DELIVERING STABILITY -

Primogeniture and autocratic survival in European monarchies 1000-1800

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ABSTRACT

Despite being the probably most common form of political rule in history, monarchies remain understudied in terms of how constitutional arrangements affect leader survival. In this paper, we examine if the principle of succession mattered for the risk that a king or queen would be deposed in Europe, 1000-1800. Specifically, we draw on the work of Gordon Tullock, who argued that hereditary succession orders increases the chances of survival for dictators. The proposed reason is that a crown prince constitutes a natural focal point for the ruling elite, which makes it easier for them to avoid costly power struggles. Furthermore, crown princes are generally much younger than other challengers, and can thus afford to wait for the current king to die or abdicate peacefully. The hypothesis is tested on a new dataset, and the results show that the risk of deposition was several times higher in European monarchies not practicing primogeniture. Moreover, the spread of primogeniture to a large extent explains why the risk of deposition became dramatically lower in Europe during the period of study.

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Introduction

One of the most fundamental issues of concern for any ruler is that of staying in office. Nowhere is this issue more pressing than in autocracies, where removal from office often is associated with the exile, death or imprisonment of the autocrat. Gordon Tullock (1987) has argued that the introduction of a succession based on primogeniture (i.e. the principle of letting the oldest son inherit) is one of the best strategies for autocrats to increase their chances of surviving in office (also see Kurrild-Klitgaard 2002; Brownlee 2007). There are two reasons for this. The first is that primogeniture increases regime members' incentives to remain loyal to the autocrat, because the principle helps the regime to coordinate their efforts to remain in power when the old autocrat dies. If the regime members remain loyal to the crown prince the regime will live on also after the autocrat dies, and the regime members' will retain their privileged positions. In autocracies based on succession orders that do not point out a clear successor the regime members do not have a successor to remain loyal to. In such circumstances, the passing away of the autocrat is likely to initiate an uncertain power struggle that threatens the survival of the regime. Loyalty to the former autocrat is not a guarantee for a continued privileged position, as the coalition that emerges victorious from the struggle does not need to be identical with the old regime. Under such circumstances it could be advantageous to move first and overthrow the incumbent autocrat. The autocrat is therefore wise to appoint a successor and solve the regime's coordination problem. However, pointing out a successor is dangerous as a crown prince will be in a good position to overthrow the autocrat. This leads to the second advantage of primogeniture, namely that the principle tends to produce relatively young crown princes who know with certainty that if they remain loyal they will inherit the throne the day the autocrat dies. Contenders in autocracies with other succession orders do not have the same guarantee that loyalty will bring them to power when the autocrat steps down. If the succession is based on election another contender might be elected, and if it is based on brother inheritance (as was common in Medieval Europe) they cannot know if they will outlive their (not much) older brothers. Thus, contenders who want to be the new autocrat in such systems must do something about it.

Although the argument that a succession based on primogeniture increases autocrats' chances of surviving in office is theoretically sound it has been put to little test. It has been argued to be able to explain why monarchs during the 20th century have been less likely to experience coups and depositions than military or civilian dictators (Hadenius & Teorell 2007). However, monarchies and military and civilian autocracies differ in many ways, and there are a number of competing explanations for their relative stability (e.g. Lucas 2004). To separate between the effects of primogeniture and the effects of these other factors we would ultimately want to test how variation in succession orders within respective regime affects autocratic survival. Only one such test has been carried out – Kurrild-Klitgaard's (2002) study on how de jure and de facto changes of the Danish monarchy's succession rules did affect Danish monarchs' chances of surviving in office between AD 935 and 1849. Hence, there is a need for a more thorough test of the hy-

pothesis that a succession order based on primogeniture increases autocrats' chances of surviving in office.

This article provides such a test. It does so by studying how variations in succession orders between monarchies – the historically most common type of autocracies – did affect autocratic survival in Europe 1000-1800 AD. Today, most monarchies adhere to succession orders based on strict primogeniture. However, in the past the succession was often arranged in other ways. Europe at the start of the second Millennium was, for example, dominated by states with succession orders based on election and agnatic seniority (i.e. the principle according to which the oldest brother inherited) (e.g. Dvornik 1962; Kern 1948). Only in a few states on the Iberian Peninsula was primogeniture an established practice. This fact makes it possible to test the impact of succession orders on autocratic survival while holding regime type constant. In order to do so, we have construed a dataset consisting of data on 960 monarchs who ruled 42 European states during the period 1000-1800 AD, substantially expanding the scope of studies of autocratic survival.

We find that monarchs who ruled states with succession orders based on primogeniture were more than twice as likely as monarchs who ruled states with other types of succession orders to survive in office without being deposed. The spread of primogeniture can, moreover, explain almost all of the variation over time in monarchs' chances of surviving in office in Europe's history. Future political histories of Europe should account for this by taking succession orders and their impact on political life in monarchies more seriously.

The article proceeds as follows. Next we present the theoretical argument and the evidence for it. We then review different succession orders and their consequences for autocrats' chances of surviving in office. Thereafter, we discuss data and empirical strategy, and present the statistical analysis. Finally, we conclude and discuss further avenues of research.

The theoretical argument

Autocrats whether antique, medieval or modern, face a myriad of threats to survival. Gandhi & Przeworski (2007) groups them into those from within the ruling elite and those from outsiders in society. One could also add threats from foreign actors. Successful revolts that originated in the broad layers of the public were however rare before the French revolution. And even though foreign invasion caused the demise of some monarchs the threat from foreign enemies was miniscule in comparison to the domestic threat from the political and military elite. The impression that domestic threats from the elite are more important than outside threats to autocratic survival holds in modern times: of all 316 autocrats who lost power unwillingly between 1945 and 2002, more than two-thirds were ousted in coups that originated inside the government (Svolik 2009). In this article we, therefore, focus solely on threats from influential

domestic actors, in line with most of the research in this area (Svolik 2009; Snyder 1992; Wintrobe 1990; Gandhi & Przeworski 2006; Myerson 2008).

The argument that a succession order based on primogeniture reduces the threat from the domestic elite is several hundred years old, and has preoccupied many of the greatest minds in the history of political ideas (e.g. Montesquieu 1949). However in its modern version the argument can be ascribed to Gordon Tullock (1987). Tullock and Peter Kurrild-Klitgaard (2002), who has developed on Tullock's argument, point to the number and the age of contenders for the throne as the basic reasons for why primogeniture can help autocrats survive in office. The key mechanisms are related to the time horizons of the elite supporting the autocrat, without whose support a coup is likely to fail.

To keep the loyalty of his supporters an autocrat must buy them off by sharing his incomes with them, for example by giving away offices. Because of these rents the members of the regime have an interest in keeping the regime alive. However, if the autocrat dies or is deposed the regime threatens to die with him, as it is tied to his person. If there is no clear successor the members of the regime will be at a loss of whom they should support as the new head of the regime. The end result is likely to be an internal struggle over the succession, as several of them will try their chances to become the new autocrat. While a chance to seize power may seem tempting to members of the regime, it is likely that they "prefer maintaining their status to pursuing a potentially disastrous power grab" (Brownlee 2007, p. 606), as the winning contender probably will dispose of competitors once in power. If the autocrat continues to share his rents the regime is therefore likely to stay loyal to him. However, the succession struggle cannot be postponed forever. Sooner or later the incumbent must die. When that happens the struggle can only be avoided if the elite can agree on a successor and coordinate their efforts to uphold the regime.

If the autocrat does not provide the elite with a successor they will anticipate the "strife and chaos" (Herz 1952) that is likely to break out when the autocrat dies and plan for it. To gain the upper hand, members of the regime could even be tempted to exploit the first-mover advantage of carrying out a coup. The instigator of a coup could naturally become a focal point for other members of the regime. The absence of a successor is therefore highly problematic not only for the regime, but also for the autocrat. Choosing a successor is crucial for the autocrat if the wants to avoid coup attempts. However, the autocrat needs to choose his successor wisely, as the appointed successor will be well positioned to attempt a coup and thus might provoke a "crown prince problem" (Ibid.).

A succession based on primogeniture solves both the regime's coordination problem and the autocrat's crown prince problem. In autocracies practicing primogeniture there is under ordinary circumstances only one viable contender for the throne – the crown prince – who automatically will become the new autocrat the day the incumbent autocrat dies. A crown prince therefore solves the coordination problem by

providing the regime with a natural focal point. If the members of the regime remain loyal to the crown prince the regime will live on after the incumbent autocrat passes away.

Apart from pointing out a successor, primogeniture in normal circumstances also solves the crown prince problem by appointing the autocrat's son successor. This assures that the successor is considerably younger than the incumbent autocrat. Tullock (1987:163) argues that "the son is wise to simply wait for his father to die", as he because of his young age will be able to enjoy the rents of being the autocrat for many years after the fathers death. Brothers, generals or other possible successors are more likely to be of age with the incumbent autocrat, and thus have lower incentives to be patient.

