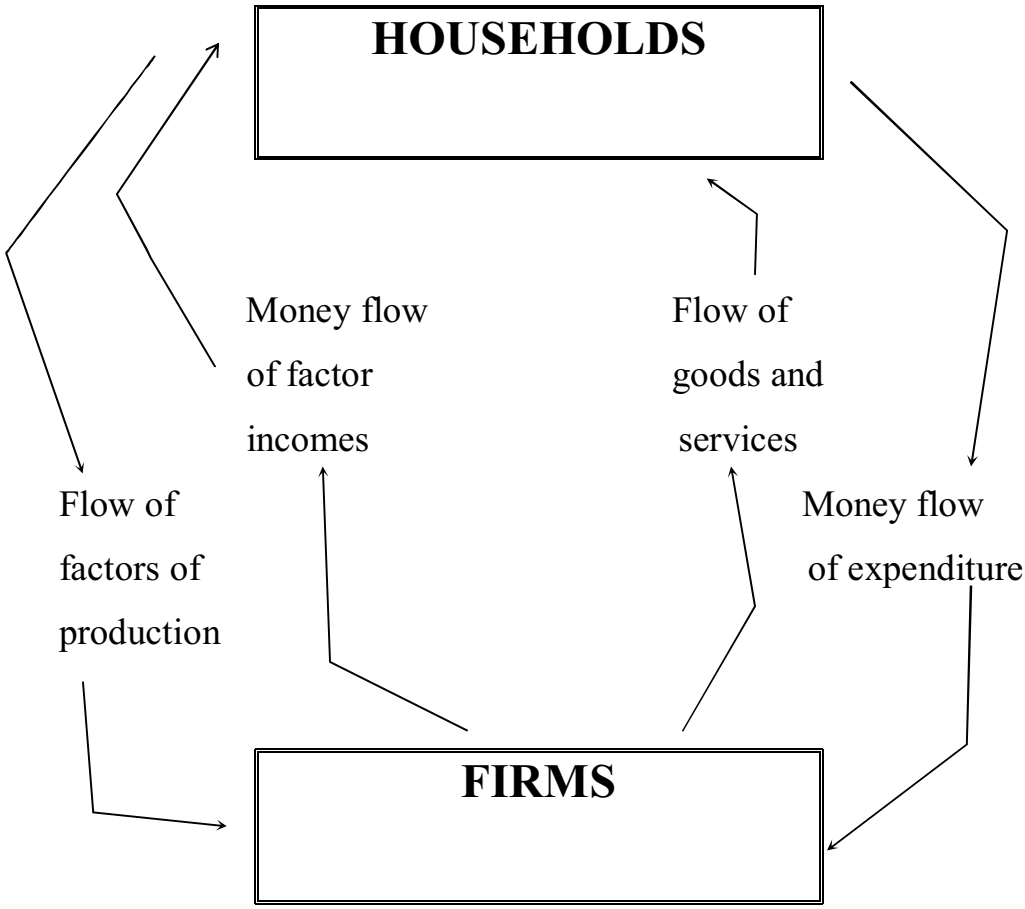
a) The value of incomes received,

b) The value of total expenditure and

c) The value of production or output.

These three measures of national income are linked in the circular flow of income. When we attempt to measure national income, we are trying to put a money value on the goods and services produced over a period of a year. In its simplest form, national income can be measured from the transactions that take place between households and firms.

The following figure illustrates these transactions: Households supply factors of production (land, capital and labor) to firms and in return are paid factor incomes (rent, interest and wages). If we assume all income is spent on goods and services, the money flow of factor incomes will equal the money flow of household expenditure. In return for the money flow of expenditure households will receive goods and services to the same value.



This simple model indicates that national income can be measured at three points in the circular flow:

a) The income method, which adds together the total value of all income that have been earned in a relevant period. These may include income from employment, income from self- employment, profits, surpluses of government corporations and rent.

