The Global Economy
Backus & Cooley

Practice Final Examination 1

Revised: December 14, 2011

You have 100 minutes to complete this exam. Please answer each question in the space provided. You may consult one page of notes and a calculator, but devices capable of wireless transmission are prohibited.

I understand that the honor code applies: I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do.

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(Name and Signature)

Note: These questions come from old exams, so the topics and numbers may be out of date. But be assured: good analysis lasts forever.

1. *US monetary policy (25 points).* After its April 2007 meeting, the US Federal Open Market Committee stated:

   > Recent indicators have been mixed. ... Nevertheless, the economy seems likely to continue to expand at a moderate pace over coming quarters. Recent readings on core inflation have been somewhat elevated. Although inflation pressures seem likely to moderate over time, the high level of resource utilization has the potential to sustain those pressures. In these circumstances, the Committee's predominant policy concern remains the risk that inflation will fail to moderate as expected. Future policy adjustments will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.

   Comment: this is a time when it's helpful to see the AS/AD model lurking behind the words. The following questions should help you work your way through this process.

   (a) How would you interpret the Fed's statement in terms of its goals of low inflation and full employment? Do you agree that the evidence, as presented, suggests that inflation is the "predominant policy concern"? (10 points)

(b) Use the aggregate supply and demand framework to illustrate how the FOMC might think about monetary policy. Consider each of the following questions in turn: (i) How would an increase in the money supply affect output and prices in the short run? (ii) In the long run? (10 points)

(c) Given the Fed's assessment of current economic conditions, how would you expect it to respond? Would you expect interest rates to rise or fall? (10 points)

	2002	2003	2004	2005	2006	2007	2008	2009
GDP growth	4.3	3.0	3.8	2.8	2.8	4.0	2.1	–1.6
Inflation	3.0	2.8	2.3	2.7	3.5	2.3	4.4	1.2
Interest rate: short	4.6	4.8	5.3	5.5	5.8	6.4	6.7	2.8
Interest rate: long	5.8	5.4	5.6	5.3	5.6	6.0	5.8	3.3
Investment rate	24.1	25.2	25.5	26.5	26.8	27.8	28.7	
Saving rate	20.1	20.4	20.0	21.3	21.2	21.9	24.3	
Current account	–3.8	–5.5	–6.1	–5.8	–5.5	–6.4	–4.2	–3.5
Govt budget: total	1.3	1.8	1.1	1.5	1.5	1.6	1.8	–3.3
Govt budget: primary	2.9	3.2	2.4	2.7	2.6	2.6	2.7	–2.6
Govt debt	20.1	18.5	17.5	17.0	16.4	15.4	13.9	
Exchange rate	1.84	1.54	1.36	1.31	1.33	1.20	1.19	
Real exchange rate	100	113	121	125	125	133	132	
FX reserves (USD)	21	32	36	42	53	25	31	
FX reserves (months)	2.9	3.7	3.3	3.4	4.0	1.6	1.7	
Net foreign assets	–68	–68	–65	–71	–77	–89	–103	

Economic indicators for Australia. Notes: (i) Investment, saving, current account, government budget, government debt, and net foreign assets are expressed as percentages of GDP (ratios multiplied by 100). (ii) The exchange rate is the Aussie dollar (AUD) price of one US dollar; high numbers indicate that foreign currency is expensive. The real exchange rate is a weighted average across trading partners. The convention is the inverse of the exchange rate: high numbers indicate that local goods are expensive relative to foreign goods. (iii) Foreign exchange reserves are expressed, first, in billions of USD, second, as a ratio to monthly imports. Thus the number 2.9 means that reserves are 2.9 times one month's imports. (iv) 2009 numbers are estimates.

2. *Deficits down under (40 points).* As a European investor in short-term Australian securities, you have made a fair amount of money over the last decade betting that Australia's high interest rates would not be offset by declines in the value of its currency. You wonder, however, whether it's time to take your money and run.

Having some experience with such situations, you check the Economist Intelligence Unit's Country Data, summarized above, and Country Risk Service, which reports:

- The exchange rate is flexible, and could move either way against the euro.
- Australia's large net foreign liability position reflects a combination of direct investment in Australian businesses, notably mining, and the carry trade, in which investors purchase AUD-denominated assets in order to benefit from relatively high local interest rates.
- The banking system is stable.

