Written Exam for the B.Sc. or M.Sc. in Economics winter 2015-16

History of Economic Thought

Final Exam/ Elective Course/ Master's Course

From November 30 at 10.00 to December 7 at 10.00 – 2015

Indicative Answers

This exam question set consists of 5 pages in total. Find enclosed a file consisting of supplementary materi-al, 12 pages.

This set of exam assignments consists of 7 questions. The first 6 should be answered briefly while the 7th requires a detailed analysis.

With this set of assignments comes a copy of ch. 31 in David Ricardo: *On The Principles of Political Economy and Taxation*. Edited by Piero Sraffa in The Works and Correspondence of David Ricardo Published for The Royal Economic Society, Cambridge University Press, 1951.
The document should be used when answering question 7.

1. What did Adam Smith mean by saying: "*It is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner, but from their regard to their own interest. We address our-selves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages"*

   Indicative answer: This perhaps being the most famous of Adam Smith' statements! It is about the division of labour and of the great advantages of functioning markets. The butch-er, the brewer and baker should focus and specialize on their own trade in which they are experts. Their production will soon go above self-sufficiency and they can start trading; by doing so they obtain an advantage, and so do you (the argument assumes that you are in some business as well). You are not obtaining a pleasant dinner because the butcher is nice, but because he is self-loving and working to do his own trade as well as possible – just as you are!
   Now, is this a statement of cruel egoism? On the contrary, we are all better off when we do what we do best and trade through markets. One may see some contradiction between the view expressed here and the general atmosphere in Smith's A Moral Sentiment – the general duty to love thy brother – however, self-love is not egoism; as it is what promotes the com-mon good.

2. How is it that David Ricardo's theory of international trade being determined by relative ad-vantages is contradicting the labour theory of value? John Stuart Mill saw a problem and attempted a solution – sketch his result!

   Indicative answer: In Ricardo – and other classical writers – prices are determined by costs; P = wages + profits + rent, and behind profits hide working-hours, so all costs are in fact relat-ed to labour – the labour theory of value. It is not a theory without its contradictions as more sophisticated use of capital makes it difficult to dissolve that production factor into units of labour; however, Ricardo believed that the labour theory of value held 93 %! There is no room for the demand-side, prices are determined by costs or supply.
   In another context, Ricardo explains the advantages of international trade. When we have relative advantages, we can trade profitable internationally; the benefit being that by im-porting goods from another country – the other country imports what you produce with the relatively lowest amount of input (labour-hours) – prices come down. Then, they are not any longer determined by costs, and clearly demand plays a role. Ricardo regarded this effect as "minor" I relation to his price theory.

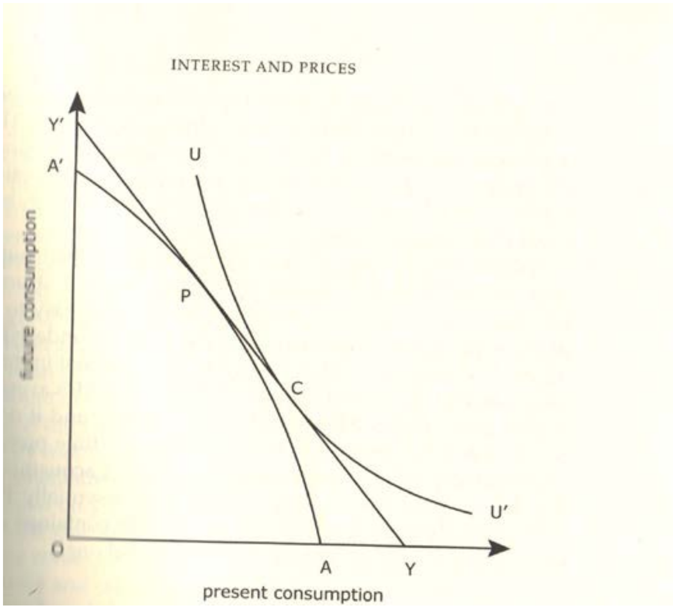
   John Stuart Mill realized that when two countries trade $\sum IM = \sum X$ and that prices are determined by supply and demand in the two countries. That is not just an insight in interna-tional trade theory but also a GE approach to the determination of prices and quantities in general. Prices are determined by supply AND demand.

3. Consider Irving Fisher's model of the individual consumer's intertemporal optimization (reproduced

from Sandmo, p. 287). What is AA', YY' and UU'? How does the interest rate show up in the diagram? Is the interest rate endogenous or exogenous? How does the model function?

