

Please submit your completed forms and supporting documents to wqb_cert@sfu.ca

REQUEST FOR CERTIFICATION AS A QUANTITATIVE COURSE

Thank you for your interest in offering quantitative-intensive (Q) courses. Quantitative-intensive courses will help meet will help to meet Simon Fraser University's commitment to General Education, which enhances undergraduate degrees by informing and complementing students' programs of study, encouraging students to develop understandings and skills that equip them for life-long learning, and preparing them to appreciate, critique and contribute ideas and values of diverse, complex, and interdependent local and global communities in an ethical and comprehensive manner.

Completing this form will provide information for assessment by a faculty committee regarding whether your course meets the criteria for Quantitative-Intensive courses. Please contact the Director, University Curriculum and Institutional Liaison (UCIL) at ucildir@sfu.ca if you have any questions about completing this form.

A **QUANTITATIVE** course increases student understanding and appreciation of the creative potential and broad application of mathematical, computational, and statistical methods, or formal symbolic logic, as tools for solving problems and a way of representing, interpreting, and communicating about aspects of a complex world. These courses develop transferable skills in problem solving, critical evaluation, or analysis using data represented in a variety of ways.

Quantitative courses are normally expected to explicitly include some aspect of numeracy. A minimum of 50% of the course grade must be based on quantitative assignments.

EXAMPLES

Examples of Quantitative courses can be found on the General Education Curriculum page [here](#).

Please note, you can answer any of the following questions with screenshots, copying and pasting from Canvas, or by attaching documents. The attached documents can be in any format (ie PDF, word document). A short paragraph is normally sufficient to answer the questions on this form.

COURSE TITLE, NUMBER AND DESCRIPTION:

Course #: ECON 115 Course Title: Introduction to Macroeconomics

Frequency of offering (# / year) 2 Average enrollment per offering: 86

OTHER INFORMATION:

Please indicate if this course currently has or will have another WQB designation: Q and B-Soc

Instructor(s) responsible for teaching the course: Martin Santamaria

**If multiple instructors are responsible for teaching this course, please list them all and include a course syllabus for each one.

List course pre-requisites: None.

*Optional: Is this course mandatory or required for any other programs: None

Please give a one-paragraph description of the content and overall format (lecture, seminar, tutorial, etc.) of the course (maximum 200 words).

This course is designed to develop basic competencies in macroeconomics and apply them to real-world applications in a format suitable for students who are not planning to specialize in economics. The course covers topics such as gross domestic product (GDP), determinants of economic growth, unemployment, and inflation, the financial system, and trade, fiscal and monetary policies. The course applies macroeconomic concepts and tools to analyze current debates such as the economic transformation of China, real estate and financial bubbles, the impact of government intervention, and the environmental implications of economic growth. Students attend a two-hour lecture and a 1-hour tutorial.

QUANTITATIVE COURSE RATIONALE

1. A Quantitative course increases student understanding and appreciation of the creative potential and broad application of mathematical, computational, and statistical methods, or formal symbolic logic. In one paragraph, explain how your course does this.

This course equips students with the tools to quantify and analyze macroeconomic activity. Students learn to calculate important economic variables such as gross domestic product, price indices, inflation, and unemployment. They also learn simple mathematical models (in graphical form) to study the impacts of fiscal and monetary policy and the relation between inflation and unemployment. Through these activities, students develop an appreciation for the potential of mathematical tools to measure and study social phenomena.

2. A Quantitative course develops transferable skills in problem solving, critical evaluation, and/or analysis using data represented in a variety of ways. In one paragraph, explain how your course does this.

The course introduces students to the use of macroeconomic data. Students learn to compute and understand statistics about the economy like price indexes, gross domestic product (GDP), and labor

market statistics, among others. Students can use these skills to critically interpret macroeconomic data, based on knowledge of its construction and limitations.

3. Quantitative courses are normally expected to explicitly include some aspect of numeracy. In one paragraph, explain how your course does this.

In this course, students engage in practical exercises to calculate common economic indicators, including price indices, GDP, real interest rates, and unemployment levels of a simple economy. They will also learn to compute exponential and compound growth rates.

4. Other ways in which this course meets the goals and criteria of a Quantitative course are:

N/A

5. A minimum of 50% of the course grade must be based on quantitative assignments. Please confirm this for your course, and attach 2-3 sample assessments for the committee to help them understand your course.

We confirm that more than 50% of the course grade is based on quantitative assignments. The grading components vary across instructors but include some combination of class participation, quizzes, mid-term and final exams. The quizzes and exams represent between 85-100% of the final grade and are mostly quantitative assignments. We are attaching samples of problem sets and exams from various instructors.

PLEASE SUBMIT A CURRENT OR RECENT COURSE SYLLABUS,

INCLUDING A CLASS SCHEDULE AND GRADING SCHEME WITH THIS FORM.

Syllabi

Principles of Macroeconomics

Economics 115

D100

Fall 2023

SYLLABUS

Professor: Martin I Santamaria
Email: martin_santamaria@sfu.ca
Office Hours: by Appointment
Office: WMC 2672

Lectures Tuesday 2:30pm-4:20pm AQ3149

Overview

The course introduces you to the basic concepts of macroeconomics. The goal is to develop a sound understanding of the basic language and policy issues in macroeconomics. This will allow you to follow the current economic policy discussions of the world, and be able to form your own informed, critical opinion about them.

We will discuss some of the fundamental questions in macroeconomics such as:

- How can we measure the wealth of a nation and what determines which nations become wealthier?
- What is Inflation and why does it matter?
- What should/can a government do to control high inflation?
- Why some people looking for jobs can't find one?
- Why do most economies go through cycles of recessions and rapid economic growth?
- Is it a big deal if the FED decides to change the interest rate?
- What is the effect of a tax cut on economic activity and employment?

Required Materials

Course webpage

A course web page is available at canvas (<https://canvas.sfu.ca/>). It will include information relevant to the course, such as announcements, practice problem sets and tests, solutions, syllabus, schedule, Office hours and more. You should check this page regularly.

Textbook

The recommended textbook for this class is:

Krugman, Wells, Au and Parkinson, Macroeconomics 4th Canadian Edition (Loose-leaf Textbook) Worth, 2020; with Achieve for Macroeconomics Access (ISBN: 978-1-319-44886-8)

OR:

Krugman, Wells, Au and Parkinson, Macroeconomics 4th Canadian Edition (E-Book only) Worth, 2020 Achieve for Macroeconomics Access. (ISBN: 978-1-319-33161-0)

Older editions will work for this course.

