# "Religious Co-option in Autocracy: A Theory Inspired by History"

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# Religious Co-option in Autocracy: A Theory Inspired by History[*]

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**Abstract**

The relationship between religion and politics is explored from a theoretical standpoint, assuming that religious clerics can be co-opted by the ruler acting as an autocrat. The comparative effects of decentralized versus centralized religions on the optimal level of cooperation between the autocrat and the religious clerics, which itself impinges upon political stability, is analysed. The paper shows that the presence of a decentralized body of clerics makes autocratic regimes more unstable. It also shows that in time of stability, the level of reforms is larger with a centralized religion than with a decentralized one. When the autocrat in the decentralized case pushes more reforms than in the centralized one, he always does so at the cost of stability. Historical case studies are presented that serve to illustrate the main results.

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# 1   Introduction

This paper is an exploration into the relationship between (autocratic) politics and religion in the context of non-secularized developing countries. It looks at the instrumentalization of religion by an autocratic ruler concerned with the stability of his hold on power as well as by reforms enriching him and his entourage. It compares two types of religious structure: centralized and decentralized. The exercise is mainly theoretical but it is inspired by history in the sense that the assumptions on which the theory is based and the analytical questions addressed are drawn from our knowledge of the relationship between politics and religion both in countries that are now advanced and in currently developing countries.

As current observation testifies, few developing countries turn out to be genuine democracies. This was more evident in the 1960s and 1970s than today, especially when attention is focused on Latin America and Africa. It nevertheless remains true in a large part of the developing world where political regimes prevail that lack some basic attributes of democracy. This is especially evident in Asia where India is standing almost alone in the democratic category. It also bears emphasis that latecomers in the industrial revolution (Germany, Russia, and Japan) during the 19th and beginning of the 20th centuries were not governed in a democratic way. Moreover, many old democracies of Western Europe, with the notable exception of the Netherlands, started as absolute monarchies. What all this evidence suggests, therefore, is that modern states tend to be non-democratic during the crucial phase of their formation and consolidation.

Since their legitimacy cannot rest on the principles of democracy, developing autocracies need to rely on other sources. Because of its reference to the sacred sphere of life, religion provides a transcendental legitimacy which the autocrat may seek in support of his rule. This may be a particularly effective strategy in traditional societies where the influence of religion is pervasive due to low rates of urbanization and low education levels of the majority of people. The experience of Europe, most notably in the course of the 17th and 18th centuries, attests to the importance of a strategy based on a strong identification with a particular religion and on

the ruling principle 'cuius regio eius religio' according to which a citizen should have the same religion as the sovereign (Kaplan, 2007). Since the latter rule implies that not espousing the sovereign's faith is tantamount to betraying one's country, it is actually quite difficult to disentangle the two sources of loyalty, at least in the case of modern Europe (both Western and Eastern). The same principle is still observed in a significant number of developing countries where members of the religious establishment believe it to be their duty to obey a secular ruler, however despotic and corrupt, provided that he proclaims official allegiance to their religion. This was particularly evident with Catholicism in many Latin American countries during the 1960s and 1970s, with Islam in many Muslim countries, and even with Budhism in times of crisis (e.g., during and after the Tamil rebellion in Sri Lanka).

In order to gain religious legitimacy, however, it is not actually sufficient that an autocrat officially proclaims his adherence to a particular religion. He must also strive toward co-opting religious clerics with the purpose of obtaining support for his policies by means of legitimating statements or speeches. But, unlike the first, purely declamatory component of the strategy, co-option involves a cost: religious clerics have to be bought into submission, implying that rewards and privileges must be granted to them in exchange for their cooperation. The ideal situation seems to be when the clerical body is unified under a centralized church structure headed by an undisputed authority, and that authority stands rather close to political power. This situation prevailed in many European countries in the 17-18th centuries (e.g., France, Spain, the Netherlands, Poland, Sweden, Hungary, Italy) while it has been deliberately created as the consequence of a schismatic break with a foreign church in some others (most notably, England during Henry VIII's reign). Completely different is the situation where there is no vertical chain of command but a decentralized clerical structure. Since clerics have different levels of attachment to the ethical values and moral principles inspired by their religion (they have diferent income-value preferences) and, therefore, different tastes for the autocrat's policies, it is not a priori clear which fraction of them the autocrat is willing

to co-opt.

The most striking example of a decentralized religion combined with political autocracy is Islam. The difference in organizational form between Catholicism and Islam has deep historical roots: unlike the first Christians who built up a church structure to defend themselves against a state which oppressed them, the Muslims had no need to construct a centralized religious organisation because Muhammad, the founder of the religion, held political power as governor of Medina (Greif, 2006: 206; see also Lal, 1998: 62-64; Lewis, 2002: 113-15; Kepel, 2005: 237; Lilla, 2007: 56-8, 318).[1] In Muslim countries, there is no hierarchy that exerts authority over the whole clerical profession. No church establishment exists and, as a result, the clerics operate in a rather decentralised way, pronouncing their own fatwas (juridical rulings or opinions based on the Islamic Law) as they deem fit. A fatwa issued by one cleric can therefore be followed by counter-fatwas issued by other clerics. Moreover, the impact of a fatwa depends mainly on the prestige of the cleric or the group of clerics who issue it, whether they occupy an official position or are self-appointed (Coulson, 1964: 78-9; Berkey, 2010: 40; Daftary, 2010; Beloucif, 2003; Filiu, 2008).

One important reason why conservative or radical clerics may not like the autocrat's policies or actions lies in progressive reforms that violate, or are believed to violate, basic tenets of the faith. Think of reforms that liberalize divorce, allow gender mixing or reduce women's dependence upon male relatives or the husband, of reforms that replace traditional religious courts by secular courts, of reforms that promote modern curricula at schools and place the whole system of religious education under the control of the state, or of reforms that enlarge the scope of individual liberties.[2] In the Mus-

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[1]Inside Christianity, Protestantism is quite decentralized compared to Catholicism and Eastern Orthodoxy, especially the strand of Protestantism encountered in the United States. It is noteworthy, however, that this strand tends to predominate in advanced democratic countries, which are beyond the scope of our study.

[2]Another important reason is that the autocrat and his close circle may have indulged in corruption and all sorts of illegal enrichment practices, while simultaneously evincing cynical aloofness from ordinary people living in precarious conditions. In this case religious dissenters are socially-minded clerics sensitive to the ideals of social justice and equality inherent in monotheist religions. In this paper, for the sake of clarity we will not elaborate on this second source of religious opposition. However, it must be stressed that our theory can be reinterpreted in term of the anti-corruption religious motivation.

lim world, at least some of these legal and administrative reforms have been undertaken in countries such as Turkey, Syria, Egypt, Iraq, Indonesia, Morocco, and Tunisia. By contrast, Algeria, Sudan, Pakistan, and Saudi Arabia eschewed them.

In our theory, when considering the possibility of introducing progressive reforms, a reformist autocrat is confronted with a trade-off between the extent of these reforms and political stability. More precisely, forsaking reforms allows him to enlist more clerics in his support and thereby enhance the stability of his regime. Conversely, pushing forward with reforms may cost him the support of a fraction of the clerics with the attendant consequence of a reduced political stability. The trade-off is most evident in the case of decentralized religions. The most uncompromising clerics are those who require the highest price to be co-opted, hence the attention to the *marginal* cleric. In contrast, stability is easier to come by with a centralized religion since the autocrat negotiates directly with the head of the church. The centralized structure offers a solution to the collective action problem of the clerical body and, hence, the emphasis is on the *average* cleric, as the church needs enough resources to compensate its members for the reforms. The trade-off also underpins any comparison of the achievements of autocracy under centralized and decentralized religions. A question of particular interest is how an autocracy under a centralized religion compares with an autocracy under a decentralized religion with respect to political stability and engagement in reforms.

The paper shows that the presence of a decentralized body of clerics makes autocratic regimes more unstable. It also shows that in time of stability, the level of reforms is higher with a centralized religion than with a decentralized one. The intuition for this result is that while in the former case the autocrat needs to buy the average cleric into submission, in the latter case it is the most radical cleric whom he must bribe in order to achieve the desired level of political stability. The result can be nevertheless upset if the autocrat chooses reforms over stability in the decentralized case. Equilibria indeed exist where the level of reforms is higher under a decentralized religion than under a centralized one. The regime under re-

ligious decentralization is then reformist and unstable whereas it is stable but more conservative under religious centralization. In the former situation, the autocrat chooses to co-opt a smaller fraction of clerics, the most progressive ones, so that he can undertake enough reforms. In the latter, this is not an option and, if the church is conservative (i.e., the average cleric is conservative), the path of reforms will be slow. Comparative-static analysis shows that, in the decentralized case, when the clerics become more radical, the optimal policy of the autocrat is to forego progressive reforms in order to enlist a larger clerical support and mitigate the risk of regime collapse. By contrast, in response to a change that increases the return to reforms, he might optimally choose to push reforms at the risk of a higher political instability. The last part of the paper contains a good amount of empirical evidence, but rather than constituting a rigorous empirical test of the theory, which in any case would be extremely hard to come by, it provides rich case study material aimed at motivating the analysis.

The paper is constructed as follows. In Section 2, we review the related literature. Section 3 is the central part of the paper where our theory is expounded and its results are derived. Section 4 presents illustrative evidence by the way of historical case studies. Section 5 concludes.

## 2    Related literature

Our theory is comprised of three components: (1) there is an autocrat who maximizes his expected surplus in conditions of uncertainty caused by the risk of political rebellion; (2) in order to mitigate that risk, the autocrat resorts to co-option of potential leaders of a rebellion; and (3) the leaders to be tamed are religious clerics.

The point of departure given by (1) echoes a long tradition initiated by Gordon Tullock (1987), who claimed that dictators primarily seek to remain in office, and often face a high risk of being overthrown. It is therefore natural that many political scientists and political economists have subsequently examined the strategies which rulers use to stay in office, ranging from loyalty and repression (Wintrobe, 1998), to divide-and-rule strategies

(e.g., Verdier et al., 2004; De Luca et al., 2014), power-sharing and bargaining (e.g., Lizzeri and Persico, 2004; Morelli and Rohner, 2014), and even optimal succession rules (Konrad and Skaperdas, 2007; 2015). The two classical instruments of authoritarian control are repression and co-option, and a few authors have explicitly studied the trade-off between these two strategies. Among them are Desai et al. (2009) who have labeled such a trade-off "the authoritarian bargain", or Bove and Rivera (2015) who analyze it as a balancing act between vertical repression of the population and horizontal repression of the elites (see also Koga, 2015). These elites, whom De Mesquita et al. (2005) call the "selectorate", are generally considered as the most serious threat to the dictators' power.

One common motive of the elites for deposing a dictator is the hope of occupying power themselves (Acemoglu et al., 2010; Konrad and Skaperdas, 2007, 2015), or of obtaining more favours under another dictator (Sekeris, 2011). Evidence shows that elites tend, indeed, to control the fates of dictators, and statistically most dictators were overthrown by members of their inner circle rather than as a result of genuine popular uprisings. By one estimate (iSvolik, 2009), out of 303 authoritarian rulers, 205 (68 percent) were deposed by a coup between 1945 and 2002.

The third ingredient of our theory, as reported under (3), is the religious nature of the elites considered as a target for favours by the autocrat. Religious clerics have two special features that distinguish them from other elites: first, they hold values regarding social justice and human rights, or regarding proper behavior as prescribed by their religion; second, as representatives of the supernatural world and as wise men supposedly possessing deep knowledge (theological and philosophical, in particular), they have a natural prestige and exert great influence on the population. Because of these two traits, the clerics are susceptible of playing a role as political actors. They are also susceptible of being bought off by the autocrat, and the price to be paid will typically increase with the distance between the values they hold and the autocrat's policies or practices. Since there is a continuum of values that differentiate the clerics, with a decentralized religion the autocrat will choose the mass of religious clerics that he wants

to co-opt. Those who are excluded form this category (i.e., non-official or self-appointed clerics who stand beyond the autocrat's control) represent a threat to the regime's stability. This is because they are able to express socio-economic and cultural grievances "in the only way familiar to most people, a religious idiom arraying the forces of good against the forces of evil and promising to bring justice to the oppressed" (Keddie, 2003: 3). In the centralized case, on the contrary, the autocrat bargains directly with the hierarchy of the religious institution as represented by a pope, a patriarch or a governing council.

There is ample evidence to the effect that, in its relationship to the sovereign, the religious officialdom (the co-opted clerics) tends to sacrifice ethical values to the altar of personal interests. In the Ottoman empire, for example, "the entire religious establishment held office at the pleasure of the sultan" (Cleveland, 2004: 48). The "cozy relationship" between the religious clerics (meaning not only the ulama but also the Sufi orders) and the sultan "translated into significant economic and political privileges" for the former (Malik, 2012: 8). Offices typically involved lucrative functions which included revenue generation and the administration of religious endowments that controlled vast tracts of land. Religious appointments were highly coveted as the associated incomes were exempt from taxes. Religious families possessing long-standing honourable ancestries, in particular, competed for religious offices, titles and tax farms and, when successful, became a core component of the Ottoman nobility and a linchpin of provincial administration (Hourani, 1991: 224-25; 1993; Malik, 2012: 8; Coulson, 1964).[3]

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[3]The following excerpt from the monumental work of Lapidus speaks of itself: "The biographies of scholars show that, with the elaboration of a bureaucratic hierarchy, interest in careers outweighed genuine piety and learning. The influence of entrenched families enabled them to promote their children into the higher grades of the educational and judicial hierarchies without having reached the proper preliminary levels, while theological students who could not find patronage were excluded. In the course of the eighteenth century the ulama became a powerful conservative pressure group. As servants of the state the ulama no longer represented the interests of the people, nor protected them from the abuses of political power. No longer did they represent a transcendental Islamic ideal opposed to worldly corruption. Their integration into the Ottoman empire made them simply the spokesmen of Ottoman legitimacy" (Lapidus, 2002: 268).

The same observation applies to the Mamluk state in which many ulama served not only as religious functionaries but also as administrators and full-edged members of the state bureaucracy. In particular, the qadis (Islamic judges) were commonly employed by the Sultan in his private secretarial service, in his private treasury, and in the military bureaus. Some even became viziers and, in many cases, "the post of qadi was itself the culmination of an official rather than a religious career" (Lapidus, 1984:137-8). As figures of power and influence, they "acted like other politicians, participating in patronage, control of resources and factional struggles, but with the advantage of being able to invoke religious sanction" (Zubeida, 2011: 15). Since they were thus subservient to the interests of the ruler and his clique, ready to compromise their religious autonomy, they would always be able to formulate legal justifications for whatever decision the ruler wished to make, even when the political authority was in no sense properly constituted (Coulson, 1964: 83; Roy,1990: 49; Hourani, 1991: 144; Lapidus, 2002: 260).

