Are Currency Crises Predictable?

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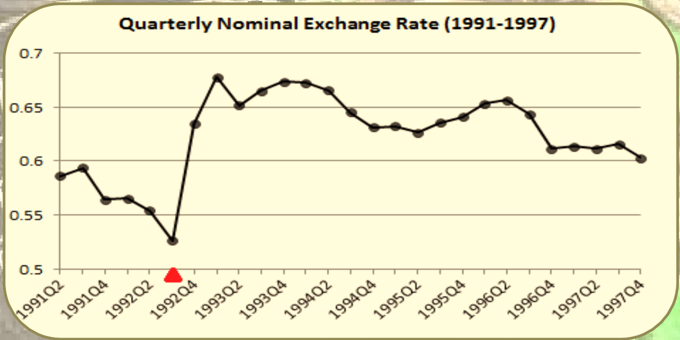
What Is the Currency Crisis?

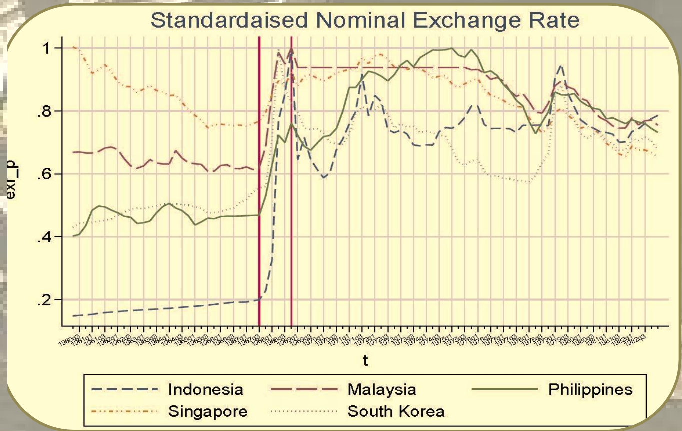
An abrupt devaluation in a domestic currency, inevitably leading to speculative attacks. The speculative attacks: massive selling of domestic currency assets which creating more devastating effects on the economic fundamentals.



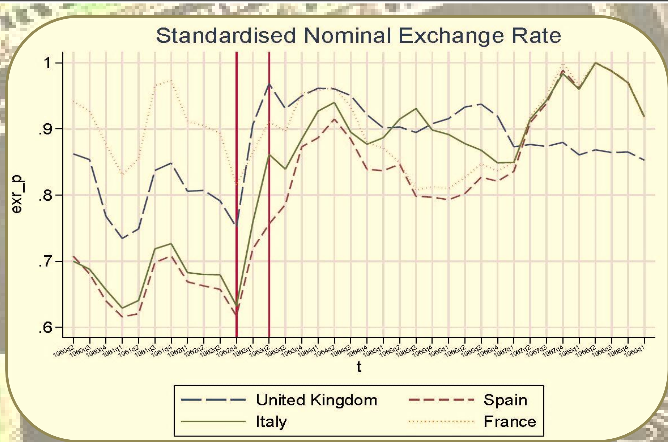
Method

I categorise countries based on their economics fundamentals into developed countries and emerging markets. I split the definition of currency crises into two categories:

Definition 1- "countries with weak fundamentals have sharp devaluation; take time to get back to previous level."



Definition 2- "countries with strong fundamentals have sharp devaluation; quickly get back to normal level."



Potential Leading Indicators of Crises

- Rate of growth domestic credit
- Government budget deficit as a fraction of GDP
- Ratio of reserve to GDP
- Current account as a percentage of GDP
- Growth rate of real output
- Overvaluation of exchange rate
- Ratio of debt to GDP

Results

To identify the potential determinants of currency crises and consider the probability of their occurrence, I fit two models.

Indicators	Coefficients	Z - Value
Overvaluation of exchange rate	0.092	2.86***
Budget deficit (-2)	0.02	0.28
Current account (-1)	-0.237	-2.37***
Domestic credit growth rate (-1)	0.062	1.49
Output growth rate (-3)	-0.044	-2.22***
Foreign currency reserve (-5)	-0.922	-0.73
National debt (-3)	-0.003	-0.43

Estimates of First Definition of Currency Crisis: Weak Fundamentals (22 Emerging Markets)

Indicators	Coefficients	Z - Value
Overvaluation of exchange rate	0.127	6.026***
Budget deficit (-2)	0.065	2.3***
Current account (-1)	-0.053	-1.63
Domestic credit growth rate (-1)	0.012	0.83
Output growth rate (-3)	-0.001	-0.1
Foreign currency reserve (-5)	-0.105	-0.2
National debt (-3)	-0.007	-1.33

Estimates of Second Definition of Currency Crisis: Strong Fundamentals (4 Developed Countries)

Conclusions

- The answer to the poster question is "yes".
- Answering this question is important, because;
  - **Governments** want to adopt pre-emptive measures.
  - **Policy-makers** want to reduce the large costs of crises.
  - **Financial market participants** want to avoid loss of profit.
- The overvaluation of exchange rate has the important role in explaining the incidence of currency crashes in two type of definitions.
- The overvaluation, GDP growth, and current account are the sensible predictors of currency crises in emerging markets with weak fundamentals, in the same line of Frankel and Rose (1996).
- The budget deficit is an informative determinant for the second definition of crises in developed countries. This result is supported by Eichengreen et al (1995).

References

Frankel, J. A and Rose, A. K (1996), Currency Crashes in Emerging Markets: Empirical Indicators.
Eichengreen B. *et al.* (1995), Contagious Currency Crises.

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