

# Humanitarian licensing: an economist's perspective

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# A simple economics of access pricing

- Optimal prices: **prices that gives the highest level of (global) social welfare, while allowing the innovator to cover R&D fixed cost.**
  - When the product is « global », one issue is about how the R&D financing burden is shared across countries
- **Ramsey pricing rules** show that prices should be lower
  - When demand is very responsive to prices. This implies lower mark ups for those who would cut back most when faced with a price increase.
- But **Ramsey prices** are in fact very close to what a monopolist can do in trying to extract maximum revenues from both markets : it is in the monopolist best interest *to act as a Ramsey planner in differentiating prices across markets*
- However, there are arguments to support the notion that the price should be much lower in developing countries than monopoly prices (even differentiates)
- Optimal prices could imply that some countries would be allowed to pay less than marginal production costs (optimal mark up could thus be negative)
- The only situation where poor countries arguably should contribute to R&D arise in the case of diseases specific to these countries, for which alternative financing sources have to be designed

# How can universities contribute to optimal prices?

- The TTO typically seeks to obtain royalty payments as high as possible for the universities
- But university's technology transfer's missions *involve much more* than just increasing the marginal « private » return of academic R&D
- Missions may involve also access to (health-related) knowledge, contribution to local development, etc..
- If universities can influence prices through their licensing contracts, there is a case for them to use that leverage to fulfill the other missions

# The basic trade off - 1

- Any contractual provision designed to enhance access will make the licensing contract less attractive for the firm
- Therefore HL can only work if the university accept to sacrifice some prospective licensing revenues
- The university can maximize royalties or obtain a low price for LDCs but not both at the same time
- Three cases where the trade off is less difficult:
  - The value of the academic invention is high
  - The target countries (to get low price) is only a small fraction of expected global sales
  - The firm accept to « live » with a far lower expected marginal private return (it cares about: reputation, future markets, etc..)
    - This is what's happening in the case of PPPs (Moran)

# The basic trade off - 2

- It seems that the expected private value of the academic invention is a key issue:
  - If the disclosed invention is a « standard » one among many others which are potentially available (in other universities), there will be very little room for negotiations with the firm
  - If the disclosed invention is unique and potentially highly valuable, then there is more possibilities for obtaining a HL provision

# HL and incentives

- HL is expected to have **little effect** on university finance (because of the marginal role of licensing income in university financing)
- HL is expected to have **little effect** on effort and resource allocations by academic researchers
  - university policy can increase the royalty share granted to academic researchers for licenses with HL to counterbalance any potential disincentive's effect
- HL is expected to have **little effect** on TTO incentives if knowledge access is recognized as an important mission and if the evaluation of TTO's performance relies on more complex measures than just licensing income (including for example the number of HL contracts obtained by the TTO)

# What kind of contract? Non exclusive licensing

- Exclusivity limited to rich countries
- The University grants an unlimited number of licenses for sales in developing countries only
- Possible provisions to ensure follow-on patents will not foreclose competition in poor countries
- A potential problem (P): it is uneasy for generic producers in poor countries to enter into the market : it depends on the type of products and industry capacities
- Recall **Lanjouw** proposition : to create a legal obligation for firms to choose between exclusivity in the North and exclusivity in the South

