

**ECO 1102 C
INTRODUCTION TO MACROECONOMICS
MID-TERM EXAMINATION**

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Student Name: KEY

Student # _____

You may not consult with any written documents whatsoever, and no conversation is permitted while the examination is in progress. Please remove all hats. The use of any electronic device with the exception of non-programmable calculators and dictionaries is strictly forbidden. Turn off all cellular telephones.

As promised, this test is drawn very heavily from my lecture slides. Most of the material that you will see has been discussed at length in class. There are no tricks involved anywhere. You should move at a fairly fast pace. Do not get bogged down on any particular question. There are a total of 80 points that are supposed to be allocated at a rate of one per minute. Budget your time accordingly.

1. (6 points) Respond to any three of the following four questions. Your answers do not have to be exactly right in order to receive credit. I will accept a range.

a) What is the approximate current rate of unemployment in Canada?

7.0 %: accept 6-8 %

b) What was the approximate rate of real GDP growth in Canada (in percentage terms) on an annual basis during the year of 2012?

About 1.5 % (accept 0-2 %)

c) What is the approximate current level of nominal, current dollar GDP in Canada? In other words, what is the approximate size of this economy?

\$ 1.72 trillion; accept 1.5 – 2 trillion

d) What is the approximate rate of price inflation at an annual rate based on the CPI?

Most recently 1 %, but normally is it around 2 % (accept 0-2 %)

2. (16 points) Identify and give the significance of four of the following five points. You can thus skip one of them, but you must furnish explanations as to how the topic fits into what we have studied. In other words, why did I bother to bring it up at all? Usually two of three sentences will suffice. DO ONLY FOUR, AND CLEARLY INDICATE WHICH TWO YOU ARE OMITTING.

a) Briefly characterize the macroeconomic performance of the USA and Canada during the 1950s and the 1960s.

THESE WERE THE 'GOOD OLD DAYS' OF LOW UNEMPLOYMENT, LOW INFLATION, AND RAPID ECONOMIC GROWTH. THERE WERE ALMOST 30 CONSECUTIVE YEARS OF EXCELLENT ECONOMIC PERFORMANCE FROM THE END OF WWII TO ABOUT 1974. ALMOST ALL CITIZENS EXPERIENCED RISING LIVING STANDARDS. IT WAS THOUGHT (ERRONEOUSLY) THAT THESE GOOD TIMES WOULD LAST FOREVER.

b) core inflation

SEE PAGE 125 OF THE TEXTBOOK. IT IS THE OVERALL CONSUMER PRICE INDEX STRIPPED OF THE PRICES OF THOSE GOODS WHOSE PRICES ARE THE MOST VOLATILE (ENERGY AND FOOD IN PARTICULAR). AS SUCH, IT IS THOUGHT TO BE A BETTER INDICATOR OF LONGER-RUN TRENDS IN CONSUMER PRICES.

c) real GDP level versus the % change in real GDP realized over a time period

REAL GDP IS NOMINAL GDP ADJUSTED FOR INFLATION. REAL GDP PER CAPITA IS USED TO COMPARE LIVING STANDARDS ACROSS COUNTRIES OR OVER TIME WITHIN A COUNTRY. THE % CHANGE IN REAL GDP IS A MEASURE OF ECONOMIC GROWTH – AT WHAT RATE IS AGGREGATE OUTPUT GROWING (OR SHRINKING)?

d) What are the three primary markets that comprise the macro-economy?

