

Religion, Pandemics and Health

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Cambridge-INET COVID Economics webinar series

Religion in a pandemic

- Covid-19 pandemic is an international battle
- Affected employment, economic growth, well-being
- Key factors that led to rapid diffusion
- Role of religion
- 9 out of 54 COVID-19 'super-spreader events' in 28 countries were religious gatherings



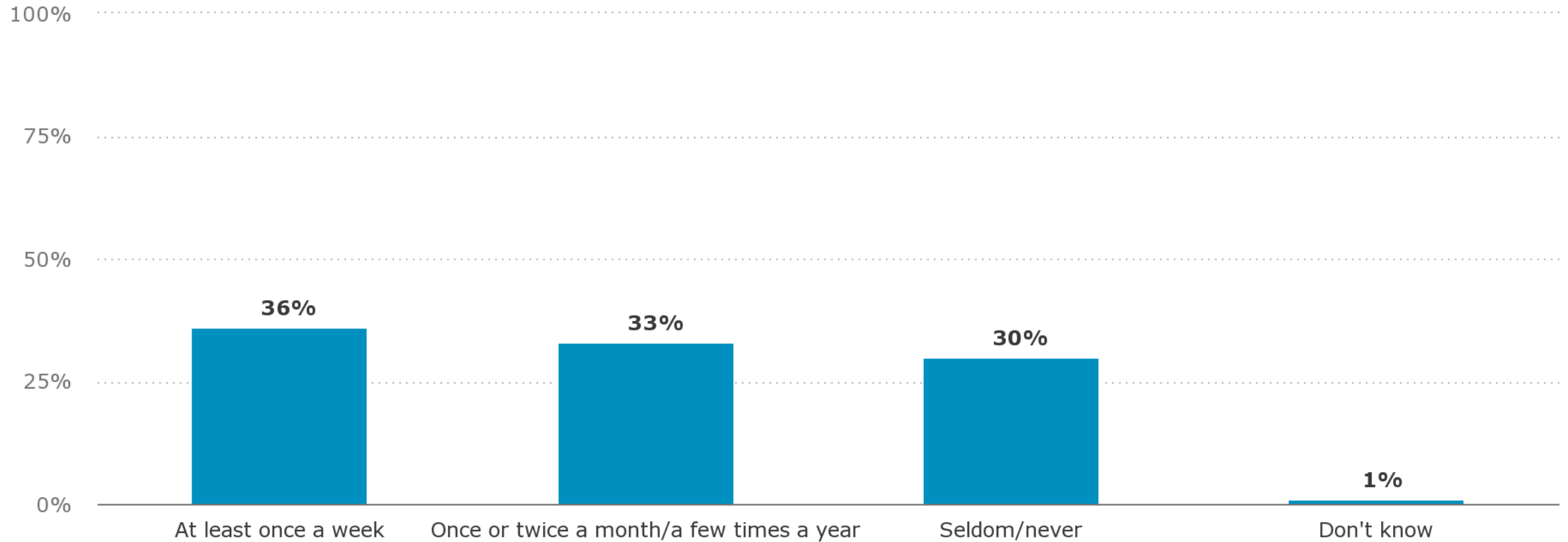
Religion widely prevalent globally, with economic consequences

- New field of research – The Economics of Religion
- More than 8 in 10 people identify with a religious group worldwide
- Figure 1. 36% of Americans attend a religious service weekly
- Figure 2. Religiosity is correlated with per capita income