Recent examples attest to the persistence of the above mechanism. Thus, in Egypt, the ulama belonging to the official establishment came to Sadat's rescue when, confronted with strong opposition, he sorely needed a religious sanctioning of the peace treaty (and the Camp David Agreement) which he had signed with Israel. This came under the form of a fatwa, called the "Islamic opinion" and the "Religious legal verdict", issued by the sheikh of al-Azhar in May 1979. The justification rested on carefully selected Quranic verses, and on the treaties which Muhammad himself concluded with the Qurayshites and the Ghatafan tribes so as to establish peace in Arabia (Ramadan, 1993: 169; Kepel, 2005: 51, 116; Marsot, 2007: 163-5). Interestingly, the Religious Legal Verdict cancelled a previous fatwa issued by al-Azhar in 1962 to the effect of forbidding peace with Israel. The practice of issuing fatwas in support of the ruler's policies continued unabated under President Mubarak.[4]

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[4]For example, sheikh Sayyed Tantawy cited a passage of the Quran as support for his opinion that those convicted of libel should be sentenced to 80 lashes. This occurred after several journalists had been tried and convicted of publishing false information about members of the ruling National Democratic Party and the president in 2007. Another striking example is a fatwa issued during the same year by the grand mufti, Ali

Submission of official clerics to autocratic rulers is not a specific feature of Islam: in Catholic Christianity, too, priests were discouraged from expressing dissent against even tyrannical governments. It is St. Augustine who established the key principle in this matter. According to him, despite all its imperfections and the "sinful" behaviour of those who govern it, the "earthly city" exists for the sake of protecting the "city of God", and its role is therefore vital for people's salvation. To oppose worldly rulers amounts to opposing God's plan and Roman Catholic believers should avoid attempting to overthrow governments even if they turn out to be tyrannical (O'Daly, 2004).[5]

The same characterization applies to an even greater extent to Eastern Christianity. In Russia, for example, the Orthodox Church has almost always performed the role of a subordinate partner under autocratic authority. In the words of Obolonsky (2003: 109): "All the traditions and customs of the official church, at least since the beginning of the seventeenth century, worked not for its spiritual independence but, on the contrary, in favor of complete submission of the church to the needs of the state". This attitude of submissiveness to temporal power is becoming again glaringly evident under post-communism, under President Putin in particular.[6]

To our knowledge, our paper represents the first effort to model religious co-option under autocracy allowing for different types of religious organisation. It also contributes to fill up a gap in research that has been identified in a recent survey of the economics of religion (Iyer, 2016: 432; see also Aldashev and Platteau, 2013): there is a dearth of research in the whole field of religion, political processes, and their interaction with

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Gomaa. It provided that a driver who runs over and kills someone deliberately standing in the path of the vehicle is not to blame. This judgement happened a few days after a woman was killed by a minibus under the control of the police as she tried to stop them from arresting her sister-in-law (Daily News, Cairo, December 29-30, 2007).

[5]This belief in the God-given authority of monarchs was central to the Roman Catholic vision of governance in the Middle Ages, Renaissance and the Ancien Regime. Thus, for example, the kings and emperors of medieval Christendom had always invoked divine blessing on their rule, and by the 14th and 15th centuries the parish clergy was called to disseminate news of military victories and lead prayers requiring God's help for further success (Gunn, 2001: 124).

[6]Thus, in October 2015, the highest authority of the Russian Orthodox Church declared the military intervention in Syria decided by Putin to be "a holy war".

economic processes. Because of our central concern with co-option, other dimensions of autocratic power, such as the use of coercion and military or police repression, are left out of the model to which we now turn.

# 3   The model

We consider an economy with an autocrat and a clerical body. This body is composed of a continuum of individuals with different levels of conviction and commitment to the faith. We assume that each member of the clerical class is characterized by a parameter $\theta \in [0, 1]$, which is distributed according to the continuous density $f(\theta)$ and cumulative distribution $F(\theta)$ functions. The mean value of $\theta$ is $E\theta$. We compare two types of religions: centralized and decentralized.

## 3.1   Decentralized religion

In the decentralized religion each cleric has to choose whether to support the autocrat, and hence compromise himself with the current political power, or to stay in the religious/spiritual sphere with no involvement in politics. In the latter case the change of utility of the cleric is 0 (the status quo utility). If he chooses to support the autocrat, the utility of the cleric depends on his type $\theta \in [0, 1]$, on the probability that the autocrat stays in power, $p \geq 0$, on the monetary transfer or compensation which he obtains from the autocrat, $w \geq 0$, and on the extent of reforms implemented by the same, $\alpha \geq 0$. That is,

$$U(\theta, w, \alpha, p) = pw - \theta V(\alpha) \tag{1}$$

where $V(0) = 0$ and $V'(\alpha) > 0$ and $V''(\alpha) \geq 0$.

The situation we have in mind is that of a reformist autocrat who tries to seduce a traditionalist cleric. Term $\alpha$ represents the degree of progressive (legal/economic/social) reforms implemented by the ruler, in particular, the introduction of modern law codes dealing with administrative, criminal, commercial, or personal status matters, the establishment of a modern judiciary system with wide-ranging competencies, including on subjects

traditionally covered by religious courts.[7] The autocrat sets an uniform wage or benefit, w, for all the clerics. We assume, indeed, that it would be prohibitively costly for him to "fine tune" compensations to the clerics since he knows only the distribution of the clerics according to $\theta$, not how different values of that idiosyncratic parameter are attached to particular clerics. Religious leaders generally stand for traditional values and order from which they derive power, prestige and a sense of mission. If the cleric is very traditionalist, he will severely suffer (i.e., in term of reputation, prestige, authority, ideology) by supporting the autocrat's reforms, while if he is moderate, such support will be much less costly. In the model, a low value of $\theta$ signals an individual who is a moderate, while a large $\theta$ signals someone who is a zealot or a fundamentalist.

Another important point is that the benefit of supporting the current political regime depends on the autocrat staying in power, while the loss is incurred by the mere action of supporting the regime. The moral stain of having compromised with the autocrat will stick, even if the latter is overthrown. By contrast, the benefit w can be reaped hold only if reforms continue to be implemented, that is, if the autocrat stays in power. So the probability, p, that the autocrat stays in power is pivotal to the clerics' decision to support him or not.

### 3.1.1 Stability of the autocracy with a decentralized religion

The probability that the autocrat stays in power depends on the proportion of clerics that supports him. To be more specific, let $\theta^d \in [0, 1]$ be the marginal cleric (i.e., the cleric who is indifferent between endorsing the regime and not endorsing it). The probability that the autocrat stays in

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[7]In the alternative interpretation of the model, $\alpha$ represents the fraction of the national wealth the autocrat extracts from the economy. Religious leaders find it more difficult to support the autocrat when he is more greedy, especially if they are highly sensitive to social injustice or strongly averse to inequality and corruption (that is, if they have a high $\theta$). In both cases, the utility of the cleric decreases with $\alpha$, and the disutility of the reforms/extraction is larger when $\theta$, the ideological bias of the religious leader, increases. Note that the model is also consistent with a situation where the autocrat is an extremist and the cleric is more moderate.

power is:

$$p = \int_0^{\theta^d} f(\theta)d\theta = F(\theta^d). \tag{2}$$

As is evident, this expression increases with the fraction of religious leaders that support the autocrat. An alternative interpretation is that there is a continuum of clerics of equal mass but some clerics carry more weight than others. In this interpretation $f(\theta)$ measures the influence that cleric $\theta$ wields over the faithful. In the two interpretations $F(\theta^d)$ is the probability that the autocrat stays.

Substituting $p$ by its value from (2) yields in (1):

$$U(\theta, w, \alpha, p) = F(\theta^d)w - \theta V(\alpha). \tag{3}$$

We deduce that, if an interior solution exists, $\theta^d$ is so that:

$$F(\theta^d)\frac{w}{V(\alpha)} = \theta^d. \tag{4}$$

Differentiating (4) yields:

$$\frac{\partial \theta^d}{\partial w} = \frac{F(\theta^d)}{V(\alpha) - f(\theta^d)w} \geq 0 \tag{5}$$

$$\frac{\partial \theta^d}{\partial \alpha} = \frac{-V'(\alpha)\theta^d}{V(\alpha) - f(\theta^d)w} \leq 0 \tag{6}$$

as long as $V(\alpha) > f(\theta^d)w$. We will show later that this condition always holds in equilibrium. Everything else being equal, increasing the monetary transfer to the clerics raises the support to the autocrat (i.e., it increases $\theta^d$), while increasing the level of reforms has the opposite effect.

There are generally multiple equilibria to the above-defined static coordination game of the clerics. First of all, there always is the Nash equilibrium where nobody endorses the autocrat's policies, so that $\theta^d = 0$. Next, depending on the value of the ratio $\frac{w}{V(\alpha)}$, and on the shape of $F(\theta)$, there will be, zero, one, two or several additional equilibria. The figures 1-3 represent some of the different possibilities for classical density functions. They represent the identity function $\theta$ and the function $\frac{w}{V(\alpha)}F(\theta)$. The intersection of the two functions represents an internal equilibrium (i.e., an

equilibrium so that $\theta = \frac{w}{V(\alpha)}F(\theta) \in [0,1]$). If at $\theta = 1$ we have $1 < \frac{w}{V(\alpha)}$, there is another equilibrium, which is $\theta^d = 1$ (i.e., corner solution).

The multiplicity of pure Nash equilibria in the static coordination game implies a selection issue. Which one is going to be played? This question lies at the core of the literature on evolutionary game theory and social learning, the aim of which is to study equilibrium selection in games that have multiple equilibria.[8] Here the agent needs to decide whether to join the network of the autocrat's supporters or not, his utility depending on how many clerical members make the same decision. This problem is similar to the problem of social norm abidance or adoption of standards in the presence of network externalities.[9] Adding some dynamic/noise into such coordination game helps with the selection issue. Auriol and Benaim (2000) show that only the stable equilibria of the Ordinary Differential Equation (ODE), $\frac{d\theta^d}{dt} = F(\theta^d)w - \theta^d V(\alpha)$, can be an equilibrium of this type of coordination game. We deduce the following definition.[10]

**Definition 1** *An equilibrium $\theta^d \in [0,1]$ of the static coordination game is stable if and only if $f(\theta^d)w - V(\alpha) < 0$.*

In what follows, we focus on the stable equilibria of the coordination game. As it will become clear when we solve the autocrat's optimization problem, this is done without loss of generality: only stable equilibria are compatible with the autocrat having a positive payoff and the condition for stability is identical to the condition under which $\theta^d$ varies positively with $w$ and negatively with $\alpha$. The shape of the density function is crucial in determining which equilibrium is stable. Figures 1-3 represent the function $F(\theta)\frac{w}{V(\alpha)}$, which varies between 0 when $\theta = 0$ and $\frac{w}{V(\alpha)}$ when $\theta = 1$. The shape of this function depends on the shape of the cumulative distribution

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[8]See Weibull (1996) for a primer on evolutionary game theory.

[9]In this literature the utility of an agent when she chooses to join a network or adopt a standard depends on the fraction/number of other agents who make the same decision. For a survey on standardization in presence of network externalities, see Park (2006), and for the social norm approach, see Platteau, Auriol, and Camilotti, 2017.

[10]Let $\frac{dx}{dt} = g(x)$ be an autonomous differential equation. Suppose $x(t) = x^*$ is an equilibrium, i.e., $g(x^*) = 0$. Then if $g'(x^*) < 0$, the equilibrium $x(t) = x^*$ is stable, and if $g'(x^*) > 0$, the equilibrium $x(t) = x^*$ is unstable. For more on selection of equilibria in dynamic coordination games, see Auriol and Benaim (2000, 2001).

function $F(\theta)$. The intersection between the bisectrix and the function corresponds to the marginal cleric according to (4) (i.e., a cleric who is indifferent between supporting the autocrat or not supporting him). The clerics of type $\theta$ so that $F(\theta)\frac{w}{V(\alpha)}$ is greater than the bisectrix are those who support the autocrat. And, symmetrically, the clerics for whom $F(\theta)\frac{w}{V(\alpha)}$ is below the bisectrix do not support him.

Figure 1 illustrates a case where the density function $f(\theta)$ is U-shaped (i.e., convex), which implies that $F(\theta)$ is first concave and next convex. It represents a distribution of clerics which tends to put more weight at the extremes. If we think of Islam, at the lower extreme are located the representatives of 'high Islam' who typically come from well-to-do family dynasties and are well connected to power circles. At the higher extreme are clerics from the 'low Islam' who are typically residing in rural areas or poor urban neighbourhoods, and belong to mystical fraternities such as Sufi orders.[11] With such an heterogeneous, polarized clerical group, the internal equilibrium, when it exists, is stable: a fraction $F(\theta^d)$ (the high Islam) supports the autocrat, while a fraction $1 - F(\theta^d)$ (the low Islam) does not. Any random perturbation around the equilibrium (say, caused by the death of some cleric, who is then replaced by a new draw from $f(\theta)$) will bring back the system to the internal equilibrium. This is intuitive when the clerics are thus polarized (see the quotation from Lapidus, 2002, in Section 2; see also Platteau, 2015: Chap. 5).

Figure 2 illustrates a case where the density function $f(\theta)$ is single-peaked with the peak at 0. It represents a distribution of clerics where the majority is close to the autocrat. As will become clearer in the empirical part, this case aptly describes the state-religion relationships as they obtained in Iran under the Safavids. Then, indeed, the rulers managed to create a fairly supportive clerical body which had the appearance of a

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[11] According to Nielsen (2012), Muslim clerics tend to avoid extremist positions if their career prospects are good. However, those who have relatively few connections with the religious establishment and do not have access to prestigious training or prominent teachers may be tempted to make careers outside of the state system by appealing to lay audiences directly. These clerics can credibly signal independence from state elites by openly espousing Jihadi ideology, making it a risky but potentially high-payoff way to advance their clerical careers.

national church although, as will become clear later, Shi'ism cannot be re-garded as a centralized brand of Islam. The Iranian form of Shi'ite Islam is the closest to centralization that we can find in the whole Islamic world, as the Safavids' rulers were able to create a favorable distribution of clerics. In this case, the internal equilibrium is stable and the process to reach it is smooth: the autocrat can easily enroll the fraction of the clerics that he wants by fine-tuning the favours distributed to them.

Finally, Figure 3 illustrates a case where the density function $f(\theta)$ is single-peaked with the peak at 1. The peak corresponds to an antagonistic cleric who is opposed to the autocratic ruler. In this case, the internal equilibrium, when it exists, is unstable. The two stable equilibria are either nobody supports the autocrat, or everybody supports him. This implies that if he starts from scratch, it is very hard for the autocrat to get the support of the clerics. In particular, small efforts will inevitably fail and the system will go back to zero support from the clerics. A big initial push will be required to make the jump from the zero support equilibrium to a large support one. The situation that this last case depicts is one in which there is a strong opposition to the autocrat from the clerical body, such as could be observed in Iran after the collapse of the Safavid regime, particularly under the Qajar dynasty. A radical change had indeed occurred in the distribution of the clerics during the chaotic period between the Safafid and the Qajar regimes, as the previously co-opted clerics were obliged to fled the country.

