

TSE M1 – Semester 1

October 2018

Paul Seabright

# Understanding Real World Organizations

## Week 7:

### Churches, religions and charities



# Research questions

- Religion is costly: in what ways is it costly and why does religion nevertheless survive and thrive?
- How? Religion often demands:
  - Counter-empirical cognitive commitments - belief in invisible spirits active in the world, for example.
  - Constraints on personal behavior.
  - Time-consuming participation in ritual and other activities.
  - Expensive financial contributions.
- Why? Three possible (and not mutually exclusive) explanations:
  - Some apparently costly requirements are not really costly.
  - Some costs are in fact payment for valuable services.
  - Costly signaling.
- The argument here ties together the 2nd and 3rd elements: Modern religious organizations are multi-sided *platforms*.
- The core function of a platform is to put different groups of users in contact with each other.

# The structure of the argument: based on book project *The Origins of Enchantment*

- An evolutionary psychology component: what cognitive and affective psychology has natural selection bequeathed to us?
- A cultural evolution component: how have norms and other units of culture evolved over prehistorical and historical time?
- An economics of organizations component - how do religious organizations recruit, structure themselves and compete? **Our subject for today.**
- An important qualification: religions are **modular**. They may involve the bundling of various secular services with some or all of:
  - ritual;
  - myth (including belief in invisible spirits);
  - a distinction between the sacred and profane.
- *Entrepreneurship* matters - this makes for chance, history dependence, and dynamic turbulence in the religious landscape.
- With entrepreneurship comes the opportunity for manipulation: religions may be attractive without necessarily being adaptive.

# The presentation for today:

- The Big Picture: Why are economists interested in religion?
- What has been happening to religion in the world since 1950?
- The Big Picture continued: religion and economics in the history of ideas (*I may skip this...*)
- Our approach: elements of the platform model, and some preliminary evidence.
- A formal model of a two-sided platform with quality screening.
- Our experimental findings from Haiti (774 subjects) and Ghana (576 subjects): two settings with vigorous competition between religions.

# The Big Picture: Why are economists interested in religion?

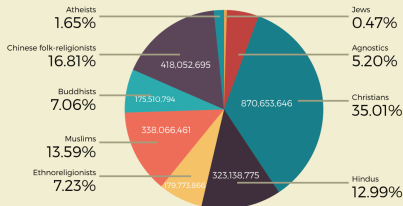
- Religion plays an important role in the life of a majority of people in the 21st century world: the secularization hypothesis seem to be contradicted by evidence from many countries around the world.
- An important example: in Sub-Saharan Africa  $> 50\%$  percent of the population of certain countries belong to Neo-Pentecostal churches (Pew Research Center (2011)). Pentecostalism is also on the march in Latin America and in many other regions, including China.
- Churches are also economically important: within African Neo-Pentecostal churches, many (sometimes very poor) people regularly give 10 to 15% of their income to the church.
- If even 50% of Ghanaian neo-pentecostalists tithe 10% of their income, this means Church revenues are c.1bn USD, or 2% of GDP.
- What are they paying for?

# What has been happening to religion in the world since 1950?

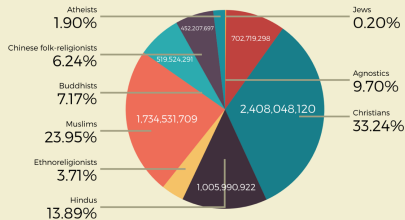
- Some big changes in the shares of world religions since 1950 (a similar story since 1900).
- But it's not what you think....
- To get a clue as to why, look at the distribution across regions.

