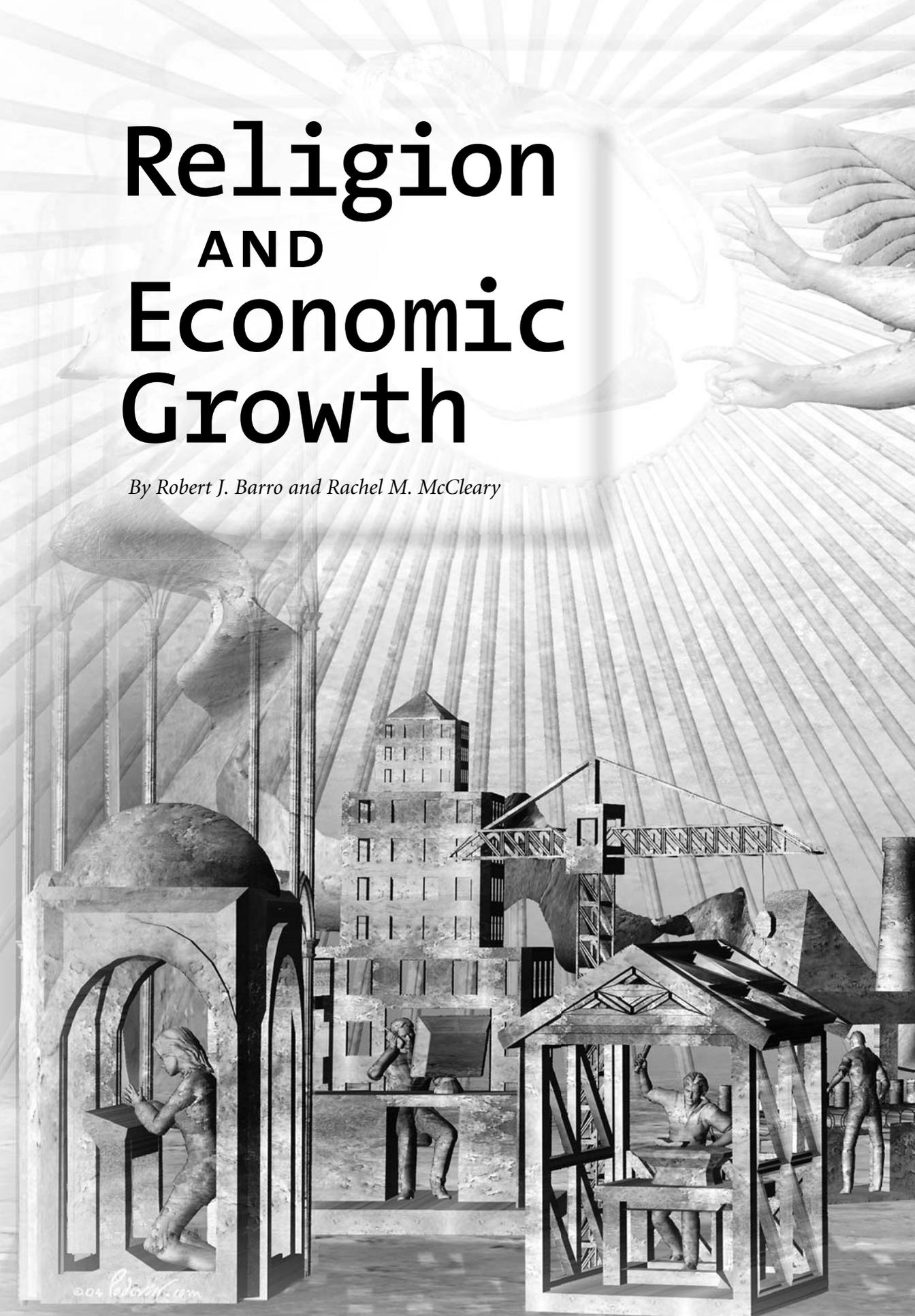


# Religion AND Economic Growth

*By Robert J. Barro and Rachel M. McCleary*







## Does organized religion that demands the expenditure of considerable time and resources on the part of the devout undermine economic productivity?