A third advantage with primogeniture is that the crown prince is likely be relatively young when he comes to power, why members of the regime will not have to worry about the problem of succession for many years. They can rest assured that they for a long time will be able to collect the rents that the new autocrat promises to share with them. In the words of Bueno de Mesquita et al: "an autocrat's tenure depends upon her ability to promise private goods in the future and ill health and decrepitude diminishes this capacity." (de Mesquita, Smith, Siverson, and Morrow 2003). Thus, primogeniture makes it less attractive for regime members to attempt a risky coup.

In autocracies where the succession is based on election, or is uncertain for other reasons, there are always several potential contenders for the throne. The members of the ruling regime cannot know for certain who will be the new autocrat the day the incumbent autocrat passes away and will have difficulties coordinating their efforts to uphold the regime when he dies. They are therefore likely to constantly look out for strong potential contenders to bet on in a grab for power – especially when the incumbent autocrat is old and does not seem to have much time left to rule. To remain loyal is to miss an opportunity to increase one's chances of becoming a member of the new privileged elite by acting before other potential contenders.

Neither can potential contenders for the throne be certain that they will inherit the autocrat one day. There is always a risk that another contender will be elected, or grab power, the day the incumbent autocrat dies. The contenders in autocracies where the succession is based on election, or is uncertain for other reasons, also tend to be older than crown princes in autocracies based on primogeniture, as it takes more time to amass the power resources needed to be a viable contender in the former systems. Therefore, the contenders cannot be as patient as crown princes in systems based on primogeniture. In short, a contender "may miss the rents from becoming the autocrat, if he does not do something himself to become so" (Kurrild-Klitgaard 2002, p. 67).

The fact that the contenders are likely to be relatively old when they come to power also assures that they will not be able to promise their supporters as long time horizons as autocrats in states practicing primo-

geniture can offer their supporters. It will not be long before the members of the regime will have to worry about the succession problem, and maneuver to increase their chances of becoming members of the next regime.

Because of these characteristics, we should expect autocratic systems with uncertain succession orders to be characterized by political instability and frequent coups. Neither the autocrat nor other members of the regime can be certain to retain their power privileges in such systems, but are constantly under threat from new contenders.

To sum up, a succession based on primogeniture reduces both the regime members' coordination problem and the autocrat's crown prince problem. In addition, it increases the regime members' time horizons by providing them with young autocrats. Other succession orders do nothing of the kind. Thus, both regime members and contenders for the throne have greater incentives to stay loyal to the autocrat in states with primogeniture. Autocrats who are ruling states with a succession based on primogeniture should therefore have a greater chance of surviving in office than autocrats who are ruling states with other succession orders. Next, we outline the existing evidence on the relationship between succession orders and autocratic survival.

Previous research

The evidence for the impact of succession orders on autocratic survival is, with one notable exception (see below), in large limited to the observation that monarchs during the 20th century have experienced fewer coups and depositions than other types of autocrats (Hadenius and Teorell 2007). However, this observation does not necessarily constitute evidence that primogeniture increases autocrats' chances of surviving in office. First, several civilian and military autocracies, as for example North Korea and Syria, have during the 20th century reverted to de facto primogeniture and do thus not differ from monarchies in that respect (e.g. Brownlee 2007). Second, and more important, is the fact that far from all contemporary monarchies base their succession orders on primogeniture. Many Gulf monarchies (which make up a substantial part of the few remaining autocratic monarchies in the world) do for example have succession orders that are based on a mix of brother inheritance (agnatic seniority) and appointment (e.g. Ahrari 1999; Lucas 2004) or proscribe that "[…] successors are [to be] chosen by a consensus of the royal family" (Hadenius and Teorell 2007). In other words, their succession orders in most circumstances both produce more than one legitimate contender and assure that the contenders that are produced are only slightly younger than the incumbent autocrat. Therefore, we have little reason to assume Gulf monarchies to be politically more stable than other types of autocracies on basis of their succession orders. Their relative stability can more likely be ascribed to other factors.

Manuel Eisner (2011) investigates the patterns of regicide in Europe between 600 and 1800, and finds a clearly decreasing trend. During the 11th century, 1.1 autocrats were murdered per 100 autocrat-years, while only 0.19 autocrats were murdered per 100 autocrat-years during the 18th century, a dramatic reduction (Eisner 2011:569). Eisner notes that this trend seems to coincide with the gradual codification of male primogeniture as the main principle of succession, but does not explicitly test the connection.

The only direct test of the impact of succession rules on autocratic survival that we know of is Kurrild-Klitgaard's (2002) study of how changes in succession laws and practices in medieval and early modern Denmark did affect Danish monarchs' risks of being deposed. The study clearly shows that Danish monarchs sat safer on their thrones both after the introduction of de facto (1165) and de jure primogeniture (1660). Although, Kurrild-Klitgaard's study has several advantages, such as the fact that it holds regime type (monarchy) constant, it also suffers from being limited to Denmark. Generalizability is always an issue with case studies. In addition, it is obvious that the changes in succession practices and laws that Denmark underwent during the studied period are highly correlated with overall state development. Thus, there is a need for a more thorough test of the hypothesis that a succession based on primogeniture increases autocrats' chances of surviving in office. In order to provide such a test we have widened the scope of Kurrild-Klitgaard's study and turned to the overall political history of Europe in the medieval and early modern period.

Royal succession in medieval and early modern Europe

Almost all states in Europe before the French Revolution were monarchies.[1] Although the picture thus suggests institutional homogeneity there were important differences in the ways European monarchies functioned. Especially the succession orders varied vastly both over time and between states.

Towards the end of the period various versions of *primogeniture* dominated the scene totally. The most common version was *agnatic primogeniture*, according to which the eldest living son and his male offspring inherited. Females were excluded entirely from inheritance.[2] Some states practiced the more liberal principle of *male-preference primogeniture*, which allowed daughters and their offspring to inherit if the monarch hade no living male offspring. Both systems assured that there was only one legitimate crown prince and thus a focal point for the ruling regime as long as the monarch produced eligible children. For natural reasons the produced crown princes were also considerably younger than their fathers. Typically, the first and second in line for the throne belonged to different generations (i.e. were the son and the grandson of the monarch). It was also easy for the people to know who was to inherit the throne. Or as Montesquieu

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[1] Even if there was exceptions, such as the merchant city-states of Italy and the Cantons of Switzerland.
[2] Most famously, this principle was expressed in the so-called Salic law, practiced in France. The law was created by king Clovis, who first united the Franks in the 7th century, but was for a long time forgotten. In the beginning of the 15th century, French scholars brought it back into practice, and thereafter engaged in revisionism to create the impression that the law always had been used (Taylor 2001).

says regarding the legitimacy of different succession orders: "that which most sensibly strikes them [the people] is a certain order of birth." (Montesquieu 1949, p. 61)

Although the dominating position of primogeniture at the end of the period might seem natural given primogeniture's many advantages for the monarch and the ruling elite it was first rather late in history that the principle came to dominate Europe. At the dawn of the second Millennium primogeniture was only an established practice in the Iberian Peninsula, in the Christian kingdoms of Leon, Castile, Navarre and Aragon and in the County Barcelona.[3] It was first in the 14th century that a majority of the monarchs in Europe ascended to power in states practicing primogeniture.

The spread of primogeniture can partially be ascribed to the fact that states that had held on to other succession orders gradually started to adopt the principle as time passed by. However, much of the change can also be ascribed to the effective break up of the Holy Roman Empire into autonomous principalities with succession laws based on primogeniture in 1356, and the fact that a number of states that held on to other succession orders lost independence (Anglo-Saxon England in 1066, Croatia in 1097, Apulia in 1127, Kiev in 1241, Serbia in 1371, the Byzantine Empire in 1453, Bosnia in 1463, Moldavia in 1517, Wallachia in 1521, Norway in 1559, Transylvania in 1692, and Poland in 1795). Some states held on to other succession orders for relative long. However, towards the end of the period a rapid decline set in and the 19th century had barely dawned when the last kingdom in Europe holding on to an alternative succession order (Russia, which practiced succession by appointment) gave in and adopted a succession law based on primogeniture.

Before the ascendancy of primogeniture the dominating principles of succession were election and various forms of brother inheritance. Election or acclamation of monarchs was common practice in much of medieval Europe at the dawn of the second Millennium, for instance in England before the Norman Conquest, France under the Carolingians, the Nordic states, the Polish-Lithuanian Commonwealth and perhaps most famously, the Holy Roman Empire. It is however misleading to think of these elections in the modern sense of the word, as it primarily were the privileged that were allowed to vote, and because the elected mostly came from a royal family. Elective monarchy in England has, for example, been described as a system where the royal family inherited, but not individuals (Douglas 1964). Moreover, strong monarchs were often able to render the elective element moot, by forcing the nobility to elect their sons as heirs already during their lifetimes. Often such ceremonies also included anticipatory crowning of the heir to rule as co-king until the death of the father, as in Capetian France during the 11th century (Lewis

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[3] The origins of primogeniture are obscure. However, much point to that the principle first became established with feudalism among nobles who owed military service to the king. It took considerable means to provide armed retainers and the principle assured that the fiefs that the nobility held in trust from the king were not split up to the point that they became too small to support armed retainers (e.g. Holt 1987; White 1987; Bertocchi 2006). The principle slowly spread to other arenas of social life, but it was first between the 13th and 17th centuries that it became the norm in other affairs of inheritance (Ibid.). Before that it had, however, started to spread to many monarchies as a guiding principle for how to pass on the throne.