**INPUT MARKETS (ALSO KNOWN AS FACTOR MARKETS OR RESOURCE MARKETS)
OUTPUT MARKETS (ALSO KNOWN AS GOODS AND SERVICES MARKETS)
MONEY MARKETS**

This question is a gimme.

e) the crowding-out effect

SEE PAGE 181 OF THE TEXTBOOK. WHEN THE GOVERNMENT RUNS A BUDGET DEFICIT (WHICH IS USUALLY THE CASE), IT MUST FINANCE THESE

DEFICITS BY BORROWING FUNDS IN THE LOANABLE FUNDS MARKET. THIS IN TURN REDUCES THE SUPPLY OF LOANABLE FUNDS IN THE MONEY MARKET, WHICH CAUSES AN INCREASE IN THE EQUILIBRIUM RATE OF INTEREST AND A DECREASE IN THE EQUILIBRIUM QUANTITY OF LOANABLE FUNDS. THE INCREASE IN THE INTEREST RATE REDUCES THE QUANTITY DEMANDED OF FUNDS FOR THE PRIVATE SECTOR, WHICH ENDS UP SPENDING LESS ON INVESTMENT GOODS. IN THIS SENSE, THE PUBLIC SPENDING CROWDS OUT WOULD-BE PRIVATE SPENDING ON CAPITAL GOODS.

3. (10 points) Productivity is such an important point for this class that it is the focus of 'essential principle' number 8 of the textbook.

a) Define the term, and explain why it is so important.

IT IS OUTPUT DIVIDED BY INPUT. THE QUESTION IS HOW MUCH OUTPUT CAN BE SQUEEZED FROM A GIVEN LEVEL OF INPUTS? ALTERNATIVELY, HOW CAN THE SAME LEVEL OF OUTPUT BE SQUEEZED OUT OF A LOWER LEVEL OF INPUTS? IT IS A GAUGE OF EFFICIENCY OF THE PRODUCTION PROCESS. RISING PRODUCTIVITY MEANS RISING LIVING STANDARDS ON AVERAGE.

b) What are some of the factors that determine productivity? I went over four, but I am asking you to give THREE of them. Warning! Some of you are likely to answer the wrong question. In class I also went over a list of points that relate to public policy. The question that I am asking does not deal with the actions that the government can take to raise productivity, such as enforcing property rights or encouraging foreign direct investment. Instead, talk about the underlying causes of productivity growth that occur without governmental intervention. You should furnish some explanation as to what they are and why they are important for productivity. 6 or 7 sentences should suffice.

SEE PAGES 142-145 IN THE TEXTBOOK.

- **PHYSICAL CAPITAL STOCK PER WORKER, IN THE FORM OF EQUIPMENT AND STRUCTURES. THE MORE THE BETTER.**
- **HUMAN CAPITAL PER WORKER, IN THE FORM OF SKILLS AND KNOWLEDGE EMBODIED IN THE LABOUR FORCE. THE MORE THE BETTER.**
- **NATURAL RESOURCES PER WORKER, IN THE FORM OF INPUTS DERIVED FROM THE LAND. THE MORE THE BETTER.**
- **TECHNOLOGICAL KNOWLEDGE, IN THE FORM OF THE BEST TECHNIQUES AND THE MOST EFFICIENT METHODS OF PRODUCTION. THE MORE REFINED, THE BETTER.**

4. (12 points) Provide brief responses to the next four questions. Two sentences will suffice.

a) What is the purpose of price deflators in macroeconomics? I went over a number of applications.

TO DISENTANGLE THE COMPONENTS OF THE NOMINAL GROWTH RATE OF A QUANTITY OR VARIABLE (SUCH AS GDP, WAGES) INTO AN ELEMENT THAT IS ATTRIBUTED TO PRICE INFLATION AND ONE THAT IS ATTRIBUTABLE TO REAL GROWTH (MEANING CHANGES IN THE VOLUME OF ECONOMIC ACTIVITY).

b) What is the purpose of the circular flow model of the macroeconomy?

IT IS TO SHOW THE BASIC STRUCTURE OF THE MACROECONOMY – HOW THE VARIOUS MARKETS ARE RELATED TO EACH OTHER. IT DISPLAYS THE LINKAGES BETWEEN THE MARKETS.

c) Why must it necessarily be the case that national income, as generated by the factor payments approach, equal GDP, as generated by the expenditure approach?