In an era in which the richest countries (with the major exception of the United States) have relegated religion to secondary roles and some of the poorest seem consumed by fundamentalist visions, it should not be surprising that religion is often viewed as detrimental to economic development. Indeed, it is hardly a new idea: the Protestant ethic, with its emphasis on hard work, saving and the secularization of society, was celebrated by Max Weber as a critical factor in the rise of capitalist Europe. But strikingly, the relationship between religion and the determinants

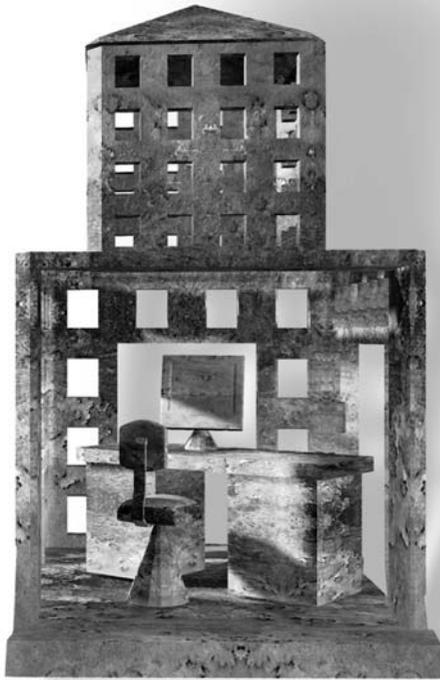
of economic growth in the modern world have not been examined in a rigorous way.

Here, we attempt to fill the gap, using statistical analysis across countries. The most useful sources of international data on church attendance and religious beliefs are the three waves of the non-profit World Values Survey (1981 to 1984, mostly 1981; 1990 to 1993, mostly 1990; and 1995 to 1997, mostly 1995 and 1996); the two reports on religion by the non-profit International Social Survey Programme (1990 to 1993, mostly 1991; and 1998 to 2000, mostly 1998); and the for-profit Gallup International Millennium Survey (1999).

Putting the various sources of religion data together, and considering the availability of data on other variables, we were able to carry out statistical analysis designed to isolate the determinants of economic growth for up to

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59 countries. These include up to 23 countries observed around 1981, 37 around 1990, 22 around 1991, 32 around 1995, 28 around 1998, and 41 around 1999. The exact sample size for the regression analyses depends on the measure of religiosity.

The countries covered tend to be richer and more Christian than the world as a whole. The only predominantly Muslim countries are Bangladesh, Malaysia, Pakistan and Turkey. Countries that have predominantly Eastern religions among people expressing some religious adherence are China, Hong Kong, Japan, South Korea, Singapore, Taiwan and Thailand. Some of these countries – notably, South Korea – have experienced large numbers of conversions to Christian sects over the last 30 years.

### **BELIEVING, BELONGING AND PRODUCING**

Using statistical analysis to tease out the separate effects of factors on economic development, we found that economic growth

responds positively to religious beliefs – notably to belief in the concepts of hell and heaven. But, by the same token, growth is negatively related to church (temple, mosque, etc.) attendance. Or to put it more succinctly, growth depends on the extent of “believing” relative to “belonging.” These results are in accord with a model in which religious beliefs influence individual traits that enhance economic performance. And they contradict the secularization hypothesis, which, according to Weber, dates back at least to the ideas of John Wesley, the founder of Methodism in the late 18th century.

In Weber’s view, economic development causes individuals to become less religious, as measured by both church attendance and religious beliefs. The beliefs may refer to God, an afterlife, heaven, hell and so forth, or just to tendencies of people to characterize themselves as religious. The secularization hypothesis also encompasses the idea that economic development causes organized religion to play a lesser role in political decision-making and, more generally, in social and legal processes.

Economic development typically features an array of changes, including increases in per capita income, education, life expectancy and urbanization, along with reductions in fertility and infant mortality, and changes in age structure. The predicted effect of development on religiosity depends on the particular aspect of development. Hence, it is important in theoretical and empirical treatments to distinguish among these aspects.

