

Written Exam for the B.Sc. or M.Sc. in Economics winter 2014-15

**History of Economic Thought**

Final Exam/ Elective Course/ Master's Course

December 15, 2014

**Indicative answers**

1. What causes a *Wicksellian cumulative process*? What happens during such a process, and what may end it?
  - *Imagine that the financial system offers a lending rate ( $i$ ) below the marginal productivity of capital ( $r$ ). That would increase demand for capital goods financed by (cheap) loans. This, again, pushes total demand up only to cause inflation, as the economy is operating at full employment. The process becomes cumulative as for a given nominal interest rate; loans are getting cheaper and cheaper in real terms.*
  - *We are dealing with a neoclassical model of inflation, on surface completely different from the quantity theory of money. However not that different as an ever increasing demand for loans creating an ever-increasing supply of money. Even though here, money supply is endogenous.*
  - *Interest rates are often set by the financial system (and by central banks). Moreover, Wicksell's process reminds us of what we often have seen in the real world.*

When will it stop?

- *„Wenn nun die Banken am Anfang des dritten Jahres die Rente des Leizinses auf  $i+1$ , also den Betrag des natürlichen Zinses erhöhen, so wird die aufsteigende Bewegung der Preises notwendig unterbrochen“. **Geldzins und Güterpreise**, p. 135.*
- *Wicksell is in favor of constant prices, he sees through all ideas of “a little inflation is good for this and that”. Expected inflation have been incorporated in expectations, so there will be no real effects.*

2. Neoclassical writers – in particular Marshall and Wicksell - struggled with the *possibility of increasing returns to scale* in production. Assume perfect competition ( $MR = p$ ), why would increasing returns to scale leave an equilibrium in the market unstable?

*When we have increasing returns to scale, MC will fall with increasing quantity and the supply curve will be downward sloping. Consequently, an equilibrium will not be stable. It may be mentioned that one has to assume either decreasing or constant returns to scale to prove existence of equilibria in sophisticated GE models.*

Marshall introduced under increasing returns to scale what he called “external economies “. These would let an increase in demand cause lower prices even when the individual firms face increasing marginal cost curves. How is that working?

*It can well be that an entire industry – in class, we discussed the IT industry in a place like Silicon Valley – is facing increasing returns to scale, while the individual firm faces increasing MC, upward sloping supply curves and therefore decreasing returns to scale. Take again the IT example: Apple,*

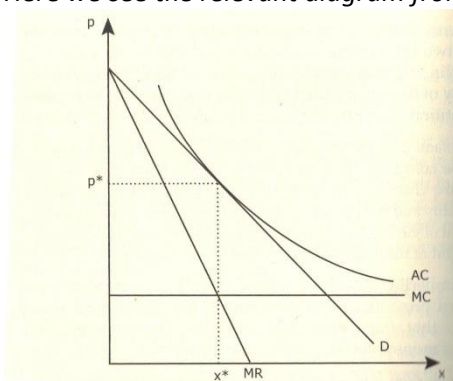
*Google and Microsoft face increasing MC for all the normal reasons – hiring more people increases wages, land prices go up etc – but growth in the entire IT cluster increases research and competition among subcontractors and at the same time IT use is being enhanced. These industry-wise effects are what Marshall called external economies.*

Wicksell had a different response to the possibility of increasing returns. He argued that increasing returns was in fact unthinkable, as the average cost curve of the individual firms would be U-shaped. Why is that so, and why would such a shape of the AC-curve prevent us from having increasing returns to scale?

*When a new firm is being set up, during the initial phase, MC is decreasing as the firm benefits from – say – the infrastructure that other similar firms have set up. When our firm goes on growing, transportation costs goes up (Wicksell mentions the timber industry) as raw material becomes more expensive. MC will increase. When MC first decreases and then increases, the AC will be U-shaped and competition will lead each firm to produce quantities corresponding to the bottom of their AC-curves. If this is true, the firm is not facing increasing returns to scale and their supply curves will not be downward sloping.*

The introduction of imperfect competition (Joan Robinson) and monopolistic competition (Edward Chamberlain) in the 1930s would be removing the possibility of unstable equilibria even with increasing returns to scale. Why is that so? Make a figure of an equilibrium with imperfect / monopolistic competition. How do we see on such a figure whether we have decreasing or increasing returns to scale?