### 3.1.2 The autocrat's optimal policy with a decentralized religion

The autocrat, who is self-interested, needs to set $\alpha \geq 0$ and $w \geq 0$. He maximizes his expected payoff. If he seizes and keeps power, which occurs with probability $F(\theta^d)$, he gets the gross benefit $G(\alpha)$, which is the rent accruing to him if the level of reform, $\alpha$, is implemented. The idea is that reforms are of a type that accelerates economic growth while enabling the ruler to appropriate the share $G(\alpha)$ of the dividends. Moreover, the growth impact of the reforms diminishes as more of them are adopted or a given reform is more intensively applied. Formally we assume that $G(\alpha)$ is a

strictly increasing and concave function of $\alpha$: $G(0) = 0$, $G'(\alpha) > 0$ and $G''(\alpha) \leq 0$. The slope of $G(\alpha)$ varies depending upon the characteristics of the country's technological environment. For example, the autocrat's rent is less sensitive to reforms if he rules over a resource rich territory. However, the autocrat has to share his rent $G(\alpha)$ with his followers: he must pay $w$ to the fraction $F(\theta^d)$ of clerics that supports him.

The timing of the co-option game with a decentralized clerical body is the following.

1. The autocrat announces $\alpha$ and $w$.

2. A fraction $\theta^d \in [0, 1]$ of the clerics chooses to support the autocrat where $\theta^d$ is a stable equilibrium of the coordination game.

3. The autocrat implements reform $\alpha$.

4. The autocrat is overthrown with probability $1 - F(\theta^d)$, in which case he does not get $G(\alpha)$ and the supportive clerics do not get $w$. If the autocrat stays in power, he get $G(\alpha)$ and the supportive clerics get $w$.

If he is not able to climb to power, the autocrat gets his status quo utility normalized to 0. If he is overthrown, he also gets 0 as he loses everything he acquired while in power. Being self-interested, he focuses exclusively on his own payoff which is related to his ability to stay in power. In other words, he does not care about what happens to the rest of the economy if he is removed. The objective function of the autocrat is therefore:

$$U^p(\theta^d, w, \alpha) = F(\theta^d)(G(\alpha) - w), \tag{7}$$

There are three possibilities.

If the autocrat chooses the corner solution $\theta^d = 0$, his utility is 0. If he chooses the corner solution 1, the autocrat solves: $\max G(\alpha) - w$ so that $\frac{w}{V(\alpha)} \geq a \geq 1$, where $a$ is the minimum value so that the corner solution holds. He then chooses the minimum value of $w$ compatible with the constraint: $w = aV(\alpha)$. The optimal solution, then, is $\alpha_a^*$ so that $\frac{G'(\alpha)}{V'(\alpha)} = a \geq 1$. The minimum value ensuring that the corner solution

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holds, $a$, depends on the resolution of the stable interior solution case (see the examples below). Note that the above implies that

$$w = \frac{V(\alpha)}{V'(\alpha)} G'(\alpha). \tag{8}$$

Let us now look at interior solutions.

Let $\theta^d \in (0,1)$ be such that $F(\theta^d)\frac{w}{V(\alpha)} = \theta^d$. The autocrat solves:

$$\max_{w,\alpha} U^p(w, \alpha) = F(\theta^d)(G(\alpha) - w), \tag{9}$$

$$\text{s.t.} \quad F(\theta^d)\frac{w}{V(\alpha)} = \theta^d$$

Equivalently, after replacing $w$ by its value from the constraint, $w = \frac{\theta^d V(\alpha)}{F(\theta^d)}$, we optimize the objective function with respect to $(\theta, \alpha)$. The autocrat's optimization problem becomes for $\theta \in [0,1]$:

$$\max_{\theta,\alpha} U^p(\theta, \alpha) = F(\theta)G(\alpha) - \theta V(\alpha) \tag{10}$$

Optimizing (10) with respect to $\theta$ and $\alpha$ yields the first-order conditions:

$$\frac{\partial U^p}{\partial \theta} = f(\theta)G(\alpha) - V(\alpha) = 0 \tag{11}$$

$$\frac{\partial U^p}{\partial \alpha} = F(\theta)G'(\alpha) - \theta V'(\alpha) = 0 \tag{12}$$

From (11), we deduce that at the optimum

$$V(\alpha) = f(\theta^d)G(\alpha). \tag{13}$$

The condition $V(\alpha) > f(\theta^d)w$, which is necessary for conditions (5) and (6) to hold and for the equilibrium to be stable (see definition 1), is thus equivalent to $G(\alpha) > w$: this is a necessary condition for the autocrat to obtain a positive payoff. In other words, when the autocrat is willing to participate to the co-option game (i.e., when he makes a positive payoff), it is necessarily true that $\frac{d\theta^d}{dw} \geq 0$ and $\frac{d\theta^d}{d\alpha} \leq 0$, and that the equilibrium is stable. On the other hand, equation (12) implies that $\frac{F(\theta^d)}{\theta^d} = \frac{V'(\alpha)}{G'(\alpha)}$, while (4) implies that $\frac{F(\theta^d)}{\theta^d} = \frac{V(\alpha)}{w}$. Both equations yield $w = G'(\alpha)V(\alpha)/V'(\alpha)$. We can now deduce the result stated in Proposition 1.

**Proposition 1** *The autocrat who wants to implement a level $\alpha > 0$ of reforms offers to decentralized clerics a wage equal to:*

$$w^d = \frac{V(\alpha)}{V'(\alpha)} G'(\alpha). \tag{14}$$

**Proof.** See Appendix 6.1. ∎

Proposition 1 holds whether the autocrat chooses the corner solution ($\theta^d = 1$) or the interior one ($\theta^d < 1$). At this stage, it is useful to conduct some comparative-static analysis. First, starting from the interior equilibrium, if the autocrat wants to increase the level of reforms, he will necessarily lose the support of some clerics: $\frac{d\theta^d}{d\alpha} \leq 0$ (for the proof see appendix 6.2). This is an intuitive result.

Second, it seems also intuitive that an autocrat who wants to implement more reforms will wish to raise the level of compensation offered to the clerics. This is not necessarily the case, however. To see this point, we differentiate $w$ with respect to $\alpha$ in (14). This yields:

$$\frac{dw^d}{d\alpha} = \frac{(V'(\alpha))^2 - V''(\alpha)V(\alpha)}{(V'(\alpha))^2} G'(\alpha) + \frac{G''(\alpha)V(\alpha)}{V'(\alpha)}. \tag{15}$$

Since $G(\alpha)$ is increasing and concave, a *necessary* (but not sufficient) condition for the wage of the clerics to increase when the level of reform is raised is that the first term is strictly positive, which requires $V(\alpha)$ to be log-concave. For instance, log-concavity holds if $V(\alpha) = W\frac{\alpha^v}{v}$, with $W > 0$ and $0 < 1 \leq v$. By contrast, if $V(\alpha)$ is log-convex (e.g., $V(\alpha) = exp(\alpha^2) - 1$), the wage of the clerics necessarily *decreases* with the level of reforms, which is rather counter-intuitive.

There is another way to see this counter-intuitive result. To interpret equation (14) in economic terms, let us rewrite it as:

$$\frac{w^d}{G(\alpha)} = \frac{\epsilon_{G,\alpha}}{\epsilon_{V,\alpha}}, \tag{16}$$

where $\epsilon_{G,\alpha}$ denotes the elasticity to reforms of the autocrat's payoff, and $\epsilon_{V,\alpha}$ the elasticity to reforms of the clerics' disutility. Both elasticities are positive. The autocrat can increase stability either by decreasing the pace of reform, $\alpha$, or by increasing the bribe to the clerics, $w^d$. Equation (16)

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shows that the optimal combination between reform and bribe is such that the ratio of the bribe to the autocrat's payoff (i.e., the share of the windfalls of the reform that is awarded to the supportive clerics) is equal to the ratio of the reform-elasticity of the autocrat's payoff to the reform-elasticity of the clerics' disutility. This equation is a reminiscence of the Dorfman-Steiner (1954) condition which, in the industrial organization literature, describes the optimal advertising/sale ratio. Here, what we derive is the optimal bribe/payoff ratio. The implication in our context is therefore the following: the higher the sensitivity of the autocrat's payoff $G(\alpha)$ to the reform effort, or the lower the sensitivity of the clerics' disutility to the same, the higher the share of the reform gain that will accrue to the clerics. In these conditions, the autocrat is willing to push forward with reforms and, therefore, to better compensate clerics so as not to lose too much of their support. Since the sensitivity of the disutility to the reforms tends to be higher with log-convex functions than with log-concave ones, this explains that the clerics' compensation decreases when reforms increase and their disutility is log-convex.

The analysis of this section is quite general and it is not clear which solution, corner or interior, will dominate in practice. We prove below that both solutions can be optimal depending on the cost and benefit of the reforms and on the distribution of the clerics. To make this point, it is sufficient to consider an example. We assume that $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $K, W > 0$ and $v > 1 > g > 0$. We moreover focus on two types of distribution, which are particularly relevant to our historical examples.

The first type is obtained when the density function, $f(\theta)$, is U-shaped, so that $F(\theta)$ is first concave and then convex. It corresponds to the afore-mentioned distinction between high and low Islams.

The second example corresponds to a case of convergence of values and purpose between political power and religion, as it occurred in Safavid Iran (see section 4.2.2). It is represented formally by a decreasing density function (i.e., the preference of the clerical members are close to the preference of the autocrat). In this case, $F(\theta)$ is concave.

**Proposition 2** *Assume that $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $v > 1 > g > 0$ and $K, W > 0$. Assume the density function $f(\theta)$ is either decreasing or symmetrical U-shaped on $[0, 1]$. Then, there exists a threshold value $\nu_f > 0$ so that the autocrat chooses the interior equilibrium if and only if $v < (1 + \nu_f)g$.*

**Proof.** See the appendix 6.3. ∎

In the above examples, when $v$ is much larger than $g$, the autocrat prefers stability to reforms (he picks the corner equilibrium), while when the difference between $v$ and $g$ is small, he prefers reforms over stability (he picks the interior equilibrium). This implies that an increase in the return of the reforms, for instance an increase in $g$ resulting from technological progress, will tend to cause more political instability.[12] Symmetrically, a radicalization of the clerics in the form of an increase in $v$ (i.e., an increase of the marginal cost imposed on them by the reforms) will tend to lead to more inertia and cause a sharp decrease in reforms: the autocrat adopts conservative policies and stability increases. This result means that the autocrat never chooses to make up for a higher cost or a smaller benefit of reforms by raising the material privileges of the clerics to such an extent that more reforms are adopted. In fact, he may even choose to decrease these privileges at the new equilibrium to partly offset his reduction in rent. Finally, the transition between the stable and the reformist equilibrium is never smooth: at the threshold, a marginal increase in $g$ implies a jump from the full support equilibrium to the interior equilibrium, and symmetrically for a marginal increase in $v$ (i.e., a jump from a reformist equilibrium to a conservative one).

Another relevant example for our empirical investigation is when the clerics' preference tends to be far from the preference of the autocrat, thereby creating a lot of tension between secular and religious powers. In this case, $F(\theta)$ is convex (as in Figure 3). If $\frac{w}{V(\alpha)} \leq 1$, the only stable equilibrium is 0. If $\frac{w}{V(\alpha)} > 1$, there are two stable equilibria 0 and 1, and

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[12]For instance, with the U-shaped density $f(\theta) = 2 - 6\theta + 6\theta^2$, an increase in $g$ from $0.5v$ to $0.9v$ implies that the autocrat will push more reforms and will loose half of the clerical support in the process (see Appendix 6.3.1).

an unstable interior equilibrium. As pointed out earlier, if the autocrat starts with a very low base of supporters, he will never be able to get the support of the clerics. This is a situation where he needs a big push to move from equilibrium 0 to equilibrium 1. The maximum amount the autocrat is willing to pay to make the jump to full clerical support is his total rent: $\overline{w} = G(\alpha)$. If he wants to maximize the support from the centralized clerical body, he will have to maximize $\overline{w} - V(\alpha) = G(\alpha) - V(\alpha)$. From there, we easily deduce the next proposition.

**Proposition 3** *Assume the distribution of the clerics, $f(\theta)$ is strictly increasing. The autocrat chooses $\alpha^*$ so that $\frac{G'(\alpha)}{V'(\alpha)} = 1$ and $w^* = G(\alpha^*)$.*

In other words, an autocrat who is confronted with a powerful antagonistic clerical body will simply surrender its power to it. He will implement the reforms and monetary transfers that maximize the welfare of the most radical cleric in whose hands real power rests.

We now turn to the study of a centralized religion.

## 3.2   Centralized religion

In centralized religions, such as Catholicism and Eastern Christianity, a chain of command prevails. The clerics belong to a "church" and must obey their hierarchy. In the Russian orthodox Church, for example, 'aloofness', which denotes an attitude of distance from the Church's authority, was considered to be a severe sin during the 17-19th centuries and even more so during the reigns of the last two Romanovs (Alexander III and Nicolas II): only submission to religious authority was acceptable, and this applied not only to the priests but also to the parishioners who were dissuaded from reading the Bible (Obolonsky, 2003: 109). Conceived as a manifestation of God's immutable presence in man's history, a church's perceived interest is to preserve its integrity and monopoly. Hence the extremely restrictive conditions under which a cleric can be excommunicated and the great effort expended by the church's leadership to achieve internal cohesion and discipline.

We denote the cleric who is at the head of the church by $\theta^c \in [0,1]$. He is the one to decide whether the Church supports the autocrat or not. If the leader chooses to support the autocrat, he will also have to compensate the clerics who belong to the Church and dislike the reforms implemented. This is to ensure that in equilibrium they all get a positive utility. Such fine tuning of compensation is possible because each member of the religious organization is scrutinized and trained by the church hierarchy before he/she is allowed to join. For instance, Catholic priests go through a lengthy initiation process before their ordination.[13] During this process, they live in closed communities and learn a great deal about each other. They are also obliged to confess their sins and controversial thoughts on a regular basis. In this type of organization, which stresses the importance of obedience and rely on confession, members cannot easily conceal their preferences and values. Possessing such a knowledge, the head of the church is in a position to design a transfer scheme such that the church's members behave in a consistent way and fully support the autocrat, if this is the decision made by the hierarchy. In other words, the centralized structure helps the members of the clerical body to overcome their collective action problem.[14]

What the above implies is that, with a centralized church, the autocrat will have to give away in rents a minimum of $\underline{w} = E\theta V(\alpha)$. This minimum ensures that all the church members can be compensated for the disutility of the reforms, but it does not guarantee that the head of the church will be willing to himself support the autocrat. As a matter of fact, the head of the church and the autocrat bargain over the rents generated by the reforms, and they are both selfish. We focus on the Nash bargaining solution. The bargaining power of the church's leader, denoted by $b_c \in [0,1]$, is assumed to be exogenously given. The power of the autocrat is $1 - b_c \in [0,1]$. In case of disagreement, the autocrat and the church's head get their status quo utility: their disagreement point is 0. The problem to be solved is,

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[13]For instance in the US it usually takes four years after college or eight years after high school to become a diocesan priest. In seminary the future priests study philosophy, Latin, Greek, Gregorian chants, dogmatic and moral theology, exegesis, canon law, and church history.