I will NOT use Achieve learning for this class, you only need the book and the Achieve package is optional. If you find an old edition of the book you can use it if you want, just make sure they are not too different from the original one.

Access to Achieve Learning (bundled with new textbooks) is not mandatory to do well in this course. The assignments are just for practice and will not count towards your final grade. Doing the assignments will be helpful in preparing for the midterms and final exams.

Optional Textbook

We will use some resources from a free online textbook from CORE (Curriculum Open-access Resources in Economics).

Textbook is [CORE The Economy](https://www.core-econ.org/the-economy/) (<https://www.core-econ.org/the-economy/>)

Calculator

A non-programmable scientific calculator, for example TI 30XA available online at roughly \$9.

Lectures

Course materials, assignments, additional readings and announcements will be posted on the course's Canvas website.

There are 2 hours of lecture per week, in which an overview of the material is presented. Lecture notes will be posted on Canvas, but you are encouraged to take notes during class. There is also a 1-hour tutorial per week, in which readings, assignments, and quantitative problems will be discussed.

Tutorials

There are weekly tutorials for this course, where you will go practice problems to solidify your understanding of the concepts discussed during the lecture. Occasionally, you will also discuss real world applications of this ideas.

Please, attend the tutorial you were assigned to. Attendance to tutorials is expected and **HIGHLY** encouraged.

Practice Problems

I will regularly assign practice problems on Canvas. You are responsible for doing the problems before the discussion sessions. The TA's will go over the practice problems during the discussion session.

The problems will not be graded but they it is **VERY** important that you work on them every week, ideally before going to the discussion session. Working regularly on the practice problems is necessary in order to be successful in this class.

Ideally, you want to try working on the practice problems **BEFORE** you attend a tutorial so you have a better idea of where you need help from the TA's. Also, feel free to email the TA's in advance with suggestions on what problems to cover.

Office hours

The TAs and I will each hold 1 hour per week of office hours. Office hours and contact information are available on CANVAS. Please feel free to go to anyone's office hours, regardless of which tutorial you are in.

The TAs will hold extra office hours before an exam and there will be no office hours the week after an exam.

Email and online support

The TAs will answer brief questions by email. Please send questions to the TA whose tutorial you are registered for.

Announcements will be sent to the course email list, and posted to the Canvas course page. It is your responsibility to ensure you receive these announcements.

Exams

There will be three in-class exams (during the lecture time) and there will be no final exam on the exam period. The exams will be two hours long and will be mostly composed of short answer questions.

You must take all three exams to pass the course. If you are sick and must miss an exam, then you must bring a note from a doctor or a coach. You are responsible for ensuring that you will be able to attend at least two exams. As a general rule, it is not possible to reschedule your exams.

There are some cases described at <http://students.sfu.ca/exams.html> in which special arrangements can be made to deal with special circumstances. Please be aware that you must inform me of any such issues at least one month before the exam date.

Dates

The Exam 1 will be on October 17th, exam 2 will be on November 14th and Exam 3 will be on December 5th. There are **NO make-up exams for any reasons.**

Grading

Grading in this course will be consistent with the Economics Department's published grading policies (as stated [here](#)). I will not follow a strict curving policy, but the overall distribution will fit within the range specified in the above policy.

This means that the grade you are assigned is determined not only by what your final weighted average for the course is, but also by how well you did relative to your fellow students in the class.

Your final grade will be a weighted average of your exam grades. The weighted average is computed as follows:

Exam 1. 40%

Exam 2 40%

Exam 3 20 %

If you miss exam 3 your grade will be weighted equally between exam 1 and exam 2 (50% each). If you miss exam 1 then the weight will be 66% for exam 2 and 34% for exam 3. Similarly, if you miss exam 2 the weight will be 66% exam 1 and 34% for exam 3.

Please, ignore the weighted average column on CANVAS as it may not reflect the actual weighted average for the class as described above.

Grade issues

After receiving your exams, you have **one week** to address any issues with your grade that you would like to bring to our attention. You must do so in **writing to your TA**. If you ask the TAs to look at your exam again, your **grade may go up, down, or stay the same.**

Sending an email to your TA and making the TA aware of the issue. For example, you can say “ I believe the points of my exam were not added correctly” or “I believe you forgot to grade question 3”.

Request of the form of “I believe I deserve more grade” or “I studied really hard, please can you raise my grade” or “I disagree with the grade” will almost with certainty end up with a reduction in your grade.

I follow the Economics Department outlines for undergraduate grading. For more information, please go to:

<http://www.sfu.ca/economics/undergraduate/undergraduate-programs/Undergraduate-grading-policies.html>

Course Outline

I. INTRODUCTION

Historical context (Fighting economic recessions)

- Great Depression
- Keynes and Classical economics
- The business cycle
- Role of government policy

Resources:

- Krugman et al. 2021 *Macroeconomics* Chapter 6
- CORE The Economy* Sections 17.1, 17.2 and 17.3

II. NATIONAL INCOME ACCOUNTING

GDP definition: 3 methods for computing GDP

- Total value added
- Total expenditure
- Total Income

Limitations of GDP as a measure of wellbeing

- Real vs. Nominal GDP
- Comparing Income at different times and across different countries
- Review of historic data

Resources:

- Krugman et al. 2021 *Macroeconomics* Chapter 7
- * Fig 1.1b in *CORE The Economy*
- CORE The Economy* Sections 1.2 and 1.3
- Gapminder.org

III. INFLATION

Price Indices

- GDP deflator, Consumer Prices Index definition and simple examples.

Real and nominal variables.

- Real vs nominal wage and interest rates.
- Costs of Inflation.
- Hyperinflation.

Historical background

- Review of USA and Canadian inflation data 1970-2022.
- Examples of Hyperinflations

Resources:

- Krugman et al. 2021 *Macroeconomics* Chapter 8
- CORE The Economy* Sections 15.1 and 1.3

IV. UNEMPLOYMENT

Basic labor market indicators

- Definitions

Cyclical, frictional, and structural unemployment

* Look at USA and Canada Labor statistics

Discussion Topic:

COVID 19 and Labor markets

The great resignation

Resources:

Krugman et al. 2021 *Macroeconomics* Chapter 8

Statistics Canada Labour Statistics <https://www.statcan.gc.ca/en/subjects-start/labour>

US Bureau of Labor Statistics <https://www.bls.gov>

Harvard Business Review

<https://hbr.org/2022/03/the-great-resignation-didnt-start-with-the-pandemic>

V. ECONOMIC GROWTH

Historical background

Remarkable rise in Income.