With this information in hand, you go through your checklist:

(a) Fiscal policy 1. Why are the total and primary government balances different? What would you estimate for the debt-to-GDP ratio at the end of 2009? (10 points)

(b) Fiscal policy 2. Are Australia's government debt and deficit large enough to concern you? Why or why not? (10 points)

(c) What other factors would you consider in assessing the risks to Australia's economy? Which ones do you regard as troubling? Why? (20 points)

3. *Miscellany (50 points).*

(a) *Chinese crisis?* An analyst suggested that China may suffer a currency crisis along the lines of Mexico in 1994-95, in which the peso fell sharply when the Banco de Mexico ran out of foreign currency reserves. Give two reasons why this scenario is likely or unlikely. (10 points)

(b) *Government deficits.* Can a country run a fiscal (government) deficit forever? Why or why not? (10 points)

(c) *Canadian inflation.* In Canada over the last year, inflation has been 2.3% and money growth has been 11.8%. Do you find the difference between the two numbers surprising? Why or why not? (10 points)

(d) *Leading indicators.* Explain what a leading indicator is and give an example for the US. (10 points)

(e) *Monetary policy mechanics.* Use the central bank's balance sheet to describe how it maintains the short-term interest rate at a specific level. (10 points)

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Practice Final Examination 2

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Most of these questions come from old exams and may include old data as a result.

1. *Chinese foreign exchange intervention (30 points).* Joseph Yam, Chief Executive of the Hong Kong Monetary Authority, wrote about the foreign exchange activities of the People's Bank of China (PBC) in January 2007:

   > The accumulation of foreign exchange reserves involves the PBC buying foreign assets through creating renminbi. As a result, the monetary base is increased, creating a need to "sterilise." This is done by issuing paper [short-term notes] to the banks. The PBC obviously has to pay interest on the money borrowed. Currently the yield of, for example, three-month paper issued by the PBC is about 2.5%. This is lower than the yield on foreign assets held as reserves — the yield on US treasuries is about 4 to 5% — so theoretically reserve accumulation can be profitable. The problem, however, is the continuing appreciation of the renminbi, which gradually reduces the value of those foreign assets in renminbi terms.

   (a) Use the central bank's balance sheet to show how purchases of foreign currency increase the monetary base (think: supply of currency). (10 points)

   (b) Show how sterilization can be used to reverse the impact on the supply of currency. (10 points)

   (c) You may note that interest rates have now flipped, with Chinese interest rates above US interest rates. What does this imply for the returns on the PBC's balance sheet? How might it avoid this outcome? (10 points)

2. *Globalization and inflation (20 points).* Fed Chairman Bernanke said recently (March 2007):

> As national markets become increasingly integrated and open, sellers of goods, services, and labor may face more competition and have less market power than in the past. These linkages suggest that, at least in the short run, globalization and trade may affect the course of domestic inflation.

   (a) Use aggregate supply and demand to describe how expansionary monetary policy affects output and inflation in the short run. (10 points)

   (b) Back to Bernanke: How would you represent the impact of globalization (think: imports from China) in the aggregate supply and demand diagram? How does globalization change the impact of expansionary monetary policy in this model? Do you find the model persuasive in this respect? (10 points)

3. *Miscellany (50 points).*

   (a) *Exchange rates. The Economist* reports that a Big Mac costs \$2.90 in the US, \$3.28 in the eurozone, and \$2.33 in Japan. (These prices are averages for the various regional markets, expressed in US dollars using current spot exchange rates.) What does this suggest about the likely change in value of the euro and yen v. the dollar over the coming 6 months? 6 years? (10 points)

   (b) *Inflation.* Milton Friedman once said: inflation is always and everywhere a monetary phenomenon. Do you agree or disagree? Why or why not? (10 points)

   (c) *Employment report.* At 8:30 am on April 6, 2006, the US Bureau of Labor Statistics released its closely-watched employment report, *The Employment Situation*. Firms reported an increase of 180,000 jobs in March, well above the consensus of 135,000. Treasury yields immediately rose 5-10 basis points for maturities from 2 to 30 years. Why? (10 points)

   (d) *ECB policy.* The European Central Bank has kept short-term interest rates in the Euro Zone well above those in the US. Why? (10 points)

   (e) *Cross-correlation function.* Describe the cross-correlation function and show how it can be used to identify promising leading indicators. (10 points)

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