[14]We are grateful to Joan Esteban and Jean-Marie Baland for helping us to clarify this important point.

therefore, the following:[15]

$$\max_{w,\alpha} \left( G(\alpha) - w \right)^{1-b_c} \left( w - \theta^c V(\alpha) \right)^{b_c} \qquad (17)$$

$$\text{s.t.} \quad w \geq E\theta V(\alpha)$$

Solving this problem, we are able to establish the following result.

**Proposition 4** *Let $\theta^c \in [0, 1]$ be the ideological type of the centralized religion leadership. The level of reforms, $\alpha^c$, and the monetary transfers, $w^c$, received by the religious organisation are*

1. *$\alpha^c$ so that $G'(\alpha) = \theta^c V'(\alpha)$ and $w^c = (1 - b_c)\theta^c V(\alpha^c) + b_c G(\alpha^c)$ if $E\theta < b_c \frac{G(\alpha^c)}{V(\alpha^c)} + (1 - b_c)\frac{G'(\alpha^c)}{V'(\alpha^c)}$*

2. *$\alpha^c$ so that $b_c \frac{G(\alpha)}{V(\alpha)} + (1 - b_c)\frac{G'(\alpha)}{V'(\alpha)} = E\theta$ and $w^c = E\theta V(\alpha^c)$ otherwise.*

**Proof.** See Appendix 6.4. ∎

Condition 1 holds when $\theta^c$ is relatively large (i.e., when the head of the church is hostile to the autocrat). In this case (Case 1), the autocrat has to abandon large rents to the church in order to win its support. The monetary transfer is large so that the individual rationality constraint of the members of the church is easily met (i.e., $w^c > E\theta V(\alpha^c)$ so that the constraint is not binding). Condition 2 holds when the head of the church is close to the autocrat so that $\theta^c$ is small. In this case (Case 2), the problem of the autocrat is to transfer enough resources to the church to be able to buy the support of all the clerical members (i.e., the individual rationality constraint of the clerical body is binding).

To get closed form solution, we illustrate the result of Proposition 4 with the help of an example. If we consider the case of $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $v > 1 > g > 0$ and $K, W > 0$ then

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[15]The bargaining model presented by Nash (1950) can be formulated as a Nash Bargaining Product (see Binmore et al., 1986). In our simple bargaining problem, the disagreement payoffs are the outside options of the parties. However, there are many other relevant economic situations where the disagreement game is richer. For an analysis of how endogenously determined threat points in the disagreement game impact the equilibrium, see Esteban and Sakovics (2008).

$$1. \quad \alpha^c = \left( \frac{K}{W} \frac{1}{\theta^c} \right)^{\frac{1}{v-g}} \qquad if \qquad E\theta < \left( 1 + b_c \frac{v-g}{g} \right) \theta^c$$

$$2. \quad \alpha^c = \left( \frac{K}{W} \frac{1 + b_c \frac{v-g}{g}}{E\theta} \right)^{\frac{1}{v-g}} \qquad otherwise$$

From a static comparative point of view, it is straightforward to check that the level of reforms, $\alpha^c$, decreases with $\theta^c$ and with $E\theta$ (see Proposition 4 and the example above). In Case 1, $\alpha^c$ decreases with $\theta^c$. In Case 2, $\alpha^c$ decreases with $E\theta$. The transition between the two cases depends on $\theta^c$, which has to be small enough relative to $E\theta$. Since the level of reforms is higher in Case 2 than in Case 1, it implies that, everything else being equal, the autocrat would like to control the nomination process of the head of the church. To be able to do so (i.e, to move from Case 1 to Case 2), the autocrat is willing to pay up to the difference of its rents. If he can choose, the autocrat would like to pick a religious leader who is not too antagonistic to his ruling (i.e., whose $\theta^c$ is sufficiently small so that Case 2 holds). in reality, however, this does not mean that he would like to pick someone too close to him (say, a person from his inner circle). Indeed, such a nomination might weaken the credibility of the religious leader and hence his ability to legitimize the autocrat in the name of the whole clerical community.[16]

Historically, Case 1 corresponds to the medieval struggle between secular and religious powers as illustrated by the Investiture Controversy (see, for example, Bonney, 1991: Chaps 3-5; Cantor, 1993: Chaps 16-19; Armstrong, 2014: Chaps 8-12).[17] The stake was high since the pope claimed the right to interfere in the politics of Catholic countries and to depose sovereigns not to his liking.The struggle came to a climax in the 14th century with the rise of nationalism and the increased prominence of lawyers, both royalist and canon. Great controversies ensued and the papacy finally

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[16]We are grateful to an anonymous referee for pointing out this fact.

[17]On the surface, the controversy, which began about 1078 and was resolved with the Concordat of Worms in 1122, was over a matter of official procedures regarding the appointments to religious offices. Underneath, however, was a struggle for power and control between the monarchies of what would later be called the "Holy Roman Empire", France, and England, on the one hand, and the papacy, on the other.

met with disaster when the Great Schism occurred. The situation of proximity between the autocrat and the church, which culminated in the eras of absolutism and the rise of modern nations and national churches, is well captured by Case 2.[18]

Another interesting result of comparative static analysis reported in Proposition 4 is related to the impact of shifts in the distribution of clerics on the path of reforms. With a centralized religion, the level of reforms is independent of changes in the distribution of clerics that preserve the mean, including mean-preserving spread. This is a virtue of the centralized structure, which is able to deal with the heterogeneity of its members by fine tuning the compensations and incentives it provides to each of them. With national churches (Case 2), the autocrat's decisions are driven by the *average* cleric and, with the exception of the head of the church hierarchy, the clerics do not get rents. In the decentralized structure, by contrast, the autocrat's decisions are driven by the *marginal* cleric whom we earlier characterized as the most radical one. In this instance, it follows that the infra-marginal clerics obtain a rent, which is decreasing with $\theta$. In the next section, we study how these differences impact the path of reforms and the political stability of the autocracy.

## 3.3 Comparison of centralized vs decentralized religions: reforms and stability

In this section, we would like to compare how the optimal mix of reforms and bribes chosen by the autocrat to maximise his utility differs depending on whether the religion is centralized or decentralized. In particular, is one structure more conducive to reforms than the other? The next, related issue is which structure leads to more political stability. In order to conduct our comparisons of equilibria, we start from a situation where the only difference between the two autocracies is the structure of their religion. In other words, the cost and benefit of the reforms and the distribution of the clerical body are the same in the different economies.

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[18]In the high nobility, the eldest son would inherit the family land and the associated title while younger siblings often found careers in the church. Many bishops and abbots were themselves part of the ruling nobility and hence close enough to the autocrat.

Let us first compare the stability of the two regimes. With a centralized religion, the autocrat negotiates directly with the head of the church. He needs to transfer enough resources not only to seduce him personally but also to compensate the church's members for the reforms to be undertaken. In exchange of these rents, he gets the support of the hierarchy and the full clerical body as well. In equilibrium, therefore, the system is fairly stable. By contrast, under a decentralized religion, the autocrat has to gain the support of each cleric individually. Since it is costly to enroll the whole clerical body (i.e., the transfer must be large enough to co-opt the most radical type), the autocrat often chooses to co-opt only a fraction of them. In equilibrium, the fraction of religious clerics who support the autocrat is thus generally smaller under a decentralized religion than under a centralized one. The next proposition collects this result.

**Proposition 5** *Everything else being equal, centralized religions lead to more stability than decentralized religions, as a larger fraction of clerics support the autocrat.*

A prediction of the theory is therefore that, everything else being equal, the tenure of autocrats in Catholic countries, for example, should be on average longer than the tenure of autocrats in Muslim countries.

We next aim to compare the level of reforms implemented by the autocrat in periods of political stability. Toward that purpose, we compare the level of reforms chosen by the autocrat under a decentralized religion when he chooses political stability with the level implemented under a centralized religion. As analyzed in Section 3.1, cases indeed exist where the autocrat chooses $\theta^d = 1$ under a decentralized religion.[19]

**Proposition 6** *In conditions of political stability, so that $F(\theta^d) = 1$, the level of reforms with a decentralized religion, $\alpha^d$, is always smaller than the level of reforms with a centralized one, $\alpha^c$.*

$$\theta^d = 1 \Leftrightarrow \alpha^d \leq \alpha^c \tag{18}$$

[19]For instance, when $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $K, W > 0$, $g \in (0,1)$ and $v = 2g$, the autocrat will choose the equilibrium $\theta^d = 1$ both with density $f(\theta) = 2 - 6\theta + 6\theta^2$ and $f(\theta) = \frac{2}{(\theta+1)^2}$ (see Appendix 6.3.1 and Appendix 6.3.2 respectively).

**Proof.** See Appendix 6.5 ∎

It bears emphasis that Proposition 6 is quite general. It does not depend on the specific shape of $G(\alpha)$ or $V(\alpha)$, nor $F(\theta)$. It shows that in conditions of political stability (i.e., when all the clerics are co-opted by the autocrat under both types of religious organization), centralized religions lead to more reforms than decentralized ones. This result seems intuitive when the religious authority is close to the autocrat. More surprisingly, however, it is also true when the clerical authority is antagonistic to the monarch. As a matter of fact, buying stability in the presence of a decentralized clerical body is comparatively costly because the autocrat must co-opt the most radical cleric, while under a centralized religion, he must only convince the head of the church and transfer enough resources to buy the average cleric. Since the compensation unambiguously increases with the level of reforms, stability comes with a lot of reform inertia when the religion is decentralized. The structural heterogeneity of the clerical body is then an obstacle to reforms because, in order to gain the full support of the religious clerics, the autocrat must adopt more conservative policies than he would need to do if he could deal with a centralized religious authority. In the latter circumstance, having everybody on board is cheaper and easier.

If we relax the assumption of political stability, is it still true that a decentralized religion hampers reforms? The answer is not necessarily: there are equilibria where, everything else being equal except the type of religious organization, the decentralized religion yields a higher level of reforms but at the cost of greater instability. To prove this result, it is sufficient to find an example where it is indeed the case.

Let $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $2g > v \geq 1 > g > 0$ and $K, W > 0$. Let $f(\theta) = \frac{2}{(1+\theta)^2}$ for $\theta \in [0,1]$. Let $v$ and $g$ to be close so that in the decentralized case the autocrat prefers the interior equilibrium (see the proof of Proposition 2 in the appendix 6.3 for the exact condition). We deduce that $\alpha^d = \left(\frac{K}{W}\frac{2g}{v}\right)^{\frac{1}{v-g}}$. Let $\theta^c$ be large so that Condition 1 in proposition 4 holds (so that political stability is costly in terms of reforms under a centralized religion). We deduce that $\alpha^c = \left(\frac{K}{W}\frac{1}{\theta^c}\right)^{\frac{1}{v-g}}$. Comparing $\alpha^d$ and $\alpha^c$, it is straightforward to check that $\alpha^d > \alpha^c \Leftrightarrow \theta^c > \frac{v}{2g}$. There

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is a whole range of parameter values such that this condition holds. In other words, in some cases the autocrat operating under the decentralized religious organization will conduct more reforms than the same autocrat under the centralized organization. To achieve this relatively high level of reforms, he will disregard a fraction of the clerics. This is not an option with a centralized organization, which is inclusive by nature. If the church is dominated by fairly conservative clerics, the reform path will be slow.

# 4 Empirical Evidence

Our model yields two distinct sets of interesting results: the predictions derived from the comparison between centralized and decentralized religions, and comparative-static results obtained under religious decentralization. The rationale behind our focus on the latter situation when deriving comparative-static results is that trade-offs between stability and reforms are particularly interesting in this case. To rigorously test these results is an extremely arduous task because data requirements are quite stringent and some variables, such as the level of reforms and the distribution of clerics according to their degree of aversion to them, are not easy to measure. The difficulty is obviously compounded by the fact that we are dealing with historical events. In the following, we will therefore pursue the more modest objective of using countries case study material that contains qualitative evidence for the purpose of illustrating our results. However, to check the impact of centralized versus decentralized religious organization, we are lucky to have available a few recent empirical studies. We begin our discussion with the latter.

## 4.1 Centralized versus decentralized religions

### 4.1.1 Political stability

Blaydes and Chaney (2013) show that, under conditions of autocracy, a centralized religion (Catholicism) was historically associated with greater political stability than a decentralized one (Islam). Studying the durations of rulers in the Christian West and Islamic Worlds from 800 to 1600,

they find that on average the former had significantly longer tenure than the latter, and the duration gap is widening as time elapses. Duration for Catholic kings was the longest when they started to create national churches and move towards absolutism. This finding is consistent with our theory, yet the information available does not permit to establish causality and to identify the mechanism underlying the relationship. It is revealing that our explanation differs from that proposed by Blaydes and Chaney for whom the reason behind the difference lies in the military sphere (mercenary armies in the lands of Islam versus loyal armies in the Catholic lands). The two stories, it may be noted, can possibly complement each other.

### 4.1.2 Achieving reforms

The invention of the printing press, in the mid-fifteenth century, proved to be a major technological breakthrough with dramatic institutional consequences for the countries that adopted it. If adoption was relatively quick in many European countries, opposition against it for three centuries prevented the Ottoman Empire from reaping the benefits of rapid diffusion of scientific, technical and other types of knowledge that it made possible (Van Zanden, 2009: 178-87). For Davis Landes (1998), the refusal of the printing press had the effect of cutting Muslims off from the mainstream of knowledge (pp. 401-2). In a recent paper, Cosgel, Miceli and Rubin (2012) propose an explanation of the Ottoman puzzle that is consistent with our theory. The Ottomans regulated the printing press heavily to prevent the loss it would have caused to the ruler's net revenue by undermining the legitimacy provided by religious authorities. Accepting the press would have antagonised a large fraction of them because it would have altered the technology of transmitting knowledge, providing knowledge directly from books or from literate individuals not necessarily affiliated with Islamic clerics. Political stability and religious sanctioning of the state's fiscal prerogatives were thus preserved at the cost of innovation adoption and long-term economic growth.