# The changing proportions of world religions (source: World Religion Database)

**World Religions - 1950**

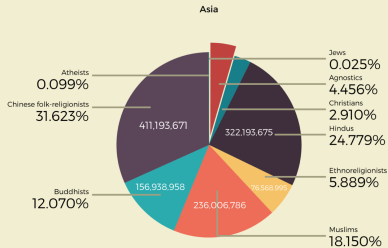


**World Religions - 2015**

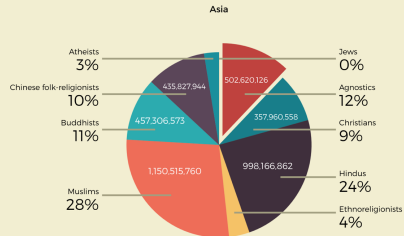


# The changing proportions of religions in Asia (source: World Religion Database)

## Major Religions - 1950



## Major Religions - 2015

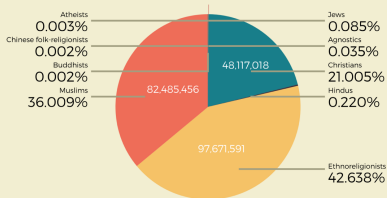




# The changing proportions of religions in Africa (source: World Religion Database)

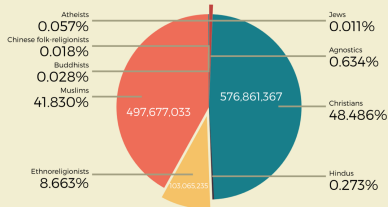
## Major Religions - 1950

Africa



## Major Religions - 2015

Africa

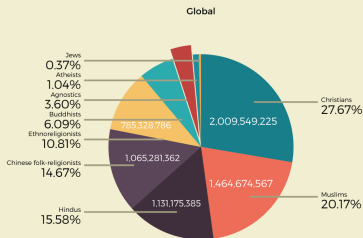


# The importance of demographics

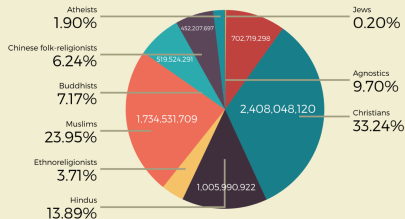
- The different rates of population growth in different countries since 1950 would have had major effects on the shares of world religions even without any other factors.
- Compare actual shares in 2015 with the shares that would have been predicted on the basis of different country rates of population growth.
- The predicted shares are those that describe what would have happened in the absence of any within-country competition between religions.
- The difference between predicted and actual shares is a measure of the impact of within-country competition.

# Global shares of religious adherents, actual versus predicted from 1950 shares (source: World Religion Database)

## Predicted Proportions - 2015

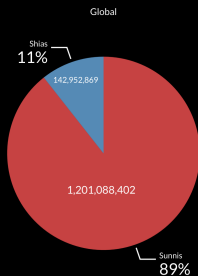


## World Religions - 2015

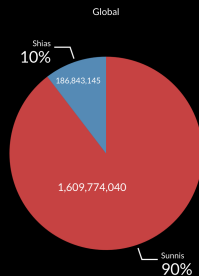


# The changing proportions of Muslim denominations in the 21st century (source: World Religion Database)

Muslims Denominations - 2000



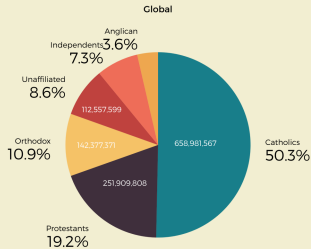
Muslim Denominations - 2015



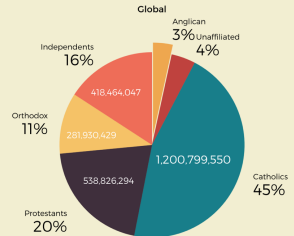
# The changing proportions of Christian denominations

(source: World Religion Database)