Resources:

Krugman et al. 2021 *Macroeconomics* Chapter 9

Hans Rosling's 200 countries in 200 years in 4 minutes:

<https://www.youtube.com/watch?v=jbkSRLYSojo>

Why Nations Become rich?

Explaining long term economic stagnation: Malthusian traps.

Explaining Long term Economic growth

Breaking Malthusian Trap and Industrial revolution

Technological progress and productivity

Resources:

Krugman et al. 2021 *Macroeconomics* Chapter 9

CORE Video: Bob Allen, Why Britain Industrialized and Others Did Not

<https://www.youtube.com/watch?v=-vyNOWxp4>

CORE The Economy Sections 2.7, 2.8, 2.9, and 2.10

CORE Economy, Society and Public Policy Sections 1.5 and 1.6

Discussion Topic 1: Climate Change and Economic Growth

CORE The Economy Section 20.0 (Introduction) and 20.2

Discussion Topic 2: The Case of China

China's economic transformation: Outsourcing and technological transfers

Migration and China's urbanisation

Resources:

China anniversary: How the country became the world's 'economic miracle' BBC

<https://www.bbc.com/news/business-49806247>

Richard Freeman: You can't outsource responsibly.

<https://www.youtube.com/watch?v=2Zm5ZLMKhgQ>

<https://www.tandfonline.com/doi/full/10.1080/21620555.2020.1833321>

VI. INEQUALITY

Basic measures of Inequality

Lorenz Curve and Gini Coefficient

What is wrong with Inequality?

Play the online game [The Parable of the Polygons](#)

Resources:

CORE Insights: A world of differences an introduction to inequality

<https://www.core-econ.org/insights/a-world-of-differences/text/01.html>

Application: *CORE Video*: Thomas Piketty, The Long Run Economics of Wealth Inequality

CORE The Economy Sections 1.1, 5.12, 19.1, 19.2, and 19.3

Hans Rosling's short clip on World Income distribution:

<https://www.gapminder.org/answers/how-many-are-rich-and-how-many-are-poor/>

Discussion Topic: China's Poverty and inequality

How did China's economic development affect poverty and inequality?

Resources:

Gapminder.org: Hans Rosling's free data visualization webpage to look at growth, poverty inequality, etc <https://www.gapminder.org/tools/>

VII. SAVINGS AND INVESTMENT

Closed Economy

National Savings, Private Savings, and government deficit

Crowding out

Open Economy

Balance of payments accounting

Double entry book-keeping

Current Account and Financial Account

Savings Investment and current account. International Capital flows

USA and Canada 2021 Balance of Payments comparison

Historical background

Gold standard, Bretton Woods and Free floating

Resources:

Krugman et al. 2021 *Macroeconomics* Chapter 10

CORE The Economy Sections 17.4, 17.7, and 17.8

Discussion Topics

China and USA CA imbalances

Outsourcing, international supply chains and International

Twin deficits hypothesis: USA in 1980's

VIII. FINANCIAL SYSTEM

Tasks of the Financial system

Reduce transaction costs, diversify risk provide liquidity

Types of Financial Assets

Stocks, Bonds, bank deposits, Mortgage-backed securities, options

Types of Financial Intermediary Institutions

Rational market hypothesis and Asset prices bubbles

Historical examples of Bubbles.

Resources:

Krugman et al. 2021 *Macroeconomics* Chapter 10

CORE The Economy Section 11.7

Discussion Topic: 2008 Financial Crisis

Causes and Effects

Resources:

CORE The Economy Sections 17.10 and 17.11

CORE Insights: Too big to fail <https://www.core-econ.org/insights/too-big-to-fail/text/01.html>

Classroom Experiment 1: Market Bubbles

<https://economics-games.com/games>

The Bubble Game (S. Moinas & S. Pouget)

This game about speculative bubbles "is useful to discuss about market efficiency and trading strategies in a financial economics course, and about behavioral aspects in a game theory course, at all levels".

"Students sequentially trade an asset which is publicly known to have a fundamental value of zero. If there is no cap on asset prices, speculative bubbles can arise at the Nash equilibrium because no trader is ever sure to be last in the market sequence. Otherwise, the Nash equilibrium involves no trade. Bubbles usually occur with or without a cap on prices. Traders who are less likely to be last and have less steps of reasoning to perform to reach equilibrium are in general more likely to speculate."

("The bubble game: A classroom experiment," Sophie Moinas and Sébastien Pouget (2016) *Southern Economic Journal* vol. 82(4), pp. 1402-1412. For advanced students, there exists a very interesting theoretical and experimental extension of this paper: "[Learning in Speculative Bubbles: An Experiment](#)" by Hong, Moinas and Pouget.)

IX. MONEY, BANKING AND CENTRAL BANKS

Money

Definition of Money

History of Money

Modern monetary aggregates

Discussion Topic: Cryptocurrency

How does it work. Why is it different from government issued money?

Blockchain and Cryptocurrency

Banking system

Fractionary multiplier, Banking system, and monetary multiplier.

Central Bank and monetary policy

Central Bank balance sheet

Monetary policy: Open Market operations and interest rates

Discussion:

- 1) Henry Simon banking system
- 2) Microfinance

X. FISCAL AND MONETARY POLICY

Policy to fight recessions

Classical Macroeconomics

Great Depression and Keynesian macroeconomics

Challenges to Keynes: Monetarism

Monetary Policy

Monetary expansion and interest rates in the short run.

Monetary expansion and inflation: Quantity theory of money.

Philips's curve and dual mandate of Central banks.

Fiscal Policy

Fiscal expansion and aggregate demand in short run.

Fiscal expansion and government deficit.

Ricardian equivalence and fiscal policy.

Discussion topics

Great moderation to secular stagflation (Krugman et al. Chapter 17)

Policy response to COVID

Resources:

Krugman et al. 2021 *Macroeconomics* Chapter 16 and 17

Classroom Experiment 2: Investment Coordination Experiment

<https://economics-games.com/games>

Frequently asked questions

Q: Are the exams cumulative?

