Singapore Management University
September 19, 2008

THE THREAT OF GLOBAL STAGFLATION

How real, how intense and the consequences on emerging market risks

Presentation by Dr. Thierry Apoteker
Managing Director, TAC

- What a difference!
  - US GDP growth slowed from almost 4% in 2004 to 1.5-2.0% in 2008, while inflation picked up from 2.7% to more than 4%,
  - In 2004, profits in the financial industry amounted to more than 40% of all US corporate profits … and today the most venerable Wall Street institutions are bankrupt!

- The way from there to here
  - Endogenous financial crisis triggered by the subprime losses
  - Very large pool of liquidity in search of assets, enhancing volatility and making monetary policy more complex
  - Geopolitical and geo-economic changes

Structure of the presentation

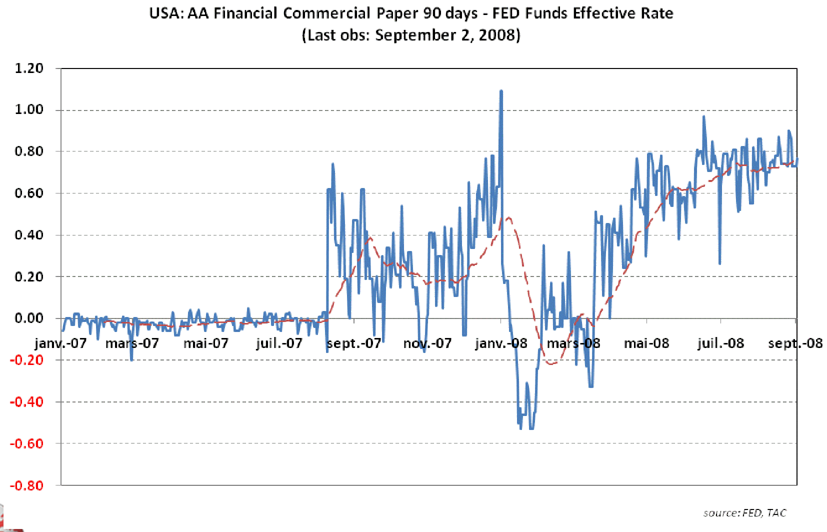
1. Longer-term sub-potential growth in a persistently inflationary environment
2. Cyclical developments to be incorporated in structural trends
3. Benefits and risks in emerging markets – Assessment and operational outputs for international firms

1 - Longer-term sub-potential growth in a persistently inflationary environment

Current cyclical issues are extremely complex, and the outlook still very uncertain

- Are the US demand engines sustainable in the worsening financial context?
- What could be the intensity of the cyclical depression in Europe?
- How durable is the reversal in commodity prices, and how sensitive the inflationary forces?
- What will be the next steps in monetary policies, and what consequences on exchange rates?

Longer-term sub-potential growth in a persistently inflationary environment



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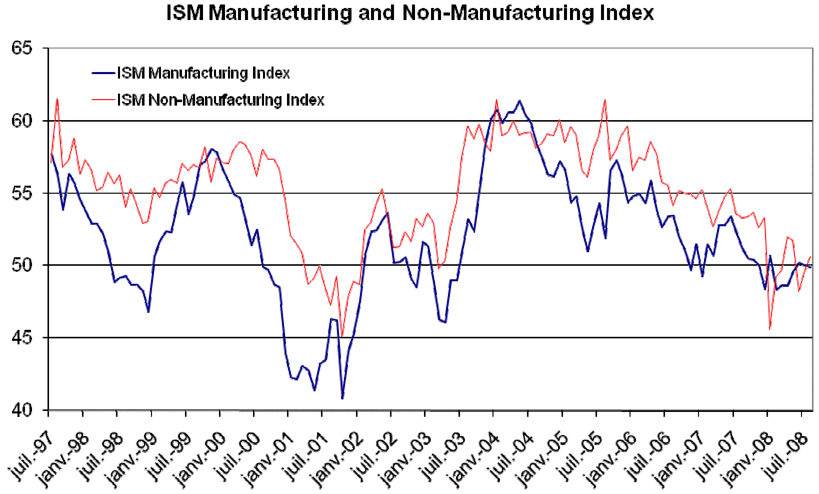