Figure 1. Pew Research Center *Religious Landscape Study*, 2019

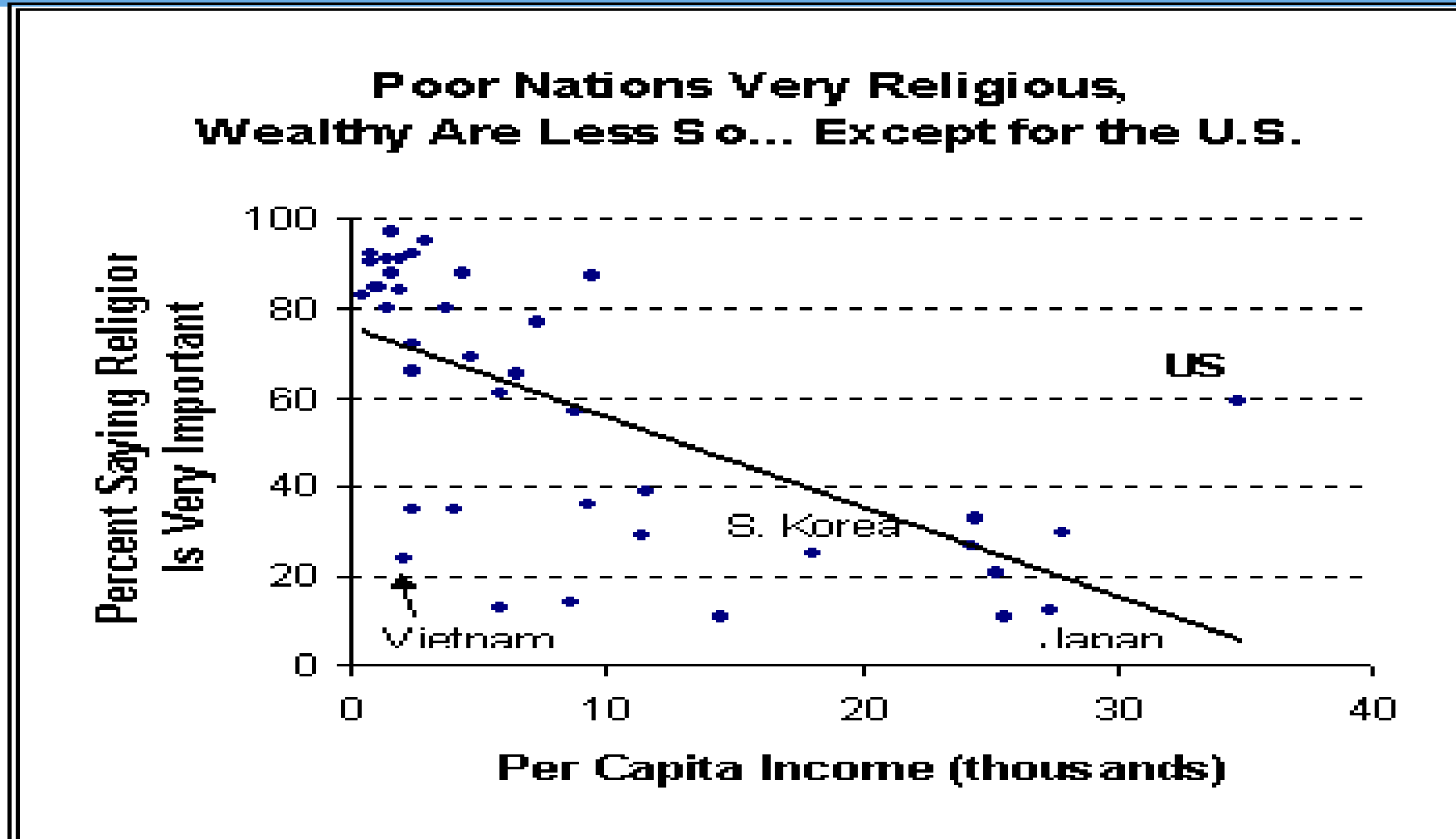
Attendance at religious services

% of adults who attend religious services...



PEW RESEARCH CENTER

Religiosity is correlated with per capita income across the world



Research questions in new Covid-19 project

- How do religious gatherings and religious networks spread infectious diseases such as Covid-19?
- How have Covid-19 induced restrictions on religious congregations affected physical and mental health?
- Project team members Cambridge Economics PhD alumni
 - Dr Girish Bahal (UWA, Australia)
 - Dr Anand Shrivastava (APU, India)



Why should religion affect the spread of disease?