A: No.

Q: Can I attend a different tutorial from the one I am registered in?

A: No.

Q: I missed an exam because I was sick. Do I need to bring you a doctor's note?

A: Yes.

Q: I did poorly on one exam. Can I get the weight transferred to the other exams if I do better on them?

A: No. I view the course outline as a binding contract with my students. I do not deviate from the grading scheme in the outline.

Q: I did poorly in the course. Is there any extra work I can do to improve my grade?

A: No.

Q: I did poorly in the course. Can you please raise my grade? I really need a higher grade in order to (fill in the blank).

A: No.

Examples of assignment instructions

ECON 115: INTRODUCTION TO MACROECONOMICS

Spring 2023 B

Simon Fraser University (Apr. 24th)

GENERAL INSTRUCTIONS

- This exam has **11 pages** and a total of **60 points**.
- You have **180 minutes** to finish **all 28 questions**.
- This is an open note/open book exam. You are allowed to use any resource you have prepared/can find via an internet search during the exam.
 - You are allowed to use a laptop or a larger device such as an iPad and **NOT** your phone.
 - Please turn cell phones to silent and do not have on your desk during the midterm. Please place smart watches in your bag.
 - Note: Google Docs or other open/sharable files should not be used.
- No **talking, chatting, texting**, or use of **social media** during the exam. If you are found to be doing/using any of these things during the exam, then the exam will be taken away and you will be asked to leave.
- Write clearly. Illegible answers will receive no credit.
- Show your work! Partial marks are given where feasible. Short Answer questions without proper explanation and/or calculation may be penalized/will not receive full credit.
- Please write Short Answers **in the booklet** provided (unless exam specifies otherwise) and submit the question sheet with the exam booklet.
 - Write your answers for Multiple Choice and True/False on the exam.
- Please add your name and signature to the exam paper to indicate that you understand and agree to the general instructions.

Name: _____ Student #: _____

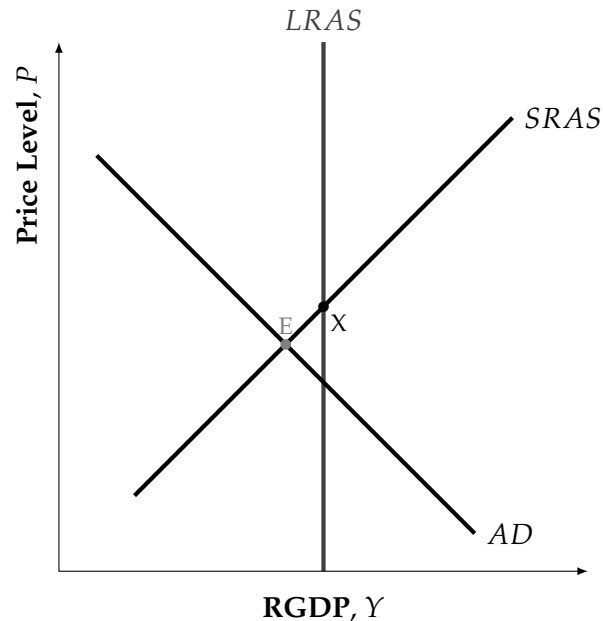
Signature: _____ Tutorial: _____

Multiple Choice Questions [15 points, 1 each]

Please write your answers to the multiple choice questions in the boxes below:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Figure 1: Aggregate Demand and Aggregate Supply



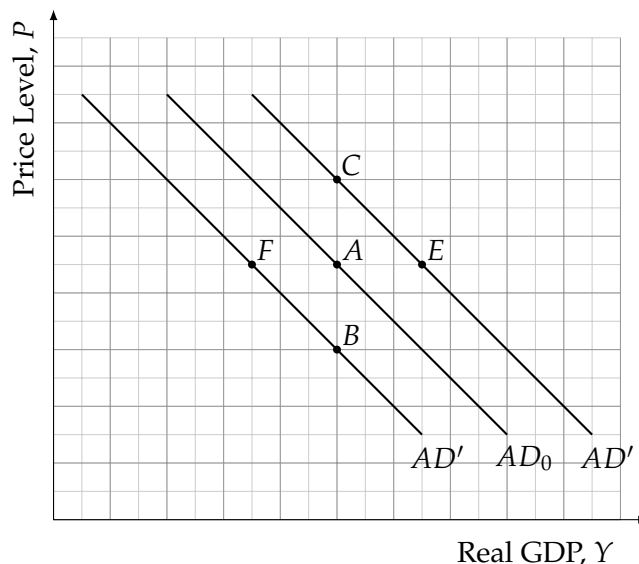
- Figure 1 shows an aggregate demand/aggregate supply model. The economy is currently at point E. Suppose the central bank intervenes in the economy, which of the following correctly describes the policy tool and outcome?
 - Use contractionary monetary policy to shift the AD to the right.
 - Use expansionary monetary policy to shift the AD to the right.
 - Use expansionary fiscal policy to shift the AD to the left.
 - Use contractionary fiscal policy to shift the AD to the left.
- If point X in Figure 1 was the equilibrium prior to an exogenous shock and E is the current equilibrium, which of the following best describes the current situation for the economy?
 - An output gap < 0 experiencing deflation
 - An output gap < 0 experiencing inflation
 - An output gap > 0 experiencing inflation
 - An output gap > 0 experiencing deflation

Table 1: Keynesberg's Economy

Category:	\$ (in Billions)
Consumption	\$350
Taxes	\$70
Investment	\$150
Government Spending	\$95
Transfers (Government)	\$50
Exports	\$75
Imports	\$100