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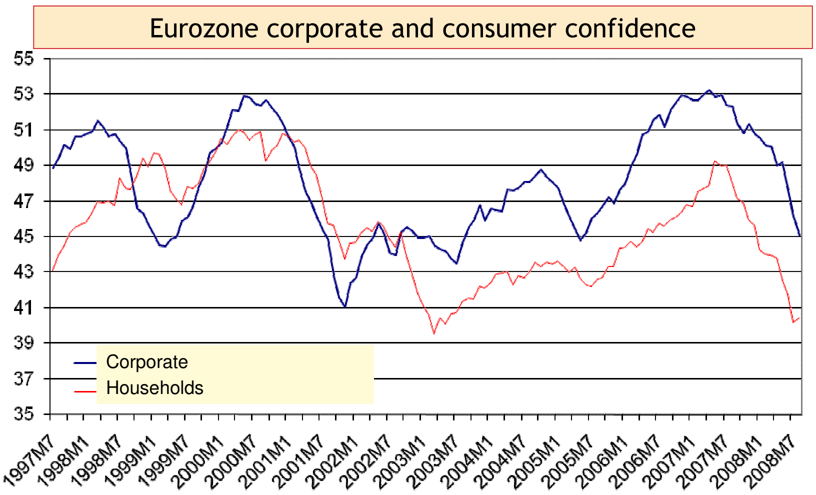

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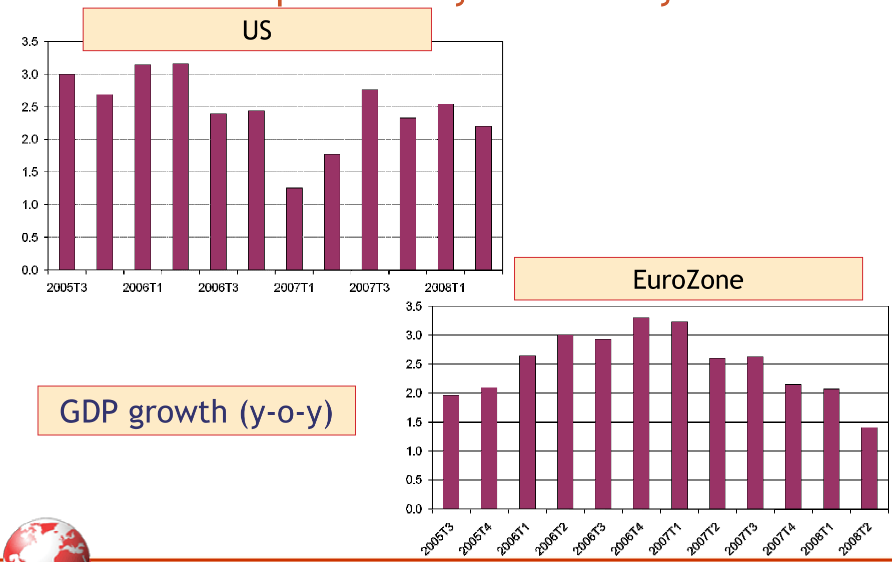
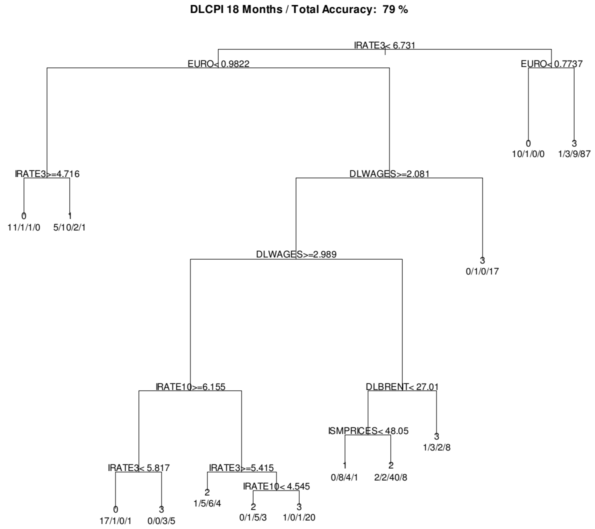