Why was the situation different in Europe? The key fact here is that in the century following the invention of the printing press, when its diffusion

started to increase rapidly to reach an output of 200 millions towards the end of the 16th century (Buringh and Van Zanden, 2009: 417, Table 2), the central power of Rome was being replaced by national churches, in France and Spain in particular, and these churches began to resist the claims of the pope in favor of supporting their own monarchies (Kaplan, 2007). Moreover, as a result of the Reformation, Protestant churches emerged in some European countries such as England, Sweden and the German states (Pennington, 1970; Naphy, 2007). This process of power concentration in the hands of centralized polities matched by national churches culminated in the 17-18th centuries with the age of absolutism. National religions had then become important vehicles of legitimacy for the rising modern states of Europe, and the famous Augsburg principle 'cuius regio eius religio' enjoyed a strong revival. It meant that inhabitants who did not subscribe to the official creed and church of their polity could not claim all the privileges of full citizenship, and they were vulnerable to the charge of treason when the regime was under threat (Kaplan, 2007: 110-36). Compared to medieval times where the church was integral to government and religion hard to distinguish from politics, the time had come for statesmen to clearly distinguish the two worlds and to assert the domination of politics over religion (Armstrong, 2014: 232-4; see also Skinner 1978, Vol. 2: 349-50; Cavanaugh, 2009: 11). Consistent with our theory, the rise of absolutist monarchies largely in control of centralized national religions coincided with the initiation of important reforms, not only the promotion of the printing press but also the ending of feudal partitioning, the emergence of professional standing armies and rationalized bureaucracies, and the codification of state laws (Anderson, 1998).

### 4.1.3   The underlying mechanism

In the model, we assume that the centralized structure is able to coordinate its members' action to support reforms condoned by the hierarchy. This is not possible with a decentralized religion. Blaydes and Platas Izama (2015) bring evidence of an association between the degree of centralization of religion and the level of progressive reforms (rather than political stability) in

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Egypt today. More specifically, they seek to uncover the factors responsible for the contrast observed between the perceptible decrease of the practice of female genital mutilation among the Christian Copts and the rather unchanged situation among the Muslims in spite of the fact that the practice is forbidden by Egyptian law. The authors tentatively explain this contrasted evolution by the different religious authority structures prevailing in the two communities: whereas a hierarchical order prevails among the Copts, the Muslims are used to live in a much more decentralized organization. In other words, there exists a centralized Coptic church that exerts a significant influence on the believers and its leaders have chosen to take a clear stand against the cutting of girls. Muslims, on the other hand, go to mosques that are run by different imams who hold varying opinions about the practice. This evidence usefully highlights the advantage of a centralized religion over a decentralized one when it comes to surmounting collective action problems. This mechanism is at the heart of our theory of religious co-optation, which can be seen as a formalization of Blaydes and Platas Izama's argument.

## 4.2   Illustrative examples: the case of Islam

Here, we are concerned with the effects of critical parameters of our model on reforms and political stability in the context of decentralized religions. These parameters are $G(\alpha)$, $f(\theta)$ and $v$, which measure the autocrat payoff from reforms, the distribution of clerics, and their sensitivity to reforms, respectively. All the examples are drawn from the Muslim world which supplies us with many cases of strong and persisting autocracies (see Platteau, forthcoming: Chap. 6, for a more detailed discussion). There are other decentralized religions than Islam, such as Judaism, American Protestantism, Hinduism, and Budhism. However, we do not observe a combination of autocracy and decentralized clerics in the case of the three former religions whereas, for Budhism, Myanmar and Sri Lanka are pertinent country cases, yet poorly documented in the available literature.

### 4.2.1 Saudi Arabia and Kemalist Turkey

In the following, we compare the situation obtained in two countries with strongly contrasted characteristics in term of the autocrat's payoff function.

*Saudi Arabia*

The first polar case arises when the autocrat's payoff is largely independent of reform efforts such as in rent-based economies. There, indeed, prosperity is almost entirely based on the exploitation of abundant and highly priced natural resources, and the function $G(\alpha)$ has a weak slope. When this is the case, a simple look at the ruler's objective function (7) shows that, since reform efforts are unproductive while they will cause a loss of clerical support (for a given value of $w$), $\alpha$ will be set to zero. As for $w$, it will be small because clerics are not antagonistic to a ruler when he does not undertake reforms. In spite of the relatively low $w$, the entire clerical class can be mobilized in support of the ruler with the direct consequence that the probability of the ruler's survival is one (survival is certain). Looking back at the equation that defines the bribe-to-rent ratio at equilibrium, since the elasticity of the autocrat's rent with respect to reforms is small while the elasticity of the cost of reforms for clerics is high (in the case of Saudi Arabia discussed below), the equilibrium value of the ratio must be low.

Saudi Arabia offers a perfect example since it is blessed with huge oil resources and led by a clique of authoritarian rent-earners (the Saud family) who rule over a deeply conservative society. Since the foundation of the modern Saudi state, an important plank of the ruler's strategy to maintain a loyal citizenry has consisted of co-opting the religious establishment of Wahhabite Sunnis. The founder of the creed, Muhammad Ibn Abd al-Wahhab (1703-1792), had developed a puritanical and ultra-conservative doctrine which rejected all that could be regarded as illegitimate innovations and the special devotion of the Sufi orders. It gained significant influence only when the Saud tribe decided to espouse it as the national ideology of their newly formed kingdom in 1932 (Hourani, 1991: 257-8; Al-Rasheed, 1996, 2002, 2006; Nevo, 1998; Feldman, 2008: 93-4; Saint-Prot, 2008: 271-316). Wahhabism was a state ideology that delivered to the ruler

and his clique "undisputed authority, social mobilization and a legitimizing discourse" (Filiu, 2015: 39).

Whenever in difficulty, the king called on the leading ulama to vindicate his actions, including military ones. This illustrates another feature of Wahhabism which, although strongly puritanical, proclaimed that, in order to avoid chaos and anarchy, all Muslims should obey a secular ruler, even if demonstrably corrupt. This attitude has been dutifully followed by the Wahhabite clerics who always supported the Saudi regime across all winds. This unconditional support is what matters most for the Sauds who, in exchange, easily give in to the ulamas' puritanical opposition against innovations or to their requirement that innovations be religiously justified. For instance, it is upon the request of king Abdul Aziz that ulama close to him had to exert themselves to find in the sacred texts a proper justification for an innovation as fundamental as photography. This innovation was eventually accepted, despite the idolatry of pictorial art, on the ground that it brings together light and shadow, which are both divine creations (Nomani and Rahnema, 1994, p. 139). Similar efforts were deployed to allow the introduction of the wireless into the kingdom (Feldman, 2008, p. 97). By contrast, the prohibitions originating in the deep-rooted patriarchal values of the Bedouin society, such as the prohibition of driving for women, face much more resistance against change in spite of the heavy cost they impose on the country's economy (the husbands are forced to spend hours every day ferrying wives to and from work and, when this is not feasible, drivers must be hired for the purpose). [20] To sum up, because the country is immensely rich owing to its abundant oil resources, efficiency costs entailed by the tactic of co-opting religious clerics are not perceived as a problem by the autocrat.

*Kemalist Turkey*

Our second example is in complete contrast to the first one: Turkey is poorly endowed with natural resources so that the return to reforms for the ruler is relatively high. Accession to power of a more reformist leader

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[20]It is only very recently (February 2012) that a royal order stipulated that women who drive should not be prosecuted by the courts (Economist, March 3-9, 2012: 56).

is predicted not only to yield more reforms at equilibrium, but also to increase political instability as a result of a reduced mass of co-opted clerics. Our analysis shows that with a decentralized religion, indeed, the autocrat has always the option to push many reforms by disregarding a fraction of the clerics. The Kemalist republic provides an apt illustration of this case. The movement of the Young Turks and the regime of Atatürk were determined to bring radical reforms with a view to modernizing the country. In retrospect, these reforms marked a major turning point in the modern history of Turkey, ending her relative stagnation vis-à-vis the Western world and laying the basis for long-term economic growth (Kuran, 2011). Thus, unlike the Tanzimat reforms of the late Ottoman Empire which resulted in the coexistence of secular and Islamic schools, courts, and laws, institutional change under Kemalism ended up suppressing autonomous Islamic institutions.[21]

Even before the proclamation of the Republic of Turkey in October 1923, major changes had been brought to key institutions. Most noticeably, in spite of the strong resistance of the ulama, the role of Islam had been limited almost exclusively to the realm of family law. When the Swiss civil code and the Italian penal code were eventually adopted in 1926, this restricted domain of the law was taken away from the jurisdiction of the ulama, and religious associations were banned.

Under the presidency of Mustapha Kemal, the educational system became completely secularised in 1924, implying the abolition of the madrasas, or religious colleges. Also abolished was the Ministry of Religious Affairs and Pious Foundations which was replaced by two directorates, one for religious affairs (the Diyanet) and the other for pious foundations (the Evkaf), both attached directly to the prime minister's office. Imams and muftis became civil servants while the Diyanet was given sole responsibility for religious guidance. This implied that the contents of Friday sermons

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[21]Designed to arrest the decline of the Ottoman empire, the Tanzimat reforms (1839-1876) focused on measures to graft European institutions on Ottoman ones. These included steps toward the centralization of state authorities, the promulgation of a Commercial Code, a Code for Land Property and a Criminal Code, the freeing of access to public schools and functions for non-Muslim citizens, and the modernization of the school system.

(preaches before Friday prayer and sermons during the prayer) became centrally determined and that muftis received precise instructions about how to advise believers. Moreover, organised prayer was forbidden in public or private schools, and the state defined the contents of mandatory religious instruction in public schools and of the Imam-Hatip schools created for the purpose of training imams. These changes amounted to the greatest transformation of the state bureaucracy brought under the Kemalist republic (Zürcher, 2004: 187; 2010: 145, 279-80; Kuru, 2009: 165-7, 205-11, 220; Inalcik, 1964).

Also noticeable as a dramatic step taken by the regime to bring religion under control was the outright suppression in 1925 of the dervish (Sufi) orders, or mystical fraternities (the tarikats), and the widespread network of convents and shrines associated with them (Zürcher, 2004: 191-2; 2010: 136; Göle, 2004; Kinross, 2001: 397-404). Based on closed and secretive networks, these religious fraternities were perceived as the hallmark of a traditional and obscurantist culture, and as loci of local power lying beyond the reach of a centralized government (Kinross, 2001:. 397-404). Being excluded from the administrative integration process, the Sufi masters were far away from the official ulama who traded-off their economic security inside the state apparatus against their silence on all the frontal attacks against erstwhile religious institutions. The dual nature of the religious body was therefore reinforced and institutionalized by the modernization process imposed by Mustapha Kemal, consistently with our theory.

To sum up, the Kemalist regime succeeded in subjugating urban, educated religious clerics and pushing through radical reforms conducive to long-term economic growth. At the same time, it created the ground for more political instability since, albeit officially suppressed, religious voices were not dead and popular Islam turned into a vehicle for opposition (Zürcher, 2004: 192). When the regime started to democratize, the opposition came into the open and won a landslide victory as soon as genuine democratic elections were organized in March 1994. The resounding success of the Islamic Welfare Party (WP) of Erbakan at these elections

marked a turning point in the history of the republic of Turkey.[22] After several attempts by the regime to ban it, the rise of Recep Tayyip Erdogan and the renamed Justice and Development Party (AKP) proved unstoppable: in the 2007 elections, AKP did well in every region of the country, and it won 47 percent of the votes overall. It thus received a stunning mandate to run Turkey along entirely new lines (Kuru, 2009: 187).

### 4.2.2 Iran

In addressing the case of Iran, we need to distinguish between two periods characterized by radically different distributions of the clerics relative to the autocrat. Under the Safavid dynasty, a great mass of clerics were close to the ruler (i.e., the density function of the clerics' preference was decreasing), giving rise to a successful cooperation between state and religion and thereby facilitating the emergence of a strong, modern centralized state in the country. Under the Qajars, by contrast, the opposite situation prevailed: a great mass of the clerics were antagonistic to the state, which created acute tensions between the two agencies. This second phase, which was the consequence of a prolonged period of quasi-anarchy and state vacuum following the demise of the Safavids, illustrates the clerics' ability to oppose and destabilize an autocrat.

*Successful cooperation between state and religion during the Safavid rule*
The Safavids (1501-1722), coming from a tribe of foreign origin, largely succeeded in building a strong and centralized state that created political stability and economic prosperity in a country where a large part of the population was made of nomadic tribes in control of powerful militia. One important feature of the Safavid rule was the recruitment of members of the old Persian-speaking bureaucracy who had gained a lot of experience in administration and tax collection under the previous dynasties, as well as of Persian landlords and merchants. Another important feature is that re-

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[22]The WP's success resulted in part from its respect for the more conservative lifestyle and culture of the masses. Regarding the latter aspect, its main role was to have opened the way for a"'Muslim cultural renaissance" that dares express itself publicly, and for a restored dignity of the Black Turks in the face of senior military officers and traditional Republican elites entrenched in state institutions and monopolies (White, 2013, p. 47).

ligion was made subservient to the objective of building and consolidating a strong, prosperous state. Toward that purpose, they decided to import some official Twelver theologians from nearby Arabic-speaking lands. Having few ties with the local population and benefiting from the financial and political largesse of the ruler (they received ample material privileges), these learned men quickly became a central pillar of political support for the new regime with which they were strongly identified. Muslim associations were simultaneously turned into "virtual departments of the state" (Lapidus, 1988: 882). As a consequence of such strategic choices, the egalitarianism of their early tribal followers was gradually abandoned, and extremist ideas were banned to leave room for a strictly enforced Shia Twelver orthodoxy. As part of this ideology, the Safavids cursed the first three caliphs considered holy by the Sunnis, and they claimed descent from the Seventh imam which gave them impeccable religious credentials (Keddie, 2003: 10-15).[23]

As pointed out by Keddie (2003), one of the main reasons why Isma'il and his followers chose to cause a split between Sunnis and Twelver Shi'is was to endow Iran with a specific ideological distinction and national identity vis-à-vis its (Sunni) military-political enemies, the Ottoman Empire and, for a time, the Central Asian Uzbeks (p. 11). In the words of Robert Lee (2014), "Political decisions and opportunities have recast a version of Islam (Twelver Shiism) from a passivist, minority stance into a badge of national identity, a religious establishment like no other in the Muslim world, ... and an authoritarian effort to promote religion" (169). The consequences of the split between two main strands of Islam now viewed by each other as heretics and enemies, have been carried over into the present time.

*The post-Safavid collapse and emergence of religious oppositional force*

After more than two centuries of stable rule, for a variety of complex reasons that are still not well understood, the Safavid state suddenly collapsed. In the aftermath, while chaos predominated owing to continuous warfare between contending tribal confederations, the co-opted ulama fell

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[23]Unfortunately, as pointed out by Hodgson (1974), little is known about the Safavid period and, in particular, no precise evidence is available regarding the manner in which the Safavid rulers interacted with the clerics.

from their previous position of privilege and wealth, and their religious endowments (tax-free grants of wealth and land to mosques, religious schools and shrines) were confiscated or plundered. As a consequence, many of them emigrated to southern Iraq and India or elsewhere (Axworthy, 2013: 20), causing a significant shift in the distribution of the clerics. This marked the end of the unrestricted cooperation between the Iranian autocrats and the religious authorities.

