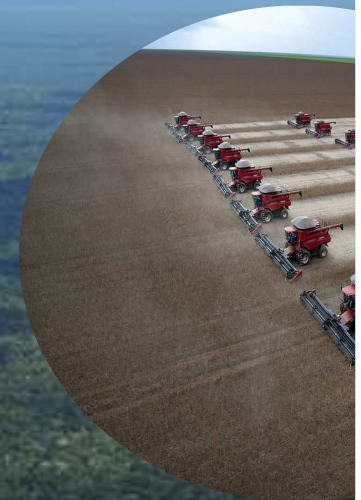


Value chain governance and national forest conservation policies: Scope and limitations



Jan Börner^{1,2} , and Sven Wunder²

¹Center for Development Research, University of Bonn

²Center for International Forestry Research (CIFOR)

jborner@uni-bonn.de, s.wunder@cgiar.org

Good and bad news on forests

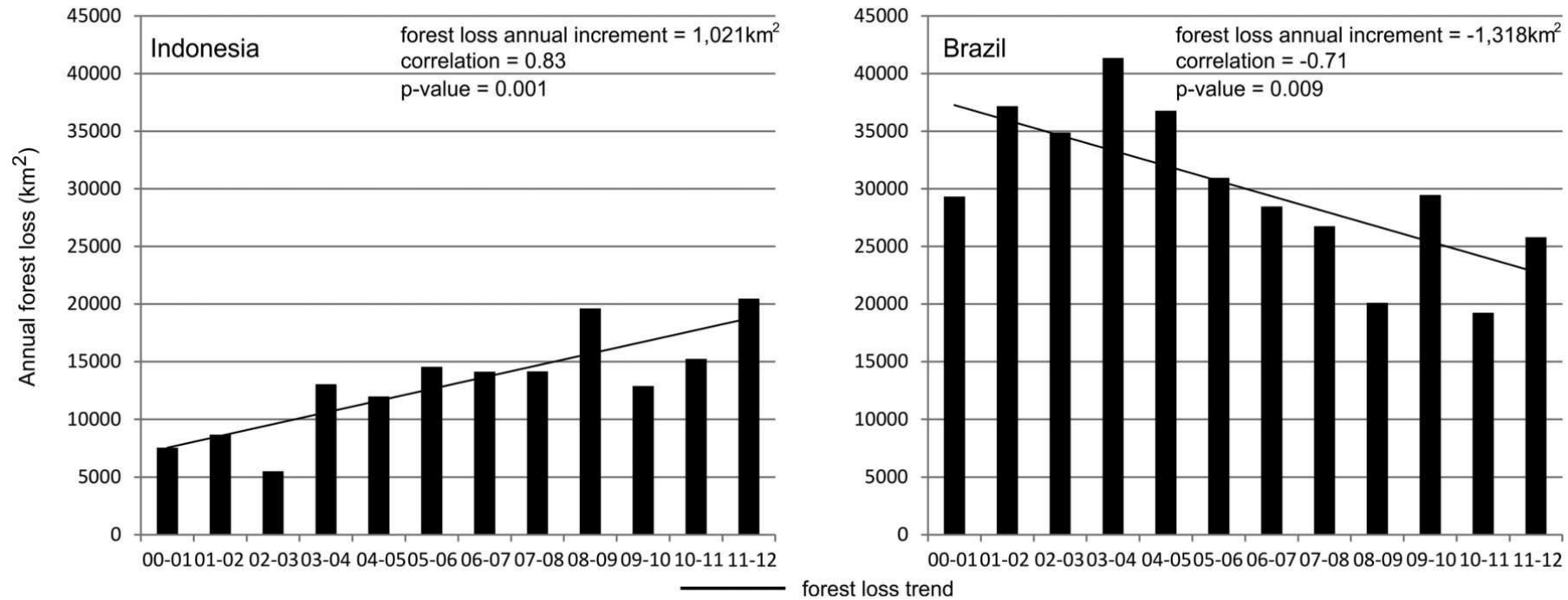
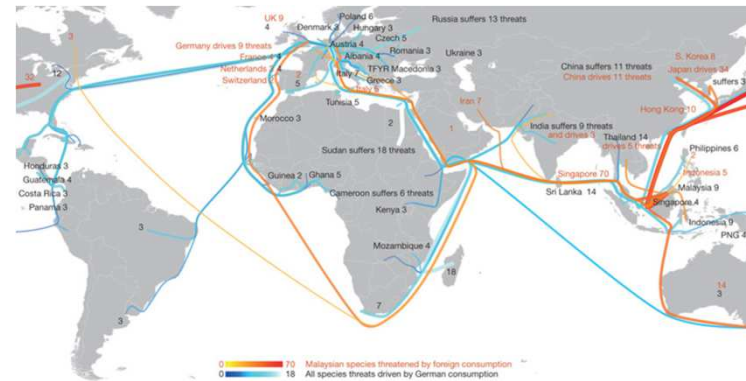


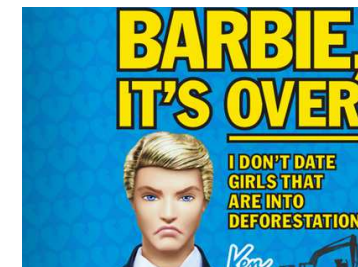
Fig. 3 Annual forest loss totals for Brazil and Indonesia from 2000 to 2012. The forest loss annual increment is the slope of the estimated trend line of change in annual forest loss.