Indicative answer: AA' is the production or investment frontier. Select a point on the curve and you have determined the intertemporal production mix; the slope of a tangent in any point indicate the marginal productivity of capital. Typically, 0A' > 0A as the marginal productivity of capital is positive. YY' is the intertemporal budget line. Points on this line indicate how the investor / producer selects his investment (or production) plans for the two periods. When 0Y' > 0Y we have a positive, exogenous interest rate.
UU' is the indifference curve. Now is point P (the point of optimality from an investor's point of view) the optimal intertemporal consumption bundle? It can be done better if consumers are allowed to borrow at the interest rate implicit in the slope of the YY' line. C is at a higher indifference curve than P, indicating that the consumer takes a loan equal to PC – or rather equal to distance between the projections these two points make on the present consumption (horizontal) axis.

Explain how a macro version of the Fisher model works; what is determined in such a model?



Indicative answer: In a macro context the representative consumer will be allocating consumption over time, precisely as in the micro case. However, no points outside the AA' will be possible – there can be no net borrowing (we assume the economy is closed). So, the intertemporal equilibrium point must be on the AA' curve – it must also be on the aggregated UU' curve. The YY' will also go through such a point of tangency. Now, with a strong preference for consumption in the first period, the point of tangency will be close to the horizontal axis, and the YY' curve will rise steeply and the interest rate will be high. The interest rate becomes endogenous and will adjust the slope of YY* accordingly.

The macro version then becomes a model for the determination of the interest rate which will be equal to marginal productivity of capital (the slope of a tangent to the AA' curve) and equal to marginal rate of substitution on the UU' curve (the slope of a tangent to the UU' curve).
Will the interest rate be positive? That depends on the AA' curve (the productivity side) and the UU' curve (the preference among consumers for consumption now and later Possibly, it is positive, but not necessarily "Impatience may be and sometime is negative" was Fisher's conclusion.

4. In *The General Theory*, Keynes argued for consumption to be a function of current income:

$$C_t = f(Y_t)$$

While Friedman in his *A Theory of the Consumption* function introduced his permanent income hypothesis and made consumption a function of wealth:

$$C_t = g(W_t)$$

How should Friedman's W be calculated? Explain the differences between these two formulations and discuss their relevance for the effectiveness of economic policy.

Indicative answer: W is a smoothed income stream, calculated as

$$W_i = \sum_i \alpha_i Y_i \quad where \quad \sum_i \alpha_i = 1$$

W is a stock variable, while Y is a flow. Keynes' idea is that consumption is determined by this years' income, while Friedman emphasizes the long run earnings expectations; should he be right, short run changes in current income – i.e. due to an impact from fiscal policy or from a crisis – would mean little for macro consumption. The multiplier would be small – quite opposite the properties of Keynes' model.
A general discussion of the proper specification of the consumption function would be natural and could roll in many directions! Basically, should consumption be determined by wealth and not by current income, one would expect fiscal policy to be of less relevance while monetary policy would matter the most. Angus Deaton's recent doubts with regard to Friedman's interpretations of W as the argument in the function has been mentioned in class.

5. Read this quote from Friedrich von Hayek's 1945 article *The Use of Knowledge in Society*

"To know of and put to use a machine not fully employed, or somebody's skill, which could be better utilized, or to be aware of a surplus stock which can be drawn upon during an interruption of supplies, is socially quite as the knowledge of alternative techniques. And the shipper who earns his liv-

ing from using otherwise empty or half-filled journeys of tramp-steamers…..are all performing eminently useful functions based on special knowledge…"

Is it fair to say that von Hayek's model is similar to Walras' only with ordinary agents – i.e. the shipper and not some external auctioneer - conducting the tatônnements?

Indicative answer: The tatonnements in Walras model is an abstraction or a fable. No one believes that an institution outside the economy based on superior information could do anything and certainly not matching demand and supply by adjusting prices. The von Hayek version is that real agents (the shippers) while making use of existing, however imperfect, information of the markets gradually will move the economy towards an equilibrium; an equilibrium that will soon be disturbed by new events and possibilities that will set new adjustments in motion when now information is gathered. Von Hayek is about a real, dynamic economy while Walras is concerned with the equilibria and their properties.

6. Thomas Piketty works with this formula $\beta^* = \frac{K}{Y} = \frac{s}{g}$ telling us that in steady state, the capital-output ratio is equal to the savings ratio over the growth.

What has happened to β over time? How is Piketty linking the development in β to the change over time in the personal income distribution? According to Piketty, the personal income distribution has in most countries become more uneven.