## Christian Denominations 1970



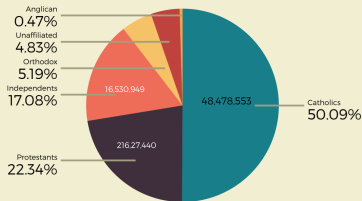
## Christian Denominations - 2015



# The changing proportions of Christian denominations in Asia (source: World Religion Database)

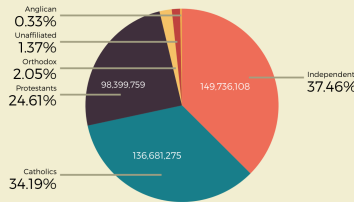
## Christian Denominations - 1970

Asia Pacific



## Christian Denominations - 2015

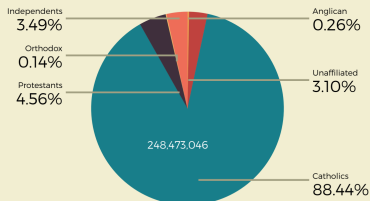
Asia Pacific



# The changing proportions of Christian denominations in Latin America (source: World Religion Database)

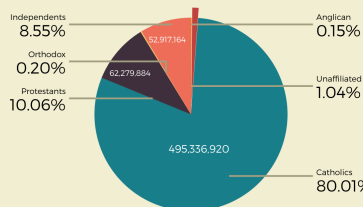
## Christian Denominations - 1970

Latin America



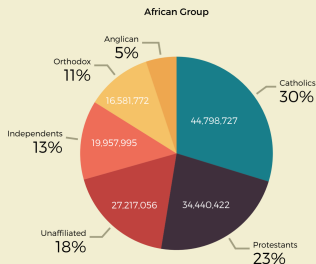
## Christian Denominations - 2015

Latin America

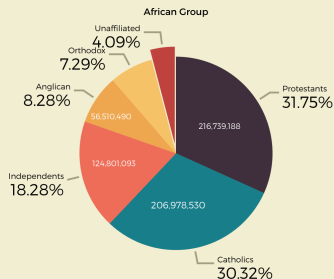


# The changing proportions of Christian denominations in Africa (source: World Religion Database)

**Christian Denominations - 1970**



**Christian Denominations - 2015**





# What's the story here?

- The story is not about an ideological struggle between Christianity and Islam, with Islam winning in the battle for recruits.
- Islam has expanded faster than Christianity because more concentrated in poor parts of Asia with high population growth.
- The story is about the growing corporatization of religion.
- Folk religions everywhere - in Asia and especially in Africa - have been replaced by their branded and corporately-organized counterparts, some of which are also franchised.
- Catholicism has declined in favor of other Christian denominations.
- But overall, Christianity has benefited more from this trend than Islam, and will likely do so even more in the future (watch China!).

# How do religions compete?

- Historically, in three main ways:
  - Through war and conquest.
  - Through differential population growth (competition for resources).
  - Through persuasion (“in the market”).
- This talk will concentrate on the third of these mechanisms.

# The Big Picture (II): religion in the history of ideas.

- Economic analysis of religion goes back to (at least) Adam Smith who in book 5 of *The Wealth of Nations* explained success of nonconformist churches against Church of England as due to more payment given to ministers.
- What look like differences of theology boil down in the end to differences in incentives.

# Adam Smith on religion - Wealth of Nations (1776), book V, chapter I:

The [clergy] may either depend altogether for their subsistence upon the voluntary contributions of their hearers; or they may derive it from some other fund to which the law of their country may entitle them; such as a landed estate, a tythe or land tax, an established salary or stipend. Their exertion, their zeal and industry, are likely to be much greater in the former situation than in the latter. In this respect the teachers of new religions have always had a considerable advantage in attacking those ancient and established systems of which the clergy, reposing themselves upon their benefices, had neglected to keep up the fervour of faith and devotion in the great body of the people; and having given themselves up to indolence, were become altogether incapable of making any vigorous exertion in defence even of their own establishment. The clergy of an established and well-endowed religion frequently become men of learning and elegance, who possess all the virtues of gentlemen, or which can recommend them to the esteem of gentlemen; but they are apt gradually to lose the qualities, both good and bad, which gave them authority and influence with the inferior ranks of people, and which had perhaps been the original causes of the success and establishment of their religion.

# Adam Smith on the social utility of religion:

- That the terrors of religion should thus enforce the natural sense of duty, was of too much importance to the happiness of mankind, for nature to leave it dependent upon the slowness and uncertainty of philosophical researches – *The Theory of Moral Sentiments* (1759), Part III, Chapter V.
- Echoed by Edward Gibbon? “The various modes of worship, which prevailed in the Roman world, were all considered by the people, as equally true; by the philosopher, as equally false; and by the magistrate, as equally useful. And thus toleration produced not only mutual indulgence, but even religious concord.” *History of the Decline and Fall of the Roman Empire* (1776).

# The Big Picture (III): economics takes a back seat.

- Religion more or less dropped off the map of economics during the 19th and 20th centuries, becoming the domain of anthropology (Frazer, *The Golden Bough*, 1890), sociology (Weber, *The Protestant Ethic and the Spirit of Capitalism*, 1904; Durkheim, *The Elementary Forms of the Religious Life*, 1912) and history (Tawney, *Religion and the Rise of Capitalism*, 1926).
- Despite differences, first three shared conviction that economic development involved “disenchantment of the world”, religion representing an intermediate state between magic and science.
- The decline in Church attendance in European countries during the 20th century seemed to bear out this view.

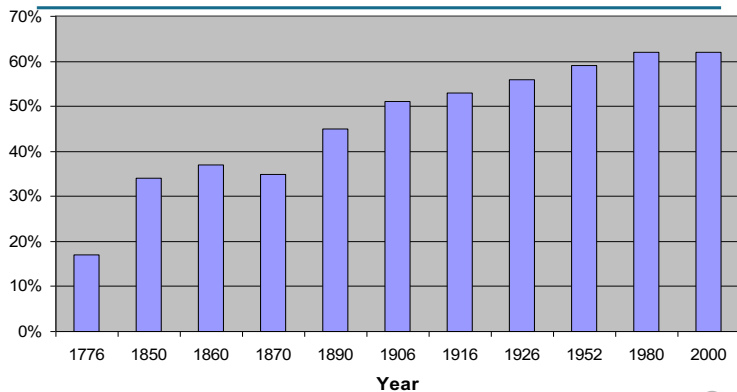
# The Big Picture (IV): a stubborn refusal of the facts to fit the theory.