1978). However, when such practice became established custom, elective ceremonies were kept and took on the role of acclamation (Bendix 1980). In addition, far from all monarchs were able to have their sons elected heirs during their rule. Elections could also become more important after weaker monarchs (Le Patourel 1971).

However, in some states succession by appointment became an established custom (as in the mixed system of Tanistry, which was practiced in Scotland and Gwynedd) and in Russia under Peter the Great the principle even achieved legal status. This did, however, not solve the coordination problem for the regime. Monarchs often changed their mind and appointed new successors, making it questionable who was the legitimate heir (this was the question that sparked the Norman invasion of England in 1066 – see Olesen 1957). Many monarchs also abstained from appointing heirs before they died (this was ironically the case with Peter the Great). Thus, systems based on appointed succession seldom succeeded in pointing out a sole undisputed successor. What is more, the successors that were appointed were often of a relatively high age and thus had incentives to overthrow the incumbent monarch to assure their inheritance. As Montesquieu noted, the consequences could be disastrous: "By the constitution of Russia, the Czar may choose whom he has in mind for his successor, whether of his own or of a strange family. Such a settlement produces a thousand revolutions and renders the throne as tottering as the succession is arbitrary" (Montesquieu 1949, p. 61).

Another widespread principle of succession in Europe before the rise of primogeniture was brother inheritance. Although adopted by many Germanic peoples (e.g. the Vandals in Northern Africa – see Merrills 2010) brother inheritance was mostly practiced in Slavic Europe (e.g. Dvornik 1962; Fine 1983) when the new Millennium dawned. A sort of brother inheritance was also practiced in Celtic Europe where it was mixed up with principles of appointment and election in a system labeled "Tanistry" (e.g. Stephenson 1927). The specifics of the Slavic system varied, but it basically came in one of two versions (where the second tended to succeed the first after a while). The first allowed all sons of a monarch an equal right to the inheritance, which meant that they had to fight it out until one of them was powerful enough to force the others to acknowledge his right to the throne. The second version, agnatic seniority, allowed the oldest living brother the right to inherit the throne. It was then supposed to pass to his younger brothers until the last living brother at his death was supposed to hand it over to the oldest brothers' oldest living son (to pass it on to his brothers, cousins and their offspring). The first version obviously allowed for more than one contender for the throne. It also assured that there were plenty of potential contenders of age around as long as the brother that managed to succeed to the throne did not put all of his remaining brothers, cousins and their children to death. The second system, although it in theory pointed out a sole successor, assured that there always were many contenders of a similar age to the monarch around in the system. It was often extremely difficult to know whom of these brothers and nephews who were going to outlive the monarch and the other contenders and inherit the throne.

This logic bred a situation where it might be better to attempt to support one's favorite brother or nephew in his attempt to overthrow the incumbent autocrat instead of waiting and hoping for him to inherit the throne. In addition, most of the contenders had reasons on their own to try to overthrow the incumbent monarch as they typically only were a few years younger than him and did not know if they were to outlive him.[4] It should be noted that the system tended to become extremely unwieldy in just one or two generations as not only all brothers, but also their sons and grandsons were allowed a place in the line of inheritance.

Although the principles of elections and brother inheritance dominated the political map of Europe at the start of the second Millennium many political systems also lacked established succession orders. The most obvious example is the Byzantine Empire, which never succeeded in establishing a clear succession law during its long history. The basic reason for its reluctance to do so was that its law since Roman times explicitly forbade monarchy and thus for natural reasons could not elaborate on how the "monarchy" should pass on in the case the incumbent "monarch" passed away (Goldsworthy 2009).[5] The throne was there to grab legitimately for anyone with the means to take it (as illustrated by the huge number of soldier-emperors). In other monarchies different rules of inheritance stood against each other. Conflicting succession orders were especially a problem in states where brother inheritance had been the norm and where monarchs did try to introduce primogeniture to secure the throne for their children. For example, it took two centuries of constant conflict between uncles and nephews in Arpad Hungary before they finally could agree on a succession based on primogeniture in the 13th century (Rady 2008).

The described differences in succession arrangements make Medieval and Early Modern Europe a suitable testing ground for Tullock's hypothesis of the politically stabilizing influence of primogeniture. Before we turn to the empirical test we however discuss to what extent there were other factors that separated European monarchies and that could have influenced their political stability.

Alternative explanations

European monarchs were usually given their offices for life. The religious authorities (the pope or the head of the national church) typically also justified the monarchs' claim to power, as well as monarchy as a political system (Bendix 1980). It is true that state capacity and the size of the bureaucracy varied over the period, with the general trend going from weak to strong state capacity and from small to large bureaucracies (Charron, Dahlström and Lapuente 2012). The autocratic elements of the systems did, however, not change to the same degree. Also towards the end of the period a monarch's power usually depended on a

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[4] The old age of the contenders actually seems to have been the justification for the system in the first place, as it guaranteed that there always existed successors of age who were ready to lead the defense of the people if the incumbent monarch died (Flethcer 1979; Engel 2001).
[5] The Byzantine empires's ban on monarchy went back to the times when the Romans ousted their Etruscan kings and decided never again to accept a king. The Byzantine, as the Romans' descendants, kept the ban for their entire history despite that their Empire de facto functioned as a monarchy during the whole period of it's existense - as did the Roman Empire during its later history (Goldsworthy 2009).

small elite, be it that the latter had started to incorporate groups that previously had found themselves outside the system (such as self-made bureaucrats from humble origins and members of the growing bourgeoisie). In many monarchies these new elite members were even incorporated into the existing ruling class by being granted noble status, often a necessary requirement for recruitment into higher office (Bush 1983).

Against this background there is no reason to expect monarchies to have differed in political stability. Bueno de Mesquita et al's influential selectorate theory, described in *The Logic of Political Survival* (Bueno de Mesquita, Smith, Siverson and Morrow 2003) agrees. The most important aspect of selectorate theory is the idea that among the residents of a society, there is a privileged group that selects the leader: the *selectorate*. However, it is not necessary to enjoy the support of the entire selectorate to come into power. The group whose support is required is in the theory called the *winning coalition,* and the leaders buy the support of the members of this winning coalition through the supply of a mixture of private and public goods. The sizes of the selectorate and the associated winning coalition are determined by the nature of the political system, and their interaction in turn determines the prospects for leader survival. In many aspects, the argument in *The Logic of Political Survival* is similar to Tullock's, and the one outlined above. Selectorate theory emphasizes the time horizons of the regime, and predicts that autocratic survival is threatened by short time horizons.

There is little in the theory that indicates that we should expect the sizes of selectorate and the winning coalition to vary between monarchies. Bueno de Mesquita and collegues argue that the selectorate in strictly hereditary monarchies consisted of the aristocracy, and that the monarch needed the support of a majority of them (or the military power under their command) to stay in power (2003:51-52). They do not separate between monarchies with different hereditary succession orders. Elections of kings could perhaps be indicative of both a large selectorate and a large winning coalition, but the real number of selectors in king-elections was in most cases much lower than the number of individuals eligible to vote, as powerful individuals could amass supporters whom would vote as their leader.[6] In fact, the nature of elections in monarchies before the introduction of democracy are very likely to have been decided chiefly by the distribution of military power, as in strictly hereditary monarchies, which indicates that both the selectorate and the winning coalition should be of the same size, regardless of order of succession. Hence, we have no reason to assume monarchies to differ in political stability according to selectorate theory.

Another hypothesis regarding autocratic survival in medieval and early modern Europe is put forth by Lisa Blaydes and Eric Chaney, who in a recent working paper (2012) argue that political stability in medieval Europe increased as a consequence of the appearance of institutional constraints on monarchs' powers

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[6] Bueno de Mesquita *et al* use Mamluk Egypt as an illustration. The approximately 10,000 Mamluks chose their own Sultan, but the key individuals were the Emirs, who controlled hundreds of soldiers each. Bueno de Mesquita *et al* characterize this system (which was plagued by extremely frequent depositions) as a small S, small W system.

(also see Gandhi and Przeworski 2007; Gandhi and Lust-Okar 2009). The pun of the argument is that the elite's incentives to overthrow monarchs decrease when the monarchs implement institutional constraints on their own powers, as the members of the elite have more privileges to loose on rebellion under such circumstances. Although the authors seek the roots of the rise of the institutional constraints in the development of feudalism they also argue that after feudalism spread over the whole of Europe in the 10th century the rise of parliamentarianism was the important factor driving political stability. The authors find strong support for this conclusion in their empirical analyses (which in part overlaps with the analyses presented in this paper), why it is important to control for the emergence of parliamentarianism (see below).

To sum up, with the notable exception of parliamentarianism, succession orders were the most obvious important political factor that did separate European monarchies from each other during the medieval and the early modern period. In most other relevant political aspects monarchies resembled each other at any given point in time. This fact makes medieval and early modern Europe a fertile testing ground for the impact of succession orders on autocratic survival. Next we present a novel dataset that we have constructed to test Tullock's argument in the broader European context.