Longer-term sub-potential growth in a persistently inflationary environment

- ✓ Development of non-linear tools for US and Eurozone GDP growth and inflation
- ✓ Recursive Partitioning allows identifying critical thresholds for variables and the combination of such variables that have the best predictive values
- ✓ Forecasting ranges and not precise (but illusory) figures

Longer-term sub-potential growth in a persistently inflationary environment



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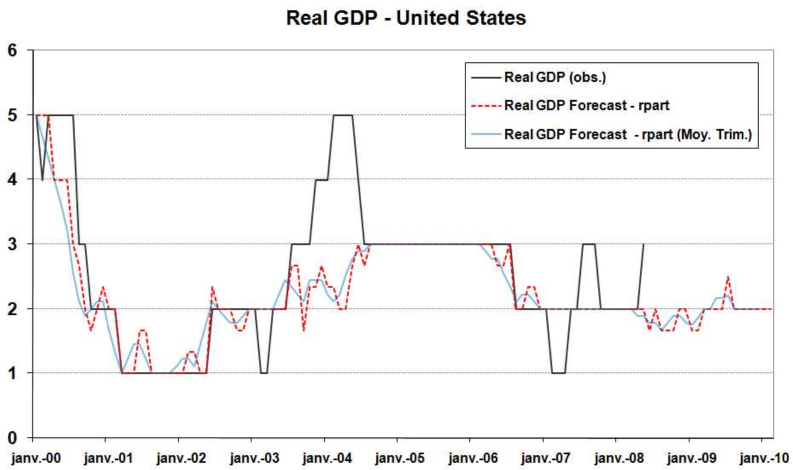

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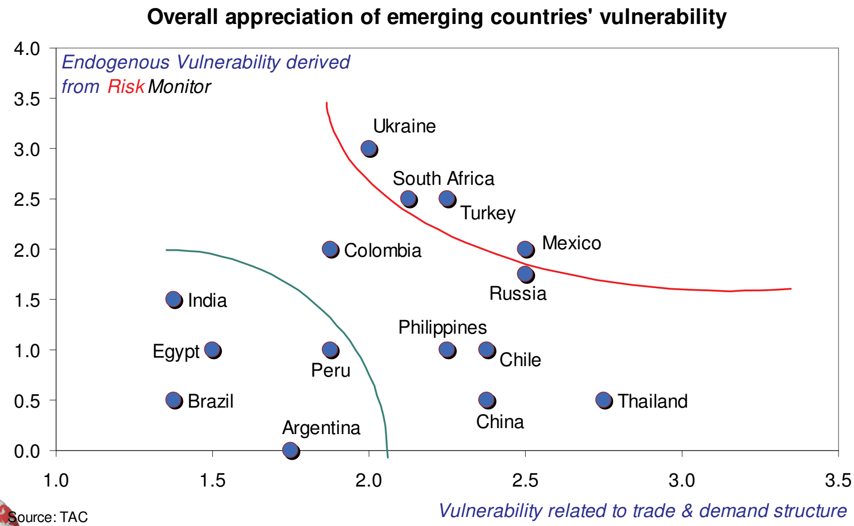
Longer-term sub-potential growth in a persistently inflationary environment

