**Easterlin Paradox**

According to the survey data in the US from 1950s until 2002, average happiness levels have remained relatively constant while average income have almost tripled, suggesting that there is no link between income and happiness. Nevertheless, according to the same survey, rich people tend to be happier than poor people, suggesting that income raises happiness.

In this class, we will see a particular explanation of this seemingly contradictory empirical observations, known as the Easterlin paradox.

To make our life easier, suppose that there are two individuals, İnci (denoted ) and Jale (denoted by ). They choose and where is consumption and is leisure. We assume that İnci and Jale are buddies working at the same office so their happiness levels are influenced by each other. In particular, their utilities are

This utility is known as “keeping-up with the Joneses” preferences. According to this specification, what individuals really care about is relative consumption, not absolute consumption.

The budget constraints of and are given by

We assume both and maximize their utilities. For example, solves

s.t.

To solve this problem, we should use the standard MRS rule, which states that utility maximization requires

So we need to calculate the MRS as follows

The marginal utilities are the derivatives of the utility function with respect to and :

for . Therefore, we obtain

This expression simplifies to

At this point, we can observe that due to the symmetry among İnci and Jale. These two individuals are identical in every aspect. So the expression further simplifies to

which can also be represented as

Now plug this into the budget constraint to see

This implies

which is equivalent to

Conclude

The solution is

The maximum level of utility for is, therefore,

The important observation about this outcome is that it does not depend on , wages. So the happiness of İnci would not increase with increasing income. Economic growth would not positively affect İnci. This is also true for Jale.

The interpretation of this result is that the extra utility given by higher income is canceled out by the extra consumption of the other person.

But this model cannot explain why the rich is happier. To explain why the rate of happiness is higher among rich Americans compared to poor Americans, let us generalize our model. The individuals have the following utilities

So the preferences are still symmetrical. But the wage of is 2 times higher than that of . This mean that the budget constraints of and are given by

To solve the utility maximization problem, apply the MRS rule

This means

Plug this into the budget constraint

to see

The result is

What if we follow the same steps for ? To solve the utility maximization problem, apply the MRS rule

This means

Plug this into the budget constraint

to see

The result is

So their utilities at their maximum are

Note that utility still does not increase with income. Technological development or economic growth does not increase the happiness of İnci (rich) or Jale (poor). Neither the poor nor the rich benefits from growth. But the rich is happier because

So İnci (rich) is happier. Now let us recall the Easterlin paradox: no increase in average happiness despite tripling income but higher happiness among the rich in the US for 5 decades.

**General equilibrium**

Until now, we analyzed the labor market and how labor decision is affected by wages in isolation with the production. This means we left out the interaction between labor demand (by the firms) and labor supply (by the workers). So our next subject will be how wages are determined in an economy where firms produce to maximize profits and individuals supply labor/consume products to maximize utility. The advantage of this exercise is that we will how “all prices” are determined in a general equilibrium setting.

So consider a firm which produces amount of output according to the production technology

where denotes the amount of labor used by the firm. Therefore, the level of profit is

where and In other words,

In order to maximize the level of profits, we should solve

This is the profit maximization condition and it can be expressed as

In other words,

To see why this works, suppose that

Then is not maximized. What should the firm do to increase its profit? The firm should employ one more worker. Likewise,

implies that the firm should fire some workers because the MP of the last worker is less than her productivity. The solution to is known as “the labor demand”.

Ex: Assume that . Then profit maximization yields

because . If we solve this equation, we obtain

This is the labor demand. Let us plot the demand for labor by the profit maximizing firm:

