

EW MBA201B – Macroeconomics in the Global Economy

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These questions are food for thought; they are designed to assist you in studying for the final exam. This guide cannot cover all of the topics that you will be studying. Rather it attempts to provide you with study questions that cover relevant topics and concepts and give you practice working with the topics and concepts. Compared with this study guide, the final exam, just like the midterm exam, will have individual questions that cover fewer topics within a single question and often don't have offsetting effects. Reviewing the midterm study guide and exam questions and answers may also be a quick way to review some of the underlying concepts that we tackled before the midterm.

The final exam will not focus on topics that we covered before the midterm----however, since the macroeconomy and our course continually builds on what we developed earlier, the concepts and analyses that we tackled before the midterm are still true and relevant to what we did since the midterm.

The final exam won't have topics that weren't covered directly in class, in our class notes, in the readings, and/or on homework sets. The exam will not be a test of memorizing lots of formulas or doing arithmetic. We used homework sets for that. So, just as the midterm differed from homework, so will the final exam will differ from homework.

The final exam is not meant to be tricky or surprising. In some places on the exam, it will be easy to get lots of points; in other places, points will be earned; in yet other places, it will be more difficult to earn points. Allocate your efforts accordingly.

NO--The final exam will not be this long! The exam will be designed to be finished by many students in 1.5 hours—many will finish sooner than that; some will take longer. Students will have up to two hours to finish their exams.

Students do not need to bring bluebooks, scratch paper, notes, etc. Answers written in pencil will not be eligible for re-grading. At the start of the exam, we will provide exam booklets that have both the questions and space for answers.

As in the midterm exam, in the final exam we permit neither books, notes, electronic devices of any kind, earphones, nor information from or connections to others taking the exam

Other practice/review resources

1. MEL

Please find extra practice questions for assigned readings in Chapters 1-16 in “Do Homework” and “Take a Quiz/Test” under the Assignment tab.

Many of the homework questions have, on the left margin, the “Help Me Solve This 1-2-3” button that walks students through the type of question being asked.

MEL tracks your answers so that it can provide each student with customized suggestions for study in the “Study Plan.”

2. Self-Test Questions.

At the end of each textbook chapter, there are answers to each of the Self-Test Questions, which are highlighted in each chapter.

Here are some important concepts that we have defined and discussed:

- a. Natural rate of output
- b. Solow’s residual (or TFP or multifactor productivity)
- c. Core and headline inflation
- d. Accelerator effect on investment spending
- e. Multiplier effect of autonomous spending
- f. Human capital
- g. Permanent income and life cycle of income
- h. QE
- i. Marginal propensities to consume, to save, and to import
- j. Short-run Phillips Curve (SP) and LP
- k. Production function
- l. Involuntary inventory accumulation
- m. Federal funds interest rate
- n. Autonomous spending
- o. Interest-sensitive spending
- p. Taylor Rule to guide central banks’ settings for interest rates
- q. Euro and Eurozone
- r. Fixed and flexible exchange rates
- s. Government deficits
- t. International trade deficits and net foreign investment
- u. Fisher relation between nominal and real interest rates

The study guide questions and some answers begin on the next page →

- 1. Why does a sale of bonds by the Fed raise interest rates? Suppose that you issue a bond, e.g., by taking out an auto loan to buy a new car or a home equity loan to remodel the kitchen in your home. What happens to interest rates—and why? What happens to the IS curve, and why? What happens to the money supply (and here you might consider how the answer here might differ in the usual situation when banks don't have any cash reserves beyond those that are required by regulations and the unusual situation since 2010 when banks have huge amounts of cash in excess of what regulations require)?**

An increase in the supply of bonds, which is what your originating a new loan is, lowers bond prices, and thereby raises the yields on bonds. (Of course, this is an academic example designed to make a point. Your individual effect on the world's capital markets isn't likely to be noticeable.)

Under usual conditions, your taking out a mortgage does not change the money supply--because your lender got funds from someone else who in turn has fewer funds. When you get the funds via the loan, you spent them and the recipients re-deposit them, someplace. For the same reason, nor does a larger govt. deficit that forces Treasury to issue more bonds alter the money supply—Treasury gets funds in and then right away spends them.

When you (or businesses or governments) increase spending (and finance it with a loan or by reducing your assets), the IS curve shifts to the right and, as a result, interest rates rise as described above---unless the central bank steps in to keep the short-term interest rate unchanged. If there is an increase in the supply of bonds, if the central bank increases its demand by the same amount, then the price of (short-term) bonds, and thus their yield or interest rate, remains at its original level. If the central bank buys bonds, it pays for them with newly created money, which is added to the economy.

In current, unusual conditions, banks have huge amounts of extra cash already on hand. In that case, they don't need to bid it away from others in the financial markets. If a bank uses its excess reserves to fund your loan that (just like the central bank) is a net addition to the money supply that is circulating out in the economy.

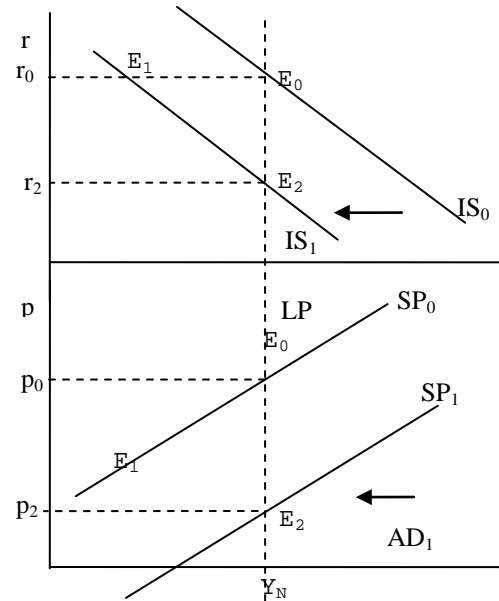
- 2. (a) Explain why higher taxes may lead to lower output in the short run and unchanged output in the long run. Assume that the central bank holds the interest rate unchanged at first, but that it lets inflation decline and only very slowly, but eventually, cuts rates enough to bring output back to Y^N . Assume that expectations of inflation follow the actual inflation rate. (Omit the rest of the world here—so there are no exchange rates or international trade (NX) effects.)**

Higher taxes shift the IS curve to the left. In the short run, that is when the SP curve doesn't yet shift, output falls, as consumption falls (due to lower disposable income). The new short-run equilibrium is E_1 . See diagram below.

In the long run, the economy adjusts. The SP shifts down to SP_1 as the growth rate of nominal wages and salaries (that is, expected inflation in the SP curve) declines in response to the lower actual inflation rate. (There is no way to tell just how far down it shifts.) Eventually the real GDP moves back to the LP and output is back at its original level (the natural level of output, Y^N). The long run equilibrium is at E_2 .

(b) Comparing the new long run equilibrium to the original equilibrium, state what happens to taxes, income, consumption, investment, government spending, and inflation.

- taxes go up (as assumed),
- income (at Y^N) is unchanged,
- consumption is lower,
- investment is higher--due to lower r ,
- government spending is unchanged.
- inflation is lower.



Note that Y starts and ends at Y^N . Since I is higher and G and Y are unchanged, then C must be lower. Given that the initiating force was higher taxes, which affected C , it would be surprising if C were unchanged or higher.

(c) Explain why higher taxes may lead to lower investment in the short run--due to accelerator effects, but they may also lead to higher replacement investment--due to depreciation effects in the (very) long run.

As above, higher taxes shift the IS curve to the left. In the short run, when the SP doesn't shift, output falls, as consumption falls (due to lower disposable income) and the multiplier takes hold. With reduced expectations for sales, the accelerator implies that businesses reduce their net investment. That reduction is accomplished via lower gross investment, I . That reduction in autonomous I shifts the IS leftward.

In the long run, the SP shifts down and Y returns to its natural level, shown with SP_1 when nominal wages grew slower due to lower expected inflation. The lower interest rate at E_2 means that firms prefer, over a very long run, to take advantage of the lower interest rates to finance more K and use less L to produce output. Having a resulting larger K means that depreciation (say, 10 percent annually of K) and thus replacement investment is higher than originally. (Note that this is another example of increased public saving (via higher T and thus lower net borrowing by the government) leading to higher national saving and to increased private investment here.)

- 3. People usually like inflation because it makes their labor incomes go up, it makes their capital incomes (e.g., in the form of interest rates on their bonds) higher, it is associated with higher employment, and it makes it easier to pay back their outstanding debts, like the loans they had taken out to buy cars and houses. True, False, Uncertain. Discuss.**

This assertion is so wrong it is hard to know where to start. People generally dislike inflation, at least when it is above minimal levels. It is true that nominal wages and salaries rise faster and that nominal interest rates are higher when inflation proceeds at a higher rate, say 7% rather than 3% per year. But, those nominals don't really tell us about real labor incomes or about the real interest rate—and presumably it is the reals, and not the nominal, that we almost always care about. It is true that a higher inflation rate reduces the real burden of paying back debts.