- ✓ US economic growth will remain at a low speed around 1.5% year-on-year from now to the end of 2009: neither a recession nor a rebound
- ✓ EuroZone growth will falter more (around 1% GDP growth for 2008) but with a possible rebound towards 1.5% to 2.0% in 2009H2
- ✓ Inflation rates will remain high (above 3.5% in the US and above 2.5% in the Eurozone, for headline CPI) in the next quarters before a modest decline later: still above Central Banks' comfort zones

Longer-term sub-potential growth in a persistently inflationary environment

- ✓ Lower growth of international trade, tighter liquidity / lower risk appetite, lower commodity prices dampen the environment for emerging markets, but with a differentiated decoupling
- ✓ Higher inflationary pressures and more difficult policy management issues

Longer-term sub-potential growth in a persistently inflationary environment



Source: TAC

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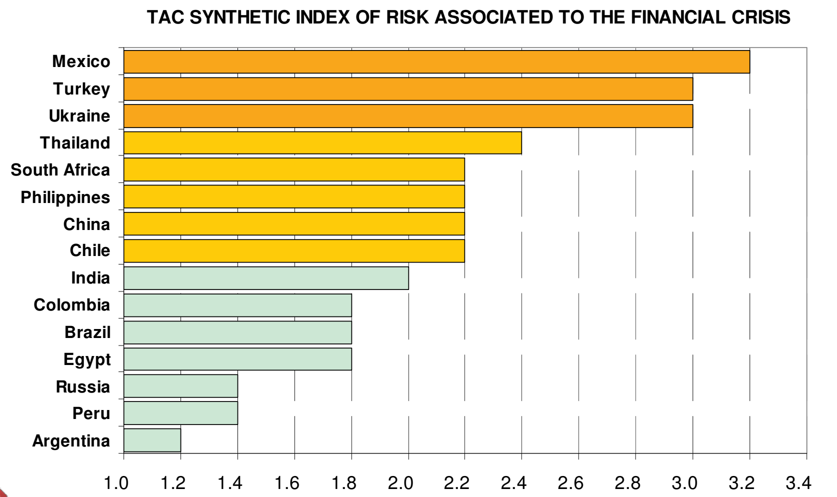

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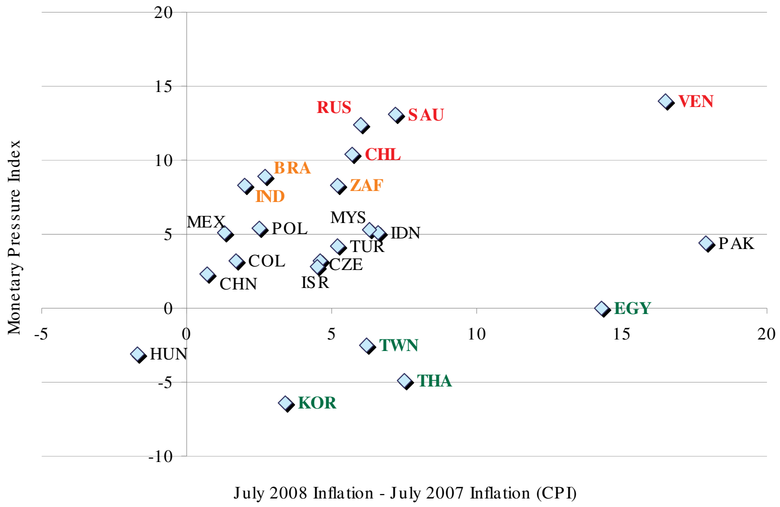


2 - Cyclical developments to be incorporated in structural trends

- ✓ Geopolitical changes: a “multipolar and hierarchical order”
  - ❖ Higher international integration around “regional powers”
  - ❖ Higher conflict intensity
- ✓ From globalization to regionalism
  - ❖ Threat of protectionism
  - ❖ The limit to globalization: transport prices, logistics

