



**SECOND MID-TERM EXAMINATION**

Professor: David Gray

Student Name:

Winter 2017

Student #:

You may not consult with any written documents whatsoever (including other students' papers), and no conversation is permitted while the examination is in progress. Please remove all hats. The use of smart-phones and programmable calculators is strictly forbidden. Turn off all cellular telephones. There are a total of 60 points.

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1. (10 points) Consider the following figures that I obtained from the February 2017 release of the Labour Force Survey. These are actual data.

- The labour force participation rate (LFPR) = 65.8 %
- The total number of unemployed workers = 1.3 million
- The total number of employed workers = 18.3 million

a) Calculate the size of the labour force. Show your work. (Easy)

**LF = U + E = 19.6 million**

b) Calculate the unemployment rate. Show your work. (Pretty Easy)

**UR = U / LF = 1.3 / 19.6 = 6.6 %**

c) Calculate the size of the working-age population. Show your work.

**LFPR = 0.658 = LF / Working-age population = 19.6 / Working-age population, so solving for the Working-age population, we obtain 29.8 million**

d) Calculate the employment-to-population ratio. Show your work.

**E to working-age population ratio = E / Working-age population \* 100 = 18.3 / 29.8 \* 100 = 61.4 %**

- e) Out of the three indicators of labour market performance, Professor Gray expressed a preference for one of them. I might add that the textbook authors agree with him. Which one was it, and why?

**The employment to the Working-age population ratio, as it can be interpreted as a good measure of the overall availability of jobs. What I did not say in class is that this measure extracts from the touchy question of how hard unemployed individuals are actually seeking work. You were not expected to raise that last point.**

2. (6 points) In class I presented the three types of unemployment, and I list them below. Explain the nature of each of them.

- a. Cyclical unemployment

**This is also called Keynesian or demand-deficient unemployment, and it implies that there is a global, overall shortage of jobs relative to the number of unemployed workers.**

- b. Frictional unemployment

**This refers to time spent unemployed by workers searching for suitable jobs with suitable firms. The matching process by which the right worker with the right skill set is hired by the right firm desiring that skill set consumes time and resources, but is necessary for an efficient labour market. Hopefully it is short-term.**

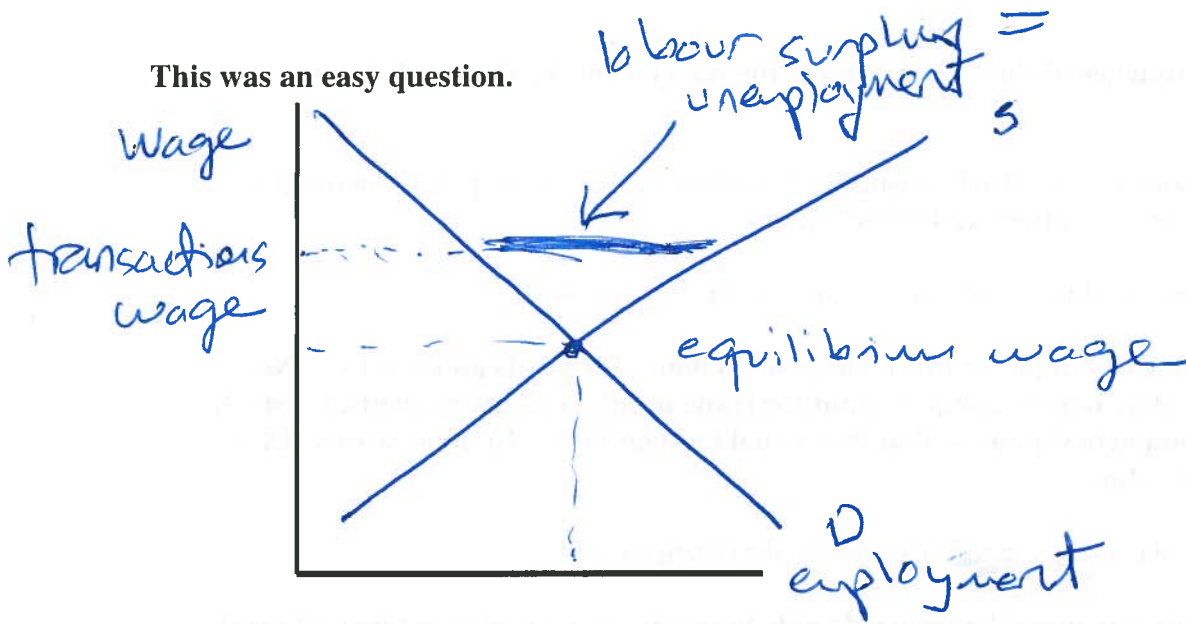
- c. Structural unemployment

**The simultaneous existence of unfilled job vacancies with unemployed workers. There is either a geographical mismatch or a skill-based mismatch (or both) between what firms are looking for in job candidates and what the unemployed workers have to offer them. It affects only pockets of the labour force.**

3. (6 points) Consider the model of the labour market within the supply and demand framework.