Here we see the relevant diagram from Sandmo's book (p. 304):

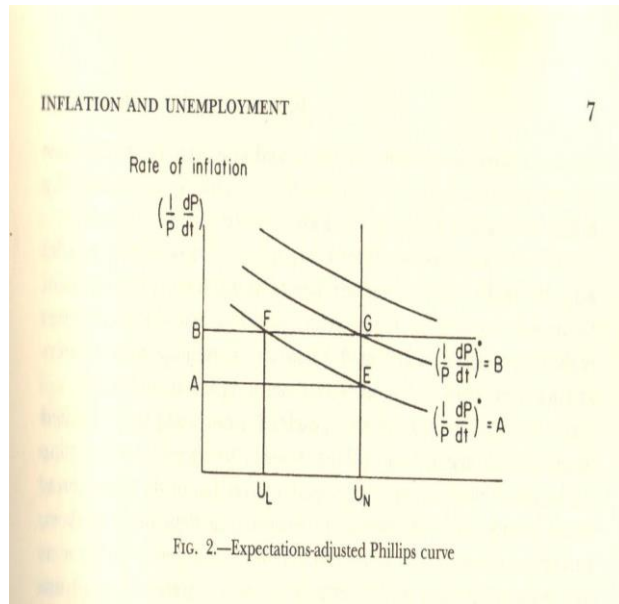


*When MR falls with increasing quantity, a falling MC does not threaten the stability of an equilibrium. One may decide to reflect upon Joan Robinson's motivation for setting up her imperfect competition case. Did she do so to analyze something more realistic than the perfect competition case, or to improve upon Marshall's model so that increasing returns could be dealt with in a more straightforward way than by incorporating external economies?*

3. Compare Keynes' and Friedman's analyses of the labour market – how is unemployment explained in the two models?

First, read this quote from Friedman's Nobel lecture (The Journal of Political Economy, Vol. 85, June 1977, reprinted as Ch. 1 in Milton Friedman on Economics, Selected papers).

[Friedman gives a summary of the Phillips curve and argues that it does not fit the data as the trade-off between employment and inflation is not stable. He then presents his Natural Rate Hypothesis]



“(my) Alternative hypothesis is depicted in figure 2 (above). Each negatively sloping curve is a (standard) Phillips curve....for a particular anticipated...rate of inflation. Start from E and let the rate of inflation for whatever reason move from A to B and stay there. Unemployment would initially decline to  $U_L$  at point F, moving along the curve defined for an anticipated rate of inflation...of A. As anticipations adjusted, the short-run curve would move upward, ultimately to the curve defined for an anticipated inflation rate of B. Concurrently unemployment would move gradually over from F to G.

Unemployment in G and E is what Friedman calls the natural rate of unemployment ( $U_N$ ). Later in the same paper, Friedman discusses what determines this magnitude:

“...There is a tendency to take it for granted that a high level of recorded unemployment is evidence of inefficient use of resources, and conversely. This view is seriously in error. A low level of unemployment may be a sign of a forced-draft economy that is using its resources inefficiently and is inducing workers to sacrifice leisure for goods that they value less highly than the leisure under the mistaken belief that their real wages will be higher than they prove to be. Or a low natural rate of unemployment may reflect institutional arrangement that inhibit change. A highly static rigid economy may have a fixed place for everyone whereas a dynamic, highly progressive economy, which offers ever-changing opportunities and foster flexibility, may have a high natural rate of unemployment....”

Now, compare this with Keynes' opening chapter of *The General Theory of Employment Interest and Money* (1936).