BECAUSE EVERY TRANSACTION HAS A DUAL IDENTITY AS AN EXPENDITURE AND AS AN INCOME. \$ 1 SPENT BY ONE ECONOMIC AGENT REPRESENTS \$ 1 OF INCOME EARNED BY OTHER AGENTS, AND VICE VERSA. IT MUST THEREFORE BE THE CASE THAT AFTER WE SUM UP ALL OF THE EXPENDITURES AND ALL OF THE INCOMES TO ARRIVE AT THE BOTTOM LINE, AGGREGATE INCOME = AGGREGATE EXPENDITURE.

d) The production process involves the generation of economic ‘necessary evils’ such as expenditures on national defense, environmental clean-up, and criminal justice. What repercussions does this have for the use of the official GDP accounts (produced by Statistics Canada) as an indicator of economic welfare? Does it cause an overstatement or an understatement, and why?

THE VALUE OF THE PRODUCTION THAT CAUSED THE ECONOMIC BAD IS COUNTED IN THE OFFICIAL ACCOUNTS FOR GDP, BUT THE COST OR NEGATIVE VALUES OF THE BADS – THOSE UNAVOIDABLE BY-PRODUCTS – IS TOTALLY IGNORED. IF WE WERE TO ACCOUNT FOR THOSE COSTS, IT WOULD INVOLVE SUBTRACTING SOME ESTIMATE OF THESE COSTS FROM THE VALUE FOR GDP, WHICH MEANS THAT OFFICIAL GDP WOULD BE LOWER. THEREFORE, THIS FACTOR CAUSES AN OVERSTATEMENT OF OUR WELFARE BASED ON THE GDP ACCOUNTS.

5. (10 points) Consider the following data on Canadian GDP. This is taken right out of the textbook. You must show your work in order to receive any credit. The base year for the deflator is 2002.

year	Nominal GDP (in billions)	GDP deflator
2009	1600	118
2008	1520	121

a) What was the growth rate of nominal GDP between 2008 and 2009?

$$((1600 / 1520) - 1) * 100 = 5.3 \%$$

b) What was the growth rate of the GDP deflator between 2008 and 2009?

$$((118 / 121) - 1) * 100 = - 2.5 \% \text{ (It is a contraction.)}$$

c) What was real GDP in 2009 measured in 2002 prices?

$$\$ 1600 / 118 * 100 = \$ 1,356$$

d) What was the growth rate of real GDP between 2008 and 2009?

$$\text{Real GDP in 2008: } \$ 1,520 / 121 * 100 = \$1,256$$

$$\% \text{ change in real GDP} = ((1356 / 1256) - 1) * 100 = 7.9 \% \text{ (8 \%)}$$

e) Was the growth rate of nominal GDP higher or lower than the growth rate of real GDP? Explain why.

IN THIS CASE, WHICH IS NOT COMMON, IT WAS LOWER BECAUSE IT WAS PRICE DEFLATION RATHER THAN INFLATION THAT OCCURRED.

$$\% \text{ change in real GDP} = \% \text{ change in nominal GDP} - \text{inflation rate} = 5.3 \% - - 2.5 \% = + 7.8 \% \text{ (approximately equal to the figure of 7.9 \% above)}$$

6. (4 points)

The following transactions took place in the economy of Lowland last year.