- a) On the axes below, draw the two curves, label them, label your axes, and show the equilibrium.
- b) In their discussion of the causes of unemployment, the authors of the textbook attribute a good part of unemployment to the existence of a wage above the equilibrium level. The cases that they mention are the implementation of a minimum wage, the implementation of a union wage, and an efficiency wage. Do not explain what those terms mean. Instead, depict the situation of the existence of a wage above the equilibrium level graphically on the same figure, and point out the unemployment.

This was an easy question.



4. (16 points; 4 points each) Identify and give the significance of the following points. This means to mention the context in which I covered them.

- a) The natural rate of unemployment

**It is the rate of unemployment that is sustainable in the long run without provoking a higher rate of inflation. It is what the actual rate of inflation would be if the economy were at full employment. The textbook likens it to the long-run equilibrium for the unemployment rate. It is also called the NAIRU – the non-accelerating inflation rate of unemployment.**

- b) Fiat money

**Unlike the commodity-based monies, Fiat money has no intrinsic value. In theory it derives its value through the governmental fiat, or declaration, that this money is 'legal tender'. Modern-day money derives its value only through people's faith in its exchange value or its ability to store future value.**

- c) The overnight rate for the Bank of Canada

**This is the interest rate on very short-term loans that the major commercial banks make to each other. The operating band for this rate is set by the Bank of Canada. It is an instrument of monetary policy.**

- d) Liquidity (hint: why is it important for the banking sector?)

**A liquid asset is one that can be converted into cash quickly at low cost. By keeping liquid assets on hand in order to back up a fraction of the money of their depositors, banks**

**maintain the confidence of their depositors in the integrity of the financial system.**

5. (12 points; 4 points each) Briefly distinguish between the following pairs of items, pointing out the similarity and the difference between them.

- a) The variables of net exports and net capital outflow

**Net exports = exports – imports; this is the trade balance for goods and services. Net capital outflow refers to the capital account for trade in financial instruments, i.e. stocks and bonds. An important point is that they equal in magnitude. In other words  $NX = NVO$  in terms of value.**

- b) Real exchange rate versus nominal exchange rate

**The real exchange rate gives the terms of trade between two countries in terms of goods and services that can be obtained. This is the variable that drives the choices behind the flows of exports and imports across borders. Nominal exchange rates refer to the terms of trade between the currencies themselves, i.e. how much of one currency is worth a unit of the other. All transactions across international borders are carried out in the nominal exchange rate. They are related by an equation, but you did not have to write down that equation.**

- c) money functioning as a store of value and money functioning as a medium of exchange

**The store of value function refers to the degree to which money holds its value over time. If it does, money can be used as a means of exchange in the future. The medium of exchange function eliminates the need for bartering. Money facilitates trade and exchange of goods and services in the present period. The primary difference between these two functions lies in the time frame.**

6. (5 points) The following question is extracted word-for-word from the textbook. Assume that the reserve requirement for commercial banks is 20 %. Assume as well that banks do not hold excess reserves, and that there is no cash held by the public. The Bank of Canada decides that it wants to expand the money supply by \$ 40 million.

- a) If the Bank of Canada is using open market operations, should it buy or sell bonds?

**Buy bonds – I did not ask why, but the answer to that question is that the purchase of bonds will inject new liquidity into the commercial banking system.**

- b) What quantity of bonds does the Bank of Canada need to buy or sell in order to

accomplish that goal? Explain your reasoning.

**The change in total deposits = the deposit multiplier \* change in initial deposits; substituting the given information into that identity yields:**

**$\$ 40 = \text{the deposit multiplier} * \text{change in initial deposits} = (1 / \text{desired reserve ratio}) * \text{change in initial deposits} = (1 / 0.2) * \text{change in initial deposits} = 5 * \text{change in initial deposits}$ . Solving for the change in initial deposits gives \$ 8 million.**

7. (5 points)

- a) I explained in class that the USA always runs a huge trade deficit, such that net exports are negative. Explain how it goes about financing that perpetual shortfall. (Perpetual means forever and ever.)

**Via a large net capital inflow, or a negative net capital outflow. The USA sells financial assets, such as stocks and bonds, to its trading partners. The trading partners acquire these financial assets and will reap returns for them in the future, but they make payments to the USA in liquid form, which in turn serve to pay off the trade deficit.**

- b) Explain in words the essence of the purchasing power parity theory of exchange rate determination.

**It is also called the law of one price. The theory holds that nominal exchange rates between two trading partners will adjust to changes in the composite price indices in both countries such that \$ 1 Canadian buys exactly the same quantity and quality of goods and services as \$ 1 Canadian would buy in the other country after that \$ 1 Canadian has been exchanged for the foreign currency and spent in that country. On average, there is no incentive to go cross-border shopping.**

