

ECONOMICS OF LESS DEVELOPED COUNTRIES

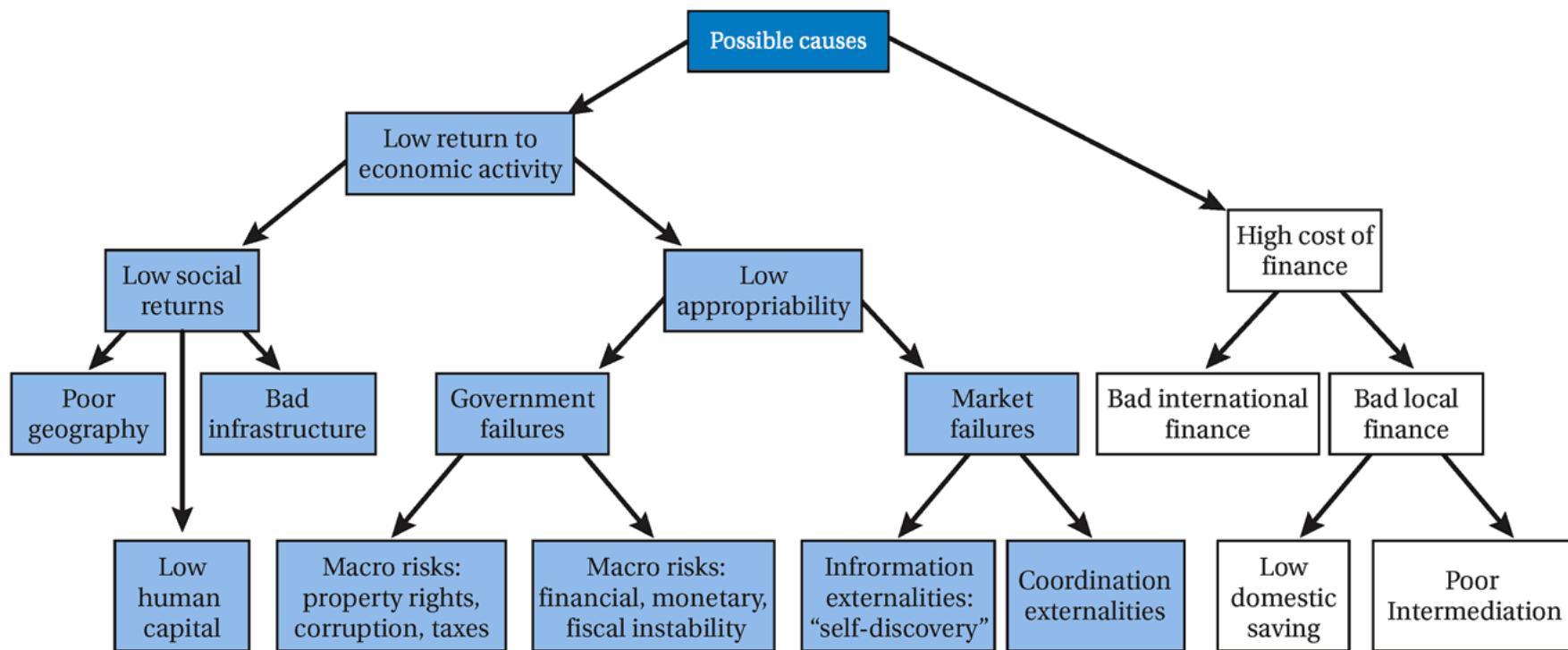
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Case Study 1

Michael King



Hausmann-Rodrik-Velasco Growth Diagnostics Decision Tree

Problem: Low levels of private investment and entrepreneurship



Source: Ricardo Hausmann, Dani Rodrik, and Andrés Velasco, "Getting the diagnosis right," *Finance and Development* 43 (2006), available at <http://www.inf.org/external/pubs/ft/fandd/2006/03/hausmann.htm>. Used with permission.



Definition: Shadow Price

- **Technically** - the change in the objective value of the optimal solution of an optimisation problem obtained by relaxing the constraint by one unit.
- **Intuitively** - if a production line is already operating at its maximum 40 hour limit, the shadow price would be the maximum price (equal to the total benefit) the manager would be willing to pay for operating it for an additional hour.
- **In development** - a shadow price is the total benefit (in social welfare) generated by relaxing a constraint by one unit. Constraints include the level and cost of education, infrastructure, finance as well as the quality of institutions.
- Shadow price provides powerful insights into problems to the decision makers.