Cyclical developments to be incorporated in structural trends

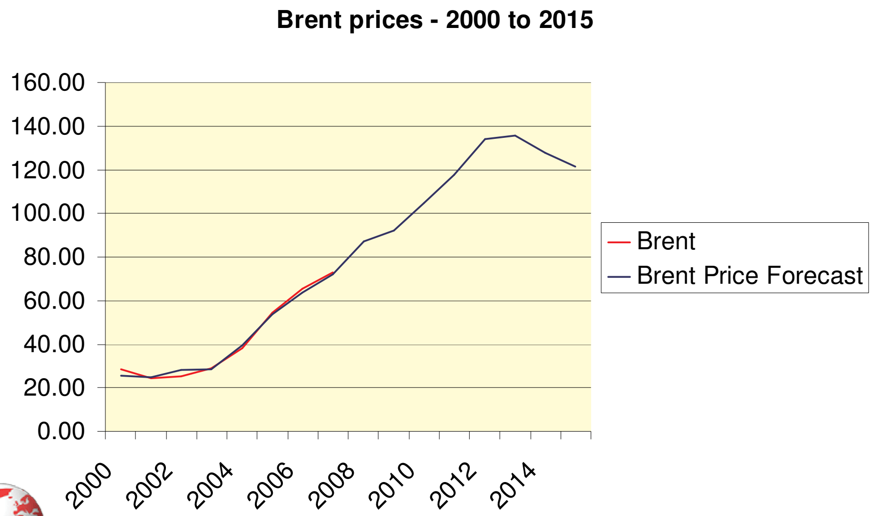
- ✓ Long-term inflationary forces
  - ❖ Tensions on commodity prices because of the emergence of large industrializing nations (BRICs and the others)
  - ❖ Demographic changes and ageing will put upward pressures on wages
  - ❖ Convergence and development (Belassa - Samuelson effects)
  - ❖ Overall debt levels, especially in the US, suggest an inflation-led deleveraging

Cyclical developments to be incorporated in structural trends

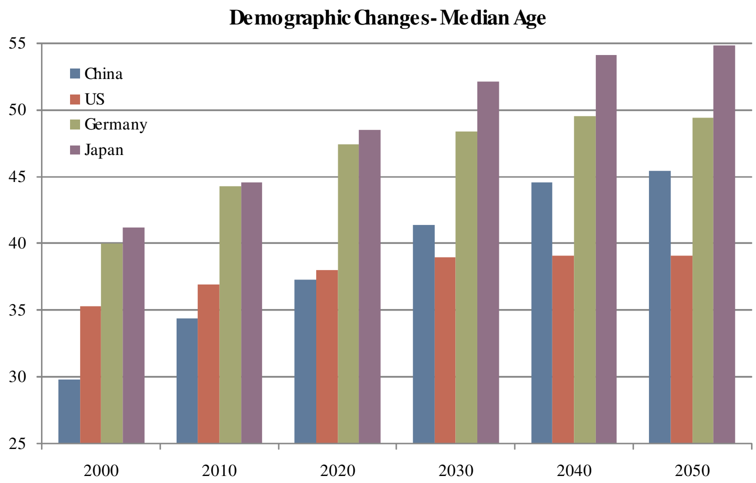
- ✓ The example of oil prices through a long-term "fundamental" econometric model
  - ❖ Hotelling rules (actualization rate of oil producers)
  - ❖ Aldeman rule (substitutions related to price moves) - Could be called the Yamani rule ("The stone age did not end because the world ran out of stone")
  - ❖ World economic cycles

  - ❖ Shows a long-term increase in oil prices, but not the kind of increases observed over the past few years would not be sustainable
  - ❖ Assumptions on substitution / efficiency are critical for the long-run