New drivers, new solutions?

- Deforestation is on the rise in most tropical forest countries
- Drivers of tropical deforestation are becoming increasingly global (e.g. Wheeler et al. 2013)
- Proliferation of value chain governance initiatives

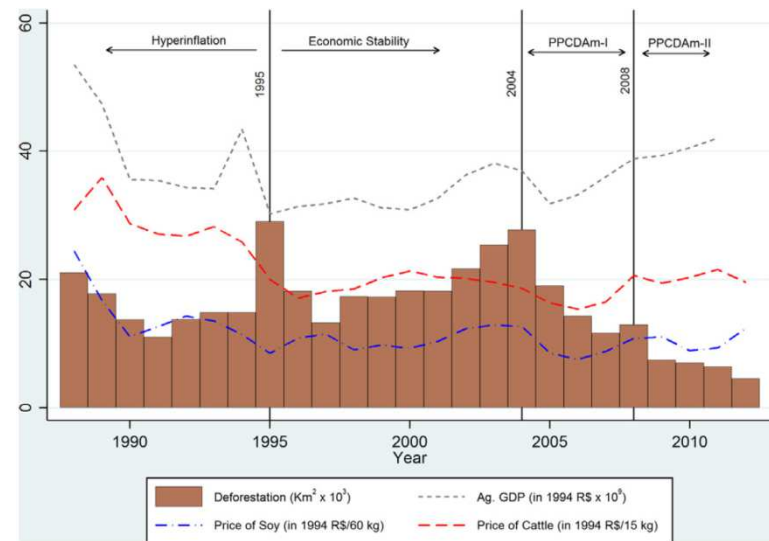


M. Lenzen *et al.* (2012)



What brought deforestation down in Brazil (Amazon)?

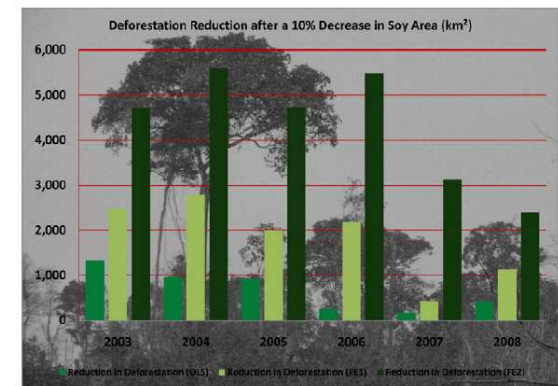
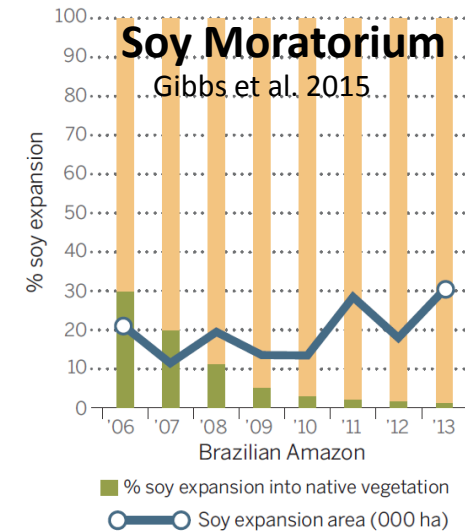
- Investments in monitoring technology
- Forest governance reform in 2004
- Reliance predominantly on command-and-control