Data and empirical strategy

To test Tullock's hypothesis we needed to construct a dataset of European monarchs, with data on their tenure and nature of departure from the throne as well as the succession orders in the states they ruled. Our ambition was to include all Christian monarchs that ruled independent states in Europe between 1000 and 1800 in our dataset. After the French Revolution, the political landscape of Europe changed dramatically, and monarchic rule was increasingly challenged by popular revolts. Furthermore, leader survival in the modern period has been more extensively investigated in earlier research (for instance by Bueno de Mesquita and Siverson 1995). We choose the year 1000 as our starting point, as reliable historical sources are very scarce before that.[7]

There does not exist an undisputed definition of "monarchy". However, it seems as if most definitions agree that in monarchies sovereignty is vested in a person who is empowered by law or custom to remain in office for life. Thus, monarchy can be defined as a type of autocracy with legal and/or customary foundations.[8] Whether the autocrat is entitled "king", "khagan", "baslieus", "prince", or "emperor" is of little interest. Although most of the political entities in Europe during the investigated period fit this definition some do not. First, we have excluded "republics" with a significant degree of proto-parliamentary rule,

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[7] Reliable sources are also lacking for some states long into the period under study. In these cases we have chosen to start from the year from which reliable sources are available.
[8] The word "monarch" is greek and means one/single ruler/leader/chief. The word autocrat was often used as synonymous with "emperor" and "monarch" (Tullock 1987).

such as Venice, the Swiss Cantons and Dithmarschen. Second, we have also because of their religious dimension chosen to exclude religious political entities, as for example the Papal state and the various Crusader states that appeared in the wake of the crusades (e.g. the Teutonic Order state).

Another issue that arose was how to identify "independent state", as it in many cases is unclear what the term actually meant in the period under study. Two problems were especially acute. The first was how to treat personal unions that tied together more than one state into political superstructures. Premyszlid monarchs did, for example, for a period rule over Bohemia, Hungary and Poland. Some years later the Habsburgs ruled over Austria, Bohemia and Hungary, and in the North the Kalmar Union united Norway, Denmark and Sweden in a personal union under a single monarch on and off for nearly 150 years. We have chosen to count states involved in such unions as separate political entities if they did retain separate councils and/or estates and lacked a unified succession. The reason is that personal unions often did not translate into political unification in more than the person of the monarch.[9]

A second problem was states that did not function as such. This problem was especially acute in the case of the Holy Roman Empire. Most scholars agree that the Empire ceased to function as an effective state, and that real power was transferred to the princes, long before it nominally ceased to exist in the early 19th century. However, there is less agreement on when the Empire stopped functioning effectively. We have chosen the year of the Golden Bull 1356 as the critical year. Similarly, we have choses to count all secular elector-states (plus Austria because of its historical importance as the native lands of the Habsburgs) as independent states from then on. States that gained electoral status after that, as Bavaria in the 17th century and Hannover in the 18th century, are included in the dataset as independent states from the year they achieved electoral status. This criterion is not applicable in the case of Italian states, which are handled separately. The states in the dataset are listed in the Appendix.

Construction of a dataset that spans many states over 800 years obviously entails difficulties in terms of source material. Blaydes & Chaney (2012) base the Christian part of their dataset on the work of John Morby (1989), who have compiled information on royal dynasties over five millennia in his work *Dynasties of the World*. Morby's excellent reference book include data on the reign of monarchs, the relationship between the monarchs and their predecessors, as well as information about whether the monarchs were deposed or not. Eisner (2011) instead base his database on *Wikipedia* articles, cross-checking it against dynastic tables such as Morby's. A dataset based on a single source such as Morby is probably more consistent than one based on several sources, such as information from Wikipedia articles. However, also Morby uses sources of varying quality and detail. More important, the information provided by Morby is often scant and omits important aspects of the monarchs' political fates (see below).

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[9] There are two exceptions to this rule; namely the Spanish Empire after 1479 and the Polish-Lithuanian Commonwealth. We treat both these entities as single states, because of the level of political integration that took place between the involved states and the fact that both entities adopted a unified succession.

To increase on the reliability of the dataset that Morby uses we have constructed a new dataset that builds on Morby's data, but where we have cross-checked all information with the sources he uses as well as various other bibliographical sources on monarchs and their reigns. This allows us to not only include data on the dates when autocrats took and left the throne, but also more detailed data regarding the way in which they left office. The latter is of great importance, as Morby's coding of "deposed" monarchs is ambiguous for a number of reasons. First, he does not separate between monarchs who were deposed by domestic and foreign enemies. Our theory only interests itself with the former kind of depositions why we have constructed a new dependent variable only containing depositions carried out by domestic actors. For example, John Baliol of Scotland who was deposed by the English and not by domestic actors is counted as deposed in Morby's data but not in ours (instead his rule is censored when he is deposed by the English – see below).

Second, Morby does seldom count murdered monarchs as deposed. For instance, Paul I of Russia was in 1801 murdered by dissatisfied nobility (Dixon 1999:21), which Morby does not count as a deposition. In contrast, we count all monarchs who were murdered by domestic actors as deposed. For reliability issues we only count obvious murders, where the murderers used physical force to kill the monarchs, as depositions. A third problem with Morby's coding is that he seldom counts deaths in civil wars as depositions. Especially early in the period many monarchs died in civil wars against contenders for the throne. However, Morby only seems to count those monarchs who were defeated and deposed before they were killed as deposed. He does not seem to count those who fell in battle as deposed. In our wider definition, we define all monarchs who died in civil wars as deposed. Deaths caused by foreign invasions are not included in our definition of deposition for the reasons mentioned above.

Although we deem that the dependent variable that we have constructed more reliably measures monarchs' political fates (for those who are interested in depositions by domestic actors) we do, for robustness and comparability issues, also test our statistical models with the dependent variable coded by Morby, and used by Blaydes and Chaney (2012). We expect it to yield similar results, but believe that our wider definition is more appropriate. Duration of rule is measured as nominal rule. Thus, we do not count regents, who ruled in the name of minors, as autocrats in their own right, but only as servants of the nominal monarch (i.e. the minor).

Our main independent variable is whether the order of succession in a state was guided by primogeniture or not. We do not know of any comprehensive dataset that lists the orders of succession in European states during the period of study. We thus had to compile our own data from different historical sources (listed in Table 1). The variable is coded as 1 if the succession order was based on primogeniture and as 0 if it was based on election, appointment, agnative seniority or other types of brother inheritance. Monarchies that had no established orders are also coded as 0. In the cases where succession orders did change

due to new legislation we assign the values of the new succession orders to the monarchs who adopted (or were forced to adopt) them. To the greatest extent possible we have focused on coding de jure succession orders. Only in the cases where states lacked codified succession laws (which was not uncommon at the start of the period) have we coded established customs. Changes in customs that took place after succession laws and procedures had been adopted have only been coded in so far as they gained legal status. This means that we have abstained from coding periods of de facto primogeniture in states with laws that proscribed elective monarchy as periods with de jure primogeniture. Poland under the Jagiellonian dynasty and France under the Capetian dynasty are, for example, counted as elective monarchies despite that there was a strong trend towards de facto primogeniture under both dynasties.

However, we cannot ignore the impact of de facto primogeniture. Therefore, we also add a variable that measures whether a monarch did succeed his father in some of our models. It should be noted that this variable does not capture all of the effect of de jure primogeniture. First, many monarchs did ascend to the throne legitimately without being the sons of their predecessors in states with de jure primogeniture. Second, many sons did inherit their fathers' thrones despite that the rules of succession in the states they ruled were other than primogeniture. Thus, de facto primogeniture was more widespread than de jure primogeniture.

We have also been able to construct four control variables that measure some of the political realities that faced monarchs during their reigns. First, to account for the appearance of institutional constraints on monarchs' powers in the form of parliaments we use the same variable that Lisa Blades and Eric Chaney (2012) do in their working paper. Drawing on data on the history of European parliaments from van Zanden, Buringh and Bosker (2011) Blades and Chaney construct a variable that for each state and century measures whether the state had a parliament that met at least once during the century. If the state had a parliament that met at least once it is assigned a value of 1 and if it did not it is assigned a value of 0 for the century in question. We have constructed an identical variable from the data provided in Zanden, Buringh and Bosker (2011) to make our results comparable with Blades & Chaney's study.

Second, we control for the branch of Christianity that dominated during a monarch's rule. We separate between Catholic (the base category), orthodox, and protestant states. This variable to some extent captures cultural differences between Eastern, Northern and South Western Europe. More importantly it also captures political realities in the form of constraints on monarchs' powers. In theory and often also in reality Catholic monarchs were obliged to follow the pope in religious matters (in a time when religious and secular matters were hard to separate). The Catholic Church also often played an important autonomous political role in the states it dominated. Orthodox and especially Protestant monarchs were not as constrained by the Church as their Catholic colleagues, as they often doubled up as heads of their national Churches.