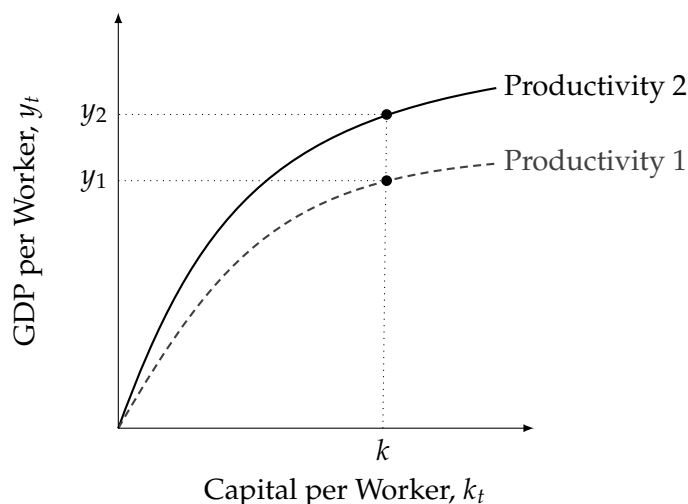
3. Suppose you are given the information in Table 1, what is the size of public saving in the economy?
- A. -\$15 Billion
 - B. -\$65 Billion
 - C. -\$40 Billion
 - D. -\$80 Billion
4. The government plan to create a national dental care program for those with income under \$90,000 is _____ fiscal policy, but it is not expected to influence inflation because it is a _____ program.
(Note: fill in the blanks.)
- A. an expansionary; universal
 - B. an expansionary; targeted
 - C. a contractionary; targeted
 - D. a contractionary; universal
5. Suppose Josh's income went from \$75,000 in 2021 to \$90,000 in 2022 and his consumption went from \$60,000 in 2021 to \$72,000 in 2022. What is Josh's Marginal Propensity to Consume (*MPC*) and the implied (fiscal) multiplier?
- A. $MPC = 0.2$ and multiplier = 5
 - B. $MPC = 0.2$ and multiplier = 1.25
 - C. $MPC = 0.8$ and multiplier = 5
 - D. $MPC = 0.8$ and multiplier = 1.25

Figure 2: Aggregate Demand



6. Figure 2 shows the closed economy of Autarkyville. Suppose the economy is initially at point A on AD_0 . If there was a negative economic shock, then a (pure) Keynesian economist would mostly likely predict that after the shock, the economy is at:
- Point B
 - Point C
 - Point E
 - Point F
7. Economic growth can be estimated using the rule of 70. If an economy is growing at 3.5% per capita, then in 100 years we would estimate the economy will be
- ≈ 3.6 times larger
 - ≈ 5.0 times larger
 - 20 times larger
 - 28 times larger
8. During the last lecture of class, Josh mentioned the Bank of Canada would have a meeting on April 12 to announce their plan for the overnight lending rate. During the lecture Josh suggested he thought the Bank of Canada would
- increase the overnight rate 25 basis points.
 - leave the overnight rate the same.
 - decrease the overnight rate 25 basis points.
 - Trick Question: Josh did not talk about this the last class.

Figure 3: Production Methods



9. Figure 3 shows two different production technologies. Suppose Country 1 produces using Productivity 1 and Country 2 produces Productivity 2. Which of the following statements if both countries have k capital per worker is **not** correct?
- Both countries have diminishing returns to physical capital.
 - The catch-up effect means Country 1 will converge to Country 2.
 - Country 2 has a larger Total Factor Productivity than Country 1.
 - Country 2 has (likely) had a higher economic growth than Country 1.
10. The reason for using GDP per person as an estimate for general well-being is because of all of the following except:
- it is strongly correlated with measure of life satisfaction
 - it is strongly correlated with life expectancy
 - it is negatively correlated with infant mortality
 - it is negatively correlated with inequality
11. During one tutorial, you were asked to read an article by Paul Krugman about the Baby Sitting Economy. What was the solution to the problems plaguing the economy according to Krugman?
- Increase the total amount of script in the economy.
 - Create a program to force people to baby sit at least once a month.
 - Decrease the total amount of script in the economy.
 - Create a program to force people to go out once a month.

Table 2: Canada - After Tax Income by Age for 2019

Age	10 th %	50 th %	90 th %	Average
15 to 24	\$2,360	\$17,800	\$36,800	\$19,000
25 to 34	\$15,500	\$39,600	\$73,500	\$43,160
35 to 44	\$18,400	\$49,200	\$93,000	\$55,250
45 to 54	\$16,200	\$48,400	\$101,000	\$57,800
55 to 64	\$10,500	\$ 40,000	\$92,000	\$49,800
65 +	\$15,000	\$31,000	\$68,000	\$39,360

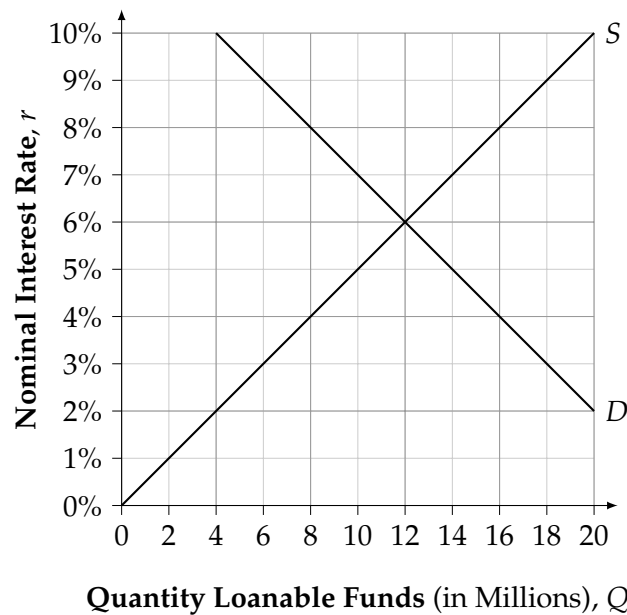
12. Table 2 shows after taxes income in Canada for 2019. Based on this information provided, which group has the highest inequality between the top decile and the median decile?
- 15 to 24
 - 45 to 54
 - 55 to 64
 - 65+

Table 3: First Bank of EconoLand

Assets		Liabilities	
Reserves	\$100,000	Deposits	\$1,000,000
Loans	\$700,000		
Securities	\$300,000		

13. Suppose the First Bank of EconoLand had \$60,000 of loans that defaulted (i.e. value is now \$0), which of the following statements is correct?
- The bank's new leverage ratio is > 23 (the Basel III accords maximum leverage ratio)
 - The bank's new leverage ratio is $= 23$ (the Basel III accords maximum leverage ratio)
 - The bank's new leverage ratio is < 23 (the Basel III accords maximum leverage ratio)
 - Trick Question: there is not enough information to answer this question.
14. Which of the following would **NOT** be part of GDP?
- Ottawa real estate agent's commission for selling 1920s house.
 - Quebecois farmer selling maple syrup to Europe.
 - The environmental cost of Alberta tar sands production.
 - B.C. government paying for snow removal.