Arima et al. 2014

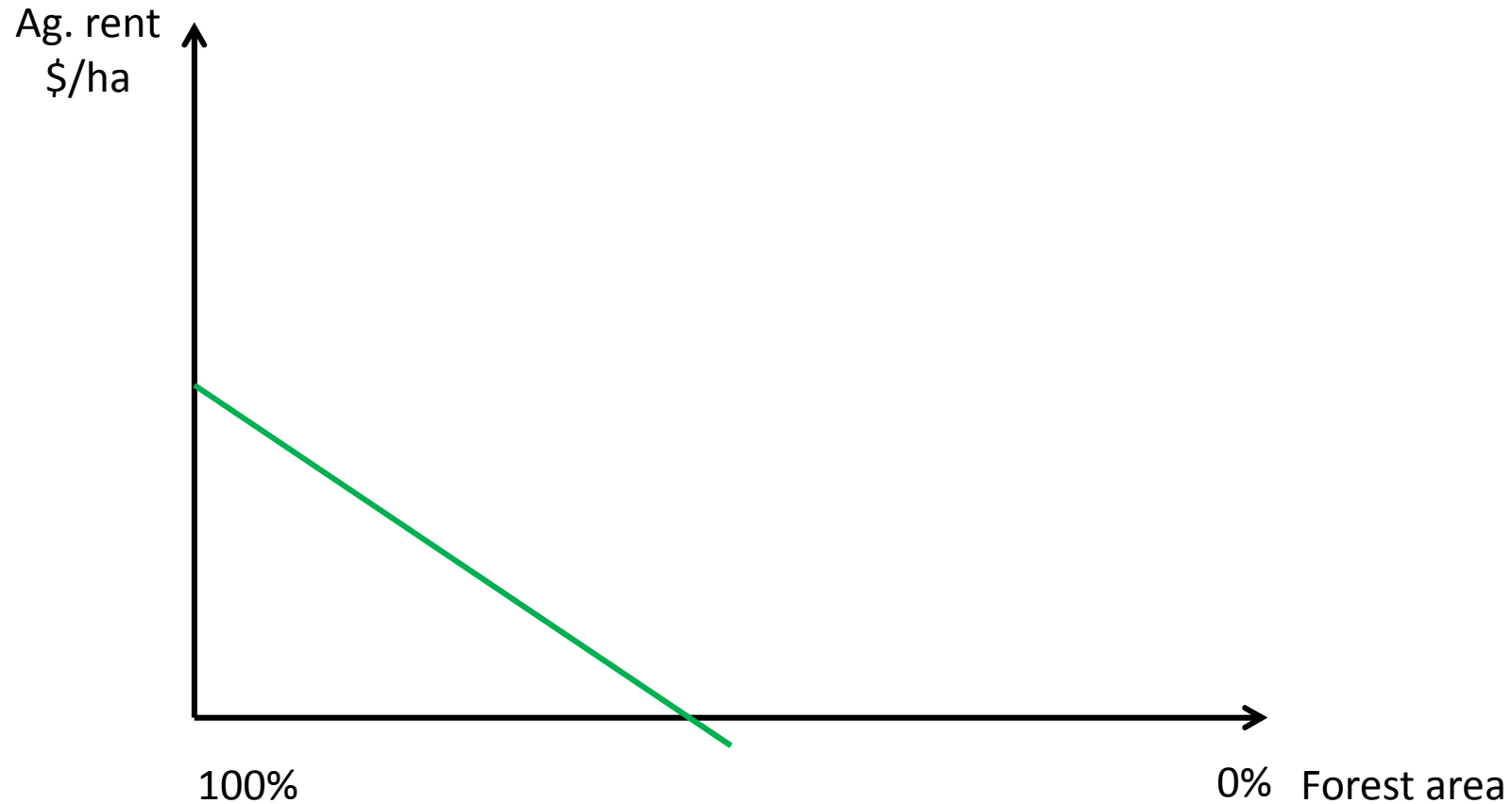
Did value chain governance work?

- **Yes**, before the Soy Moratorium, 30% of soy expansion occurred through forest conversion. Afterwards most expansion occurred on cleared land (e.g. old pastures), only 1% through deforestation.
- **No**, because a 10% expansion of soy on old pastures was associated with a 40% increase in deforestation, mainly for cattle, at agricultural frontiers in the Amazon.