- But the United States did not fit the pattern.
- Roger Finke and Rodney Stark (2005) have tried to explain what they call the “churching of America” the paradox of growing US religiosity at a time of European secularization - a growing religiosity that dates back to the founding of the Republic.
- They attribute this to competition, and to the superior incentive structure of the more successful denominations.
- To return to our question above: what are religious members paying for?

# Church attendance in the United States.

## Rates of Religious Adherence, United States

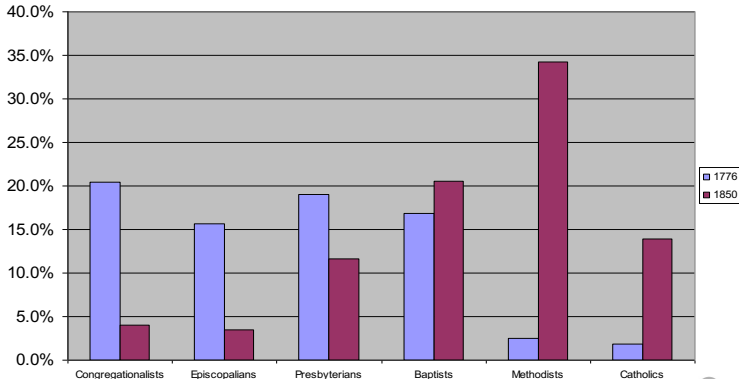
(source: Finke and Stark, 2005)



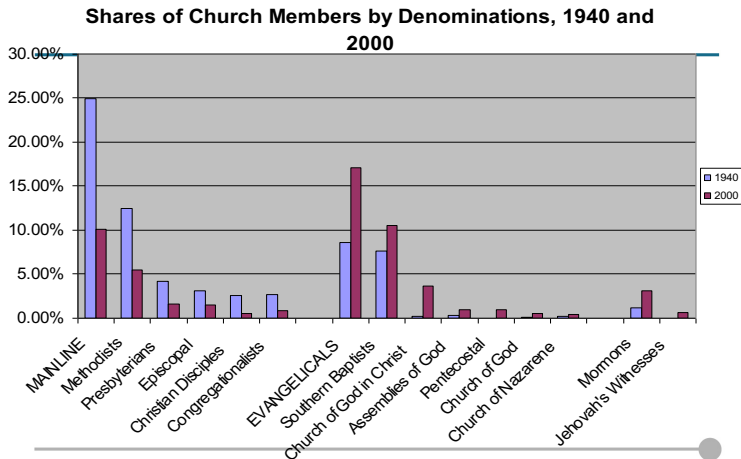


# Church attendance by denomination in the United States

**Shares of Religious Adherents by Denomination, 1776 to 1850**



# Church attendance by denomination in the United States



# The Big Picture (V) - the new evolutionary anthropology of religion:

- Many contributors, including:
  - Pascal Boyer (Religion Explained, 2002).
  - Scott Atran (In Gods We Trust, 2002).
  - Ara Norenzayan (Big Gods, 2013).
- Religions have an ethnographic structure.
- They are counterintuitive but not arbitrarily so.
- They are explicable by natural selection.
- The aptitude for religion would have created cooperation for groups that were in competition with other groups, via “Big Gods”.

# The Big Picture (VI) - the new economics of religion:

- Since the early 1990s, a growing convergence between rational-choice sociologists of religion (like Finke and Stark) and economists (Iannaccone, Gruber) that religions compete to satisfy demands.
- Some contributors take demands as given:
  - Some are intrinsic to religion.
  - Some are also supplied by other institutions (eg finance, insurance).
- Others suppose religion satisfies a derived demand for institutions to reinforce social trust.
- Some emphasize moral hazard aspects (cf Big Gods), others adverse selection.