Wages paid to labour	800,000
Consumption expenditure	650,000
net taxes	200,000
firms' profits	250,000
gross investment expenditure	300,000
government expenditure	250,000
exports	250,000
saving	300,000
imports	300,000
depreciation	100,000
transfer payments	500,000

Calculate the GDP level using the expenditure approach, and explain your work. It is insufficient to write only numbers.

$$\mathbf{GDP = C + I + G + X - IM = 650,000 + 300,000 + 250,000 + 250,000 - 300,000 = 1,150,000}$$

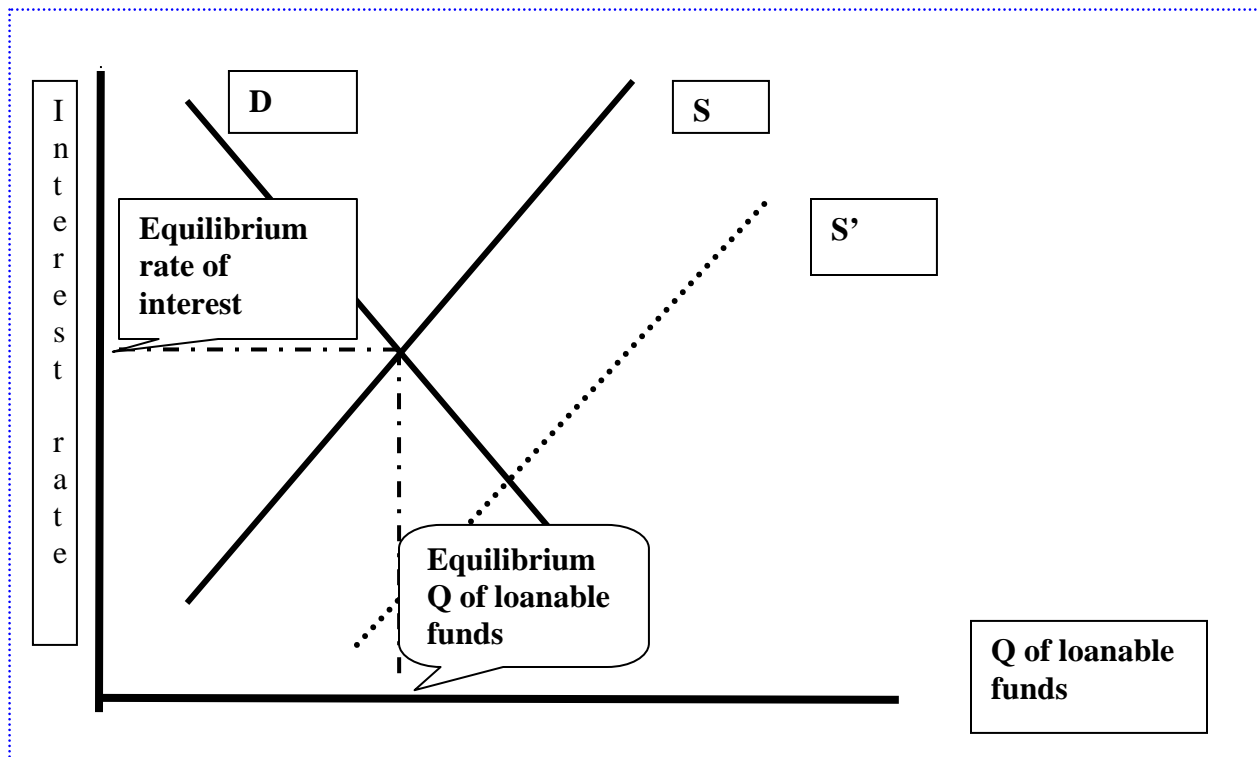
This question is another gimme.

7. (9 points)

a) On the axes that are provided below, depict the loanable funds market in equilibrium. Label all axes and curves.

c) On the same figure, show what happens in this market if savings activity becomes more attractive such that savers have a greater incentive to save – perhaps because of more favorable tax treatment. Explain what occurs in words in the space below this paragraph.

See pages 177-179 in the text. THE SUPPLY OF LOANABLE FUNDS EXPANDS, SO THE S CURVE SHIFTS TO THE RIGHT. AT EACH POSSIBLE INTEREST RATE, SAVING ACTIVITY BECOMES MORE ATTRACTIVE, AND THE QUANTITY OF LOANABLE FUNDS SUPPLIED INCREASES. THE EQUILIBRIUM RATE OF INTEREST FALLS, WHILE THE EQUILIBRIUM QUANTITY OF LOANABLE FUNDS RISES.