Cyclical developments to be incorporated in structural trends



Cyclical developments to be incorporated in structural trends



Source : US Census Bureau, International Data Base

3 - Benefits and risks in emerging markets

- ✓ All global / regional corporate have to look at external opportunities and competitive threats
- ✓ But higher expected returns are matched by higher risks, because the development process is not a linear one
- ✓ Traditional solvency issues have taken a back seat
- ✓ Short-term risks concentrated on exchange rates and economic slowdown
- ✓ Structural economic performances and political components are key risk factors over the medium-term

Benefits and risks in emerging markets

Definition of country risk: a macro event or decision that can have an impact on operations with an emerging country

For example:

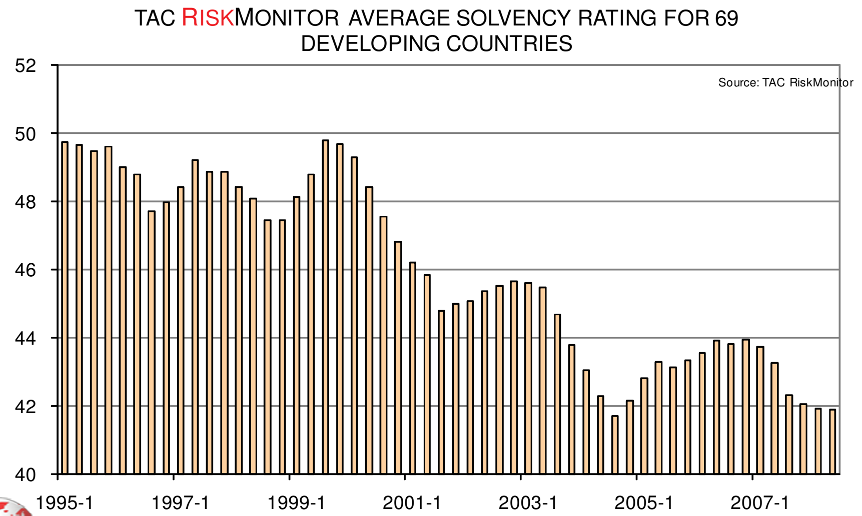
- ❑ Breakdown in supply chains because of a systemic banking crisis
- ❑ Change in values / profitability because of exchange rate depreciation
- ❑ Changes in contractual terms because of social & political tensions arising from an economic recession

Benefits and risks in emerging markets

Core conceptual background of TAC's RiskMonitor tool:

- Country *Rating* and Crisis *Signal*
- Materialization of risk and crisis as a *non-linear result*
- Danger in using estimates -> *no forecast* in the models' inputs
- Highly complex models but *no* "*black box*" issue
- *Political* factors to be included

Benefits and risks in emerging markets



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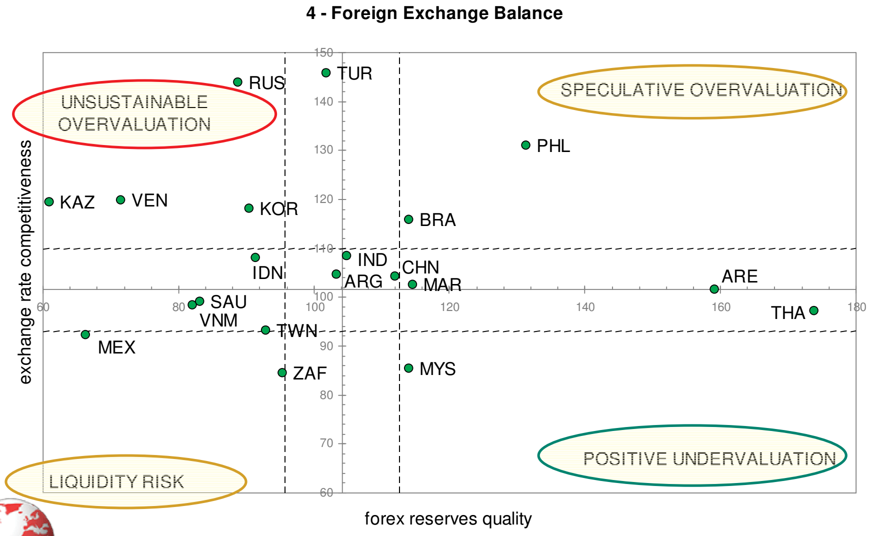