Our third control variable measures whether a monarch's immediate predecessor ended his rule by being overthrown or not. This variable serves as a rough control for longer periods of political instability, for example civil wars. Although such wars reasonable can be argued to, at least partially, be a product of the constitutional rules guiding the succession they can also have other causes beyond the constitution. As this control variable at least partly is endogenous to the main independent variable it's inclusion in the models constitutes a very tough test for Tullock's hypothesis.

The fourth control variable measures the monarch's age at his ascension. In the theoretical section it was posited that one advantage with primogeniture is that it guarantees that crown princes are young when they ascend to power, which mean that it provides regime members with long time horizons. The variable that measures monarchs' ages at ascension allow us to separate this effect from the pure effect of primogeniture; i.e. the effect that stem from the fact that primogeniture solves the regime members' coordination problem and the autocrat's crown prince problem. Most of the data we have used for the construction of this variable comes from the English version of Wikipedia. In so far as we have been able to check the reliability of Wikipedia's information it is very high.

The resulting dataset includes 960 monarchs from 42 states in the sample excluding control variables. Unfortunately we lack data for some of the monarchs on two control variables. First, we for natural reasons do not have information on the fate of all monarchs' predecessors. Second, we have been unable to find information on many monarchs' birth dates, why we lack information on their ages at ascension. In the full models we, therefore, only have 790 monarchs. The models that use the dependent variable coded from Morby (1989), only contain 830 and 713 monarchs from 39 states respectively, as Morby do not cover Wallachia and Moldavia.

We apply survival analysis to the resulting datasets. Survival time is measured as the time a monarch survived in office without being deposed. Failure is coded as 1 if the monarch was murdered, forced to abdicate, or died in a civil war. Observations are right-censored if the monarch's reign ended peacefully, either by his natural death or voluntary abdication, or if he died in a war against foreign enemies. Hence, observations are right-censored if the monarch's reign ended without him being deposed.

For several reasons, we use the Cox-proportional hazard model, which is a semi-parametric duration model for survival analysis, to model the risk of monarchs being deposed. Box-Steffensmeier and Jones (2004, 25, 48) are critical of using parametric duration models, as for example the Weibull model, in social sciences for various reasons. The main reason being that it is very seldom we have "strong theoretical reasons to expect one distribution function over another" (Box-Steffensmeier and Jones 2004, 48). The Cox model leaves the form of duration dependency unspecified. Therefore, in this semi-parametric duration model there is no assumption about a specific distribution and form of the baseline hazard rate (Box-Steffensmeier and Jones 2004, 49, 66-67).

We run two kinds of models. First, we run shared frailty models to account for the fact that observations are not independent of each other, but that monarchs are nested within states.[10] The results from these models build both on the between-country and the within-country variation present in the sample.

Second, we also run models that allow each state to have its own baseline hazard. This means that all between-country variation is swallowed by the baseline hazard function, and that only the within-country variation in succession orders over time is allowed to affect the results. These models provide a stricter test of Tullock's hypothesis than the first models. Both kinds of models are run both with our and Morby's dependent variable. Below we present our results.

Results

Eisner (2011) describes a decreasing trend of regicide in Europe during the period of study. Although regicides only constitute a minor part of the depositions we study a similar trend is also evident in our dataset. During the first two centuries of the new Millennium four out of ten monarchs were deposed or died in civil war. The number of deposed monarchs decreased drastically during the relatively peaceful 13th century, just to rise again in the 14th century. From then on monarchs sat safer and safer on their thrones for each passing century, except for the war-ridden 17th century. At the end of the period less than one in five monarchs ended their rule being deposed. The trend corresponds closely to the share of states with other succession orders than primogeniture, which in the 11th century amounted to close to 80 percent of the states in the dataset, but only to less than 20 percent at the end of the 18th century. The two trends are presented in Figure 1.

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[10] A shared frailty model is a random effects model where the frailties are common (or shared) among groups of individuals or spells and are randomly distributed across groups.

*FIGURE 1. DEVELOPMENT OF SUCCESSION ARRANGEMENTS AND PERCENTAGE MONARCHS DEPOSED OVER TIME.*
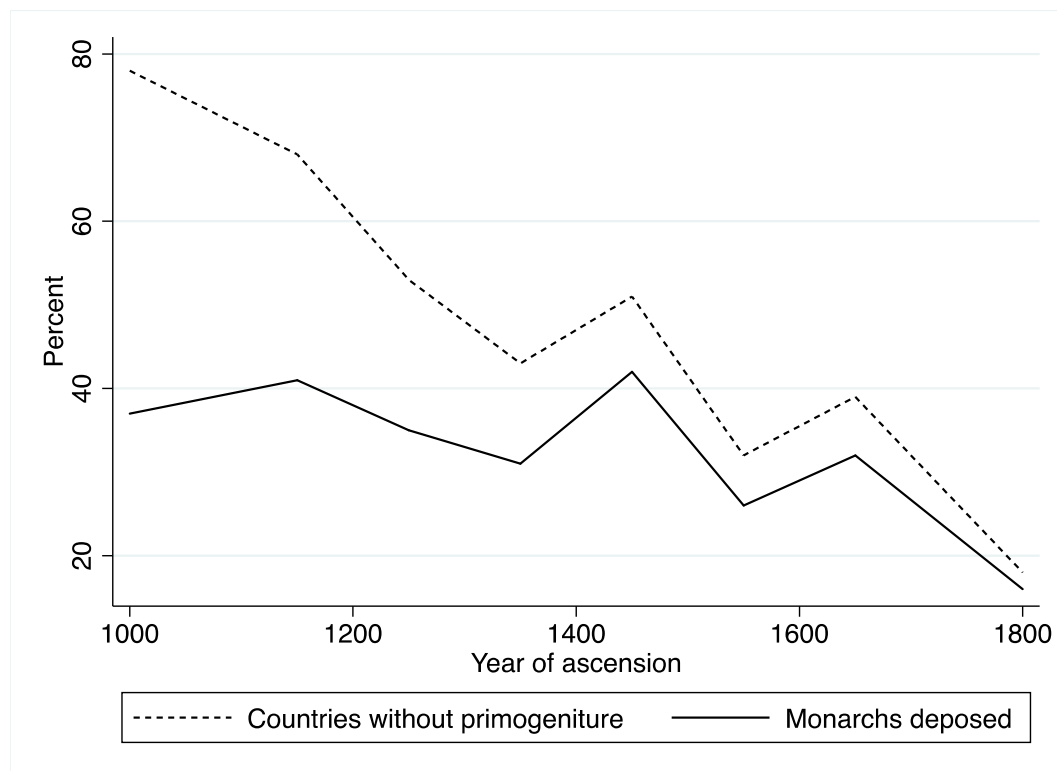
Overall the two patterns track each other well, and seem to confirm the existence of a strong link between succession orders and monarchs' hazard of being deposed. A similar pattern appears when we compare the number of monarchs who were deposed in states that adhered to primogeniture and states that adhered to other succession arrangements. Table 1 shows that only 16 percent of the monarchs in the former states were deposed, whereas over 50 percent of the monarchs in the latter states came to a premature end. In other words, the risk of being deposed was more than 3 times as high in states with other succession arrangements than primogeniture. If the *Dynasties of the World*-coding (henceforth: DOW-coding) is used the overall percentages deposed monarchs drop. However, the impression that monarchs sat safer on their thrones in states adhering to primogeniture is strengthened, as the results indicate that 4 times as many monarchs were deposed in states with other succession arrangements than primogeniture.

TABLE 1. PERCENTAGES DEPOSED MONARCHS UNDER DIFFERENT SUCCESSION ORDERS

Succession order	Percent deposed (OUR)	Percent deposed (DOW)
Primogeniture	16	7
Other	52	28
Increased risk	225%	300%
N	960	960

The potentially hazardous effects of other succession arrangements than primogeniture are also evident when examining the tenures of monarchs in states with and without primogeniture. Very short tenures were much more common in the latter states. The average tenure was 20.9 years in states with primogeniture, but only 11.4 years in states with other succession arrangements.