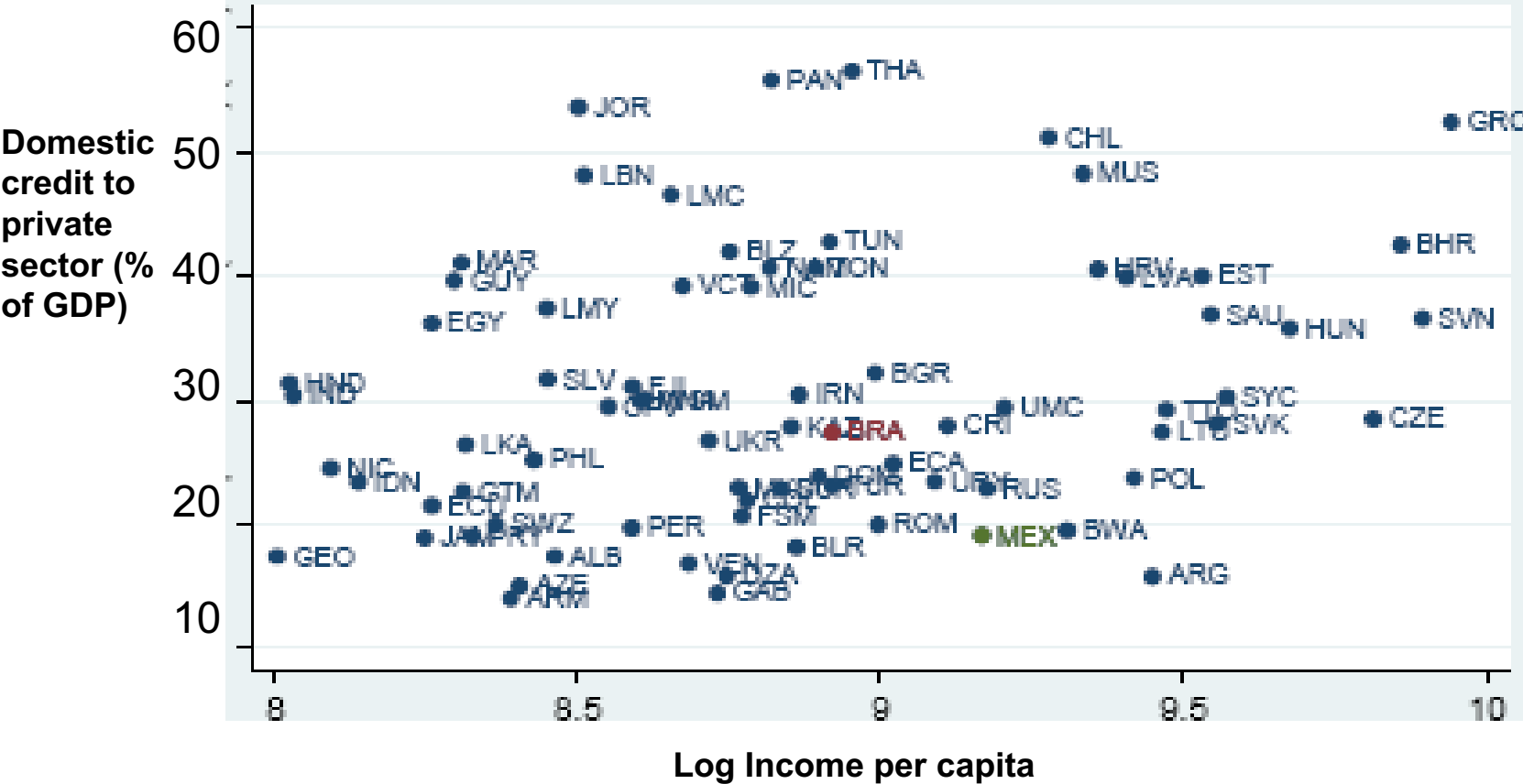
If a Constraint is Binding, then...

1. The (Shadow) price of the constraint is high
 - Can not be calculated directly but can be implied by market prices or indicators of unmet demand.
2. Movements in the constraint should produce significant outcomes
3. Agents in the economy should be attempting to bybass/overcome the constraint
4. Agents less intensive in that constraint should be more likely to survive and thrive and vice versa (animals in the Sahara)