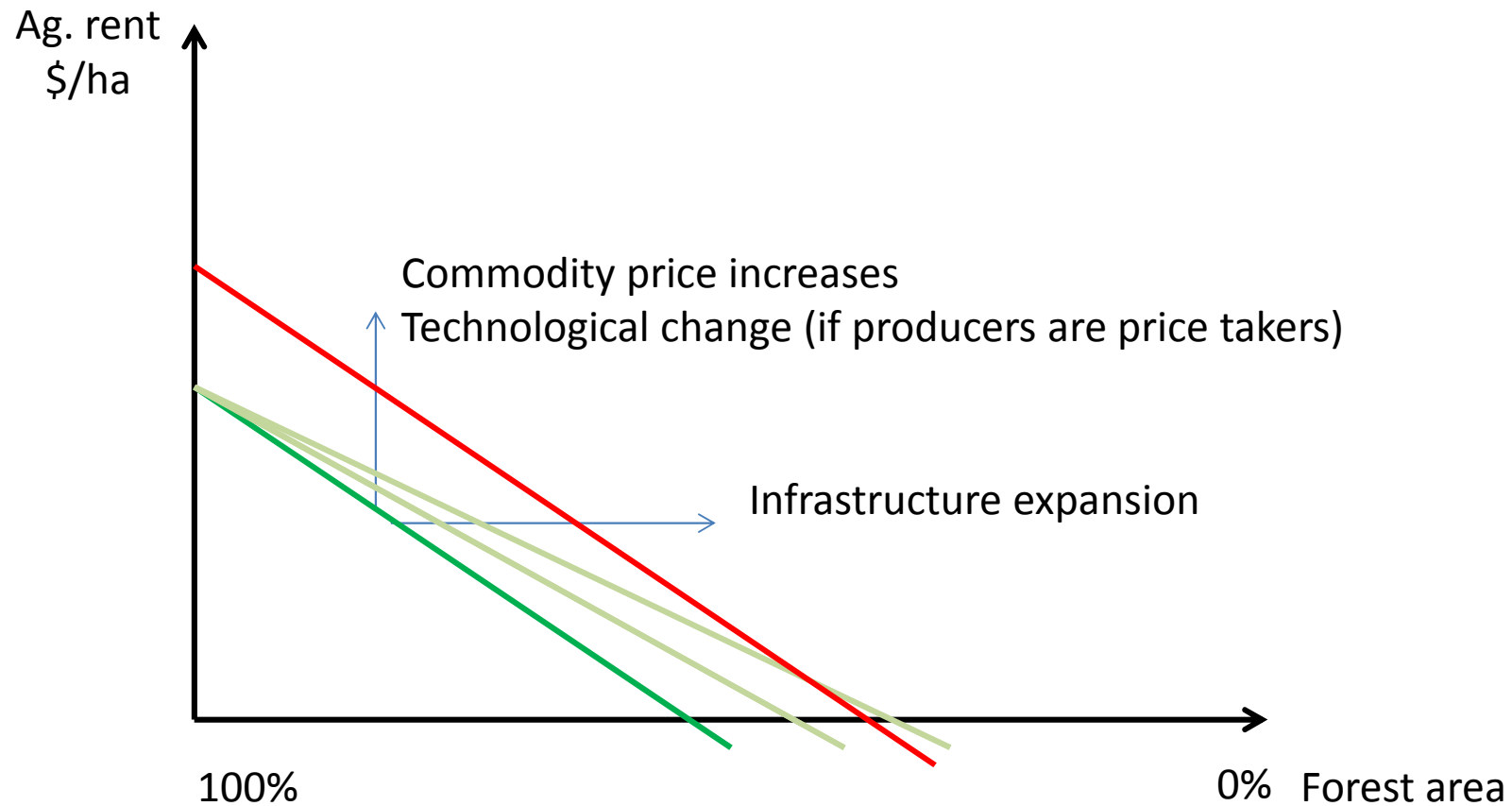


Arima et al. 2011

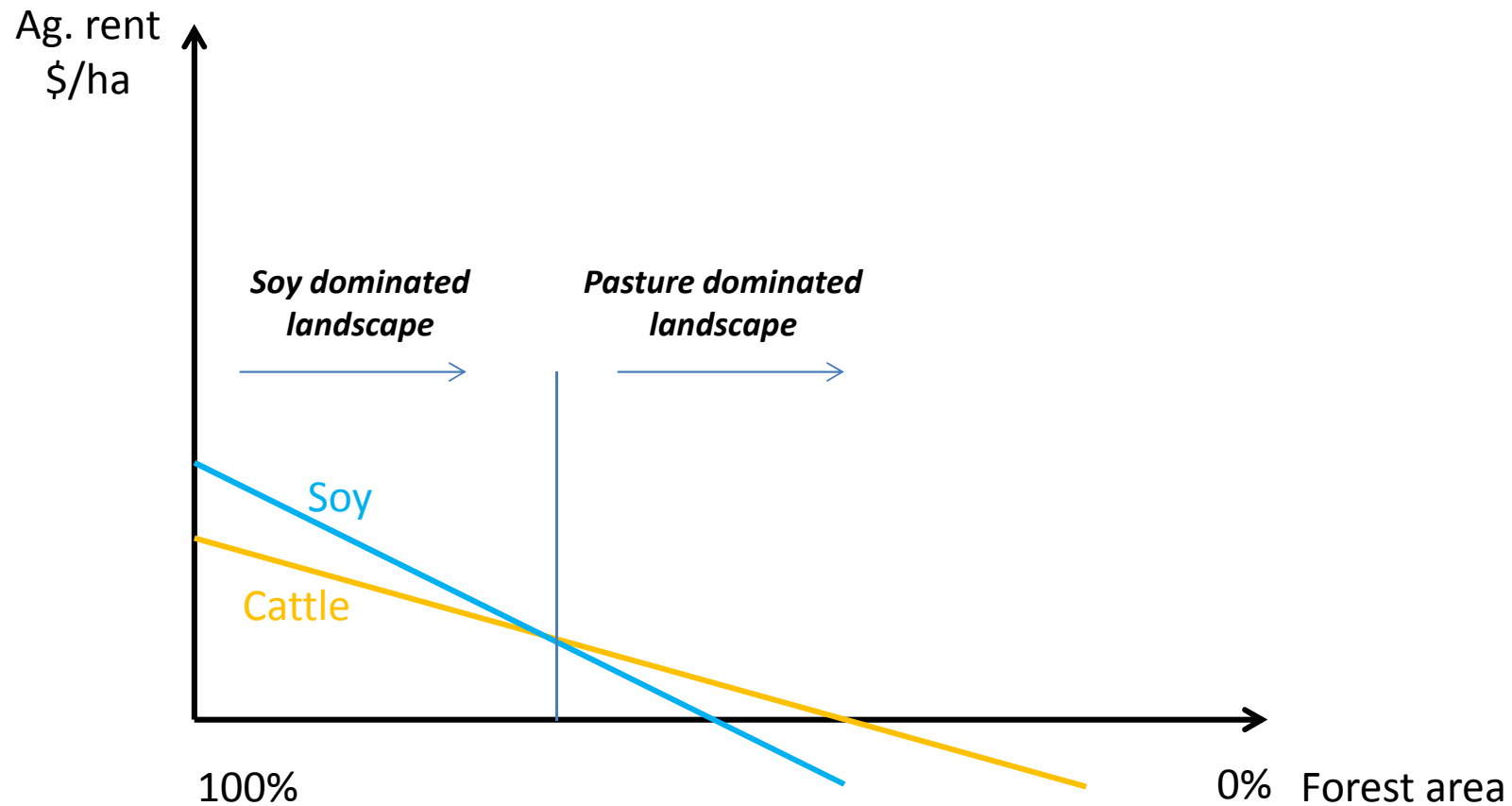
Why should we worry that iLUC threatens zero deforestation commitments?



