

Peru's money supply has been increasing exponentially over the past fifteen years. As figure 1 shows, the money supply was just under 2 billion in 1992 and has risen to about 18 trillion as of 2007. Since the money supply has been increasing, we can say that Peru's central bank has been operating under expansionary monetary policies during this time period.

Figure 1

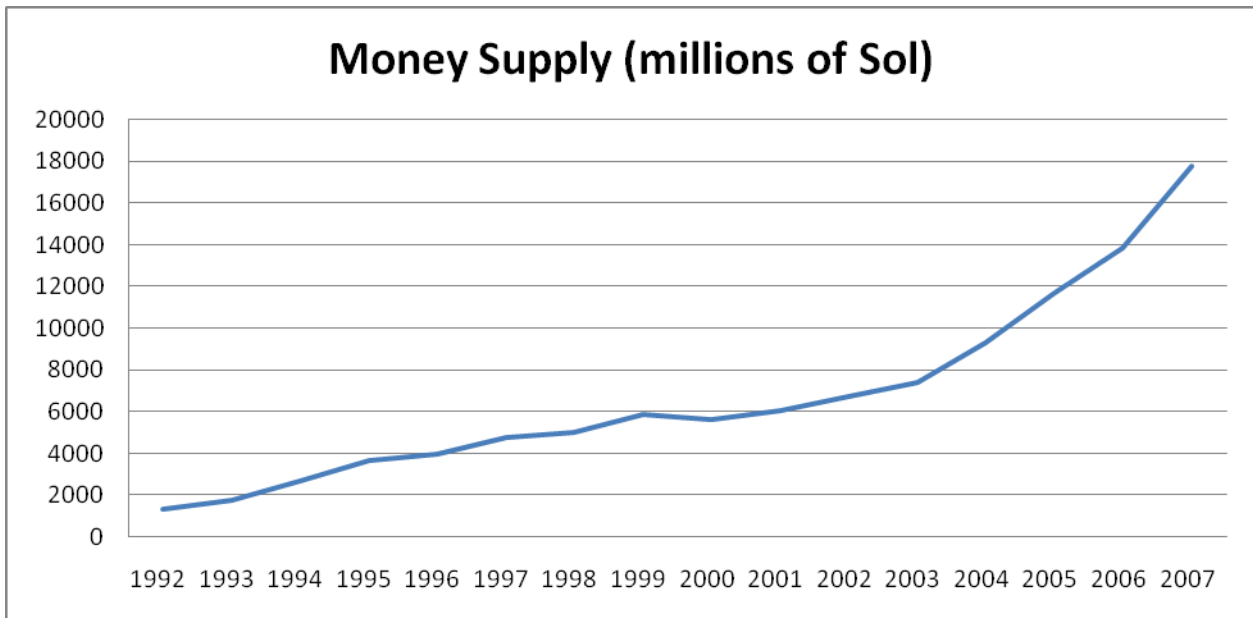


Figure 2 shows the annual percentage in interest rates on time deposits (i.e. certificates of deposit) in Peru. There does seem to be a relationship between the interest rate and the money supply during the time period of early 1995 to 2007. As the money supply is increasing, the