FIGURE 2. KERNEL DENSITY ESTIMATES OF LENGTH OF TENURE IN STATES WITH AND WITHOUT PRIMOGENITURE
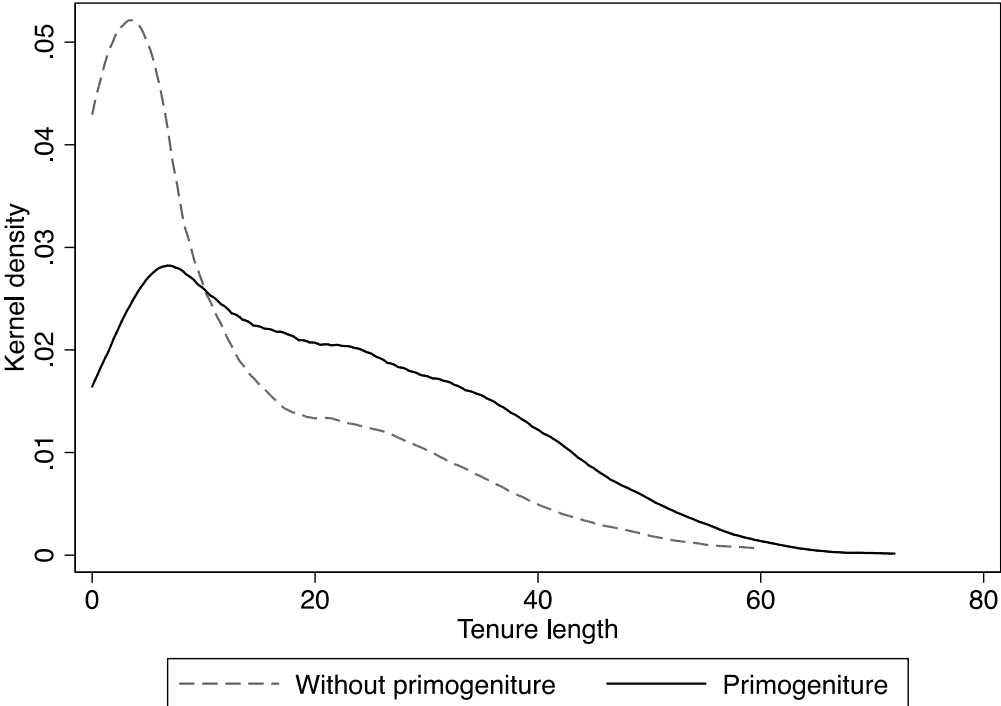
There is however a risk that these results are driven by a general time trend, or other confounding factors. We therefore proceed to the results from the Cox-models. Model 1a in Table 2 clearly shows how the risk of being deposed is reduced as the centuries pass. Monarchs who ascended to power in the 11th century had an almost two times as high hazard of being deposed compared to monarchs who ascended to power in the 18th century (the reference category). The only exception is the 15th century when the risk of being deposed rose temporarily, just to drop again the following century. Model 1b that contains the results from a model using the less reliable DOW-coding shows a somewhat different picture, with the risk of being deposed being highest in the 13th to 15th centuries. The difference between the models can likely be ascribed to the fact that the DOW-coding does not count those monarchs who died in civil wars as deposed. Deaths in civil wars were especially common during the first centuries of the Millenium. It should, however, be noted that very little of the variation in the hazard of being deposed between centuries is significant in any of the models.

TABLE 2.

Variables	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
11th century	2.07 (2.05)**	1.86 (1.04)	1.23 (0.57)	1.06 (0.10)	1.27 (0.67)	1.18 (0.27)	1.34 (0.77)	1.38 (0.51)
12th century	1.83 (1.74)*	1.82 (1.03)	1.22 (0.57)	1.17 (0.26)	1.37 (0.89)	1.34 (0.49)	1.41 (0.91)	0.97 (-0.05)
13th century	1.69 (1.51)	2.87 (1.86)*	1.33 (0.82)	2.00 (1.21)	1.49 (1.11)	2.41 (1.49)	1.71 (1.43)	2.06 (1.20)
14th century	1.36 (0.89)	2.98 (1.92)*	1.05 (0.15)	2.23 (1.41)	1.38 (0.90)	3.32 (2.04)**	1.80 (1.58)	2.85 (1.72)*
15th century	1.99 (2.07)**	2.70 (1.74)*	1.55 (1.30)	2.29 (1.45)	2.10 (2.15)**	4.24 (2.46)**	2.01 (1.88)*	3.85 (2.22)*
16th century	1.32 (0.79)	1.71 (0.91)	1.12 (0.32)	1.67 (0.86)	1.94 (1.81)*	3.61 (2.08)**	2.05 (1.87)*	3.32 (1.92)*
17th century	1.43 (1.00)	1.78 (0.97)	1.35 (0.82)	1.84 (1.01)	2.16 (2.10)**	3.10 (1.85)*	2.13 (1.96)**	2.74 (1.60)
Primogeniture			0.25 (-6.90)***	0.18 (-4.97)***	0.39 (-5.00)***	0.37 (-3.17)***	0.46 (-3.95)***	0.43 (-2.54)
Parliament					0.46 (-3.91)***	0.31 (-3.67)***	0.50 (-3.39)***	0.35 (-3.17)***
Orthodox					1.93 (2.91)***	3.33 (2.86)***	1.23 (0.81)	2.08 (1.65)*
Protestant					1.16 (0.49)	1.81 (1.24)	1.02 (0.07)	1.38 (0.66)
Son					0.72 (-2.47)**	0.61 (-2.29)**	0.97 (-0.20)	0.74 (-1.12)
Predecessor deposed							1.74 (3.80)***	2.27 (3.32)***
Age at ascension							1.02 (3.01)**	1.00 (0.12)
Countries	42	39	42	39	42	39	41	39
Monarchs	960	830	960	830	954	829	790	713

Exponentiated coefficients; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

When we introduce the dummy measuring primogeniture in model 2a (that uses the our coding of deposition) the effect of the century of ascension is reduced and ceases to be significant. The introduced variable is highly significant and goes in the expected direction. The coefficient shows that monarchs in states with succession orders based on primogeniture had a 75 percent lower hazard of being deposed compared to monarchs in states with other succession orders. The reason that monarchs who did ascend to power in the centuries following the Millennium were more likely to be deposed than monarchs who did ascend to power in the 18th century seems to be that the former did ascend to power in states with succession laws based on election and agnatic seniority whereas the latter were fortunate to ascend to power in states embracing primogeniture. As the number of states with succession orders based on primogeniture increased over the centuries monarchs started to sit more safely on their thrones. Model 2b that uses the DOW-coding gives a similar impression: primogeniture strongly reduced monarchs' hazard of being deposed.

The effect of primogeniture is reduced somewhat when we introduce the controls for de facto primogeniture, parliamentarianism, and branch of Christianity that the states did adhere to (see models 3a and 3b). However, monarchs in states that adhered to primogeniture still had a more than a 60 percent lower hazard of being deposed compared to monarchs in states that had other succession arrangements. Figure 3, which illustrates the survival rate from model 3a, shows that almost 90 percent of the monarchs in states

that adhered to primogeniture lasted 10 years in office without being deposed. Only about 70 percent of the monarchs in states that had other succession arrangements survived in office for a similar time period.
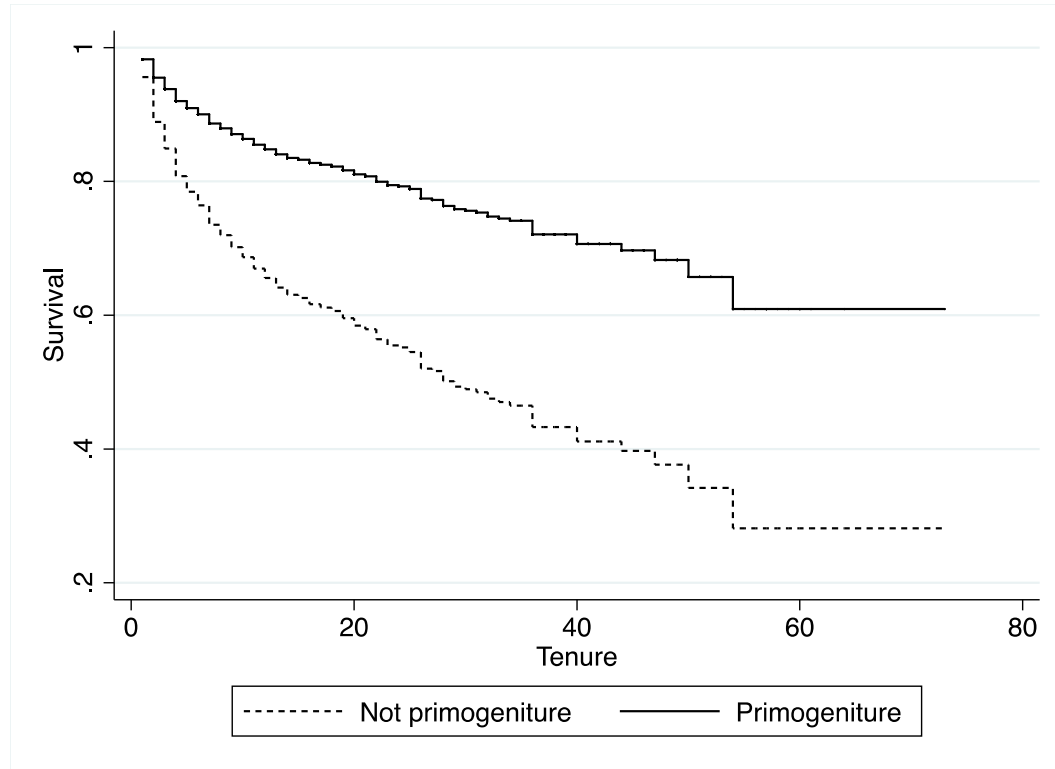
FIGURE 3. ESTIMATED SURVIVAL RATE.

Figure 4, which shows the yearly hazard of being deposed while in office, shows a similar gap in survival rates between monarchs in states that did and did not have succession orders based on primogeniture. The former had a yearly hazard of being deposed that varied between 0.5 and 1 percent, compared to the latters' yearly hazard that varied between 1.5 and 2.25 percent. An interesting fact to note is that the hazard of being deposed was highest during a monarch's first years in power and when the monarch had ruled for a very long time.

