

Midterm Exam

Econ 513
Spring 2002

CDE
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You have 75 minutes to answer the following 15 questions. Questions are equally weighted, so you should plan to spend an equal amount of time on each one. This is an open book exam, i.e. you may use all your notes and papers. However, any collaboration with other students is considered a violation of the honor code. Good luck!

In December 2001, Argentina abandoned its fixed exchange rate regime, devalued its currency and defaulted on its public debt. The economic crisis caused riots in which 27 people died. The latest reports show that the country has yet to emerge from the crisis. What caused this crisis? Could it have been prevented? How is it that only 10 years ago Argentina had one of the brightest prospects in Latin America? Let's look at the Argentina's economy in detail and try to answer at least some of these questions.

1. Consider Argentina's balance of payments in 1994. Is Argentina running a current account deficit or surplus? How is the deficit/surplus financed?

Answer: In 1994, Argentina is running a CA deficit of 11 billion dollars (about 4% of GDP). It is financed by private capital inflows of roughly the same amount.

2. Did Argentina experience capital inflows or capital outflows in 1994? What was the form of the capital inflow/outflow?

Answer: Since Argentina had a CA deficit it experienced capital inflows. The main form of the inflows were private capital inflows through FDI (3bln.), equity inflows (3bln) and debt inflows (6.7bln).

3. Consider how Argentina's situation changed in 6 years and take a look at the balance of payments in the first quarter of 2001. Is Argentina experiencing capital inflows or outflows? How is the CA deficit/surplus financed now? Did Argentina receive official assistance?

Answer: In the first quarter of 2001 Argentina is still running a current account deficit (3bln), hence it is experiencing capital inflows. This time, however, capital inflows are official rather than private. Moreover, the CA deficit is combined with the deficit in nonreserve capital account (2bln), i.e. private capital outflows. Both deficits are financed by a decrease in Argentina's own reserves by 3.8bln and by borrowing from the IMF in the amount of 2.5bln.

4. What were the main contributors to the current account balance in 1994? Is the composition of the current account balance different in 2000?

Answer: In 1994, the main contributors to the CA deficit were deficits in trade balance and balance in services and income. In 2000 the trade balance is in surplus. The main contributor to the CA deficit is the difference between income credit and debit. This means that interest payments rather than trade balance deficit contributed to the current account deficit in 2000.

5. Based on your answers so far, what do you think was the immediate cause of the balance of payments crises in December 2001?

Answer: The most important contributors to deterioration of the balance of payments in 2001 were interest payments over 7bln in the first half of 2001 alone and private capital debt outflows of 4.5bln in the first half of 2001 alone.

6. Calculate the change in Argentina's real exchange rate with respect to the dollar from 1994 to 2000. Note that CPI(1960=100) in the U.S. in 1994 and 2000 was 444 and 516 respectively. Has the real exchange rate appreciated or depreciated?

$$\text{Answer: } rer_{1994} = \frac{P^*E}{P} = \frac{444*1}{96.7} = 4.56$$

$$rer_{2000} = \frac{P^*E}{P} = \frac{516*1}{99.5} = 5.19$$

The real exchange rate depreciated.

7. How could the change in the real exchange rate with respect to the dollar affect Argentina's trade balance? Could this have caused the crisis?

Answer: Since the real exchange rate depreciated, Argentinian goods became relatively cheap and hence the trade balance should increase. However, the impact on the trade balance might be very small if the U.S. is not Argentina's major trading partner. Hence, it is quite unlikely that the behavior of the real exchange rate caused the crises. In addition, the trade balance is in surplus and international trade accounts for only 15% of Argentina's GDP, which is relatively small.

