

FINAL EXAM  
(Solutions)

The first four questions are True, False, or Uncertain. Briefly explain your answers. No credit without explanation. (10 points each).

1. Greedy speculators cause currency crises.

FALSE/UNCERTAIN. *In class we discussed two alternative theories of currency crises - 1st generation and 2nd generation. In 1st generation theories, currency crises are caused by inconsistent macroeconomic policies, not speculators. Speculators are merely the messenger. In 2nd generation theories, currency crises result from a self-fulfilling switch to a bad equilibrium, much like a bank run. Since the crisis need not happen if market participants remain confident in the peg, there is a sense in which speculation 'causes' the event. However, the word 'greedy' is quite misleading. Selling the domestic currency in exchange for foreign currency may be caused more by fear of loss than by the desire to become wealthy!*

2. Fiscal policy is more effective when a country has a fixed exchange rate.

TRUE. *Normally, the effects of (expansionary) fiscal policy are partially offset by the crowding out of private spending, due to rising interest rates and an appreciating currency. However, a fixed exchange rate requires an accommodating expansion of monetary policy, which prevents the domestic currency from appreciating. As a result, there is no crowding out, and monetary policy reinforces fiscal policy with a fixed exchange rate. (See Lecture 7B, p. 4).*

3. Uncovered Interest Parity doesn't hold with a fixed exchange rate.

FALSE/UNCERTAIN. *With a fixed exchange rate UIP just means that domestic and foreign interest rates are equal. It still holds. However, in practice, many fixed exchange rate regimes are bolstered by the imposition of capital controls (e.g., China), which enables deviations from UIP to take place. Of course, another reason why UIP may fail to hold is due to risk premia, but this is equally true with flexible rates. (They do not need to mention risk premia for full credit).*

4. If a country (unilaterally) pegs its exchange rate then it can no longer control its own money supply.

TRUE/UNCERTAIN. *A pegged rate requires the Central Bank to intervene (by buying and selling foreign exchange) so as to keep the exchange rate fixed. Alternatively (and equivalently) it must set its domestic interest rate equal to the interest rate in the country it is pegging to. These interventions produce changes in the money supply, which the Central Bank must tolerate if it wants to peg the currency. However, sterilized intervention (offsetting changes in domestic asset transactions) can in principle allow a Central Bank to 'have its cake and eat it too' (i.e., control the money supply and fix the exchange rate). Also, capital controls would allow the Central Bank to regain control of the money supply. (For full credit they should mention sterilized intervention, but they do not need to mention capital controls).*

5. (30 points). Argentina's economy has been in turmoil recently. Inflation has been well over 100%. Not surprisingly, the value of the Argentine peso has collapsed. In 2011, a US dollar cost a little over 3 pesos. Now it costs more than 1000. In response, Argentina recently elected a populist president who has promised major reforms. One of his more controversial proposals is to "dollarize" the economy (i.e., get rid of the peso and instead use US dollars as its official currency).

Briefly discuss the pros and cons of this proposal. Focus on economics, not politics. In particular, address the following 3 issues: (1) What would be the fiscal consequences for Argentina's government? (2) How would dollarization affect the operation of monetary and fiscal policy in Argentina? (3) How would dollarization affect how Argentina responds to real and financial shocks? Under what conditions could dollarization actually increase instability?

*This is obviously a very open-ended question, so please read carefully and be generous with partial credit. I tried to focus the discussion by asking them to relate their answer to 3 issues, which we discussed in class. For full credit, they should at least mention each of these issues.*

- (1) *The main reason Argentina has an inflation problem is that they have been relying on the 'inflation tax' to pay the government's bills. Argentina has a history of default, and it is very difficult for Argentina to sell bonds (unless the interest rates are very high). So they print money instead. Dollarization will shut off this option. They cannot print dollars without getting into big trouble with the USA! This leaves Argentina with two options - (1) Cut spending, or (2) Raise taxes/reduce subsidies. A successful dollarization will likely require both.*
  - (2) *Dollarization is the ultimate fixed exchange rate. As discussed in Lecture 7B, this means monetary policy will become ineffective, while the effectiveness of fiscal policy will be enhanced (ie, no crowding out).*
  - (3) *As discussed in Lecture 11A, a fixed exchange rate will change the way Argentina's economy responds to both domestic and external shocks. If most shocks are 'real' (i.e., shift the DD curve) then dollarization might actually increase output instability, since exchange rate changes can no longer offset them. However, if most shocks are financial (i.e., shift the AA curve) then a fixed exchange rate should produce more stability. As discussed on p. 5 of Lecture 11A, dollarization will mean that US monetary policy will now be transmitted 'positively' to Argentina rather than negatively. At the same time, US fiscal policy will now be transmitted 'negatively' instead positively.*
6. (30 points). At some point in the not-too-distant future it is likely that most countries will abandon physical currency altogether and instead adopt some form of digital currency. Currently, there are 2 competing views for how this will work. One is to move to a decentralized, privately-operated system, like Bitcoin (although it is very unlikely like Bitcoin itself would ever be used). The other is to have the government set-up and operate the system (i.e., a so-called CBDC system). China has already done this.

Briefly discuss the pros and cons of these two strategies. Obviously, there are many potential technical and political differences (e.g., how easy it would be to hack them and how much privacy would be sacrificed), so for this question focus on the economics. In particular, focus on 2 potential key issues: (1) With a CBDC system, it is likely that each country would continue to issue its own currency. That is, with CBDCs there are likely to be more currencies in the world (currency use has strong network externalities). So what are the pros and cons of each country having its own currency rather than having a common currency? (2) A CBDC system would enable central banks to alter the supply of money as they see fit, whereas the supply of money in a decentralized system is much more difficult and costly to change (e.g., mining and forking). So what are the pros and cons of having a fixed money supply versus a variable money supply?

*Once again, this is an open-ended question, so please read carefully and be generous with partial credit. For full credit they should address both of the issues I mentioned:*

- (1) *If indeed a private, decentralized system leads to fewer currencies (due to strong network externalities), this could create both economic and political frictions, since it would require countries to effectively have the same monetary policy and inflation rate (much like Europe does now). In contrast, a CBDC system will require less coordination and agreement, since each country would retain control over its own monetary policy.*
- (2) *Any monetary system, whether it is based on physical tokens or digital 1's and 0's, must choose between stabilizing the quantity of money and letting the value of money (ie, the price level) adjust to clear the market, or alternatively, stabilizing the price level by endogenously adjusting the money supply to the current demand. The Gold Standard and a Bitcoin-style digital currency are based on the first option, i.e., fix the money supply and let the price level adjust. The advantage of this is that it avoids the temptation of using monetary policy to pay the government's bills. It creates monetary 'discipline'. The downside is that price level fluctuations can create economic instability (especially in a Keynesian world featuring 'nominal rigidities'). Having already endured the painful lessons of the Gold Standard, most countries these days attempt to target the price level (by having a low and stable inflation rate), and so adjust the money supply to whatever is demanded in the market. (To see this in action, just plot the US monetary base over the past 20 years!). A key advantage of a CBDC system is that it would allow central banks to continue doing this.*