The Global Economy
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INVITED LECTURE - JAVIER GOMEZ BISCARRI

EXCHANGE RATE CRISES in EMERGING Markets

- **DEFINITIONS** of crisis:
  - A currency crisis is an instance of a sharp exchange rate depreciation that affects the Real Exchange Rate (so not due to inflation differentials)
  - They tend to be followed by real economic effects (low real growth, recessions, unemployment)
    - Direct consequence of the depreciation
    - Indirect consequence of policy actions
  - Operational definitions:
    - Large change in E or in Reserves
    - Large change in an index: ERPI / FPI

$$ERPI = \frac{\Delta e}{e} - \alpha \frac{\Delta R}{R}$$

    - Sudden stop of capital inflows
    - Current account reversals

- Investment Banks are intense users of models that try to predict emerging market currency crises:
  - Goldman Sachs – GS Watch:
    $$ERPI > threshold$$
  - JP Morgan – ERI:
    $\Delta RER / RER > 10\%$ over a month
  - CSFB – EMRI:
    $$\Delta E_t / E_t > 5\% \; and \; \Delta E_t / E_t > 2 \cdot \Delta E_{t-1} / E_{t-1}$$
  - Deutsche Bank – DBAC:
    $$\Delta E / E > T(10\%) \; and \; \Delta i > T(25\%)$$

- IFI's and Central Banks
  - IMF - DCSD
    $$ERPI > threshold$$

- Investment bank models usually:
  - Motivated by FX investment
  - Interested in shorter horizons
  - Pay less attention to structural factors (CAD, reserve losses, debt ratios) and more to current conditions (stock market, contagion, GDP growth)

- **CAUSES**
  - Theoretical models of speculative attacks
    - “Bad fundamentals”
      - Governments using inconsistent fiscal and monetary policies
    - Policy trade-offs and expectations
      - Benefits of fixed exchange rate vs benefits of independent monetary policy
      - If investors think the fixed exchange rate is sustainable, they will not attack the currency
    - Sudden stops of external financing
    - Vulnerability:
      - XR misalignment
      - Nonperforming loans
      - Currency mismatch
      - Maturity mismatch
    - Combinations of the above
  - Some examples
    - Early Mexico
    - European Monetary System
    - Asian flu
    - Argentina

- **DETECTION** OF CRISES: Early Warning Systems
  - Timing can be tricky:
    - Political cycles
    - Triggering events
  - Signalling via indicators
  - Statistical models for probability of crisis
    - Rating agencies try to calculate these probabilities. So do central banks
    - Goldman-Sachs has one of the better known and most respected models: The ***GS-Watch*** (replaced a previous model called ***GS-STIMPs***)
    - Main features of the ***GS-Watch***
  - Overvaluation of the exchange rate: definition and computation – **GS-DEEMER & JP Morgan RER Model**
    - Exchange-rate post-crisis
  - Other early indicators
    - Loss of international reserves
    - High levels of short-term debt
    - High levels of foreign currency debt
    - High CA deficits

        - Weak banking sector
        - Excessive credit growth (bad loans)
        - Contagion

- **What to do after an exchange rate crisis?**
    - Short term:
        - Apply for international aid (IMF)
        - Increase in interest rates
        - Reduction of fiscal deficits
        - Capital controls
        - Default on your debt
        - Growth-oriented policies

    - Long-term:
        - Banking reforms
        - Structural reforms
            - Fiscal side
            - Financial side
            - Productive side (overinvestment)
        - Corruption

- **What can we do to prevent more crises?**
    - Better EWS
    - International accounting procedures
    - More regulation of capital flows?
    - Better investment policies

- The **IMF** and the **World Bank** deal with emerging countries
  - The IMF
  - The World Bank

Incidence of "International Reserves" and "Exchange Rates" Crises

Region	*Exchange-Rate Crises*	*Reserves Crises*
Industrial	2.8	2.4
Latin America	8.6	2.1
Asia	8.2	6.3
Africa	10.4	8.1
Middle East	4.7	2.3
East Europe	12.7	3.8
Total	*8.0*	*2.6*

Incidence of Sudden Stops

Region	*No sudden stop*	*Sudden stop*
Industrial countries	96.3	3.7
Latin American and Caribbean	92.2	7.8
Asia	94.9	5.1
Africa	93.4	6.6
Middle East	88.7	11.3
Eastern Europe	93.7	6.4
Total	*93.6*	*6.4*

Incidence of Reversals

Region	*No reversal*	*Reversal*
Industrial countries	98.0	2.0
Latin American and Caribbean	87.7	12.3
Asia	87.7	12.3
Africa	83.4	16.6
Middle East	85.0	15.0
Eastern Europe	88.9	11.1
Total	*88.2*	*11.8*