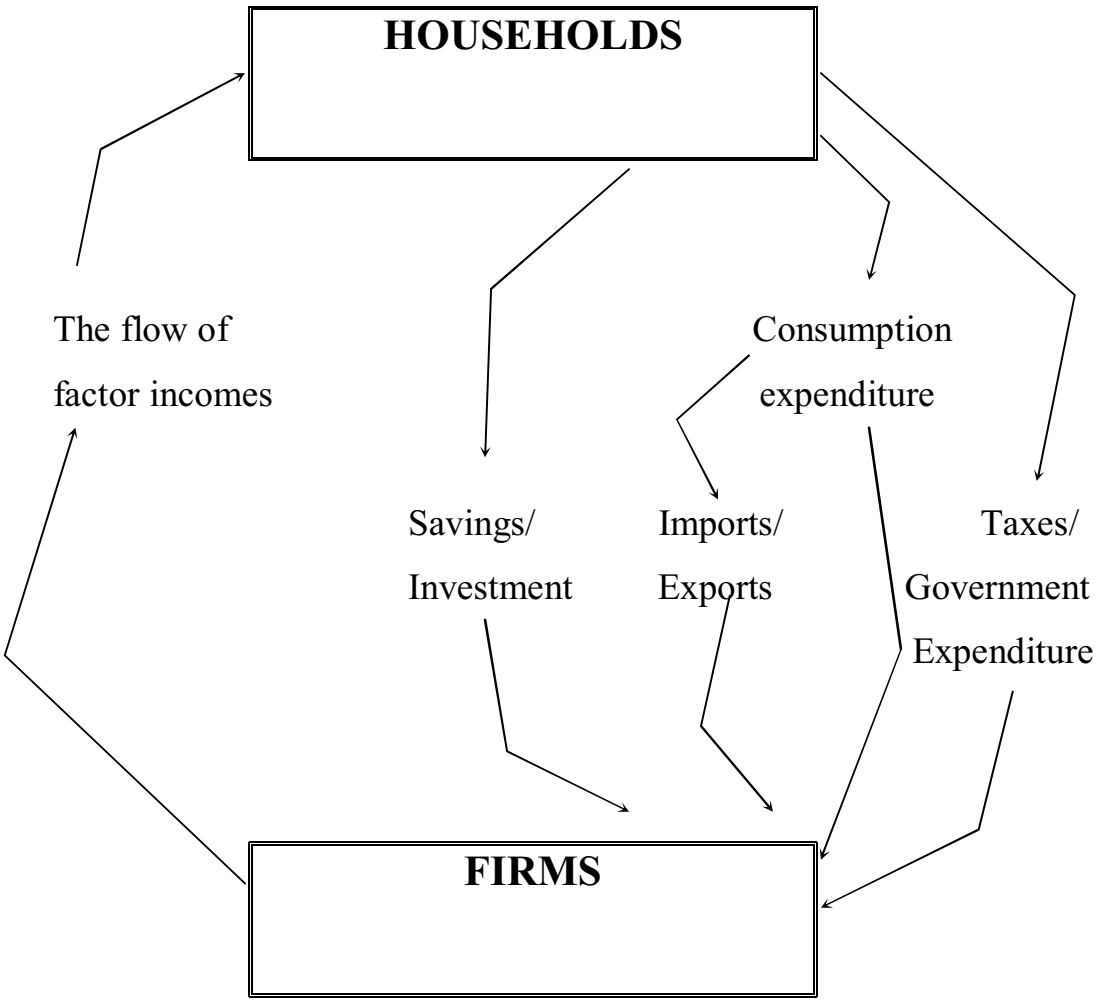
b) Expenditure on goods and services, when the government adds up all the money spent in buying this year's output. This will be the total of consumption, investment, government expenditure and net exports.

c) The money value of output or production of goods and services. The money spent on making the goods (inputs) is taken away from the money received from the sale of the goods (outputs) to give each sector's value added. Taking final output or adding each sector's value added gives national income.

Therefore, in terms of national income accounting we have the following identity:

National income = national expenditure = national output

A more elaborate model of economic flows is presented in the following figure:



It should be observed that there are three important withdrawals (W) or leakages from the circular flow in this model: taxes, which can be either direct or indirect, savings and imports. There are also three injections (J) into the circular flow: exports, investment and government expenditure. Nevertheless, as long as withdrawals are equal to injections (W=J) the total value of the circular flow will be unaffected and the national income identity will still hold. This means that savings should be equal to investment (S=I), that imports should equal exports (M=X) and that taxes should be equal to the government expenditure (T=G). Hence, in an open economy the formula for national income is: Y = C + I + G + E – M, where Y = income, C = consumption, I = investment, G = government expenditure, E = exports and M = imports.