# The Big Picture (VII) - the services provided by religion:

- One line of research sees churches as private clubs that provide exclusive services to members, screened by high financial and behavioral costs of membership (based on Iannaccone, JPE 1992).
- Recent work has described religious institutions as helping to smooth consumption, particularly in the absence of an extensive welfare system (Scheve-Stasavage, QJPS 2006; Gruber-Hungerman, JPubE 2007; Dehejia et al., JPubE 2007; Chen, JPE 2009).
- However:
  - Costs of membership seem high compared to benefits, and to price of secular alternatives available.
  - Many churches make large profits, which seems incompatible with absence of entry barriers.
- Our view: Churches charge high prices from members because they operate as *platforms*, offering bundles of services for which trustworthiness of other members is important.

# Our Approach (I)

- When religions offer services they are never just selling these services in head-to-head competition with secular suppliers.
- Literature on multi-sided markets has emphasized role of platforms as putting different groups in contact with each other.
- It's possible to see religious organizations as putting believers in touch with each other, using demand for certain services of religion as credible signals of their trustworthiness.
- Importantly, these services are neither just spiritual, nor just secular. They're both.
- Those who genuinely demand spiritual services are considered more trustworthy counterparties in secular markets.

# Religious entrepreneur Jerry Falwell:

“Business is usually on the cutting edge of innovation and change because of its quest for finances. Therefore the church would be wise to look at business for a prediction of future innovation. The greatest innovation in the last twenty years is the development of the giant shopping centers. Here is the synergetic principle of placing at least two or more services at one location to attract the customers. A combination of services of two large customers with small supporting stores has been the secret of the success of shopping centers” (cited in Harding, Susan Friend: *The Book of Jerry Falwell: Fundamentalist Language and Politics*, Princeton University Press, 2000. )

## Some indicative evidence of services provided by church in our Ghana study (536/570 fairly complete responses):

### Finding a marital partner:

- Only 5% of respondents say that finding a partner, for themselves or their children, is one of main reasons for attending their church.....BUT
- 28% of married say they found their spouse through church.
- 48% of church population are single, o/w 60% expect to meet their future spouse through church.
  - 57% of single males expecting to meet a spouse in church pay tithes vs only 26% of those not expecting this.
  - No significant difference for single women (38% versus 37%).
  - 53% of single males expecting to meet a spouse in church cite moral guidance as a main motive vs only 41% of those not expecting this (55% versus 41% for single females).



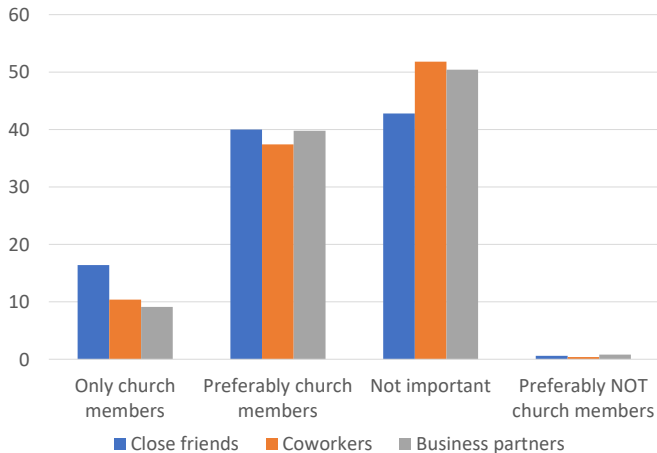
# Some indicative evidence of services provided by church in our Ghana study (II):

## Providing counselling for family issues:

- 62% would ask a pastor for help regarding family issues, 25% would ask another church member (multiple answers possible).
- Only 20% say they would ask a pastor for financial help, and 8% would ask another church member....BUT
- 24% report receiving financial assistance from the church within the last 2 years.
- 28% would seek medical support from pastor when sick.
- Reported church donations significantly increase with income, education, church attendance and age.

It seems likely that the motives are linked: members prefer to search for a marital partner among those who signal their willingness to seek church guidance on family and spiritual issues.

# Percentage of respondents preferring to interact with church members as friends, at work, in business:



# Our Approach (II)

- Religious organizations are platforms: value of services offered to members depends on characteristics of other members.
- These include not just numbers but also quality.
- High prices can increase quality of members - a screening mechanism.
- In traditional platform literature, platforms charge low prices to some users to “get them on board”.
- We show that effect of high prices on user quality can outweigh adverse impact on quantity if services are sufficiently *non-rival*.
- More precisely, religious adherents pay high prices for two reasons:
  - the high price screens high-quality adherents.
  - the high price reflects, for any given adherent quality, an enhanced willingness to pay to interact with other users.