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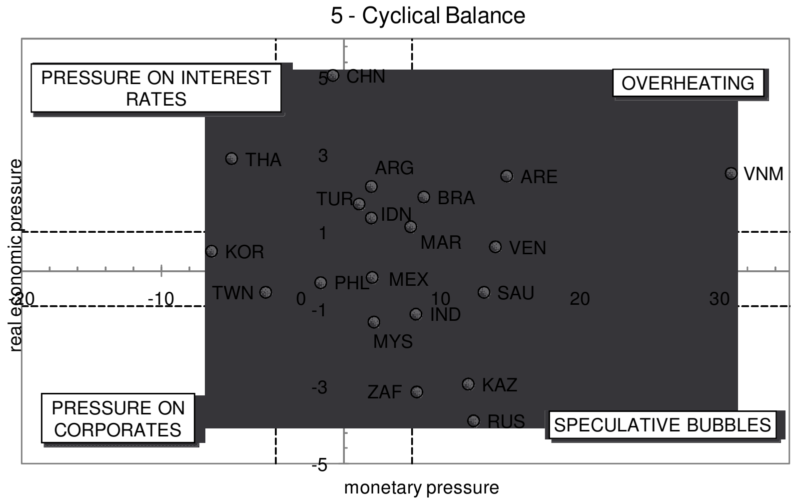

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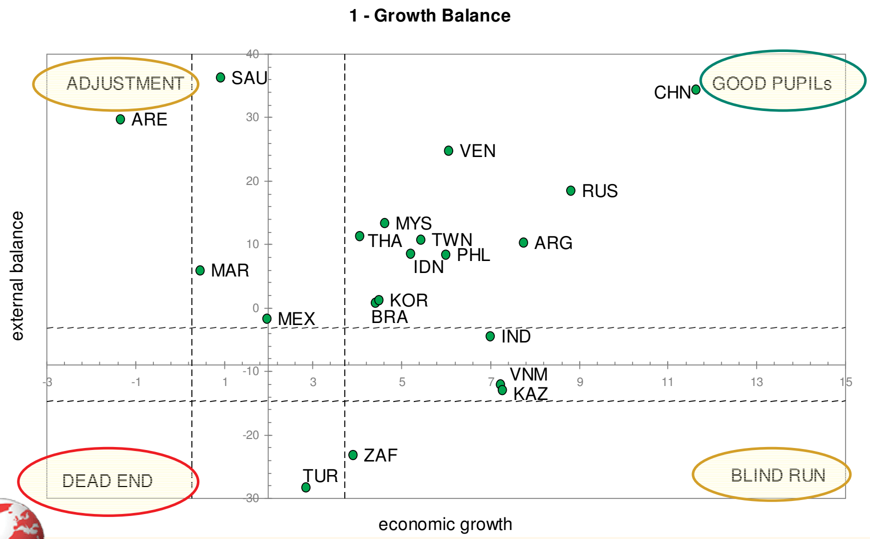