Indicative answer: β has been moving time according to a U-shaped curve; in the late 17^{th} century values around 700 pct. was usual, moving down to approx. 200 pct. In the early 20^{th} century (due to crises, wars, destructions and heavy taxation ("capital policies" in Piketty's terminology)), only to move back to approx. 700 pct. lately.
According to Piketty increasing values of β means a more uneven distribution of wealth and that again unavoidable implies a more uneven distribution of personal income. The rich own the capital and from (more) capital comes more income in the form of profits and rent. The rich own the houses, the land the factories etc. and will automatically get richer. Piketty's graphics show that – with some exceptions!
Piketty calls for more taxation on wealth; it would be natural to discuss what this means – higher marginal tax rates on income and/or higher taxes wealth (tax on capital gains, on housing, higher death duties) However, this raises the question of incentives, discussed often in the curriculum.

We need a discussion of this! Is his interpretation correct and is a more uneven distribution of the personal income something that calls for intervention by society?

Imagine you could discuss these matters with Pareto and Pigou!

Vilfredo Pareto answers to your inquiries by referring to his famous statement:

"We will say that the members of a collectivity enjoy maximum utility in a certain position when it is impossible to find a way of moving from that position very slightly in such a manner that the utility enjoyed by each of the individuals of that collectivity increases".

Arthur C. Pigou responds by sending his equally well known dictum:

"It is evident that any transference of income from a relatively rich man to a relatively poor man of similar temperament, since it enables more intense wants to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction. The old law of "diminishing [marginal] utility" thus leads securely to the proposition: Any cause which increases the absolute share of real income in the hands of the poor, provides that it does not lead to a contraction in the size of national dividend from any point of view, will, in general increase economic welfare"

> **Indicative answer**: Pareto's argument is that there is no scientific reason to conduct distributional policies if taxing the rich and giving to the poor means (as it will!) that the rich have their utility decreased. However – and this is a point not clearly mentioned in the curriculum – Piketty may retort that the growth process that have created the wealth and its uneven distribution moved us away from Pareto-efficiency in the first place. He could argue that Pareto efficiency in this context is irrelevant!
> Pigou's will not hear of this! You should redistribute as the marginal utility of the rich is clearly smaller that the marginal utility of the poor. Go ahead! Not so simple! Pigou adds "*that it does not lead to a contraction in the size of national dividend from any point of view"* and that the rich surely will argue! "We invented, saved, worked hard and gathered wealth, why should we be punished?". Here responding students are supposed to argue their own opinion; Buchanan would surely tell us that taxes are bad, public spending a waste and the effects on incentives would decrease total wealth where as many others – i.e. Hicks and Samuelson – may argue that this has to be done even though they found it difficult to come up social welfare functions supporting that. Personal arguments will be highly appreciated!

Equipped with these contradicting statements, discuss what to do with high and increasing βs and increasingly more uneven personal income distributions – if anything at all.

7. For the 3rd edition of his major work *On the Principles of Political Economy and Taxation*, David Ricardo wrote a new chapter, 31, called *On Machinery*. Here he made up his mind on the "influence of machinery on the interests of the different classes of society". In important ways, he changes what he wrote in the two first editions.

   State Ricardo's earlier and final beliefs. Do you believe that Ricardo's final version is correct?

   Indicative answer: When answering this question, one should start out by illustration Ricardo's initial belief. More capital – machinery - is without any doubt positive for all classes in society. The capitalist will see his production costs cut while the workers benefit from lower prices = higher real wages so that more could be produced and consumed. It is however likely that employment will fall with the introduction of more machinery – in the first two editions, Ricardo argued that this was no problem as laid-off workers could find employment elsewhere.
   In Ch. 31 in the 3rd ed. Ricardo struggles to clarify the conditions under which workers will be positively affected – capitalists will always benefit from lower production costs.
   According to Ricardo the normal case is that workers will be harmed by the introduction of more and better technology; only in the rare case that the demand for (luxury) goods from the capitalists will be increased. sufficiently, new jobs will be available. In that sense machinery is "bad".
   Now is this true?

Recall that in Ricardo, wages are determined by the iron law of wages, wages must converge to the level of subsistence. So taken literally, in the long run nothing betters the conditions of the workers and the version in the 3rd edition fit well with his general outlook. What would modern theory say about this?
In case the supply of labour is not going up even with increasing wages, capital could substitute labour. From economic history we know that a continuous increase in capital and increases in the productivity of capital have been going hand-in-hand with increasing real wages which again has not meant an ever increase in the supply of labour.

Another line of argument is to compare with modern growth theory and look for the effects of increased capital intensity; decreased real wages cannot be ruled out but is highly unlikely. One argument being that higher capital intensity will require more human capital.

Basically, when answering this question emphasis is put on arguments based on logical, theoretical and / or empirical reasoning.