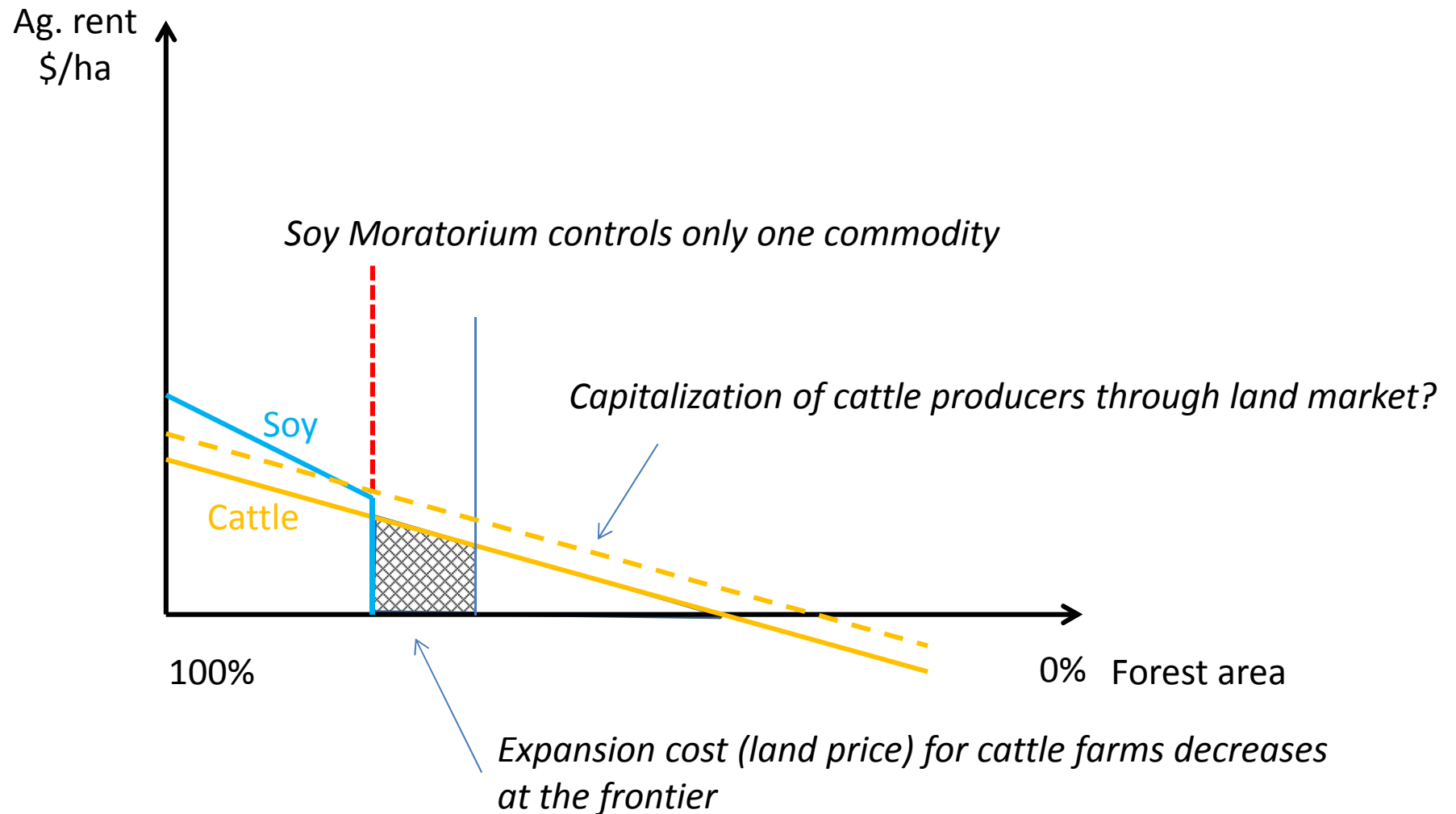
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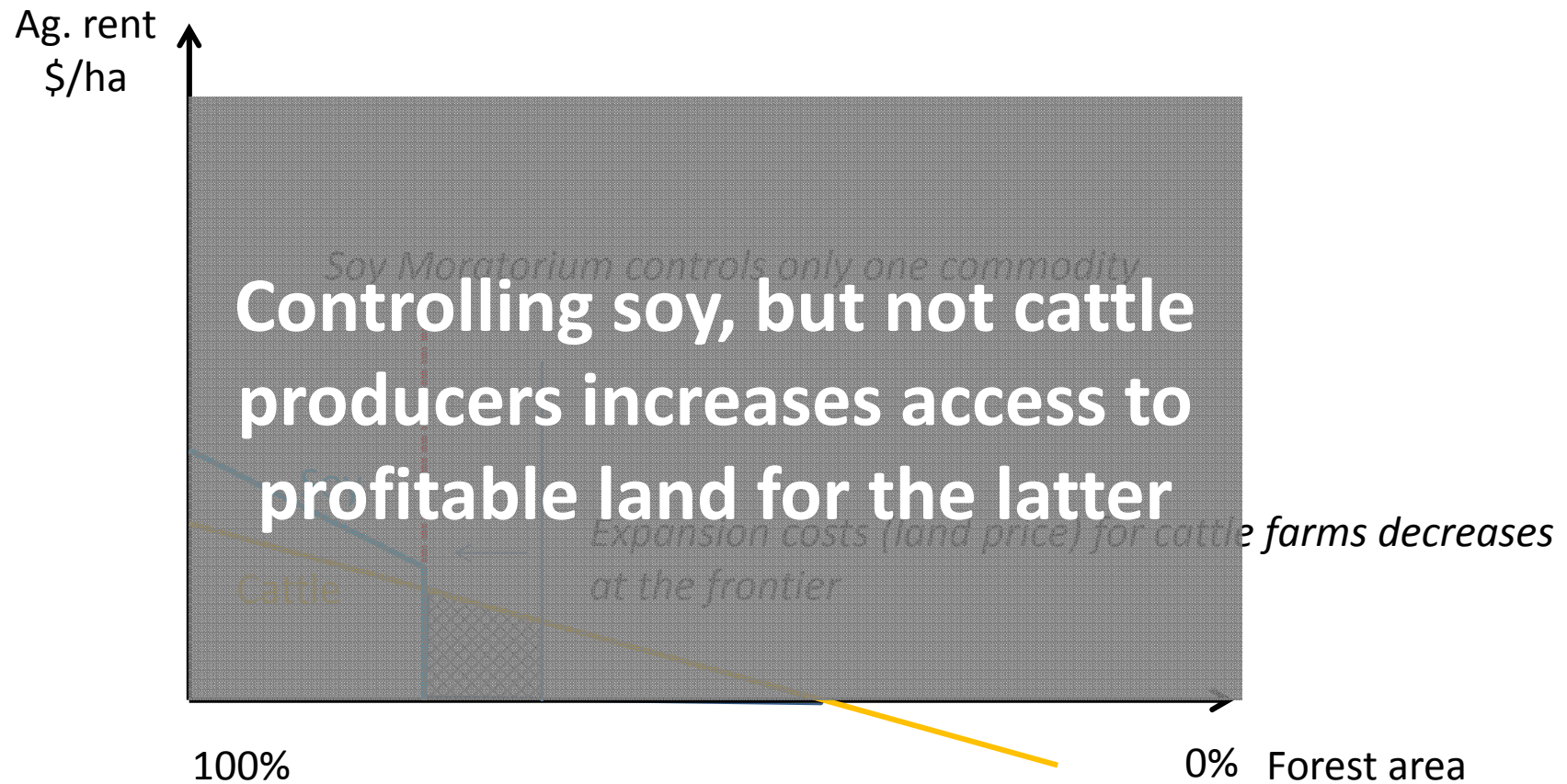
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