The Qajar dynasty was eventually consolidated (1794) to remain (nominally) in power until the 1920s (Katouzian, 2009: Chap. 6). During the times of the Qajars, a modicum of order had been re-established yet the Qajar Shahs never succeeded in recreating a strong centralised state as the Safavids had done (Katouzian, 2009: 129; Cleveland, 2004: 55; Yapp, 1987: 170). Administrative instability, insecurity and low legitimacy resulting from widespread corruption and little concern for the people's welfare were the hallmarks of most of their rule. When the Qajar rulers decided to bring reforms, these reached only a small elite but did not touch the mass of the population. Moreover, in many instances the reforms were simply ineffective, inadequate for the centralisation of state power, and insufficient to oppose foreign encroachment (Lapidus, 1988: 575).

Several unfortunate acts of foreign economic policy thus gave the ulama the opportunity to act as effective leaders of the opposition against an unpopular regime.[24] In 1890 the corrupt and inefficient government of Nasir al-Din awarded a British capitalist (G.F. Talbot) the exclusive right to produce, sell and export the country's entire tobacco crop. Since tobacco was such a vital commodity in the economy, this decision immediately aroused tumultuous mass protests (Keddie, 1966; Rodinson, 1966: 166; Lapidus,

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[24]In 1872 the government of Mirza Hosain Khan granted to a British baron, Julius De Reuter, an extensive concession involving exclusive rights for an impressive array of economic activities. Lord Curzon called it "the most complete and extraordinary surrender of the entire industrial resources of a kingdom into foreign hands that had probably ever been dreamed of" (cited from Keddie, 2003, p. 54). Following protests by a mixed group of patriotic officials, ulama, and economic agents hurt by the reforms, the shah felt eventually compelled to annul the concession and to dismiss his prime minister. However, a new series of economic concessions of a similar kind were soon to follow, testifying that Iran continued to fall prey to British and Russian interests. Since they brought only small returns to the government, while bribes to the shah and his clique were quite large, tensions between the state and society remained high.

1988: 576-77; Cleveland, 2004; Gleave, 2005; Katouzian, 2009: 163-64). Popular demonstrations were organized by members of the Shia ulama who "urged the population to join them in preserving the dignity of Islam in the face of growing foreign influences; they portrayed the shah's concession as a transgression of the laws of Islam and used their independent power base to denounce the government" (Cleveland, 2004: 115; Mottahedeh, 2000: 35-37). This was a significant moment in modern Iran's history not only because the Tobacco Protest was the first successful mass protest against government policy, but also because it rested on the coordinated actions of ulama, secular or modernist reformers, bazaaris (especially merchants), and ordinary townspeople.[25] In this process, the higher-level ulamas, the mujtahids, gained increasing influence and authority, and "there was now a clear doctrinal basis for appeals to the ulama over the head of a ruler, and for claims by the leading mujtahid to make political decisions, provided they touched on Islamic principles, independently of temporal rulers" (Keddie, 2003: 20; see also Axworthy, 2013: 21). These powers were increasingly used from the early nineteenth century onwards.

It is important to stress that, although the religious officialdom in Iran looks like a vertical hierarchy evoking the Catholic church, the reality is different. The reunion of the clerics around their central authority figure, when it happens, appears as the endogenous outcome of the surrounding political environment rather than as a structural trait. As was plainly revealed during the constitutional crisis of 1904-5, when the role of the parliament was heavily debated, many clerics disagreed about the configuration of the future social and political order (Hodgson, 1974: 303-16). Disagreement was even more pronounced during the critical decades of the 1950s, 1960s, and 1970s when the doctrines of political Shi'ism born in the seminaries in Najaf (Iraq) were being discussed. The conservative clerical establishment of Iran resisted against the idea that Shi'ism needed to definitely abandon its erstwhile apolitical, passive and quietist approach

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[25]Whereas before most secularist reformists, typically educated people influenced by Western ideas, had been rather hostile to the ulama, -which contrasts with the traditionally close ties between ulama and the bazaar classes-, from 1890 onwards they started to reconcile with the clerics willing to fight against the regime's policies, particularly against the sale of Iran's resources to foreigners.

and the associated attitudes of resignation, fatalism and self-pity (Crooke, 2009: 95-6).

### 4.2.3   Iraq

An interesting static-comparative result derived from our theory concerns the evolution of the autocrat's policy when the clerics become harder to co-opt (say, because of a rise of the parameters $W$ or $v$). The theory predicts that the autocrat will reduce the pace of reforms to the effect that the fraction of clerics supporting him becomes higher. It is even possible that his response to radicalization is to co-opt the whole clerical body. Reforms are sacrificed in the name of political stability. Below we examine the case of modern Iraq, where a series of shocks had the effect of radicalizing the clerics.

*The initial situation*

Post-independent Iraq quickly adopted an authoritarian model of governance justified by a romantic view of pan-Arabic unity and a sort of socialist approach to development (Makiya, 1998: 208-9). General Abd al-Karim Qasim, who led the 1958 revolution against the Hashemite monarchy established by the British colonial power, imposed state control over all the Islamic institutions in the country. In this case, it meant keeping the ulama out of politics, and Islam out of regime ideology and, as much as possible, out of state education, culture, the legal system, and state symbolism (Baram, 2014: 47). A genuinely progressive leader, Qasim introduced a Law of Personal Status that, while based on the sharia for the most part, drew inspiration from the European law on some key aspects (polygamy was banned and complete gender equality was proclaimed in respect of inheritance). He did not bend in front of the pressures exerted by the highest religious authority.

Under Saddam Husayn, who seized power through brutal force, the regime oscillated between progressive moves and reactionary steps.[26] Sad-

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[26]An example of a progressive measure was the introduction in the Law of Personal status of a new provision forbidding forced marriage. An example of a reactionary measure was the lowering of the minimum age of marriage from sixteen to fifteen years in order to placate the conservative (mainly tribal) circles (Baram, 2014: 57).

dam was eager not to antagonise the official clergy and, besides appointing to positions of responsibility Shi'i clerics whom he wanted to draw into the network of his patronage, he paid lip service to Islamic values whenever the opportunity arose (Tripp, 2000: 209-11).

*The shocks and its aftermath*

An important turning point was reached toward the end of the 1970s and the early 1980s when major changes occurred in the international environment of the country, starting with the rise of Ayatollah Khomeini to power in Iran (1979) and the subsequent stirrings of a Shia revolt in Iraq. These two events caused a sudden radicalization of the clerics, particularly among the Shi'ites: religious clerics became less reluctant to assert their views, including criticisms against the regime. Saddam's response consisted of what Baram (2014) calls "a revised, 'Shi'ified' version of his earlier blood-and-soil nationalism adapted to the political necessity of the time" (63). A first step in Saddam's about-face coincided with the 9th Congress of the Regional Command of the Baath (1982) on the occasion of which the significance of religion, together with the primacy of Iraq, was stressed with special vigour (Tripp, 2000: 228). His seductive tactics was especially geared toward the Shi'ites who formed the bulk of his conscript army which he had engaged in disastrous wars with Iran and later with Kuwait. It included the rebuilding of Shia mosques and places of pilgrimage, the declaring of Iraqi territory as sacred because it contained the soil of Najaf and Karbala (the two Shi'a holy cities), the imposition of the birthday of the fourth caliph, the imam Ali, as a national holiday, and the extravagant proclamation that he, Saddam, was a descendant of this central figure for all Shia Muslim believers (Tripp, 2000: 238; Polk, 2005: 12; Baram, 2014: 63, 207-8; Benraad, 2015: 76-77).

In a second step, new laws sometimes providing for barbaric penalties were also enacted. Thus, in March 1992, the regime cracked down on nightclubs and discothèques, imposed Ramadan fasting, outlawed prostitution (punishable by death) and banned public alcohol consumption, allowing only non-Muslims to sell spirits. More ominously, in 1994, amputation of the hand at the wrist was introduced to punish theft and robbery, which

had become widespread as a result of the deepening economic crisis, and amputation of the left foot at the ankle was to sanction second offenses. Subsequent decrees enlarged the definition of theft and robbery to make the draconic punishments applicable to unauthorized money changers, forgers of official documents, merchants, and profiteering bakers (Dawisha, 2009: 238; Baram, 2014: 265-7, 321).

Finally, in a third step, the Islamization of the regime's rhetoric gradually intensified and culminated in the so-called "Campaign for the Faith" (1993-2003), which did seriously affect the legal and educational system. Saddam first embarked upon a massive educational effort to impose the study of the Quran and the hadith, starting from the first grade of primary school and doubling or tripling the amount of time devoted to it in all Iraqi schools. Separation between boys and girls at school was imposed from the same initial grade. Saddam even forced the senior party members to take Quran classes lasting up to two years, and he gave the reciting of the Quran a dominant place in the educational system (Baram, 2014: 220-1, 254-8). Finally, women's status, which had improved remarkably during the first decades of the Ba'ath revolution, especially under Quasim, suffered a frontal attack at the height of the campaign: they were thus prohibited from travelling abroad unless accompanied by a male relative from the paternal side of their immediate family. In complete contradiction with his 1977 declaration that the sharia was irrelevant to modern life, and with his early commitment to the ideal of a national, secular, united Arab mega-state, Saddam now contended that Islam, rather than Arabism and the Arab culture, could be the cement holding the future state together.

All these steps, which amounted to a repudiation of the values of modernism and secularism, had the calculated advantage of pleasing senior Sunni and less senior Shia clerics whose prestige and material status were given a major boost. In the words of Baram (2014): "by upgrading their socioeconomic status, he [Saddam] could hope to buy off the clerics, and through them gain much-needed public support. In light of his expressed dislike of any and all clerics, this policy can only be seen as a cynical step..." (257; see also 323). The key fact is that the stability of his regime was un-

der serious threat and that appeals to religion appeared to be the easiest way of preserving it.

# 5  Conclusion

Whether religion can stand in the way of progressive reforms and slow down long-term economic development is a question of considerable importance as attested by the present-day re-assertion of religious values and identity in parts of the developing world and the growing interest in religion among social scientists, including economists. Although the latter have started to explore empirically the relationship between politics and religion, and Islam has received special attention, few attempts have been made to investigate it theoretically. This paper, which represents a first effort to fill up this gap, is based on the idea that religious clerics have special attributes which, in the context of traditional societies, may transform them into effective organizers of popular rebellion. At the same time, they are vulnerable to co-option by autocrats preoccupied by the duration of their rule. We study the trade-off between the level of progressive reforms and political stability under an autocratic regime when clerics are heterogeneous in terms of their income-ideology preferences. These preferences reflect the intensity of the clerics' attachment to moral principles and institutions associated with their religion or, equivalently, they indicate the amount of (material) compensation they require to forsake (or betray) their values.

How the level of progressive reforms and the degree of political stability are influenced by the presence of heterogeneous clerics critically depends not only on the shape of the clerics' distribution but more importantly on whether their religion is centralized or decentralized. Two important results deserve special mention. First, given a decentralized religion, a reform-minded autocrat may choose to co-opt only a fraction of the clerical body so as not to sacrifice too many reforms. This is more likely to happen if the clerics' aversion to reforms is not too high compared to the return of reform efforts from the autocrat's standpoint. In the opposite case, the autocrat prefers political stability to reforms. Second, in condi-

tions of political stability, an autocrat will choose a higher level of reforms under a centralized than under a decentralized religion. If, under a decentralized religion, he chooses incomplete co-option of the clerics so that political stability is not guaranteed, he may well opt for a larger amount of reforms than under religious centralization. Comparative-static results offer interesting insights, particularly under the condition of religious decentralization. In the light which they provide, the role of Saudi Arabia in the modern Islamic world appears especially pernicious. On the one hand, by causing a low return of reforms, the abundance of oil resources prompted the Saudi rulers to privilege political stability and forge a strong alliance with a very conservative brand of Islam (Wahhabism). On the other hand, thanks to their immense wealth, these rulers could actively disseminate the Wahhabite doctrine throughout the Muslim world, using it as a potent vehicle of their geopolitical influence. As a result, religious clerics in the host Sunnite countries became more radicalized and harder to co-opt. Such a change led their autocratic rulers to reduce the pace of reforms or even adopt regressive steps in order to placate the men of religion. The coexistence of oil wealth and a puritan religion in Saudi Arabia thus gave rise to conservative policies not only in that country itself but also in a large number of other countries where it extended its influence.

A final remark concerns the applicability of our theoretical framework to non-religious agencies, ethnic groups in particular. Assume that there exists a continuum of tribal leaders who represent different tribes, clans or sub-clans. They stand for different traditions and different levels of disagreement with the autocrat's policies. Yet, they can be co-opted by him. In this setup, centralization corresponds to a tribal confederation that has succeeded in overcoming the collective action problem of dispersed tribal leadership. All the predictions derived from our model would then apply. There are two important shortcomings of such a straightforward application of our theory to ethnicity, though. First, the tribal confederation is likely to be an unstable feature of the polity. Second, the identity of the autocrat is left undefined. In reality, the autocrat must himself belong a particular ethnic group or clan and his policies are expected to promote

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its particularistic interests. Being thus marked, he cannot claim to adhere to, and draw legitimacy from, a national ideology that transcends tribal or clanish identities. As a consequence, the polity is inherently conflictual and political stability can never be achieved. In fact, varying levels of antagonism of tribal leaders vis-à-vis the autocrat tend to arise from the ethnic distance between their own group and that of the autocrat. Bearing these qualifications in mind, it does not appear coincidental that reference to a universal religion has often been a strategy followed by autocrats to overcome tribalism.

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# 6 Appendix

## 6.1 Proof of Proposition 1

If the autocrat chooses the corner solution $\theta^d = 1$, he maximizes $\max G(\alpha) - aV(\alpha)$ with respect to $\alpha$, where $a \geq 1$. Since $V''(\alpha) \geq 0$ and $G''(\alpha) \leq 0$ the autocrat's objective function is concave. The first-order condition is therefore sufficient. The optimal solution, then, is $\alpha_a^*$ so that $\frac{G'(\alpha)}{V'(\alpha)} = \frac{1}{a}$, where $a$ is the minimum value of $w/V(\alpha)$ ensuring that the corner solution holds. We deduce that $w = \frac{V(\alpha)}{V'(\alpha)} G'(\alpha)$, which is identical to (14). In words, the autocrat chooses the same structure of wage whether he decides to enlist the full or the partial support of the clerical class.

Let us now look at the interior solution, where $\alpha$ is conjointly determined with $\theta$ in (11) and (12). We need to check the second-order conditions in order to prove the result. Deriving $\frac{\partial U^p}{\partial \alpha}$ in (12) with respect to $\alpha$ yields:

$$\frac{\partial^2 U^p}{\partial \alpha^2} = F(\theta^d) G''(\alpha) - V''(\alpha)\theta^d \tag{19}$$

Since $G(\alpha)$ is concave and $V(\alpha)$ convex, we deduce that $\frac{\partial^2 U^p}{\partial \alpha^2} \leq 0$.