Figure 4: Loanable Funds Market - EconoLand



15. Figure 4 shows the domestic market for loanable fund in EconoLand and the economy had $NX = 0$ (despite being an open economy with the free flow of capital) in 2021. If the government decreases the deficit, then which of the following is correct?
- A. There will be a capital inflow due to S shifting left.
 - B. There will be a capital outflow due to S shifting right.
 - C. There will be a capital inflow due to S shifting right.
 - D. There will be a capital outflow due to S shifting left.

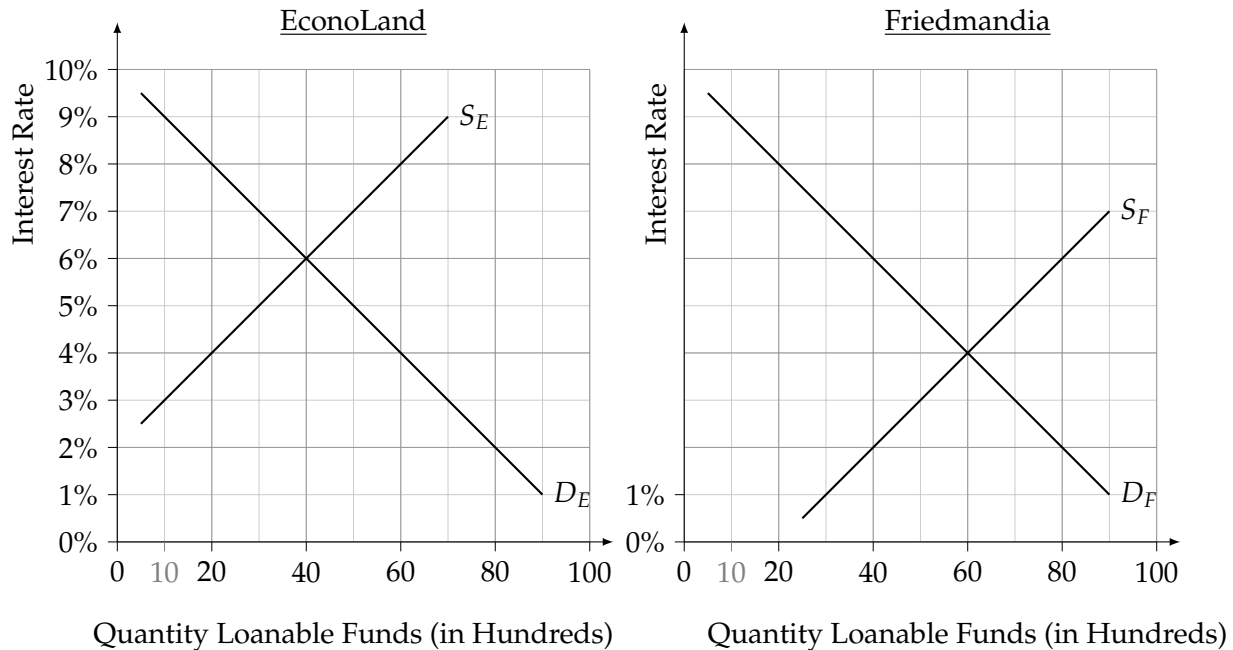
True/False [20 points, 2 each]

- In this section, there are True and False statements. If a statement is True, then writing True gets full marks. If a statement is False, then explaining why the statement is False earns full marks. Just knowing a statement is false and not knowing why will earn half marks. If I can not tell if you wrote a T or F, I will assume you got it wrong.
1. _____ Calculating the true price of a stock is easy since the price is simply the net present value of all future dividends.
 2. _____ Using Keynes' theory of Liquidity Preference for EconoLand, we can predict that when the government imposed stay-at-home restrictions on citizens this caused a decrease in the money demand.
 3. _____ Suppose Thomas Williamson is the owner of Tommy's Terrifically Timeless Tomes, a used book store. The income Thomas makes from selling used books is part of the GDP despite the books being second-hand.
 4. _____ The official poverty measure for Canada is the Market Basket Measure. The Market Basket Measure is a relative poverty line since it is based on the cost of a specific bundle of goods and services in a particular area. That means it examines the relative cost since someone could be below the poverty line in Vancouver, but not in Calgary with the same income.
 5. _____ You are given the following information: GDP is \$19 billion, Consumption is \$14 billion, Government Expenditure is \$4 billion, and the government has a \$1.5 billion deficit. That means the private savings in the economy is \$3.5 billion.
 6. _____ Keynesian economics was a response to the Great Depression period since classical economics failed to explain the prolonged unemployment and increased inflation during that period.
 7. _____ The measure of inflation the government of Canada uses is CPI inflation since it captures all goods and services produced in the Canadian economy during a year.
 8. _____ Most people keep wealth as money since it provides the best store of value of any other asset.
 9. _____ The Bank of Canada has said their lowest possible interest rate is 25 basis points because of the unique operating band system used in Canada.
 10. _____ The required reserve ratio for banks in Canada is 0% as determined by the Bank of Canada.

Short Answer Questions [25 points]

1. (Total: 7 points) Figure 5 shows the market for loanable funds for two countries: EconoLand and Friedmandia. Use the information in the diagram to answer questions.