For example, education is one important correlate of development. One argument for the secularization hypothesis is that people with more schooling are more likely to believe in the scientific method and are, therefore, more inclined to reject doctrine that relies on supernatural forces. Put another way,



# Heaven and Hell in the Major Religions

**B**eliefs in heaven and hell of the major world religions – Hinduism, Buddhism, Christianity and Islam – provide varying incentives for performing economic activities. Hinduism and Buddhism tend to emphasize positive incentives (carrots) for economic activities. In these religions, believers who perform their obligations are reincarnated into heavenly intermediate stages (carrots). Those who fail to perform their obligations are reincarnated into intermediate, transitory stages of purgatory (sticks). Supererogatory acts of merit help a person move into a higher stage of heaven by earning salvific merit, and can shorten a person's stay in purgatory. Reincarnations occur when the individual sheds bad karma in the temporary and intermediate stages of hell, and moves toward perfection, or *mokṣa*. In short, Hinduism is a belief system on how to attain perfection.

Islam and Roman Catholicism mix positive and negative incentives for economic behavior. Both religions interpret hell as having transitory levels, with an ultimate permanent hell. Heaven, like hell, is a permanent state. Those who end up in hell do so as a consequence of their own free will, and not as the result of a vengeful God. There are levels of hell, where individuals who may still be

saved, yet have committed serious moral wrongs, will temporarily suffer until an intermediary (angel, prophet, believer) intercedes on that person's behalf.

In some forms of Protestantism, transitory, intermediate stages of hell and heaven do not exist. Therefore, a believer is as likely to go to hell as to end up in heaven. Avoiding damnation (stick) becomes the primary motivating factor for a believer's economic behavior and redistributive activities. The logic is that since a believer cannot know whether or not she will go to hell, she cannot work off her sinful behavior through penance, and must therefore work diligently in order to (a) contribute to her salvation, or (b) receive a sign from God that she has been saved.

Analyzing data from the three waves of the World Value Survey (1981; 1990 and 1991; and 1995 and 1996), Muslims are more likely than Catholics, Hindus, Buddhists and Protestants to profess a belief in heaven and hell. Given that Protestants tend to believe in the eternal nature of heaven and hell with no intermediate degrees, and that a believer has only this lifetime to earn salvation, it would seem that Protestants would express a higher belief than Muslims in the ends of the afterlife.

A possible explanation for the finding is



that whereas Christianity, particularly in the form of Protestantism, places emphasis on individual responsibility for one's religious obligations, Islam is legalistic, stressing the fulfillment of laws that are communally enforced. The laxness of communal enforcement of religious beliefs in Protestantism creates an individualist approach to religious living – a focus on the inward, personal relationship with God.

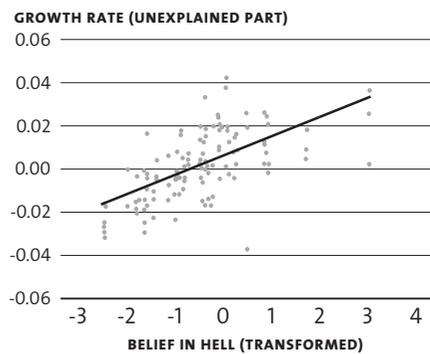
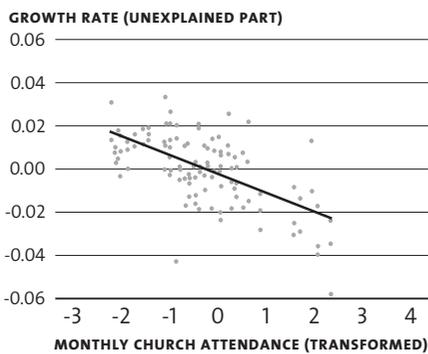
Communal enforcement in Islam stresses outward expressions of one's religiosity and accountability for one's actions to others. Therefore, in Islam, belief in heaven and hell is reinforced through a communally shared understanding of life after death.

Another explanation might be that whereas Protestantism posits the survival of the soul after death, Islam believes in a physical as well as spiritual survival after death. The Koran gives graphic details of physical sufferings in hell as well as sensual pleasures in paradise. The New Testament, by contrast, provides little detail of immortal survival in heaven and hell. Thus, the physical survival after death in Islam coupled with the knowledge provided by the Koran of what after-death survival will be like, makes heaven and hell quite real for the believer.