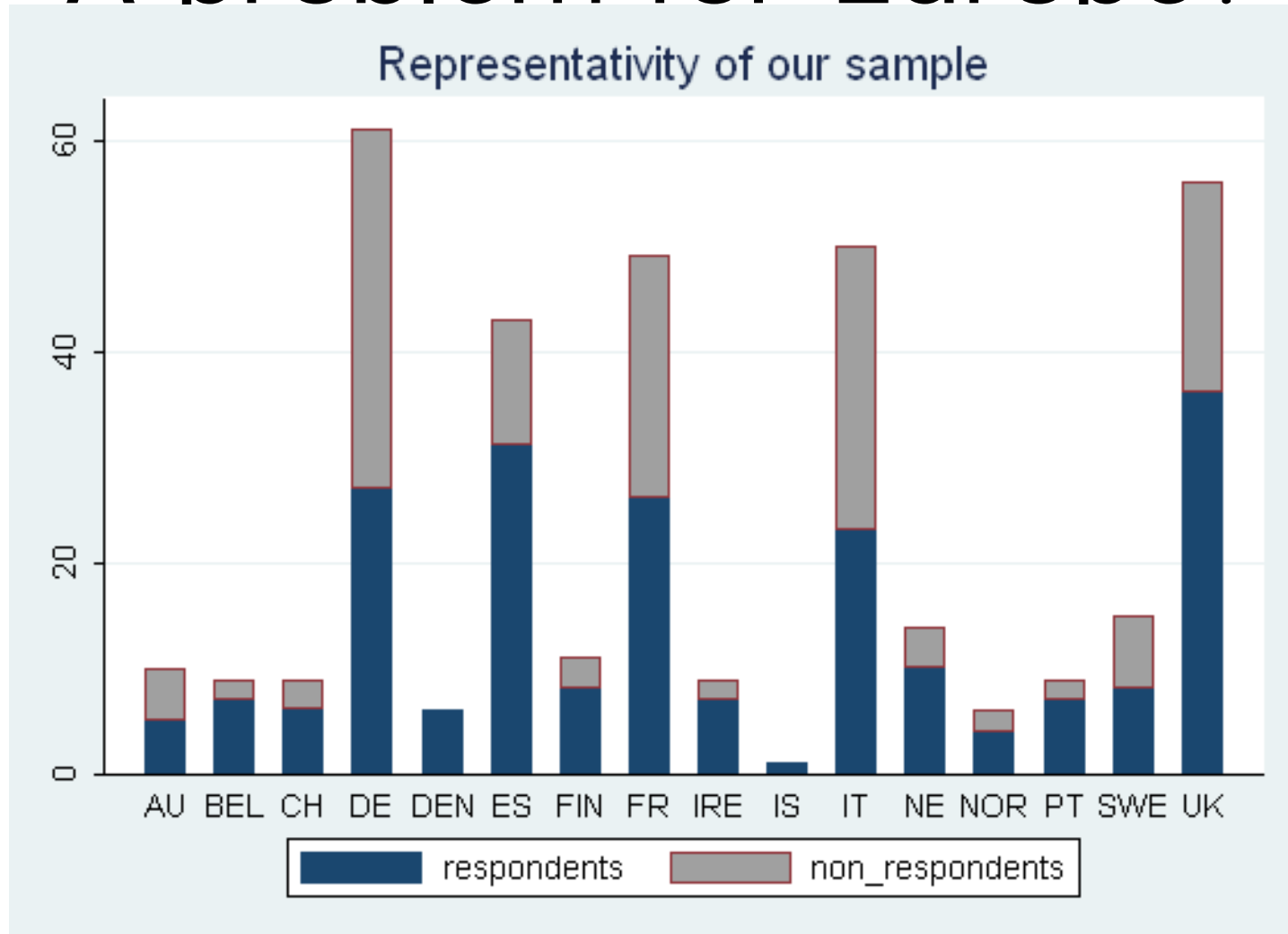
# What kind of contract? Price target

- Exclusive licensing specifying a maximum price than can be charged in poor countries
- A good solution when: i) the problem (P) above applies; ii) the originator has a production cost advantage over the generic producers
- But the disadvantage with this kind of contract is that it requires so much information (about production costs and demand)
- What to do if the firm finds it unprofitable to deliver to the poor market at all given max price specified in the HL contract?
- Need for specific clause about « obligation to sell » to poor countries or « losing exclusivity » in the South