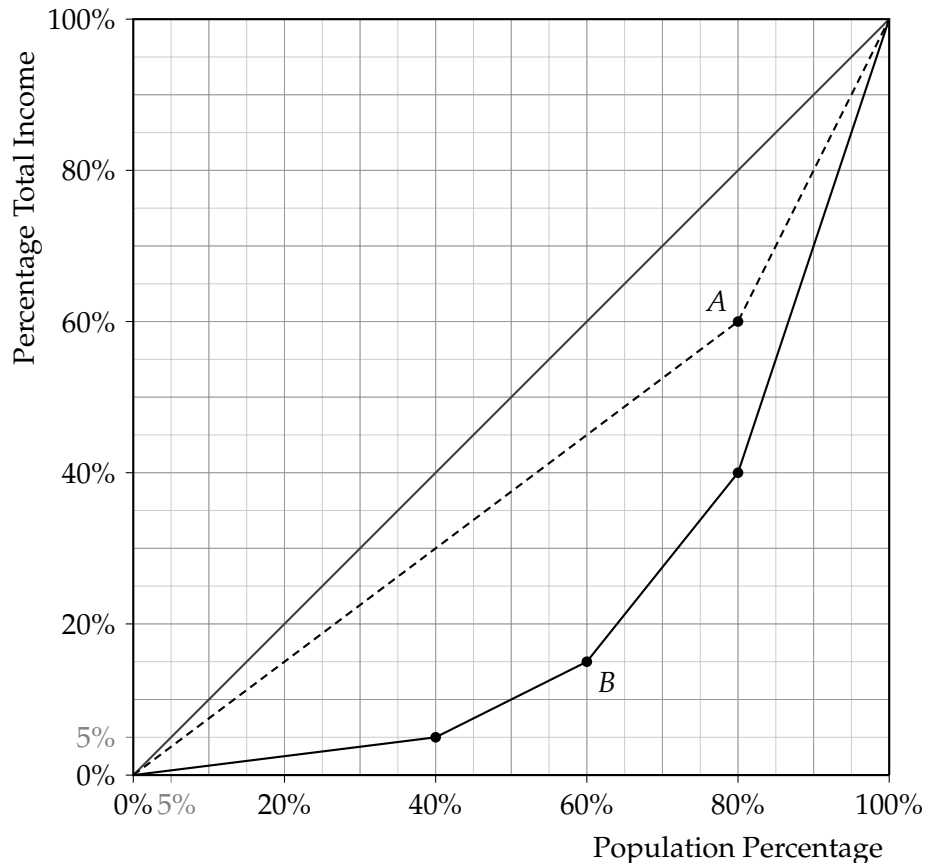
Figure 5: Market for Loanable Funds: Two Countries Shown



- (a) (4 points) If EconoLand and Friedmandia were the only two countries in the world and allowed the free flow of capital, the interest rate would be 5%. Explain why this must be true. (*Hint*: your answer should include references to both NX and Balance of Payments.)
- (b) (3 points) In reality, there are more countries than EconoLand and Friedmandia who have open economies. If we know that EconoLand exports \$95,000 and imports \$75,000 worth of goods, then what is the implied world interest rate r^W ? In Figure 5 label the net capital inflow or outflow is for Friedmandia. What would this mean for net exports in Friedmandia?

2. (Total: 9 points) Figure 6 shows the distribution of income before taxes/transfers as the solid line labelled *B* and the distribution after taxes/transfers as the dashed line labelled *A*. Use the figure to answer the questions.

Figure 6: Lorenz Curves



- (a) (5 points) Calculate the estimated Gini coefficient for before and after the taxes/transfers. In Figure 6 above, shade the area consistent with the area used to estimate the after taxes/transfers Gini coefficient.
Reminder: Area of a Triangle is $(1/2)\text{Base} \times \text{Height}$ and Area of a Trapezoid is $(1/2)\text{Base} \times (\text{Height}_1 + \text{Height}_2)$.
- (b) (2 points) Suppose the GDP for the economy is \$24 Billion and the population is 100 Million, what is the income of a person at the 40th percentile both before and after taxes/transfer?
- (c) (2 points) What is the Palma ratio before and after taxes/transfers if the 90th percentile has a share equal to \$7.2 Billion before taxes/transfers and \$4.8 Billion after taxes/transfers?

3. (Total: 9 points) Consider the following data for the country of Autarkitopia in 2018 and 2019:

Price and Quantity Data: Domestic Production

Goods	2018		2019	
	Price	Quantity	Price	Quantity
Wheat	\$7.00	1,060	\$7.10	910
Lumber	\$18.00	70	\$19.50	79
Microchips	\$215.00	91	\$225.00	95

The overall Nominal GDP for Autarkitopia is \$28,245 in 2018 and \$29,376.5 in 2019.

Note: your answer for part (a) and (b) should be percentages rounded to 2 decimal places

- (a) (3 points) What is the growth rate of nominal GDP? What is the growth rate of Real GDP? (*Hint:* assume 2018 or 2019 is the base year.)
- (b) (1 point) Based on your answer from part (a), what is the approximate rate of inflation for Autarkitopia? (*Note:* you can calculate it directly, but the estimate will be quicker.)
- (c) (1 point) Given the Central Bank of Autarkitopia has an inflation rate target of 2%, what type of policy might the Central Bank use? How might the Central Bank implement the policy?
- (d) (1 point) The Government of Autarkitopia is also concerned with the National Income Accounts reporting an increase in unemployment because a large percentage of the economy is still involved in farming. Suppose the Government already has policies in place to address this issue. Why type of policies are these?
- (e) (3 points) Using your response from part (c) and (d) as well as the basic ideas from the Aggregate Demand/Aggregate Supply model, explain what you expect will happen with both sets of policies in place. In other words, what do the policies of the Central Bank and Government of Autarkitopia do independently? What about simultaneously (i.e. at the same time)?

Student Name: _____

Student ID: _____

Tutorial Section _____

Economics 115

Exam 2

Spring 2024

Instructions:

- You have 2 hours to finish your exam. Write your name and ID number on the upper left corner of this page. Write your name, student ID and tutorial section on your exam booklet(s).
- Confirm that your test has 3 pages.
- Use a pen to write your answers. You give up your right to a regrade if you choose to use a pencil. With you, you should only have a pen, and a calculator.
- Show ALL your work.
- The table below indicates how points will be allocated on the exam. You can answer the questions in any order you like. Use your time carefully and efficiently.

Question	Points	Your Score
Question 1	15	
Question 2	20	
Question 3	20	
Question 4	15	
Question 5	15	
Question 6	15	
Exam Total	100	

- You are **not allowed to use your cell phone or any electronic device during the exam**. Please, turn off your cell phone and put it away. If you are found using a cell phone during the examination, you will be considered in violation of academic integrity, and you will be reported to the Academic Integrity Office.
- Once you started the exam you are not allowed to leave the room until you turn in your exam.
- You may round all your answers up to one decimal point.
- KEEP YOUR EYES ON YOUR OWN PAPER, AND KEEP YOUR PAPER OUT OF VIEW OF YOUR NEIGHBORS.

Question 1 (15 points)

In class we discussed bonds. A bond is an example of an asset that is issued by the financial system to reduce transaction costs and provide liquidity.

- a) (5 points) What is a bond? Explain.
- b) (10 points) Discuss how a bond reduces transaction costs and provides liquidity.