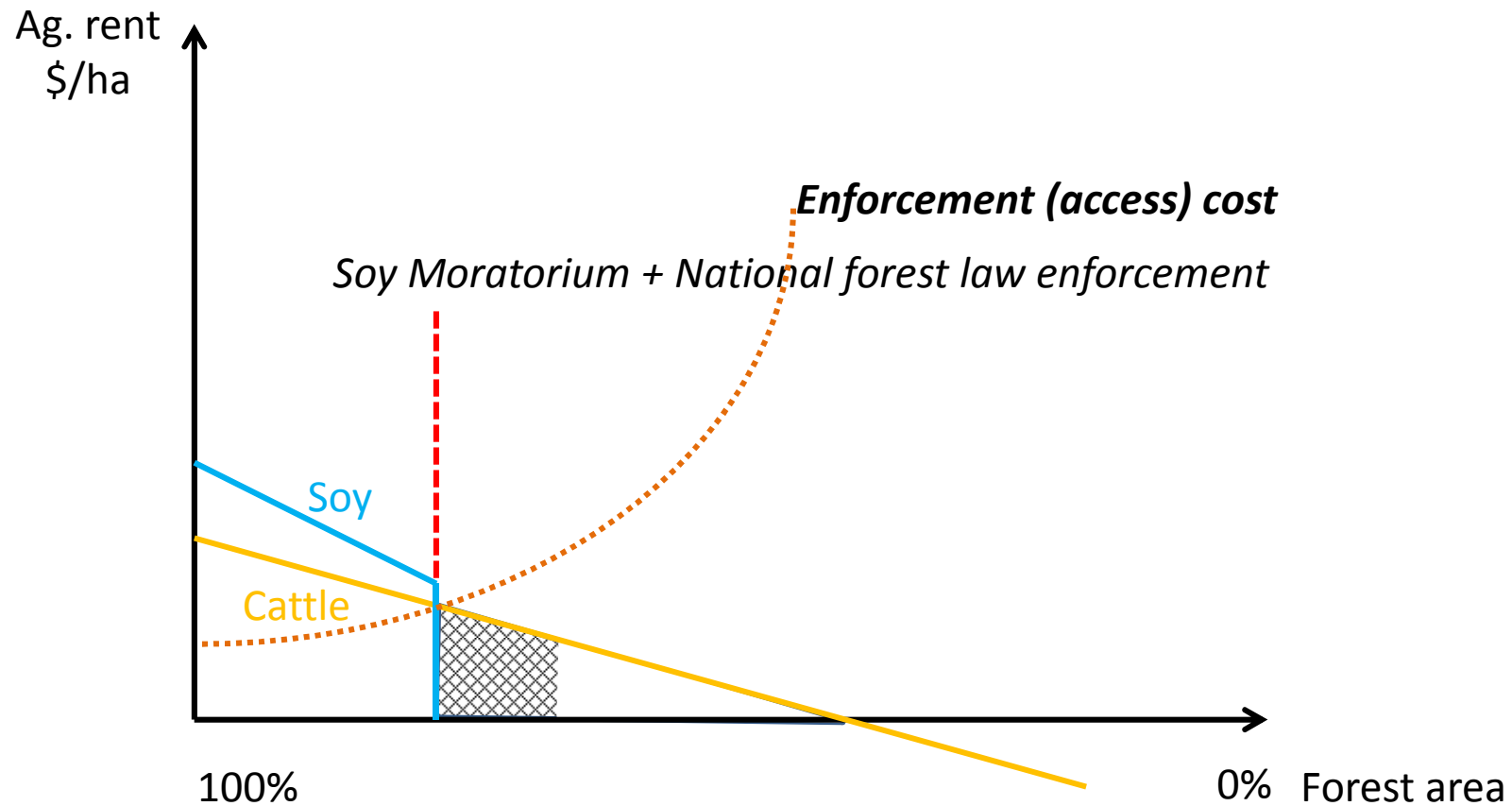
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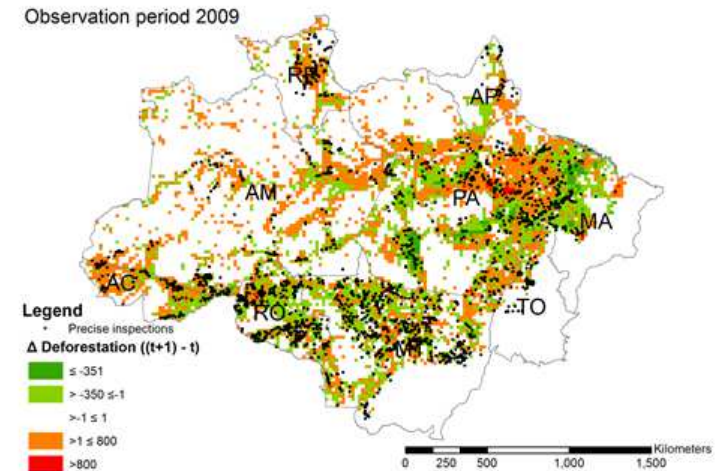