# A simple model of a two-sided platform with quality screening

- A platform supplies two services,  $A$  and  $B$ , at prices  $p_A$  and  $p_B$ .
- Service  $B$  consists in having access to users of service  $A$ .
- Both are also supplied by a competitive market at a constant outside value normalized to zero.
- Platform can invest in quality  $q_A$  of service  $A$  at convex cost  $C(q_A)$ .
- Continuum of potential users  $i$  and  $j$  of services  $A$  and  $B$ , of types  $\theta_i$  and  $\phi_j$ , with a uniform distribution normalized to  $[0, 1]$  and  $[0, M]$ .
- Users  $i$  derive gross utility  $\theta_i \cdot q_A$  from consuming service  $A$  and users  $j$  derive gross utility  $\phi_j \cdot q_B$  from consuming service  $B$ .
- $n^*$  and  $m^*$  are equilibrium numbers of purchasers of  $A$  and  $B$ .
- Thus  $n^* = \frac{q_A - p_A}{q_A}$  and  $m^* = \frac{M(q_B - p_B)}{q_B}$ .

# How is quality of service determined?

- Average quality  $\theta^*$  of users of  $A$  is determined by  $\theta^* = 1 - \frac{n^*}{2}$ .
- If there is rationing (one-to-one matching), probability that user  $j$  can match with a user  $i$  is given by  $\frac{n^*}{m^*}$ .
- Without rationing, overall expected quality of the service  $B$  is  $\theta^* = \frac{(2-n^*)}{2}$ , which yields  $m^* = \frac{Mn^*(2-n^*-2p_B)}{(2-n^*)}$ .
- With rationing, overall expected quality of the service  $B$  is  $\theta^*(\frac{n^*}{m^*}) = \frac{n^*(2-n^*)}{2m^*}$ , which yields  $m^* = \frac{Mn^*(2-n^*)}{n^*(2-n^*)+2p_B}$ .
- Without rationing, differentiating yields  $\frac{\partial m^*}{\partial n^*} = \frac{-2Mp_B}{[2-n^*]^2} < 0$ .
- With rationing, differentiating yields  $\frac{\partial m^*}{\partial n^*} = \frac{4Mp_B(1-n^*)}{[n^*(2-n^*)+2p_B]^2} > 0$ .
- The interpretation: if the quality of members is non-rival, raising prices raises the attractiveness of the platform by increasing quality of members. If it is strictly rival, raising prices reduces attractiveness of the platform by reducing their numbers.

# Determinants of pricing

- Platform chooses  $p_A$ ,  $p_B$  and  $q_A$  to maximize:

$$\Pi = n^*[p_A - C(q_A)] + p_B \cdot m^*$$

- First Order Conditions:

$$\frac{\partial \Pi}{\partial p_B} = m^* + \frac{\partial m^*}{\partial p_B}$$

and

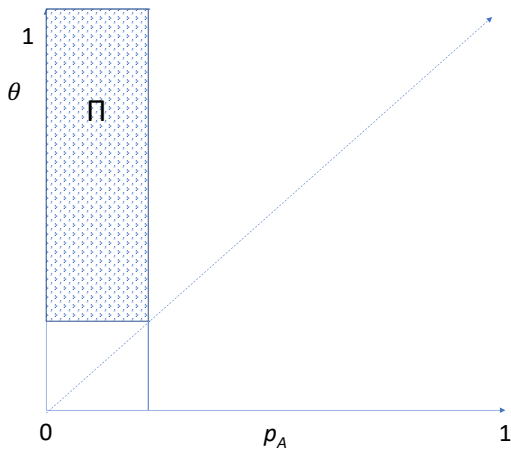
$$\frac{\partial \Pi}{\partial p_A} = n^* + \frac{\partial n^*}{\partial p_A} [p_A - C(q_A) + p_B \frac{\partial m^*}{\partial n^*}]$$

- Note that  $p_A$  will be higher than without the two-sided effect if member quality is non-rival, and lower if it is rival.

