In this assignment, you will be analyzing a foreign exchange crisis in a country of your choice, and prepare a report to the Ministry of Finance of the country that provides both an analysis of the causes of the crisis and recommendations on policies that could facilitate recovery and prevent another crisis.

Choose one country among the following four that have suffered an important foreign exchange crisis in the last decade:
- Mexico with the tequila crisis in 1994
- Indonesia with the Asian crisis in 1997-98
- Senegal with the devaluation of the CFA in 1994
- Russia with the debt crisis of 1998.

1. Characterization of the crisis

Provide a short verbal description of the crisis, including the triggering event, the reaction, the development of the crisis, and the recovery.

2. Quantitative overview of the crisis

Document the evidence of a crisis with macro-economic indicators during a period that roughly extends 5-10 years before the crisis to the most recent available year. For this purpose, report in Tables or graphs: Aggregate performance with GDP or GDP/capita, inflation, and real exchange rate. Delineate periods of pre-crisis, crisis, and recovery.

3. The pre-crisis period and the causes of the crisis

Document the evolution of the financial situation prior to the crisis: Balance of payments, real exchange rate, domestic inflation, and interest rate. What was the exchange rate system? Document the evolution of macro-economic indicators of the real economy: GDP, exports, imports and balance of trade. Was there any evidence of weakness in the balance of trade? If the balance of trade deteriorated, was there any dramatic change in the import price? The volume of trade? What were the main weaknesses of the economy? What were the main causes of the crisis?

4. The crisis

Relate the facts:
- How did the crisis break out: External non-related shock, international related actions (drastic change in capital movement, foreign creditors intervention) or domestic action (domestic devaluation, other government intervention)?
- What has been the succession of measures taken by the government and the foreign institutions? Distinguish what seems to have been short term interventions to stop the crisis, and policies designed to redress more fundamental imbalances in the economy.

5. The recovery

Document the effect of the policies discussed above. For example: If there were fiscal policies, show the evolution of the government expenditures, revenue, and deficit. If there were minimum wage policies, show the
evolution of real wages, employment, etc. If there were monetary policies, show the evolution of money supply and inflation.

Extend the analysis of the indicators you looked at for the pre-crisis period, and observe those that have marked a positive turn around, those that are still deficient, and those that may have deteriorated and hence should be subject of concern.

6. Estimating the relationship between real exchange rate and structural factors

The real exchange rate is influenced by structural factors that characterize the fundamental relationship between a country and its economic partners and by short-term macro policies. Structural factors include the terms of trade, capital flows, and trade openness. Short-term macro policies include excess money supply and nominal exchange rate policy.

Estimate the following relationship:

\[
\log(RER_t) = \beta_0 + \beta_1 \log(TT_t) + \beta_2 FK_t + \beta_3 CLOSE_t + \beta_4 M_t + \beta_5 E_t + u_t
\]

where \(RER\) is a real exchange rate index, \(TT\) is the terms of trade index (equal to the ratio of the export price index to the import price index), \(CLOSE\) is the ratio of GDP over the sum of imports and exports, \(FK\) is net foreign capital inflow over GDP, \(M\) is the excess domestic credit measured as the difference between growth in domestic credit and real GDP growth, and \(E\) is the official nominal exchange rate. Discuss your results.

It is clear that most of these explanatory variables are endogenous. A proper econometric estimation would thus require instrumentation. But we will leave this for another time. In addition, we should use panel data with several countries to obtain a better estimation. Hence, see this exercise as a very imperfect partial correlation analysis to fix ideas.

7. Policy recommendations

Conclude with some recommendations of additional reforms that could accelerate the recovery and set the country on a less vulnerable path.

Start your report with an executive summary, that first recount your most important findings on the main causes, the evolution, and the resolution of the crisis, supported by precise results. And then, only after the summary of the positive analysis, summarize your main recommendations.

Sources for statistical data:
International Financial Statistics, from the International Monetary Fond. Monthly and Annual Series
2008 World Development Indicators. This available through the California Digital Library.
Note on the calculation of trend and growth rates:
Suppose you have a graph like the following, which represents the balance of trade for Senegal from 1970 to 1995. Although there is a clear upward trend from 1981 to 1995, there are quite a bit of fluctuations. Hence if you trace a trend between A and D which are the observed values for 1981 and 1995, you will find a very steep slope. If you just took one year later, say from 1982 to 1995, you would find a much lower average improvement. This is clearly artificial. This is why you should draw your trend based on a regression and not just the observed values of the two extreme dates.

For the domestic price, you should estimate an exponential trend. This gives you an estimated inflation rate. For example for the years 1970 to 1983, the estimated inflation rate in Senegal is 8.1%.

In Excel, you can either create a series of estimated values using the trend (for linear trend) or growth (for exponential trend) functions. Or you can even directly request to add a trend on the graph by selecting the series and the “add trend line” command.