Yet a third explanation for why Muslims have a stronger belief in hell than Protestants is the epistemological uncertainty that gives rise to what Max Weber called "religious anxiety" leading to increased productivity or industriousness. Hence the Protestant lack of assurance in salvation leads to greater productivity – not a stronger belief in hell.

## Statistical Results on Religion and Economic Growth

The figures illustrate the effects on the rate of economic growth from monthly church attendance and belief in hell. These results come from cross-country evidence from the 1960s through the 1990s. The graphs are constructed to hold constant the influence on economic growth from an array of explanatory variables other than the one shown on the x-axis. Specifically, Figure 1 shows the negative effect of monthly church attendance on economic growth while holding constant the belief in hell, whereas Figure 2 shows the positive effect of belief in hell on economic growth while holding fixed monthly church attendance. Thus, the graphs represent the effect on economic growth not from an overall change in religiosity but, rather, from a shift in belonging with believing held fixed, or vice versa.



if religious beliefs are based primarily on ignorance, more-educated people would tend to be less religious. That viewpoint was expressed by the Scottish philosopher David Hume and as well as by Sigmund Freud, who argued that religion derived from irrational human fears and anxieties.

A contrary argument is that religious beliefs, like many theoretical hypotheses, require abstract thinking, or “faith.” If educated people are more capable of the abstrac-

tions needed for intellectual inquiry, they may also be more able and willing to make the abstractions needed to support religious beliefs. Therefore, from this perspective, educated people may be more religious.

Bruce Sacerdote and Edward Glaeser of Harvard provide yet another explanation for why increased education would spur church attendance. They argue that education increases the returns from social networks and other forms of social capital.

Hence, they predict that more-educated people would have stronger incentives to participate in group activities, including church services. This argument reinforces Robert Putnam's view of the importance of social capital, found in his widely read book, *Bowling Alone: The Collapse and Revival of American Community*.

However, in the Glaeser-Sacerdote-Putnam approach, church attendance bears no special relation to religious beliefs – churchgoing is modeled as just one of many ways to build social capital. Hence, this analysis predicts no clear relationship between education and religious beliefs, except insofar as more frequent church attendance instills greater beliefs.

Models that focus on salvation predict that people will become more religious as they age and, hence, get closer to death. Similarly, for a given age, the prediction is that religiousness would be higher the lower one's life expectancy. Weber observed that Catholicism allowed for a continual cycle of sinning and absolution. Therefore, people have an incentive to accumulate sins early in life and then repent as they get closer to death. Weber argued that this pattern did not apply to Calvinist Protestantism, which dictated daily moral conduct throughout life as the only means of finding a sign that one had been chosen.

#### **ECONOMIC GROWTH AND THE COSTS OF RELIGION**

Economic reasoning implies that anything raising the cost of religious activities would, other things equal, reduce these activities. For example, economic development raises the value of time, as measured by market wage rates. Hence, development implies a rising opportunity cost of participating in time-intensive activities like church services and prayer. It would follow that development tends to reduce church attendance and other

religious activities.

Seen from this perspective, children tend to go to church services relatively often because their costs of attendance are comparatively low. This effect is reinforced because the productivity of attendance – in the sense of the beliefs engendered through indoctrina-

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tion – is likely to be high at young, formative ages. Moreover, the incentive to bring children to church tends to induce greater church attendance by adults, who are likely to want to participate in the process of inculcating their children. Therefore, the declining fertility rates that typically accompany economic development are another force that supports the trend toward secularization.

Urbanization – another strong correlate of economic development – has also been seen as a substantial negative influence on religiosity. One reason is that church services have to compete with forms of leisure activities in urban areas, like museums, theaters and political organizations.

The sociologists Bryan Wilson and Peter Berger built on a theme from Weber, arguing that economic development leads to the secularization not only of individuals but also of political and social institutions, including the churches themselves. Notably, official state

## **RELIGION AND GROWTH**

churches would become less common. And separation of church and state would become more pronounced, with organized religion exercising a diminishing influence over social and economic regulation involving matters like markets, marriage, divorce, birth control, abortion and euthanasia. Church services would also become less demanding – for example, churches would abandon the use of foreign languages, require smaller outlays

tence of a monopoly provider of religion – for example, by an established state church. If competition exists among churches, in part it takes the form of debunking the religious beliefs practiced by others. If the beliefs are based primarily on superstition and ignorance, the argument is that these beliefs cannot withstand the competition. Hence, according to this view, the demise of official state churches – predicted to be a part of the secularization process – would foster the

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of time by participants, simplify elaborate rituals and require less stringent devotional practices by adherents.