# Knowledge access and knowledge use

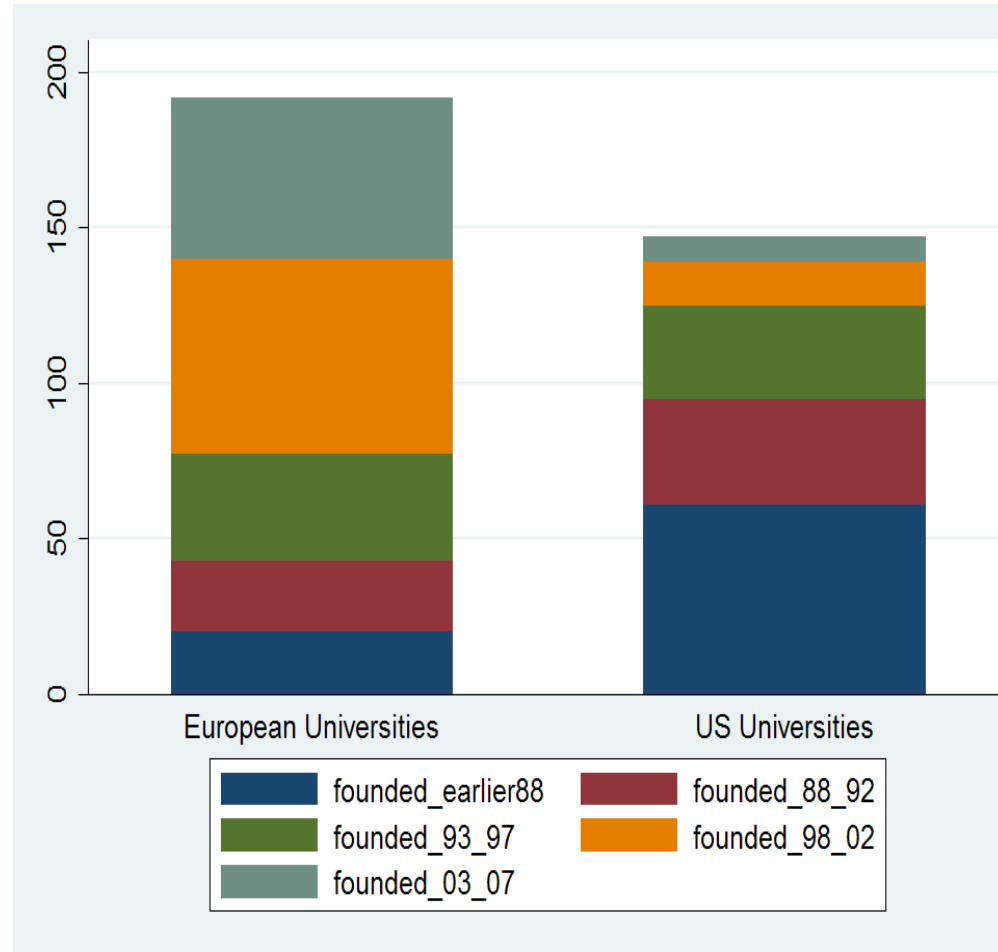
- Whatever contract is chosen – effective mechanisms to optimise access are almost useless in the absence of other critical resources: **very often knowledge is usable together with resources available at positive and high costs**
- **Non exclusive licensing** needs to be combined with production capacity building (technology transfer) in developing countries
- **Price cap** need to be combined with the development of efficient systems of delivery
- Strategic complementarities between the design and implementation of HL contracts and the development of the other components of a local health system (production, distribution)
  - Both « innovations » are mutually complementary and so should be adopted together, with each making the others more attractive
  - There is a potential for systemic transformation that results entirely from the positive feedback effects that each change has on the other changes