Example: Finance in Brazil and Mexico

Financial Depth v's GDP per capita

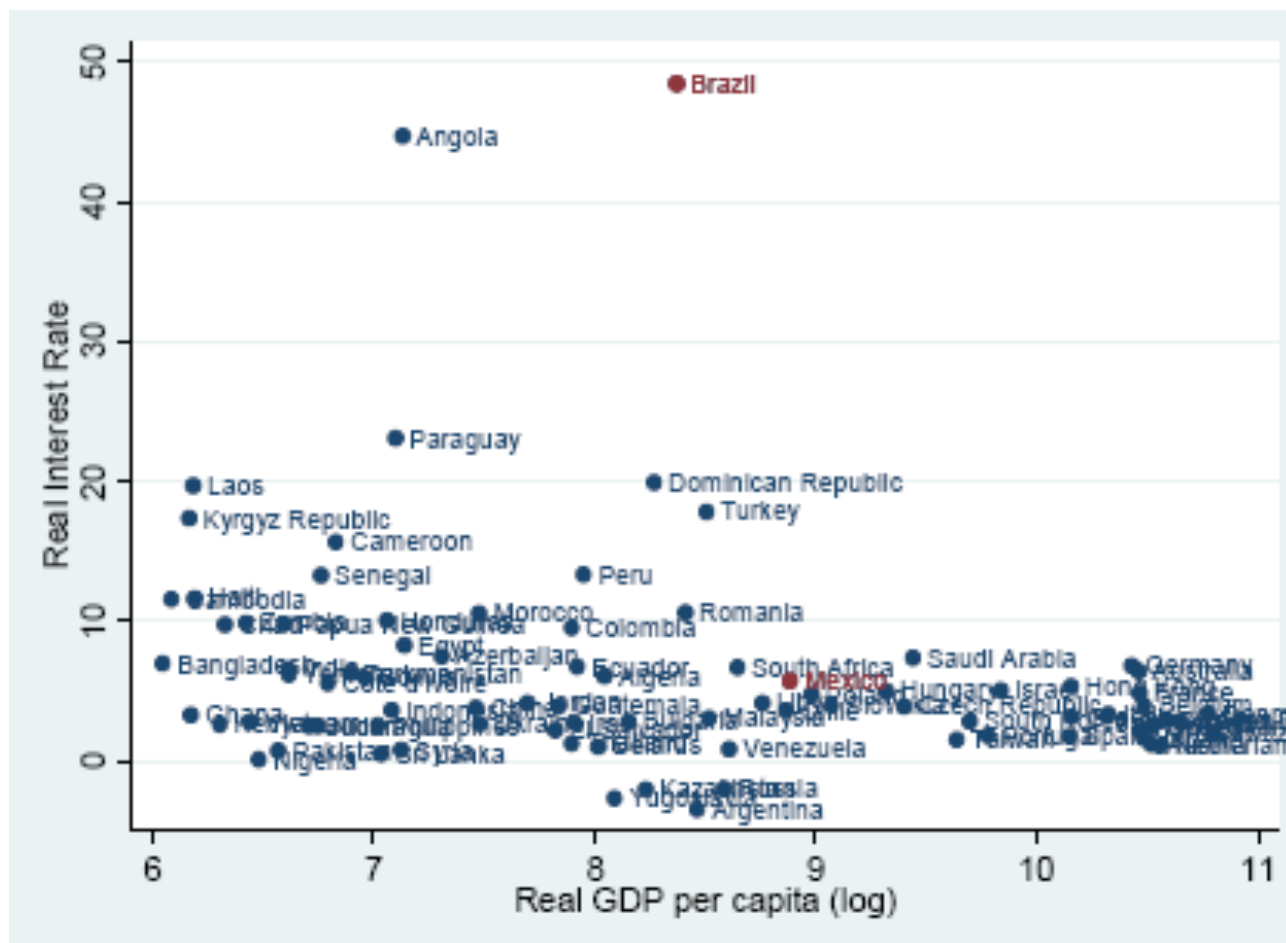


Further Analysis: Looking at Prices

- Suggests that financial depth in Brazil is significantly higher than in Mexico.
- But the quantity of finance supplied in an economy may be low because of low demand.
- First Clue: High price of finance in Brazil
 - Indicates that access to finance might be a binding constraint in Brazil not Mexico.