8. (9 points) These questions concern the articles that I posted on the courseweb. Answer three out of four of them. They will be graded very generously such that if you can persuade us that you read the article, you should receive credit.

YOU ARE FREE, OF COURSE, TO RE-READ THE ARTICLES. I INSTRUCTED THE TAS TO GRADE THESE GENEROUSLY.

- a) There is an article dealing productivity that was drawn from a report released by the Conference Board of Canada. According to this article, whose title is “Productivity boost would raise incomes, study says” what is the most pressing need for Canadian businesses as far as improving productivity is concerned? What reform do they recommend for the government to take?

THE AUTHOR BLAMES CANADIAN FIRMS FOR FAILURE TO ADOPT THE LATEST TECHNOLOGY. “CANADA’S WELL-EDUCATED WORK-FORCE HAS NOT HAD THE PROPER TOOLS TO PLAY WITH”. ANOTHER VIEW IS THAT THE TYPICAL FIRM SIZE IS TOO SMALL.

- b) The national accounts were released recently for Nov 2012. Approximately how fast, and in what direction, was real GDP growing (at an annual rate) during this time period? Your answer does not have to be exact. Was this report considered to be good news, bad news, or so-so news?

IT WAS FAIRLY GOOD NEWS. IT GREW AT AN ANNUAL RATE OF 3.6 %, WHICH WOULD BE GREAT IF IT WERE TO BE SUSTAINED. I MIGHT ADD THAT THIS WAS A ONE-MONTH BLIP.

c) There is an article dealing productivity that was drawn from the Globe and Mail (authored by economist Kevin Lynch). According to this article, what is the most pressing need for Canadian businesses as far as an improvement in productivity is concerned?

THE BASIC THEME (AGAIN) IS LOW PRODUCTIVITY GROWTH IN CANADA OVER THE PAST DECADE. THE LEVEL OF OVERALL PRODUCTIVITY IS SIGNIFICANTLY LOWER THAN IT IS IN THE USA. HE STRESSES THE IMPORTANCE OF INNOVATION AND BEHAVIOURAL CHANGE ON THE PART OF CANADIAN BUSINESSES.

d) Consider the “Quarterly economic forecast” produced by the economics division of Toronto Dominion Canada Trust. It contained a summary of their macroeconomic outlook. How favourable or unfavourable was it, and what are the two biggest threats on the horizon?

IT IS PRETTY MIDDLED, WITH A FORECAST OF GROWTH IN REAL GDP OF ABOUT 1.5 – 2 %. THEY FORECAST VERY LOW INFLATION. THE TWO THREATS ARE FINANCIAL INSTABILITY IN THE EURO ZONE AND POLITICAL DYSFUNCTION IN THE USA.

9. (4 points) This question is drawn right out of the textbook. Suppose that a borrower and a lender agree on a nominal interest rate to be paid on a loan. Then inflation turns out to be higher than they both expected.

a) Is the real interest rate on this loan higher or lower than expected? Why?

THE REAL INTEREST RATE TURNS OUT TO BE LOWER THAN EXPECTED. HAD EITHER OR BOTH PARTIES EXPECTED HIGHER INFLATION, THEY WOULD HAVE AGREED TO A HIGHER NOMINAL INTEREST RATE.

b) Does the lender gain or lose from this unexpectedly high inflation?

THE LENDER LOSES.

c) Inflation during the 1970s turned out to be much higher than most people had expected when the decade began (as I mentioned in class several times). How did this affect homeowners who obtained fixed-rate mortgages (loans for buying a home) during the 1960s? How did it affect the banks who lent the money?

THE BORROWERS WON BIG TIME, AS THEY WERE PAYING BACK LOANS IN DEFLATED \$. THE LENDERS LOST BIG TIME.