Another point to consider is whether inflation is a “surprise” or whether it is anticipated and incorporated into wages and salaries and interest rates.

Further, really high inflation may disrupt the workings (and efficiency) of an economy.

- 4. Assume that, relative to households' spending, investment spending (i.e., businesses' capex plus inventory change), varies much more and is much harder to forecast from year to year. Discuss the following conclusion: Households' actions are more economically-rational and far-sighted than businesses' irrational, myopic, and changeable actions.**

The facts are correct. The conclusion could be correct, but it is not justified just by the facts given above. Indeed, a common presumption might be that the opposite is true. Here we just don't know.

What we do know is that households and businesses are in different situations. Households mostly consume services and nondurables. Indeed, when households encounter the sorts of decisions about their desired capital stock of consumer durables (cars, furniture...), they behave much like businesses who face capital and thus investment decisions. And, most of households' spending is devoted to services and nondurable goods, for which the spending implications are very different than for durable goods, whether purchased by households or businesses.

- 5. Explain why U.S. auto manufacturers (and many other U.S. firms) may be affected in some positive and in some negative ways by huge technological advances in Silicon Valley (SV). Suppose that those advances both (1) lead to stronger demand from abroad for SV's (consumer or producer) goods and (2) enable producers of other goods (such as cars) that are based in the U.S. in particular to suddenly offer products that are better and have lower prices. Consider the effects of the U.S. products' lower prices, as well as any repercussions of SV's products on the dollar (i.e., exchange rates).**

As posited here, improving the quality and cutting the prices of U.S. products, the advances ought to boost demand for them—both in the U.S. and everywhere else—as the customers shift

toward the U.S.-made and away from other products.

On the other hand, the increased demand for SV's products directly should boost demand for the dollar and lead to an appreciation of the U.S. \$. That affect would have the opposite effects of the first effect. We don't know here which effect would be stronger. But, the industries whose products' quality and prices don't much benefit from the advances, perhaps hotels agriculture, and mining, might well be hurt by a stronger dollar.

- 6. Is the following statement true, false or uncertain? In spite of their having bequeathed us so many liabilities (in the form of U.S. national debt, for example, of more than \$15 trillion), we should be grateful to our predecessors whose decisions produced all that debt. After all, higher debt comes from running deficits and raising G or lowering T leads to more GDP. Discuss.**

Uncertain (i.e., "it depends.").

Looser fiscal policy in the form of raising G or lowering T boosts GDP—until the economy re-equilibrates in the long run at Y^N . So, GDP would have been higher for a while, and maybe often, but not permanently higher. While it might have made GDP higher for them than it would have been otherwise, GDP might not be higher than otherwise for us. After all, some of the government deficits were incurred in wars in the 18th, 19th, and 20th centuries and recessions before we were born.

It is true that our parents are leaving us with (and we are bequeathing to our children) lots of federal government debt, which are the liabilities of U.S. taxpayers. Taxpayers will have to pay off the debt or, equivalently, pay interest until they do pay it off, by paying net taxes that are higher than otherwise or by having reduced G for the same tax burden. If the funds associated with past deficits were used for projects and activities that we value more than the size of the debts they incurred to fund them, then we should be grateful that they undertook these (positive net present value) projects on our behalf. Candidate projects of that sort might be medical research, building schools/interstate highways/seaports/airports, providing unemployment checks, and so on. On the other hand, if they just didn't want to pay enough taxes to support the usual, ongoing operations of the public sector, then they left us with fewer assets than liabilities, which means that they shifted some of the burden of those operations to us.

- 7. Explain why businesses that produce or sell durables seem so concerned about the economy's growth rate, while businesses that produce or sell nondurables seem to focus on the unemployment rate.**

This is an accelerator question. Durables are goods that last a long time, e.g., hotels, lathes, cars, airplanes, furniture, chip (silicon or potato) making equipment, optic fiber cable. As a result, one-time expenditures provide services for a long time. Demand for extra durable goods by households and by businesses arises from their desires to increase their stocks of durables. Their desired stocks depend largely on the level of household incomes, which largely drives the level of production that will match their sales. Therefore, they buy durables when they want to increase their stocks of durables (and want to replace worn out durables), which happens when there is an increase (i.e., growth) in incomes. Thus, sales of durables are importantly affected

by the increase (or growth) of total final sales (GDP).