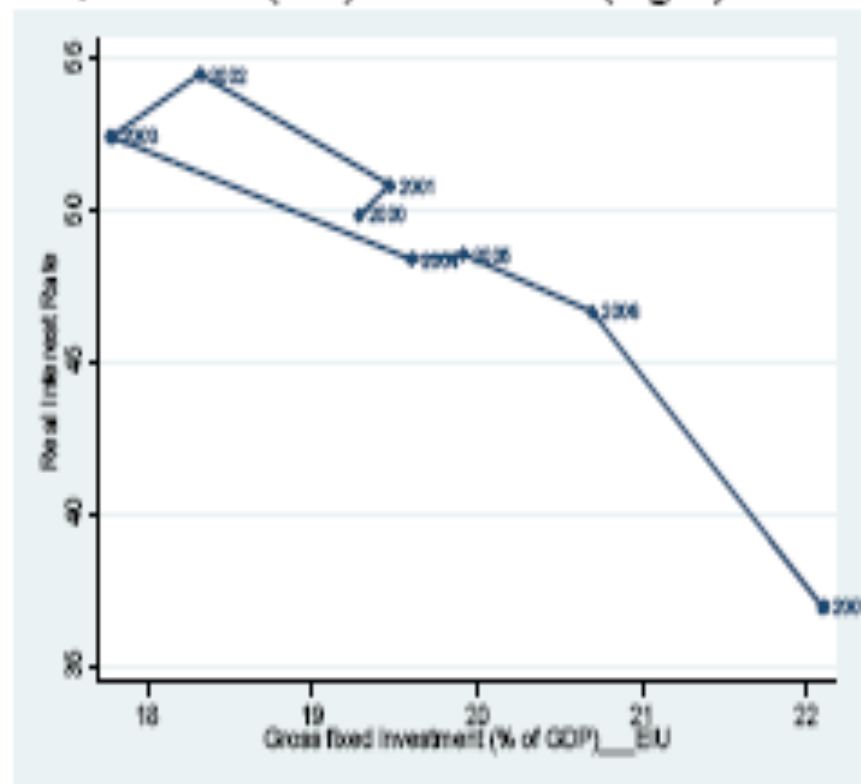
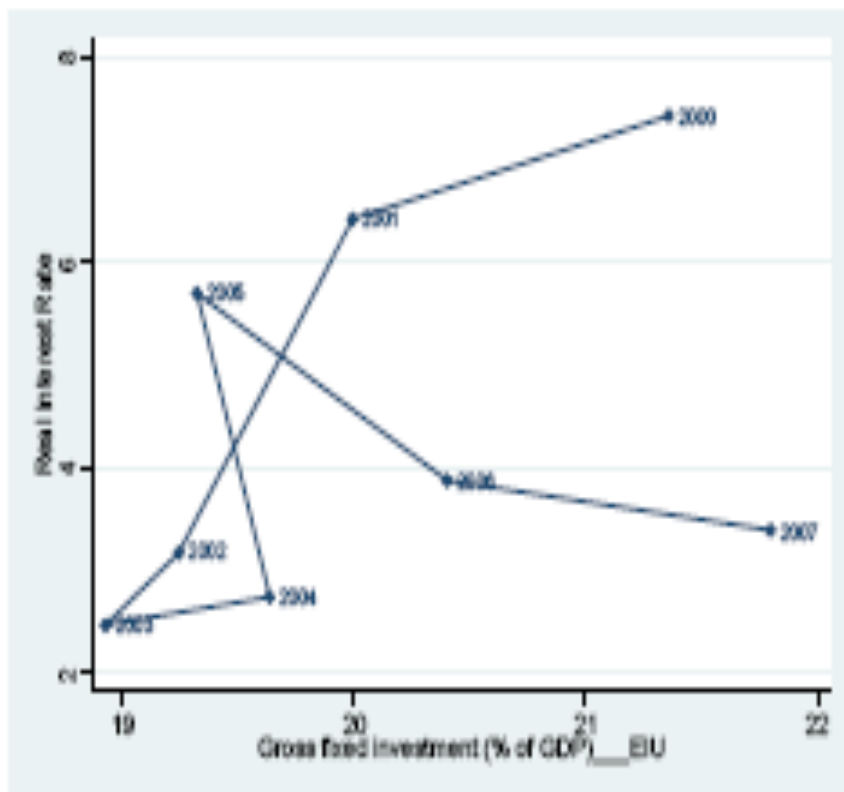


Real Interest Rates v's Real GDP per capita



Second Clue: Investment Seems to Respond to Declining Real Interest Rates in Brazil

Investment vs. Real Interest rates, Mexico (left) and Brazil (right)



Examples of Constraints

If this constraint is binding...	then we might expect to see:
Labor market regulations	Higher than normal levels of informal employment
Contract enforcement	The emergence of extra-legal contract enforcement mechanisms like trading within social groups or organized mafias enforcing contracts (Dixit 2005)
Electricity infrastructure	Many businesses investing in their own generators
Crime and security	Large outlays for private security guards
Uncertainty of monetary stability	Dollarization, use of inflation indexed contracts.
Coordination failures in the discovery of new activities	Vertical integration in new successful business. Efforts for industry groups to share costs in feasibility studies for new sectors and markets
Low appropriability due to high taxes	Greater use of cash for business transactions