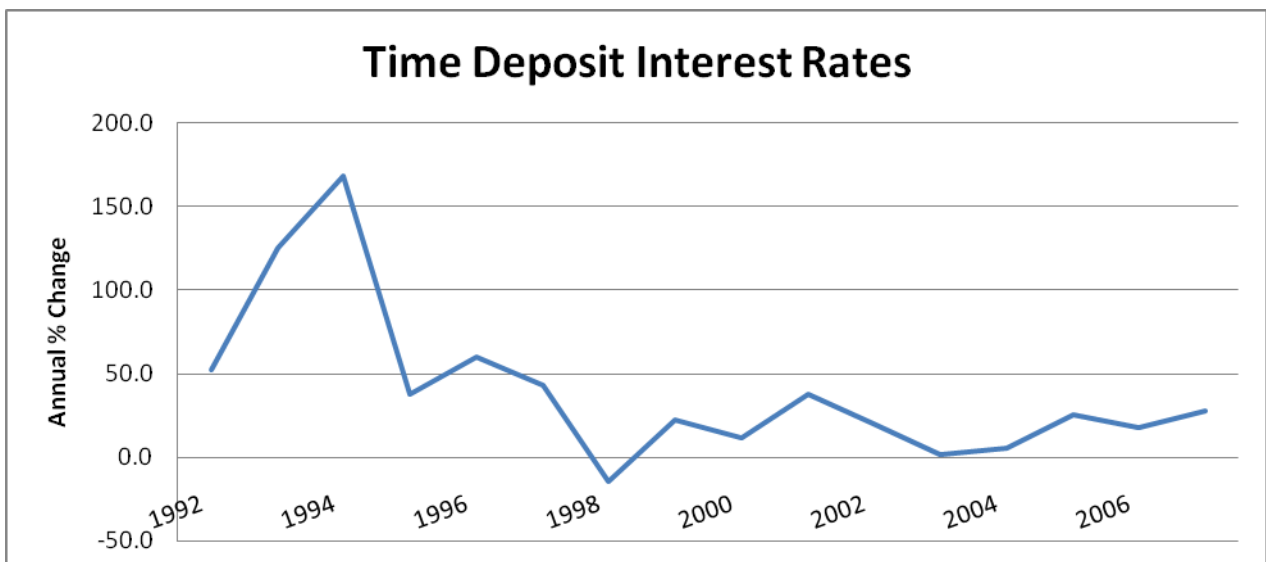


Figure 2

interest rates are falling from year to year. According to the E-R-M diagram, this inverse relationship between interest rates and money supply should hold. When M/P shifts to the right (down), it causes the domestic return (DR) to