FIGURE 4. YEALY HAZARD RATES.
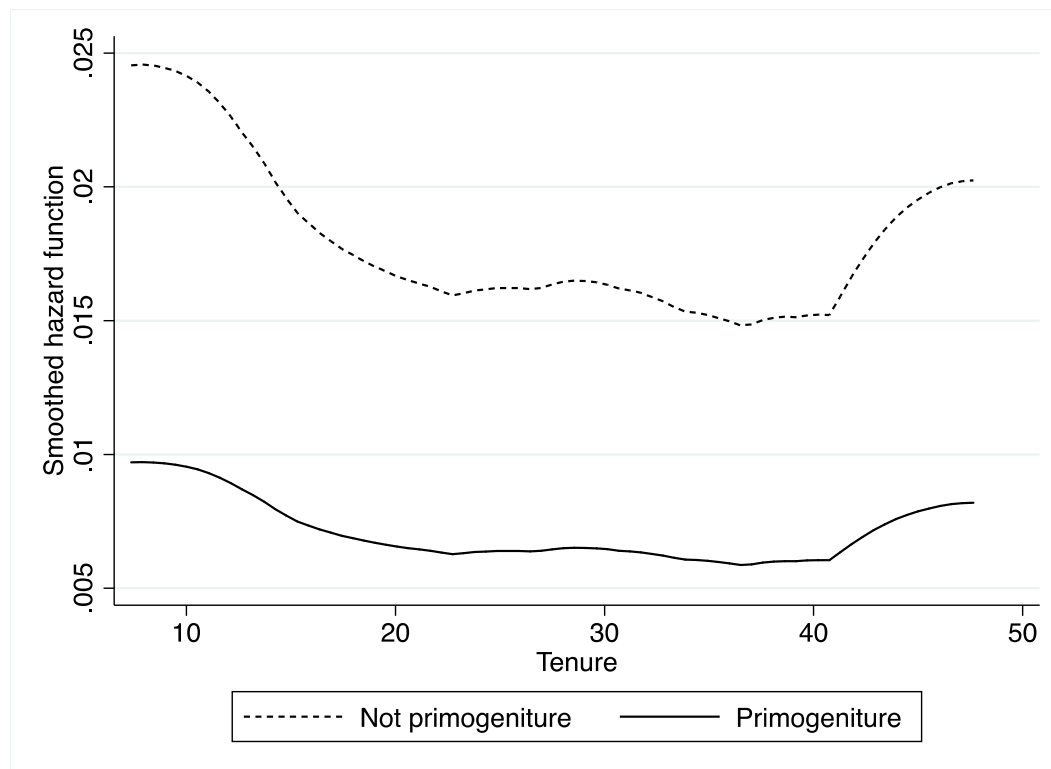
In regard to the control variables monarchs who were the sons of their predecessors had an almost 30 percent lower risk of being deposed compared to monarchs who stood in other types of relationships to their predecessors. Thus, de facto primogeniture reduced the hazard of being deposed. Of course, de jure primogeniture increases the chances of de facto primogeniture, why some of the reduction in the effect of de jure primogeniture likely can be ascribed to the introduction of the variable measuring de facto primogeniture. In line with Blaydes and Chaney's (2012) findings, monarchs who ruled states with parliaments that balanced their power had a lower hazard of being deposed than their colleagues who ruled states lacking similar constraints on the monarch's powers.

It was posited in the theoretical section that one of the mechanisms through which primogeniture reduces autocrats' risk of being deposed is that the principle helps autocrats to come to power at young ages. Young autocrats should, all else equal, have a higher likelihood of surviving in office as they offer the regime members a longer time horizon. To separate this effect from the effect that primogeniture had on autocrats' chances of surviving in office by solving the regime members' coordination problem and the autocrat's crown prince problem, we enter the monarch's age at ascension to the throne as a variable in the model. The variable is significantly and positively associated with the hazard of being deposed. Each extra year of age increased the hazard of being deposed with 1.4 percent. The introduced variable also reduces the effect of de facto primogeniture to the point that it looses significance, indicating that much of the effect of de facto primogeniture was channeled through the age of autocrats. However, it should be noted that the age at ascension does not have a similar effect in the model that uses the less reliable

DOW-variable (see model 4b). This points to that part of the loss of the effect of de facto primogeniture probably can be ascribed to the fact that the monarchs for which we do not have information of their age at ascension did ascend to power in politically unstable states without being related to their predecessors.

Monarchs whose predecessors had been deposed were considerably more likely to be deposed themselves: the hazard rate was more than 70 percent higher than for monarchs whose predecessors died natural deaths or abdicated peacefully, using our dependent variable. Using the DOW-variable, the effect is even stronger. Bearing in mind that this variable possibly is endogenous to the main independent variable, the fact that most of the effect of primogeniture remains even the variable is introduced in the models definitely strengthens the impression that primogeniture increased monarchs' chances of surviving in office in medieval and early modern Europe.

Although the presented results seem to give strong support for our hypothesis, they build on both the between- and the within-country variation in our data. Thus, it is possible that much of the results are driven by unobserved factors that are correlated with both the dependent and the independent variables. For example, it is possible that it was mainly politically stable states that did adopt succession laws based on primogeniture. To control for this possibility we below present models in which we only allow the variation in succession orders over time to affect our results.

The results of the within-country analyses presented in Table 3 largely confirm the results from the previous models. When the variable measuring periods when states had succession laws based on primogeniture is introduced it becomes significant and strongly negatively associated with monarchs' hazard of being deposed in both models (6a and 6b), at the same time as the effect of the century of ascension almost disappears. The significant and negative effect of primogeniture remains also when the additional control variables are included in the models (7a, 7b, 8a and 8b).

TABLE 3.

Variables	(5a)		(5b)		(6a)		(6b)		(7a)		(7b)		(8a)		(8b)	
11th century	1.94	(1.82)*	1.57	(0.73)	1.25	(0.59)	1.04	(0.05)	1.08	(0.20)	0.99	(-0.02)	1.30	(0.62)	1.40	(0.48)
12th century	1.65	(1.42)	1.50	(0.68)	1.13	(0.34)	1.05	(0.09)	1.03	(0.07)	1.03	(0.05)	1.18	(0.41)	0.96	(-0.06)
13th century	1.52	(1.19)	2.32	(1.47)	1.22	(0.54)	1.74	(0.93)	1.13	(0.31)	1.77	(0.93)	1.31	(0.66)	1.71	(0.83)
14th century	1.21	(0.55)	2.67	(1.72)*	0.94	(-0.16)	2.08	(1.25)	0.96	(-0.11)	2.44	(1.45)	1.33	(0.70)	2.70	(1.53)
15th century	1.57	(1.32)	2.30	(1.46)	1.18	(0.47)	1.85	(1.06)	1.16	(0.39)	2.45	(1.45)	1.16	(0.35)	2.24	(1.23)
16th century	1.18	(0.47)	1.53	(0.71)	1.00	(0.00)	1.52	(0.69)	1.14	(0.32)	2.08	(1.15)	1.32	(0.65)	1.88	(0.96)
17th century	1.23	(0.56)	1.52	(0.69)	1.21	(0.51)	1.71	(0.87)	1.44	(0.94)	2.11	(1.19)	1.50	(0.98)	1.96	(1.04)
Primogeniture					0.31	(-4.00)***	0.21	(-3.00)***	0.38	(-3.20)***	0.29	(-2.21)**	0.44	(-2.47)**	0.33	(-1.72)*
Parliament									0.76	(-1.04)	0.54	(-1.45)	0.80	(-0.83)	0.64	(-0.97)
Orthodox									1	.	1	.	1	.	1	.
Protestant									0.68	(-0.91)	1.26	(0.38)	0.67	(-0.91)	1.13	(0.19)
Son									0.75	(-2.10)**	0.70	(-1.56)	1.05	(0.26)	0.80	(-0.81)
Predecessor deposed													1.52	(2.84)***	1.80	(2.33)**
Age at ascension													1.02	(3.00)***	1.00	(-0.11)
Countries	42		39		42		39		42		39		41		38	
Monarchs	960		830		960		830		954		829		790		713	

Exponentiated coefficients; t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

An interesting observation is that the effect of parliaments is reduced considerably when compared to the models in Table 3, which build on both the between- and the within-country variation. Although the coefficients as expected are negatively associated with the hazard of being deposed the effects are not near to being significant. This finding indicates that it was only relatively politically stable states that did adopt similar constitutional constraints on monarchs' powers. After this fact is controlled for parliaments do not seem to have had any effect on monarchs' hazard of being deposed.

It should be kept in mind that the models presented in Table 3 allow states to have their own baseline hazards at the same time as they contain dummies for the century of ascension, why the coefficient of primogeniture only captures the effect of the within-country variation in succession orders over time under control for the general time trend in political stability. Thus, the correct interpretation of the results is that periods with succession orders based on primogeniture were more turbulent for monarchs than periods with other succession arrangements. The overall impression is that the direct and indirect mitigating effects of primogeniture on the hazard of being deposed were substantial.