- Media speculation (CNN 2020; National Catholic Reporter 2020; Reuters 2020; The Guardian 2020)
- Academic research

In times of crisis, people pray (Bentzen 2020)

In times of crisis, people persecute (Johnson and Koyama 2019; Ticku, Iyer and Shrivastava 2020)

- Generalizable across most world religions



Our study in progress

Hypothesis 1. Increase in religiosity in response to pandemic news may affect network that determines spread of disease

- Denser religious network increases chances of infection
- Substituting from other activities decreases risk of infection, and spread from religious community to people outside it
- Test Hypothesis 1: Globally, large and small congregations and how this correlates with Covid-19 incidence
- Small frequent gatherings (Christianity and Islam) versus larger infrequent gatherings (Hindu festivals)



What happens when religious gatherings are suspended in lockdown?

Hypothesis 2. Interaction of religion and Covid-19 induced restrictions affect mental and physical health

- Lockdowns, social distancing measures affect religiosity and health
- Public health measures affect significantly religions that mandate regular communal gatherings at places of worship
- Consequences for religious practice, not least because electronic team communications are imperfect substitutes



The Royal Choral Society sings in isolation the Hallelujah Chorus from Handel's Messiah on Good Friday 3 April 2020



Testing Hypothesis 2. Religion and restrictions

- Currently conducting online surveys in USA among 5000 people to elicit responses on how Covid-19 restrictions affect:
- Religious practice (family prayers, virtual services, online discussion groups, drive-through confession)
- Moving congregations online for different religions
- How disruptions in practicing religion have affected physical and mental health



Why should religion have an effect on mental health?

- Fruehwirth, Iyer and Zhang (JPE, 2019)
- Religiosity affects depression
- 20,000 US adolescents in grades 7-12, with information on school and home environment
- One standard deviation increase in religiosity decreases probability of being depressed by 11 percent
- Peer religiosity predicts own religiosity to show link is causal
- More depressed individuals benefit significantly more from religiosity than least depressed



Framework for how religiosity might help deal with depression

- Psychological resources - improved self-esteem
- Coping skills - ways to approach problems, active vs passive problem solving
- Social resources - helpful friendships, neighbourhood resources, direct financial aid
- Reduce exposure to stressors - health or family/friend's suicide, fostering stable home environments



Peer effects help us show the link is causal

- Peers affect drug and alcohol use, academic performance, religiosity
- Quasi-experiment: By chance, students in some grades exposed to more religious peers
- Isolate effect of individual religiosity on depression using variation in individual religiosity coming from random variation in religiosity of school-grade peers
- If certain adolescents become more religious because of exposure to religious peers, investigate whether same adolescents show improved mental health



Heterogeneity in religiosity and mental health

Table 2: Heterogeneity in religiosity and mental health

| | <i>N</i> | Religiosity | | Depression | |
|---------------------------|----------|-------------|--------|------------|--------|
| | | Mean | SD | Mean | SD |
| <i>Gender</i> | | | | | |
| Female | 6,666 | 8.89 | (3.18) | 11.99 | (8.03) |
| Male | 6,279 | 8.25 | (3.38) | 10.15 | (6.61) |
| <i>Race</i> | | | | | |
| White | 6,826 | 8.17 | (3.46) | 10.06 | (7.09) |
| Hispanic | 2,243 | 8.07 | (3.09) | 12.80 | (7.88) |
| Black | 2,817 | 9.78 | (2.75) | 11.46 | (7.42) |
| Other ethnicity | 1,059 | 9.10 | (3.09) | 13.26 | (7.49) |
| <i>Denomination</i> | | | | | |
| Catholic | 4,275 | 7.66 | (3.09) | 11.53 | (7.65) |
| Liberal Protestant | 1,130 | 8.09 | (3.56) | 9.34 | (6.46) |
| Moderate Protestant | 2,506 | 8.48 | (3.43) | 10.98 | (7.25) |
| Conservative Protestant | 5,034 | 9.51 | (3.08) | 11.19 | (7.49) |
| <i>Household income</i> | | | | | |
| Low income | 1,951 | 8.61 | (3.25) | 12.45 | (7.75) |
| Medium income | 5,283 | 8.51 | (3.36) | 10.89 | (7.35) |
| High income | 2,496 | 8.49 | (3.31) | 9.71 | (6.97) |
| <i>Mother's education</i> | | | | | |
| Mother no high school | 2,039 | 8.36 | (3.22) | 13.21 | (7.93) |
| Mother high school | 7,320 | 8.48 | (3.32) | 10.91 | (7.29) |
| Mother degree and above | 2,914 | 9.15 | (3.21) | 9.82 | (6.99) |