# What does this model show us?

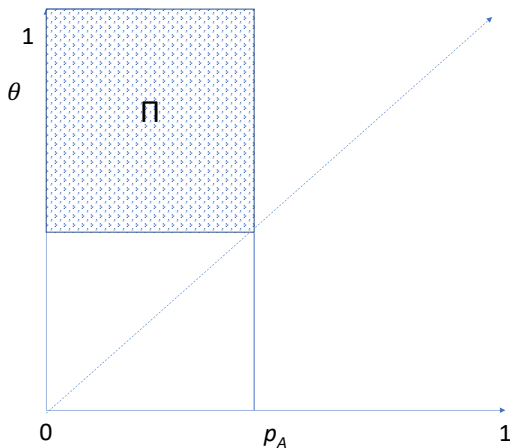
- In equilibrium, both kinds of service can be priced by the platform higher than the competitive market alternative.
- The ability to price service  $A$  high comes from the fact that it serves to screen users for quality and thereby attract users on the other side of the platform who care about the quality of those with whom they interact, provided quality is (at least to some extent) non-rival.
- The ability to price service  $B$  high comes from the fact that it serves to provide users with access to high-quality users on the other side of the platform.
- Many religious adherents pay high prices for both reasons:
  - the high price screens high-quality adherents.
  - the high price reflects, for any given adherent quality, an enhanced willingness to pay to interact with other users.

Effect of  $p_A$  on profits without platform effects: low price

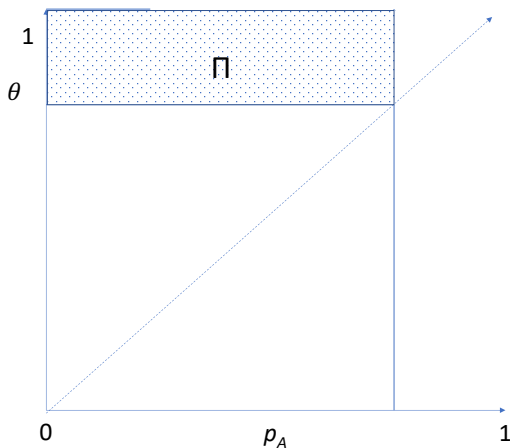




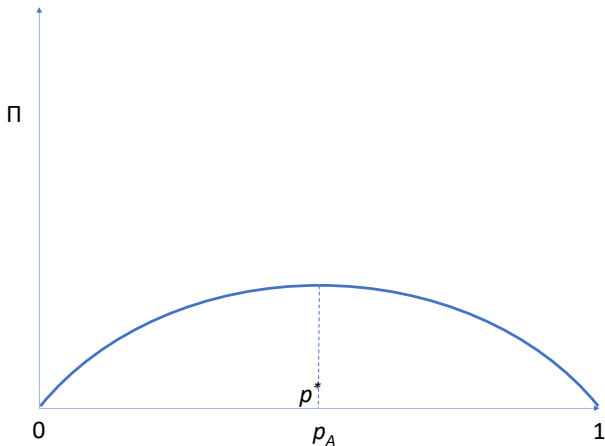
Effect of  $p_A$  on profits without platform effects: mid price



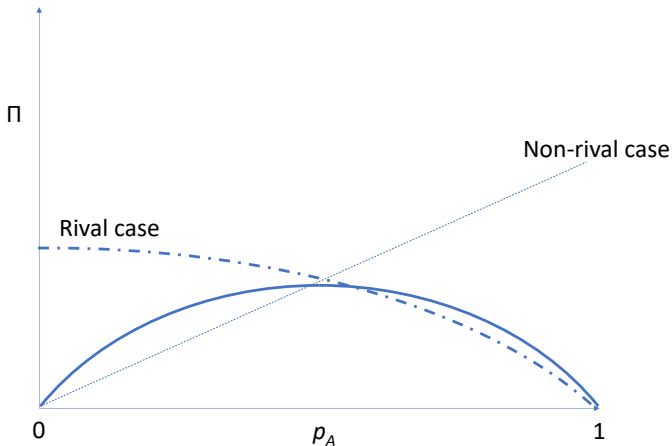
Effect of  $p_A$  on profits without platform effects: high price



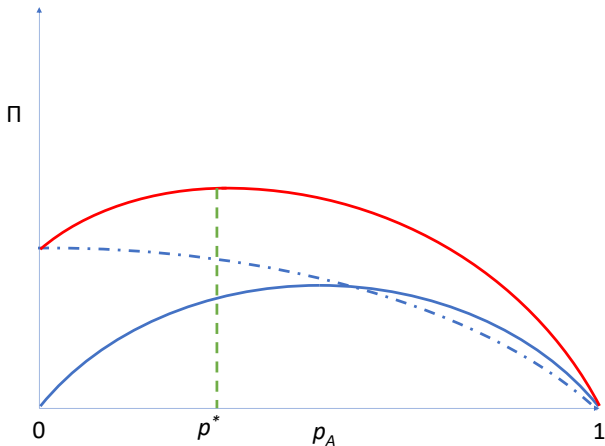
## Choosing $p_A$ to maximize profits without platform effects