8. Some economists argue that Brazilian devaluation in 1998 hurt Argentina's economy and ultimately contributed to the crisis. Why would this be the case? Use the data in the table below to support your answer.

year	CPI_{Brazil}	$E_{Brazilianreal/U.S.dollar}$
1994	60.2	0.846
2000	143.4	1.955

Answer: Brazil is Argentina's biggest neighbor and likely a very large trading partner. If Brazil devalues its currency, other things being equal, Argentina's goods become relatively more expensive and push its trade balance into deficit. However, what matters for competitiveness is not the nominal exchange rate but the real exchange rate. Therefore, to support this argument we need to calculate the Argentina's real exchange rate with respect to the real. Since the exchange rate between Argentina's peso and U.S. dollar is 1, the exchange rate between peso and real is equal to the reciprocal the real/dollar exchange rate. Therefore, the real exchange rate with respect to Brazil's real is $rer_{1994} = \frac{60.2 * 1.18}{96.7} = 0.73$

$$rer_{2000} = \frac{143.4 * 0.51}{99.5} = 0.73$$

It appears that the real exchange rate between Argentina and Brazil did not change. Brazil devalued its currency but had inflation that matched the rate of devaluation rendering their competitiveness with respect to Argentina unchanged. Therefore, it is hard to argue that Brazil's devaluation in 1998 contributed significantly to the deterioration of Argentina's economy.

9. Argentina had a fixed exchange rate system until December 2001. Consider the data on the central bank's balance sheet between July and December 2001 (lines 11 through 17) and describe the pressures that the central bank faced.

Answer: We see that foreign assets of the central bank decreased dramatically in July and August and then again in October and November. Clearly the peso was under pressure to depreciate.

10. Consider the data on money (M1, line 34). Why did the central bank let the money supply decrease when the economy was struggling?

Answer: Under a fixed exchange rate regime the central bank has no control over the money supply. Money supply decreased because the monetary base decreased (line 14). The monetary base decreased because the central bank was buying local currency and selling its international reserves.

11. Consider the level of interest rates in Argentina in 1997. Line 60b shows the money market rate on peso denominated deposits in 1997 was 6.63%. Line 60b.f shows the money market rate on dollar denominated deposits in Argentina in 1997 was 6.39%. Why do you think there is a difference?

Answer: Interest rate parity says that the interest rate differential between domestic and foreign assets should be equal to the rate of depreciation plus a risk premium on domestic

assets. $i - i^* = \frac{E_t^e + 1 - E_t}{E_t} + \rho_t$. The part of a risk premium related to default should be the same on dollar and peso denominated deposits in Argentina. Hence the difference in the interest rate is due to expectations of a very mild depreciation of 0.24%.

12. In the U.S., the money market rate in 1997 was 5.46%. Why do you think there is a difference between the interest rate on dollar denominated deposits in the U.S. and dollar denominated deposits in Argentina?

Answer: There is a risk premium on holding assets in Argentinian financial institutions. The risk comes from the possibility of default.

13. Consider the level of interest rates in November, 2001. Peso denominated deposits carry an interest rate of 80.84%, and dollar denominated interest rates in Argentina carry 45% interest rate. In November, 2001, the interest rate in the U.S. was 3.88%. Did expectations about the exchange rate change? Did risk premium on Argentinian assets change?

Answer: Based on the difference in interest rates in November 2001, markets are expecting 35% depreciation of peso. Also, the risk premium on Argentinian assets increased dramatically.

14. Consider the following hypothetical scenario. Suppose that Argentina defaulted on its international debt in 1997 instead of waiting until 2001. The default would consist of suspension of all interest payments and no debt repayments. Naturally, such action would put a stop to all private capital inflows. Suppose that all other items in the balance of payments would remain the same. What would the balance of payments look like throughout this period? Would the economy be in a better shape that it was in 2001?

Answer: In 1997, Argentina paid 11.7bln in interest (Current account, income:debit) while it received 11.6bln in portfolio inflows. Thus, new inflows did not even make up for the interest payments. The situation only worsened in subsequent years. In total, between 1997 and 2000 Argentina paid 53.6bln in interest but received only 29bln in debt capital inflows. Hence, had Argentina defaulted earlier, the balance of payments would have been in a better shape.

15. This week the peso/dollar exchange rate reached 3.9 pesos per dollar. This is nearly 75% depreciation since December. What could account for such steep depreciation?

Answer: In general, movements in nominal exchange rates are difficult to explain. In this case, markets may be expecting another episode of hyperinflation. Alternatively, the depreciation could be an overreaction to expansionary monetary policy - overshooting. Temporarily low interest rates are possible only if markets expect appreciation of the currency.