SIMON FRASER UNIVERSITY
Department of Economics

Econ 345 Prof. Kasa
International Finance Spring 2022

PROBLEM SET 2
(Solutions)

1. (25 points). Read the article by Paul Krugman in the *New York Times* entitled "Golden Cyberfetters", which is posted on the class webpage. According to Krugman, would adopting a bitcoin-style monetary system be a good idea? Why or why not? How would a bitcoin system resemble the 'gold standard' of the 1800s and early 1900s? Can you think of any improvements to a digital currency system that would produce better macroeconomic outcomes?

   Krugman argues that the point of money is not to make people rich, but simply to facilitate transactions. It's the mutually beneficial transactions that make people rich, not the money itself. In fact, in a Keynesian world with nominal rigidities, if money is increasing in value, people will horde it, and spend less. This will reduce economic activity. Everyone's attempt to save for speculative purposes can actually make everyone worse off. Keynes called it the 'Paradox of Thrift'. The sense in which a bitcoin system would resemble the Gold Standard is that both are based on a limited supply of money. Because the supply is fixed, the value adjusts to clear the market. During the Gold Standard, when the demand for money exceeded the supply, the price level fell (ie, deflation). Deflation (to the extent that it is unanticipated) redistributes wealth from debtors to creditors, and creates political frictions, since creditors are usually already relatively wealthy. In contrast, monetary policy these days is based on stabilizing the value of money, and instead letting the quantity of money adapt to economic conditions (ie, the money supply is endogenous). Stabilizing the value of money will produce better economic outcomes, as long as Central Banks do not abuse the privilige of being able to run and operate what is effectively a Ponzi scheme.

   Looking forward, the hope is that we can exploit the advantages of the blockchain technology, while at the same time assuring a stable value of money. One idea is based on the notion of a 'stable coin', which maintains convertiblity of a digital currency into a physical currency at a fixed exchange rate. Of course, to make this work, the supply of the digital currency must be able to respond to economic conditions. Another possibility is for the government to oversee the administration and operation of the digital currency. This would allow the government to adjust the supply as needed. China has already moved down this path. Unfortunately, this is not at all what the original developers of bitcoin had in mind. More than the blockchain technology, they argued that the key advantage of bitcoin was that it was decentralized. A government run digital currency might actually increase the power and authority of the government. For example, the government would be able to more easily monitor your transactions. With physical currency, it is hard to keep track of the exchange of money.

   BTW, please be generous on partial credit. Particularly on the second part of the question, there is no right or wrong answer. Evaluate based on the clarity and logical consistency of the answer.

2. (25 points). Inflation is becoming a problem in the USA right now. As a result, the Fed is widely expected to engage in monetary contraction (ie, higher interest rates/lower money supply) in the

months ahead. Compare and contrast the effects this policy will have on Canada and China. Use graphs to illustrate your answer. (Hint: Canada has a flexible exchange rate against the dollar, whereas China pegs to the dollar).

Monetary contraction in the US shifts its AA curve down and to the left. This will appreciate the US dollar against countries that float agains the dollar (like Canada). The appreciation of the US dollar will increase Canadian net exports, and help stimulate the Canadian economy. However, there is an offsetting income effect. Higher US interest rates will depress spending in the US economy, which in the short-run will lower incomes. Lower US income will reduce spending on Canadian goods. So the overall effect on Canada is ambiguous.

Since China pegs to the dollar, it will have to raise interest rates itself, in order to maintain the exchange rate (ignoring capital controls and sterilized intervention!). For the usual reasons, this will tend to reduce spending in China. This could in fact be a good thing for China if its inflation is also getting out of control. However, if its economy is already in balance, then the US monetary contraction will be bad for China. (note the income and exchange rate effects operate in the same direction for China).