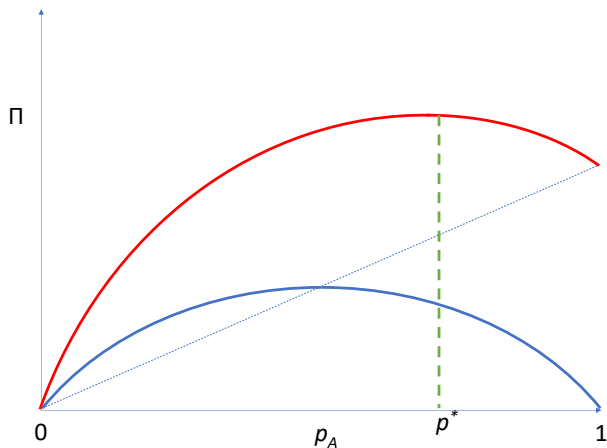
# Additional profits from service B users as a function of $p_A$



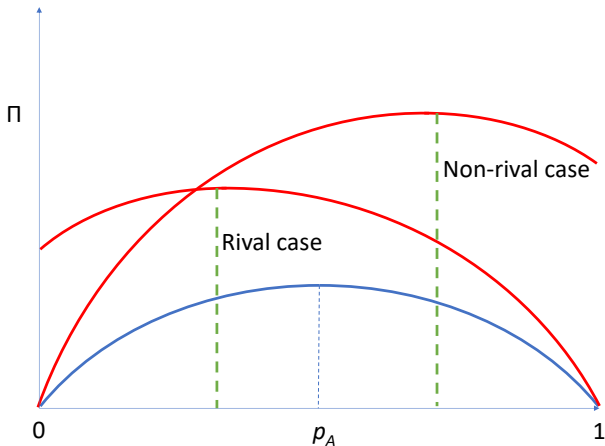
## Choosing $p_A$ with platform effects - Rival case



## Choosing $p_A$ with platform effects - Non-rival case



## Choosing $p_A$ with platform effects - the cases compared



# Applications of the platform model

- The platform competition framework is flexible: the business models of platforms can be very varied (for instance depending on whether the quality of members is a rival or a non-rival good).
- Our reference to Pentecostalism is illustrative, not definitive: many religious organizations have more targeted messages, and the provision of other services is often more implicit.
- However, elements of platform competition seem to characterize the provision of health, education and other such services in Christian, Muslim and Buddhist traditions.
- In practice, many religious organizations practise complex multi-dimensional pricing, involving not just financial costs but also “lifestyle” costs. This enables them to engage in more targeted price discrimination than we have modeled here.



# Our experimental findings: on secular services

- With Emmanuelle Auriol, Julie Lassebie, Eva Raiber and Amma Serwaah-Panin in Ghana, we offer subjects the chance to participate in a dictator game in which they can choose to keep money or to give it to their church or to general religious charities or general secular charities.
- We have a treatment in which we provided free funeral insurance.
- We show that participants in the treated group gave less money to their church, compared to a control group that had just been told about the insurance.
- They also gave less to secular charities, suggesting that the insurance they had been implicitly relying on works in the eyes of God rather than via a contract with the church.

# Our experimental findings on screening for character

- With Emmanuelle Auriol, Maleke Fourati, Diego Delissaint and Josepa Miquel-Florensa, we show in a 774-subject experiment in Haiti that more religious people are more trustworthy than others.
- We measure religiosity by willingness to purchase religious images to accompany play in the game.
- Effect sizes are large: between 14% and 21% of mean behavior.
- They don't reciprocate more after priming than before, nor more to members of the same denomination.
- Our measures of degree of religiosity in the lab correlate with intuitive measures of religiosity outside the lab.
- Our measures of degree of religiosity also correlate with participation in lending and (especially) borrowing behavior outside the lab - suggesting the trustworthiness associated with religiosity has economic payoffs.

# Coming back to platforms...

- Our more religious Haitian subjects are more attractive as economic partners because they have other motives for religion than finding economic partners.
- The same is true for our Ghanaian religious subjects who are more attractive as marital partners.
- It's characteristic of religions as platforms that they can charge high prices for bring together people who have other motives than merely being brought together.
- And other things that look like high costs may not be so high after all.

# Conclusions...

- The big story of the 20th and 21st centuries is not about an ideological struggle between Christianity and Islam.
- It's about the growing corporatization of religious life, with folk religions everywhere being displaced by organized versions of the two main world brands.
- The way to understand this competition is through noting that, when they compete in the market, religions function as platforms.
- Platform competition is typically modular, flexible and very adaptable.