# A problem for Europe?



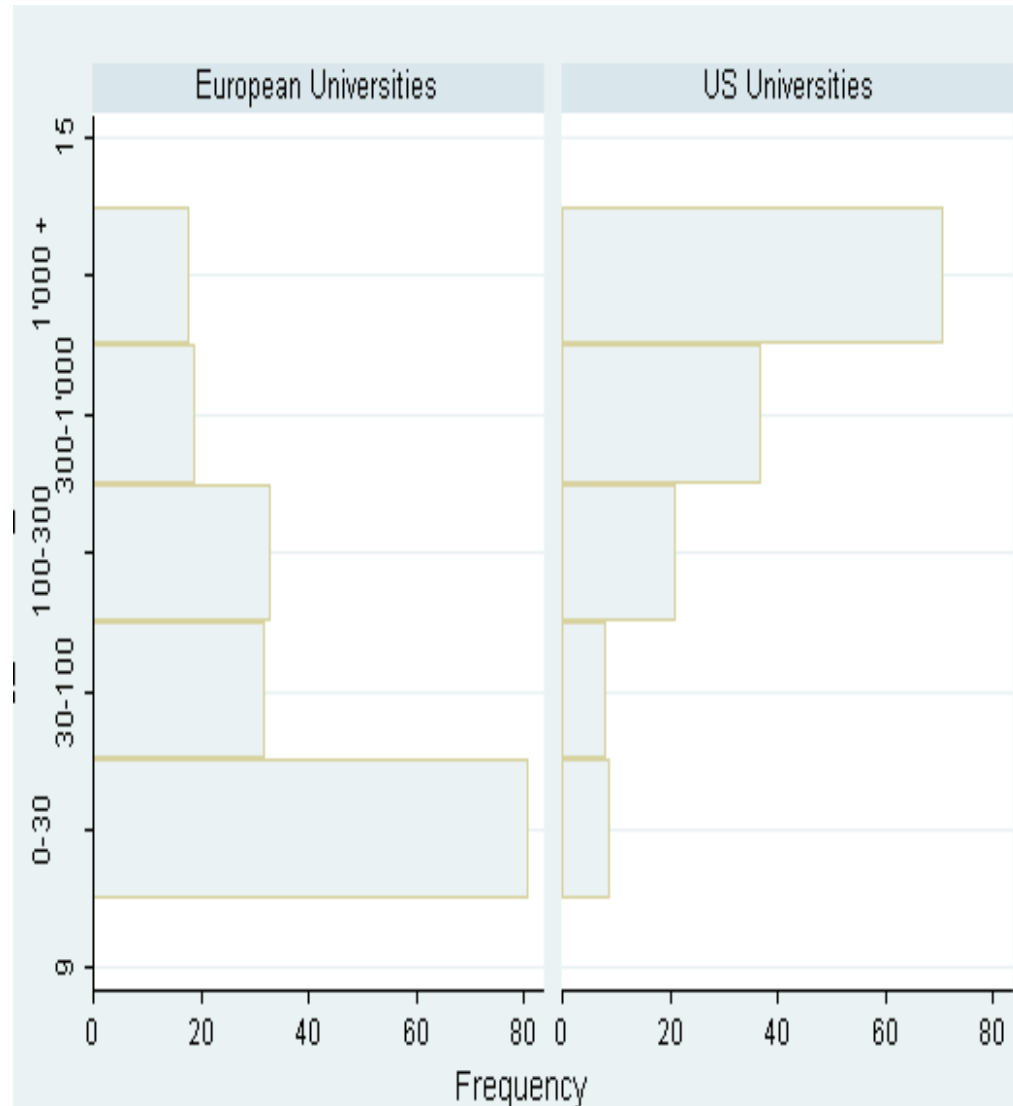
# A problem for Europe?

- On average, the TTOs in European universities are very heterogeneous, young, little experience with industry, small.



- Low licensing revenues suggest that European academic inventions are of limited value.
- Survey available at:

[www.cemi.epfl.ch](http://www.cemi.epfl.ch)



# Conclusion

- After an initial historical logic of NO or very few academic patents (from the « origins » to the 1980s) ..
- ..and a more recent logic of a dramatic growth of academic patenting where the main question was » *how much money can I earn from promoting patentable research ?* » ..
- ..need for a new logic where academic patenting does remain a pivotal activity in the domain of transfer of technologies but is associated with mechanism to enhance knowledge access, where the main question becomes « *how can I maximize the total welfare to be potentially derived from this invention ?* »

# References

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