Question 2 (20 points)

Consider an economy where spending is as follows: Consumption $C = 800$, Investment = 200, Government Spending = 400 Exports = 300 and Imports = 200. Suppose that Net taxes is given by $T=100$

- a) (3 points) What is the value of GDP in this economy? Show all your work.
- b) (3 points) What is National Savings equal to? Show all your work.
- c) (3 points) What is the disposable income? Show all your work.
- d) (3 points) What is Private Savings? Show all your work.
- e) (3 points) What is Savings by the government? Show all your work.
- f) (3 points) What is the economy's Net Capital Inflow? Show all your work.
- g) (2 points) Is this economy lending or borrowing from the rest of the world? Explain

Question 3 (20 points)

Consider the market for loans that we discussed in class.

- a) (3 points) Draw the equilibrium in the market for loan. Label each axis and curve and equilibrium point.
- b) (3 points) Use your diagram to explain why an interest rate below the equilibrium value would put pressure on interest rate to move up.
- c) (4 points) Explain the graph in words, explain what each curve represents and why it's upward or downward sloping.
- d) (5 points) What would be the effect of increase in the expected rate of inflation? What's the effect on private investment, savings and equilibrium interest rate? Use the diagram we discussed in class to justify your answer. Make sure to label all curves, axis, and equilibrium points. Draw a new diagram to answer this question.
- e) (5 points) Suppose instead that a new survey shows that consumer's confidence shrank and people consider it more likely that there will be a recession in the near future? What's the effect on private investment, savings and equilibrium interest rate? Use the diagram we discussed in class to justify your answer. Make sure to label all curves, axis, and equilibrium points. Draw a new diagram to answer this question.

Question 4 (15 points)

Suppose that Martha receives a bonus from her job of \$10,000 and decides to invest it by buying stock of Company Orange.

- a) (5 points) Suppose that after 4 years, her portfolio is worth 14,000. What is her yearly rate of return? Explain
- b) (5 points) Suppose instead that you know the price of the stock will grow at 2% per year. What will be the value of the portfolio (starting at 10,000) after 10 years. Explain
- c) (5 points) Under the same assumptions of part b) how long would it take for the portfolio to be worth \$20,000? Explain

Question 5 (15 points)

We observe in the data that in a cross section of countries, there is a positive correlation between “good” institutions and economic growth.

- a) (5 points) Can we use this to conclude that good institutions are the cause of economic growth? Explain.
- b) (5 points) How can we use the “natural experiment” of the Korean peninsula, i.e. comparison between north and south korea, to answer part a)? Explain
- c) (5 points) Name one policy you would implement to boost economic growth in an economy. Explain

Question 6 (15 points)

- a) (5 points) Explain in your words what is a “bubble” in the price of an asset.
- b) (5 points) Are bubbles possible according to the “efficient market hypothesis”? Why or why not?
- c) (5 points) Name one negative economic consequence of a bubble. Explain

Student Name: _____

Student ID: _____

Tutorial Section _____

Economics 115

Exam 3

Fall 2023

Instructions:

- a. You have 2 hours to finish your exam. Write your name and ID number on the upper left corner of this page. Write your name, student ID and tutorial section on your exam booklet(s).
- b. Confirm that your test has 3 pages.
- c. Use a pen to write your answers. You give up your right to a regrade if you choose to use a pencil. With you, you should only have a pen, and a calculator.
- d. Show ALL your work.
- e. The table below indicates how points will be allocated on the exam. You can answer the questions in any order you like. Use your time carefully and efficiently.

Question	Points	Your Score
Question 1	25	
Question 2	20	
Question 3	30	
Question 4	15	
Question 5	10	
Exam Total	100	

- f. You are **not allowed to use your cell phone or any electronic device during the exam**. Please, turn off your cell phone and put it away. If you are found using a cell phone during the examination, you will be considered in violation of academic integrity, and you will be reported to the Academic Integrity Office.
- g. Once you started the exam you are not allowed to leave the room until you turn in your exam.
- h. You may round all your answers up to one decimal point.
- i. **KEEP YOUR EYES ON YOUR OWN PAPER, AND KEEP YOUR PAPER OUT OF VIEW OF YOUR NEIGHBORS.**

Question 1 (25 points)

- (10 points) Explain in your words what is the difference between Classical and Keynesian Macroeconomics.
- (5 points) What was the Great Depression?
- (5 points) What does the Keynesian view suggest the Government role should be in dealing with the Great Depression? Explain
- (5 points) What does the Classical view suggest? Explain

Question 2 (20 points)

Consider an economy where the marginal propensity to consume is 0.8.

- (5 points) Explain in your words what the marginal propensity to consume means.
- (5 points) Suppose that the government decides to conduct expansionary fiscal policy by increasing government spending by \$100 billion. What would be the total effect on GDP? Justify your answer
- (5 points) What is the value of the multiplier? Explain.
- (5 points) Suppose that poor people have a higher marginal propensity to consume than rich people, if the government objective is to maximize the increase in output, should they focus the fiscal expansion on poor or rich people? Explain

Question 3 (30 points)

Suppose that you invite 5 people to your birthday to share a cake. The cake can be distributed in one of two forms: Distribution A and distribution B given below:

Person	Distribution A (Share of total cake %)	Distribution B (Share of total cake %)
Tom	10%	20%
Mary	22%	20%
Louise	5%	20%
Michael	48%	20%
Jane	15%	20%

- (3 points) What fraction of the total cake does the top 20% get in Distribution A?
- (2 points) If there was a vote, which distribution would be selected? Explain
- (10 points) Draw the Lorenz Curve for Distribution A and distribution B. Carefully label your axes and the points on each curve.
- (5 points) In the diagram from C, show how you would compute the Gini coefficient for Distribution A.
- (5 points) What is the value of the Gini Coefficient for distribution B. Explain.
- (5 points) Based on the Gini Coefficient, which distribution has more inequality? Explain.

Question 4 (15 points)

- a. (10 points) True, false or Uncertain. Justify your answer. *“Bank runs only happen on banks that have low quality assets and loans in their portfolio. A bank with high quality loans is not subject to a Bank Run”*
- b. (5 points) Name one policy regulators use to minimize the risk of bank runs. Explain

Question 5 (10 points)

In class we discussed the data for income and wealth inequality for US and Canada.

- a) (5 points) Name one trend in the data that we discussed and briefly explain it.
- b) (5 points) What do you think it should be the desired or optimal amount of inequality in a society? Justify your answer using (mostly) economic arguments.