shift to the left and in turn, R falls. This fall in interest rates may partially explain the fall in the direct exchange rate between the United States dollar and the Peruvian sol (Figure 3).

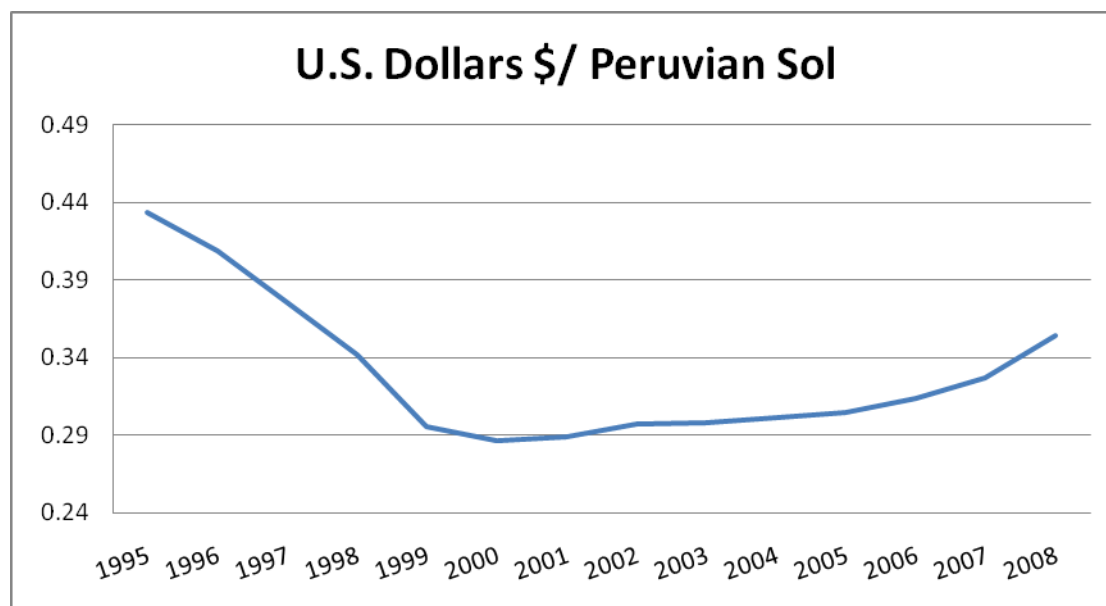
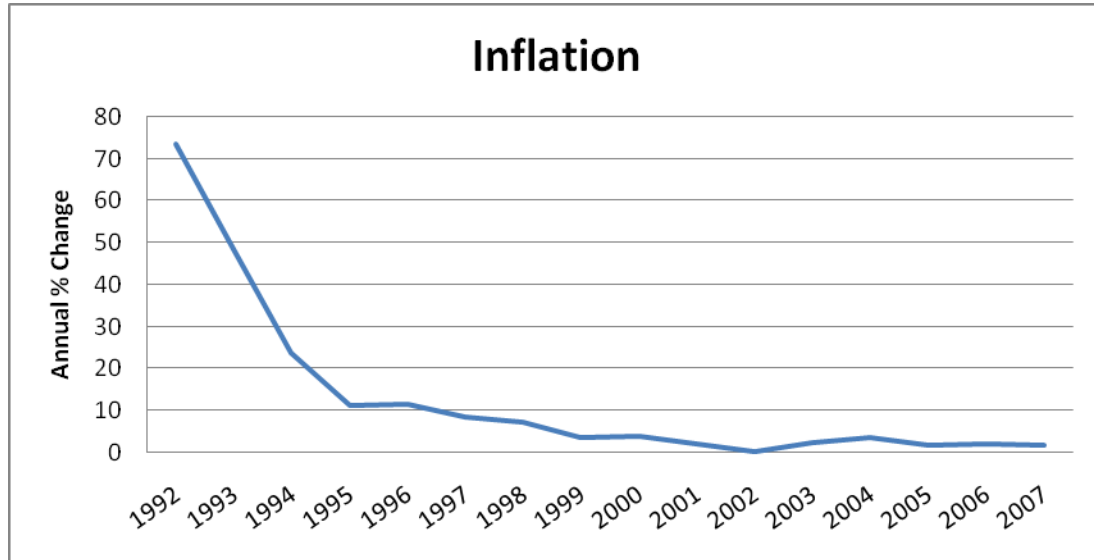