Current Covid-19 project using similar measures for religiosity and mental health

Depression

- Self-reported symptoms used to diagnose depression in clinical settings
- Based on Center for Epidemiological Studies Depression Scale (CES-D)
- 19 questions which report how frequently experience different symptoms (0 to 3)
- Aggregate response to create CES-D scale

Religiosity

- Frequency of church attendance, church-related activities, prayer and importance of religion
- Virtual services, online discussion groups, drive-through confession, online choirs, other religious substitutes
- Aggregate into a scale

Centre for Epidemiological Studies Depression Scale (CES-D)

Depression

Definition: sum over the following variables.

Coding of responses: 0 = never/rarely, 1 = sometimes, 2 = a lot of the time, 3 = most/all of the time.

- (1) You were bothered by things that usually don't bother you.
- (2) You didn't feel like eating, your appetite was poor.
- (3) You felt that you could not shake off the blues, even with help from your family and your friends.
- (4) You felt that you were just as good as other people.^a
- (5) You had trouble keeping your mind on what you were doing.
- (6) You felt depressed.
- (7) You felt that you were too tired to do things.
- (8) You felt hopeful about the future.^a
- (9) You thought your life had been a failure.
- (10) You felt fearful.
- (11) You were happy.^a
- (12) You talked less than usual.
- (13) You felt lonely.
- (14) People were unfriendly to you.
- (15) You enjoyed life.^a
- (16) You felt sad.
- (17) You felt that people disliked you.
- (18) It was hard to get started doing things.
- (19) You felt life was not worth living.



Religiosity

Religiosity

Definition: sum over the following variables.

- (1) In the past 12 months, how often did you attend religious services?
Responses: 0 = never, 1 = less than once a month, 2 = less than once a week/at least once a month, 3 = once a week or more.
- (2) Many churches, synagogues, and other places of worship have special activities for teenagers—such as youth groups, Bible classes, or choir. In the past 12 months, how often did you attend such youth activities?
Responses: coded same as question (1) above.
- (3) How important is religion to you?
Responses: 0 = not important at all, 1 = fairly unimportant, 2 = fairly important, 3 = very important.
- (4) How often do you pray?
Responses: 0 = never, 1 = less than once a month, 2 = at least once a month, 3 = at least one a week, 4 = at least once a day.



Denomination

| Religious denomination | Religious affiliations |
|-------------------------|--|
| No religion | No religion |
| Catholic | Catholic |
| Liberal Protestant | Episcopal, Friends/Quaker, Methodist, Presbyterian, United Church of Christ, Unitarian |
| Moderate Protestant | Christian Church (Disciples of Christ), Lutheran, National Baptist, other Protestant |
| Conservative Protestant | Adventist, AME/AME Zion/CME, Assemblies of God, Baptist, Christian Science, Jehovah's Witness, Congregational, Holiness, Latter Day Saints (Mormon), Pentecostal |
| Other religion | Baha'i, Buddhist, Eastern Orthodox, Hindu, Islam, Jewish, other religion |



Going forward, we have many questions to answer

- Results from our USA survey (extensions to India and Australia)
- Before lockdowns, was Covid-19 spread by religious gatherings?
- Places of worship re-opened; will face-to-face communications be important even with social distancing?
- During lockdowns, have Covid-19 restrictions on religion affected mental health?
- Do well-being aspects of new forms of religious gatherings have same health benefits as physically going to places of worship?
- And if religion matters, might it (or might it not) be one potential non-clinical way to complement current mental health policies?