Beginning in the 1970s, a wide variety of studies conducted by anthropologists, including Richard F. Gombrich, Ronald P. Dore and Gananath Obeyesekere, offered a different perspective. They found that secularization was not always the result of economic development and modernization. Rather, conversely, the rise of new religious movements and the rapid spread of religions could be attributed to the disparity between the promises of industrialization and the reality of low-income countries that had yet to deliver prosperity. Hence, this argument stresses not the level of economic development, but rather the frustrations related to inequality of income and to unfulfilled expectations of rising income.

Another argument by secularization theorists is that religiosity is fostered by the exis-

decline in individual church attendance and beliefs. Some of this idea is reflected in Adam Smith's *Inquiry into the Nature and Causes of the Wealth of Nations*, and is attributed partly to David Hume.

There is a countervailing force at work here, though. Smith also noted that monopoly providers of religious services tend – as monopolies do generally – to become non-innovative and indolent. He particularly observed this behavior in the Church of England, where religious “zeal” was frowned upon. Religion, Smith argued, is thus more vibrant where there is a disassociation between church and state, because the absence of state religion creates a climate for competition among religion providers.

The Smithian perspective on religious competition has been used by two sociologists, Rodney Stark and William S. Bainbridge, to develop a “market” or “supply-side” model of religious participation. Their argument is

that greater religious pluralism – measured, for example, by an index of the diversity of religions that exist in a country or region – tends to promote better service and, hence, encourages religious participation. Moreover, an established state church tends to deter religious pluralism and, hence, to lead to “bad” service and low participation in organized religion.

Note, however, that the connection between pluralism and religious beliefs would be expected to be weaker than that between pluralism and church attendance. That is, individuals may sustain a high degree of religious beliefs even if they rely little on the support from organized religion.

#### **WHY RELIGION MATTERS**

We find a strong relationship between economic growth and religiosity. In our analysis, we simultaneously include measures of church attendance and religious belief. To put it another way, the main impact of religion on growth is a positive response to an increase in believing *relative* to belonging (attending). It should thus not be surprising that striking patterns of relatively high beliefs and low church attendance appear in some Scandinavian countries and in Japan.

Governments can also suppress religion – either specific ones or religion in general. For example, the Soviet Union and China tried hard to eradicate organized religion both because religion figured prominently in Marxist theory and, more practically, because it was regarded as competition to the Communist quasi-religion. From an empirical perspective, it is interesting to examine not only the impact of Communism on church attendance and religious beliefs, but also the changes that occurred since the elimination of Communism in many countries in the 1990s.

Our statistical results show that, for given

religious beliefs, increases in church attendance tend to reduce economic growth. In contrast, for a given level of church attendance, increases in core religious beliefs – notably in hell, heaven and an afterlife – tend to increase economic growth. There is some indication that the stick represented by the fear of damnation is more potent for growth than the carrot from the prospect of salvation.

We conjecture that religious beliefs stimulate growth because they help to sustain aspects of individual behavior – honesty, thrift and work ethic – that enhance productivity. Note that our statistical estimates do not imply that greater church attendance has a net negative influence on economic growth. Rather, the net effect depends on the extent to which an increase in attendance leads to stronger beliefs.

Having many religious holidays or requiring congregants to attend services does not necessarily translate into more believers. Furthermore, joining a church for social reasons (the Glaeser-Sacerdote-Putnam social capital approach) may not produce the kind of beliefs that lead to personal traits that enhance productivity.

Contrary to the social capital argument, we find that, for given levels of religious beliefs, the effect of greater church attendance is to reduce economic growth. This effect combines the negative effect of the resources used up by the religion sector, the positive networking effects of religious congregations and the ambiguous influence of organized religion on laws and regulations.

If the goal is to put religion to the service of economic development, perhaps the solution is to have children attend religious classes while their parents go off to work. Religion, it seems, is for the young, when the opportunity cost of their time is low and their capacity for absorbing pro-growth values is high. **M**