For instance, if firms and households had £100.000.000 each, first, firms would give that money to the households as wages. Then households would return the £100.000.000 to the firms by giving £200.000 for savings, £200.000 for imports, £300.000 for consumption expenditure and £300.000 for taxes. Therefore, the whole amount will be returned to firms. However, since S=I, M=X and T=G, firms will spend the £100.000.000 to investment (£200.000), exports (£200.000), consumption expenditure

(£300.000) and government expenditure (£300.000). It can be easily derived that this is actually the circular flow of income.

On the other hand, there are cases when withdrawals are not equal to injections. Therefore, if injections are greater than withdrawals (J>W), then the level of expenditure will rise. This extra aggregate demand will generate extra incomes. In other words, actual national income will rise. If this rise in actual income exceeds any rise, there may have been in potential income, there will be the following effects on the four macroeconomic objectives:

- There will be economic growth. The greater the initial excess of injections over withdrawals, the bigger will be the rise in national income.
- Unemployment will fall as firms take more workers in order to meet the extra demand for output.
- Inflation will tend to rise. The more the gap is closed between actual and potential income, the more will firms find it difficult to meet the extra demand, and the more likely they will be to raise prices.
- The current account of the balance of payments will tend to deteriorate. The higher demand sucks more imports into the country, the higher domestic inflation makes exports less competitive and imports relatively cheaper compared with home-

produced goods. Thus imports will tend to rise and exports will tend to fall.

Conversely, if withdrawals are greater than injections (W>J) then the circular flow will contract and consequently the level of the national income will fall and the effect on the four macroeconomic objectives of an initial will be the following:

- There will be economic fall. The greater the initial excess of withdrawals over injections the bigger will be the fall in national income.
- Unemployment will rise as firms lay out workers.
- Inflation will tend to fall.
- The current account of the balance of payments will tend to improve.

When there is an increase in the level of injections, a part of it will be received by a household as extra income. The households will probably act so that part of this extra income is then spent and part is saved. This extra consumer spending then gives rise to a series of further income and expenditures. The overall increase in spending is much higher than the initial injection. This effect is known as the multiplier effect. In other words, the multiplier is the amount, by which income will increase because of an initial increase in injections to the circular flow of income. The greater

the proportion of extra income that is spent, the bigger the multiplier effect will be.

Hence, the only condition of national equilibrium is that

Taxes + savings + imports = Gov. exp. + investment + exports

A very important feature of national equilibrium is that it can occur at any level of output, and, consequently, at any level of employment. Therefore, if the government wanted to push the economy to higher levels of employment, it has to push national demand for goods and services to a higher level. This is the concept of 'managing demand', associated to Keynesian approaches to the national economy.

Of course, in order to manage demand, it is necessary to build a sound definition of aggregate demand, which can be constructed grouping the following economic acts:

a. Consumption by individuals of goods and services both domestically and externally produced. These goods and services are consumption goods and services.

b. Consumption by the government of goods and services both domestically and externally produced. These goods and services are consumption goods and services.

c. Investment by firms and government on goods and services utilized to produce other goods and services. The former are capital goods.

d. Consumption by foreigners of domestically produced goods and services, both consumption and capital goods.

e. To measure the aggregate demand for domestically produced capital and consumption goods and services we have to subtract imports of externally produced capital and consumption goods and services.

Now, the adding up of those five acts will give us a model of aggregate demand for or aggregate consumption of domestically produced goods and services. Therefore, aggregate demand equals to consumption plus government expenditure plus investment plus exports minus imports: **(AD) = C + G + I + (X – M).**

With the above model in mind, a government can manipulate different components of aggregate demand to stimulate or slowdown the growth of the national economy.

Drawing a conclusion, as we have already seen, the excess of injections over withdrawals will lead to a rise in national income. Nevertheless, as national income rises, so households will save more (S), pay more taxes (T) and buy more imports (M). In other words, withdrawals will rise. This will continue until they have risen to equal injections. At that point, national income will stop rising, and so will withdrawals. Equilibrium has been reached.