Deriving $\frac{\partial U^p}{\partial \theta}$ in (11) with respect to $\theta$ yields:

$$\frac{\partial^2 U^p}{\partial \theta^2} = G(\alpha) f'(\theta^d). \tag{20}$$

The local second-order condition holds if and only if $f'(\theta^d) \leq 0$. With a decreasing density function, this is always true. With a a U-shaped density function, we will have $\frac{\partial^2 U^p}{\partial \theta^2} \leq 0$ as long as $\theta^d \leq \underline{\theta}$, where $\underline{\theta}$ is the minimum point of $f(\theta)$ (i.e., $\underline{\theta}$ is such that $f'(\theta) = 0$). On the other hand, it is straightforward that, with an increasing density function, the condition will never hold. With such a density, the interior equilibrium is always

unstable: this is a case where the autocrat tries to get the support of the whole clerical group. The relevant equilibrium is the corner one.

Finally, in order to get an interior solution, we also need to check that $w < G(\alpha)$, which is equivalent to $\frac{V(\alpha)}{V'(\alpha)} < \frac{G(\alpha)}{G'(\alpha)}$. For instance this condition holds if $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $K, W > 0$ and $0 < g < 1 \leq v$.

## 6.2 Comparative Statics

We next show that $\frac{d\theta^d}{d\alpha} \leq 0$. To prove this result note that $\theta^d$ defined in (4) is such that $\frac{V(\alpha)}{w}F(\theta) = \theta$. Then $\frac{d\theta^d}{d\alpha} = \frac{-\frac{d\left(\frac{V(\alpha)}{w}\right)}{d\alpha}}{f(\theta)\frac{V(\alpha)}{w}-1}$. The way $\theta^d$ evolves in equilibrium as $\alpha$ increases thus depends on the sign of $\frac{d\left(\frac{V(\alpha)}{w}\right)}{d\alpha}$. By virtue of Proposition 1, we know that $\frac{V(\alpha)}{w} = \frac{V'(\alpha)}{G'(\alpha)}$, which implies:

$$\frac{d(\frac{V(\alpha)}{w})}{d\alpha} = \frac{V''(\alpha)}{G'(\alpha)} - \frac{G''(\alpha)V'(\alpha)}{(V'(\alpha))^2} \geq 0. \tag{21}$$

We deduce that $\frac{d\theta^d}{d\alpha} \leq 0$. For instance, if $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $K, W > 0$ and $0 < g < 1 \leq v$, then $\frac{V(\alpha)}{w} = \frac{W\alpha^{v-g}}{K}$, which increases in $\alpha$ as $v - g > 0$.

## 6.3 Proof of Proposition 2

Assume that $G(\alpha) = K\frac{\alpha^g}{g}$, and $V(\alpha) = W\frac{\alpha^v}{v}$, with $v \geq 1 > g > 0$ and $K, W > 0$. We deduce that (14) is equivalent to

$$w = \frac{K}{v}\alpha^g. \tag{22}$$

Substituting this value as well as the value of $G(\alpha)$ in the autocrat's utility function yields

$$U^P = F(\theta^d)\frac{v-g}{vg}K\alpha^g. \tag{23}$$

The autocrat needs to choose $\alpha$ so as to optimize his utility function. He needs to compare different regimes. In the first one, he chooses a relatively low level of reform so that stability is maximal, $\theta^d = 1$. In the second regime, he chooses to implement more reforms (a larger level of $\alpha$) at the cost of higher instability: $\theta^d < 1$. We next show that we can get an interior solution or a corner solution depending on the values of the parameters $v$ and $g$.

### 6.3.1 Symmetrical U-shaped distributions

We first prove the result for a symmetrical U-shaped density function. The density function has two peaks for $\theta \in [0, 1]$, one at $\theta = 0$ and the other one at $\theta = 1$, and it reaches its minimum value at $\theta = 0.5$.

Let focus first on the corner solution. There is a threshold value $a > 1$ so that the only stable equilibrium is $\theta^d = 1$ whenever $\frac{w}{V(\alpha)} \geq a$. For instance with the density function $f(\theta) = 2 - 6\theta + 6\theta^2$ defined over $\theta \in [0, 1]$ and c.d.f. $F(\theta) = 2\theta - 3\theta^2 + 2\theta^3$, the threshold is $a = \frac{8}{7}$. In the general case, the optimal solution $\alpha_{\theta^d=1}$ is such that $\frac{G'(\alpha)}{V'(\alpha)} = a$. We deduce that $\alpha_{\theta^d=1} = \left(\frac{1}{a}\frac{K}{W}\right)^{\frac{1}{v-g}}$ and

$$U^P_{\theta^d=1} = \frac{v-g}{vg}K\left(\frac{1}{a}\frac{K}{W}\right)^{\frac{g}{v-g}}. \tag{24}$$

Second, the autocrat might choose $\alpha$ so that he obtains an interior solution for $\theta^d \in [0, 1)$, and $F(\theta^d) \in [0, 1)$. The principal will accept a lower probability of staying in power only if it comes with a higher payoff. That is, he chooses the interior over the corner solution only if the payoff $G(\alpha) - w = \frac{v-g}{vg}K\alpha^g$ is higher under the former regime. Since it is impossible to find closed-form solutions of the autocrat's optimization problem, we show that for some value of the parameters, an arbitrarily chosen interior value $\underline{\theta} \in (0, 1)$ so that $\underline{\theta} = F(\underline{\theta})$ dominates the corner solution.[27] It implies that, when the principal actually optimizes, he will do better than for $\underline{\theta}$, and hence will always prefer the interior solution.

If the autocrat wants to co-opt $F(\underline{\theta})$ of the clerics, he must offer a ratio "cost of reform/wage" equal to $\frac{V(\alpha)}{w} = 1$. The solution $\alpha^{**}$ to this constrained problem is such that $\frac{G'(\alpha)}{V'(\alpha)} = 1$. We deduce that $\alpha^{**} = \left(\frac{K}{W}\right)^{\frac{1}{v-g}}$ and

$$U^P_{\underline{\theta}} = F(\underline{\theta})\frac{v-g}{vg}K\left(\frac{K}{W}\right)^{\frac{g}{v-g}}. \tag{25}$$

Comparing (24) and (25), it is easy to check that

$$U^P_{\underline{\theta}} > U^P_{\theta^d=1} \Leftrightarrow F(\underline{\theta})^{\frac{v-g}{g}} > \frac{1}{a}. \tag{26}$$

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[27]With symmetrical U-shaped density, we have $\underline{\theta} = 0.5$. However this part of the proof is independent of the symmetry of the distribution (i.e., it holds even if $\underline{\theta} \neq 0.5$).

Condition (26) is equivalent to $\frac{v}{g} < 1 + \frac{lna}{-ln(F(\underline{\theta}))}$. Since $\frac{lna}{-ln(F(\underline{\theta}))} > 0$ (i.e., $a > 1$ and $F(\underline{\theta}) \leq 1$), this inequality holds if $g$ is sufficiently close to $v$ so that $0 < g < 1 \leq v$. We deduce that, for $g$ and $v$ sufficiently close to each other, the interior solution dominates the corner solution. For instance, with the density function $f(\theta) = 2 - 6\theta + 6\theta^2$ condition (26) is equivalent to $\frac{1}{2} > \left(\frac{7}{8}\right)^{\frac{g}{v-g}}$, which holds if $g = 0.9$ and $v = 1$, for example.

To complete the analysis, we need to show that the corner solution may dominate the interior solution. We focus on the case where $\theta^d = \frac{3 - \sqrt{8\frac{V(\alpha^*)}{w^*} - 7}}{4} = \frac{3 - \sqrt{8\frac{V'(\alpha^*)}{G'(\alpha^*)} - 7}}{4} = \frac{1}{2}$, is actually the optimal interior solution. This requires that $\alpha^*$ is such that $\frac{V'(\alpha^*)}{G'(\alpha^*)} = 1$, implying from (14) that $w^* = V(\alpha^*)$. Moreover, since the density function is symmetrical U-shaped, if $\theta^d = 0.5$ then $F(\theta^d) = f(\theta^d) = 0.5$. From (6), we can infer that $\frac{d\theta^d}{d\alpha} = -\frac{V'(\alpha^*)}{V(\alpha^*)}$.[28] We deduce that, if $\theta^d = 0.5$ is to be the optimal interior solution, it must be the case that $G(\alpha^*) = 2V(\alpha^*)$ from (13), and that $V'(\alpha^*) = G'(\alpha^*)$. Using the explicit functions chosen and solving these two equations simultaneously, we get that $v = 2g \geq 1$ and that $\alpha^* = \left(\frac{K}{W}\right)^{\frac{1}{g}}$. Therefore, $w^* = \frac{K^2}{vW}$.

We then need to compare the autocrat's utility at the interior solution $\theta^{d*} = 0.5$ with his utility at the corner solution $\theta^{d*} = 1$ defined in (24) for $v = 2g$, that is, $U^*_{\theta^d=1} = K \left(\frac{7}{8}\frac{K}{W}\right)^{\frac{g}{v-g}} \frac{v-g}{vg} = \frac{7K^2}{8vW}$. One can easily check that $U^*_{\theta^d=1} = \frac{7K^2}{8vW} > \frac{K^2}{4vW} = U^*_{\theta^d=\frac{1}{2}}$.

### 6.3.2 Decreasing distribution

With decreasing density, $F(\theta)$ is concave and there are at most two equilibria and only one of them is stable. If $f(0)\frac{w}{V(\alpha)} < 1$, so that the slope of the $F(\theta)w/V(\alpha)$ function is smaller than that of the identity function at $\theta = 0$ and, a fortiori, everywhere (since $F(\theta)$ is concave), the only equilibrium is 0 and it is stable. If $\frac{w}{V(\alpha)} \geq 1$, so that the slope of the $F(\theta)w/V(\alpha)$ function exceeds that of the identity function at $\theta = 1$ and, a fortiori, everywhere (since $F(\theta)$ is concave), the only stable equilibrium is 1 (and 0 is unstable). The optimal level of reforms for the autocrat, $\alpha^*_1$, is then such

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[28]Indeed we have $\frac{d\theta^d}{d\alpha} = \frac{-V'(\alpha^*)\theta^d}{V(\alpha^*) - f(\theta^d)w^*} = \frac{-V'(\alpha^*)0.5}{V(\alpha^*) - 0.5V(\alpha^*)} = -\frac{V'(\alpha^*)}{V(\alpha^*)}$.

that $G'(\alpha) = V'(\alpha)$, and the optimal wage for the clerics is $w_1^* = V(\alpha_1^*)$ by virtue of (14). If $\frac{1}{f(0)} \leq \frac{w}{V(\alpha)} < 1$, so that the slope of the $F(\theta)w/V(\alpha)$ function is first larger, and then smaller than that of the identity function, the only stable equilibrium is the interior one: $F(\theta^d)\frac{w}{V(\alpha)} = \theta^d$.

If the autocrat chooses the corner solution, the threshold value $a$ so that the only stable equilibrium is $\theta^d = 1$ whenever $\frac{w}{V(\alpha)} \geq a$ is $a = 1$. Indeed with a decreasing density the c.d.f. $F(\theta)$ is increasing and concave. We deduce that $\alpha_{\theta^d=1}^* = \left(\frac{K}{W}\right)^{\frac{1}{v-g}}$ and $w_{\theta^d=1}^* = \frac{W}{v}\left(\frac{K}{W}\right)^{\frac{v}{v-g}}$, so that the autocrat's utility is $U_{\theta^d=1}^{p*} = \frac{v-g}{vg}W\left(\frac{K}{W}\right)^{\frac{v}{v-g}}$.

If the autocrat picks up the interior solution, equations (11) and (12) are equivalent to $f(\theta) = \frac{gW}{vK}\alpha^{v-g}$ and $\frac{F(\theta)}{\theta} = \frac{W}{K}\alpha^{v-g}$. There is an interior solution to this problem if and only if the $\tilde{\theta}$ solution to $\frac{F(\theta)}{\theta f(\theta)} = \frac{v}{g}$ is such that $\tilde{\theta} \in (0,1)$. The corner solution is the only possibility otherwise. For instance, if $F(\theta) = \frac{2\theta}{\theta+1}$ for $\theta \in [0,1]$ so that $f(\theta) = \frac{2}{(\theta+1)^2}$, then $\frac{2}{(1+\theta)^2} = \frac{gW}{vK}\alpha^{v-g}$ and $\frac{2}{1+\theta} = \frac{W}{K}\alpha^{v-g}$. In this case, $\tilde{\theta} = \frac{v-g}{g}$ so that there is an interior solution in $\theta$ if and only if $g < v \leq 2g$. Let us focus on cases where there is an interior solution $\theta^d = \tilde{\theta} \in (0,1)$ so that $\alpha_{\theta^d}^* = \left(\frac{F(\theta^d)}{\theta^d}\frac{K}{W}\right)^{\frac{1}{v-g}}$. Substituting this value in the principal's objective function yields $U_{\theta^d<1}^{p*} = \frac{F(\theta^d)^v}{(\theta^d)^g}\frac{v-g}{vg}W\left(\frac{K}{W}\right)^{\frac{v}{v-g}}$. Comparing the latter with the utility of the autocrat when he chooses the corner solution, one can check that $U_{\theta^d<1}^{p*} > U_{\theta^d=1}^{p*} \Leftrightarrow \frac{F(\theta^d)^v}{(\theta^d)^g} > 1$. Since $F(\theta)$ is increasing and concave, and since $F(0) = 0$ and $F(1) = 1$, then for all $\theta \in (0,1)$, it is the case that $1 > F(\theta) > \theta > 0$. We deduce that if $v$ is sufficiently close to $g$, we have that $\frac{\left(F(\theta^d)\right)^v}{(\theta^d)^g} > 1$. On the other hand, if $v$ becomes very large, $\left(F(\theta^d)\right)^v$ becomes very small, and converges to 0 when $v$ goes to infinity. In this case, $\frac{\left(F(\theta^d)\right)^v}{(\theta^d)^g} < 1$. This proves the result.

For instance, if $F(\theta) = \frac{2\theta}{\theta+1}$ for $\theta \in [0,1]$ so that $f(\theta) = \frac{2}{(\theta+1)^2}$ and both the interior and the corner solutions are available (i.e., when $v \leq 2g$), one can check that $U_{\theta^d=\frac{v-g}{g}}^{p*} > U_{\theta^d=1}^{p*} \Leftrightarrow (2g-v)\left(\frac{2g}{v}\right)^{\frac{v}{v-g}} > v-g$. This inequality is equivalent to $\left(\frac{1}{\nu}-1\right)^{\frac{\nu}{1+\nu}} > \frac{\nu+1}{2}$ where $v = (1+\nu)g$ and $\nu \in (0,1]$. The left-hand side is decreasing in $\nu$ and the right-hand side is increasing in $\nu$. Moreover, the left-hand side goes to infinity when $\nu$ goes to 0 while the right-hand side is then equal to 0.5. Finally, the left-hand side is equal to 0

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when $\nu = 1$ while the right-hand side is then equal to 1. We conclude that the functions $\left(\frac{1}{\nu} - 1\right)^{\frac{\nu}{1+\nu}}$ and $\frac{\nu+1}{2}$ cross once and only once when $\nu \in (0, 1]$. We deduce the result.