The sales of nondurable goods and services are more closely tied to the level of incomes, rather than the growth of incomes, via the consumption function. The level of income is related to the level of employment and therefore of the unemployment rate.

- 8. Discuss whether, and why, we are likely to see higher or lower household saving rates (1) if an economy falls into a recession and (2) if there are sharp increases in stock market prices.**

These two events both tend to reduce saving rates. Households tend to smooth out their consumption between paychecks, over the course of ups and downs in GDP, and over their lives (after all, nobody wants to be retired and hungry). When the economy is temporarily in recession, households smooth consumption by reducing saving (to reduce declines in C). Thus, we expect and observe that recessions do reduce saving rates (S/Y).

When stock market prices are higher, consumers respond to their increased wealth by spending more (maybe 5% of the increase) annually for many years. Increased C lowers the measured amounts of their saving, while their measured income does not change. (Traditional saving and income measures don't include capital gains or losses, even though households may strongly and rationally respond to them.) Thus, with saving down and income unchanged, the saving rate falls.

- 9. Explain what “multifactor productivity” (or TFP) is. Give three examples of factors that are regarded as affecting the level or the growth rate of TFP.**

TFP is also known as Solow's residual. It is the amount of output (or output per person = Y/N = productivity) beyond that due to capital and labor.

Some examples: technology, legal system/rule of law/corruption/diversion, political stability, business regulatory system, education/training, infrastructure, geography.

- 10. Assume that output (e.g., Y^N) is increasing, due perhaps to the increasing size of the population (and thus labor force and employment). Does that suggest that C is growing? Or G? Does the simple accelerator theory predict that net investment is also growing?**

Having more labor available would lead to more output, and thus income. C would be growing over time with (disposable) income. Unless we are given some specific reason, we always take G to be autonomous, and thus not directly related to income; so here G is not growing.

A growing economy doesn't mean that net I is growing. It might be high, but not growing higher. In the simple accelerator model, if output is growing, the desired capital stock is also rising, due to a positive (and at least approximately constant) capital-output ratio. (As an example, that ratio might equal 3.) The only way to increase the size of the physical capital stock, K, is to have positive net investment. If the desired stock is steadily increasing, then net investment is also steady, though perhaps at a high level, but not increasing. Indeed, if the

desired capital stock then rises at a slower but still positive rate, net investment, though still positive, will decline to a lower level.

11. What is likely to happen to the household saving rates in Japan and Western Europe as sizable declines in their birth rates lead to larger fractions of their populations consisting of retirees? What are some ways that those changes in savings rates could be at least partially offset?

According to the life-cycle hypothesis, workers save and retirees dissave. The overall household saving rate depends on the saving and consumption behavior of both groups. An increase in the proportion of the population that is retired raises total consumption relative to total income, thus causing a nation's household saving rate to decline.

National saving can be boosted in a number of ways. Among them are raising the retirement age, increasing the numbers of working-age immigrants, reducing government deficits, increasing tax incentives to save, and so on.

12. Explain why the countries that (net) export the goods and services that they produce also tend to be the countries that (net) import the stocks and bonds issued by other countries.

The amount of each country's net exports equals the amount of that country's net foreign investment (NFI). NFI is the investment by the exporting country in other (i.e., foreign) countries. Suppose that Germany is a net exporter of goods and services. Then, Germany receives more payments for its exports than it sends out for its imports. Those net payments to Germany may start as deposits into their bank accounts in NY or in Stuttgart. Some of those deposits will be converted into interest-bearing bonds, into stocks, farms, office buildings, shopping malls in the rest of the world. (Note that if Germany spent the net proceeds on other countries' goods and services, then Germany wouldn't be a net exporter.)

13. It was a bold move for so many European countries to abandon their own currencies and adopt a new currency, the Euro, and thus one central bank for all of the Eurozone, the ECB. What might be some of the more important economic advantages, and disadvantages, of a country's being in the Eurozone?

To join the Euro, countries were also forced to have and to keep quite similar ratios of their government deficits and of their government debts to their GDPs. They also were required to have low inflation rates. It seems that the desire to be in the Eurozone was so strong that countries became more disciplined about both their fiscal and their monetary policies.

As the years passed, however, some countries probably would have benefited from the flexibility to alter their fiscal and monetary policies, but they couldn't. They also might have benefited from being able to have a domestic currency that either appreciated (Germany) or depreciated (Greece). Being in the Eurozone precluded such cross-country variations. ***END***