Figure 3

If foreign interest rates (R^*) are higher than domestic rates, then foreign return (FR) will shift up on the E-R-M diagram and the exchange rate (E) will go up, but Peru's E will fall. But then the exchange rate remains steady from about the end of 1999 to the end of 2001. From 2002 to current, the Peru's E has risen. This trigger may be explained by declined expectations of foreign return or the exchange rate (E^e) possibly from the hit the U.S. economy took from the September 11 attacks and the continuing war in Iraq. Figure 4 shows that the percentage changes in inflationary rates were extremely high in 1992 at about 75% higher than the previous year.

Figure 4



The Central Reserve Bank of Peru may have conducted open market operations to contract the money supply prior to 1992, to get inflation rates down. (For this report, I was unable to find the necessary data prior to 1992 to validate this reasoning). The rate of inflation declined sharply all the way down to a 10% change in 1995. Changes in inflation rates have continued to decrease minimally since 1995, and Peru's inflation rate in 2007 was at about 2%.

According to the AA-DD model, nominal GDP (Y) on the horizontal axis, rises with expansionary monetary policies (AA shifts out) and falls with tightening monetary policies.

Figure 5 shows the downward trend of the change in Peru's nominal GDP which is inconsistent

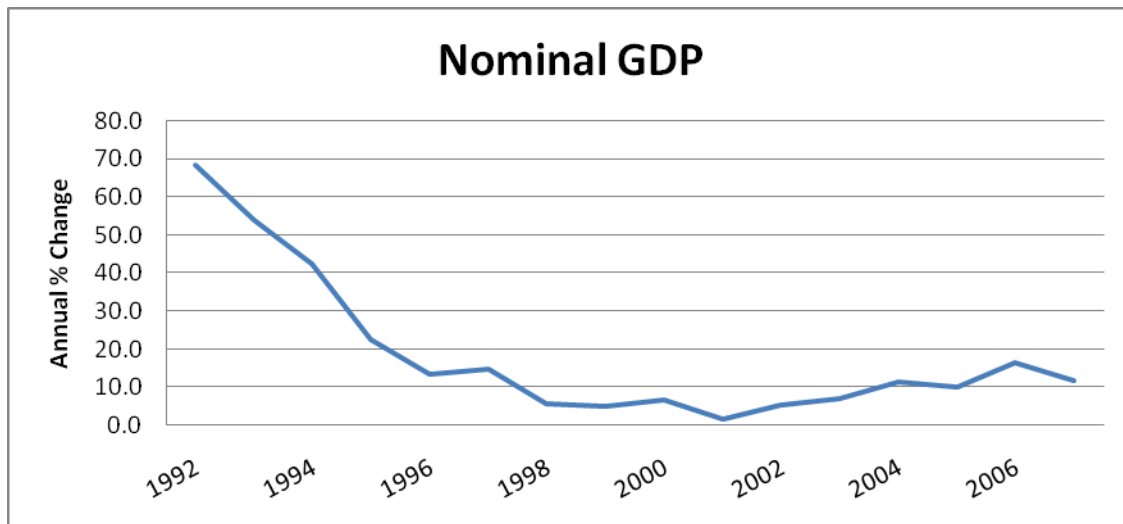


Figure 5

with the increasing money supply shown in Figure 1. One reason nominal GDP still falls under expansionary monetary policy would be if the country's tightening fiscal policy (DD shifts in) outpaces the monetary effects. Figure 6 shows the annual change in Peru's real GDP, which is the nominal GDP with the GDP deflator factored in so that it is not price biased.

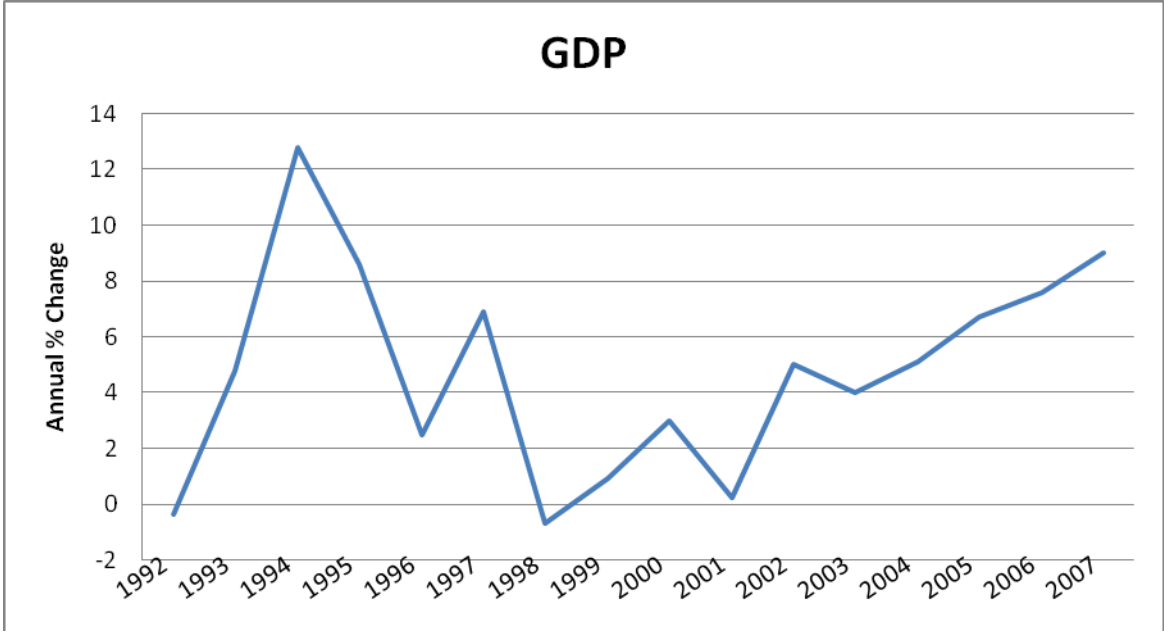


Figure 6

Real GDP tells us a lot more about the actual growth of a country. From 1992 to 1994, real GDP growth jumped over 12%, but then fell about 9% from 1995 to early 1997. Peru had a negative growth rate in 1998. From 2004 to current, their growth rate has steadily increased about 2% per year. On the short-run aggregate supply (SRAS)- aggregate demand(AD) model, increases in real GDP (Q) can occur from an upward shift in AD, such as expansionary monetary policy, which alone, would also raise prices. Q also rises with an outward shift in SRAS, such as lower inflationary expectations (π^e) or expectations of lower price levels. For instance in 1994, expectations of inflation may have subsided somewhat, because inflation rates had dropped dramatically the previous 2 years, seen in figure 4. But expectations have lagged effects and could be why GDP growth jumped in 1996.