Conclusions

A growing literature investigates the determinants of autocratic survival. Within this literature many scholars agree that the crucial factor is the interplay between the autocrat and the domestic elite (de Mesquita et al 2003; Gandhi & Przeworski 2007; Svolik 2009), with succession orders being an important factor in the equation (Tullock, Kurrild-Klitgaard 2002, Brownlee 2007). However, with few exceptions empirical investigations of hypotheses have focused almost exclusively on the nineteenth and the twentieth centuries. Substantially expanding the scope of the previous research this study has brought the literature to test in a period when autocracy was the norm of politics: Medieval and early modern Europe. Specifically, we have collected a new data set to test how succession orders affected 960 monarchs' chances of surviving in office in the period 1000-1800 A.D.

The idea that succession orders matter for political stability is not new. Many past observers have pointed out the importance of a having a succession based on primogeniture for avoiding political chaos in monarchies. The modern version of the argument does, however, origin in the works of Gordon Tullock, who argues that a succession based on primogeniture should increase an autocrats' chances of surviving in office, because it increases both his potential successor's and the regime members' incentives to stay loyal. Tullock's argument has been difficult to test in the modern world. At least officially, there are few autocracies that have the type of succession orders based on primogeniture that the argument interests itself with. The few identifiable autocracies - mainly monarchies - that have such orders do, moreover, differ from other autocracies in more respects than their succession orders, and then especially in the fact that they are monarchies.

This article has argued that Medieval and early modern Europe offer a more fertile testing ground for Tullock's argument. The period was dominated by monarchies that were similar in most respects except for their succession orders. Exploiting this fact the article has shown that monarchs who ruled states with succession orders based on primogeniture were less than half as likely to be deposed as were monarchs who ruled states with succession orders based on other succession orders, such as agnative seniority, election and appointment. The importance of this finding for understanding the history of Europe should not be underestimated. When primogeniture began to replace other succession orders Europe became politically more stable. The number of coups and civil wars dropped considerably. In the years immediately after the Millenium four in ten monarchs were deposed from their thrones with violent means. In the years before the French revolution less than two in ten monarchs could expect a similar fate. And of these relatively many were found in the last state in Europe that refused to introduce primogeniture: Tsarist Russia. With this development in mind it is something of an irony that the next two centuries would see all Europe's monarchs fall from power. When the monarchs after hundred of years finally had found a way to convince the old domestic elite to remain loyal there emerged a new force that threatened the whole old order: The people.

Although, the finding that succession orders based on primogeniture increased autocrats' chances of surviving in office primarily might seem of interest to students of history it can also inform present debates over the future of autocracies. As Brownlee (2007) points out, many civilian autocracies have reneged to de facto primogeniture in recent years, thus mimicking their distant royal predecessors. Our findings indicate that this process is likely to make the members of the regimes more loyal. The recent smooth succession in North Korea, which is a monarchy in all other aspects than name, stress the point. However, as history shows this might not be enough to keep the autocrats in power. The Arab spring has recently reiterated the lesson. However, in the absence of such popular revolutions, it seems clear that succession orders based on primogeniture increase autocrats' chances of surviving in office.

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APPENDIX

List of states in dataset

State	First regent entering sample	Last regent leaving sample	Rule of power transition	Reason for leaving the sample	Sources
Apulia	1042	1127	Election	L.I.	Brown 2003, Norwich 1967
Aragon	1035	1479	Primogeniture	L.I. (Union with Castille)	Abulafia 1997, Bisson 1986, Chaytor 1933, O'Callaghan 1983, Reily 1993, Rycraft 2008
Austria	1359	1792	Primogeniture	T.E.	Berenger & Simpson 1994, Evans 1979, Kann 1980
Barcelona, County of	1017	1196	Primogeniture	L.I. (Union with Aragon)	Bisson 1986, Chaytor 1933, O'Callaghan 1983, Reilly 1993
Bavaria	1651	1803	Primogeniture	T.E.	Whaley 2011, Wilson 2009
Bohemia	1230	1792	Primogeniture 1230 - 1305 Election 1305 – 1345 Primogeniture 1346 – 1419 Interregnum 1419-1436 Election 1436 – 1620 Primogeniture 1620 - 1792	L.I.	Agnew 2004, Betts 1955, Sedlar 1994,
Bosnia	1353	1463	Election	L.I.	Fine 1994
Brandenburg/Prussia	1356	1786	Primogeniture	T.E.	Adams 1913, Koch 1978, Urban 2003, Whaley 2011
Byzantine Empire	1025	1453	Unclear	L.I.	Norwich 1992, 1995, Treadgold 1997
Croatia	1000	1097	Agnatic Seniority	L.I.	Fine 1983, Guldescu 1964
Denmark	1014	1808	Election 1014 -1660 Primogeniture 1660 - 1808	T.E.	Kurrild-Klitgaard 2000
England (Norman)	1066	1811	Primogeniture	T.E.	Bennett 1998, Dunham & Wood 1976, McKenna 1979, Mortimer 2006
England (Anglo-Saxon)	1016	1066	Election	L.I.	Lieberman 1913, Whitelock 1956
Florence	1434	1801	Primogeniture	L.I.	Hale 1981, 2001
France	1031	1793	Election 1031 – 1222 Primogeniture 1223 - 1793	T.E.	Giesey 1961, Jackson 1972, Le Patourel 1971, Lewis 1978, Potter 1937, Taylor 2001
Gwynedd	1005	1283	Tanistry 1005 – 1194 Primogeniture 1195 - 1283	L.I.	Davies 1994, Lloyd 2004, Stephenson 1984
Hanover	1708	1814	Primogeniture	T.E.	Whaley 2011
Holy Roman Empire	1002	1378	Election	L.I.	Gillingham 1991, Kannowski 2008, Weiler 2008, Whaley 2011
Hungary	1001	1740	Unclear 1001 - 1204 Primogeniture 1205 - 1300 Election 1301 – 1687 Primogeniture 1687 - 1740	L.I.	Engel 2001, Frey & Frey 1978, Rady 2008, Sedlar 1994,
Kiev	1015	1240	Agnatic seniority	L.I.	Fennel 1983, Franklin & Shepard 1996, Martin 1993, Shields Kollmann 1990
Leon	1028	1230	Primogeniture	L.I.	O'Callaghan 1983, Reilly 1993
Lithuania	1382	1569	Primogeniture	L.I. (Union with Poland)	Stone 2001
Mallorca	1229	1343	Primogeniture	L.I.	Abulafia 1994, 1997
Milan, Duchy of	1395	1535	Primogeniture	L.I.	Ady 1907, Sismondi 1841, Hale 1981
Moldavia	1359	1517	Election	L.I.	Georgescu 1991, Sedlar 1994, Treptow 1996
Naples	1285	1504	Primogeniture	L.I.	Bisson 1986. Kelly 2003
Navarre	1004	1610	Primogeniture	L.I	O'Callaghan 1983, Reilly 1993
Norway	1000	1559	Election 1000 - 1216 Primogeniture 1217- 1388 Election 1389 – 1534	L.I.	Helle 1981, 2003, Jochens 1997, Orning 2008
Palatinate	1356	1803	Primogeniture	T.E.	Whaley 2011, Wilson 2009
Poland/Polish-Lithuanian Commonwealth	1025	1795	Agnatic seniority 1025 - 1304 Primogeniture 1305 - 1369 Election 1370 - 1795	L.I.	Davies 1981, Dvornik 1962, Knoll 1972, Maczak 1982, Samsonowicz 1982, Stone 2001,
Portugal	1095	1788	Primogeniture	T.E.	De Oliveira Marques 1972, Livermore 1969, Oresko 1998
Russia	1359	1801	Unclear 1359 - 1446 Primogeniture 1447 – 1721 Appointment 1722 - 1801	T.E.	Pierre 2006, Lieven 2006, Whittaker 2001
Savoy	1032	1802	Primogeniture	T.E.	Cox 1974, Lins 1913, Previté-Orton 1912
Saxony	1356	1806	Primogeniture	T.E.	Whaley 2011
Scotland	1034	1625	Tanistry 1034 - 1123 Primogeniture 1224 - 1625	L.I.	Penman 2003, 2008, Stevenson 1927

Serbia	1166	1371	Unclear	L.I.	Fine 1983, 1994, Sedlar 1994
Sicily	1282	1409	Primogeniture	L.I.	Matthew 1992, Norwich 2004
Castille/Spain	1035	1788	Primogeniture	T.E.	MacDonald 1965, O'Callaghan 1983, Palenzuela 2003, Reilly 1993
Sweden	1130	1792	Election 1130 – 1544 Primogeniture 1544 -1792	T.E.	Helle 2003, Lagerqvist & Åberg 2002, Liljegren 2004, Oresko 1998, Schück 1984
Transylvania	1570	1692	Election	L.I.	Georgescu 1991, Murdock 2003, Sedlar 1994, Treptow 1996
United provinces	1584	1795	Election 1584 -1746 Primogeniture 1747 - 1795	L.I.	Adams 2005, Israel 1995
Wallachia	1319	1521	Election	L.I.	Georgescu 1991, Sedlar 1994, Treptow 1996

States that change their rule over time. Reasons for leaving the sample: T.E.=Time period ends. L.I.=Loses independence.