## 6.4 Proof of Proposition 4

We need to solve

$$\max_{w,\alpha} \left(G(\alpha) - w\right)^{1-c} \left(w - \theta^c V(\alpha)\right)^c$$

$$\text{s.t.} \quad w \geq E\theta V(\alpha)$$

The Lagrangian associated to this problem is

$$L = \left(G(\alpha) - w\right)^{1-c} \left(w - \theta^c V(\alpha)\right)^c + \lambda\left(w - E\theta V(\alpha)\right)$$

It yields

$$\frac{\partial L}{\partial \alpha} = (1-c)G'(\alpha)\left(\frac{w-\theta^c V(\alpha)}{G(\alpha)-w}\right)^c - c\theta^c V'(\alpha)\left(\frac{G(\alpha)-w}{w-\theta^c V(\alpha)}\right)^{1-c} - \lambda E\theta V'(\alpha) = 0$$

$$\frac{\partial L}{\partial w} = -(1-c)\left(\frac{w-\theta^c V(\alpha)}{G(\alpha)-w}\right)^c + c\left(\frac{G(\alpha)-w}{w-\theta^c V(\alpha)}\right)^{1-c} + \lambda = 0$$

Moreover, we have that $\lambda(w - E\theta V(\alpha)) = 0$. Two cases are possible.

1. If $w > E\theta V(\alpha)$, it follows that $\lambda = 0$ so that the solution to this problem is $w^c = (1-c)\theta^c V(\alpha) + cG(\alpha)$ and $\alpha^c$ such that $G'(\alpha) = \theta^c V'(\alpha)$. The condition $w > E\theta V(\alpha)$ is then equivalent to $(1-c)\theta^c V(\alpha^c) + cG(\alpha^c) > E\theta V(\alpha^c)$. Substituting $\theta^c = \frac{G'(\alpha)}{V'(\alpha)}$ and dividing right and left by $V(\alpha^c)$ yields $E\theta < c\frac{G(\alpha^c)}{V(\alpha^c)} + (1-c)\frac{G'(\alpha^c)}{V'(\alpha^c)}$. We deduce condition 1.

2. If $\lambda > 0$, we have that $w = E\theta V(\alpha)$. We deduce from $\frac{\partial L}{\partial w} = 0$ that $\lambda = (1-c)\left(\frac{(E\theta - \theta^c)V(\alpha)}{G(\alpha) - E\theta V(\alpha)}\right)^c - c\left(\frac{G(\alpha) - E\theta V(\alpha)}{(E\theta - \theta^c)V(\alpha)}\right)^{1-c}$. Substituting this value in $\frac{\partial L}{\partial \alpha} = 0$ yields $(1-c)(G'(\alpha) - E\theta V'(\alpha)) + cV'(\alpha)\frac{G(\alpha) - E\theta V(\alpha)}{V(\alpha)} = 0$. Dividing right and left by $V'(\alpha)$ and simplifying yields condition 2.

## 6.5 Proof of Proposition 6

The autocrat who wants to obtain the full support of the clerical body in the decentralized case will implement a level of reforms $\alpha^d = \alpha_a^*$ so that

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$\frac{G'(\alpha)}{V'(\alpha)} = a$, where $a > 1$ is the minimum value such that the corner solution holds.

Under a centralized religion, according to Proposition 4, two cases are possible. In Case 1, the head of the church is quite antagonist to the autocrat (i.e., $\theta^c \in [0,1]$ is relatively high), and $\alpha^c$ must satisfy $G'(\alpha) = \theta^c V'(\alpha)$. Since, under the assumptions that $G(\alpha)$ is concave and $V(\alpha)$ is convex, the function $\frac{G'(\alpha)}{V'(\alpha)}$ is decreasing in $\alpha$, and since $a > 1 \geq \theta^c$, we deduce that $\alpha^c > \alpha_a^*$.

Under Case 2, $\theta^c$ is relatively small (i.e., the head of the church is relatively close to the autocrat) and the participation constraint of the average cleric is binding: $\alpha^c$ is such that $c\frac{G(\alpha)}{V(\alpha)} + (1-c)\frac{G'(\alpha)}{V'(\alpha)} = E\theta$. Since in this case, $w^c = E\theta V(\alpha^c) < G(\alpha^c)$, it follows that $\frac{G(\alpha^c)}{V(\alpha^c)} > E\theta$. We deduce that, necessarily, $\frac{G'(\alpha^c)}{V'(\alpha^c)} < E\theta$ since the convex combination of two numbers larger than $E\theta$ cannot be equal to $E\theta$. By the same reasoning as before, and since $E\theta < 1$, we have that $\alpha^c > \alpha_a^*$.
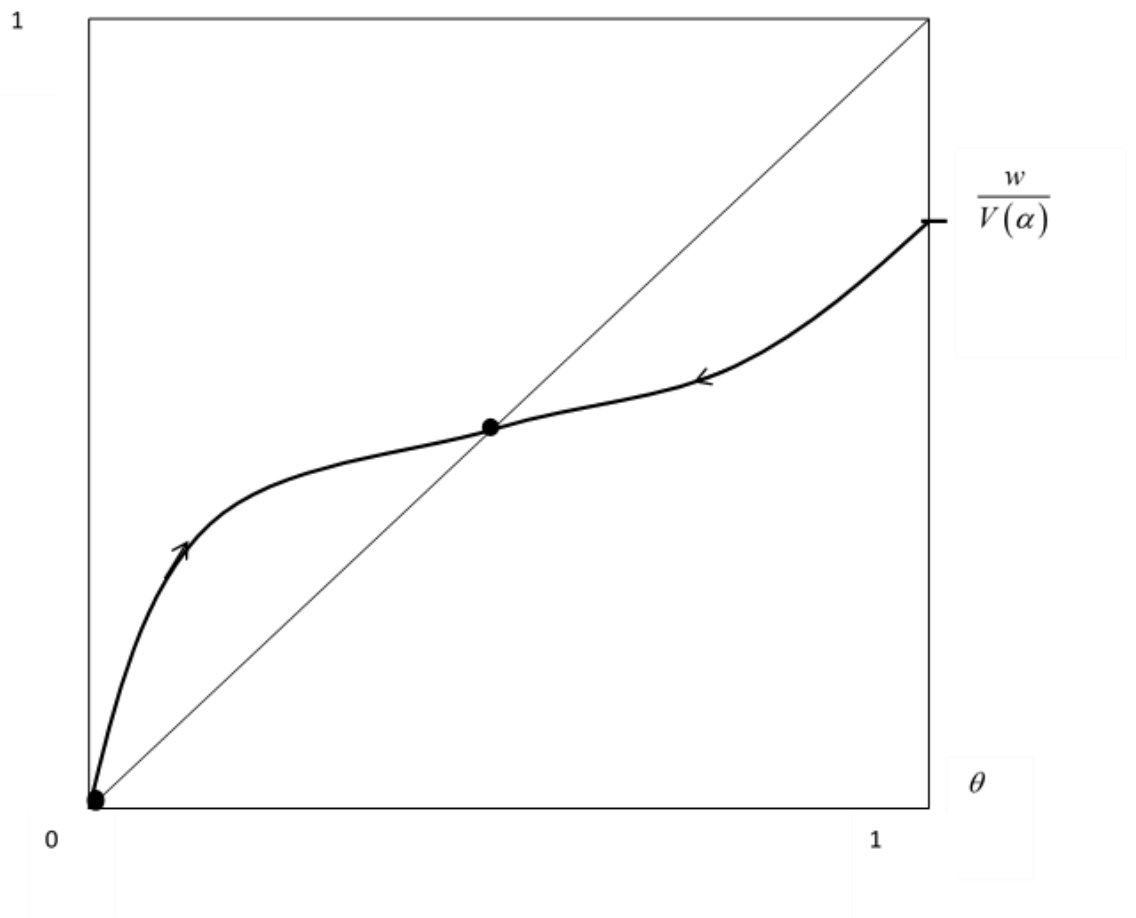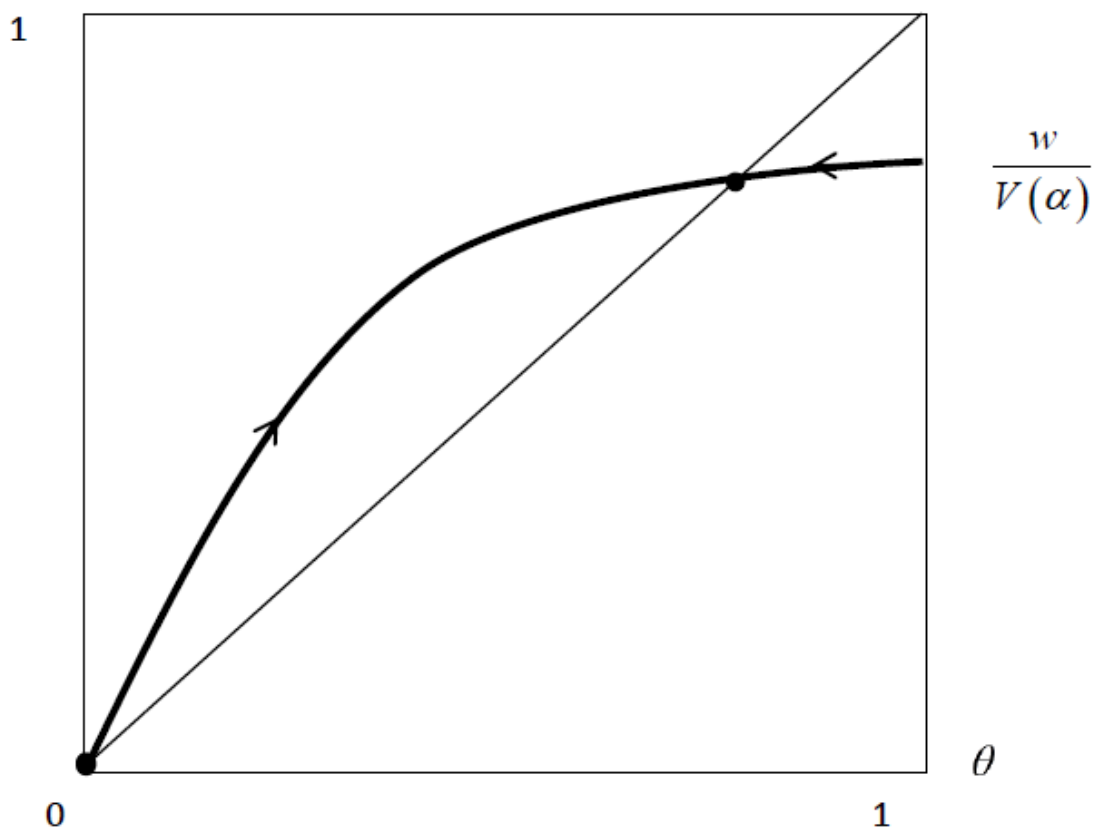
Figure 1: Decentralized religion U-shaped density
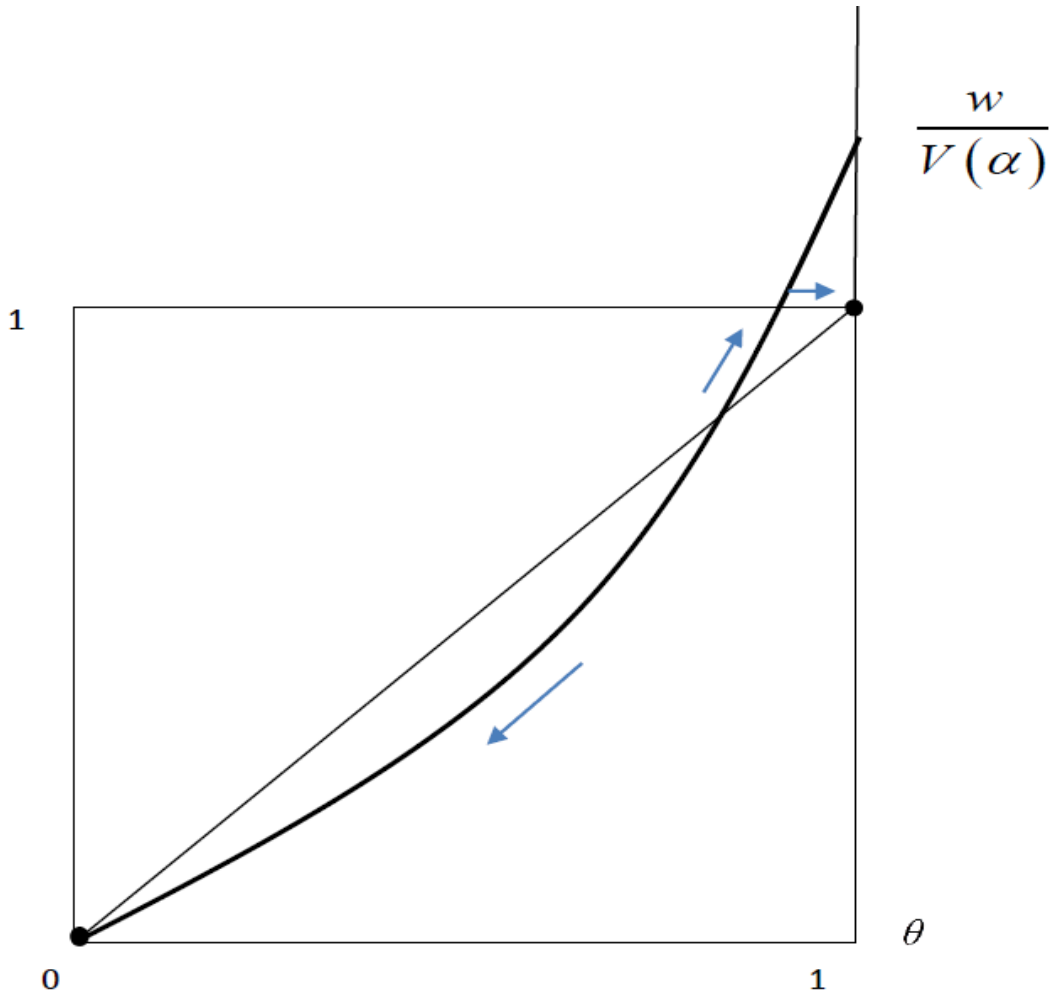
**Figure 2: Decentralized religion Decreasing density**

**Figure 3: Decentralized religion Increasing density**