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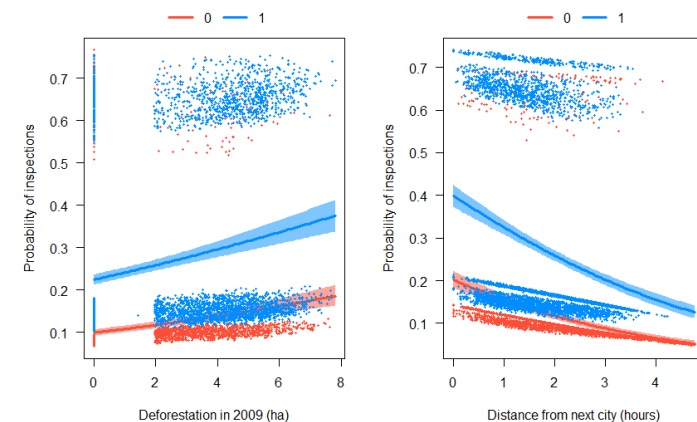


Field-based law enforcement in the Brazilian Amazon

- Field inspections along with confiscation and embargos statistically significant deterrent
- Costs of enforcement increase with remoteness and poor property rights definition
- Probability of enforcement varies in space

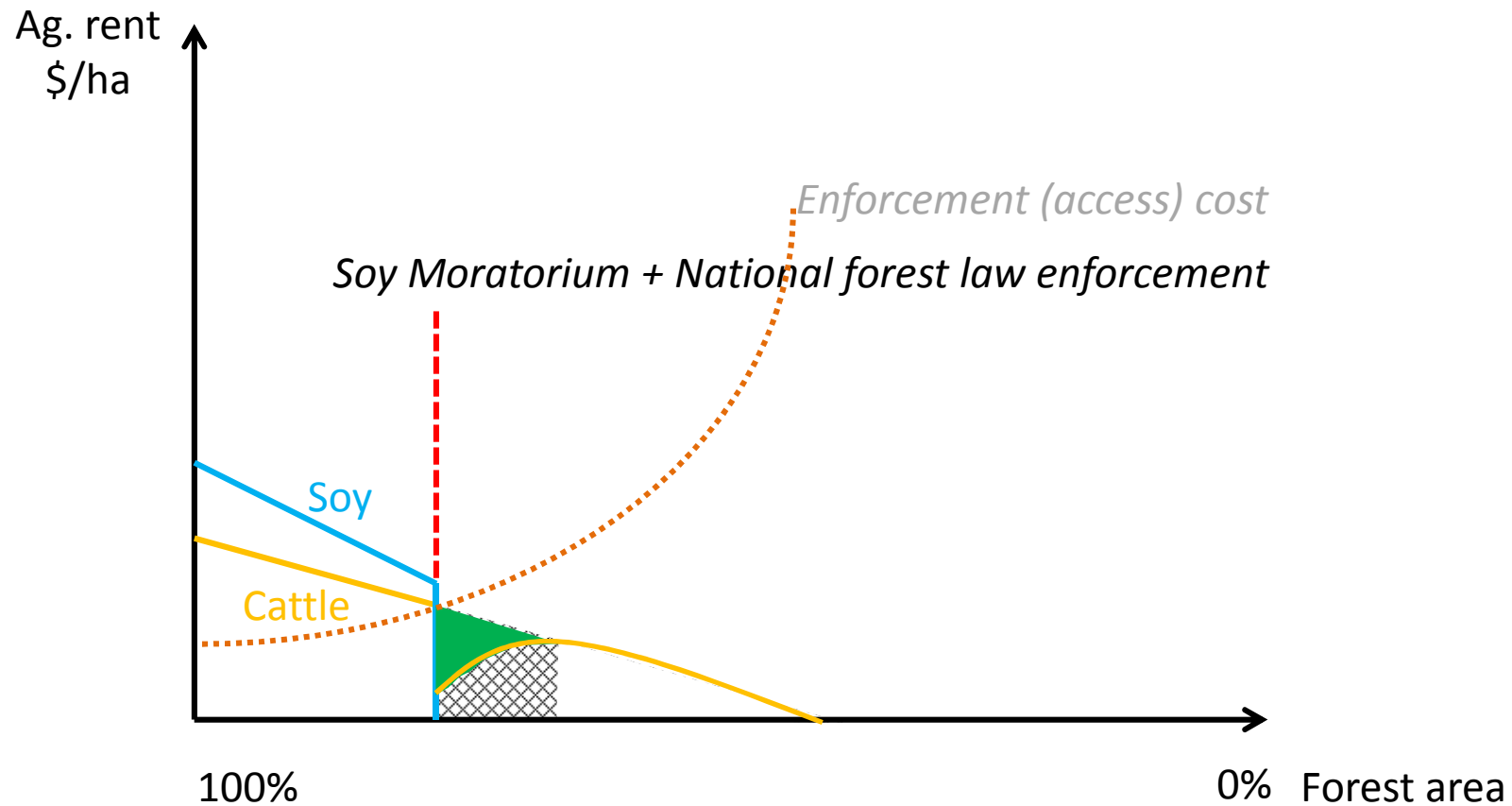


Börner et al. 2015



Börner, Wunder et al. 2015

Why should we worry that iLUC threatens zero deforestation commitments?



Why should we worry that iLUC threatens zero deforestation commitments?



Summary

- Proliferation of value chain governance initiatives (e.g., zero deforestation commitments) for bio-based commodities
- Evidence confirms direct conservation effects, but also points to large indirect rebound effects through iLUC
- Few theoretical frameworks explain iLUC at agricultural frontiers and causality is hard to establish empirically
- Contextual factors that increase risk of iLUC-induced deforestation:
 - abundance of forest land at agricultural frontiers (Amazon)
 - competing internationally traded commodities with varying degrees of productivity and value chain governance (soy vs. beef)
 - Weak forest law and/or forest law enforcement (SE Asia, Africa)
 - “Legal” access to forest land

Implications

- Value-chain governance can complement, but not substitute national forest law & enforcement
- Lessons for targeting national forest law enforcement in the presence of value chain governance initiatives and *vice versa*
- Multi rather than single value chain governance?
- Role to play for international forest conservation mechanisms, such as REDD+