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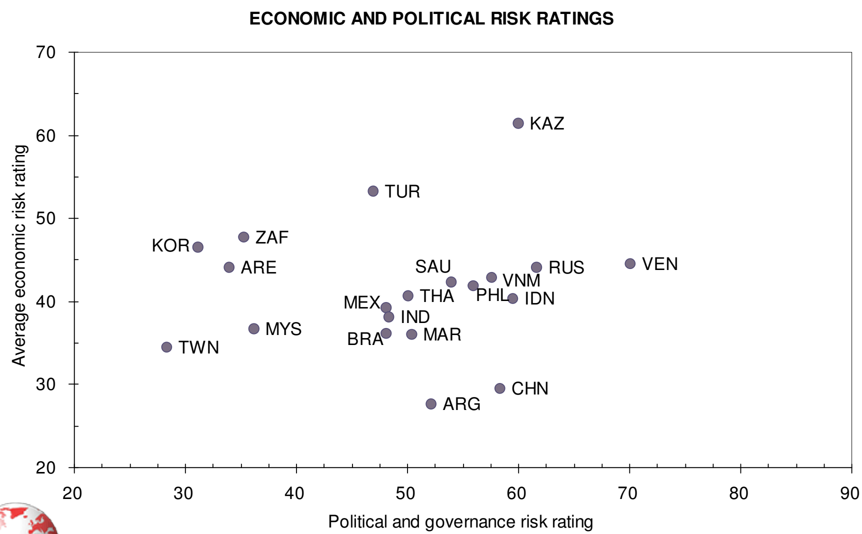

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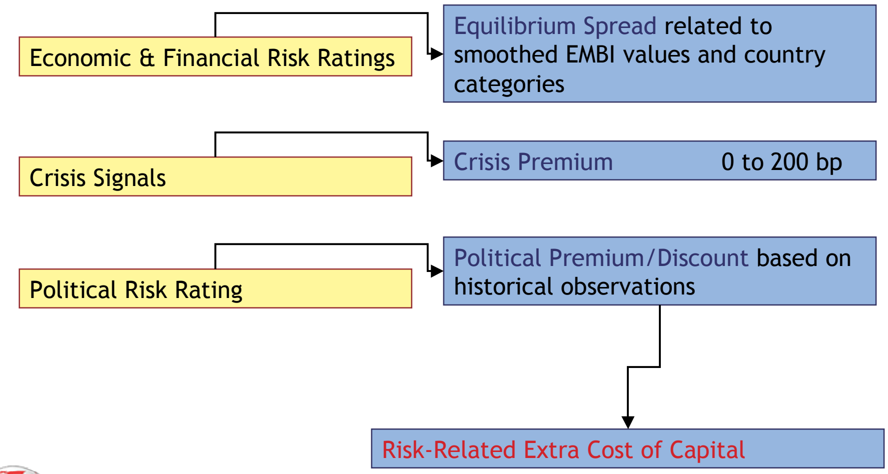

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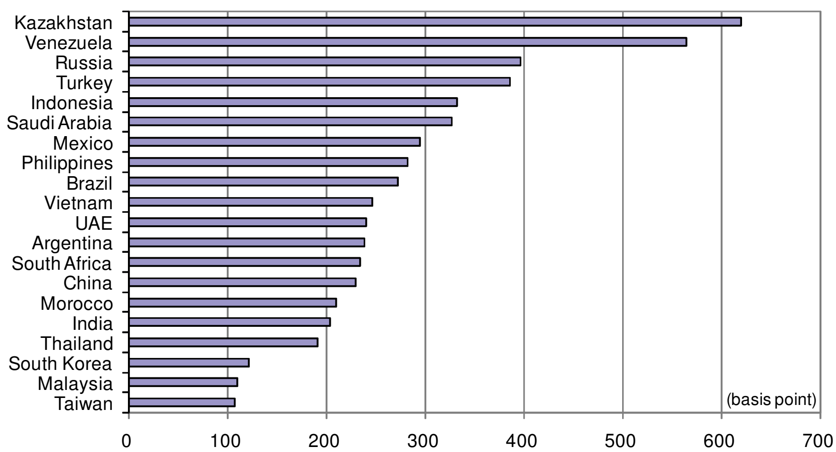
Benefits and risks in emerging markets

Risk Related Extra Cost of Capital (RRECC)



Source : TAC

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Thank you for your patient attention

TAC is a fully independent research group providing advisory services on emerging markets for financial investors and industrial companies

TAC combines a very strong quantitative expertise with a customized approach to companies' requirements. Its track record in terms of early warning signals and operational recommendations is impressive.

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