[Keynes gives a summary of classical (we would call it the neoclassical) theory of the labour market]. "There are two fundamental hypotheses. In equilibrium, (1) The wage is equal to the marginal product of labour and (2) The utility of the wage when a given volume of labour is employed is equal to the marginal disutility of that amount of employment".

[Keynes then goes on explaining why these conditions may not after all give us full employment. From p 8 onwards, he says]

"They (the Classical school) do not seem to have realized that, unless the supply of labour is a function of real wages alone, their supply curve for labour will shift bodily with every movement of prices.....Whilst workers will usually resist a reduction of money-wages (= nominal wages), it is not their practice to withdraw their labour when-ever there is a rise in the price of the wage-goods (= a fall in the real wages).....It is not very plausible to assert that unemployment in the United States in 1932 was due either to labour obstinately refusing to accept a reduction of money-wages (= nominal wages) or to its obstinately demanding a real wage beyond what the productivity of the economic machine was capable of furnishing."

[Keynes goes on with further arguments and then sums up] "...there are two objections to the second postulate of the classical theory. The first relates to the actual behavior of labour. A fall in real wages due to a rise in prices, with money wages (=nominal wages) unaltered, does not...cause the supply of available labour to fall below the amount actually employed prior to the rise of prices.....

"But the other, more fundamental, objection, which we shall develop in the ensuing chapters (the rest of the *General Theory*) flows from our disputing the assumption that the general level of real wages is directly determined by the character of the wage bargain.....For there may be *no* method available to labour as a whole whereby it can bring the wage-good equivalent of the general level of money-wages (= the real wages) into conformity with the marginal disutility of the current volume of employment."

We would like you to focus on the differences between these two statements!

- a. Apparently, Keynes believes that the supply of labour depends on both the nominal and the real wage rate – does Friedman agree?  
*No! Friedman assumes that wage earners decide upon their supply based on real wages. There will be short term noise, but wagger-earners soon discover the true state and adjust their supply of labour accordingly.*
- b. What is Keynes' justification for thinking that workers would behave differently when they are asked to accept a cut in their money wages and when they suffer a decline in real wages due to an increase in the general price level?  
*Keynes does not explain that clearly. However, when workers in one firm or one industry are asked to accept a cut in nominal wages that could be seen as unfair when other workers do not suffer the same fate. When all workers have their real wage reduced by an increase in the general price level, the issue of fairness is not relevant.*
- c. Keynes argues that the nominal wage rate is inflexible downward. Now, compare with the quotes from Friedman. Here we consider an *increase* in the money wage rate due to a general

increase in the demand for goods in the economy. Had there been a *decrease* in the demand for goods, would that have changed the adjustment process sketched by Friedman?

*It does not affect the adjustment process at all! In the initial round – when wages are cut – the workers may not believe their real wages are affected, when they assume all prices are being reduced. When affected workers realize that only prices in their industry / firm are falling and the general price level is not reduced, they discover that their real wages are hurt. Then they reduce their supply of labour.*

- d. Keynes tells us that there may be no method for workers bring down their real wages and restore full employment even if they were willing to do so – that is what he will elaborate in the following chapters of the General Theory. Basically, destructive expectations may call for expansionary economic policies. Compare this with Friedman's thoughts on the determinants behind the natural rate of unemployment.

*When employers in a crisis see wages coming down they may be hesitant in hiring (more) as they expect wages to get even lower. This reduces demand and worsens the demand failure; this is Keynes' motivation for suggesting demand management. In this situation, employment is constrained by the effective demand in the economy. In Friedman's model, employment – at least not when unemployment after an adjustment has reached  $U_N$  – is not constrained by effective demand. Supply and demand for labour is determined by the real wage only. This however, does not mean that frictions etc. do not affect the level of employment. Rapid changes in the structure of the economy – much labour moving from one industry to another, or from one part of the country to another – may cause  $U_N$  to be higher than if the economy is static. The "reward" being that growth in income and wages maybe higher.*